THE RELATIONSHIP BETWEEN SOCIAL MEDIA USAGE AND SLEEP QUALITY AMONG UNDERGRADUATE STUDENTS

1. Abstract

This case study explores the correlation between daily social media usage and sleep quality among undergraduate students. Using the **Pittsburgh Sleep Quality Index (PSQI)** to quantify sleep quality and self-reported average screen time (in hours) as a proxy for social media use, the study investigates whether increased screen time is associated with poorer sleep outcomes. The findings are intended to guide students through real-world psychological research application using quantitative methods.

2. Introduction

Sleep disturbances among university students are increasing, with mobile devices and social media often cited as contributors. While students frequently use platforms such as Instagram, Snapchat, and YouTube before sleeping, few are aware of the psychological effects on sleep latency, quality, and duration. This case study models a correlational psychology assignment by testing the hypothesis that higher social media use is associated with lower sleep quality.

3. Research Objective

- **Primary Aim**: To determine the relationship between average daily social media usage and self-reported sleep quality among university students.

4. Hypothesis

- **Null Hypothesis (H_0)**: There is no significant relationship between social media usage and sleep quality.
- **Alternative Hypothesis (H_1)**: There is a significant negative correlation between social media usage and sleep quality (higher usage = lower quality).

5. Methodology

Participants

- **Sample Size**: 100 students (equal gender representation)

- **Age Range**: 18–25 years
- **Sampling Technique**: Convenience sampling from one university campus

Instruments

Tool	Purpose
PSQI (Pittsburgh Sleep Quality Index)	Measures sleep quality across 7 domains
Self-Reported Social Media Hours	Average daily usage (past 30 days)

Data Collection Procedure

- Online form with informed consent
- PSQI questionnaire
- Question: "On average, how many hours per day do you spend on social media platforms?"

6. Data Summary

Variable	Mean	SD	Min	Max
Social Media Usage (hours)	4.2	1.6	1	9
PSQI Score (0–21 scale)	7.9	3.4	2	17

- A PSQI score > 5 = poor sleep quality

7. Analysis and Results

Scatterplot: Social Media vs Sleep Quality

(Visual description: upward trend indicates more hours = higher PSQI = poorer sleep)

Pearson Correlation Coefficient

$$r = 0.61, p < 0.001 r = 0.61, \quad p < 0.001$$

Interpretation: Moderate to strong positive correlation between higher social media use and poor sleep quality.

Simple Linear Regression

$$Sleep\ Quality\ Score = 3.12 + 1.14(Social\ Media\ Hours) \text{Sleep Quality Score} = 3.12 + 1.14(\text{Social Media Hours})$$

- $R^2 = 0.37 \rightarrow$ 37% of the variance in sleep quality is explained by social media use
- Regression is significant ($p < 0.001$)

8. Discussion

The results suggest that increased social media usage is significantly associated with poorer sleep quality. Students using social media for more than 5 hours/day consistently had PSQI scores above the healthy threshold.

Possible Explanations:

- **Delayed bedtime** due to scrolling
- **Blue light exposure** delaying melatonin production
- **Cognitive overstimulation** before sleep

Limitations:

- Self-reported data → subject to bias
- Cross-sectional → cannot infer causation
- No differentiation between platform types

9. Educational Applications

Assignment Skill	**How This Case Helps**
Correlational analysis	Real example with r and p-value explained
Regression basics	Linear model with interpretation
Hypothesis framing	Null vs alternate clearly modeled
Ethics & self-report data issues	Informs discussion on psychological research rigour

10. Conclusion

This case study shows a clear and statistically significant relationship between social media use and sleep quality, validating concerns in youth health psychology. It serves as a practical example for students learning how to apply psychological theory and quantitative tools to everyday behavior patterns.

11. References

- Buysse, D. J., et al. (1989). *The Pittsburgh Sleep Quality Index: A new instrument for psychiatric practice and research*.
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- Woods, H. C., & Scott, H. (2016). *#Sleepyteens: Social media use and sleep in teenagers*. Journal of Adolescence