Social Cognition and Social Anxiety as Predictors of Functional Impairment in Youth with Neurodevelopmental Disorders

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ABSTRACT

- Youth with neurodevelopmental disorders (ND), specifically Autism Spectrum Disorder (ASD), Attention-Deficit Hyperactivity Disorder (ADHD), and Specific Learning Disorder (SLD) present with:
    1. Notable social impairment[1,2]
    2. Heightened rates of social anxiety[3,4,5]
    3. Deficits in social cognition[6,7,8]

- Social anxiety and social cognitive deficits linked to poor functional outcomes in typically developing youth and youth with ND[9]

- Parent and child-reports of social anxiety are often discrepant[10]; conventional scientific wisdom dictates inclusion of both to better capture this construct in youth with ND

- **Research has minimally explored social anxiety and social cognition together in youth with neurodevelopmental disorders**

METHODS

- Self-report, parent-report, and clinician-reported measures obtained from 99 primarily (84%) Caucasian; (93%) non-Hispanic; (64.6%) boys (age 7 – 17; M= 11.40, SD = 2.79); diagnosed with ASD (18.2%); ADHD (85.9%) and/or SLD (24.2%)

Table 1. **Measures**

	$M\ (SD)$	Possible Range
Full Scale IQ (FSIQ)	96.08 (16.73)	50 - 136
Screen for Child Anxiety and Related Disorders (SCARED)[13]		
Social Anxiety, Parent-report (SA-P, α = .92)	5.51 (4.46)	0 - 14
Social Anxiety, Child-report (SA-C, α = .87)	5.46 (4.04)	0 - 14
Social Responsiveness Scale – 2[14]	62.16 (13.83)	39 – 90+
(Social cognition: SRS-2-SC α =.86)		
Vineland Adaptive Behavior Scales (VABS)[15]	85.84 (13.89)	55 – 125
Clinical Global Impression – Severity (CGI)[16]	3.68 (.86)	1 - 7

RESULTS

- Social cognition deficits significantly predicted:

    - Parent-rated adaptive functioning impairments (VABS)
    (β = -.52, t = -6.56, p <.001; $R^2\Delta$ = .22, $F\Delta(1, 93)$ = 43.07, p < .001; Table 2; Figure 1)

    - Clinical impairment (CGI)
    ($\chi^2(1)$ = 11.01, p = .001, Wald = 8.87, Odds Ratio = 1.09)

- Excluding participants with ASD did not impact findings

RESULTS CONTINUED

Table 2. Social Anxiety and Social Cog Impairment as Predictors of VABS

n = 79	Adj. R^2	F	β	t
Step 1	.174	11.34***		
Age			-.26	-2.87**
FSIQ			.33	3.61***
Step 2[a]	.265	9.83***		
($R^2\Delta$ =.10)				
SA-P			-.34	-3.51**
SA-P^2			.03	.30
Step 3[a]	.492	19.99***		
($R^2\Delta$ = .22)				
SRS-2-SC			-.52	-6.56***
Notes				

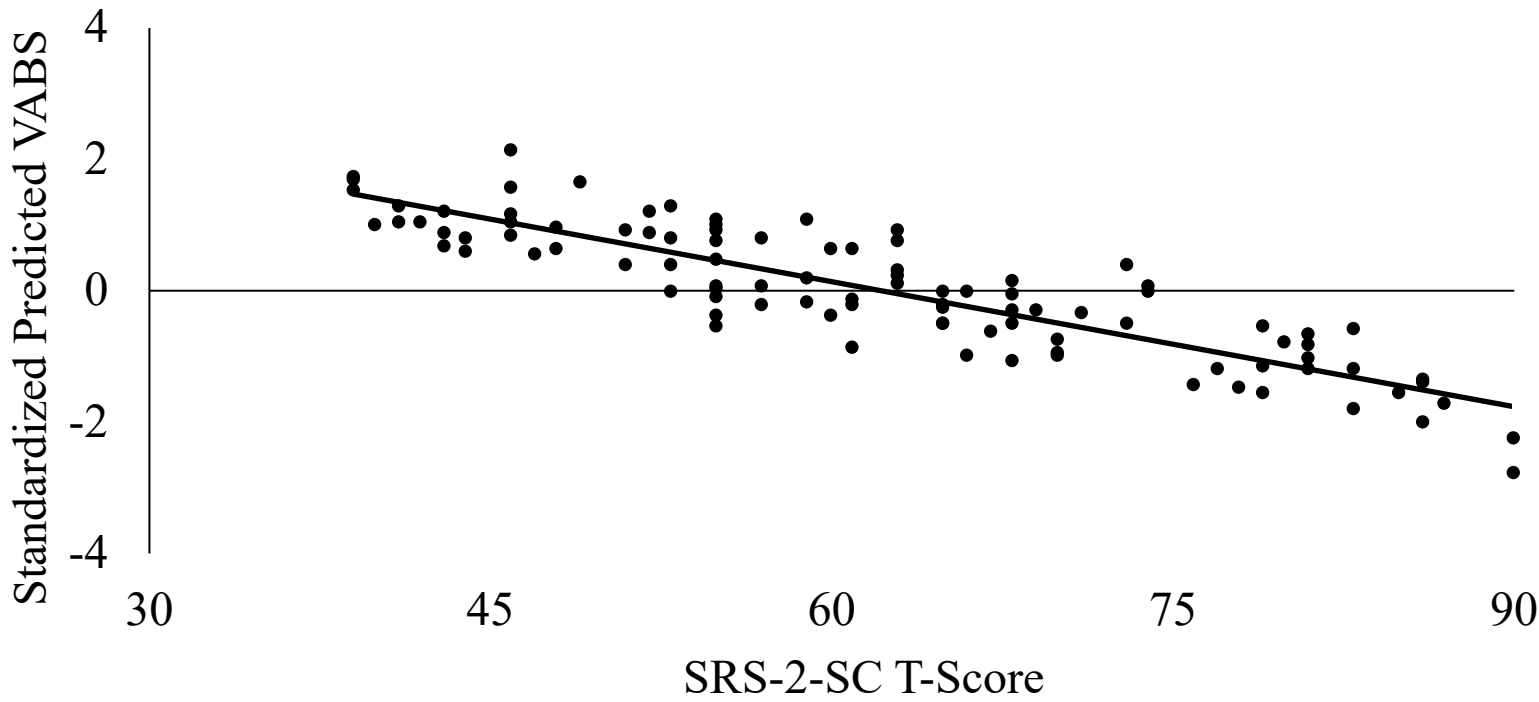a. Steps 2 and 3 include all model covariates; * p <.05; ** p < .01; *** p < .001

Figure 1. Predictive weight of social cognitive impairment regressed on VABS.

DISCUSSION

- Social cognitive impairment significantly predicted parent and clinician ratings of child functioning

- Predictive value of social cognitive impairment outweighed FSIQ *and* parent/child ratings of social anxiety

- Findings further clarify differential symptomatic paths to functional impairment in youth with ND

- Research should continue to explore the relationship between social cognition and social anxiety in youth with ASD, ADHD, and SLD to clarify etiology and better target mechanisms of treatment for this population