Parent Possible
2017 HIPPY Evaluation

Submitted to Parent Possible
August 2017
Parent Possible

2017 HIPPY Evaluation

For more information, please contact:

Shelby Jones, MA
sJones@omni.org
303-839-9422 x131

Julia Bernstein, MPH
jbernstein@omni.org
303-839-9422 x137

For General Inquiries/Questions
p. 303-839-9422
f. 303-839-9420

OMNI Institute
899 Logan Street, Suite 600
Denver, CO 80203
www.omni.org
Table of Contents

Executive Summary ....................................................................................................................... 6
  Key Findings ............................................................................................................................. 6

Introduction .................................................................................................................................. 8
  Home Instruction for Parents of Preschool Youngsters (HIPPY) .................................................. 8

Methods ....................................................................................................................................... 8
  Measures .................................................................................................................................... 8
    HIPPY Parent Survey ................................................................................................................ 9
    Parent-Child Interactions Assessment (PICCOLO) ................................................................... 9
    Child School Readiness Assessment (Bracken) ....................................................................... 10

Data Collection .......................................................................................................................... 11

Statistical Analyses ..................................................................................................................... 12

Findings ....................................................................................................................................... 13
  HIPPY Parent Survey ................................................................................................................ 13
  Parent Practices ......................................................................................................................... 18
  Differences in Parent Survey Scales by Demographics ............................................................. 25
  Parent-Child Interactions Assessment (PICCOLO) .................................................................... 27
  Differences in PICCOLO Scale Scores by Demographics ......................................................... 31
  Child School Readiness Assessment (Bracken) ......................................................................... 32
  Differences in Bracken Scale Scores by Demographics ............................................................ 35

Summary and Conclusions .......................................................................................................... 37

References .................................................................................................................................... 38
Figures

Figure 1. Parent Race ........................................................................................................... 14
Figure 2. Parent Education Level .......................................................................................... 15
Figure 3. Household Income ................................................................................................. 15
Figure 4. Parent Primary Language ...................................................................................... 16
Figure 5. Parent Marital Status ............................................................................................ 16
Figure 6. Parent Gender ....................................................................................................... 16
Figure 7. Parent Employment Status (Based on Hours Worked) .......................................... 17
Figure 8. Discipline Techniques* ......................................................................................... 18
Figure 9. Source of Reading Materials .................................................................................. 19
Figure 10. Use of Reading and Literacy Materials* ................................................................. 20
Figure 11. Percentage of Parents that Completed Reading Activities* ............................... 21
Figure 12. Frequency of Parent-Child Interactive Activities* ................................................ 22
Figure 13. Mean Parent Confidence* .................................................................................... 23
Figure 14. Mean Confidence in Supporting Child Development* .......................................... 24
Figure 15. Child Gender ..................................................................................................... 27
Figure 16. Parent Race ....................................................................................................... 27
Figure 17. Percentage of Families at each PICCOLO Proficiency Level at Pre-Test ........... 28
Figure 18: Percentage of Families at each PICCOLO Proficiency Level at Pre- and Post-Test ... 29
Figure 19. Child Gender ..................................................................................................... 32
Figure 20. Child Race ....................................................................................................... 32
Figure 21. Child Living Situation ......................................................................................... 32
Figure 22. School Readiness Percentile Rank ..................................................................... 33
Figure 23. School Readiness Proficiency Levels ................................................................ 33
Figure 24. Percent Mastery on Subdomain Categories* ..................................................... 34
Tables

Table 1. Parent Survey Participation by Site ................................................................. 13
Table 2. Parent Age ..................................................................................................... 14
Table 3. Time Spent on Educational Activities* .......................................................... 18
Table 4. Frequency of Library Visits ........................................................................... 19
Table 5. Number of Children's Books in the Home* .................................................... 19
Executive Summary

Parent Possible (formerly Colorado Parent & Child Foundation) equips parents of young children with the tools and information to be their child's most valuable teacher, trainer and mentor in life. The organization promotes and oversees the delivery of three evidence-based parent engagement programs, providing access and support, ensuring efficacy and impact, and advocating and collaborating with early childhood partners across the state. Parent Possible is the state office for Parents as Teachers (PAT), Home Instruction for Parents of Preschool Youngsters (HIPPY) and Vroom, working with program sites across urban and rural communities throughout Colorado to ensure quality program delivery and success.

