Project Title: **SLEEPING**

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Data Source: **Kaggle sleeping Dataset**

**INTRODUCTION:**

Sleep is a vital component of both physical and mental well-being. Poor sleep quality has been linked to several health issues, including obesity, cardiovascular problems, stress, and reduced productivity. The purpose of this analysis is to investigate the relationship between BMI, blood pressure, stress, sleep duration, daily steps, and sleep disorders.

**DATA COLLECTION:**

* **Source**: Kaggle Sleeping Dataset.
* **Dataset Size**: 375rows and 13 columns.
* **Features**:
  + Demographics: PersonId, Gender, Age, Occupation
  + Health indicators: Blood Pressure (Systolic & Diastolic), BMI Category, Stress Level, Heart Rate
  + Lifestyle: Sleep Duration, Quality of Sleep, Physical Activity, Daily Steps, Sleep Disorder

**DATA CLEANING:**

* Renamed columns for clarity.
* Split blood pressure into **Systolic** and **Diastolic**.

**EDA:**

* **Demographics**: Age and gender distribution of participants.
* **Sleep Patterns**: Average sleep duration vs. quality of sleep.
* **BMI vs Sleep Disorder**: Overweight/obese individuals are more likely to have insomnia or sleep apnea.
* **Stress vs Sleep Duration**: High stress correlates with reduced sleep duration.
* **Daily Steps vs Sleep Quality**: Physically active individuals tend to have better sleep quality.
* **Blood Pressure & Sleep Disorder**: Higher systolic/diastolic readings linked with sleep apnea.

**DASHBOARD**:

Power BI dashboard could include:

* **Average Sleep by Gender, physical activity and occupation.**
* **Average age by BMI Category.**
* **Total steps by Gender, physical activity and occupation.**
* **Systolic vs Occupation.**
* **Average heart rate by Gender, physical activity and occupation.**
* **Sleep Duration by Gender and Occupation.**
* **Average Stress level by Gender, physical activity and occupation.**

**RECOMMENDATION:**

Based on the analysis, here are some recommendations to improve sleep and overall health:

* Encourage adults to get **7–9 hours** of sleep each night to help maintain a balanced BMI and lower stress levels.
* Promote daily physical activity, such as walking **8,000–10,000 steps,** to improve sleep quality.
* Monitor and manage stress levels through practices like **meditation, yoga, or other relaxation** techniques.
* Regularly check blood pressure and heart rate to help prevent sleep disorders.
* Employers should create **healthy workplace practices** to reduce job-related stress.

**CONCLUSION:**

* Sleep disorders are strongly linked to **BMI, blood pressure, stress levels, and daily lifestyle activities**.
* Improving sleep hygiene and lifestyle can significantly reduce health risks.
* Further research could involve predictive modeling to classify the risk of sleep disorders using health indicators.