Developmental Milestones and Pre-Reading Skills in Low-Income Preschoolers

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INTRODUCTION

In response to concerns about the availability of quality preschool for its children, Virginia initiated the Virginia Preschool Initiative to develop a system of publicly funded pre-kindergarten classrooms for children throughout the state. One of the major goals is to improve early literacy of all students, and in particular to ensure that low-income children receive high-quality pre-K experiences. As part of this effort, 98% of school districts now assess students using the Phonological Awareness Literacy Screening (PALS) for early literacy in Kindergarten. However, little is known regarding the connections between system-wide assessment of early literacy skills and broad measures of cognitive and social-emotional development in the pre-school years—particularly for low-income children.

The literature indicates that:
1. Literacy competence is linked to successful achievement in multiple domains from childhood to adulthood
2. Precursors to successful reading are identifiable prior to formal schooling
3. Early intervention programs can promote better pre-literacy skills in children at-risk for later reading difficulties.

Thus, the goal of the current research project was to examine low-income children’s pre-literacy skills using the pre-K version of the PALS, and to assess the predictive validity of broader measures of developmental milestones (in this case, the Brigance Preschool Screen-II) that are widely used in preschool programs throughout the state.

METHODOLOGY

Participants:
- Brigance scores were compiled from a 2006-07 three/four year old cohort in preschool classrooms serving low-income children. 262 children were tested using the Brigance Preschool Screen-II. Of these, 225 children were tested the following year in pre-K, using the PALS Pre-K.

Procedures:
- Data were collected by collaborating with preschool classrooms that serve low-income families in urban, suburban, and rural areas of Virginia.
- Brigance scores were gathered in fall of the preschool academic year. PALS scores were gathered over a year later, in mid-winter and spring of the pre-K school year. Tests were administered by preschool teachers in the classroom.

MEASURES

Phonological Awareness Literacy Screening (Pre-K; Invernizzi et al., 2004):
- An early reading assessment for preschool aged children designed to detect younger students who might need additional support
- Subscales include name writing, alphabet recognition (Upper & Lower case), letter sounds, beginning sounds awareness, print and word awareness, rhyme awareness, and nursery rhyme awareness

Brigance Preschool Screen-II (Curriculum Associates):
- An assessment measure for preschool aged children designed to identify children with cognitive, learning, and literacy delays
- Used total score derived from language, motor, social-emotional, and early achievement skills subscales

Brigance Preschool Screen-II & PALS Pre-K Subscales Correlations

<table>
<thead>
<tr>
<th></th>
<th>Mid- Year PALS N = 191</th>
<th>Spring PALS N = 225</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name Writing</td>
<td>34**</td>
<td>.11</td>
</tr>
<tr>
<td>ABC Recognition</td>
<td>40**</td>
<td>.22**</td>
</tr>
<tr>
<td>Upper Case</td>
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<tr>
<td>ABC Recognition</td>
<td>27**</td>
<td>.14</td>
</tr>
<tr>
<td>Lower Case</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Letter Sound</td>
<td>17*</td>
<td>.29**</td>
</tr>
<tr>
<td>Begin Sound Awareness</td>
<td>25**</td>
<td>.23**</td>
</tr>
<tr>
<td>Print &amp; Word Awareness</td>
<td>24**</td>
<td>.17**</td>
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<tr>
<td>Rhyme Awareness</td>
<td>27**</td>
<td>.29**</td>
</tr>
<tr>
<td>Nursery Rhyme Awareness</td>
<td>26**</td>
<td>.31**</td>
</tr>
</tbody>
</table>

* = Correlation is significant at the 0.05 level. ** = Correlation is significant at the 0.01 level

RESULTS

Phonological Awareness Literacy Screening (PALS Pre-K)
- Name Writing: Scored 0- 7, Mean= 5.15 (SD= 1.83)
- Alphabet Recognition Upper: Scored 0- 26, Mean= 15.18 (SD= 9.14)
- Alphabet Recognition, Lower: Scored 0-26, Mean= 15.18 (SD= 9.15)
- Letter Sounds: Scored 0-26, Mean= 7.30 (SD= 7.9)
- Beginning Sound Awareness: Scored 0-10, Mean= 6.28 (SD= 3.2)
- Print & Word Awareness: Scored 0-10, Mean= 7.38 (SD= 2.48)
- Rhyme Awareness: Scored 0-10, Mean= 5.99 (SD= 2.91)
- Nursery Rhyme Awareness: Scored 0-10, Mean= 6.13 (SD= 2.38)

Brigance Preschool Screen-II
- Total score from 0- 100, Mean= 75.56 (SD= 19.56)

Correlations:
Fourteen of the sixteen estimated correlations were significant, and all were in the expected positive direction. The average correlation was .25, p < .01, and there was little change in this overall association over the pre-K school year. This suggests a stable, modest to moderate positive association between Brigance and PALS scores 1.5 years later.

CONCLUSION

- These findings indicate that there is a modest to moderate correlation between the subscales of the PALS- PreK and the Brigance Preschool Screen-II total score.
- In the next phase of the project, we will be expanding the sample, examining the associations between specific subscales of the Brigance and Ages & Stages Questionnaire with subscales of the PALS, and examine potential classroom and school effects using multi-level modeling.