Each year, Parent Possible conducts an evaluation of the PAT and HIPPY programs. Evaluation tools include a parent survey, an assessment of parent-child interactions and a child assessment of school readiness. Data from these instruments are analyzed to describe families served by PAT and HIPPY, and to examine changes in parenting practices, the quality of parent-child interactions, and children’s school readiness.

This report includes details regarding the methodology and measures used for data collection, approaches taken for data analysis, and full findings for HIPPY participants. Key findings are highlighted below.

KEY FINDINGS

HIPPY program sites were successful in providing literacy services to vulnerable Colorado families.

- Of the parents who completed a survey, many were low income, with 48% earning less than $22,050 a year, 57% living in poverty, and 20% living in extreme poverty.
- HIPPY program sites also served primarily minority families, with 69% reporting Hispanic ethnicity and 61% reporting Spanish as the primary language spoken at home.

Using a pre-post-test, parents reported increased engagement in literacy activities and confidence in parenting.

- Parents significantly increased the amount of time spent on educational activities each day and the number of children’s books in their homes.
- Parents significantly increased the variety of reading and literacy materials they used and the number of reading activities they completed with their children (e.g., having a variety of children’s books available to your child).

1 Throughout this report, the term “parent(s)” will be used to reference any caregiver who participated in this program.
▪ Parents significantly increased the frequency of engaging in parent-child interactive activities with their child, including such behaviors as naming things, telling stories, and rhyming together.
▪ There was a significant increase in parents’ reported ability to ask friends, family, or neighbors for parenting help, advice, and support.
▪ Confidence in parenting practices and in supporting child development both increased significantly from pre- to post-test.

At pre- and post-test, home visitors observed parents using developmentally appropriate parenting behaviors when interacting with their children.

▪ At post-test, more than 40% of parents were exhibiting above average interactions with their children in all domains (affection, responsiveness, encouragement, and teaching).
▪ There were no statistically significant changes from pre- to post-test on any PICCOLO domain or Total PICCOLO Scores.

From pre- to post-test, children demonstrated significant increases in school readiness.

▪ Children significantly increased their percentile ranks from pre- to post-test. On average, at post-test, participating children were performing better than 66% of their same-aged peers on overall school readiness.
▪ At post-test, 28% of children were performing at the advanced or very advanced level in overall school readiness.
▪ Children also significantly increased their scores from pre- to post-test in every domain (colors, letters, numbers/counting, sizes, and shapes).
Introduction

Parent Possible (formerly Colorado Parent & Child Foundation) equips parents of young children with the tools and information to be their child’s most valuable teacher, trainer and mentor in life. The organization promotes and oversees delivery of evidence-based parent engagement programs, including Parents as Teachers (PAT), Home Instruction for Parents of Preschool Youngsters (HIPPY), and Vroom. Parent Possible provides access and support, ensures efficacy and impact, and advocates and collaborates with early childhood partners across the state. A full report of Parent Possible PAT program sites has been provided in a separate report.

HOME INSTRUCTION FOR PARENTS OF PRESCHOOL YOUNGSTERS (HIPPY)

HIPPY is an evidence-based home visitation program for parents of children aged three through Kindergarten. Peer educators work with parents in their homes to provide books, activities, and skills that assist parents in preparing their children for school. The HIPPY curriculum focuses on supporting children’s language development, problem solving, logical thinking and perceptual skills. HIPPY’s primary goal is to increase vulnerable children’s success in school and, ultimately, in life.

Evaluations of HIPPY during the last 30 years have demonstrated several benefits for program participants, including improved literacy and language skills, better school readiness and adaptation to the school environment, and better long-term academic performance (Baker, Piotrkowski, & Brooks-Gunn, 1999; Barnett, Roost, & McEachran, 2013; Ellingsen, Boone, & Myers, 2013).

