

# How Does Sleep Affect Symptoms of Anxiety in Undergraduate College Students?

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## INTRODUCTION

- Poor mental health has been associated with sleep problems in the past (Becker 2018).
- College students are known for being sleep deprived because of their lifestyles.
- In the United States, college students are among the most anxious and depressed demographics (LICSW 2022).
- The purpose of this study is to identify a possible link between the amount of sleep that four-year college students acquire in a night and the symptoms of anxiety they may experience.

### Research Question

- Does poor sleep increase levels of anxiety and stress?

## METHODS

- Through a google form, a cross-sectional survey was utilized to ask participants questions about their sleep habits and symptoms of anxiety.
- The Pittsburgh Sleep Quality Index (PSQI) was used to analyze sleep quality and disturbances on one-month intervals.
- The depression, anxiety, and stress scale (DASS-21) was used to analyze symptoms of anxiety. This survey was heavily modified to respect participant's autonomy.

## RESULTS

### Participants

- 89 undergraduate students
- 67% Female and 33% Male
- 83% Caucasian, 10% Black or African American, 5% Asian, and 1% Other

### Design and Procedure

- Eligibility question found within verified survey.
- Verified survey containing DASS-21 and PSQI questions sent to participants.
- Survey compiled list of grade point averages in verified participant pool
- Sleep quality (independent variable), Depression, anxiety, and stress scale (dependent variable).
- Relationship between sleep quality and anxiety shown through scatter plot (**Figure 3**).
- Verified scoring assessment of PSQI and DASS-21.

### Data Analyzed

- 87% scored "poorly" with a score greater than or equal to the numerical value of "5" (Figure 4).
- 13% scored in the category of "good sleep" with a score less than the numerical value of "5" (Figure 4).
- **R-value**= 0.579 showing a moderate positive relationship between sleep quality and anxiety.

