

# Analyzing Lifestyle: Health and Wellness Factors

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ISC 4551  
Capstone



# Background

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- ❑ “Sleep Health and Lifestyle Dataset” on Kaggle
  - ❑ [Sleep Health and Lifestyle Dataset \(kaggle.com\)](https://www.kaggle.com/datasets/fergusmccann/sleep-health-and-lifestyle-dataset)
- ❑ Consists of **374 observations** and **13 features**
- ❑ Features: Gender, Occupation, Sleep Duration, Quality of Sleep (subjective rating 1-10), Physical Activity Level (minutes/day), Stress Level (subjective rating 1-10), BMI Category (Normal, Overweight, Obese), Blood Pressure, Heart Rate, Daily Steps, Sleep Disorder (None, Insomnia, Sleep Apnea)

# Feature Description

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**Person ID:** An identifier for each individual.

**Gender:** The gender of the person (Male/Female)

**Age:** The age of the person in years

**Occupation:** The occupation or profession of the person

**Sleep Duration (hours):** The number of hours the person sleeps per day

**Quality of Sleep (scale: 1-10):** A subjective rating of the quality of sleep, ranging from 1 to 10

**Physical Activity Level (minutes/day):** The number of minutes the person engages in physical activity daily

**Stress Level (scale: 1-10):** A subjective rating of the stress level experienced by the person, ranging from 1 to 10

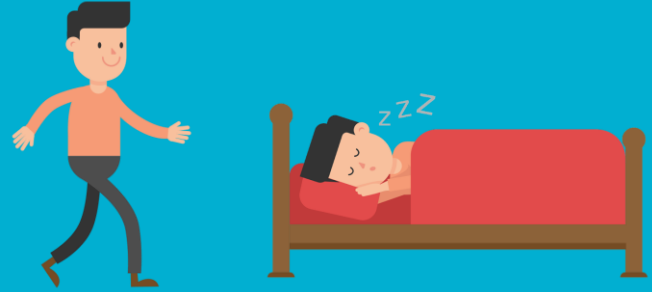
**BMI Category:** The BMI category of the person (e.g., Underweight, Normal, Overweight)

**Blood Pressure (systolic/diastolic):** The blood pressure measurement of the person, indicated as systolic pressure over diastolic pressure

**Heart Rate (bpm):** The resting heart rate of the person in beats per minute

**Daily Steps:** The number of steps the person takes per day

**Sleep Disorder:** The presence or absence of a sleep disorder in the person (None, Insomnia, Sleep Apnea)



# Problem & Objectives

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**Our health and wellness** as humans is extremely important in determining the quality of our day to day lives. We will examine how stress and poor sleep go hand-in-hand while examining the factors that highly influence each.

**Our goal** is to be able to make suggestions for those looking to better their health and wellness by evaluating the importance of factors pertaining to both mental and physical health!

