

Egypt University of Informatics

Computer and Information Systems

Data Analysis Course

The Analysis of the Influence of Close Friends' GPA on Your GPA

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# Introduction

Welcome to our study exploring the link between friendship and academic success among university students. Join us as we uncover how your closest friends could be impacting your GPA. Get ready to discover the fascinating connections between social circles and academic performance!

# Research Question

# Does the GPA of university students correlate with the GPA of their closest friends?

# Hypothesis

We hypothesize that there exists a positive correlation between the GPA of university students and that of their closest friends.

# Population of Interest:

All university students

# Sampling Method:

Convenience sampling method was employed, targeting students from Egypt University of Informatics, to ensure accessibility and relevance to our research question. This approach allows for practical data collection within a specific university setting, where students share similar academic backgrounds and experiences. While convenience sampling may introduce some limitations in terms of generalizability, it provides an efficient means of gathering data from a relevant population for our study.

# Bias Identification:

Specify the timeframe: The survey questions will focus on the GPA of the participants and their closest friends in the last semester. This will provide specific and relevant data for analysis, avoiding potential variations due to changes in friendship circles or academic performance over time.

Specify the context: Participants will be explicitly asked to provide information about their closest friend who is also a student at the same university and major. By narrowing the focus to individuals within the same university and major, we aim to ensure that both participants and their friends face similar academic challenges and experiences, thus minimizing potential confounding factors.

# Survey Questions:

1)What was your GPA in the last semester?

2)What was the GPA of your closest friend in the last semester?

3)Did you compare your last semester GPA with that of your close friends? (Yes/No)

4)Do you think there is a relation between your last semester GPA and the last semester GPA of your closest friends?" (Yes/No)

5)Are you satisfied with your last semester GPA? (Yes/No)

6)How often did you study with your close friends in the last semester? (never, occasionally, regularly, frequently)

Online survey link: <https://forms.gle/6CJgJSmZ1n31WCMX8>

Number of samples collected: 34

# Analysis:

Your GPA Mean: 2.934313725558823

Your GPA Median: 2.9699999999999998

Your GPA Mode: ModeResult(mode=2.4, count=2)

Friend's GPA Mean: 2.9979411764705883

Friend's GPA Median: 3.18

Friend's GPA Mode: ModeResult(mode=3.9, count=4)

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| The Pearson correlation coefficient between participants' GPA and their friends' GPA is 0.854, indicating a very strong positive correlation between the two variables. This means that as participants' GPA increases, their friends' GPA tends to increase as well. The scatter plot visually depicts this positive relationship |
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| The pie chart illustrates the study habits of participants concerning their interactions with close friends. It reveals that 80% of participants engage in studying with their close friends, at different frequencies. |

# Conclusion

# The analysis reveals a strong positive correlation (0.854) between students' GPAs and those of their close friends, suggesting similar academic performance levels among peers. Additionally, 80% of participants engage in collaborative studying, although with varying frequencies. While these findings provide insights into friendship dynamics and academic performance, causation cannot be inferred. Further research is needed to explore additional factors influencing academic success among university students.

# Any potential issues

Data provided by participants may contain inaccuracies, which could affect the reliability of the findings.