CALIFORNIA STATE SCIENCE FAIR
2015 PROJECT SUMMARY

Name(s)

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Project Number

35083

Project Title

Determining the Effect of Video Gaming on Finger Dexterity in Teenagers

Abstract

Objectives/Goals

Finger Dexterity is the skill of performing tasks, especially with your hands. Higher level of finger dexterity can be beneficial in areas such as music performance, dentistry or surgery. The purpose of this study was to determine if teenagers who video game a certain amount of time each week have an improvement in finger dexterity. The study also evaluated if a difference existed between male and female video gamer's and finger dexterity.

Methods/Materials

20 female and 25 male teenage subjects were randomly selected for this study. Subjects were given a questionnaire on the amount of time and frequency of video gaming they engage in each week. The O'Connor Finger Dexterity Test was used to assess the level of each subject's finger dexterity. The object of the test is to see how fast a person can place 3 pins in a hole at one time, until all 100 holes are filled. Subjects were tested who video gamed 0 hours, 3 or less hours, 3-5 hours, 5-7 hours or 7 and more hours per week. The time was recorded for each subject. The O'Connor FDT formula was used to determine the overall time. The O'Connor FDT Norm Chart was used to record the finger dexterity percentile rank.

Results

The results demonstrated a significantly higher finger dexterity percentile rank in teenagers who video gamed 7 or more hours each week (96.82% percentile rank) as compared to teenagers whose weekly video game was 0 hours (26.87%), under 3 hours (45.67%), 3-5 hours (48.23%), and 5-7 hours (90.28%). A difference existed between the scores of female vs male subjects. Males average 22.69% higher than females overall in percentile rank in most video gaming time categories.

Conclusions/Discussion

This study supported my hypothesis that teenagers who video game 7 or more hours each week have better finger dexterity than teenagers who video less than 7 hours per week. Female teenagers scored lower than male teenagers and may have to do with the type of video gaming they are participating in. These results provide important knowledge and support that video gaming may provide a benefit to teenagers. Improved finger dexterity can lead to a higher success rate with certain jobs or activities

Summary Statement

Finger dexterity skills can be enhanced by engaging in video gaming on a weekly basis.

Help Received

Pine Street Physical Therapy for discussing the various finger dexterity tests available & for loaning me the O'Connor FDT. Ms. Tina Lanter-Skokan, for being my teacher adviser.