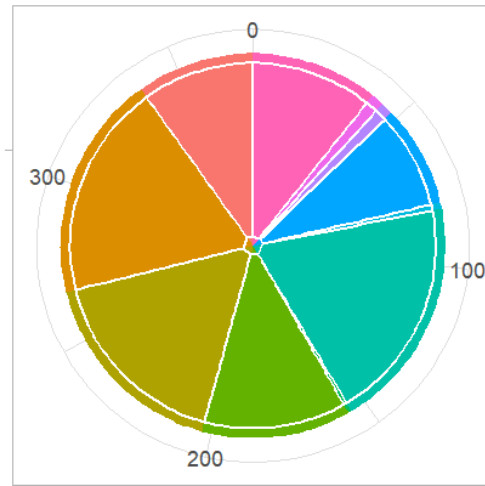




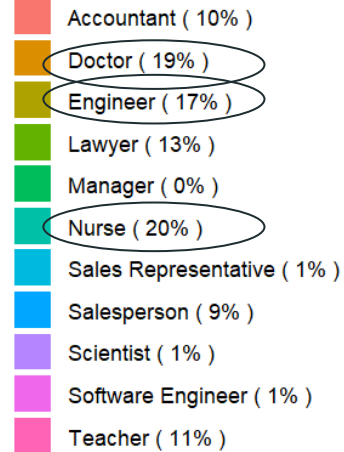
# Demographics

**Lots of Doctors, Engineers, and Nurses!**

Occupation

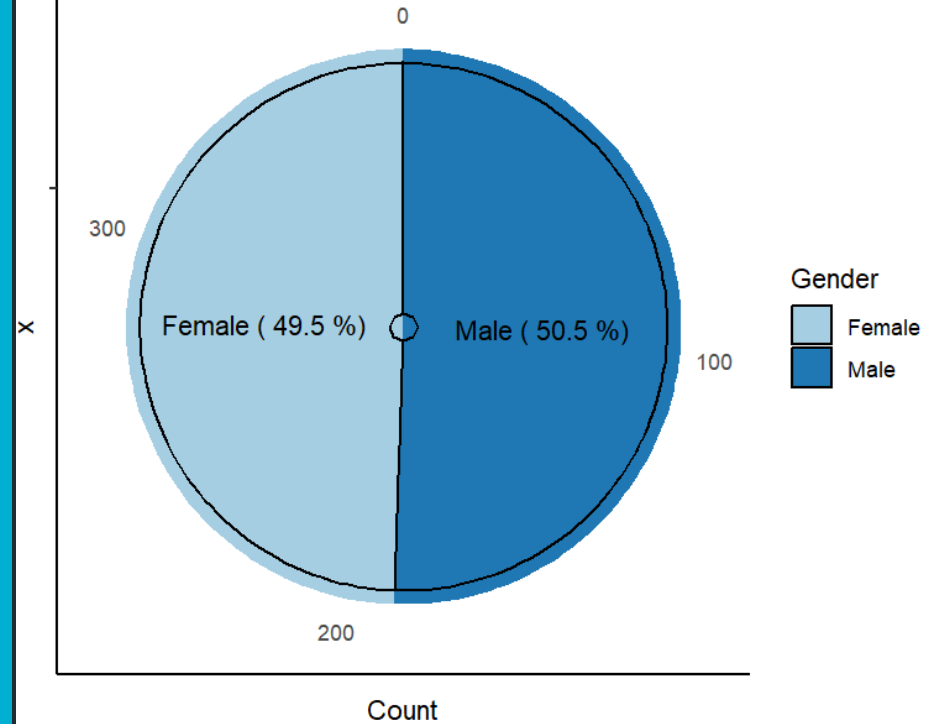


Occupation & Percentage



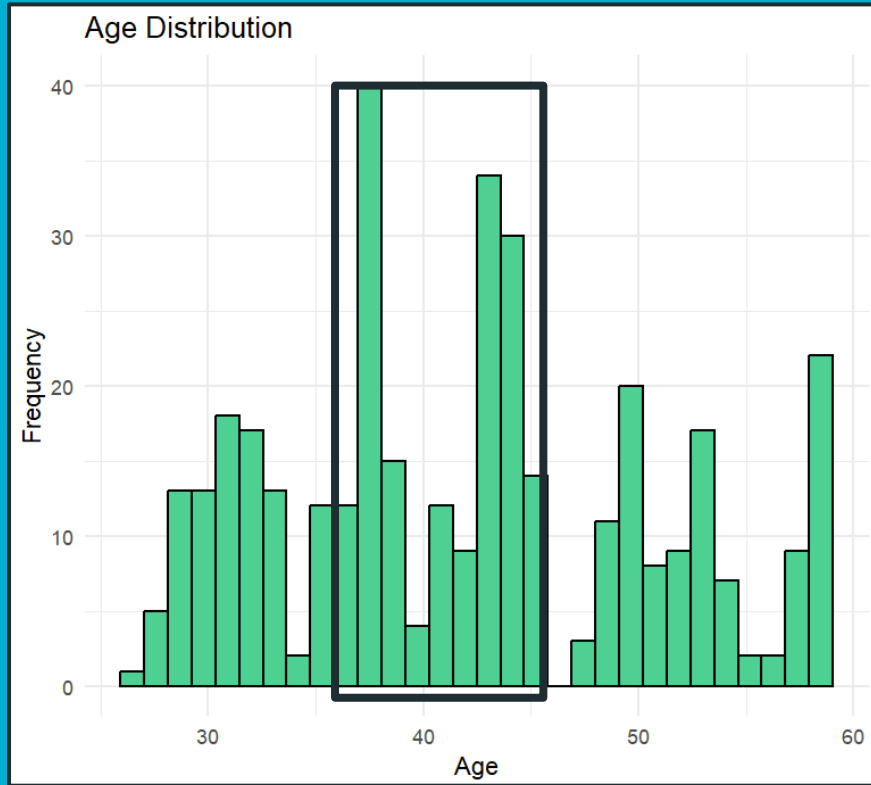
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Gender Percentage



