



**CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY**

Name(s) Emma R. Schaefer-Whittall	Project Number 35282
Project Title Is the Science Fair... Fair?	
<p>Objectives/Goals My project was to see if there is a gender bias in different levels of competition and age divisions at the science fair.</p> <p>Abstract</p> <p>Methods/Materials First, I contacted science fair coordinators to receive a list of participants and winners. I then went through the lists to identify the gender of each person based on their name. For the state science fair, I ran a PERL script to reformat the entries from the website to excel. I counted the number of male and female participants and the number of male and females that won awards. Next, I determined those percentages to compare the percentage of males and females between the participants and awardees.</p> <p>Results Overall, the average science fair has 57% female participants. Among the three age divisions, females had higher participation. It was most different in elementary schools (40% male, 60% female) compared to middle schools (47% male, 53% female) and high schools (45% male, 55% female). Among the three levels of fairs, females had higher participation than males at school fairs (39% male, 61% female) and county fairs (46% male, 54% female). At the state level, male and female participants were 50:50. Of the 35 fairs studied, 23 had male winners overrepresented by an average of 2.4%. Among the three age divisions, 8 out of 10 elementary school fairs, male winners were overrepresented. In 9 out of 16 middle school fairs, males were overrepresented. In 6 out of 9 high school fairs, males were overrepresented. At the school level, male winners were overrepresented in 12 out of 19 fairs by an average of 3.6%. At the county level, the number of fairs with males overrepresented was equal to the number of fairs with females overrepresented. At the state level, 7 out of 8 fairs had male winners overrepresented.</p> <p>Conclusions/Discussion My studies show that girls ARE interested in math and science because their participation is higher than males. Yet, at the highest level of competition males were overrepresented as award winners in 7 out of 8 state science fairs. This supports my hypothesis that the overrepresentation of males will increase as students' progress to higher levels of competition. I believe that the reason for the male bias among winners is that females are not being "encouraged" (award winners) as much as they should be.</p>	
Summary Statement The importance of my project is to see if there is a gender bias in different age divisions and competition levels of the science fair.	
Help Received Joyce Masongsong-Rey, Justen Whittall, Sally Ghilarducci, Chris Nestlerode, and Craig Laughton provided me with their science fair data	