

# ANALYSIS OF SLEEP, HEALTH, AND LIFESTYLE

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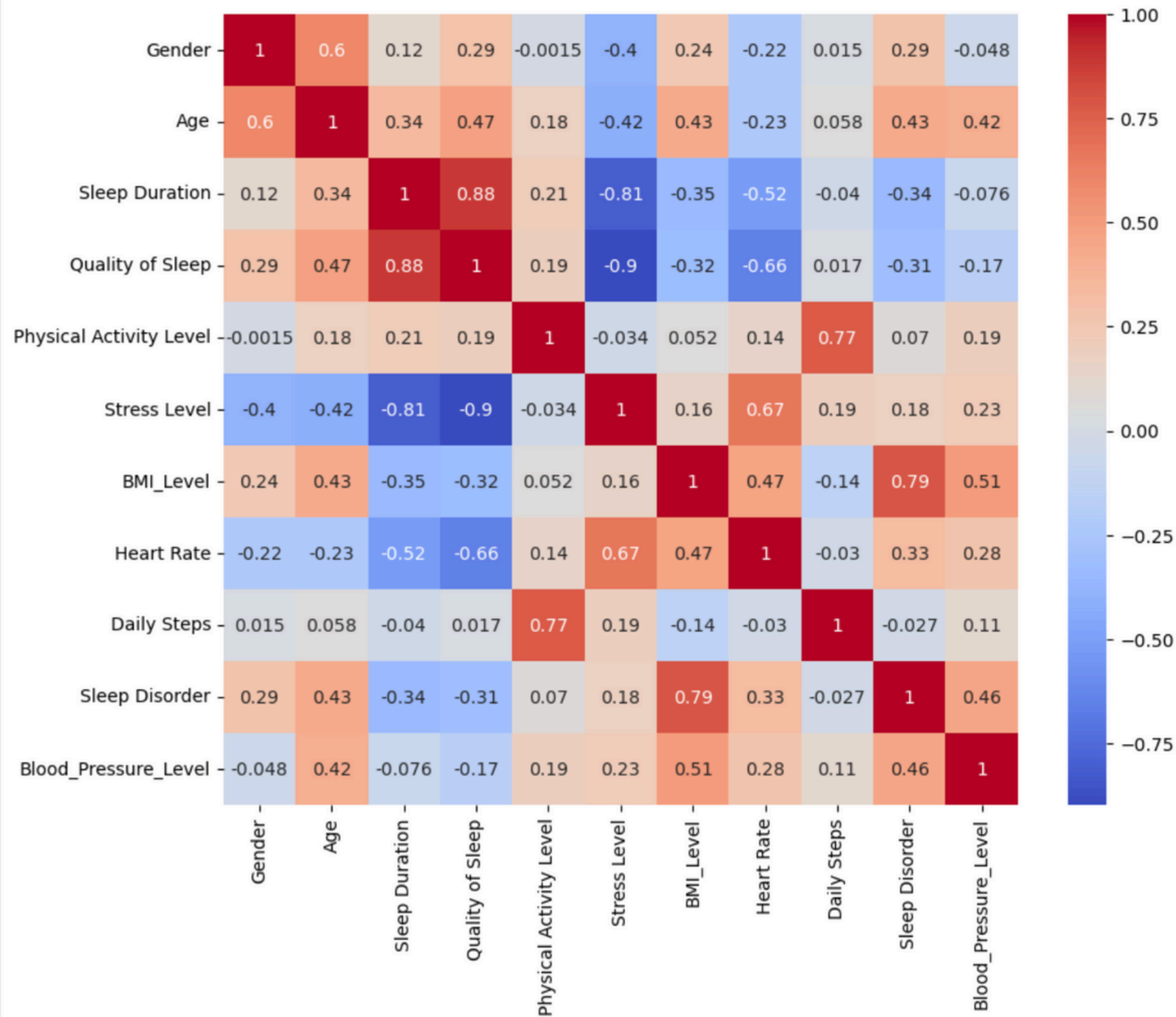


# MOTIVATION

Modern individuals often struggle with late nights and sleep disorders. This document aims to analyze the various factors that influence sleep and to examine the health impacts resulting from sleep deprivation.

