

**The Association Between the Number of College Credits taken and Exercise
Frequency Among College Students**

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Abstract

This survey experiment highlights the association between the number of college credits taken and the number of hours an individual goes to the gym per week. The hypothesis was that taking a lighter course load would allow students to spend more time at the gym. The subjects, several college students, were asked, “How many credits are you currently taking?” and “How many hours per week do you exercise?”. The data did not support the hypothesis and the results concluded that college credits were not significant with exercise frequency. Limitations of this experiment included a small sample size and many confounds were present in the overall experiment.

Objectives

The objectives of this assignment were to learn how to write up a lab report while adding components of conducting a short survey on peers that followed ethical and class guidelines.

Disclaimer

The purpose of this paper is to fulfill course requirements for BBH 411W and to stand as a personal writing sample, but the findings should not be treated as generalizable research.

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i. Introduction

In this analysis, the relationship between exercise frequency and the number of college credits currently taking was assessed. The goal of this assignment is to predict that taking a low credit course load will directly affect exercise frequency in a positive direction. Taking a lighter course load in college will lead to more space in the schedule, and allow the student to achieve the daily criteria of 30-60 minutes of moderate to vigorous exercise.

Physical activity is highly prevalent among college students. One study estimated that 38% of college students participated in regular vigorous activity and 20% have participated in regular moderate activity¹. Previous work has found that there was an increase association between exercise frequency and the number of credits taken among college students². The number of college credits taken may influence exercise frequency due to their less intense academic schedule³.

ii. Methods

Sample 1 and sample 2 were observational studies carried out in a large northeastern university.

a. Sample 1 (original sample)

¹ Kilpatrick, M., Hebert, E., & Bartholomew, J. (2005 October). College Students' Motivation for Physical Activity: Differentiating Men's and Women's Motives for Sport Participation and Exercise. *Journal of*

² Ebben, W. & Brudzynski, L. (2008 October). Motivations and Barriers to Exercise Among College Students. *Journal of Exercise Physiology*, 11(5), p. 1-11.

³ Judge, L. et al. (2014). Physical Activity Patterns and Academic Performance of College Students. *Research Quarterly for Exercise and Sport Supplement*, 85(S1), p. A73.

Sample 1 consisted of students from BBH 411 who completed an online anonymous survey for a grade. Survey questions were collected and distributed by the instructor to the class through e-mail. The predictor variable, college credits, was evaluated by asking students, “How many college credits are you currently taking?”, followed by the response options “Less than 12, 12–17 credits, or 18 or more credits.” The outcome variable, number of hours exercised per week, was evaluated by asking students, “How many hours do you exercise per week?”, and the response options were “0 hours per week, 1–6 hours per week, or 7 or more hours per week.”

b. Sample 2 (replication sample)

Sample 2 provided an online anonymous survey to a class of about 88 students in BBH 310 completed for a grade as well. Survey questions were collected and distributed by the instructor to the class through e-mail. The predictor variable, college credits, was evaluated by asking students, “How many college credits are you currently taking?”, followed by response options “12–13 credits, 14–15 credits, 16–17 credits, or 18+ credits.” The outcome variable, exercise frequency, was evaluated by asking students, “How many hours do you exercise per week?”, and the response options were “0, 1–3 hours, 4–6 hours, 7+ hours.”

c. Statistics

Pearson’s correlation was used to test for an association between both variables in samples 1 and 2, and was conducted using IBM SPSS Statistics version 22.

Ordinal variables were analyzed as quantitative variables. Alpha was set at 0.05.

d. Important to note

Slight changes have been made in both samples regarding survey questions and response options to help improve data collection. Sample 1 response options had “Less than 12 credits” as a choice, but was thrown out in sample 2 as it was an outlier. Furthermore, sample 2 had more response options, as opposed to sample 1, to get a better view on how much can college credits influence exercise frequency.

iii. Results

a. Sample 1

Among the 150 respondents, the mean hours of exercise per week was 3.4 hours (SD =2.31). In the same population, the mean number of credits taken was 15.5 credits; all 150 respondents participated in the survey. Based on the correlation, college credits are not significantly associated with exercise frequency ($r = -0.07$, $df = 148$, $p = 0.394$).

