



# CALIFORNIA STATE SCIENCE FAIR 2010 PROJECT SUMMARY

<b>Name(s)</b> <b>Safa S. Moinuddin</b>	<b>Project Number</b> <b>J0625</b>
<b>Project Title</b> <b>Oh Say Can You See: Inattentional Blindness in Traffic Situations</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> Inattentional Blindness is the inability to see something in plain view. Many times, after an accident, drivers will say that they never saw the unexpected object they collided with. The purpose of my project is to identify the extent of the problem of Inattentional Blindness especially as it relates to traffic situations in the hope that bringing attention to this problem will help to bring about better traffic safety rules.</p> <p><b>Methods/Materials</b></p> <ol style="list-style-type: none"><li>1. Film a video of traffic on a 2-way street allowing a single unexpected event, in this case a leprechaun doing a jumping jack on the divider a few seconds into the video.</li><li>2. Edit one version of the video to include a voice clearly pronouncing five unrelated words.</li><li>3. Create a questionnaire for each version of the video including age, gender, number of cars counted, words remembered (dubbed video only), and a checklist of items seen.</li><li>4. Gather participants of driving age by offering chocolate, and have them watch the video and complete the questionnaire. I was able to get 44 participants to watch my dubbed video, and 50 participants to watch my un-dubbed video. I disregarded the data of a few participants because they claimed to see objects that were not in the video leading me to believe that they were guessing.</li><li>5. Analyze data using the 2-sample hypothesis test for proportions.</li></ol> <p><b>Results</b> About 25% of my audience noticed the unexpected event in both versions of the video. People watching the un-dubbed video were generally more accurate in counting the cars. In both videos, people who counted correctly were less likely to notice the unexpected event. There is no correlation between the number of words remembered and noticing the unexpected event.</p> <p><b>Conclusions/Discussion</b> The problem of inattentional blindness is quite extensive. Adding the extra task of trying to remember the words simulates the effect of audio distractions while driving. The added distraction had an effect on the participants ability to count cars correctly, but did not have an effect on the probability of experiencing inattentional blindness suggesting that audio and video processing happen independently in the brain. The fact that people who were better at counting cars experienced more inattentional blindness shows that the more focused a person is on a specific attention demanding task, the less likely that that person will notice an unexpected event.</p>	
<b>Summary Statement</b> My project shows that inattentional blindness, the inability to see objects in plain view, plays a significant role in people's awareness of traffic situations.	
<b>Help Received</b> Uncle helped with film editing; Brother appeared in video and explained statistical concepts; Dr. Simons (University of Illinois), Dr. Pani (University of Delaware), and Dr. Most (University of Louisville) answered my questions by email.	