CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY

Name(s)
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Project Number
29195

Project Title
The Stroop Effect: The Bilingual Factor

Abstract

Objectives/Goals
The scientist conducted the experiment to determine if bilinguals would have a faster time vs. monolinguals when taking the Stroop Effect test. The scientist believed that if a bilingual person would take the test, they would have a faster time due to knowing a second language.

Methods/Materials
The scientist tested 37 bilingual and 37 monolingual adults between the ages of 60-70 years old. Each participant was tested and timed twice on the Stroop Effect. Each participant was tested with a congruent Stroop Effect test, then with an incongruent test. The scientist then gathered the results of everyone and calculated the average per group (bilingual and monolingual). By comparing the results, the scientist concluded which group was faster.

Results
After analyzing the data, the scientist concluded that the monolingual participant#s average time was faster than the bilingual participant#s average time. To determine this, the scientist compared the two averages of the congruent and incongruent averages of both bilingual and monolingual. The results gathered from the data showed only one second difference between the two groups. The results proved that the scientist#s hypothesis was wrong, because it showed that monolinguals had a faster time in achieving the task.

Conclusions/Discussion
The main goal of the experiment was to determine whether bilingual people would outperform monolinguals when taking the Stroop Effect Test. After analyzing the data, the scientist concluded that the monolingual participants# average was faster than bilinguals# average. Still, the scientist was proven wrong in the original hypothesis which stated that bilinguals would have a faster time on achieving the task over monolinguals. This was quite a surprise to the scientist. Further testing could also be done without peers present and with different age groups and compared to the scientist#s group. In conclusion the Strop Effect is very intriguing aspect of psychology. The scientist learned that small issues such as having the participant tested in front of peers can have an effect on the results. Even though the results were not as expected, the Stroop Effect is still a great way to learn about the brain.

Summary Statement
The Stroop Effect and the bilingual factor have caught the eye of many scientists and the attention of many psychologists because it helps understand how your brain works when you have interference.

Help Received
My Mother helped me create the graphs that I needed for my project and suggested areas of improvement in my report. She also helped me cut and glue some of the papers for the board. My Father as well as Mrs. Swann and Mrs. Christy read over my report and helped me with spelling and grammar errors.