

How Do Siblings Effect Overall Academic Success?

Hamza Abouabdalla, Brandon Kelley, Jacob Mundorf, Kayla Welton
Faculty Advisor: Maria Donald-Miser



INTRODUCTION

The idea of siblings having an effect on an individual's academic performance and success is one that does not seem out of the ordinary. It is factual that a greater percentage of the most successful minds in our history, have had multiple siblings. Throughout this research study, we engaged college students with a survey, and recorded their academic performance, based on grade point average (GPA), on a standardized scale as well as the number of siblings they have, if any.

Abstract

The idea of siblings having an effect on an individual's academic performance and success is one that does not seem out of the ordinary. Throughout this research study, we engaged college students with a survey, and recorded their academic performance, based on grade point average (GPA), on a standardized scale as well as the number of siblings they have, if any. The results received were notable, however, they did not meet the threshold of significance. This research and the results it yielded may be used as a foundation for further research on this topic.

OBJECTIVES

The objective throughout this study is to focus on academic standing, based on grade point average (GPA), and its relation to the number of siblings an individual has. A grade point average is a number representing the average value of the accumulated final grades earned in courses over time. More commonly called a GPA, a student's grade point average is calculated by adding up all accumulated final grades and dividing that figure by the number of grades awarded (Partnership, G. S. 2013).

METHODS

- 15 people - 10 Females and 5 males
- Cleveland State University Students
- Average age of 23 years old
- Given Survey Questionnaire (see figure 2.)

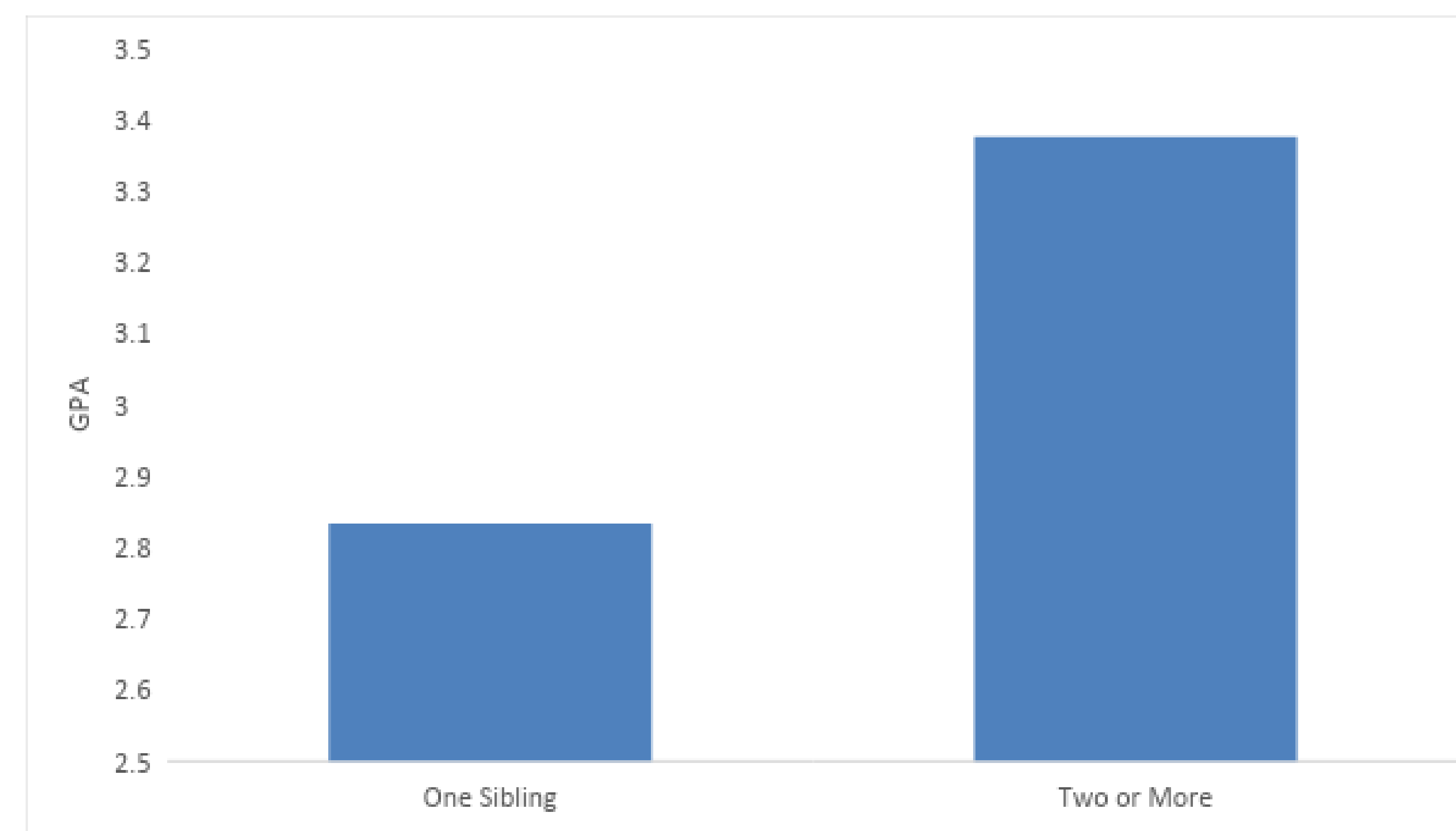


Figure 1. GPA compared between students with one sibling and more than one.