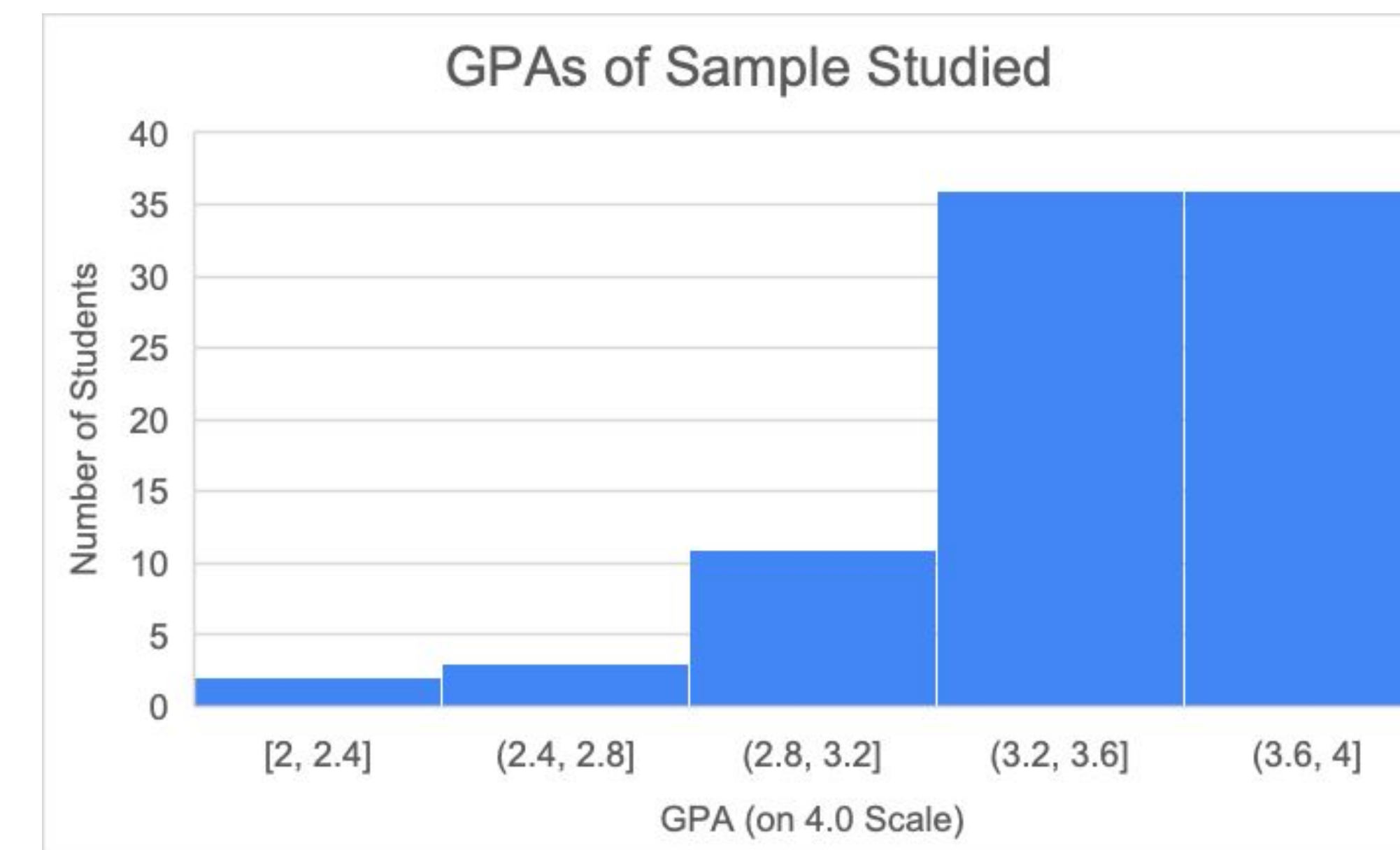


Fig. 2. Bar graph depicting the GPA ranges of students represented in the study

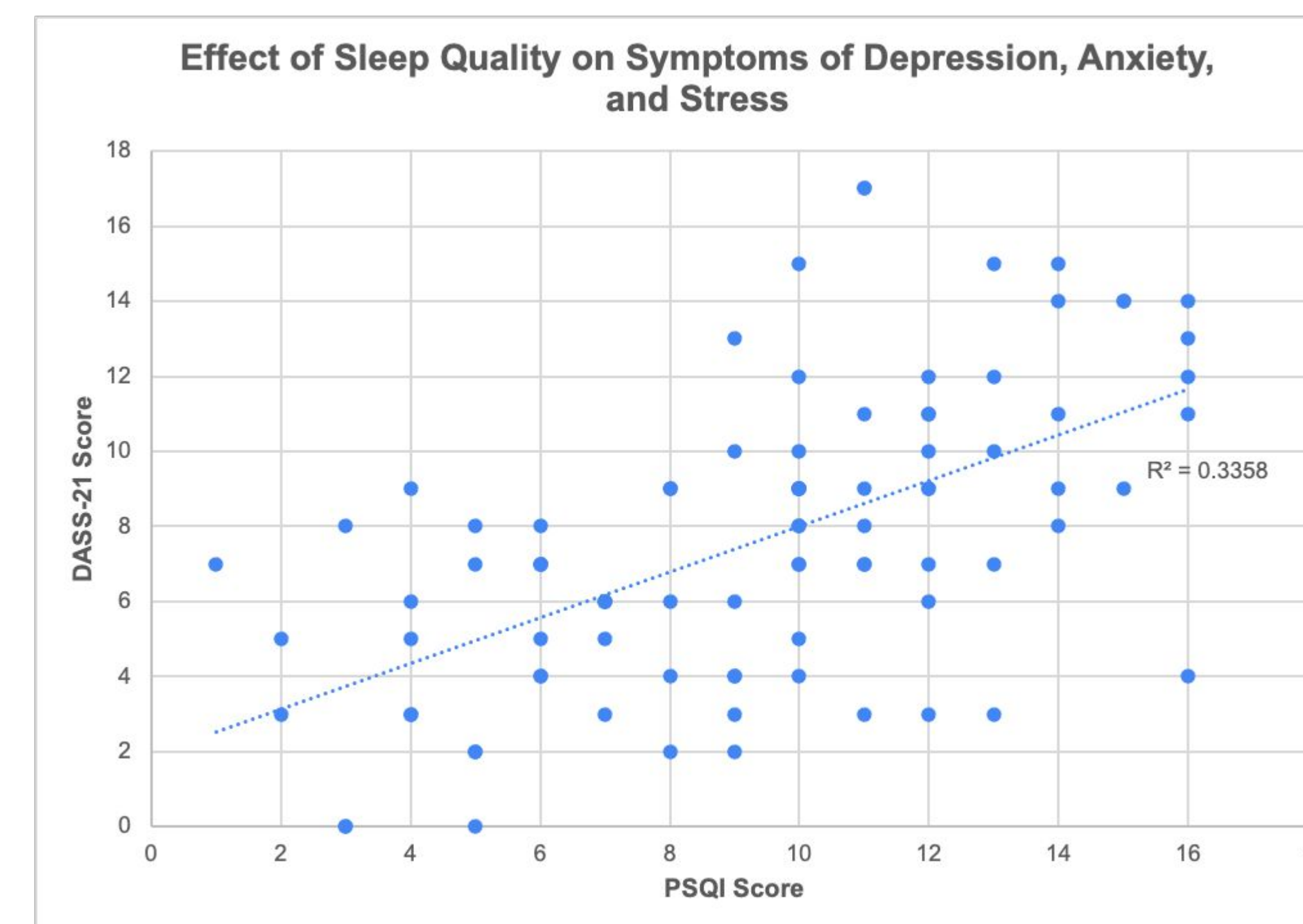


Fig. 3. Scatter plot depicting the correlation between PSQI Score and DASS-21 Score in students represented in the study

