



**CALIFORNIA STATE SCIENCE FAIR  
2013 PROJECT SUMMARY**

<b>Name(s)</b> <b>Gabriel M. Jacobs</b>	<b>Project Number</b> <b>J0411</b>
<b>Project Title</b> <b>The Placebo Effect</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> I researched the effects of a placebo on subjects aged 5-12 on vision enhancement to see if it would improve their vision or affect the psychologically.</p> <p><b>Methods/Materials</b> I took 100 test subjects age 5-12, boys and girls and equally divided them into two groups, non-placebo and placebo. For the placebo group the procedure was: First present a drink comprised of apple, orange and grape juice. Before the subject drank the mixture, I explained the drink was a developmental medicine that improves their vision. After drinking the mixture, they took a vision test to identify 10 objects in a picture in one minute and ten seconds. I recorded the results. For the second test they took a standard vision test. Again I recorded the results. They last test was I asked if they felt the drink improved their vision, recording the results. If subject answers unsure, then I recorded it as no. For the non-placebo, I did the same exact tests but before giving them the drink, I do not tell them it would improve their vision. Materials used were an eye chart, pictures with hidden objects, Binder, Stopwatch apple, grape and orange juice, 100 cups, pencil, paper, 100 test subjects ages 5 to 12 markers, computer, 100 Consent forms.</p> <p><b>Results</b> The first two test results did not differ by more or less than less than 5% but the last test proved very different. On the last test 78% of those who received the placebo said the drink improved their vision while in the non placebo was 25%.</p> <p><b>Conclusions/Discussion</b> Although these results disproved my hypothesis that the placebo group could show an improvement in vision over the non placebo group, it yielded an interesting result. Rather than affecting the group's visual performance, the placebo altered the mindset of the subjects. They believed that their performance was enhanced. Because the results demonstrated the experimental condition affected attitude only and not performance, the placebo appears best suited for affecting psychological experiences. But, the use of placebos raises ethical concerns for doctors. One way in this powerful effect can be used is to combine the use of active treatment with an encouraging attitude by the doctor which could potentially influence both the patient's attitude and their response.</p>	
<b>Summary Statement</b> This project was to study whether a placebo would improve the vision for subjects aged 5-12.	
<b>Help Received</b> My teacher supervised me and my parents purchased the materials. I did the rest by myself.	