Methods

This evaluation uses a robust set of tools to measure parenting practices, parent-child interactions, and associated outcomes in children’s school readiness. This section includes a description of each tool, details regarding data collection processes, and the statistical analyses conducted for each assessment.

MEASURES

At most program sites, home visitors conducted a Parent Survey, an assessment of parent-child interactions (PICCOLO), and a measure of children’s school readiness (Bracken – BSRA - 3). Each of these is described in detail below.
HIPPY Parent Survey

The HIPPY Parent Survey is a 68-item measure that has two sections: (1) questions specific to parental engagement in reading activities and frequency of parent-child interactive activities; and (2) questions about parent confidence in parenting practices and in supporting their child's development. The survey is administered at two points in time: during week 2 in the program year and again during week 26 in the program year. Parents complete the survey in English or Spanish based on the youngest child enrolled in HIPPY at the time of the survey.

To assess engagement in Reading Activities, parents are asked to select “yes” or “no” to identify how many of seven different reading activities they do with their child; for example, have your child pretend to read a story to you; read street signs, labels on food, advertisements, etc.; and have a variety of children's books available to your child. Item responses are summed to create composite scores for Reading Activities, with a range of 0 to 7. In the current sample, the Reading Activities scale was internally consistent (Cronbach's alpha = .70).

To assess Frequency of Parent-Child Interactive Activities, parents are asked to rate how frequently they or another adult family member engage in a series of eleven activities with their child on a scale of 1-5, with higher scores indicating more frequent behavior; for example, read or look at HIPPY books with your child; say or sing rhymes together; and talk to your child about books you look at or read together. Scores on these items were added together to create a composite score for Frequency of Parent-Child Interactive Activities. In the current sample, the scale was internally consistent (Cronbach's alpha = .91).

To assess Confidence in Parenting Practices and Confidence in Supporting Child Development, parents were asked to rate several items on a scale of 1-5, with higher scores indicating more confidence. The items were combined into two scales: Confidence in Parenting Practices (7 items in scale – Cronbach’s alpha = 0.87) and Confidence in Supporting Child Development (12 items in scale – Cronbach’s alpha = 0.93). Example items for these subscales include: Confidence in Parenting Practices (e.g., your home is a good learning environment; you know where to find resources to support you as a parent) and Confidence in Supporting Child Development (e.g., vocabulary, recognizing letters, and using fine motor skills).

Scale and item means for all assessments are reported in the Findings section.

Parent-Child Interactions Assessment (PICCOLO)

The PICCOLO (Parenting Interactions with Children: Checklist of Observations Linked to Outcomes) is a strengths-based measure of parenting interactions that has been found to predict children's early social, cognitive, and language development. The tool is a checklist of 29...

---

observable, developmentally supportive parenting behaviors for parents or guardians of children ages 10-47 months. For this evaluation, however, the tool was administered to children up to 6 years old. A review of preliminary findings by the developers suggests that the tool can be used for children older than 47-months. The developers are currently working on validating the tool for older children. Home visitors completed the PICCOLO in the parent's preferred language, either English or Spanish.

To complete the assessment, home visitors observe caregivers while they engage in a 10-minute activity of their choice (e.g., shared reading, playing with toys, cleaning up) and record the frequency of each of the 29 behaviors on a scale of 0 to 2 (0 = behavior not observed at all; 1 = behavior barely present; 2 = behavior clearly present). The number of observed parenting behaviors are added to create four subscales, with higher scores indicating more developmentally supportive parenting. The four subscales include: Affection (14 items in scale)– characterized by warmth, physical closeness, and positive expressions toward child; Responsiveness (14 items in scale)– characterized by responsiveness to child’s cues, emotions, words, interests, and behaviors; Encouragement (14 items in scale)– characterized by active support of child exploration, effort, skills, initiative, curiosity, creativity, and play; and Teaching (16 items in scale)– characterized by shared conversation and play, cognitive stimulation, explanations, and questions. In addition to these subscales, each of the 29 item scores are added to create a Total PICCOLO Score.