	Person ID	Gender	Age	Occupation	Sleep Duration	Quality of Sleep	Physical Activity Level	Stress Level	BMI Category	Blood Pressure	Heart Rate	Daily Steps	Sleep Disorder
0	1	Male	27	Software Engineer	6.1	6	42	6	Overweight	126/83	77	4200	NaN
1	2	Male	28	Doctor	6.2	6	60	8	Normal	125/80	75	10000	NaN
2	3	Male	28	Doctor	6.2	6	60	8	Normal	125/80	75	10000	NaN
3	4	Male	28	Sales Representative	5.9	4	30	8	Obese	140/90	85	3000	Sleep Apnea
4	5	Male	28	Sales Representative	5.9	4	30	8	Obese	140/90	85	3000	Sleep Apnea

# CORRELATION & HEAT MAP



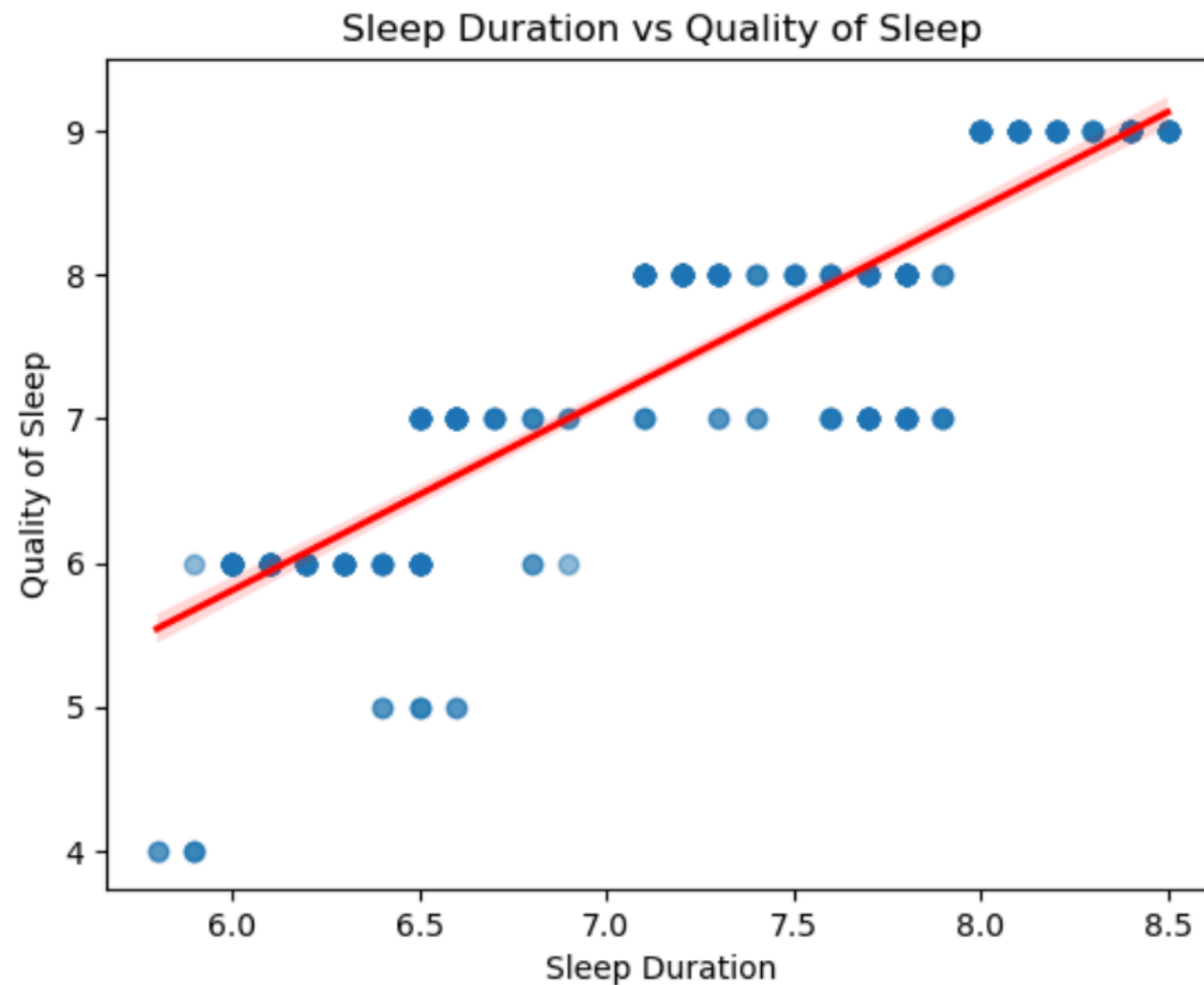
## Strong Positive Correlation:

1. Sleep Duration vs Quality of Sleep (0.88)
2. Sleep Disorder vs BMI (0.79)
3. Physical Activity Level vs Daily Steps (0.77)

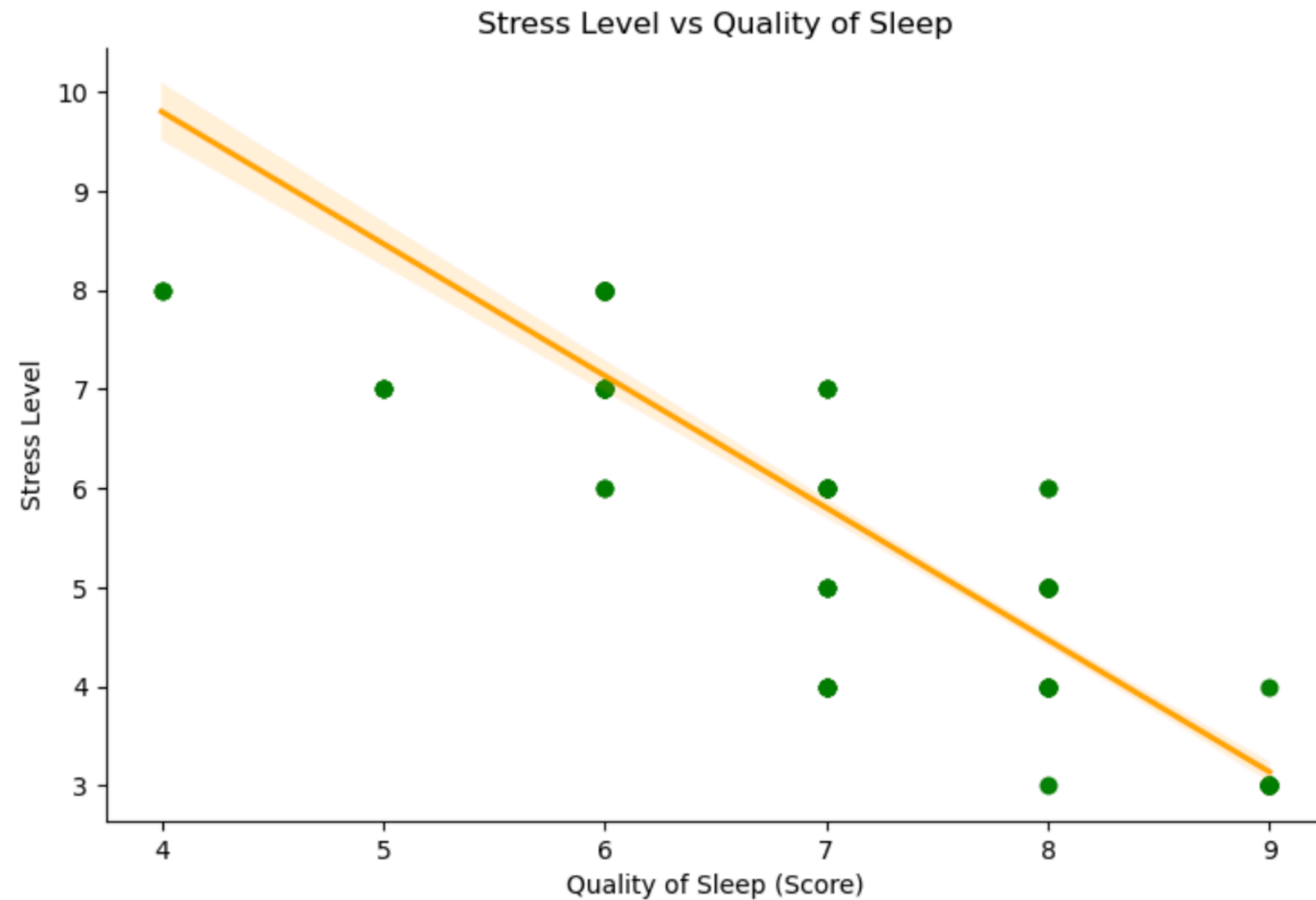
## Strong Negative Correlation:

