CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY

Name(s)

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Project Number

31079

Project Title

Are You Feeling Tangerine? Testing the Correlation between Grapheme-Color Synesthesia and Recognizing Emotions in Faces

Abstract

Objectives/Goals

My project tests the correlation between symbol-color synesthesia and accuracy in recognizing emotions in faces (emotion recognition).

Synesthesia is like a sixth sense and senses are tools. This particular tool helps synesthetes have a more in-depth understanding of complex information like a facial expression so synesthetes may be able to use this to help them excel in this area. I hypothesize that there is a positive correlation between symbol-color synesthesia and recognizing emotions in faces.

Methods/Materials

For this test I used two online instruments. The first was a standardized synesthesia battery to categorize subjects into two groups and one untested group: Tested Synesthetes, Tested Non-Synesthetes, and Untested (control) which gave each subject a score, >1.0 non-synesthetic and < 1.0 synesthetic. The second instrument was based on a standardized test that measures synesthetes# emotion recognition ability, which scores I compared between groups.

I e-mailed and posted both of the instruments on three online communities: synesthesia discussion boards, emotional intelligence forums, and a third community unrelated to either of these.

Results

In both of the analyses the grapheme-color Synesthete group overall had more emotion recognition accuracy. However, not all synesthetes did well, in fact, some scored very low. In addition, the Synesthetes were not consistently accurate between the eight different emotions that were tested.

Conclusions/Discussion

The purpose of my experiment was to see if there was a positive correlation between symbol-color synesthesia and emotion recognition accuracy. I hypothesized that there is a positive correlation between grapheme-color synesthesia and emotion recognition accuracy. I found that, as a group, the synesthetes did better but as individuals they either scored very high or very low thus, proving my hypothesis partially true and posing new questions that may lead to further studies in this field.

Summary Statement

I found out that symbols-color synesthetes are either much better or much worse at recognizing emotions in faces, as compared to non-synesthetes.

Help Received

Parents helped with editing and data analysis, Dr Steven Ravett Brown (URodchester) inspired me to investigate synesthesia, David Bernick (UCSC) and Dr Shanna Swan (URodchester) helped me with presentation and analysis.

Preliminary