PEERS: Improving Empathy and Social Motivation in Adolescents with ASD
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Abstract

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder commonly identified during childhood. Individuals with ASD with intact cognitive abilities, often termed “high-functioning autism spectrum disorder” (HFASD), suffer primarily from the effects of characteristic and severe social communication deficits. Many adolescents with HFASD lack reciprocal friendships and often face numerous challenges as a result. Previous research has shown that adolescents’ social connectedness is related to empathy and social motivation. The present study is an investigation to determine whether the Program for the Education and Enrichment of Relational Skills (PEERS), an evidence-based and manualized parent-assisted intervention for adolescents with HFASD, influences empathy and social motivation in teens with HFASD. The PEERS program teaches ecologically valid social skills required for making and keeping friends. Participants included 35 adolescents between 13-0:8-3 with a confirmed diagnosis of HFASD, and one parent who attended the 14-week intervention. Empathy was evaluated by parent ratings (Social Skills Improvement System; SSIS) as was social motivation (Social Responsiveness Scale; SRS-2).

Introduction

• Adolescents with HFASD struggle to initiate and maintain friendships, and often experience loneliness, bullying, rejection, anxiety, depression, isolation, and suicidal ideation as a result.1-5

• PEERS teaches ecologically valid social skills such as having two-way conversations, “trading information”, use of electronic communication, handling disagreements, having a get together, handling bullying and teasing, and more.5,6

• Previous research on PEERS has demonstrated increased get-togethers, knowledge of taught social skills after participation, and novel brain changes.6-7

• Studies have found that the more socially connected an individual is the better their ability to vicariously experience and understand the feelings of others.8

• Additionally, research has demonstrated an improvement of empathy among young adults with HFASD after receiving social skills training.9

• Social motivation is described as the need to belong to social groups10 and to become members of social groups, people engage in prosocial behaviour.11

• The perception of support from peers has been found to be a predictor of prosocial goal pursuit among adolescents12 and perceptions of friends’ prosocial behaviour is related to teens’ motivation of social interaction.13

• The present study investigated measurable changes in empathy and social motivation in adolescents with HFASD to better understand the primary and secondary benefits of PEERS.

Research Questions

1. Does participation in PEERS result in significant improvements in empathy?
2. Does participation in PEERS result in significant improvements in social motivation?

Hypotheses

1. Parent ratings of empathy will improve significantly from pre-intervention to post-intervention.
2. Parent ratings of social motivation will improve significantly from delay to pre-intervention to post-intervention.

Participants

• 35 adolescents and one or more parental(s) participated in 4 cohorts of PEERS

• The adolescents met inclusion criteria for the research study:
  - Age between 13-0:18:3 at start of study; VCI > 70; previous diagnosis of ASD from qualified professional and surpass ASD cutoffs onADOS-2
  - 13 parents completed delayed control measures, and 29 parents completed both pre and post-intervention questionnaires.

Methods and Results

Inclusionary Measures

- Wechsler Abbreviated Scale of Intelligence, Second Edition (WASI-II)
- Autism Observation Schedule, Second Edition (ADOS-II)
- Social Responsiveness Scale: Social Motivation Scale (SRS-2)
- Social Skills Improvement System (SSIS)

Empathy: Social Skills Improvement System (SSIS)

- Analysis of data indicated skewedness, kurtosis, sphericity (Mauchly’s test), and normality (Shapiro-Wilk test) within acceptable limits for parametric statistics.
- Related-samples t-tests were conducted to examine possible significant changes from pre- to post-intervention for adolescent participants.
- To help control for familywise error, significance cutoffs were set at p<.0167 (Bonferroni correction; p<.05/3) based on number of analyses.
- Results indicated no significant changes in empathy between all three time points.
- Parent ratings indicated statistically significant improvements in social motivation from pre to post-test that were not observed from delayed to pre-test measurements.

Discussion

• Hypothesis 1: The results indicated no significant changes in empathy. It is important to note that the scores provided by this SSIS are raw scores generated from a scale of 6 questions.14

• PEERS focuses on teaching adolescents “why” they should and should not follow certain social skills by asking perspective taking questions (e.g., “why is that a bad idea?” “how would you feel if?”). Although this is likely to develop and improve Theory of Mind in some way, there may be no direct improvement in empathy. As adolescents increase in their skills and number of peer relationships, empathy may in fact increase over a longer time period.

• Hypothesis 2: Encouragingly, a significant improvement in social motivation was found. Moreover, the average T-score was seen to be in the “moderate impairment” range pre-intervention, with a shift to the “mild range” after participation in PEERS.

• The social motivation scale on the SRS-2 measures elements of social anxiety, inhibition, and empathic orientation that are involved in an individual’s motivation to engage in social activity. Item-level analyses may provide deeper insights into where adolescents specifically improved.

The preliminary outcomes of this study indicate that PEERS and parent involvement may help to improve aspects of social motivation including reducing social anxiety and increasing confidence. These results are promising, as many adolescents with ASD experience bidirectional effects among anxiety/social situations, leading to less social interaction, increased avoidance, and the experience of negative interactions that reduce social motivation.16-17

Future Directions and Limitations

• The results of this study are part of a larger project examining long-term changes in adolescent participants of PEERS (e.g., Social Skills, Mental Health, EF, Resiliency, Emotional Intelligence, Parent-Child Relationships).

• The first cohort of PEERS (14 families) began immediately and thus delayed control data was not collected. Unequal sample sizes used in analyses may limit generalizability of results as different trends may be found should more control data be gathered.

• The final study aims to include 50-60 families. This will improve the strength and generalizability of findings.

• Although changes were not observed in ratings of empathy on the SSIS, a measure with more focus on empathy and particular aspects of construct may be more sensitive to changes that occur due to participation in PEERS.

• It appears that PEERS had a positive effect on social motivation in teens with HFASD; however, future research could explore the positive impacts social motivation may in turn have in the lives of adolescents with HFASD.

• As adolescents with HFASD face numerous challenges associated with their social, language, and behavioural impairments,14 an increased desire for friendship and social support could help mitigate these challenges as teens make and maintain friendships.

• It is hoped that improving social motivation may help to break the cyclical relationship that many adolescents with ASD experience where negative peer interactions lead to reduced confidence and motivation, withdrawal, mental health problems, and lack of important friendships.

References


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• For a digital copy of this poster or more information about the RECS research project, please visit www.weaklytext.com or email: Felicia.Stubbert@ubc.ca or Ryan Matchulis: rmcmirich@ucalgary.ca

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