



The Impact of Physical Activity and Sleep Quality on Negative Feelings among Adolescents



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Introduction

- Research shows that people devoting 2.5 to 7.5 hours on physical activity per week have better mental health in general (Kim et al., 2012).
- There is a positive relationship between high-intensity leisure-time physical activity and sleep quality (Bláfoss et al., 2019).
- Most research advocates strategies that warrant sufficient physical activity and sufficient sleep duration and quality (Stefan et al., 2018).

Research Questions

- What is the association between physical activity, sleep quality, and negative feelings?
- In general, how to improve students' mental well-being?

Methods

Sample

- Adolescents who were enrolled in grades 7-12 during the 1994-95 academic year ($n=6504$) were drawn from the U.S. National Longitudinal Survey of Adolescent Health (ADDHEALTH), Wave 1.

Measures

- The frequency and the type of physical training accounted for participants' fitness habits. The level of physical activity was measured with the question "During the past week, how many times did you do exercise, such as jogging, walking, karate, jumping rope, gymnastics or dancing?"
- Sleep quality, especially the extent of insomnia, was measured with the question "trouble falling asleep or staying asleep."

Results

Bivariate

- Chi-Square analysis showed that physical activity was **not** significantly associated with sleep quality ($p = .9235$).
- The addhealth_1 collects data of physical activity during the past week but collecting data about people's sleeping quality during the past year.



Figure 1: The relationship between exercising and sleep quality

Multivariate

- Negative feelings are associated with physical activity and sleep quality.
- People who exercise and don't have sleep problems have the lowest score on negative feelings.
- Physical exercise and Sleep quality ($Beta=0.79$, $p<0.05$) are significantly associated with negative feelings after controlling for gender.

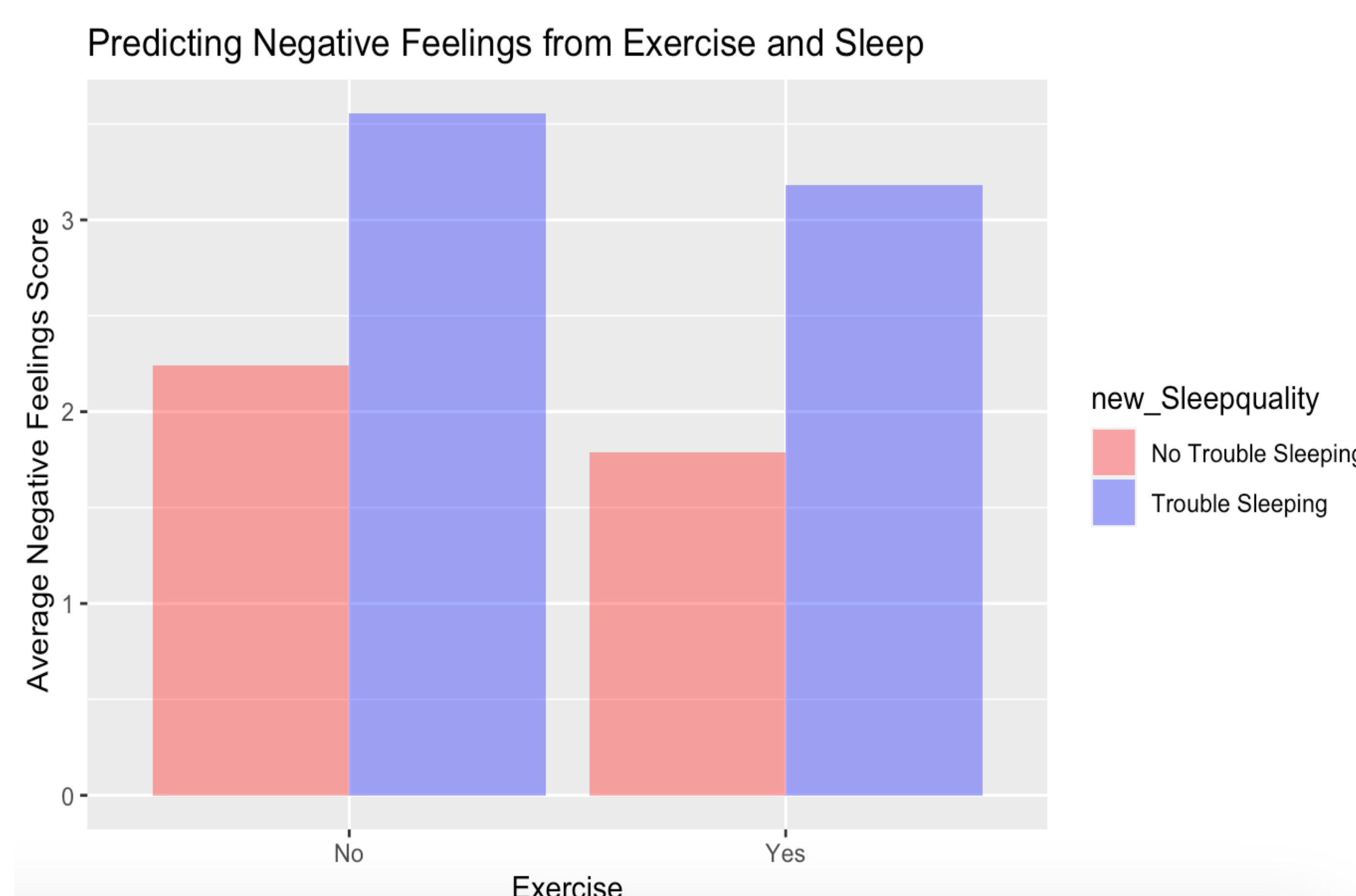


Figure 2: Predicting negative feelings from exercise and sleep quality

- I created a variable (negative feelings) that adds up the scores of sadness, loneliness, depression, blues, and sense of failure.

Discussion

- Spending more time on doing sports during the daytime could make it easier for people to fall asleep and stay asleep at night and prepare them for mental burden.
- Beyond medical treatment, incorporating physical activity into young students' daily routines may also reduce the risk of mental disorders.
- It is crucial for educators to design an efficient strategy to balance students' academy and wellness.

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