

Parent-reported social-emotional improvements from a pilot quasi-randomized controlled trial of the Social Detective and Superflex series curriculum in autistic youth

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Introduction

- **Social differences**, a well-established autistic trait (APA, 2013), may influence interpersonal *relationships*, academic achievement, and psychological well-being (Silveira-Zaldivar et al., 2021).
- One intervention to support social differences is the **Social Thinking Methodology**, particularly the **Social Detective/Superflex (SD/S) curriculum series**.
- While this curriculum is widely disseminated across settings and is well-received by professionals (Yadlosky, 2012), **independent empirical studies are needed to validate SD/S efficacy** (Crooke & Winner, 2016).

Objective: Assess the efficacy of SD/S, focusing on its impact on parent reported social emotional outcomes, with autistic youth in a laboratory setting.

Hypothesis: SD/S participation, compared to participation in the control condition, will yield improvements in social-emotional outcomes.

Method

Participants: 18 autistic children in grades 2-5 ($M_{age}=8.44$ years old; 14 males; $VIQ \geq 80$) participated in the **20-week SD/S** ($n=9$) or a **matched control group** ($n=9$). Children were assigned based on availability.

Figure 1 . Front covers of SD/S curriculum books.



Figure 2 . Thinkables and Unthinkabots.



Autistic children in the Social Detective and Superflex group demonstrated improvements in social emotional learning.

Method (continued)

Measures: Parent-report questionnaires at pre, post, and follow-up (3-6 weeks after group completion) time points

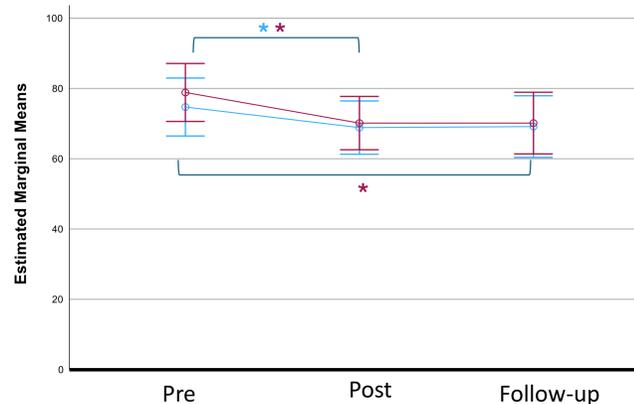
- Parent and child knowledge and use of SD/S vocabulary, raw
- Autism symptoms (Social Responsiveness Scale; SRS-2), t-score
- Social skills (Social Skills Improvement System; SSIS), standard score
- Executive functioning (Behavioral Rating Inventory of Executive Function, BRIEF-2), t-score

Data Analysis: Repeated measure ANOVAs

Results

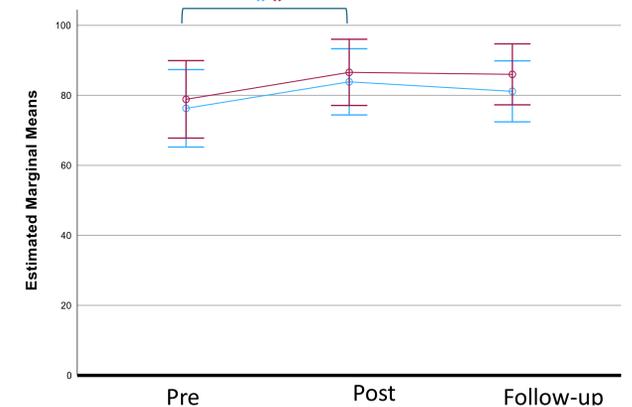
- Both **parent and child knowledge and use of SD/S vocabulary were greater** in the SD/S group compared to the control group at post ($p < .05$).
 - These differences remained significant at follow-up for child use of Superflex vocabulary and response to parent use of Superflex vocabulary.

Figure 3 . Changes by group condition between pre, post, and follow-up times for autism symptoms (SRS-2).



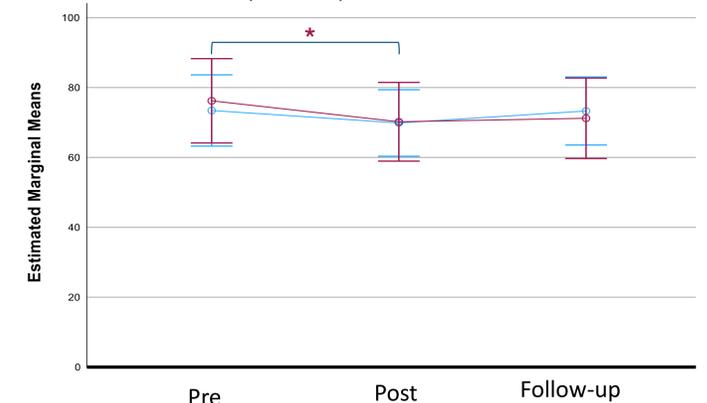
- Both SD/S and control groups showed a **decrease in autism symptoms** from pre- to post-timepoints ($p < .025$).
 - This decrease was maintained at the follow-up for the SD/S group ($p = 0.016$), but not in the control group ($p = 0.099$).

Figure 4 . Changes by group condition between pre, post, and follow-up times for social skills (SSIS).



- **Gains in social skills** in the SD/S group ($p = 0.01$) and in the control group ($p = 0.01$) from pre- to post-times.

Figure 5 . Changes by group condition between pre, post, and follow-up times for executive function skills (BRIEF-2).



- **Executive functioning skills improved** in the SD/S group ($p = 0.029$) but not in the control group ($p = 0.1$) from pre- to post-times.

Notes.

Error bars denote 95% confidence intervals. * $p < 0.05$ for the control group
Group Placement — Control — Intervention * $p < 0.05$ for the intervention group

Discussion

- Autistic children that participated in SD/S improved in SD/S vocabulary, social skills, and executive function and showed a decrease in autism symptoms; Parent and child knowledge and use of SD/S vocabulary showed group differences
- **SD/S is a promising intervention.**
- This study is limited by its small sample size; there is a need for further RCTs with larger samples.

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