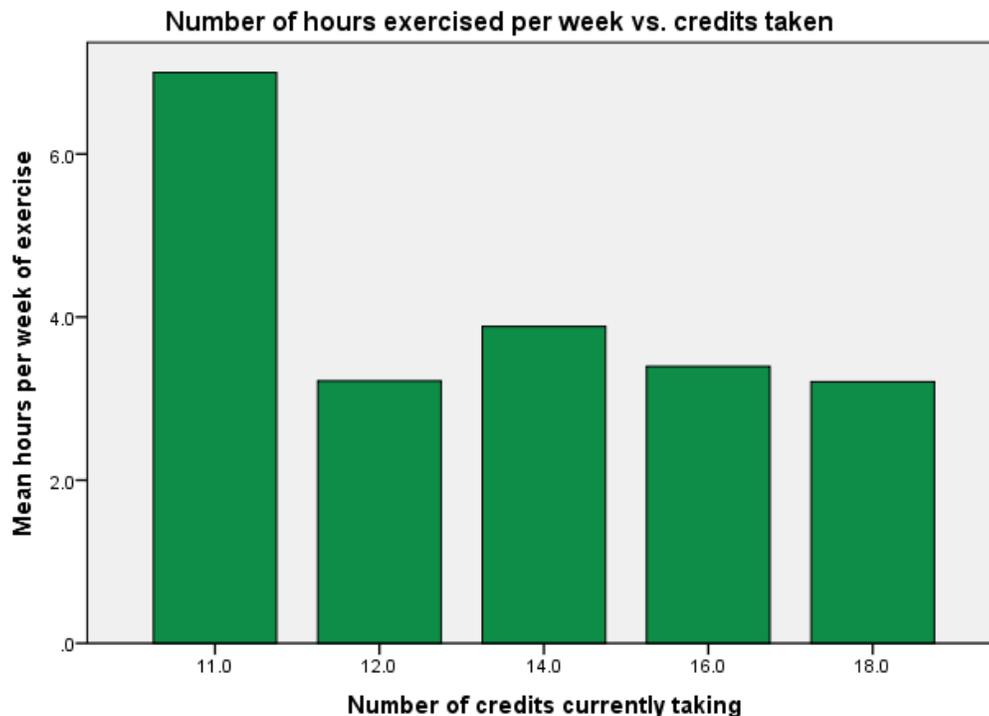


Figure 1. Data was taken from 150 students in BBH 451. Exercise frequency $n=150$; Number of credits taken $n=150$. Correlation test, $df=148$, $p>0.05$. The data was not significant and no correlation was found.

b. Sample 2

Among the 88 respondents, the mean hours of exercise per week was 2.21 hours (SD =1.97). In the same population, the mean number of credits taken was 16.18 credits; 1 out of 88 participants didn't respond to the survey. Based on the correlation, college credits are not significantly associated with exercise frequency ($r = 0.01$, $df = 86$, $p = 0.929$).

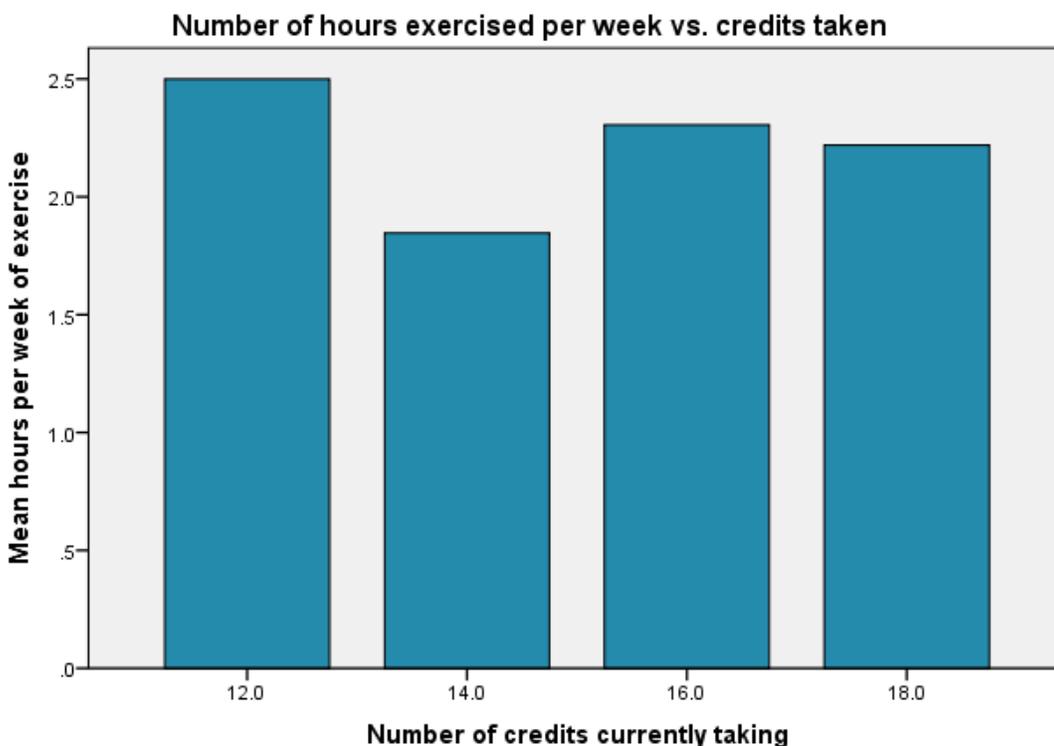


Figure 2. Data was taken from 88 students, including 1 non-respondent, in BBH 310. Exercise frequency $n=87$; Number of credits taken $n=88$. Correlation test, $df=86$, $p>0.05$. Data was not significant and no correlation was found.

iv. Discussion

The hypothesis was tested on the basis that the less number of credits a college student takes, the higher the hours spent at the gym. The data from both samples did not support the hypothesis (Fig 1. and Fig 2. shows $p>0.05$) and is not consistent with the previous work done by Kilpatrick et al. (2005).

There are several confounds that must be considered when interpreting the results from our survey study. For one, the measurement of college credits may not accurately reflect the number of hours committed to the gym per week because other commitments serve as barriers of physical activity such as extracurricular activities, work, etc. Also, some college students have budgets and aren't able to afford a gym membership on campus, live far or aren't as motivated to go outside and walk or jog around campus². Furthermore, some students with low levels of self-confidence and body-image dissatisfaction can also serve as key factors as to why they may not join the gym³.

Despite Figure 1 in sample 1 partly confirming the hypothesis, the highest bar represented an outlier and was thrown out as seen in sample 2, Figure 2, to maintain somewhat of a balanced spectrum of the survey. Regardless of adjustments, the results for samples 1 and 2 provide a lack of support for the hypothesis as busy schedules and personal motivation serve as barriers for gym commitment.

v. **Reference List**

- Kilpatrick, M., Hebert, E., & Bartholomew, J. (2005 October). College Students' Motivation for Physical Activity: Differentiating Men's and Women's Motives for Sport Participation and Exercise. *Journal of American College Health, 54*(2), p. 87-94.
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