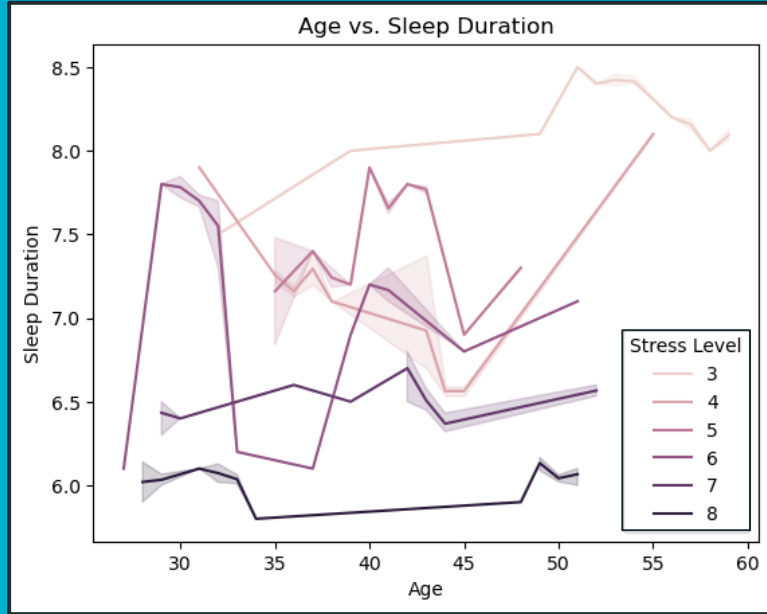
**Half & Half**

# Demographics Continued

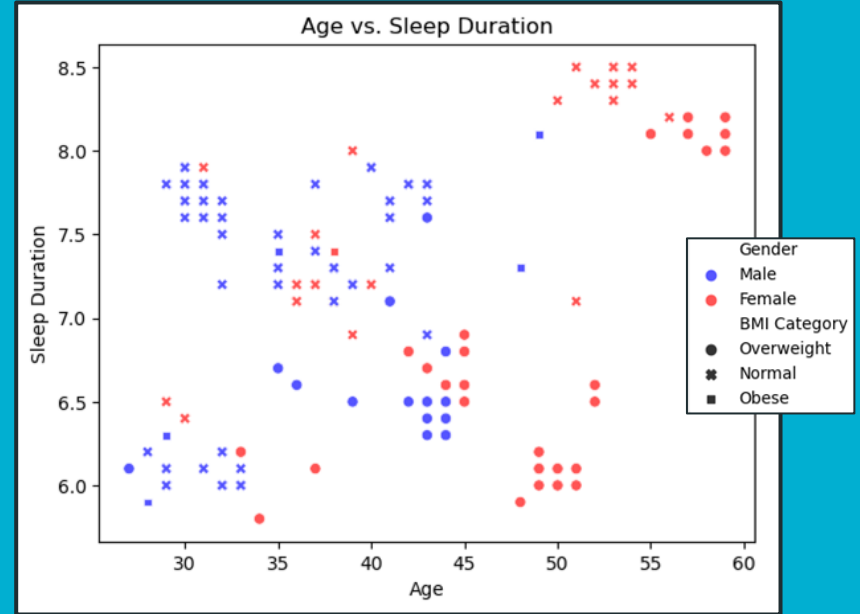


**Age** ranges from 27 to 59, with the most frequent category being 37-45

# Factors Impacting Sleep



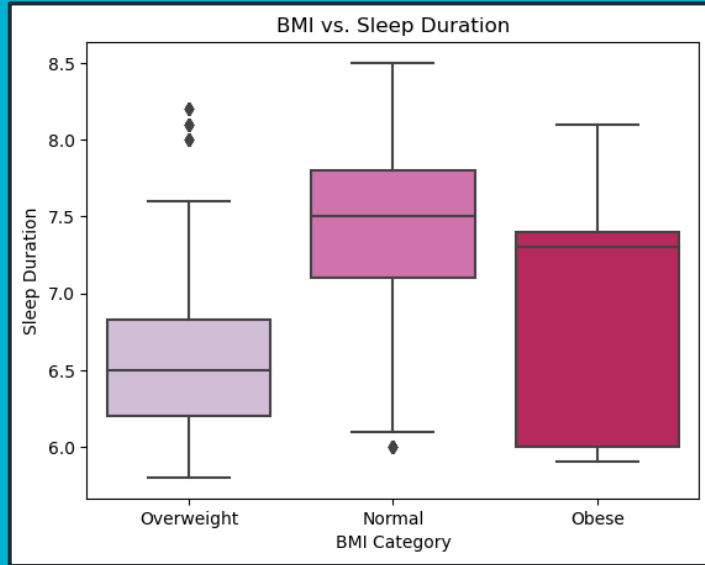
**Higher stress** leads to less sleep



**Normal BMI** sleep more

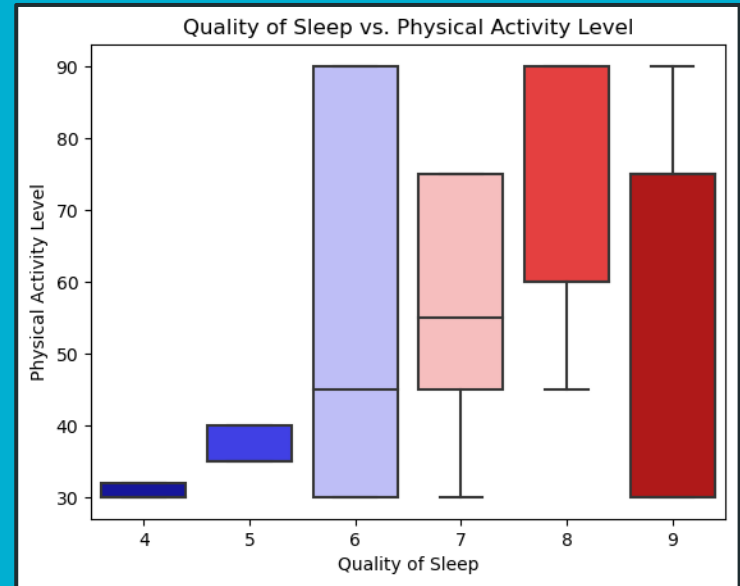


# Factors Impacting Sleep

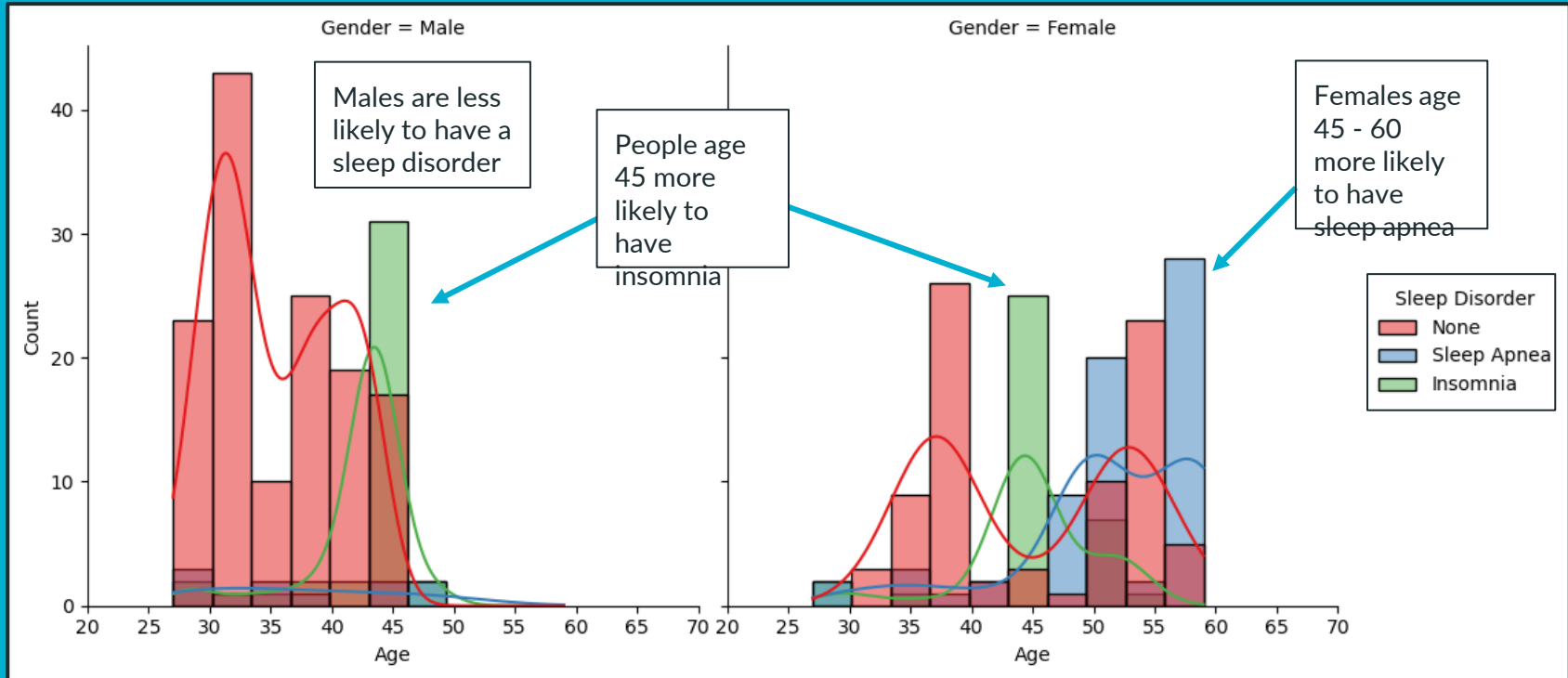


More evidence points to **Normal BMI** sleeping longer

**<40 mins physical activity** leads to lower quality of sleep

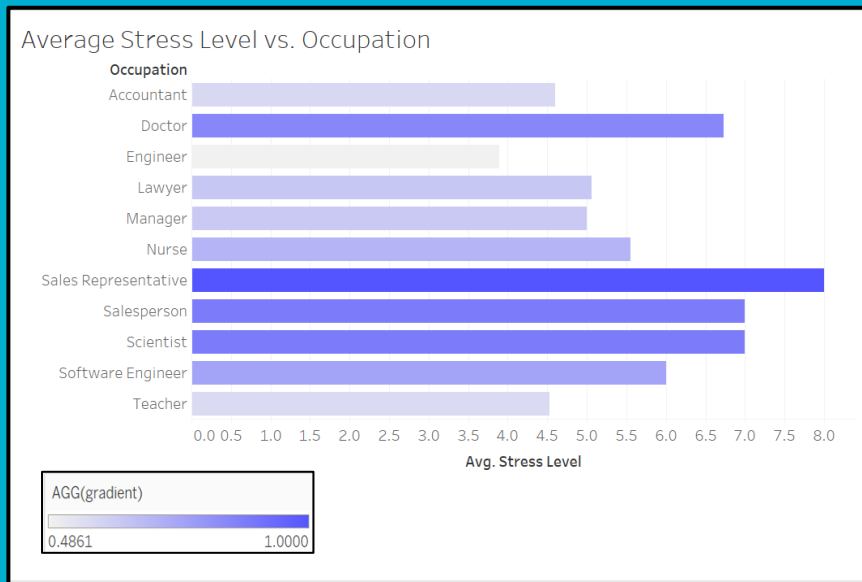
