

Virtual Reality Augmentation of Social Skills Training for Autism

This is a novel and innovative program of research designed to examine the therapeutic applications of virtual reality technology to solve the problem of generalizability of social skills training for children with higher functioning autism.

NIH Funded Study (R21MH085904)

Several studies indicate that social skills training (SST) has the potential to significantly improve the adaptive behaviors and quality of life of children with higher functioning autism (HFA). However, cost and safety issues have prevented SST intervention paradigms from including effective methods to practice and generalize social skills beyond the immediate contexts of intervention. Therefore, the problem of generalizability currently impedes progress on the development of optimally effective SST programs for HFA children. One potential means for addressing this problem is to apply advances in virtual reality (VR) technology to provide social skills practice environments for HFA children. Virtual environments may provide HFA children with varied but more controlled and safer social contexts, than are available in 'real life', to practice social skills exercises that maximize learning while minimizing risks of failure and negative reinforcement learning ((McGeorge et al. 2001; Parsons et al. 2006; Standen and Brown, 2005).

Therefore, a major aim of this R21 is to bring together expertise in the study of virtual social interactions with expertise in the clinical science of autism to develop VR social skills practice tasks that may be used to augment current SST intervention methods for HFA children. It is anticipated that the results of this program of research will support the development of a larger randomized controlled efficacy study of VR augmented SST for HFA children. The results will also support larger theory based examinations of the factors that affect individual differences in intervention responsiveness in autism. In addition, although the initial therapeutic focus of this research will be on SST for HFA children it is reasonable to expect that the general principles, procedures and VR intervention platforms developed in the course of this research will have the potential for widespread, cost-effective applications to interventions for a variety of other neurodevelopmental disorders (e.g. ADHD; Parsons et al., 2007) across a range of context (i.e. home, clinics and schools).

Project Description

Funding and formal work on this project began on August 1, 2009. We have assembled a collaborative team that includes faculty, students and staff at ICT/USC, UC Davis, and Stanford University. We have also begun to adapt a the Virtual Reality paradigm for the initial study to be conducted in the next 12 months with participants including 40 children with autism but not mental retardation and 40 comparison children. We aim to study of the ability of children with HFA to deploy attention across an array of virtual humans and virtual environments while reading stories out loud to this virtual audience (see Parsons et al., 2007; Bailenson et al. 2008.)

USC Institute for Creative Technologies

12015 Waterfront Drive | Playa Vista | CA 90094 | 310.574.5700 | 310.574.5752 fax | info@ict.usc.edu
ict.usc.edu | twitter.com/usc_ict | youtube.com/USCICT | facebook.com/USCICT