



# CALIFORNIA STATE SCIENCE FAIR 2017 PROJECT SUMMARY

<b>Name(s)</b> <b>Isaac Kim; Rishi Shah</b>	<b>Project Number</b> <b>S0411</b>
<b>Project Title</b> <b>Effects of Motivation on STEM Students</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Every year there are 1.2 million high school dropouts in the United States. The most effective way to reduce this alarming data is to find the most effective form of motivation that keeps students in school. The purpose of our project was to determine the effects of different types of motivation (intrinsic and extrinsic) on STEM students. The extrinsic form of motivation in our project was a group prize and the intrinsic motivation was donation to charity.</p> <p><b>Methods/Materials</b> A variety of classes, rewards, and STEM related tests were used for this project. Students were tested over multiple days and were given different forms of motivation after the first day of the control (no motivation).</p> <p><b>Results</b> After all the data was collected and analyzed, we found that in the control group, Class 2 saw the worst improvement in attempted (37%) and correct (82%) scores, where class 4 saw the second to lowest improvement in attempted (40%) and correct (54%) scores. For the group prize, Class 3 saw second to lowest improvement in attempted (54%) and correct (109%) scores, where class 6 saw the lowest improvement in attempted (24%) and correct (46%) scores. For the charity prize, Class 1 saw the highest improvement in attempted (64%) and correct (154%) scores, where Class 5 also saw the highest improvement in attempted (71%) and correct (87%) scores.</p> <p><b>Conclusions/Discussion</b> Conclusions that can be gathered from this experiment is that motivation in intrinsic means is the most effective form of motivation. Additionally, students who traditionally are not highly motivated are greatly motivated by donating to charity as shown by the greatest improvement from the College Preparatory students. These results prove that charitable motivation is the most effective form of motivation among students. The impact of this project decreases high school dropout rates tremendously.</p>	
<b>Summary Statement</b> Our project examines the effects of different types of motivation on students' performance on STEM related tests.	
<b>Help Received</b> We designed and planned the project, and we also interpreted the results. Teachers from Stockdale High School performed the experiment on their classes.	