



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Audrey K. Pahmer</b>	<b>Project Number</b> <b>S0317</b>
<b>Project Title</b> <b>How Does Color Affect Blood Pressure?</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> My objective was to see which colors affected blood pressure and in what way. I tested the colors red, green, yellow, and blue. I believe that exposing people to red and yellow will increase their blood pressure, whereas, exposing them to blue and green will decrease their blood pressure.</p> <p><b>Methods/Materials</b> 5 Cardboard boxes size 36x36x36. 48 cubic feet. 5 Plastic table covers (40.5 sq ft each) in white, blue, green, yellow, and red. 5 Wooden stools to put inside box for people to sit on during test. 1 Stop watch 1 Automatic Digital Blood Pressure Monitor. "OMRON" Made by the American Heart Association.</p> <p>I tested 30 people by putting them in large, cardboard boxes that I constructed, completely surrounded in each of the colors: red, green, blue, yellow, and clear/white. Each person, (between the age of 15-50), was first put into the white box, (which was the control), and their blood pressure was taken after spending two minutes inside the box. Next, they randomly selected, (out of a hat), what colored box they would go in next. After a five-minute break, they were placed into the next box for two minutes and their blood pressure was again taken. This was repeated until each person had been tested in all five boxes. I only measure systolic blood pressure.</p> <p><b>Results</b> The color red and yellow increased blood pressure, whereas green decreased the blood pressure. Blue had no significant effect.</p> <p><b>Conclusions/Discussion</b> As I had hypothesized, red and yellow increased blood pressure, while green decreased it. However, my hypothesis was incorrect for blue. Blue did not decrease the blood pressure. It only went up or down few units but remained the same as the control most of the time. I also did a hypothesis test of significance comparing the mean of each color to my control in order to see if my results were significantly significant. I found out that red, green, and yellow were all significant, (at the .05 alpha level), but, blue was not statistically significant in the difference of means.</p>	
<b>Summary Statement</b> My project is to see whether colors can really affect blood pressure, and in what way.	
<b>Help Received</b> I received no help at all in doing this project.	