AUTISIC TRAITS ACROSS THE SPECTRUM: HOW SUBSYNDROMAL AUTISTIC TRAITS CONFER RISK FOR COMORBID DISORDERS AND FUNCTIONING DEFICITS

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Objectives

- Children with autism are at a greater risk for a number of comorbid diagnoses, such as social anxiety, ADHD, and ODD[1]
- The continuous nature of autistic traits has been demonstrated[2,3,4], as has the heritability[5,6]
- Given the continuity of these traits, children with subsyndromal traits may also have comorbid diagnoses

Question

How are subsyndromal autistic traits and psychopathology related?

Methods

Subjects

138 males siblings of autistic probands in Wave 1 and 90 in Wave 2 (an average of 2.4years later)

Measures

Scales from the ASEBA system (CBCL and the TRF)[7,8]and the Social Responsiveness Scale (SRS)[9]

Analysis

(1) Cross-sectional analyses: Hierarchical linear models were run to determine if SRS scores were predictive of ASEBA subscales above and beyond age and proband diagnostic status

(2) Longitudinal analyses: Hierarchical linear models were run to determine if SRS scores at Wave 1 were predictive of ASEBA subscales at Wave 2 above and beyond age, proband diagnostic status and ASEBA scale scores at Wave 1

Results

Parent-Report (CBCL)

	Model Fit[b,c]		Parent- or Teacher-Report SRS[d]	
Scale	F	R^2	β	ΔR^2
Anxious/Depressed	3.93	0.18	0.42	0.17
Withdrawn/Depressed	28.21	0.4	0.58	0.33
Total Competence	16.14	0.28	-0.5	0.24
School Competence	5.05	0.11	-0.31	0.09
Social Competence	17.55	0.3	-0.48	0.22
Thought Problems	19.35	0.31	0.54	0.28
Attention Problems	25.43	0.38	0.56	0.3
Social Problems	26.76	0.39	0.54	0.27

Teacher-Report (TRF)

	Model Fit[b,c]		Parent- or Teacher-Report SRS[d]	
Scale	F	R^2	β	ΔR^2
Happiness Adaptive Functioning	17.86	0.29	-0.46	0.2
Learning Adaptive Functioing	9.24	0.18	-0.41	0.16
Behavioral Adaptive Functioning	10.41	0.19	-0.39	0.15
Thought Problems	18.58	0.3	0.54	0.28
Attention Problems	25.47	0.37	0.61	0.35
Social Problems	20.43	0.32	0.54	0.28

(1) For the cross sectional data, the parent- or teacher-reported SRS score was a significant predictor above and beyond age or proband diagnosis for the parent-report scales and both parent- and teacher-report scales as listed in the table (all $p < 0.003$).
(2) SRS was not a significant predictor of any of the ASEBA scales in the longitudinal data after accounting for multiple comparisons. The only model that approached significance was one predicting change over time in teacher-report Social Problems ($\Delta R^2 = .07$, $b = -0.12$, $t = -2.94$, $p = .004$).

Discussion

- The models allowed for detection of the effects of social and communication deficits without adherence to arbitrary diagnostic cut points.
- Autistic traits, as measured by the SRS, explained a significant amount of the variance in the ASEBA syndrome scales on both parent and teacher report scales.
- SRS scores contributed a significant additional amount of the variance to ASEBA syndromes, competency scales, and adaptive functioning scores beyond the effects of age and proband diagnostic status
- Subsyndromal autistic traits confer risk for heightened levels of anxiety, depression, inattention, social problems, and thought problems.
- In many cases, the inclusion of the SRS score in the model negated the significant contribution of actual proband diagnostic status.

Conclusions

The psychopathology associated with a diagnosis of autism also affects children with subsyndromal autistic traits. Children who do not meet criteria for autism still experience functional impairment that should be addressed.

Future Directions

Having established certain domains that may be impaired in children with subsyndromal traits, the SRS and CBCL may inform the design of interventions to improve social functioning