

# Using a CBT Approach to Teach Social Skills to Adolescents with High - Functioning Autism: Evaluating Changes Through A Multiple Baseline Design

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## BACKGROUND

Social skills deficits are one of the hallmark features of adolescents with high-functioning autism spectrum disorders (HFASD). Compared to typically developing peers, adolescents with HFASD are reported to have fewer friends, poorer friendship quality, experience higher levels of loneliness and risks of mental health difficulties such as depression and anxiety (Bauminger & Kasari, 2000; Church, Alisanki, & Amanullah, 2000). Yet there are few social skills interventions developed specifically for them, and even fewer have carried out social skills training in their most naturalistic settings – schools.

## RESEARCH AIM

To investigate the utility of an abridged cognitive-behavioural therapy (CBT) based intervention, delivered by trained school personnel, in developing social interaction skills in adolescents with HFASD within a school context in Singapore.

## PARTICIPANTS

- ☑ Nine male adolescents with ASD (no cognitive impairment), aged between 12 – 15 years old, were recruited from four mainstream secondary schools in Singapore
- ☑ Ethnicity: Chinese ( $n = 7$ ); Malay ( $n = 1$ ); Eurasian ( $n = 1$ )
- ☑ No additional diagnosis of adolescent psychiatric disorders and/or was receiving any social skills intervention
- ☑ Social Responsiveness Scale (SRS-2; Constantino & Gruber, 2012) Baseline Total Score:  $M = 68.44$ ;  $SD = 4.22$
- ☑ Social Anxiety Scale for Adolescents (SAS-A; La Greca, 1999) Baseline Total Score:  $M = 62.22$ ;  $SD = 11.74$

## RESEARCH QUESTIONS AND METHODS

**(RQ1) Is a brief CBT-based group intervention effective in producing improvements in social skills in adolescents with HFASD?**

- ☑ Pre-Post Design
- ☑ Outcome Measures:
  - ❖ Social Responsiveness Scale (SRS-2; Constantino & Gruber, 2012) – Parent and Teacher Reports
  - ❖ Social Anxiety Scale for Adolescent (SAS-A; La Greca, 1999) – Parent and Adolescent Reports
  - ❖ Test of Adolescent Social Skills Knowledge (TASSK; Laugeson & Frankel, 2010) – Adolescent Report

**(RQ2) Is a brief CBT-based group intervention effective in increasing positive social interactions and reducing negative social interactions in adolescents with HFASD?**

- ☑ Non-concurrent multiple baseline across cases design, where each school serves as a ‘case’ and the participants within each school serving as replicates.
- ☑ Outcome Measure:
  - ❖ Observations of social interaction during informal ‘Game Time’ sessions to assess change in participants’ frequency and type (i.e. positive or negative) of social initiations and responses

**(RQ3) Is a brief CBT-based group intervention effective in improving the thoughts, feelings and behaviours regarding dealing with social situations in adolescents with HFASD?**

- ☑ Pre-Post Design
- ☑ Outcome Measure:
  - ❖ Target Monitoring and Evaluation form (TME; Dunsmuir et al., 2009) with three social targets aimed at improving thoughts, feelings and behaviours in challenging social situations

## PROCEDURES

### Abridged PEERS® intervention

- ☑ Seven 90-minute intervention sessions focusing on social interaction skills and reduction of peer conflict; adapted from the PEERS® Curriculum for School-Based Professionals (Laugeson, 2014).
- ☑ Delivered over the course of four to seven weeks by trained school personnel.
- ☑ Each participant with HFASD attended the intervention with two typically developing peers who served as social role models.

### Data Analysis

- ☑ RQ1: *Group level* – Wilcoxon signed-rank test (Wilcoxon, 1945); and *Individual level* – Reliable Change Index (RCI; Jacobson & Truax, 1991; Zahra & Hedge, 2010).
- ☑ RQ2: **Visual Analysis** (Kratochwill et al., 2010); Percentage of Data Points Exceeding the Median (PEM; Ma, 2006); and **Tau-U** statistic (Parker et al., 2011).
- ☑ RQ3: **Comparison of mean ratings** of baseline, expected and achieved outcomes; and **categorical coding of progress** (Dunsmuir et al., 2009).

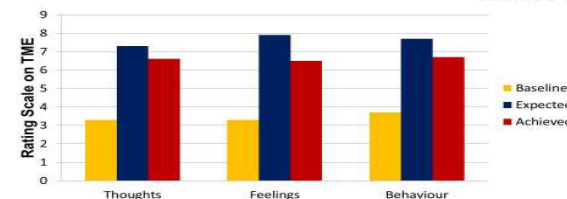
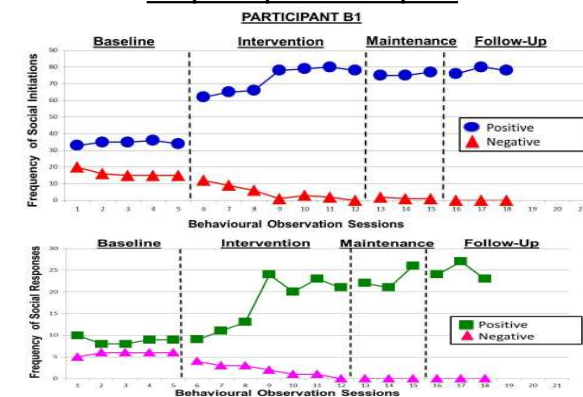
## RESULTS

### (RQ1) Significant Improvements in Social Skills

- ☑ Group Level: Significant improvements on the SRS-2, SAS-A, and TASSK, with medium to large effect sizes.
- ☑ Individual Level: All nine participants achieved reliable and clinically significant change on the TASSK and SRS-2 sub-domains of overall social responsiveness, social communication, and social motivation.

### Sample Graphs of Participants

**(RQ2) Increased positive social interactions and reduced negative social interactions, across all nine participants, with improvements maintained at a 14-week follow-up assessment. Large effect sizes were reported.**



**(RQ3) All nine participants were reported to have made at least “some progress” against their social targets in all three domains, such that their actual outcomes were rated lower than expected ratings but above baseline.**

## CONCLUSIONS

Despite using an abridged curriculum with several novel adaptations, this study supports the positive findings of previous PEERS® research in improving the social functioning of adolescents with HFASD in a school-based setting. This study promotes the inclusion of typically developing peers in social skills interventions and the use of behavioural observations to assess social behavioural changes.