Higher domain scores indicate more developmentally supportive parenting behaviors and should be interpreted as parent strengths. Lower domain scores may indicate that the parent and child are having difficulty interacting in ways that support the child’s development and are associated with poor performance on measures of children’s language, social, and cognitive development. In the Findings section, this report includes scale and item means as well as proficiency cutoff scores (below average, average, and above average) designated by PICCOLO developers based on studies using the tool with diverse, low-income samples (Roggman et al., 2013).

Prior to administration of the tool, home visitors were required to study the PICCOLO items and coding guidelines provided for each item, watch The PICCOLO Training DVD: Implementation and Scoring (Roggman, Cook, Innocenti, & Jump Norman, 2013), and practice scoring by watching video clips of parent-child interactions. Home visitors also completed a PICCOLO quiz and participated in a follow-up webinar training provided by Parent Possible.

Parent Possible piloted the PICCOLO in 2016-2017 with only program sites receiving Maternal, Infant, and Early Childhood Home Visiting (MIECHV) funding. All PAT and HIPPY sites will be using the PICCOLO beginning in the 2017-2018 program year.

Child School Readiness Assessment (Bracken)

The BSRA-3 is a validated school readiness assessment that measures children’s skills in five areas: Colors (color recognition), Letters (letter recognition), Numbers (numbers and counting),
Sizes (size comparisons), and Shapes (shape recognition) (Bracken, 2007). The BSRA-3 is appropriate for children aged 36- to 83-months-old, and is administered by asking children to point to pictures in response to examiner questions. The BSRA-3 is offered in both Spanish and English.

Prior to completing the assessment with children, all home visitors were required to attend an all-day training to become familiar with the administration and scoring of the tool. Home visitors administered the BSRA-3 to children in the fall and spring of each year (during the 2nd and 26th weeks of the curriculum).

Percent mastery scores are presented for pre- and post-tests on each of the 5 domains and reflect the mean percentage of correct responses in that domain. For example, an 80% in the Colors domain indicates that, on average, children named 80% of the colors correctly. The domain areas are not adjusted for age, thus do not necessarily account for typical child development over time. However, since all analyses are conducted with a matched sample, subtest scores are a strong indicator of growth and learning in a specific area over the course of a year.

In addition, raw scores from each domain (i.e., the number of correct responses given by the child) are added together to create a School Readiness score for each child. School Readiness scores are then weighted based on the child’s age to provide a School Readiness Percentile Rank score. The percentile rank score indicates how a child scores relative to other same age peers. For example, if a child scores in the 30th percentile, he or she scored better than 30% of other same-aged children. The mean School Readiness Percentile Ranks are included in the Findings section at both pre- and post-test.

Finally, mean proficiency level scores, which are based on chronological age and indicate whether a child is considered very delayed, delayed, average, advanced, or very advanced in school readiness, are also included for the School Readiness scale.

**DATA COLLECTION**

Parents completed the HIPPY surveys on paper and then returned them to their home visitors. Parents were offered the opportunity to complete the survey in Spanish or English. Unique ID numbers rather than names were used to ensure confidentiality. Each of the sites collected all of the paper surveys and provided the surveys to Parent Possible for data entry. The data was then provided electronically to OMNI for analysis.
STATISTICAL ANALYSES

For the HIPPY parent surveys, mean item and scale scores were calculated using a pre- post-test. Depending on the nature of the dependent variable (ordinal, dichotomous, or interval), the pre- and post-test scores were analyzed using Wilcoxon signed rank tests, McNemar’s test, and paired-samples t-tests to determine whether there were changes in parent responses over time.

Multivariate tests (general linear models measuring between-subject and within-subject effects) were conducted to evaluate whether parents responded differently to 5 parent survey scales based on two demographic variables: family income and parent’s preferred language. Two tests were conducted for each demographic:

1. Was there a significant difference between groups in their mean scores at pre- and post-test (i.e., did one group score higher than the other, on average, at pre- and post-test)?
2. Was there a significant difference between groups in their change in score from pre- to post-test (i.e., did one group demonstrate greater growth from pre- to post-test)?

