Social Adaptive Functioning and Autism Symptoms in Minimally Verbal Children with Autism Spectrum Disorder
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Introduction

• Previous research examining the relationship between ASD symptoms and adaptive functioning reports different results, using various measures of autism symptoms.
• Some studies suggest that pro-social development of skills is not related to qualitatively different or impaired social behaviors.
• Individuals with ASD demonstrate a range of adaptive functioning, though research shows that standard scores of adaptive behavior tend to decrease as age increases within childhood, meaning that individuals with autism do not develop adaptive skills at a rate commensurate to that of their typically developing peers.
• Existing research examining this relationship has focused on more cognitively able and verbal populations, and as such, investigating adaptive behavior in a relatively homogeneous group of minimally verbal children with ASD is an important extension of this body of research.
• Previous studies report that adaptive skills are significantly related to IQ. It is important to determine whether ASD symptoms, in a sample of minimally verbal children, are related to adaptive functioning, above and beyond what can be accounted for by IQ.
• The ADOS-2 modules control for an individual's language abilities, so comparisons of the ADOS-2 and Vineland-II are complicated, particularly in a sample with little variability in communication skills.

Objective

Elucidate the relationship between communication and socialization skills and deficits in a sample of minimally verbal children with ASD.

Hypotheses

We predict that there will be:

a) An inverse relationship between the Vineland-II Socialization domain age equivalents and ADOS-2 Social Affect raw algorithm totals, as neither measure controls for age.

b) An inverse relationship between Vineland-II Socialization standard scores and ADOS-2 Social Affect calibrated severity scores (CSS), as age is controlled for by both measures.

c) No relationship between Vineland-II Communication domain (age equivalents and standard scores) and ADOS-2 Social Affect domain (raw algorithm totals and CSSs), as there is a lack of variability in communication abilities in our sample.

Method

Participants

• Sixty-four children who participated in an ongoing, multiple-site clinical intervention trial (Adaptive Interventions for Minimally Verbal Children with Autism Spectrum Disorder in the Community; AIM).

• Children were eligible for AIM if they:
  • Had a community diagnosis of ASD.
  • Were between age 4.5 and 8.5 years old.
  • Achieved a nonverbal mental age of at least 18 months.
  • Were confirmed to be minimally verbal (used fewer than 20 words in a 20-word standardized language sample).

Measures

Autism Diagnostic Observation Schedule, 2nd Edition, Module 1 (ADOS-2)’. The ADOS-2 was administered to confirm diagnosis and serve as a measure of symptom severity.

Vineland Adaptive Behavior Scales, 2nd Edition – Survey Form (Vineland-II). The Vineland II is a semi-structured parent interview, which provides information about a child’s adaptive functioning in various domains. The measure yields age equivalents for each subscale, as well as standard scores for each domain. Domain age equivalents were calculated based on the average of subdomain age equivalents. Praised domain standard scores were calculated for children whose data could not be scored in one or two subdomains, taking the remaining two into account.

Leiter International Performance Scale – Revised (Leiter). Used to determine nonverbal intelligence.


Results

Pearson Correlations

• IQ was positively related to Vineland-II Socialization, Communication, and Adaptive Behavior Composite (ABC) standard scores.

• The PLS-5 was positively related to the Vineland-II Communication domain and ABC.

• Receptive language skills correlated negatively with the ADOS-2 RRB subscale.

• Chronological age was inversely related to the Vineland-II Socialization domain.

Conclusions

• There is variability in social deficits and social adaption beyond what is accounted for by IQ, even in minimally verbal children.

• For research purposes, it is useful to consider the SA and RRB subscales of the ADOS-2 independently, as this may reveal relationships between ASD symptomatology and other areas of functioning.

• Our results suggest that clinicians’ observations of skills and/or deficits in social affect during evaluations are related to the social skills demonstrated in everyday life, therefore confirming the usefulness of these types of assessments in intervention planning.

References


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