Battelle Developmental Inventory – Second Edition (BDI-2)

Overview
The Battelle Developmental Inventory – Second Edition (BDI-2; Newborg, 2005) is an individually administered, norm-referenced developmental assessment. Designed to screen children at risk for developmental delays from birth through 7 years, 11 months, it measures strengths in five domains, providing a quotient in each: Adaptive, Personal-Social, Communication, Motor, and Cognitive. Each domain consists of two or three subdomains, and all contribute to the Total Developmental Quotient. Subdomain scores are also generated.

The BDI-2 may be administered as a structured test, scored based on observation, conducted as an interview, or as a combination of the three formats. This allows flexibility in gathering information for children who are not responsive in a structured assessment environment. The manual provides information about acceptable testing accommodations.

Summary

<table>
<thead>
<tr>
<th>Name of Tool/Author</th>
<th>Age Range*</th>
<th>Method of Administration/Format</th>
<th>Approximate Time to Administer</th>
<th>Subscales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battelle Developmental Inventory – Second Edition (BDI-2) Newborg (2005)</td>
<td>Birth–8 years</td>
<td>Individualized, norm-referenced; administration-structured, observation, or scripted interview; screening plus in-depth versions; based on milestones; Spanish version available</td>
<td>Screening: 30 min.; Full assessment: 60–120 min.</td>
<td>Five domain scores: Personal-Social (adult and peer interaction, self-concept); Adaptive (self-care, personal responsibility); Motor (gross, fine, perceptual); Communication (receptive, expressive); Cognitive Ability (attention and memory, reasoning and academic skills, perceptual/conceptual); Developmental Quotient</td>
</tr>
</tbody>
</table>

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### Research

<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Age Range (in months)</th>
<th>Sample Size</th>
<th>Topic Addressed</th>
<th>Outcome</th>
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</thead>
<tbody>
<tr>
<td>Goldin, Matson, Beighley, &amp; Jang (2014)</td>
<td>17–36 (months)</td>
<td>325</td>
<td>Validity</td>
<td>Researchers sought to determine if there was a relationship between severity of ASD symptoms and scores on the BDI-2. Severity of symptoms predicted total score on the BDI-2 ($R^2=0.128$, $F(1,324) = 47.48$, $p &lt; 0.001$). Severity also predicted scores on each of the five domains of the BDI-2. ASD symptom severity accounted for 13% of the total variance for overall BDI-2 scores and 15.7% of the variance on the Personal-Social domain.</td>
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<td>Williams, Matson, Goldin, &amp; Adams (2014)</td>
<td>36 months or younger on first administration of BDI-2</td>
<td>90</td>
<td>Predictive Validity</td>
<td>This study investigates the effect of overall developmental quotient (DQ) at first assessment on subsequent DQ scores, including scores in communication and adaptive domains in a sample of toddlers with significant ASD symptoms who participated in an IDEA part C program. All children needed to meet criteria for IDEA part C (BDI-2 adaptive or Communication subdomain score ≤ 70) and scores &gt;17 on the BISCUIT part 1. BDI-2 administered at time one and again at least 12 months later. Results: The participants in the Low DQ group showed statistically significant greater improvement in overall Total DQ, with an average improvement of 6.46 points, while the scores of those in the Average DQ group essentially remained unchanged. It could be that some of the children who initially showed low scores exhibited regression toward the mean upon subsequent testing.</td>
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Researchers sought to determine whether the BDI-2 could be used as a screening test for autism spectrum disorder. Using a cutoff score of 96 (1.5 SD) sensitivity was .94 and specificity was .31.

References


