



Sleep Health and Lifestyle Analysis





Introduction



dataset

- collection data from Kaggle
- investigate the relationship between sleep health and various lifestyle factors
- includes comprehensive information on sleep quality, daily steps, physical activities level, stress levels, BMI categories, heart rates and prevalence of sleep disorders

- primary objective of this analysis is to understand the factors that contribute to healthy sleep patterns and to identify potential areas for improving sleep health.
- By examining the data, we aim to uncover trends and correlations that can inform better sleep hygiene practices and lifestyle modifications.



Project Description



Purpose

- **Comprehensive Dashboard:** Develop an analytical and visual dashboard using RShiny.
- **Sleep Health and Lifestyle Insights:** Reveal the relationship between sleep health and various lifestyle factors.

Motivation

- **Health Awareness:** Motivated by the growing awareness of the importance of health.
- **Lifestyle Impact:** Addressing issues like unhealthy lifestyles, high stress levels, poor sleep quality, and sleep disorders influenced by lifestyle factors.

Significance

- improve public health by providing actionable insights into sleep and lifestyle.
- enhance understanding of the impact of lifestyle on BMI category, stress level, quality of sleep and sleep disorders.
- help individuals make informed decisions to improve their sleep and lifestyle.

Data Preparation

Data Cleaning

- Checking for columns with null values
- Removing the ID variable because repetition of the indexing column, now also with incorrect values
- Removing duplicates
- Normalizing the 'BMI_Category' data because redundancy with 'Normal' and 'Normal Weight'
- Deleting the Rows with Scientist and Manager as Occupation



CONCLUSION



- Revealed key insights into how lifestyle impacts sleep quality.
- Varied BMI categories and sleep disorders across genders emphasize the need for tailored interventions.
- Occupational influences on sleep quality underline the importance of addressing workplace stressors.
- Correlations between stress levels, physical activity, and sleep quality highlight actionable strategies for improvement.
- Visualization pinpointed key predictors like stress levels and BMI, guiding lifestyle adjustments.
- Healthcare interventions can be personalized, and individuals can adopt data-driven advice for better sleep.
- Public health initiatives can promote healthier sleep practices based on these findings.
- Ongoing exploration of lifestyle factors promises further enhancements in well-being.



CONCLUSION



Our analysis of the Sleep Health and Lifestyle Dataset using the RShiny app unveiled some fascinating findings about how our lifestyle choices affect our sleep quality. We discovered that different genders have varied BMI categories and sleep disorders, suggesting the need for personalized interventions. Additionally, we found that certain occupations impact sleep quality differently, emphasizing the importance of tailored strategies to address workplace-related stressors. By examining correlations between lifestyle factors, such as stress levels and physical activity, we learned that managing stress and staying active can significantly improve sleep quality. Through visualization, we identified key factors like stress levels and BMI that predict sleep health, providing practical insights for making lifestyle changes. These discoveries can guide healthcare providers in crafting effective interventions and offer individuals actionable advice for better sleep habits. Moreover, public health efforts can use these insights to promote healthier sleep practices in communities. As we continue to explore the complex relationship between lifestyle and sleep, we can make meaningful strides toward improving overall well-being and quality of life.

Limitation of study

Data Bias

Data Limitation

Limited Generalizability



***Thank
You***