



CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

Name(s) Angie Hoffmann	Project Number J0708
Project Title Does Age or Gender Affect Change Blindness?	
<p style="text-align: center;">Abstract</p> <p>Objectives The purpose of my experiment was to figure out if age or gender affect change blindness. Change blindness is when you don't notice that something changed in your surroundings. I predicted that older men would experience more change blindness. Older people don't detect changes as well because they aren't as good at searching for visual information. Men are more likely to have a narrow focus, while women have a broader perspective.</p> <p>Methods I tested my prediction by showing 122 people a video I made where five things changed halfway through it. Then, I gave them a questionnaire with 5 questions about what the people talked about, 5 questions about things that did not change appearance, and 5 questions about things that did change appearance. I showed them the video and had them answer the same questions again to see if they still experienced change blindness even when they knew what to look for. I tested six age groups: elementary school, middle school, high school, young adults, middle aged adults, and seniors. I averaged the results by gender and age group.</p> <p>Results For the first viewing, females detected 1.6 changes on average and males detected 1.2 changes on average. I performed a t test which indicated that the difference was not statistically significant (p-value = 0.179). For the age groups, the young adults noticed the most changes (2.0) on average, followed by the middle-aged adults (1.7), then high school (1.4), middle school and senior adults (1.2) and elementary school noticed the least changes on average (0.6). I performed an ANOVA test which indicated the differences were not statistically significant (p-value = 0.079). I decided to do an additional t test which compared changes detected by children and adults. The t test showed the results were statistically significant (p-value = 0.038). By looking at the data from the second viewing, I concluded that even when people knew what to look for, they still experienced change blindness because the results from the change questions were worse than the no change questions.</p> <p>Conclusions My results don't agree with my hypothesis. According to the t test, I cannot say that women have less change blindness than men. I can't say that young adults have the least change blindness but I can say that adults have less change blindness than children. My project can help society by increasing awareness of change blindness. People usually think that they process everything they see, but in reality, they don't. If individuals are over confident about their ability to see things, it can lead to accidents.</p>	
Summary Statement I concluded that adults experience less change blindness than children and that gender does not significantly affect change blindness.	
Help Received My father and brother helped me film and edit my video. My mother drove me to the participant's house or work. My mother helped me understand statistical analysis.	