Conference Abstract

PLAI – Psychiatric Live Animotion Intervention

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Abstract

Introduction: ASD is a heterogeneous neurodevelopmental disorder that is considered incurable. Individuals with ASD have deficits in social-communication and restricted behaviour and interests. This includes difficulties in emotion perception and reading other peoples facial expressions. In addition, individuals with ASD often show a greater interest in systemic and technical devices that often evolve around technical features and animated characters.
The aim of this project is to develop an eMentalHealth treatment device that will create a fundament for positive behavioural changes in individuals with Autism Spectrum Disorders through several encounters with a therapist represented as an animated character.

Methods: Recently an innovative animation concept, based on motion capture technology, has been developed – it is called Animotion. A therapist puts on a motion capture suit. This suit registers every movement of his/her body and transfers them onto an animated character in a virtual world. Additionally the therapist´s facial expressions are recorded with a facial motion capture system to express his/her facial expressions through the animated characters.
The animated character is streamed live on the Internet to the individual's personal computer and a live recording of the individual is projected back to the therapist. Animotion hereby facilitates direct interaction between a human being and an animated character.
PLAI will be validated in a randomized controlled trial (RCT), including monitoring and comparing stress levels between seeing a therapist in a real life versus in Animotion. It comprises three different intervention groups: 1) An early intervention group for pre-school children (age: 0-6) where the intervention will focus on language skills and communication abilities, 2) a school-aged group (age: 6-10) where the intervention will be focused on emotion recognition, non-verbal communication and social skills, and 3) an adolescents and young adults group (age: 15-22) where the primary outcome will be stress-reduction and everyday functioning. When participants have been selected to each of the groups, they will be randomized to one of three conditions: A) PLAI intervention, B) treatment as usual, or C) eMentalHealth intervention without Animotion (therapist will appear as him/herself and not as an animated character). In the two treatment groups, each individual will interact with the animated character, or the therapist without Animotion, three times a week (short-duration, approx. 15-20 minutes).
Blinded psychologists will comprehensively test and interview all individuals (and/or parents and teachers) before, during and after the intervention.

Hypothesis and project status: The hypothesis of the project is that an eMentalHealth intervention with Animotion can improve multiple skills in individuals with ASD by providing an interesting and playful animated universe recognisable from computer games and animated films. Furthermore, Animotion may decrease the stress level and co-morbid symptoms and thus improve the adaptive skills in these individuals, facilitated by a universe with simplified communication. Inclusion will start in the fall, 2015.

Keywords