



**CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY**

Name(s) Jenna M. Docher	Project Number S0409
Project Title Encouragement and Discouragement: Are Your Tests Really Standardized?	
Abstract Objectives/Goals The objective was to test whether and how encouragement and discouragement affect student performance on standardized tests. It was hypothesized that encouragement would improve performance, while discouragement would worsen performance. Methods/Materials A test was formulated with three sections, each prefaced by written instructions: one with neutral instructions, one with encouraging instructions, and one with discouraging instructions. Each of the three test sections contained two each of language arts, mathematics, science, and history questions, all of the same level of difficulty. Informed consent was obtained from 72 students, ranging from seventh to ninth grade. The students were given half an hour to complete the test during their study hall period. Results It was found that encouragement and discouragement do have an effect on performance on academic tests, independent of student mastery of the tested material. Discouraging instructions more dramatically impacted performance than encouraging instructions. Forty-four percent of students answered fewer questions incorrectly with encouragement than with neutral instructions, while 35% answered more questions incorrectly. Seventy-two percent answered more questions incorrectly with discouragement than with neutral instructions, while 12% answered fewer incorrectly. Conclusions/Discussion The hypothesis that encouragement would improve performance was partially supported by the data, while the hypothesis that discouragement would worsen performance was strongly supported by the data. This suggests that the way a test is presented may impact the level at which students perform, since variables such as encouragement or discouragement may affect the attitude and confidence of the test taker. Based upon this, one may conclude that "standardized" tests might not purely reflect how well students comprehend material, because instructions that may be perceived as encouraging or discouraging, as well as other possible factors, can influence performance.	
Summary Statement This project examines how encouragement and discouragement affect student performance on standardized tests.	
Help Received My mom drove me to the middle school where I administered my tests, and several teachers were kind enough to allow me to administer the test to their study hall classes.	