1. Stress Level vs Quality of Sleep (-0.9)
2. Stress Level vs Sleep Duration (-0.81)

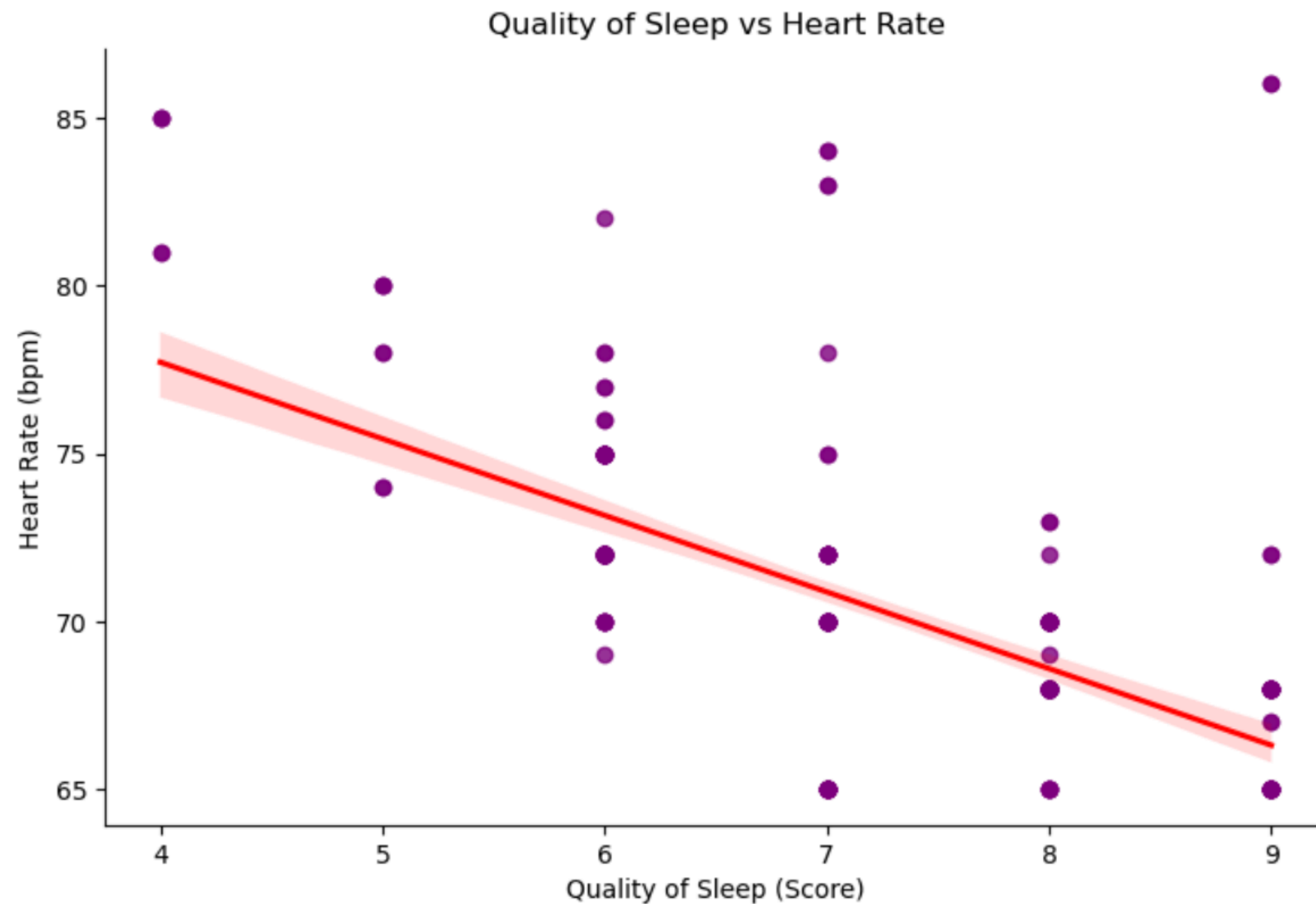
# SLEEP DURATION & QUALITY



# STRESS & SLEEP QUALITY

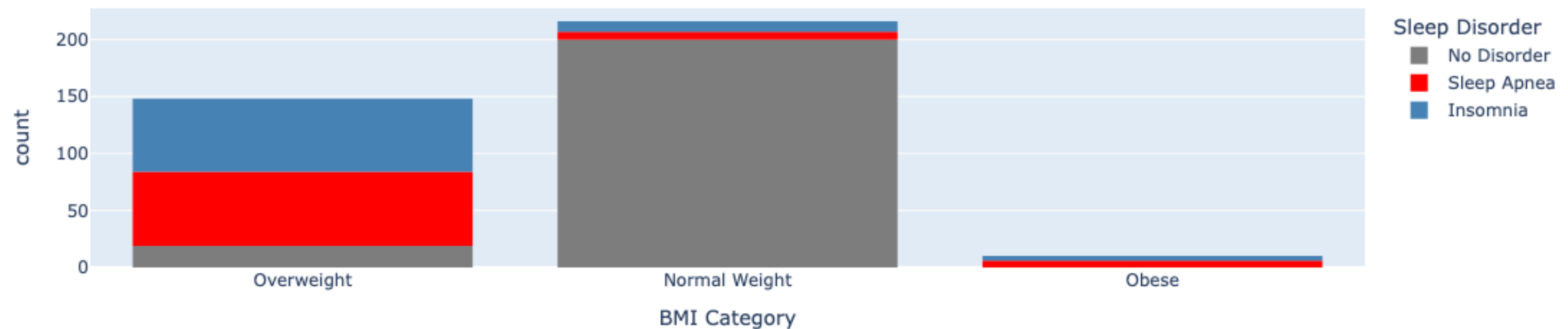


# QUALITY OF SLEEP & HEART RATE



# SLEEP DISORDER & BMI

Bar Chart of BMI Category Counts



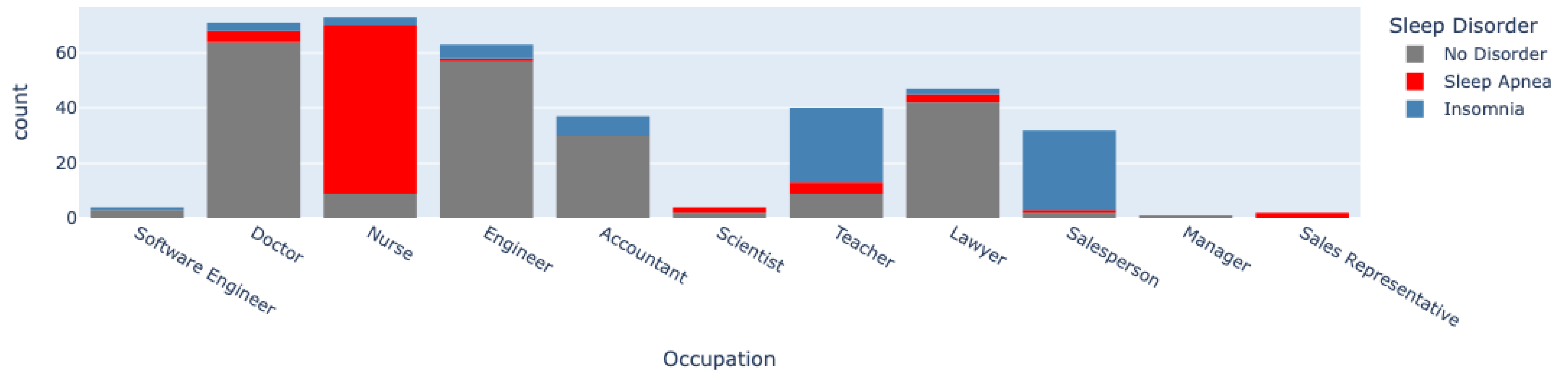
# SLEEP DATA ANALYSIS BY OCCUPATION





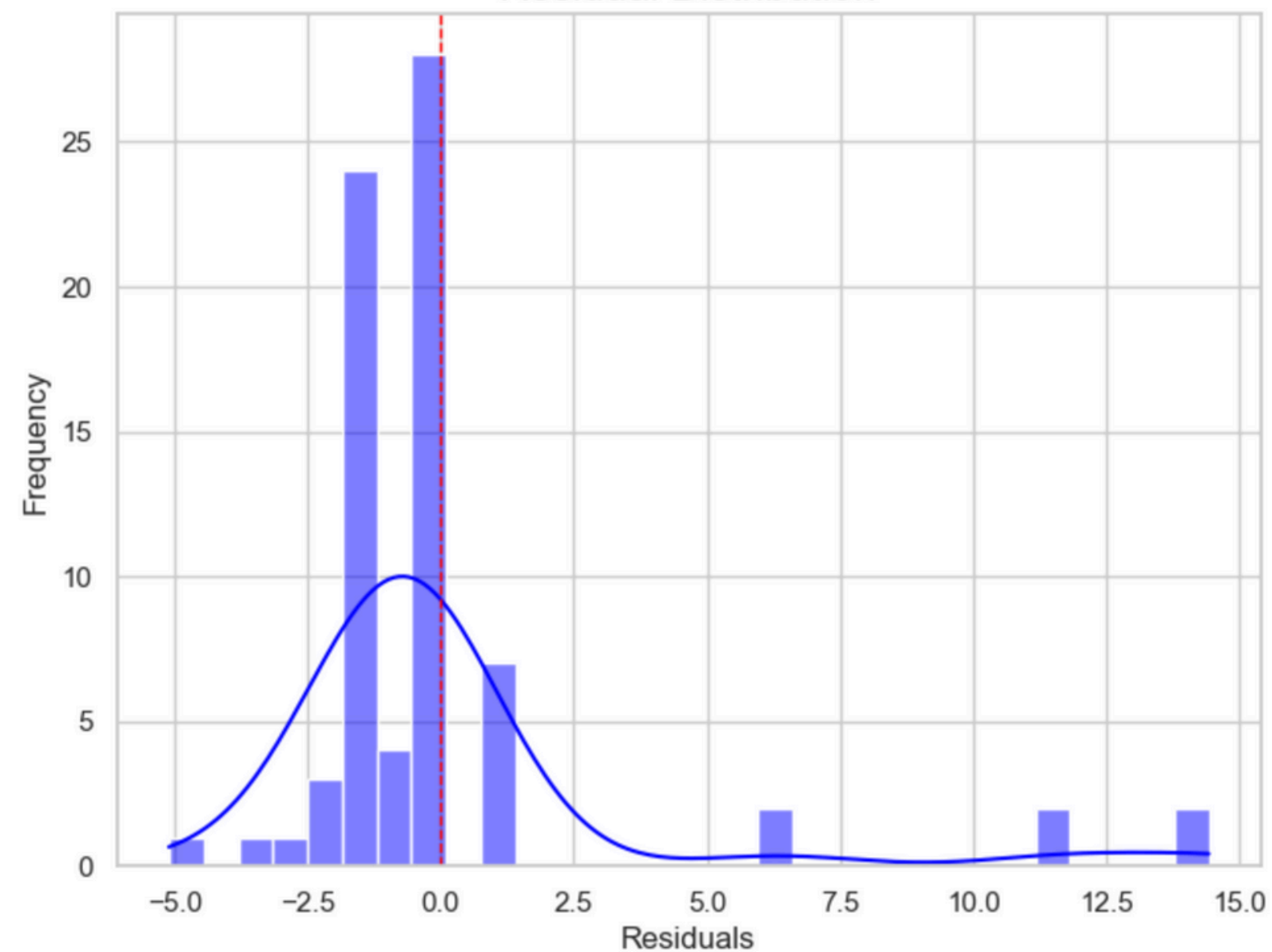
# OCCUPATION & SLEEP DISORDER

Bar Chart of Occupation and Sleep Disorder

