

# Effects of the Timing of Exercise on Subsequent Night Sleep in College Students

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HSS 428 RESEARCH METHODS WITH DR. PU

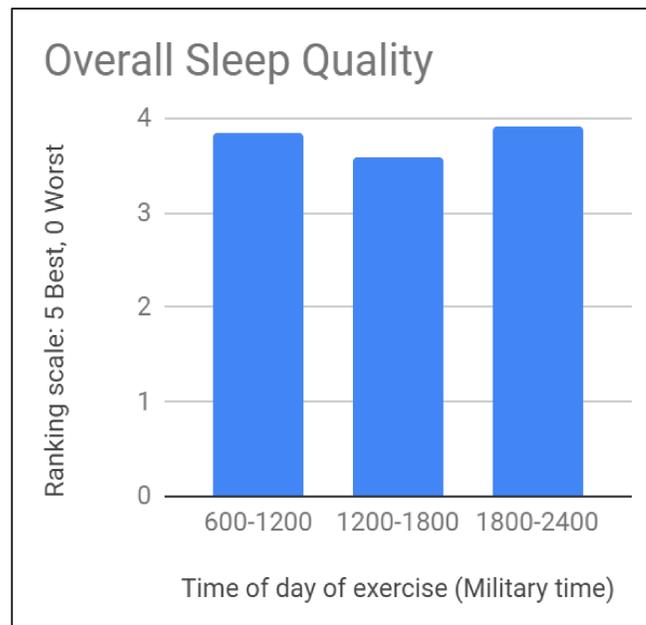
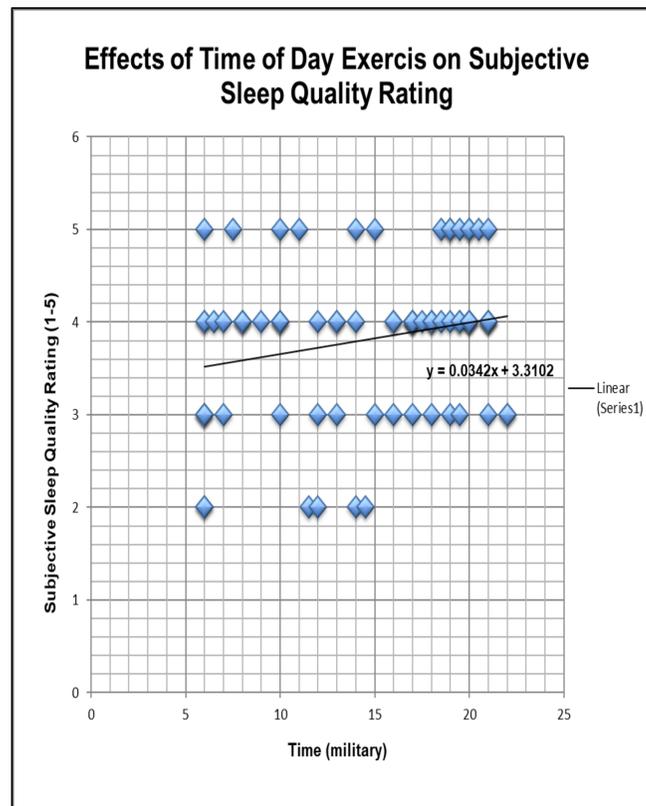
## INTRODUCTION

- The overall objective of our research focused on *The Effects of Timing of Exercise on Subsequent Night Sleep in College Students*.
- We were curious as to what time of day to exercise gives the most efficient quality of sleep that subsequent night. We examined different relations of how different times of day for exercise effected the student's quality of sleep that night.
- The type of research we conducted and collected required a mix of both quantitative and qualitative data. Our sample was focused on college students at the University of Dayton. As our research design and plan, we constructed a survey that provided questions relating to our subjects exercise and sleep patterns.
- We decided to have a wide variety of students in order to get the best possible data. We wanted students that exercise regularly and students that occasionally exercise.
- A 1998 study found that participants that exercised later at night generally have a much higher slow wave sleep (SWS) in the first stage of sleep which directly correlated with a better perceived feeling upon waking the next day.

