

Sleep Pattern & Lifestyle Analysis

(Project Report)

Project Overview

This project analyzes sleep patterns and daily lifestyle habits to understand their impact on tiredness levels. Using survey-based sleep data, the analysis identifies key factors such as sleep duration, phone usage, and breakfast habits that influence fatigue.

The goal of this project is to convert raw lifestyle data into clear insights and actionable recommendations using Excel.

Objectives of the Project

The primary objectives of this analysis are:

- To understand how insufficient sleep affects fatigue.
- To understand how insufficient sleep affects fatigue.
- To analyze the impact of phone usage on tiredness.
- To examine the relationship between breakfast habits and energy levels.
- To identify actionable lifestyle improvements based on data insights.
- To present findings through a professional Excel dashboard.

Dataset Description

Dataset Used: sleep_data.csv

Key Variables:

- **Sleep_Hours** - Number of hours slept.
- **Enough_Sleep** - Whether the individual feels they get enough sleep (Yes/No).
- **Tired_Level** - Self-reported tiredness level (1–5).
- **Phone_Usage** - Phone usage habit.
- **Phone_Reach** - Phone accessibility.
- **Breakfast** - Breakfast consumption (Yes/No).

Derived Variable:

- **Sleep_Group:**

- ≤5 hours
- 6–7 hours

- ≥8 hours

This categorization enables clearer analysis of sleep quality patterns.

Tools & Techniques Used:

- Microsoft Excel.
- Pivot Tables for data aggregation.
- Pivot Charts for visualization.
- Excel formulas for data cleaning and categorization.
- Dashboard design principles (KPIs, charts, layout, color consistency).

Data Preparation & Cleaning

The following steps were performed:

- Removed inconsistencies and ensured correct data types.
- Created a new variable Sleep_Group based on sleep hours.
- Verified numerical fields for accurate aggregation.
- Organized data into structured worksheets:
 - Raw Data
 - Cleaned Data
 - Pivot Tables
 - Dashboard

Dashboard



Key KPIs:

- **Average Sleep Duration:** 6.66 hours
- **Average Tiredness Level:** 3.09
- **People Not Getting Enough Sleep:** 66%

These KPIs highlight widespread sleep deficiency and moderate fatigue.

Key Insights & Analysis

i) Sleep Duration vs Tiredness:

- Individuals sleeping less than 6 hours report the highest tiredness.
- 6–7 hours offers slight improvement but remains suboptimal.
- 8+ hours results in the lowest tiredness levels.

Insight: Adequate sleep significantly reduces fatigue.

ii) Enough Sleep Distribution:

- Only 34% report getting enough sleep.
- 66% report insufficient sleep.

Insight: Sleep deprivation is common and poses a lifestyle risk.

iii) Phone Usage Impact:

- Higher phone usage correlates with increased tiredness.
- Reduced phone use is linked to better energy levels.

Insight: Excessive screen time negatively impacts sleep quality.

iv) Breakfast vs Tiredness:

- Individuals skipping breakfast report higher fatigue.
- Those eating breakfast feel more energized.

Insight: Morning nutrition supports better daily energy.

v) Sleep Hours vs Tiredness (Correlation Analysis):

- Clear negative relationship observed.
- As sleep hours increase, tiredness decreases.
- Outliers suggest additional lifestyle factors influence fatigue.

Executive Summary

- Average sleep duration is below recommended levels.
- The majority of individuals experience insufficient sleep.

- Tiredness increases sharply with reduced sleep.
- Lifestyle habits such as phone usage and skipping breakfast worsen fatigue.

Overall Insight:

Insufficient sleep is widespread and strongly linked to higher tiredness levels.

Actionable Recommendations

- Encourage consistent 7–8 hours of sleep.
- Reduce late-night phone usage.
- Promote healthy morning routines including breakfast.
- Track sleep habits alongside lifestyle factors for better outcomes.

Final Conclusion:

The analysis reveals that insufficient sleep is common and significantly contributes to increased tiredness. Lifestyle behaviors such as excessive phone usage and skipping breakfast further amplify fatigue. Improving sleep duration in combination with healthier daily habits can greatly enhance energy, focus, and overall productivity.