

Factors That Contribute to the Use of Student Loans at Millersville University

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Abstract

In the following analysis, we attempted to identify the factors related to how many student loans are needed to complete a bachelor's degree. We predicted that the dependent variable in this multivariate (multiple regression) analysis is a ratio variable for how many student loans respondents have taken out for their higher education expenses. The independent variables include (1) the current number of hours a student works per week, (2) a student's parental contributions towards their higher education expenses, (3) a student's current household income, (4) whether the student is white or non-white, and (5) the number of siblings a student has. After surveying 100 participants, we concluded that the strongest factor to determine if a student needed student loans to complete a bachelor's degree was based on their parental contributions. This means that the higher parental contributions a student received toward their higher education expenses, the less student loans were needed to pay for their bachelor's degree.

Introduction

At the end of high school, students across the United States are expected to go to college, yet as this demand continues to rise, so does the cost. According to Forbes, the price of college tuition has increased by 180% since the 1980s (McGurran, 2022). This drastic increase in price made us wonder how families are keeping up. Furthermore, we worked through this project in hopes to understand the question: "What factors explain if college students need student loans to complete their bachelor's degree at Millersville University?" To

answer this question, we first established our hypothesis: Minimal to no parental contributions are negatively related to a person's student loans. This means as a student's parental contribution increases, the need for student loans decreases. After this, we established our dependent variable; "The amount of student loans respondents have taken out for their higher education expenses." We then tested our five independent variables. With these questions we created a 28-question paper survey and questioned 100 applicants. To analyze their responses, we ran a multivariate regression analysis (an approach to use a single

regression model to explain more than one outcome variable) on SPSS (a statistical software). This allowed us to see how well we covered the overall population and the statistical significance of each factor.

Independent Variables

To find if our independent variables were statistically significant, we used the following equation: $((1.00 - \text{Sig.}) \times 100) = \text{statistical significance}$.

For a variable to be “statistically significant” it must be greater than or equal to 95%. To begin we evaluated the variable “parental contributions towards higher education expenses”. According to the results, “Sig.” for parental contributions towards higher education expenses is .003. This means that we can be nearly 100% confident that the relationship observed in this sample is the same as in the population. So, our independent variable IS statistically significant, because we need it to be at least 95% confident.

Second, we evaluated the variable “current hours worked”. According to the results, “Sig.” for current hours worked is .058. This means we can be 94% confident that the relationship observed in the sample is the same in the population. So, our independent variable is NOT statistically significant.

Third, we tested the variable of race (white vs. non-white). According to the results, “Sig.” for race (white) is .568. This means we can be 43% confident that the relationship observed in the sample is the same in the population. So, our independent variable is NOT statistically significant.

Fourth, we tested the variable “number of siblings”. According to the results, “Sig.” for the number of siblings is .707. This means we can be 29% confident that the relationship observed in the sample is the same in the population. So, our

independent variable is NOT statistically significant.

Lastly, we examined the variable “current household income.” According to the results, “Sig.” for current household income is .965. This means we can be 4% confident that the relationship observed in the sample is the same in the population. So, our independent variable is NOT statistically significant because we need it to be at least 95% confident.

Conclusion

We have learned a great deal about the strongest determinants of why people decide to take out student loans or not. The strongest predictor of whether respondents needed student loans or not is due to their parents’ contributions towards their higher education expenses. The effects of the four other independent variables paled in comparison to the influence of parents’ contributions towards higher education expenses. Next, although not quite as powerful as parental higher education contributions, one’s current hours worked played an important role in the evaluations of student loans. This is part of the increasing financial demand that paying for college brings.

Students who must work to survive tend to not have jobs that can also cover tuition expenses. Additionally, we were surprised that race had little influence in predicting whether respondents needed to take out student loans. We expected that white families would be readily prepared to financially support their children through a higher education, but this did not end up being the case. Fourth, contrary to our hypothesis, the current household income levels did not correlate to having less student loans. Traditionally, it is expected that a household with a higher annual income should be able to provide more

financial assistance towards their children. We were surprised to see that despite some families clearing \$100,000 of annual income, the respondents were still left with significant student loans. Lastly, we noted that the evaluations of student loans did not represent more than one third of our respondents (R Square in the model below). This means that the evaluations of two-thirds of our respondents were not explained by the variables we included in our regression analysis. Perhaps, if we included more variables in our analysis, we could have represented our respondents better.

References

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