

# Is There a Relationship Between Food Security and Academic Performance in College Students?



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## Introduction:

Food insecurity is a term that analyzes the ability for people to be able to financially support their nutritional needs. Due to the financial responsibilities placed on college students, many struggle to reach a stable level of food security, and thus have trouble meeting their nutritional needs. Proper nutrition has been shown to have a positive effect on cognitive performance. The purpose of this study is to investigate the potential relationship between food security and academic performance in college students.

## Methods:

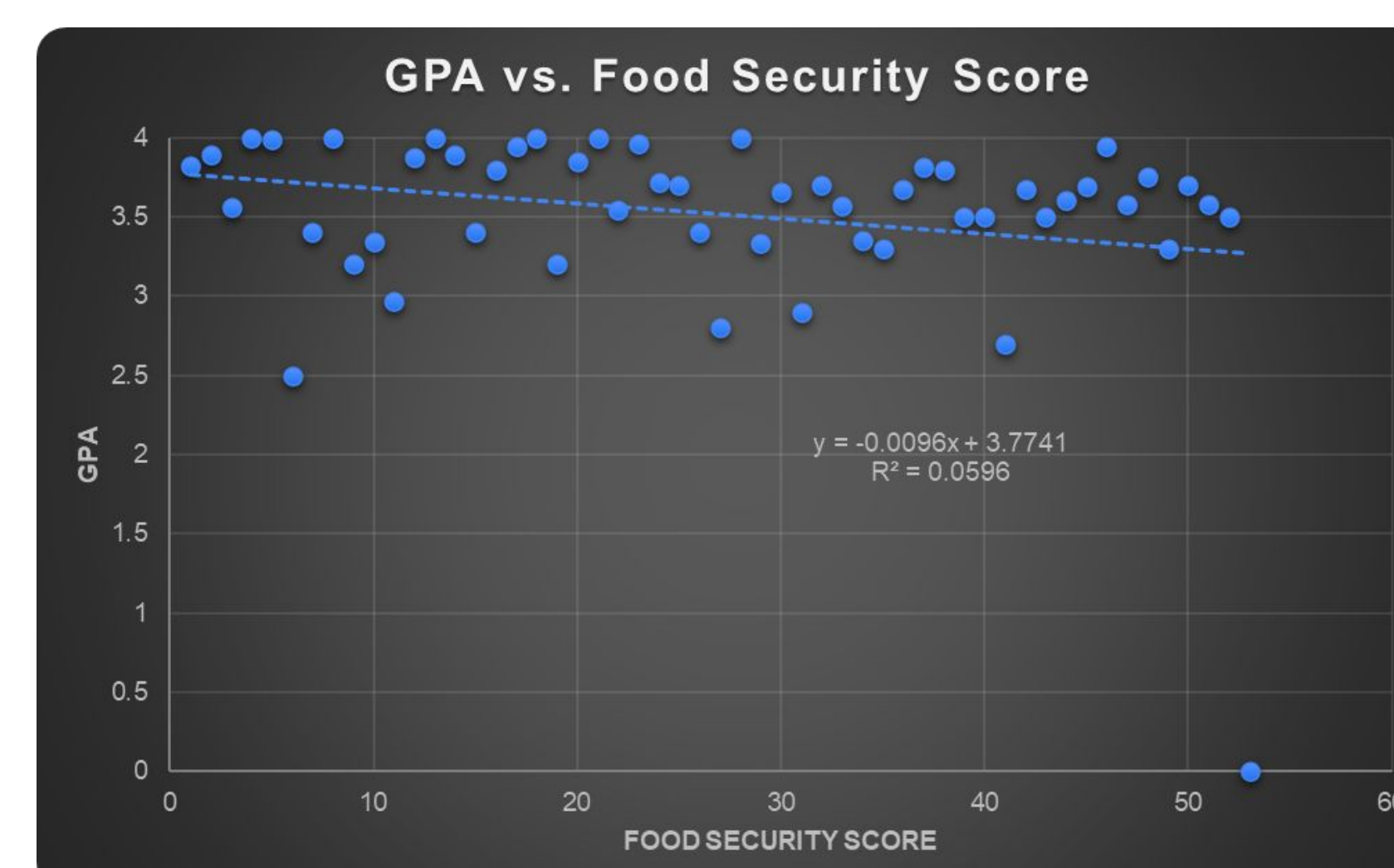
To investigate the correlation between food insecurity and academic performance in college students, the researchers sent out a survey to the eligible University of Dayton population members via a Google Form. The survey begins with an informed consent statement that the participants will read and agree/disagree to. After accepting the informed consent, the participants will answer some demographic information to ensure that they fulfill the inclusion criteria for the study. Our survey includes questions from the U.S. Household Food Security Survey, which will measure the level of food insecurity, and we have also included a question about GPA to measure academic performance. The number of affirmative responses on the food security survey gave us their food security score.

## Results:

The researchers analyzed 53 responses. The average food insecurity score was 1.09 on a zero to six point scale and the average GPA was 3.59. The higher food security scores represent lower food security. The participants were then placed into groups based on their score from zero to six. The researchers conducted a one-way ANOVA test to analyze any significant differences between the groups. This test revealed a p-value score of 0.82 which means that there was no significant difference between the groups involved. The test also gave an average GPA for each group listed in the table provided.

Table 1: Average GPA per Food Security Score

SCORE ON FOOD SECURITY SURVEY	NUMBER OF PARTICIPANTS IN THE GROUP	AVERAGE GPA	VARIANCE
0	31	3.63	± 0.16
1	8	3.51	± 0.10
2	4	3.34	± 0.19
3	2	3.55	± 0.01
4	5	3.65	± 0.06
5	2	3.64	± 0.01
6	1	3.5	N/A



## Conclusions:

Based on the data from the responses, there is low correlation between food security and GPA. The line of best fit for our graphs had an R-squared value of less than 0.4. This demonstrates that there is a low correlation between food security and GPA.

## Discussion:

The researchers hypothesized that the main reason there was no correlation was that the population may not have been suited for the research. The researchers received 31 responses with a zero on the food security scale. One reason for this may be that all first-year and many second-year students must have meal plans. This is because they do not have kitchens in the dorm rooms and some apartment/suite-style living. This would decrease the food security score as most of these students would have available meals every day. Another reason that the low scores may have been received is the demographic of the University of Dayton, as it is a private university that tends to be more expensive than a public institution. Further research could be done on different communities to further see if there is any correlation between food security and academic performance.

## Acknowledgements:

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## References:

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