Title: THE EXPERIENCE OF PRESENCE AND SOCIAL PRESENCE IN A VIRTUAL LEARNING ENVIRONMENT AS IMPACTED BY
THE AFFORDANCE OF MOVEMENT ENABLED BY MOTION TRACKING

This research is directed to inform Virtual Reality (VR) research and practice in the field of education by examining the
impact of tracking a participant's movement in a Virtual Learning Environment (VLE) to control movement of the virtual
camera to simulate the occurrence or lack of occurrence of proximity. The purpose of this study is to explore the
relationship between presence and employing the tracking of an individual's body movement to control the virtual
camera position in a mixed reality environment to simulate movement among virtual objects and agents. The hypothesis
is that the affordance of movement has a positive impact on the perceptions and experience of both physical presence
and social presence of the user in the environment.

For this research, social presence refers to the sense of connection with another consciousness, real or simulated. The
virtual environment being used for this research is the TLE TeachLivE™ mixed reality classroom populated with virtual
students. This research uses a mixed methods multimodal approach to measuring social presence that includes
subjective, behavioral, and physiological measures. The participants (n=20) reported higher levels of physical presence
and social presence at a statistically significant level when they experienced the point-of-view movement condition of
the study. There was also a significant difference between the control and experimental group on the standard
deviations of heart rates. The triangulation of the data types was not conclusive, but there were anecdotal instances in
which factors of social presence were aligned with increased heart rate.

Major: Modeling and Simulation

Educational Career:
Bachelor's of Psychology, BS, 2001, Purdue
Master's of Communication, MA, 2008, Purdue
Master's of Modeling and Simultation, MS, 2013, University of Central Florida

Committee in Charge:
Charles Hughes, Chair, Computer Science
Jeremy Bailenson, Stanford Dept of Communication
Lisa Dieker, UCF College of Education
Matthew Marino, UCF College of Education

Approved for distribution by Charles Hughes, Committee Chair, on July 13, 2015.

The public is welcome to attend.