For the PICCOLO assessment of parent-child interactions, four mean scale scores and Total PICCOLO Scores are reported for both pre- and post-tests. Paired-samples t-tests were conducted on mean scores for each of the four subscales and for the Total PICCOLO Scores to determine whether parents increased developmentally appropriate parenting behaviors from pre- to post-test.

Multivariate tests (general linear models measuring between-subject and within-subject effects) were conducted to evaluate whether parents’ PICCOLO scale scores differed based on one demographic variable: family income. Two tests were conducted for this demographic:

1. Was there a significant difference between groups in their mean scores at pre- and post-test (i.e., did one group score higher than the other, on average, at pre- and post-test)?
2. Was there a significant difference between groups in their change in score from pre- to post-test (i.e., did one group demonstrate greater growth from pre- to post-test)?

For the BSRA-3 School Readiness Assessment, the percentile rank scores for each of the 5 subscales and for the School Readiness scale are reported for both pre- and post-tests. Changes in scores from pre- to post-test were analyzed using paired-samples t-tests.

Multivariate tests (general linear models measuring between-subject and within-subject effects) were conducted to evaluate whether children’s Bracken scale scores differed based on two demographic variables: family income and children’s preferred language. Two tests were conducted for each demographic.
1. Was there a significant difference between groups in their mean scores at pre- and post-test (i.e., did one group score higher than the other, on average, at pre- and post-test)?

2. Was there a significant difference between groups in their change in score from pre- to post-test (i.e., did one group demonstrate greater growth from pre- to post-test)?

Findings

HIPPY PARENT SURVEY

568 families completed the HIPPY Parent Survey pre-test and 379 completed the post-test, resulting in 349 matched surveys. For consistency, parent survey results presented in this report are on the matched sample. Table 1 shows the distribution of surveys completed across participating HIPPY program sites. Note that sample sizes may vary due to missing responses – this report only includes valid responses.

Table 1. Parent Survey Participation by Site

<table>
<thead>
<tr>
<th>Site</th>
<th># of Pre Surveys</th>
<th># of Post Surveys</th>
<th># of Matched Surveys</th>
<th>Percent of Total Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adams County HIPPY Low-Income Family</td>
<td>34</td>
<td>22</td>
<td>21</td>
<td>6%</td>
</tr>
<tr>
<td>Empowerment</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catholic Charities Diocese of Pueblo</td>
<td>172</td>
<td>79</td>
<td>72</td>
<td>21%</td>
</tr>
<tr>
<td>Clayton Early Learning</td>
<td>68</td>
<td>67</td>
<td>62</td>
<td>18%</td>
</tr>
<tr>
<td>Focus Points Family Resource Center</td>
<td>83</td>
<td>77</td>
<td>77</td>
<td>22%</td>
</tr>
<tr>
<td>Jefferson County Public Schools</td>
<td>115</td>
<td>83</td>
<td>70</td>
<td>20%</td>
</tr>
<tr>
<td>Family Connects</td>
<td>96</td>
<td>51</td>
<td>47</td>
<td>14%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>568</td>
<td>379</td>
<td>349</td>
<td>100%</td>
</tr>
</tbody>
</table>
FAMILY CHARACTERISTICS

PARENT AGE AND FAMILY SIZE

Table 2 displays the age distribution for participating parents. Parents' mean age was 34.55 years (SD = 6.95), with a range from 20-62 years. On average, families consisted of 4.7 (SD = 1.47) people.

<table>
<thead>
<tr>
<th>Age</th>
<th>Sample Size</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNDER 18</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>18-24 YEARS OLD</td>
<td>19</td>
<td>5.4%</td>
</tr>
<tr>
<td>25-34 YEARS OLD</td>
<td>176</td>
<td>50.4%</td>
</tr>
<tr>
<td>35-44 YEARS OLD</td>
<td>124</td>
<td>35.5%</td>
</tr>
<tr>
<td>45 YEARS OR OLDER</td>
<td>22</td>
<td>6.5%</td>
</tr>
</tbody>
</table>

RACE & ETHNICITY

Figure 1 displays the race distribution for participating parents. Most parents reported their race as White (78%) and 69% reported Hispanic or Latino ethnicity.