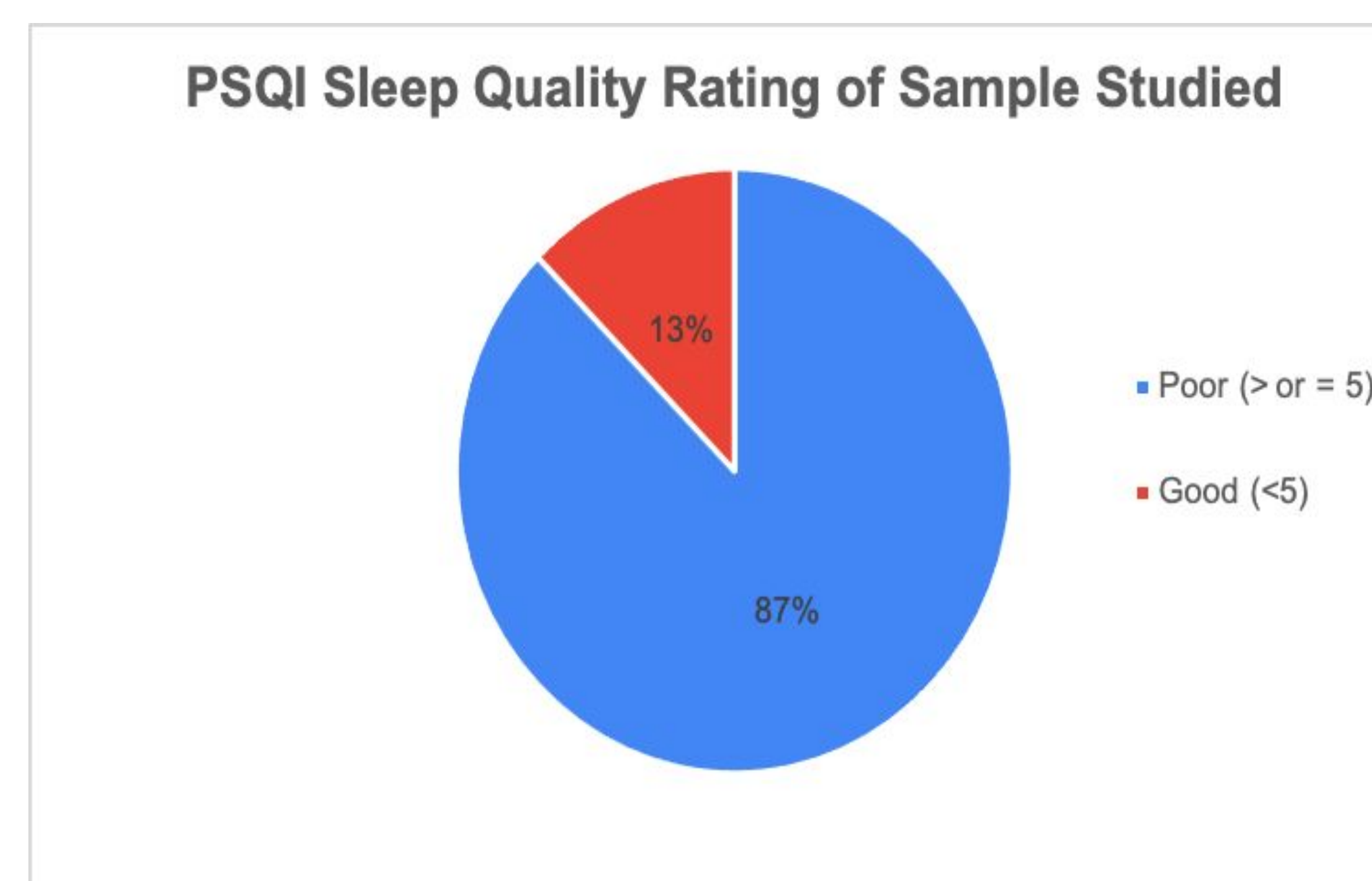


Fig. 4. Pie graph depicting PSQI results of students represented in the study

## DISCUSSION

- The PSQI and DASS 21 results demonstrate a moderate positive correlation. In other words, the undergraduate college students showcased higher levels of symptoms of anxiety associated with lower levels of quality of sleep.
- The PSQI results demonstrate that the majority of college students have a poor sleep quality.
- Overall, the results highlight the awareness for educational programs about sleep and symptoms of anxiety, depression, and stress.

### Limitations of the Study:

- Demographics of the study are not truly representative of college student population.
- Larger sample size may have provided stronger correlation between PSQI Score and DASS-21 Score.

## REFERENCES

- Becker, S. P.,(2018). Sleep in a large, multi-university sample of college students: Sleep problem prevalence, sex differences, and mental health correlates. *Sleep Health*, 4(2), 174–181.
- LICSW, R. D. (2022, December 7). *College students and depression: A guide for parents*. Mayo Clinic Health System.

## ACKNOWLEDGEMENTS

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