

Workload of an Academic Major in relation to Weight Gain in the Upperclassmen Female College Student Population

Allison Kucera, Olivia Ryncarz, Olivia Scally, Grace Udelhofen, Sophia Wahib

¹DEPARTMENT OF HEALTH AND SPORT SCIENCE, UNIVERSITY OF DAYTON, OH

INTRODUCTION

The purpose of this study is to determine the potential relationship between college students' major and the associated courseload and weight gain. A Google survey was completed by 44 female participants regarding their dietary habits and physical activity levels. Questions were asked about whether participants felt as though these things were affected by academic courseload. 61.4% of participants reported noticing a change in their physical appearance this semester as opposed to different years throughout their college experience. Statistical tests were performed to determine potential causes for weight gain in upperclassmen female college students. Statistically significant relationships were found between the amount of credit hours one is taking, amount of times one eats out during the week, and physical activity levels.

METHODS

For this study, a mixed method of both quantitative and qualitative instruments to measure each variable was used. Most of the questions in the survey asked to give a quantitative answer that includes how many credit hours they are in or number of hours they work out in one week. There will also be qualitative questions which asked the participants what their field of study is, in including their major and minors. Validity was ensured when we compared the results gathered from this experiment to other general published studies to see if there was a similar correlation in the research that was found between the variables. Reliability was present within the study in that a large sample size was being used. The survey responses were kept anonymous, which encourages honesty in the participants' answers, will also encourage reliability. Proper measurement of the data that was collected was conducted by carefully placing it into an Excel sheet and putting it into various graphs to analyze and compare to determine any trend or correlation. Since this was an online survey being sent out, there were also limitations in research that occurred. The participant's accurate depiction of their answers or the number of participants that actually fill out our survey cannot be controlled.

RESULTS

Table 1 shows the characteristics of participants that completed the survey, including their major, any minors, and age. All participants in this study were female, so any potential differences in weight gain between males and females was not observed. A total of 44 female participants completed a survey regarding their experience with weight gain as it potentially relates to their daily and weekly schedule. Questions were asked about their major and workload, dietary practices, and whether or not they feel as though eating habits might be affected by their class and working schedules. There were 16 participants that reported weight gain within the past year during their college experience. About 43.2% of participants reported eating out 3 or more times a week. Additionally, 38.7% of the participants reported spending more than 10 hours a week outside of class doing schoolwork. Table 2 shows the results of multivariable analysis of the influence of lifestyle differences among students with differing credit hours on fluctuations in weight and physical appearance. A two-tailed unpaired T-test was performed comparing credit hours to four separate variables. An alpha level of 0.05 was used, indicating that if the p-value is lower than that value, the data is statistically significant. The variables observed were weight change, physical appearance, physical activity, and eating out. When comparing credit hours to weight change, the p-value obtained was 0.0000624 and the correlation coefficient was 0.120, showing that the data is statistically significant. When comparing credit hours and physical appearance, we obtained a p-value of 0 and a correlation coefficient of -0.155, showing that the data is statistically significant. When comparing credit hours and physical activity, a p-value of 0.034 and a correlation coefficient of 0.052 were obtained, showing that the data is statistically significant. When comparing credit hours to eating out, a p-value of 0.002 and a correlation coefficient of 0.005 were obtained, meaning that the data is statistically significant.

Table 1: Credit Hours in Comparison to Weight Change, Physical Appearance, Physical Activity, and Eating Out

| | <u>Weight Change</u> | <u>Physical Appearance</u> | <u>Physical Activity</u> | <u>Eating Out</u> |
|-------------------------|----------------------|----------------------------|--------------------------|-------------------|
| p-value | 0.0000624* | 0* | 0.034* | 0.002* |
| Correlation Coefficient | 0.120 | -0.155 | 0.052 | 0.005 |

* p-values with asterisks indicated the data found was statistically significant

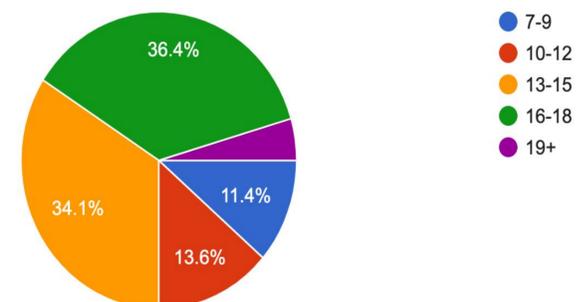


Figure 1: Breakdown of credit hours taken by participants (n=44)

CONCLUSIONS

It was concluded that an increase in credit hours in female college students was correlated with an increase in weight gain. Female college students took a survey regarding their credit hours (course load) and their physical appearance and numerical weight changes. The results showed that weight change had a positive correlation with course load and the p-value ($p < 0.05$) depicted this as significant. Physical appearance had a negative correlation with course load and the p-value ($p < 0.05$) depicted that this correlation was significant. Physical activity had a positive correlation with courload and the p-value ($p < 0.05$) depicted that this was significant. Finally, eating out had a positive correlation with course load and the p-value ($p < 0.05$) showed that this was significant. From all of these correlations, it can be concluded that the more credit hours a college student takes on, the more likely they are to gain weight, see changes in their physique, not have as much time to go to the gym, and eat out more often.

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