Psychomotor skills are a combination of innate abilities as well as skills developed because of repeated actions. Researchers have dedicated many studies to understand the extent to which past videogame play contributes to psychomotor skills and fine motor control dexterity. However, not all gamers are created equal. With today’s proliferation of platforms, many people are gamers who never pick up a controller. Grouping all gamers together forms dangerous confounds when trying to generalize across a population as diverse as today’s gamers.

The current study aims to study a population comprised only of gamers to see if there are significant differences in their psychomotor skills. A psychomotor skills test has been developed, which is designed to simulate proven physical tests, with the express purpose of exposing differences between gamers. After filling out an extensive survey of gaming habits, participants completed the psychomotor skills test.

Participants were then grouped by measured psychomotor ability and a selection of high and low performing gamers completed four tutorial exercises on the dVâ€"Trainer by Mimic Technologies, a validated robotic laparoscopic training device.

The study shows that the number of hours reported per week using analog controllers is correlated with the psychomotor score as measured by the newly developed simulation. In particular, the Purdue Pegboard and Finger Tapping simulation software is the best discriminator among members of the gamer population.

Major: Modeling and Simulation

Educational Career:
Bachelor's of Electrical Engineering, BS, 1987, University of Utah
Master's of Electrical Engineering, MS, 1988, University of Utah
Master's of Modeling and Simulation, MS, 2011, University of Central Florida

Committee in Charge:
Charles Hughes, Chair, Computer Science
Rudy McDaniel, School of Visual Arts and Design
Peter Smith, School of Visual Arts and Design
Roger Smith, Modeling and Simulation

Approved for distribution by Charles Hughes, Committee Chair, on September 1, 2018.

The public is welcome to attend.