Title: School-Based RCT Peer Social Intervention (S-PSI) for Minimally Verbal Children with ASD (MVASD)

Authors: Nirit Bauminger-Zviely

Introduction: Few interventions have been specifically designed for school-age children with ASD who are minimally verbal (MVASD), namely who produce only 20-30 spoken words and/or stereotyped phrases. Within this neglected research area on the spectrum, interventions oriented at peer interaction for MVASD are even more overlooked, despite this population’s severe social withdrawal and lack of spontaneous communication. To date, school-age MVASD intervention was adapted from preschool ages, targeted promotion of spoken words, mainly focused on child-adult interaction, and rarely used RCT (Tager-Flusberg & Kasari, 2013).

Method: This study examined the efficacy of a novel manualized RCT, a school-based peer social intervention (S-PSI) designed specifically for MVASD (Bauminger-Zviley, Keren Samuel-Magal, Yael Estrugo, & Avner Friedlin, 2015). Its major aim was to increase minimally verbal children’s ability to spontaneously interact with peers via preferred communication channels (sign language, computer, tablet, gesture, writing). The study compared two intervention groups targeting core ASD areas of social deficiency – social conversation (Convers.) vs. social collaboration (Collab.) – vs. a delayed treatment (Control) group. Contrasting the two interventions and comparing with controls aimed to identify which children benefitted most from each intervention. N=54 participants with MVASD (8-16 years, Peabody receptive language: 37-101; Raven performance IQ: 38-127) were randomly assigned to one of three groups (Convers., Collab., Control, n=18 per group). Manualized interventions included 60 lessons over 15 weeks (4 per week) in children’s special education schools, implemented by children’s teachers and supervised by the research team. Both interventions emphasized peer-interaction in fixed peer-dyads matched for preferred communication channel, combining learning and practice with fun activities and games. The Convers. group focused on rules, topics, question asking, etc., whereas the Collab. group focused on working together, sharing, helping, etc. Children’s pretest-posttest improvement in spontaneous peer-interaction was measured by social and communication scales (Vineland Adaptive Behavior Scale, Sparrow et al., 2005) completed by teachers who did not participate in treatment, and research team’s direct observation of children’s free-play social interactions. Several secondary outcomes were also measured, including children’s executive functions and metacognitive abilities (EF-BRIEF, Gioia et al., 2000).

Results: Preliminary results demonstrated significant Group X Time effect for the overall Vineland, with Convers. showing significant gains, F=6.33, p<.05, Collab. showing near-significant improvement, F=3.46, p=.069, and Control showing no significant change over time. Gains over time also emerged in Vineland-social subscales: for both intervention groups in interpersonal relationships (Convers.: p=.05; Collab.: p=.008) and for Convers. in play and leisure time (p=.011). Results of observations showed more active participation in social interaction after treatment. Interesting trends emerged on the EF-BRIEF, with the Control group showing regression over time in planning, organization, and monitoring, whereas the Convers. group showed gains in organization and monitoring.

Discussion: This S-PSI was the first school-based RCT to increase spontaneous peer-interaction that was directly oriented towards the needs of minimally verbal children along the spectrum. Preliminary results are positive. Strengthening these school-age children’s ability to interact more spontaneously with peers holds promise for reducing this high-risk population’s social withdrawal. Due to the ecological nature of the intervention (implemented in schools) it may be efficiently used in the community (at home with siblings).

References/Citations: