CALIFORNIA SCIENCE & ENGINEERING FAIR
2018 PROJECT SUMMARY

Name(s)

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Project Number

38098

Project Title

How Do Stimulants Affect the Perception of Time?

Abstract

Objectives/Goals

This project was designed to discover how different types of stimulants affect the ability to perceive time. We hypothesized that sound would affect subjects estimations of time, due to our research on studies about how music influences brain activity and alters perception.

Methods/Materials

Subjects were led into a room without clocks or other devices that could distract them. We tested 3 groups in total. In the sound group, subjects listened to piano music. In our touch group, subjects made a puzzle, and in our control group, subjects did not participate in any activity. All subjects did this for the duration of the test period. We left the subjects for 4 minutes, and when the period of time ceased, we asked them to estimate the amount of time they were left alone. We selected subjects all in the same age range to best control age factors.

Results

Our graph shows that students solving a puzzle estimated an average of 2 minutes 35 seconds, students listening to music estimated an average of 4 minutes 13 seconds, and students doing nothing estimated an average of 7 minutes. The most accurate group was listening to music.

Conclusions/Discussion

Our data indicate that students listening to music estimated time more accurately, while students playing the puzzle and students doing nothing estimated time less accurately. We believe this is because students with no stimulation believe time to pass slower, and students solving a puzzle believe time to pass quicker. Our results contradicted our hypothesis, but we still found conclusive results.

Summary Statement

We found that when the brain is more active performing a task, the subjects perceive less time having passed.

Help Received

We designed and conducted our experiments independently, with guidance from our advisor.