Understanding Standardized Test Scores

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Objectives

- Define standardized scores and terms
- Explain importance of understanding the context for standardized scores
- Demonstrate ability to explain the meaning of scores to others (First Monday)

Common Areas

- Cognitive: Thinking and Reasoning skills
- Memory: Ability to recall information (verbal or visual)
- Attention: Ability to sustain, divide attention
- Executive Functioning: Organization and planning
- Academic: Reading, Writing, and Math
- Emotional/Behavior: Internalizing and Externalizing
- Adaptive: Day to day functional skills
- Early Development: Thinking, Language, & Motor
Common Areas

- **Speech**: Ability to make the sounds (articulation)
- **Receptive/Expressive Language**: Ability to understand what is said/communicated and ability to use sounds, words, and non-verbal skills for communication
- **Fine/Gross Motor**: Finger skills and large muscle skills
- **Sensory Processing**: Ability to respond to sensory information
- **Social: Autism**: Ability to engage in reciprocal social interactions, social communication, behaviors

Test Scores

- Criterion-referenced
- Norm-referenced
- Mean
- Standard Deviation
- Percentile

Criterion-Referenced Tests

- Score based on mastery of material and usually explained as a **percentage**
- Used by teachers
  - Spelling tests: 8 out of 10 words Score=80%
  - Reading sight words: 10 out of 20 Score=50%
Norm Referenced Test

- Describes the child’s present functioning in reference to peer group
- Child’s raw scores are converted to standardized scores

Test Design

- Standard way of administering the test
  - Same directions-like a recipe
  - Practice items-teaching task
  - Same responses as examiner-queries, no feedback
  - Quiet setting-usually one-on-one
- Item set-set of items administered based on child’s age
  - Usually arranged from easier to harder items
- Starting point based on child’s age
  - Basal-certain number right at beginning
  - Ceiling-specific number wrong in a row

Standard Score Terms

- Mean-Average
- Range-Smallest to largest scores in that category
- Standard Deviation (SD)=distance from the mean
- Level or Category: Extremely High, Very High, Average, Low Average, Very Low, and Extremely Low
Types of Scores

- **Raw scores**
  - Number of correct responses for a test
  - May be useful when measuring progress

- **Standardized Scores**
  - Normal distribution of raw scores (established mean and standard deviation)
  - T-Scores (T)
  - Standard Scores (SS)
  - Scaled Scores (ss)

Age and Grade Equivalents

Equal raw scores lead to the same age or grade equivalent score. However, it does NOT mean the same items were correctly answered.
Types of Scores

- Percentiles or percentile rank
- Different than percentages
- Provides comparison to peer group
- Perform equal to or better than X% of children

Types of Scores

<table>
<thead>
<tr>
<th>Standardized Scores</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Scores (SS)</td>
<td>Cognitive, Composite or Index, Summary Scores</td>
</tr>
<tr>
<td>Scaled Score (ss)</td>
<td>Subtests</td>
</tr>
<tr>
<td>T-scores (T)</td>
<td>Subtests, behavior rating scales</td>
</tr>
</tbody>
</table>

Levels

Test Scores

<table>
<thead>
<tr>
<th>Extremely Low</th>
<th>Very Low</th>
<th>Low Average</th>
<th>Average</th>
<th>High</th>
<th>Very High</th>
<th>Extremely High</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS ≤ 59</td>
<td>70-79</td>
<td>80-89</td>
<td>90-100</td>
<td>111-119</td>
<td>120-129</td>
<td>130</td>
</tr>
<tr>
<td>ss ≤ 3</td>
<td>4.5</td>
<td>6.7</td>
<td>8.12</td>
<td>13.44</td>
<td>15-16</td>
<td>17</td>
</tr>
<tr>
<td>T ≤ 29</td>
<td>30-36</td>
<td>37-42</td>
<td>43.57</td>
<td>58.63</td>
<td>64.69</td>
<td>70</td>
</tr>
</tbody>
</table>

Behavior Rating Scales

<table>
<thead>
<tr>
<th>Typical</th>
<th>At Risk</th>
<th>Clinically Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBCL T-score ≤ 59</td>
<td>60-69</td>
<td>205</td>
</tr>
<tr>
<td>BASC-2</td>
<td>60-69</td>
<td>210</td>
</tr>
<tr>
<td>Connors-3 T-score ≤ 59</td>
<td>60-70</td>
<td>210</td>
</tr>
<tr>
<td>BRIEF T-score ≤ 284</td>
<td>265</td>
<td>265</td>
</tr>
</tbody>
</table>
Low Average High Average Very High Extremely High

Very Low Extremely Low

Significant Scores

Generally, a score is > 2 SD or < 2 SD is significant.

Cognitive SS = 70 or lower

Behavior checklists T-scores = 70 or greater (or > 65)

Indicates an area of concern.

Cognitive: DAS-II SS = 88

Naming Vocabulary T-score = 48

Pattern Construction T-score = 32

Attention/Inhibition: NEPSY-II

Auditory Attention ss = 6
Inhibition subtest ss = 5

Emotional/Behavioral: Connors-3

Inattention T-score = 75

Hyperactivity T-score = 72
Behavioral Observations

- Are the scores reliable & valid?
- Accurate or underestimate or overestimate?
  - Cooperative or not?
  - Good effort?
  - Good attention?
  - Understanding?
  - Language?
  - Motor?
  - Sensory Disabilities?

Talking to Parents

- Think about your message
- Start with Strengths
- Avoid jargon
- Consider visuals (graphs)
- Use Descriptive Terms
  - Delays: younger kids
  - Weaknesses
  - Areas child needs support
Questions