



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

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<b>Project Title</b> <b>Effects of Age on Reaction Time: Adolescents vs. Pre-Adolescents</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> I am a gymnast, and I wondered if as an adolescent gymnast, I might have an easier time learning a new skill due to reaction time when compared to a preadolescent gymnast. The goal of this project was to try to determine which age group might have a faster reaction time, preadolescents, (fourth graders) or adolescents (seventh and eighth graders). I believed adolescents would have a faster reaction time because the brain is more developed at this age.</p> <p><b>Methods/Materials</b> I performed a total of 490 tests on 70 test subjects, who each took a series of tests. In the experiment I used an iPad, a calculator, and one survey for each test subject. I found an app that would test reaction time accurately. Then for each test subject, I placed the iPad in front of each test subject and had them take the test seven times. I discarded the highest and lowest values and averaged the remaining five scores. I recorded the results and averaged and compared the data.</p> <p><b>Results</b> I analyzed the data and tried to evaluate whether age made a significant difference. The adolescent test subjects had a 12.77% faster reaction time on average than the preadolescent test subjects. The adolescent test subjects had an average reaction time of 359ms compared to the preadolescents who had an average reaction time of 408ms.</p> <p><b>Conclusions/Discussion</b> I hypothesized the adolescent test subjects might have a quicker reaction time than the preadolescents, and the results appeared to support the hypothesis. This experiment should be repeated more times to confirm the findings. I would also recommend testing across more groups. I would use the same testing methods because the method measured the reaction times with great accuracy.</p>	
<b>Summary Statement</b> The purpose of my project was to compare the reaction time of pre-adolescents (fourth graders) to adolescents (seventh and eighth graders) in milliseconds.	
<b>Help Received</b> None. I designed and performed all tests independently.	