Is Stress Related to the Number of Hours of Sleep in College Students

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INTRODUCTION

- Sleep is a vital component to health and well being (Huang & Kampfen 2021).
- Sleep difficulties associated with mental health concerns: anxiety, depression, neuroticism and stress (2021).
- Poor sleep quality has been found to be increasing among college students due to erratic schedules, social and academic pressures, and mental health issues (Wing & Biro 2020).
- Between 40-65% of college students experience sleep issues in the US (Becker et al. 2018).
- Inadequate or low-quality sleep impedes emotional regulation (Peltz et al. 2019).
- Many are aware of this prevalent issue; little appears to be done in order to fix it.
- Multiple factors are related to poor sleep quality; however, impact of mental health appears to be critical as it is heavily influenced by the demands of college culture.

METHODS

- **PURPOSE:** Further investigate the prevalence of stress and sleep among college student population.
- **AIMS**: Measure the number of hours of sleep in college students, measure amount of stress in college students and find any association between the two, if any.
- **STUDY DESIGN:** Cross-sectional study, web-based survey.
- **ETHICAL REVIEW:** IRB at the University of Dayton.
- **PARTICIPANTS:** Undergraduate full-time (>12) students at the University of Dayton between the ages of 18-22 years old.
- **PROTOCOL:** Survey questionnaire with demographic questions, 7 questions from the 10-item perceived stress scale (PSS-10), 7 questions from the Pittsburgh Sleep Quality Index (PSQI).
- Each participant receives a total stress score from PSS-10 and a total sleep score from PSQI. Total values were utilized for statistical analysis.
- **ANALYSES:** Compare total PSS-10 values with PSQI values and all demographic variables to each of these. Correlational tests run, determine strength and direction of association between variables.
- **TWO TAILED T-TEST:** This test was measured between the stress and sleep scores.
- **Sleep scores range from 0-15, higher score means better sleep.**
- **Stress scores range from 0-28, higher score means lower stress.**

## RESULTS

TOTAL: 24 responses; 19 female, 5 male
School:
  43.5% - School of Education & Health Sciences
  30.4% - College of Arts & Sciences
  26.1% - School of Business Administration
  0% - School of Engineering
Employment:
  60.9% - Employed
  30.1% - Not employed
Credit Hours:
  26.1% - 12
  17.4% - 13
  8.71% - 14
  13% - 15
  21.7% - 16
  4.3% - 17
  8.7% - 18

PERCENTAGE OF COLLEGES REPRESENTED
School of Education and Health Sciences
College of Arts & Sciences
School of Business Administration
School of Engineering
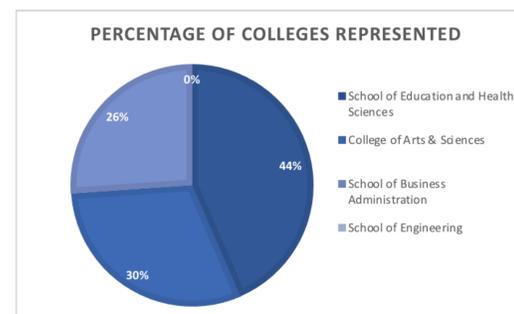
Correlation of 0.286 between total stress scores and total sleep scores (Figure 1.1).
- T-test yield p-value of 7.49E-06 (0.05 = statistical significance).
Correlational value of 0.32 between hours of work and stress.
Correlational value of 0.25 between hours of work and sleep.
Correlation of -0.134 between hours spent on schoolwork and stress.
Correlational value of -0.308 between hours spent on schoolwork and sleep.

CONCLUSIONS

- The results showed that college students who were less stressed (indicated by a higher average stress score) had better sleep quality (indicated by a higher average sleep score).

- These results are significant because they imply that stress and sleep affect one another. This could have future implications for the effectiveness of how practitioners treat both stress and sleep disorders.

- Poor sleep quality can cause poor academic performance which in turn could lead to higher stress levels. Moreover, high stress levels can poorly affect sleep which again, could lead to poor academic performance.

- Limitations to the results are the small sample size and limited responses from males. Additionally, the survey only allowed for 18-22 year old's who lived in university sponsored housing to participate. Finally, the PSQI and PSS-10 were modified to shorten the number of questions to increase the likelihood that people would complete the survey.

- Future research could utilize the unmodified PSQI, and PSS-10 survey questions to get a more in depth understanding of participants' sleep patterns. Additionally, future research could survey more college students from a variety of different institutions.

Figure 1.1:

Correlation Between Stress and Sleep
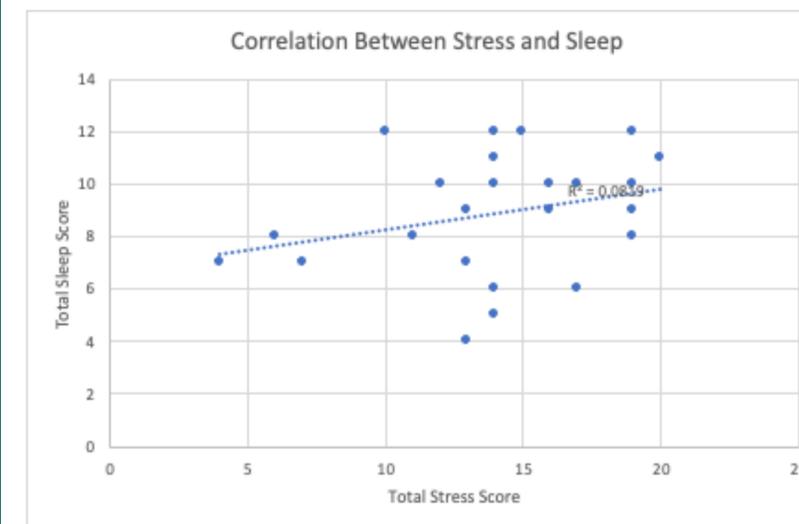
Average Sleep Score (0-15)	Average Stress Score (0-28)
8.875	14

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