CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY

Name(s)

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Project Number

36512

Project Title

Synesthesia: Predominant Grapheme-Color Associations and the Effects of Age and Gender

Abstract

Objectives/Goals

The purpose of this experiment was to determine the extent of grapheme-color association synesthesia exhibited by participants and the effects of age and gender.

Methods/Materials

I created a survey with rows of letters repeated in the basic colors of the rainbow, in addition to gray, black, and brown. Instructions indicated to circle each letter of the alphabet in the one color that fits it best. If the letter had no color, the participant was instructed to leave the row blank. I handed out the surveys to third and eighth graders who had turned in signed permission slips, as well as adults who wished to participate.

Results

The majority of participants shared common grapheme-color associations. Some letters in particular had very strong associations. Letters that begin commonly known colors, such as R for red, were generally associated with that color. Third graders had more associations than eighth graders. Eighth graders had more associations than adults. Males tended to chose black more often than females at a ratio of 4:1.

Conclusions/Discussion

My experiment indicated intriguing grapheme-color synesthetic associations, which were influenced by age and gender. More people than expected seem to have synesthetic associations, and it appears to gradually fade as age increases. This experiment additionally expands our knowledge of synesthesia, because most studies focus on people who are aware of their synesthesia. However, in this study, all participants were included, regardless of whether they thought they had synesthesia.

Summary Statement

My experiment determined the extent of grapheme-color association synesthesia exhibited by participants, specifically the colors most commonly associated with each letter of the alphabet and the effects of gender and age on the results.

Help Received

Ms. Skiles for her excellent instruction on the scientific method. The sixty people who graciously completed my survey.