RESULTS

A paired samples t-test was conducted to test the effect of having only one sibling or having more than one sibling on an individual's overall level of academic success, observed by GPA. The students overall academic success as measured by grade point average did not differ significantly between the student participants who had only one sibling as opposed to those who had more than one sibling. The average GPA of those with only one sibling was 2.83 on a 4.0 scale with a standard deviation of 0.75 (M=2.83, SD=0.75), and the average GPA for those with more than one sibling was 3.37 on a 4.0 scale with a standard deviation of .91 respectively (M=3.37, SD=.91). The t statistic was presented as -1.21316, whereas p = .248409, and .64 was the result of a Cohens d calculation. Because counterbalancing was used, there was no evidence of order effects.

These results show a trend that could give a more definitive answer if we had a larger sample size. The current results we have obtained do not have enough statistical significance to make a conclusion.

CONCLUSIONS

Although our results were unable to provide significant results, that may change given future research into the topic. Using a larger sample size and more comprehensive questioning and data collection methods.

Survey-Questionnaire

Age:

Gender:

of Siblings:

Oldest, youngest, or middle child:

College Major:

GPA Range:

Personality Type:

Introverted

Extroverted

Hobbies/ Sports played:

How mentally invested are you into your formal education?

1-10

What is your overall level of personal confidence?

1-10

Figure 3. Survey-Questionnaire

FUTURE WORK

This study turned out to have several different confounding variables that need to be accounted for. Birth order, age difference between siblings, school district, and upbringing are all factors and variables that may have an effect on the results. There is a great amount of potential for this study moving forward, as long as the design and setup of the experiment are aligned with the objective.

References

- 1) Junqing Chu, J. (2016). Only-Child Status in Relation to Perceived Stress and Studying-Related Life Satisfaction among University Students in China: A Comparison with International Students. Retrieved October 3, 2018, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4686167/>
- 2) Zeng-yin Chen and Ruth X. Liu, "Comparing Adolescent Only Children with Those Who Have Siblings on Academic Related Outcomes and Psychosocial Adjustment," Child Development Research, vol. 2014, Article ID 578289, 10 pages, 2014. <https://doi.org/10.1155/2014/578289>.
- 3) Nhandi, D. (2017). Siblings' Birth Order Interaction and Self-esteem Development: Forgotten Social Setting for E-Health Delivery in Tanzania?, 5(1). Retrieved October 3, 2018, from <http://www.ijern.com/journal/2017/January-2017/05.pdf>
- 4) Tavares, M. (2004). Behavioral Characteristics of the Only Child vs First-born and Children with Siblings, 26(1). Retrieved October 3, 2018, from http://www.scielo.br/scielo.php?pid=S151644462004000100007&script=sci_arttext&lng=en
- 5) McHale SM, Updegraff KA, Whiteman SD. Sibling Relationships and Influences in Childhood and Adolescence. Journal of marriage and the family. 2012;74(5):913-930.
- 6) Shukla, Raj, Komal, Kaur, & Damanpreet. (2016, June 01). To Study the Association between Number of Siblings and Academic Achievement. Retrieved from <https://www.questia.com/library/journal/1P3-4311899111/to-study-the-association-between-number-of-siblings>
- 7) Kipp, A. (2015). The influence of sibling presence on grade point average. Retrieved November 10, 2018, from <https://mcs.marshall.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1929&context=etd>
- 8) Bouchev, H., Shoulberg, E., Jodl, K., & Eccles, J. (2010). Longitudinal Links Between Older Sibling Features and Younger Siblings' Academic Adjustment During Early Adolescence. Journal of Educational Psychology, 102, 197-211. doi: 10.1037/a0017487
- 9) Partnership, G. S. (2013, August 29). Grade Point Average Definition. Retrieved from <https://www.edglossary.org/grade-point-average/>
- 10) Pajoluk, N. (2013). Sibling Relationship Predictors of Academic Achievement in Adolescents. Retrieved 2018, from http://digitalassets.lib.berkeley.edu/etd/ucb/text/DagysPajoluk_berkeley_0028E_13214.pdf