CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
Patrick J. Chang

Project Number
S1203

Project Title
A Study of the Correlation between Eye Dominance and Hand Dominance

Abstract

Objectives/Goals
My objective was to determine if there was any possible correlation between eye dominance and hand dominance.

Methods/Materials
Subjects will be looking into a special box that was constructed in order to look at two objects set at a certain distance from each other. One object will be stationary while the other will be controlled by the test administrator (me). The moving object will be moved slowly towards the stationary object by the administrator until the subject believes the two objects are at the same level with each other and says stop. The process will be repeated times total, 3 times with the left eye and 3 times with the right eye. Subjects will also be crossing out as many circles as they can within 30 seconds with their dominant hand and then switching to their recessive hand and doing the same thing. They will alternate hands 6 times total, crossing out circles with each hand 3 times.

Results
Left handed people had a 3.3% deviation for the dominant hand (left) and a 4.0% deviation for the recessive hand (right). Right handed people had a 3.8% deviation for the dominant hand (right) and a 6.6 % deviation with the recessive hand (left). Left handed people had a 28% deviation with the dominant eye and a 21% deviation with the recessive eye. Right handed people had a 32% deviation with the dominant eye and a 27% deviation with the recessive eye. Left handed people had a hand dominance ratio of 1.6 while right handed people had a hand dominance ratio of 1.8. Left handed people had an eye dominance ratio of 0.78 while right handed people had an eye dominance ratio of 0.80. Pearson Coefficient was 0.19 for left handed people, 0.017 for right handed people, and 0.12 for overall

Conclusions/Discussion
Based on the data, the hypothesis that there would be no correlation between eye dominance and hand dominance was supported. On the Pearson Correlation Graph, there appeared to be no linear relationship between eye dominance and hand dominance and was more of a cluster of points. This may have been because both vision and handedness are both such major functions and function independently that they could not possibly rely on each other for if one should fail, the other would fail too. It may have also been because of the fact that eye dominance is not something many people are aware of and is such a small matter that it would not neither affect handedness nor be affected by handedness.

Summary Statement
My project mainly focuses on determining whether there is a possible relationship between eye dominance and hand dominance

Help Received
Mr. Antrim helped guide as to how experiment should be conducted; Dad helped construct box to test eye dominance; 60 people participated in the experiment