



# Assessing the Relationship between Exercise and GPA

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## Introduction

With the busy lives of college students, it is hard to find time to workout. We wanted to see if there is a correlation between the amount of hours students exercise and their GPA.

We decided to create a survey study to collect the Nebraska Wesleyan students' GPA and amount they workout. We asked ourselves, is there a positive correlation between amount of hours of workout and GPA?

## Methods

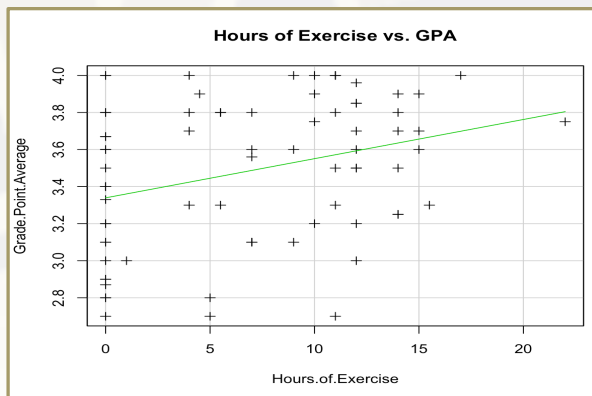
We handed out surveys around Nebraska Wesleyan's campus at multiple locations.

- Random sampling
  - Multiple locations
  - Different times of day
- Survey
  - Amount of exercise
  - GPA
- Sample Size of 75

We then used R-studio to analyze the data we collected.

## Design

The survey will have questions that pertain to some general knowledge about the student, as well as the amount they exercise and their GPA. To keep this survey ethical and provide security to those who are answering it, we will not ask for a name. Also, if any student feels uncomfortable towards the questions asked on the survey, they can abandon their survey and we will not include that in our sample.



## Linear Regression Results

GPA =  $3.339 + 0.021 * \text{Hours of Exercise}$   
P-Value: 0.003499  
R (correlation coefficient) = .3287  
R-Squared = 0.1081  
Estimate of error standard deviation: 0.3613

## Results

We have significant evidence that there is a positive weak correlation between hours of exercise and GPA. We know this because our p-value is 0.0035, which is less than our significance level of 0.05. We know that it is weak because our R value is less than 0.4.

## Conclusion

We designed this test to see if there was a correlation between GPA and hours of exercise. As we found out, there is a positive weak correlation.

## Discussion

- We believe that this correlation was weak because there are multiple factors that affect GPA.
- We also never received a survey with over 20 hours of exercise, which may cause a negative correlation past 20 hours.
- We only surveyed Nebraska Wesleyan's campus, the data could be different on other campuses due to enrollment.