Streamlining Assessment of Inhibition: The Value of Multi-Method Assessment

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Background

Executive functions in real-world settings can be difficult to capture in a structured assessment environment. Parent and teacher ratings from home and school environments are a proven method to compensate.

- Disadvantages include rater bias and varying demands across contexts.
- Teacher ratings correlate with performance-based measures (Weber et al., 2006).
- Parents provide better estimates of symptom expression than do children (Wiener et al., 2012).
- Children can be aware of their symptoms, but may underestimate the extent to which their symptoms are expressed (Weiner et al., 2012).
- Advantages of executive function testing include the potential to better predict long-term functioning (Barkley & Fischer, 2011).

Methods

- **Procedure**
  - Retrospective review of 117 consecutive cases in a clinical data repository.
  - Inclusion criteria: Age 10-15; TEA-Ch, D-KEFS, BASC-2, and BRIEF administered

- **Participants**
  - 5 females, 9 males
  - 12 Caucasian, 1 African American, 1 Hispanic
  - Age: Mean(SD)=12.02 (1.02); Range 10–15
  - IQ: Mean(SD)=86.86 (10.61); Range 68–106
  - Diagnoses: ADHD (n=6) *Dyslexia*, TBI (n=3) *Borderline IQ*, Autism *Adjustment Disorder*, OCD

- **Measures**
  - BASC-2 (Parent, Teacher, and Self-Report)
  - BRIEF (Parent and Teacher Report)
  - TEA-Ch Walk/Don’t Walk
  - D-KEFS Color-Word Interference

- **Data Analysis**
  - Pearson correlations were calculated for rating forms and performance-based measures

- **Hypotheses**
  1. Inter-rater correlations and cross-measure correlations would be moderate.
  2. Teacher ratings would correlate most strongly with performance-based measures of inhibition.

Results

**Hypothesis 1**
- Cross-measure correlations for the same rater were moderate to strong.
- Inter-rater agreement was modest.

![](image)

**Table 1. Pearson correlation (r-value) for behavior rating scales**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Parent Ratings</th>
<th>Teacher Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASC-2 Hyperactivity</td>
<td>Parent</td>
<td>.755 (.002)</td>
</tr>
<tr>
<td>BASC-2 Inhibition</td>
<td>Teacher</td>
<td>.534 (.049)</td>
</tr>
<tr>
<td>BRIEF Hyperactivity</td>
<td>Parent</td>
<td>.426 (.143)</td>
</tr>
<tr>
<td>BRIEF Inhibition</td>
<td>Child</td>
<td>.722 (.056)</td>
</tr>
</tbody>
</table>

Note: Orange p<.05; Red p<.01.

**Hypothesis 2**
- Child/Adolescent self-report ratings of Hyperactivity (BASC-2) correlated most strongly with neuropsychological measures of inhibition including Walk/Don’t Walk (r=-.636, p=.015) and Color-Word Inhibition (r=-.663, p=.010).

![](image)

![](image)

Discussion

- **Conclusions**
  - Multiple raters for each measure add novel data regarding response inhibition across settings with differing demands.
  - Children may have a better understanding of their weaknesses than previously presumed.
  - Multiple questionnaires per rater may provide overlapping, rather than novel and clinically relevant information.

- **Limitations**
  - Small sample size
  - Heterogeneous diagnostic categories
  - Ecological validity of the measures
  - Retrospective review

- **Future Directions**
  - Larger, more diverse sample
  - More cohesive diagnostic groups
  - Multiple self-report and performance-based measures
  - Long-term research with pre-determined outcome measures (i.e., academic or occupational functioning)

References