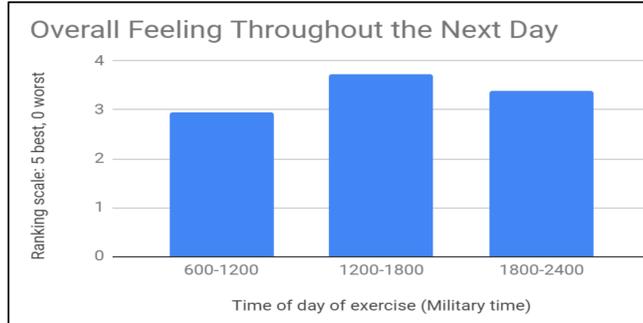
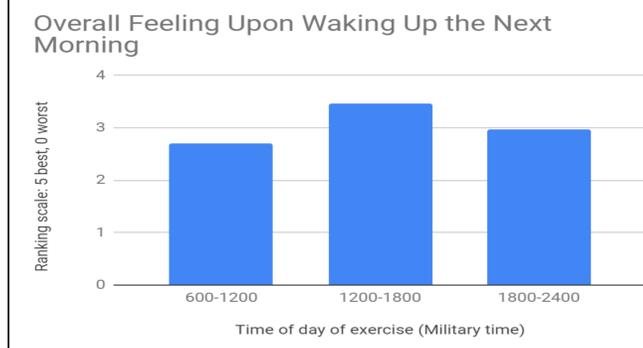
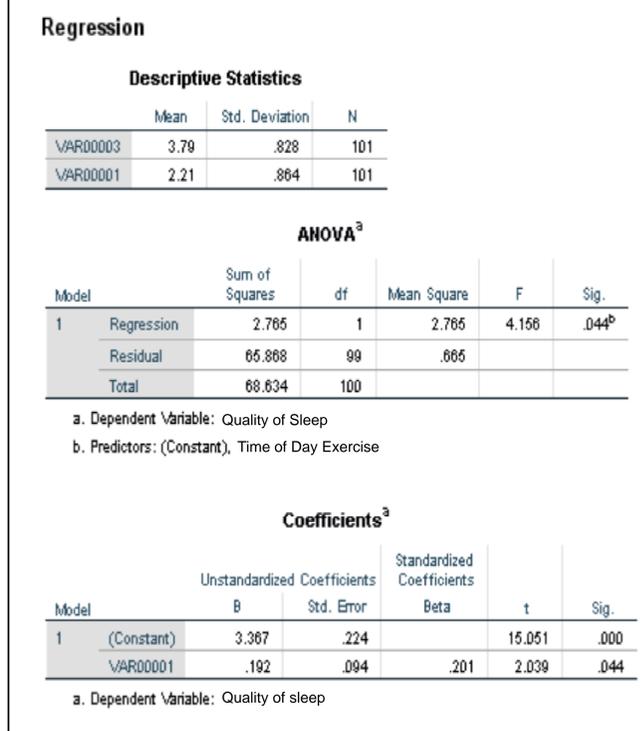
## METHODS

- The research design and plan instrument that we decided to collect out data with was a survey. We constructed the survey with specific questions that related to the student's sleep and exercise patterns. Some of the specific questions that we used in our survey were:
  - What time of day do you exercise?
  - How long does your workout last?
  - What type of exercise do you preform?
  - How long does it take you to fall asleep?
  - What time do you go to bed?
  - What time do you wake up?
  - On a scale of 1-5 did you toss and turn/were you restless while sleeping
  - Did you wake up at all in the middle of the night, if yes how many times?
  - On a scale of 1-5 how well rested did you feel in the morning?
  - On a scale of 1-5 how was your energy level for the rest of that next day?
  - Please rate you overall quality of sleep for that night on a scale from 1-5

## RESULTS



## Timing of Exercise on Sleep quality



## DISCUSSION OF RESULTS

- From the survey conducted there were 101 responses from University of Dayton students. There were 55 male subjects and 46 female subjects.
- On average, 46 of the subjects exercise between 6pm-12am, 34 subjects generally exercise between 12pm-6pm, and 21 subjects between 6am-12pm. The majority of participants typically engage in 30 minutes to an hour and a half of exercise per average session.
- In terms of standard sleep habits, 66.3% reported going to sleep between 11pm-1am, while 15.8% typically go to sleep after 1 am, and 16.8% go to sleep between 9pm-11pm.
- Out of the 101 responses, 66 subjects reported that they on average get 7-8 hours of sleep a night, 31 subjects get 5-6 hours, 8 subjects get 9-10 hours, 2 subjects get 2-3 hours.
- Results showed a significant correlation between the independent variable of timing of exercise on the dependent variable of the quality of subsequent night sleep. Through a regression analysis there was a significance of .044. The equation from the regression showed  $y = 3.367 + 0.192x$ .
- The graph shows that there is an increase in subjective sleep quality rating as subjects exercise later in the day versus in the morning.

## CONCLUSION

From the data collected from this research, it can be understood that there is a slight improvement in relation to quality of sleep for participants that exercise later in the afternoon. Our results showed a significant correlation between time of day exercise and the quality of sleep that subsequent night.

## REFERENCES

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