



# CALIFORNIA STATE SCIENCE FAIR 2013 PROJECT SUMMARY

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<b>Project Title</b> <b>Social Pressures</b>	
<b>Objectives/Goals</b> The objective is to determine the social pressures that teenagers have on other teenagers and to determine the variation of heart rate between individuals and groups of participants. <b>Abstract</b> <b>Methods/Materials</b> Informed consent was obtained from more than 50 various high school students, grades 9 to 12. 18 participants were randomly selected, with an even number of males and females. A slide show of 25 images was prepared containing 3 neutral images followed by randomly placed positively and negatively charged images. Heart rate monitors were attached to computers using the Logger Pro Lite 3.8.4 program. 7 trials of individuals were completed and 7 trials of groups of participants were completed. The groups of participants consisted of one subject surrounded by four "confederates". Confederates four people who were asked to behave certain ways for each image. The confederates were the same four for each trial. <b>Results</b> The subjects (in a group environment) had an average heart rate that was more than double compared to the individual's average heart rate. Overall on average group subjects conformed 34% of the time and did not conform 66% of the time. On average group subjects looked at other participants 8 times overall throughout the slideshow. <b>Conclusions/Discussion</b> The data collected from our experiment provides conclusive evidence that does not support our initial hypothesis. On average, the subjects looked at the other participants 8 times during the time of the slide show. Only thirty-four percent of the time the participants changed their initial reaction to conform to the group. The heart rate data collected supports the remaining portion of our hypothesis. The average heart rate was dramatically higher with the subjects who were in a group, compared to individual subjects. If we were to repeat the trials again, we would place a mirror behind the participants so we could properly match up the reactions to the slide. We would also find a way to time the slideshow and heart rate monitors down to the exact millisecond. In conclusion, groups of people have a dramatic effect on the conscious and subconscious behaviors of people.	
<b>Summary Statement</b> The project was based on social pressures and conformity in groups of four confederates and one subject, participants ranged between the ages of 14-18.	
<b>Help Received</b> Ms. Schroeder helped organize our data, brainstorm and complete our original application; Mother helped draw the title on the board; Ms. De La Cruz provided a classroom to complete our experiments	