



# Sleep Quality, Academic Performance, and Personality Examined

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## Background

- Previous research by Alotaibi et al. (2020) on sleep quality and stress levels found that their participants' sleep quality was poor and their level of stress was quite high. However, there was no statistically significant correlation between elevated stress levels, poor sleep quality and academic performance.
- Russian research by Novikova & Vorobyeva (2017) on the Big Five Factors of personality and academic performance found that certain characteristic traits relate to greater academic performance in certain fields of study (e.g., openness correlates with academic performance in the fields of psychology and pedagogics).

## Hypotheses

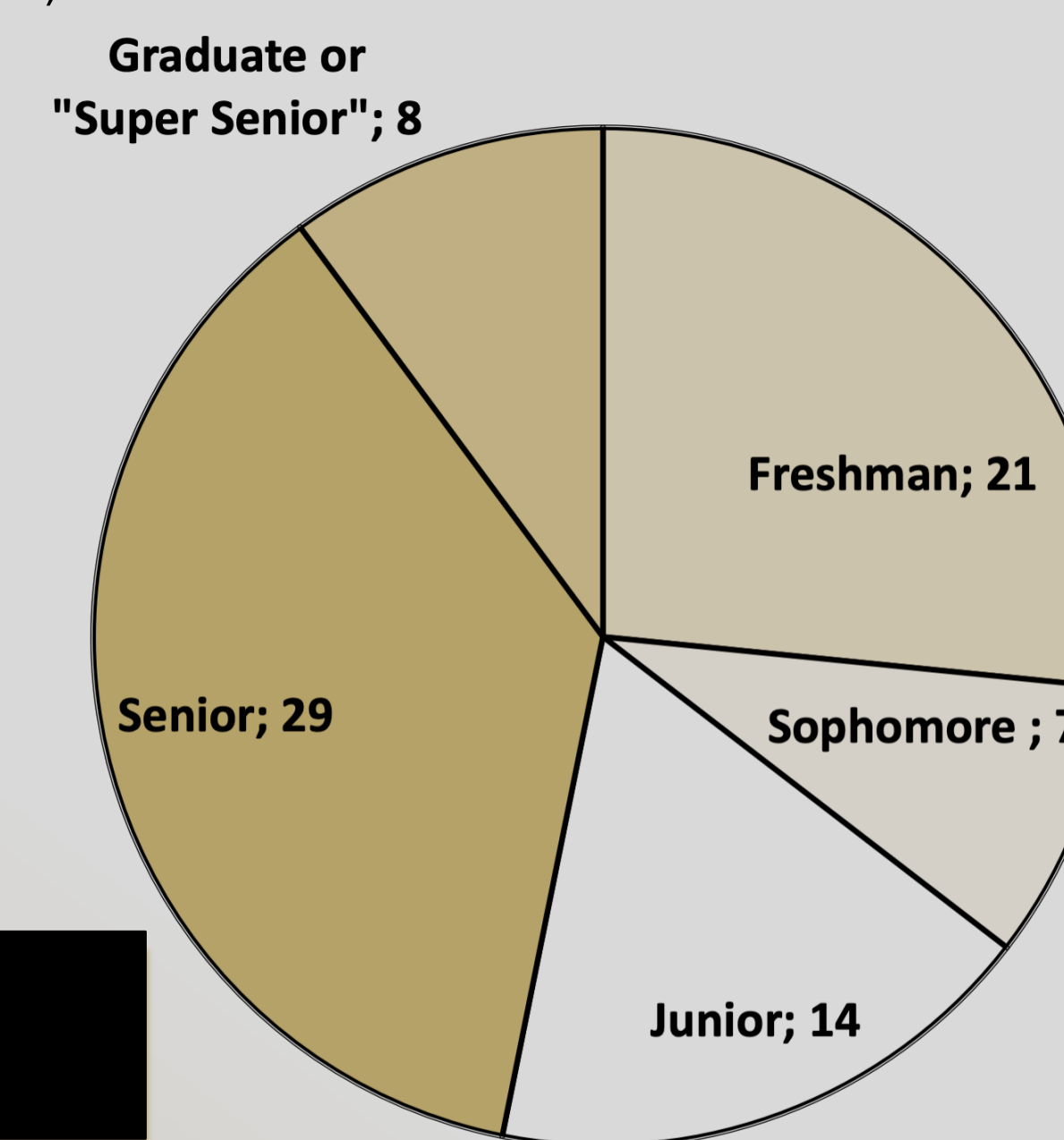
- Women are expected to have a **higher sleep quality score** than men, indicating worse sleep
- I hypothesized that there is a **negative correlation** between one's sleep quality score and their academic performance
- I hypothesized that the personality traits extraversion and conscientiousness are **positively correlated** with one's academic performance
- I hypothesized that the personality traits extraversion and agreeableness are **negatively correlated** with one's sleep quality

