CALIFORNIA STATE SCIENCE FAIR
2010 PROJECT SUMMARY

Name(s)

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Project Number

J0607

Project Title

Right Brain, Left Brain, and the Stroop Effect Test

Abstract

Objectives/Goals

Our objective was to determine whether being right- or left-brained affects performance on the Stroop Effect Test. The Stroop Effect Test consists of a list of color names printed in an ink color that does not match the word. The subjects must say the name of the ink color, not the word. Our hypothesis was that right-brained people would perform better because they would focus more on the colors and more easily ignore the letters. We based our hypothesis on the fact that the right brain is more involved in creative activities (e.g. art appreciation, music and dance) while the left brain is more involved in logical activities (e.g. problem solving, language, science and math).

Methods/Materials

First, we did research to find a Hemispheric Dominance Test that would be suitable for our project. We had fifty subjects from the sixth, seventh, and eighth grades take this test to indicate whether their right or left brain was more dominant. Then we tested them one at a time to see how long it took them to complete a one-page Stroop Effect Test. We then analyzed the data we collected to determine if there was a significant difference between the times of the right- and left-brained subjects.

Results

Because we were testing for right- and left-brained perfomance only, we excluded the subjects that tested neutrally, scoring equally left- and right-brained on our test. The average time of the right-brained subjects was 20.7 seconds and the average time of the left-brained subjects was 22.4 seconds. To further illustrate our results, we also analyzed the top ten most left- and right-brained subjects. The average time of the top right-brained subjects was 20.3 seconds, while the average time of the top left-brained subjects was 23.3 seconds.

Conclusions/Discussion

Our results seem to indicate that right-brained subjects did better on the Stroop Effect Test than left-brained subjects. These results support our hypothesis because the right-brained people may have focused more on the colors and less on the words. The human brain is extremely complex and our experiment helps clarify how the left and right hemispheres work. Furthermore, this information can be used to devise further experiments on the human brain.

Summary Statement

The goal of our project was to determine whether being right- or left-brained affects performance on the Stroop Effect Test.

Help Received

Advisor provided guidance