HTKS Performance Among Low Income, Ethnic Minority Preschoolers

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Why is it important?

Table 2. Percentage of Teachers (Means and Standard Errors) Who Said that *About Half of the Class or More* Enter Kindergarten with Specific Problems *(N = 3,595)*

<table>
<thead>
<tr>
<th>Type of Problem</th>
<th>Percentage of Teachers (SE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty following directions</td>
<td>46.16 (1.07)</td>
</tr>
<tr>
<td>Lack of academic skills</td>
<td>36.26 (0.98)</td>
</tr>
<tr>
<td>Disorganized home environment</td>
<td>34.54 (1.00)</td>
</tr>
<tr>
<td>Difficulty working independently</td>
<td>34.39 (1.02)</td>
</tr>
<tr>
<td>Lack of any formal preschool experience</td>
<td>30.79 (0.99)</td>
</tr>
<tr>
<td>Difficulty working as part of a group</td>
<td>30.45 (0.99)</td>
</tr>
<tr>
<td>Problems with social skills</td>
<td>20.39 (0.88)</td>
</tr>
<tr>
<td>Immaturity</td>
<td>19.87 (0.87)</td>
</tr>
<tr>
<td>Difficulty communicating/language problems</td>
<td>13.50 (0.72)</td>
</tr>
</tbody>
</table>

Dallas Preschool Readiness Project

Funded by the Eunice Kennedy Shriver National Institute of Child Health and Development

Home Visit #1
Age 2½ years
Dec 2009-Jan 2011
N = 407

African American
N = 183 (45%)

Latino
N = 224 (55%)

1 Year Follow-Up Visit
N = 157 (86%)

1 Year Follow-Up Visit
N = 209 (93%)
## Dallas Preschool Readiness Project

**Funded by the Eunice Kennedy Shriver National Institute of Child Health and Development**

<table>
<thead>
<tr>
<th>Home Visit #1 (age 2½)</th>
<th>Home Visit #2 (age 3½)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self regulation</strong> (wrapped gift, snack delay, forbidden toy, fruit stroop, “mommy &amp; me”, walk-a-line)</td>
<td><strong>Self regulation</strong> (wrapped gift, snack delay, HTKS, “mommy &amp; me”, DCCS)</td>
</tr>
<tr>
<td><strong>Mother-child interaction</strong></td>
<td><strong>Working memory</strong></td>
</tr>
<tr>
<td><strong>Father-child interaction</strong></td>
<td><strong>School readiness</strong></td>
</tr>
<tr>
<td><strong>Child temperament</strong></td>
<td><strong>Mother-child interaction</strong></td>
</tr>
<tr>
<td><strong>Child social competence</strong></td>
<td><strong>Child social competence</strong></td>
</tr>
<tr>
<td><strong>Parenting attitudes/beliefs</strong></td>
<td><strong>Parenting attitudes/beliefs</strong></td>
</tr>
<tr>
<td><strong>Household characteristics</strong></td>
<td><strong>Household characteristics</strong></td>
</tr>
</tbody>
</table>
Questions:

• What is it like to administer the HTKS task with very young ethnic minority children?
• Does the HTKS task appear to be a valid measure of self regulation for these very young ethnic minority children?
Data collection staff

• Team included:
  – 8 full-time plus 4 part-time team members plus numerous student interns
  – 6 bilingual (3 native Spanish speakers)
  – Home visit teams included staff with strong ties with the African American and Latino communities in Dallas
Data collection training

• 2-3 days of didactic instruction and role play
• 2 days of group practice with age-eligible children
• Each data collector had to be “certified” before assessing study families
  – Conducted each task perfectly with 2 children
### Characteristics of HTKS Sample (N = 366)

<table>
<thead>
<tr>
<th></th>
<th>African American (N = 157)</th>
<th>Latino (N = 209)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td><strong>Child gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boy</td>
<td>57</td>
<td>54</td>
</tr>
<tr>
<td>Girl</td>
<td>43</td>
<td>46</td>
</tr>
<tr>
<td><strong>Family structure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear/Nuclear extended</td>
<td>23</td>
<td>82</td>
</tr>
<tr>
<td>Single parent/Single extended</td>
<td>65</td>
<td>16</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>2</td>
</tr>
<tr>
<td><strong>Family income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;50% of the federal poverty level</td>
<td>52</td>
<td>18</td>
</tr>
<tr>
<td>50-149% of the federal poverty level</td>
<td>26</td>
<td>65</td>
</tr>
<tr>
<td>150+% of the federal poverty level</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td><strong>Caregiver’s educational attainment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>15</td>
<td>43</td>
</tr>
<tr>
<td>High school/GED</td>
<td>44</td>
<td>35</td>
</tr>
<tr>
<td>More than high school</td>
<td>41</td>
<td>22</td>
</tr>
</tbody>
</table>
## Characteristics of HTKS Sample

