Abstract

Despite the significant importance of social skills and reciprocal ability for children with Specific Learning Disability (SLD) and Attention Deficit Hyperactivity Disorder (ADHD), research in this field within Arab society is limited. Consequently, the research aimed to investigate the relationship between social skills and reciprocal ability in computer-mediated game with a virtual player among children with SLD/ADHD compared to children with typical development in Arab society.

The research sample included 93 students in grades 4 to 6 (ages 9-12) (M = 10.68, SD = 0.91), Arabic speakers residing in Arab communities in central Israel, comprising 50 boys (53.8%) and 43 girls (46.2%). The children were divided into two groups: 46 (49.5%) with SLD/ADHD and 47 (50.5%) with typical development. Among the diagnosed group, 17 children were diagnosed with SLD, 19 with ADHD, and 10 with ADHD + SLD. Statistical tests were conducted to determine whether there are differences in the research variables among the three types of impairments, and no statistically significant differences were found between the three groups. Therefore, it was possible to examine the questions and hypotheses of the current research by treating those diagnosed as a single group.

For the research purposes, two sessions were conducted, during which the children completed reciprocal assessment questionnaires (Romer et al., 1986), social skills assessments (Gresham & Elliot, 1990), and motivation assessments (Ryan, 1982), followed by engaging in computer play with a virtual player. Additionally, the parents filled out a strengths and weaknesses questionnaire (Goodman, 1997).

The computer game "Co-Op World" allowed interaction with an autonomous virtual player in scenarios requiring mutual engagement and collaboration in social interactions. The utilization of the game facilitated data collection on the actual behavior patterns of the children, including the number of times assistance was provided, instances where the child helped the virtual player when they had received assistance earlier, and situations where the child assisted the player when the virtual player had not helped them before.

The research findings pertain to both the children's self-reported responses and their actual behavior dring the game. It was found that, consistent with research assumptions, children with ADHD/SLD exhibited lower levels of social skills and reciprocal ability (less altruistic behavior and more egocentric behavior), both based

on self-reports and actual gameplay measures. Moreover, they demonstrated lower motivation to play computer games compared to children with typical development. Additionally, children with ADHD/SLD, whose parents reported dealing with numerous behavioral difficulties, tended to exhibit more egocentric behaviors in the computer game. Notably, among children with typical development, stronger correlations were found between self-reported social skills and reciprocal interaction styles (self-reported): internal presence, acceptance of others, and altruism). Furthermore, in the overall sample of children, a connection was identified between actual reciprocal interactions in the computer game and motivation to play it. Children who provided more assistance to the virtual player and helped them even when the virtual player did not reciprocate exhibited a much higher motivation to engage in the computer game.

Due to the scarcity of studies focusing on children with SLD/ADHD in Arab society, the research's significance lies in addressing the issue among children belonging to this community. The research findings emphasize the importance of identifying social and reciprocal ability challenges among children with SLD/ADHD and provide a deeper understanding of the difficulties these children encounter. This understanding could assist educational teams and parents in comprehending the challenges in these areas and developing appropriate intervention plans utilizing computer-mediated game with a virtual player.