## Method

- A 19-item survey was created through Qualtrics and has been approved by the IRB.
- College students aged 18 or older were invited to participate in my anonymous survey through various social media platforms such as Facebook, Instagram, and Snapchat, and through our university-sponsored participant pool.
- The survey asked questions on sleep quality using a revised version of the Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989).
- The Ten Item Personality Measure (TIPI; Gosling et al., 2003) is used to assess personality traits.
- Additionally, participants were asked to state their current GPA or average grade they have at the time, along with some demographics.
- All participants were thanked for their participation.

## Participants

- **Participants:**  $N = 79$
- **Gender:** 30 men, 49 women, and 1 non-binary
- **Country of school attendance:** United States; 65, The Netherlands; 10, Belgium; 1, Australia; 1, Canada; 1
- **GPA:**  $M = 3.47$ ;  $SD = .40$
- **PSQI score:**  $M = 7.67$ ;  $SD = 3.46$
- **Extraversion:**  $M = 3.63$ ;  $SD = 1.65$
- **Agreeableness:**  $M = 4.20$ ;  $SD = 1.19$
- **Conscientiousness:**  $M = 4.86$ ;  $SD = 1.22$
- **Emotional Stability:**  $M = 3.95$ ;  $SD = 1.59$
- **Openness to experience:**  $M = 4.37$ ;  $SD = 1.17$



## Results

	PSQI Score	GPA
Conscientiousness	-.223*	.093
Open to Experience	-.001	.017
Extraversion	-.035	-.120
Emotional Stability	-.445**	-.206
Agreeableness	-.004	.061
PSQI Score	-	1

	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	.596	.442	-1.567	76	.121	-1.229	.784
Equal variances not assumed			-1.604	66.265	.114	-1.229	.766

- My hypothesis that that there is a negative correlation between one's sleep quality score and their academic performance was **not supported** ( $r = 1$ ).
- My hypothesis that the personality traits extraversion and conscientiousness are positively correlated with one's academic performance was **not supported** ( $r = -.120$ ;  $r = .093$ ).
- A **negative correlation** was found between the PSQI score and conscientiousness ( $r = -.223$ ) and between the PSQI score and emotional stability ( $r = -.445$ ).
- There was **no significant effect** for the PSQI score  $t(76) = -1.6$ ,  $p = .121$ , despite women ( $M = 8.06$ ,  $SD = 3.49$ ) attaining higher scores than men ( $M = 6.83$ ,  $SD = 3.16$ )

## Discussion

- This study investigates whether there is a relationship between one's sleep quality, personality traits, and academic performance.
  - A negative relationship was found between sleep quality and conscientiousness and between sleep quality and emotional stability.
  - No other significant relationships were found.
- The results are similar to the findings by Alotaibi et al. (2020), who also found no significant relationship between academic performance and sleep quality.
- For further research, a bigger sample size would be preferred.
- A more reliable way of obtaining participants' sleep quality would be better instead of using a self-reflection questionnaire.

## References

- Alotaibi, A. D., Alosaimi, F. M., Alajlan, A. A., & Bin Abdulrahman, K. A. (2020). The relationship between sleep quality, stress, and academic performance among medical students. *Journal of Family & Community Medicine*, 27(1), 23–28. [https://doi.org/10.4103/jfcm.jfcm\\_132\\_19](https://doi.org/10.4103/jfcm.jfcm_132_19)
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- Gosling, S. D., Rentfrow, P. J., & Swann, W. B. (2003). A very brief measure of the big-five personality domains. *Journal of Research in Personality*, 37(6), 504–528. [https://doi.org/10.1016/s0092-6566\(03\)00046-1](https://doi.org/10.1016/s0092-6566(03)00046-1)
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