

Imitation and Social Behaviors of Children with ASD in Interaction with Robonova. A Series of Single Case experiments

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Abstract

Background and Objectives The goal of our study was to test whether the presence of a humanoid robot will increase children's with ASD imitative response and social behaviors compared with a human – human interaction. **Methods** Two participants (age between 5 and 6) diagnosed with ASD were included in a single case ABAB experimental design with inter-subjects replications. Different behavioral criteria (i.e. frequency of imitation gestures, physical interaction, and attention) were analyzed based on the video data from the tasks. **Results** Our data suggest that the performance of the participants was lower in interaction with the robot in the imitation task, however the physical interaction and attention were present more often in the presence of Robonova. **Conclusions and discussions** Taking into account that the preliminary outcomes of this exploratory research are still inconclusive, further investigations regarding the effectiveness of robot assisted therapy in improving social skills and imitation for children with autism are needed.

Keywords

autism spectrum disorders, social skills, imitation, human-robot interaction