CALIFORNIA STATE SCIENCE FAIR
2017 PROJECT SUMMARY

Name(s)
Marc S. Dennis

Project Number
S0404

Project Title
Gray-Haired Gamers: The Effect of Video-Gaming on the Physical Coordination of the Aged

Abstract

Objectives/Goals

As people age, hand-eye coordination generally declines, and quality of life can suffer, as less coordination is associated with falls and other injuries. This project was designed to test whether video games could be used to help people 60+ years of age regain lost hand-eye coordination. A total of 50 participants were tested, with 25 serving as the baseline and 25 playing the video game. Control group subjects stood 6 feet away from a 12-in diameter bucket and attempted to toss 3 balls into the bucket; the outcome was recorded. After 15 minutes with no physical activity, control group subjects attempted again to toss 3 balls into the bucket. The procedure was the same for the test group except that during their 15 minute downtime the subject sat at a TV monitor and used an arcade-style joystick to play the first level of Pacman for the extent of three lives. Results showed a 19% increase in accuracy for the video game group, compared to a 4% increase in accuracy in the control group.

Summary Statement

I created a video game experiment that effectively demonstrated hand eye coordination could be increased in the aged to prevent injuries.

Help Received

I created a project to demonstrate how video game playing increases hand eye coordination in aged. My science teacher reviewed my results.