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Peer Mediation with Young Children (PMYC) Program - Effects on Mediation Style, Cognitive Modifiability and Social Abilities among Tutors with Typical Development and Students with ASD

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Abstract

The current study aimed to examine the effects of the Peer Mediation with Young Children (PMYC) program on mediational teaching style, cognitive modifiability and social skills of tutors with typical development, and responsiveness to mediation, cognitive modifiability and social skills of students with Autism Spectrum Disorder (ASD) participating in the program.

This study is the first to examine the effects of the PMYC program on cognitive aspects, namely cognitive modifiability, among high functioning ASD children. Additionally, this is the first assessment of the effects of PMYC on responsiveness to mediation and social skills as they are expressed in interactions with the program tutors. Finally, this is the first examination of the effects of PMYC on cognitive modifiability, mediational teaching style, and social skills of children with typical development who are functioning as tutors in a program for high functioning ASD children. The study's hypotheses are derived from the Peer Mediation Model (Shamir, 2000a; Shamir & Tzuriel, 2002, 2004), and from previous findings on the program's improvement of cognitive modifiability, mediational teaching style, and social skills, as well as improvement in the ability to benefit from learning among both tutors and students with learning disabilities and hearing impairments who participated in peer mediation programs (Shamir, 2000a; Shamir & Lazerovitz, 2007; Shamir & Silvern, 2001; Shamir & Tzuriel, 2002, 2004; Shamir et al., 2007; Shamir et al., 2006; Shamir & van der Aalsvoort, 2004).

Eighty-six children participated in this study; 43 pairs of tutors and students. The experimental group included 25 pairs and the control group 18 pairs. The sample was drawn from eight primary schools across Israel that includes classes for children with communication disorders (autism) at a moderate and higher functioning level.

Participants were randomly assigned to the experimental or control group. Tutors from the experimental group participated in a peer mediation program and tutors from the control group were given alternative training. All tutors were children with typical development in 5th grade, aged 10-11, whereas the students were 3rd graders, aged 7.5-10.5, from classes for children with communication disorders (autism) at a in the same school, with a diagnosis of ASD as defined by the DSM-IV-TR criteria (American Psychiatric Association [APA], 2000).

The study procedure included three phases: pre-intervention, intervention, post-intervention. Pre-intervention, the ASD severity among students was assessed using the CARS scale. Additionally, the cognitive level of tutors was assessed using Raven's Progressive Matrices Test. Next, tutors and students were administered tests to examine their level of cognitive modifiability. Additionally, tutors were administered the Analogies subtest of the CMB, and students were administered the pre-teaching CSTM. The cognitive modifiability of participants was assessed on the basis of these tests. Finally, the Social Skills Rating System was used to assess social skills among program tutors. The intervention phase included the provision of the PYMC (peer mediation) program. This included experiencing peer mediational teaching using the "thinking well" software, a computerized version of the CSTM. Tutors in the experimental group participated in seven sessions modelled by the peer mediation program. Tutors from the control group participated in one session where they were provided with alternative training. Upon completion of the learning phase, tutors and students from the experimental group and from the control group met for 8 weekly sessions of 25 minutes. In each of the sessions tutors were asked to work with their paired student peers on computer games. The last two sessions were dedicated to working on the "thinking well" software, and the learning lasted for 20 minutes. The mediational interaction in

the eighth session was filmed by the researcher and research team who were inactive observers. Post-intervention, the tutors and students completed additional questionnaires to examine their level of cognitive modifiability. Tutors were administered the post-teaching test which included the Analogies subtest and the "Transfer" section of the CMB. Students were administered the post-teaching and "Transfer" sections of the CSTM. The video footage was analyzed according to the Observation Mediation Interaction guide and the structured observation of human social interaction. Additionally, the tutors completed the Social Skills Rating System.

The findings of the study suggest that tutors who participated the peer mediation program (PMYC) exhibited higher level and quality of mediation than tutors from the control group. Furthermore, as hypothesized, tutors from the control group used non-mediated activities (both verbal and non-verbal) as part of their interaction with the students more frequently than tutors from the experimental group. Additionally, students who were paired with tutors from the PMYC program showed higher responsiveness to mediation than their peers who were paired with tutors from the control group.

The findings also indicate the presence of cognitive modifiability among tutors in both groups. Thus, it would appear that the actual act of tutoring improved the analogical problem solving skills of tutors. Contrary to this, analogical problem solving skills as measured by the "Transfer" section of the CMB were higher among tutors from the experimental group (who were part of the peer mediation program) post-intervention as compared to pre-intervention. This was not observed among tutors from the control group, where problem solving skills as measured by the "Transfer" section decreased between the two measurements. Additionally, students in the experimental group exhibited higher levels of cognitive modifiability than students in the control

group, and their achievements on this measure post-intervention were higher than pre-intervention.

Furthermore, the findings suggest that self-control and empathy levels were higher among tutors from both groups post-intervention as compared to pre-intervention, implying that the actual act of tutoring contributed to this change. Among students, the average scores of the components of social interaction that were examined (initiation and response) were higher among the experimental group, who were paired with tutors from the peer mediation program, than the control group. Finally, tutors from the experimental group exhibited higher levels of positive interaction and functional interaction as compared with tutors from the control group.