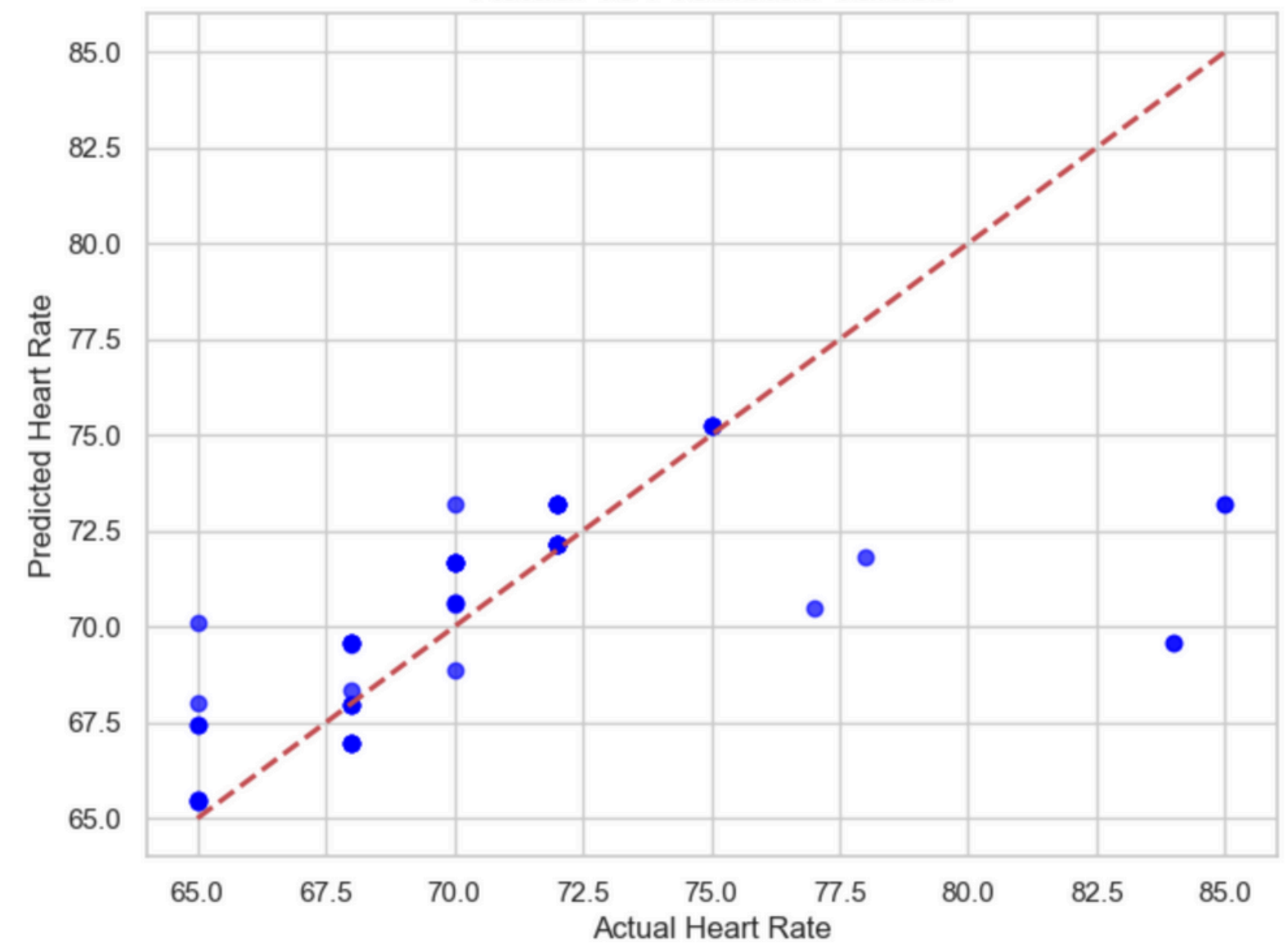


# LINEAR REGRESSION

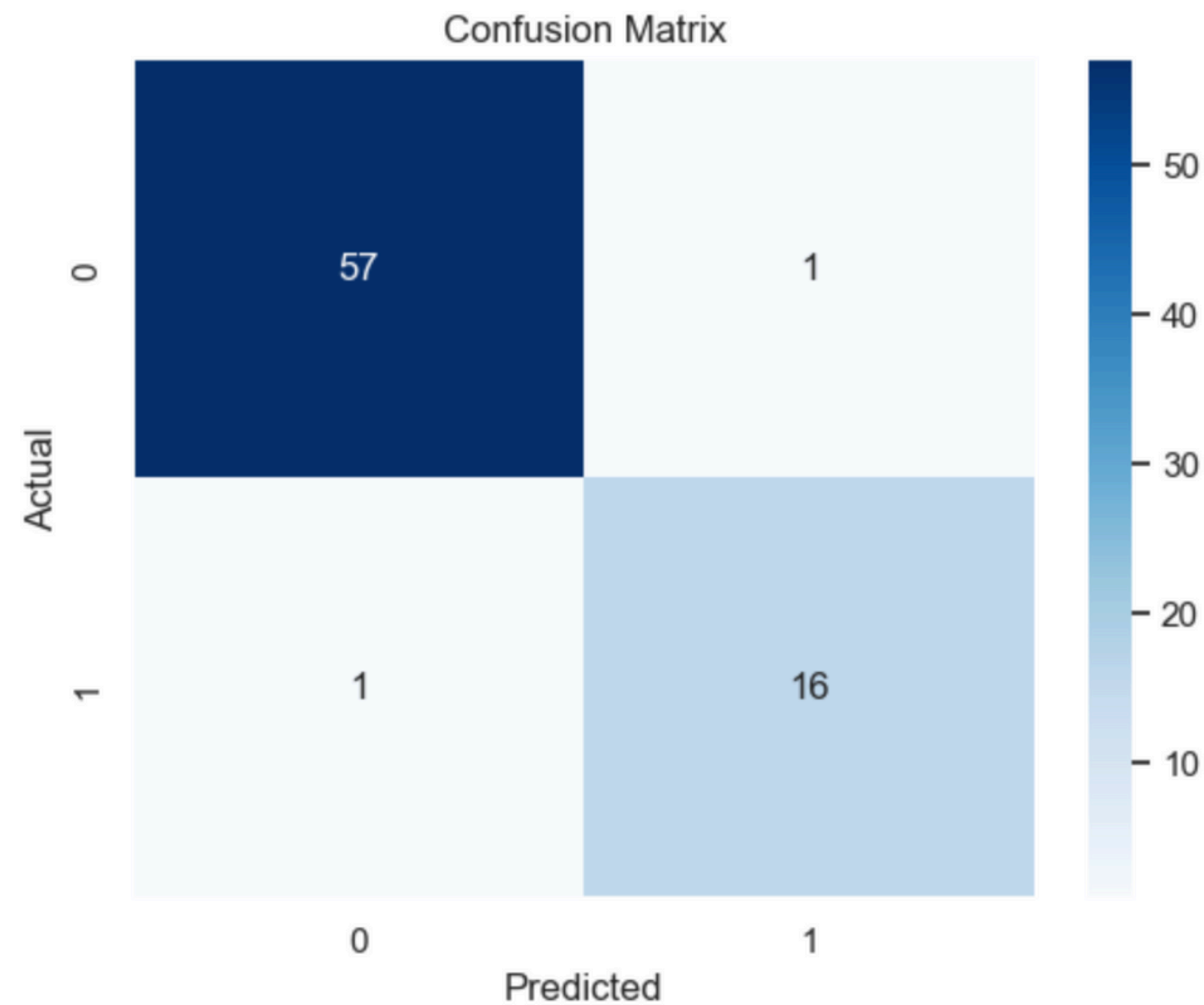
Residual Distribution



Actual vs Predicted Values



# LOGISTIC REGRESSION



# CONCLUSION



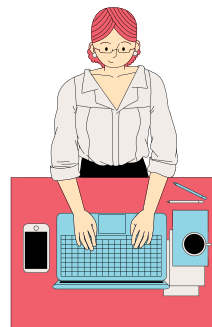
## **1. Importance of Adequate Sleep:**

Sleep duration is negatively correlated with heart rate, indicating that longer sleep improves heart health.



## **2. Impact of Stress on Sleep:**

Stress levels significantly affect sleep quality; higher stress leads to poorer sleep, emphasizing the need for stress management.



## **3. Exercise and Sleep Quality:**

Regular physical activity enhances sleep quality; moderate-intensity exercise is recommended weekly.