CALIFORNIA STATE SCIENCE FAIR
2012 PROJECT SUMMARY

Name(s)
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Project Number
J0708

Project Title
Ebbinghaus Illusion: Left to Right or Right to Left?

Abstract

Objectives/Goals
The purpose of this project is to find out if the brain perceives from left or right or right to left, while reading. Specifically the project tests if the Ebbinghaus illusion is more when the comparison circle is to the right of the test circle or not. My hypothesis, based on my research is that the brain perceives from left to right and therefore the Ebbinghaus illusion will be more than if the comparison circle is to the right of the test circle.

Methods/Materials
For my procedure I made a test on PowerPoint which tested the Ebbinghaus Illusion. The test compared the overestimated and underestimated Ebbinghaus illusion stimuli to the test circle. The test had the stimuli and the test circles were compared from left to right and right to left.

Results
Control testing was done where the test circle of 8.88 mm was on the left with no illusion and the comparison circles were on the right. Most of the chosen answers (85 %) were within +0.25 and -0.25 showing that there was no illusion and therefore the testing was done right. Control testing was also done for the right side where the test circle with no illusion was on the right and the comparison circles were on the left. 88 % were within the +0.25 and -0.25 range, once again showing that there was no illusion therefore the testing was done right. 32% of the volunteers overestimated the size, 31% underestimated and 37% chose the right size in the Overestimated Ebbinghaus Illusion Left configuration. 70% of the volunteers overestimated the size. 7% underestimated the size and 23% chose the right size in the Overestimated Ebbinghaus Illusion right configuration. 76% of the volunteers underestimated the size of the central circle 13% overestimated the size and 11% chose the right size in the Underestimated Ebbinghaus Illusion Left configuration. 86% of the volunteers underestimated the size.

Conclusions/Discussion
For the overestimated Ebbinghaus illusion configuration more number of people perceived the illusion when the circles were compared from right to left (70%), and less number of people perceived when the circles were compared from left to right (32%). Similar results were seen in the underestimated Ebbinghaus illusion configuration. When compared from right to right to left 86% perceived the illusion and when compared from left to right 76% perceived the illusion.

Summary Statement
Testing to discover direction of brain perception using Ebbinghaus Illusion.

Help Received