



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Michael J. Feldman	Project Number J0307
Project Title Decision Making in the Face of Risk	
Abstract Objectives/Goals My objectives were to determine (A) how people make decisions when faced with uncertainty and (B) how the framing of a question influences their choices. I expected that teenagers would be more likely than adults to be affected by framing, and that adults, particularly, women, would be more risk averse than teenagers. Methods/Materials Questionnaires were designed to test (i) the effect of framing on people's choices and (ii) risk aversion in two different situations. Two types of questionnaires were distributed to randomly selected teens and adults. Completed questionnaires were sorted by type, age, and gender. For each group, parameters of interest were estimated using 95% confidence intervals, and the differences between different pairs of populations were examined using 95% confidence intervals. This project involved learning methods of statistical inference and mastering Microsoft Office 2007 Excel. Results The study showed that framing has a bigger effect on teenagers than on adults: teenagers reacted strongly to the difference in the framing of the same question on questionnaires A and B, while for adults the observed difference was not significant. Contrary to my hypotheses, teenagers tend to be more risk averse than adults and the difference in proportions of risk averse male and female subjects was not significant. Conclusions/Discussion The study shows that teens are strongly influenced by the framing of a question. The study also shows that when faced with an uncertain situation involving financial gains and losses, teens tend to be more risk averse in their choices than adults. This study does not support the hypothesis that female and male subjects have different attitudes towards risk aversion. This is particularly interesting because intuitively one might expect the opposite. Because risk aversion and responses to wording are important in many areas of life such as education, psychology, economics, etc., these findings are important and should be investigated further.	
Summary Statement Compare (i) the effect of framing and (ii) risk aversion in two different situations on teens and adults.	
Help Received Dr. Holmes (UCSB) gave me her textbook and guidance on what to learn.	