**CMP 262 Data Science Programming**

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**December 12, 2024**

**Student-Health-Data**

**The main focus of my study is student-health data, which includes a variety of student health-related information. This contains their academic, psychological, and physiological information for college students who are interested in assessing health risks in high-stress situations, such as academic and entrepreneurial settings. Both sensor-based measurements and self-reported values are included in this data set. Packages used in this study included Matplotlib for visualizations, Pandas for data cleaning and manipulation, SciPy for statistical analysis, and Seaborn for making statistical visuals easier to understand.**

**Based on this data, I have formulated roughly three research topics. The first question asks how self-reported stress levels correlate with physical activity levels, which are scored as Low, Moderate, and High. My second query is: What is the correlation between self-reported stress levels and sleep quality ratings of bad, moderate, and good? The final question I have is on the correlation between self-reported stress levels and moods (Happy, Neutral, and Stressed). I selected these questions because they target the core physical, emotional, and mental health issues of students, making them highly important for determining practical ways to enhance well-being.**

**It was shown that there was a minor negative association between physical activity and stress levels, which explains that higher levels of physical activity are somewhat associated with lower levels of self-reported stress. By emphasizing the value of maintaining moderate to high levels of physical exercise for stress management, the heatmap graphic displays this connection. A slight adverse connection between stress levels and sleep quality was observed, indicating that lower stress levels correlate with higher sleep quality. Lastly, the correlation between mood and stress levels was 0.02, indicating a very weak positive relationship. This means that those who report feeling cheerful or neutral are likely to have somewhat lower stress levels.**

**If I were presenting this to a customer, I would suggest promoting some kind of programs for students to be physically active. This is due to teaching students the value of maintaining good physical health and how it might affect one's mental well-being. Furthermore, I would advise educating students on the importance of sleep quality for each person and the advantages it offers. The development of programs that further introduce activities to engage with higher-level learning can follow from this.**

**With this data, I would like to continue analyzing and investigating the potential effects that different majors, age groups, and genders might have on an individual. Another area of inquiry that interests me is to analyze differences in stress, mood, and overall health outcomes between students who regularly eat breakfast and those who skip it. This could also help to discover the role of nutrition in managing stress and promoting well-being.**