<table>
<thead>
<tr>
<th></th>
<th>Latino (N = 209)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Caregiver’s nativity</strong></td>
<td></td>
</tr>
<tr>
<td>U.S. born</td>
<td>25</td>
</tr>
<tr>
<td>Foreign born</td>
<td>75</td>
</tr>
<tr>
<td><strong>Country of origin (if foreign born)</strong></td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>96</td>
</tr>
<tr>
<td>Central/South American</td>
<td>4</td>
</tr>
<tr>
<td><strong>Caregiver’s preferred language</strong></td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td>76</td>
</tr>
<tr>
<td>English</td>
<td>24</td>
</tr>
<tr>
<td><strong>Child assessment language of administration</strong></td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td>71</td>
</tr>
<tr>
<td>English</td>
<td>26</td>
</tr>
<tr>
<td>Both</td>
<td>3</td>
</tr>
</tbody>
</table>
Disposition of HTKS Task

366 Completed
Time 2
Home Visit

N = 15
did not have
HTKS data
available

9 = Experimenter
error

6 = No child
assessments done

N = 351
tested

69 (19.7%)
Refused

39 (11.1%)
Failed practice

170 (48.4%)
Scored a ‘0’

59 (16.8%)
Scored 1-10

14 (4.0%)
Scored 11-20
HTKS Task Performance

Number of Children

HTKS Score

Failed practice
Refused

0 20 40 60 80 100 120 140 160 180
Disposition of HTKS Task

- Latino children were significantly more likely than African American children...
  - To refuse (25% vs. 13%), or
  - To fail the practice trials (15% vs. 5%)

- No differences by child gender, family income, or caregiver education
HTKS Factor Score

- How can we maximize our use of information on child performance?
- Performance on practice trials and test trials used to estimate a factor score using a Rasch model
## Demographic differences in HTKS score

<table>
<thead>
<tr>
<th>Category</th>
<th>Mean (SD)</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>.117 (.852)</td>
<td>5.50*</td>
</tr>
<tr>
<td>Latino</td>
<td>-.095 (.757)</td>
<td></td>
</tr>
<tr>
<td><strong>Child gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boy</td>
<td>.002 (.816)</td>
<td>.00</td>
</tr>
<tr>
<td>Girl</td>
<td>.004 (.801)</td>
<td></td>
</tr>
<tr>
<td><strong>Family income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;50% of the federal poverty level</td>
<td>-.010 (.778)</td>
<td>1.42</td>
</tr>
<tr>
<td>50-149% of the federal poverty level</td>
<td>-.038 (.789)</td>
<td></td>
</tr>
<tr>
<td>150+% of the federal poverty level</td>
<td>.228 (.939)</td>
<td></td>
</tr>
<tr>
<td><strong>Caregiver’s educational attainment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>-.106 (.747)</td>
<td>3.28*</td>
</tr>
<tr>
<td>High school/GED</td>
<td>-.041 (.790)</td>
<td></td>
</tr>
<tr>
<td>More than high school</td>
<td>.176 (.874)</td>
<td></td>
</tr>
<tr>
<td><strong>Child language (Latinos only)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>.068 (.796)</td>
<td>3.36+</td>
</tr>
<tr>
<td>Spanish</td>
<td>-.168 (.724)</td>
<td></td>
</tr>
</tbody>
</table>

*p < .10; *p < .05
Validity of the HTKS: Relation to self-regulation at age 2½

• Self regulation score (average proportion of time waited)
  – Snack delay - average latency to touch candy across trials
  – Wrapped gift - latency to peek
  – Wait for bow - average latency to touch, lift, open
  – Forbidden toy - latency to engage

Model fit indices: $\chi^2 = .08$, $p = .96$; RMSEA = .00, CFI = 1.00
Average HTKS score by self regulation at age 2½

**About 22% of the children scored in the “high” group for self regulation at age 2½.**

+p < .10; *p < .05; **p = .01
Concurrent Validity: The Dimensional Card Change Sort (DCCS)

Concurrent Validity: Average HTKS score by DCCS score

**p < .01; *p < .05; +p < .10**
Concurrent Validity: Average HTKS score by DCCS score

***p < .01
Correlation of HTKS score with measures of school readiness

<table>
<thead>
<tr>
<th></th>
<th>Full Sample</th>
<th>African American</th>
<th>Latino</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bracken SRS</td>
<td>.165**</td>
<td>.217*</td>
<td>.096</td>
</tr>
<tr>
<td>PPVT</td>
<td>.007</td>
<td>.063</td>
<td>.040</td>
</tr>
<tr>
<td>SSIS</td>
<td>-.085</td>
<td>-.105</td>
<td>-.108</td>
</tr>
<tr>
<td>CBCL Total</td>
<td>.040</td>
<td>-.040</td>
<td>.142+</td>
</tr>
<tr>
<td>CBCL Internalizing</td>
<td>-.038</td>
<td>-.114</td>
<td>.070</td>
</tr>
<tr>
<td>CBCL Externalizing</td>
<td>.063</td>
<td>.021</td>
<td>.159*</td>
</tr>
</tbody>
</table>

*p < .05; **p < .01
The HTKS and ethnic minority children: Conclusions

• Age 3½ is probably the lower boundary for administration
  – Need better ways of capturing the full range of performance at this lower boundary
• HTKS performance demonstrates validity in this sample
  – Associated with standard measures of self regulation and cognitive flexibility
  – Associated with measures of school readiness
• Training and monitoring is important