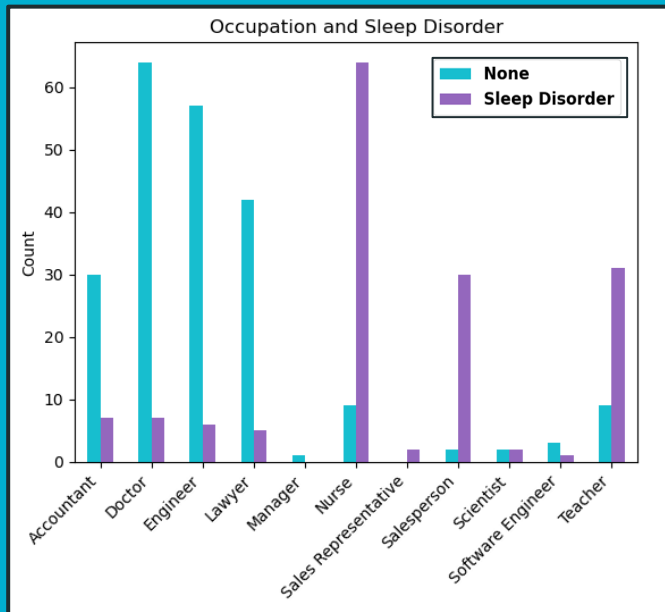


# Influences of Age & Gender on Sleep Disorder



# How does occupation impact us?

**Nurses, salespeople, & teachers**  
are more prone to sleep disorder



**Sales reps, doctors, salespeople, & scientists** have higher stress levels

# Insights: How to enhance quality of life

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**Occupation** heavily affects sleep:

- ❑ **Your career shapes your health** in the following ways:
  - ❑ Salary: Making less money causes more stress, leading to sleep disorders.
  - ❑ Hours: Working long hours without adequate breaks prevents you from getting the proper sleep to maintain a healthy circadian rhythm. These conditions also don't allow you to take proper care of your mental health, leading to stress.
  - ❑ Thus, we see that stress and lack of sleep fuel each other, so you must be sure to pick an occupation that allows you time to take care of yourself mentally and physically!

**Increased Physical Activity** translates to less stress & longer sleep!

- ❑ Increased physical activity encourages normal BMI: we saw that those with normal BMI sleep longer!
- ❑ Sleep quality is not as high with less physical activity. Humans need 75-150 minutes of vigorous movement per week according to the American Medical Association.

# References

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Dataset: [Sleep Health and Lifestyle Dataset \(kaggle.com\)](https://www.kaggle.com/datasets/kevinthecook/sleep-health)

- ❖ [Massive study uncovers how much exercise is needed to live longer | American Medical Association \(ama-assn.org\)](https://www.ama-assn.org)
- ❖ [Sales Person Salary \(April 2024\) - Zippia](https://www.zippia.com)
- ❖ [What Is the Salary for a Teacher? Salaries by State | Indeed.com](https://www.indeed.com)
- ❖ [How Long Does a Nurse Work? \(With Video\) | Indeed.com](https://www.indeed.com)