CALIFORNIA STATE SCIENCE FAIR
2014 PROJECT SUMMARY

Name(s)

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Project Number

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34984

Project Title

Anything Boys Can Do Girls Can Do Better! The Effect of Gender on Optical Illusion Perception

Abstract

Objectives/Goals

The objective of this experiment was to measure the effect of gender on optical illusion perception. The hypothesis was that if the subject's gender was female, she would be more adept at recognizing the optical illusions than a male subject.

Methods/Materials

Materials: stopwatch (cell phone), blue masking tape, pencil, ten fifth-grade boys, ten fifth-grade girls, ten optical illusions, blank sheet of paper, shadow box, clipboard, data sheet, measuring tape, assistant

Methods: Ten optical illusions (black-and-white) were placed in a shadow box. Twenty fifth-graders were tested over a span of two days. Ten of these subjects were male and ten were female. One at a time, the subjects looked at the illusions for ten seconds each. After each illusion, the subject answered a question about what they had just seen. The answers were then recorded on a data sheet.

Experimental Design: Over the course of two days, twenty subjects were tested. Of those twenty, ten were female and ten were male. The researcher tested each subject and recorded his or her answers as correct, half-correct, or wrong. The data were then added up and used to make conclusions. In order to control all variables excluding gender, all subjects were the same age, looked at the illusions for the same amount of time, were the same distance from the illusion, and had their faces level with the box.

Results

The results of the data collected show that female subjects had a total of 44.5 correct answers and that male subjects had a total of 43.5 correct answers each. However, the results varied on the different illusions. On some the boys had a higher score, on some the scores were the same, but on most, the girls were more accurate.

Conclusions/Discussion

The results support the hypothesis that female subjects would have a more acute perception of optical illusions than male subjects. The two genders had an overall difference of one point however, so the results were inconclusive. This project is meant to help adolescents and their teachers by learning more about the human brain and the differences between genders.

Summary Statement

This project was done to identify some of the differences between genders, specifically pertaining to optical illusions.

Help Received

Mother helped put together board, Sister helped with data sheet, Used 5th grade test subjects from Union Hill School