



**CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY**

Name(s) Dana M. O'Brien	Project Number J1221
Project Title Is Sensitivity Heightened on the Dominant Side?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The purpose of my project was to determine if a person's dominant side was more sensitive than their non-dominant side. I believed that the dominant side would be more sensitive than the non-dominant side.</p> <p>Methods/Materials The experiment involved testing fifty middle-school students to determine whether the back of their dominant hand was more sensitive than the back of their non-dominant hand using the Semmes Weinstein touch sensitivity test. Subjects were tested using standardized nylon monofilaments of different diameters. Each test subject sat down in front of a cardboard screen and laid their hands out of sight behind it. The test subject was told to respond when they felt something on their hand and indicate which hand they felt the touch. The smallest monofilament was pressed perpendicular to the back of the test subject's hand for 1.5 seconds, three times. If the test subject didn't feel the first monofilament, then the next size larger monofilament was used to repeat the procedure. This continued until the test subject had felt a monofilament on the first hand, and then the procedure was repeated on the other hand. The testing began on alternate hands for each test subject.</p> <p>Results The results showed that neither hand was consistently more sensitive and that there was not a correlation between hand dominance and hand sensitivity.</p> <p>Conclusions/Discussion The results did not support my hypothesis, but rather indicated that there was not a correlation between hand dominance and hand sensitivity. The information gained from this experiment could be used by hand therapists looking for a way to evaluate their patient's recovery. If the patient had a nerve damaged hand and therapist knew that the hand sensitivity on both sides of a healthy body was similar, the therapist could better assess the normal sensitivity of the patient and determine if the patient had fully recovered.</p>	
Summary Statement The purpose of my project was to determine if touch sensitivity is heightened on the dominant side.	
Help Received Borrowed Semmes Weinstein monofilament kit from hospital hand therapy clinic; Father helped determine which statistical test to use in data analysis	