Critical Review:
Is robot-assisted therapy a viable treatment option for improving social interaction in children with Autism
Spectrum Disorders (ASD)?

Clara Liu
M.Cl.Sc (SLP) Candidate
University of Western Ontario: School of Communication Sciences and Disorders

The aim of this critical review is to examine the effectiveness of using robot-assisted therapy to improve social interaction skills in children with Autism Spectrum Disorders (ASD). All literature search was completed and yielded the following study designs: two single group (post) tests, one single group (pre-post) test, one between-groups study, one case study and one longitudinal study. Overall, these studies provide growing evidence in support of the hypothesis that participation in robot-based therapy can facilitate increased social interaction

OR (autism spectrum disorders) OR (ASD)). The search was limited to articles written in English between the years of 2000 and 2010.

Selection Criteria

difficult. The

influenced the interpretation of the results. Since the session length was determined by the participants themselves, some children may have spent more time interacting with the robot and/or the examiner in the trial compared to other children. The variability in the sample with respect to time spent in each trial may have had an effect on the outcome measures. Participants who had consistent contact with the robot may have experienced increased social interaction due to familiarity with the format of the therapy session. A final limitation is the absence of baseline measures or control groups, which makes it difficult to ascertain whether changes observed from pre-test to post-test were due to treatment or to maturation over time.

Overall, this study has a high level of evidence for the effectiveness of robot-assisted therapy in improving social interaction skills in children with ASD. This level 2b research led to some suggestive to compelling evidence for the effectiveness of the intervention. However, these results should be interpreted with caution due to the small sample size, potential for participant selection bias and lack of baseline measures.

<u>Animal-Like Robot</u>

Stanton, Kahn, Severson, Ruckert and Gill (2008)

participants with autism ranging from 7 years 11 months to 9 years 5 months of age. Each participant received five minutes of free play with the robot.

Sessions took place in a small room with a wardrobe and a table to reduce possible distractions. The robot was placed in the middle of the room facing toward the entrance. A video camera was used to record activity during the trial session. One experimenter was present in the room.

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is recommended that future research employ high-quality randomized controlled trials to gain further insights into the effectiveness of robot-assisted therapy. As well, future research should obtain adequate sample sizes in order to provide sufficient statistical power to detect treatment effects. Moreover, future research should include