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A Linear Regression Analysis for Understanding High School Grade Point Average (GPA)

Christine Warner

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This project analyzes different aspects that may contribute to the grade point average (GPA) of high school students. GPA is important because it is one of the fundamental measures of student success. I gathered data on 206 individuals from the Bureau of Labor Statistics' National Longitudinal Survey of Youth 1997-2010. I selected variables for the regression analysis from categories including general motivation for success and optimism; use of time; other academic measures; and health habits and lifestyle. Using SPSS to run the regressions, I found that variables that I believed most related to GPA – such as amount of sleep, time spent studying, and number of absences – were not found to be significant. A student's SAT score was the only variable directly related to school that was significant in the regression. On the other hand, the variables for whether a student spends regular time in prayer and whether they consider themselves organized show a significant impact on GPA. Individual identity variables of race and gender were significant as well.

Information about the Author:
Christine Warner is an actuarial science major with a statistics minor. She would like to work as an actuary for an insurance company in the future. As a student, she has seen a wide variety of study habits and work ethic in other students and wonders what variables have the biggest impact on GPA.

Faculty Sponsor: Dr. Sara Bothun

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