



CALIFORNIA SCIENCE & ENGINEERING FAIR 2018 PROJECT SUMMARY

Name(s) Emma M. McVay	Project Number 38261
Project Title Do It for You: A Study of Correlations between Academic Performance and Intrinsic and Extrinsic Motivation	
Abstract Objectives/Goals Previous research regarding the relationship between motivation and performance has found that extrinsic motivation (incentives supplied by sources external from oneself, such as rewards or parental attitudes) may cause anxiety or depression. Intrinsic motivation, in contrast, is self-motivation created through enjoyment of or sense of importance towards a task. This experiment was performed to find which category of motivation, extrinsic or intrinsic, is correlated to higher performance in an academic setting. It was hypothesized that intrinsic motivation would be associated with higher levels of academic success than extrinsic motivation. Methods/Materials Thirty-four fourth and fifth grade students completed questions on a survey that measured the participants' quantities of intrinsic and extrinsic motivation. The students' teachers supplied grade percentages from one quarter of the school year for each student. Levels of student motivation were totaled and compared to an average of each student's subject grades. Results The three correlations between fourth grade, fifth grade, and total levels of extrinsic motivation to academic performance were negative. Correlations between intrinsic motivation for these three samples to grades were positive, with the most significant being for fourth graders ($r=0.30$). "R-squared" values for these calculations, however, were extremely low (ranging from .0021 to .092), thus indicating very high variance levels in collected data. Conclusions/Discussion Although mathematically the results of this experiment did support the hypothesis because intrinsic motivation correlated to higher academic success than extrinsic motivation, variance levels were simply too high to make direct connections between variables. This may indicate for future research that different sources of motivation (rewards, personal enjoyment, etc.), both extrinsic and intrinsic, must be looked at individually alongside performance, as has been done in past studies.	
Summary Statement Intrinsic and extrinsic motivational levels in fourth and fifth grade students were compared to student grades in order to assess correlations between motivational types and academic performance.	
Help Received Five elementary school teachers looked up and supplied school subject grades for each student participant to the experimenter.	