Introduction

• Evaluations of school-aged children with autism spectrum disorder (ASD) include both core symptoms (e.g., social communication) and co-occurring behaviors (e.g. adaptive behavior [1]) and psychiatric symptoms [18]).
• Assessing multiple domains of behavior often requires individualized standardized assessments which can be burdensome on families [4].
• The Behavior Assessment System for Children Version 3 (BASC-3) is a comprehensive rating scale that asssays multiple domains of behavior (2).
• We asked whether the BASC-3 can differentiate ASD from typically-developing (TD) school-aged children and whether it demonstrates convergent with more commonly-used measures of adaptive functioning and psychiatric symptoms.

Objectives

1) Investigate group differences in adaptive behavior and psychiatric symptoms in children with ASD and TD using the BASC-3 composite scores.
2) Examine convergent validity of the BASC-3 in children with ASD by comparing this measure to the Vinelend Adaptive Behavior Scales, Second Edition (VABS-II) parent interview and the Childhood and Adolescent Symptom Inventory-5 (CASI-5)/Early Childhood Inventory-5 (ECI-5).

Methods

Participants:
• Enrolled in the Autism Biomarkers Consortium for Clinical Trials Study (ABC-CT), a multi-site feasibility study including behavioral and experimental measures.
• Eligibility:
  - ASD: met criteria on the Autism Diagnostic Observation Schedule-II Module 1, 2, or 3 (ADOS-II), Autism Diagnostic Interview-Revised (ADI-R)
  - TD: screened negative for psychiatric symptoms.
• Participants included in this sample completed the BASC-3, CASI-5/ECI-5 and VABS-II measures.

Questionnaires and Interviews:
• BASC-3: parent rating scale to evaluate adaptive and challenging social and emotional behaviors across community and home settings (2).
• Comprehensive scoring includes: composite scales (i.e. internalizing problems), clinical scales (i.e. depression) adaptive scales (i.e. social skills), content scales (i.e. executive functioning) and clinical indices (i.e. Autism probability).
• 10-20 minutes
• 175 questions
• CASI-5/ECI-5: parent rating scale based in DSM-5 to assess symptoms related to various psychiatric disorders.
• 10-20 minutes
• 173 questions
• VABS-II (Survey Interview Form): parent interview to assess adaptive behaviors across the lifespan.
• 30-60 minutes

Statistical Plan:
• Aim 1: Independent sample t-tests to examine group differences
• Aim 2: Correlations to examine convergent validity

Results Aim 1

BASC-3 Composite Scores in ASD and TD Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>Composite</th>
<th>Group Differences (t-test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASD</td>
<td>50.28</td>
<td>4.83 (4.56)</td>
</tr>
<tr>
<td>TD</td>
<td>50.29</td>
<td>4.83 (4.56)</td>
</tr>
</tbody>
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Questionnaire Sample (VABS-II/BASC-3):
• A. Communication/Functional Communication
• B. Daily Living Skills/Activities of Daily Living
• C. Socialization/Social Skills

Question Sample (VABS-II/BASC-3):
• A. Generalized Anxiety/Anxiety
• B. Dysthymic/Depression
• C. Inattentive/Attention Problems
• D. Hyperactive-Impulsive/Hyperactivity

Summary of Results:
• The following BASC-3 domains within the ASC positively correlated with corresponding VABS-II domains:
  - Functional Communication (BASC-3) & Communication (VABS-II)
  - Daily Living Skills (BASC-3) & Activities of Daily Living (VABS-II)
• The Social Skills domain of the BASC-3 did not correlate with the Socialization domain of the VABS-II.
• The BASC-3 Adaptability domain was positively related to the VABS-II Coping Skills subdomain.
• The following BASC-3 psychiatric symptom domains positively correlated with corresponding CASI-5/ECI-5 domains:
  - Anxiety (BASC-3) & Generalized Anxiety (CASI-5/ECI-5)
  - Depression (BASC-3) & Dysthymic (CASI-5/ECI-5)
  - Attention Problems (BASC-3) & Inattentive (CASI-5/ECI-5)
  - Hyperactivity (BASC-3) & Hyperactive-Impulsive (CASI-5/ECI-5)

Conclusions:
• The BASC-3 differentiated children with ASD compared to TD across all Composite scores.
• The BASC-3 Adaptive Skills Composite domains demonstrate convergent validity with the VABS-II, with the exception of Social Skills. BASC-3 Social Skills may be representing a more narrow set of behaviors than VABS-II Socialization, which is an important consideration when using this measure in ASD.
• In settings where multiple domains need to be assessed in a time-efficient manner, the BASC-3 may be an appropriate alternative to individually administered assessments.

References

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