![Figure 1. Parent Race](image-url)
**Parent Education Level**

Figure 2 shows the education level distribution of participating parents: 38% have not completed high school, 25% have a high school diploma or GED, 15% report some level of college completion, 5% have completed an Associate’s degree or technical training, and 17% have completed a Bachelor’s degree or higher.

**Household Income**

Figure 3 shows the household income distribution for participating families. Almost half of families reported an annual income of less than $22,050, which is equivalent to 89% of the 2017 Federal Poverty Level (FPL) for a family of four.

57% of participating families are living in poverty (family income is below 100% of the FPL, which is equal to $24,600 for a family of four), and 20% are living in extreme poverty (family income is below 50% of the FPL, which is equal to $12,300 for a family of four).
**Parent Primary Language**

Figure 4 shows the primary languages spoken by participating parents. Most parents reported primarily speaking Spanish in the home (61%); 32% indicated English as their primary language.

![Figure 4. Parent Primary Language](image)

**Parent Marital Status**

Figure 5 shows the distribution of the marital status of participating parents. Most parents reported their marital status as “married” (83%), followed by “never married” (12%).

![Figure 5. Parent Marital Status](image)

**Parent Gender**

Figure 6 shows the gender distribution among participating parents. Nearly all participating parents were female (95%); 5% were male.

![Figure 6. Parent Gender](image)
**Parent Employment Status (Based on Hours Worked)**

Figure 7 shows the employment status of participating parents. Most participating parents reported no employment (64%), 17% worked part-time (defined as 1-39 hours per week), and 19% worked full-time (40 or more hours per week).

**Previous Parent Involvement**

Parents were asked if they had ever participated in HIPPY or PAT programs. Nearly one-third of parents had previously participated in a HIPPY program with an older child and 23% had participated in PAT. Twelve percent had participated in both programs previously.
PARENT PRACTICES

TIME SPENT ON EDUCATIONAL ACTIVITIES

There was a statistically significant difference between pre- and post-test on time spent on educational activities (Z = 2.95, p<.05), with parents at post-test reporting spending more time on educational activities with their child than at pre-test.

<table>
<thead>
<tr>
<th>AMOUNT OF TIME PER DAY</th>
<th>PRE-TEST</th>
<th>POST-TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15 MINUTES</td>
<td>24%</td>
<td>16%</td>
</tr>
<tr>
<td>16-30 MINUTES</td>
<td>35%</td>
<td>36%</td>
</tr>
<tr>
<td>31-45 MINUTES</td>
<td>21%</td>
<td>26%</td>
</tr>
<tr>
<td>46-60 MINUTES</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>&gt; 60 MINUTES</td>
<td>11%</td>
<td>12%</td>
</tr>
</tbody>
</table>

DISCIPLINE TECHNIQUES

There was a statistically significant increase between pre- and post-test in the number of parents who report using timeout (X² = 4.49) as a discipline technique (p<.05) and a statistically significant decrease in the number of parents who report using spanking (X² = 4.00) as a discipline technique (p<.05). Although there were changes in other disciplinary methods used over time, these were not statistically significant.

Figure 8. Discipline Techniques*

* = statistically significant, p < .05
**Library Visits**

Although more parents indicated at post-test that they visit the library at least once a week, there was not a statistically significant difference between pre- and post-test on the frequency of library visits.

**Number of Children's Books in the Home**

There was a statistically significant difference between pre- and post-test in the number of children's book that parents report having in their home (Z = 5.63, p<.05), with parents reporting more books in their home at post-test than they did at pre-test.

**Source of Reading Materials**

The most common source of reading materials for parents was their HIPPY parent group (88% of parents), followed by the store (84%) and school (83%). There were significant increases in the percentage of parents who reported getting reading materials from their HIPPY parent group; school; the library; and a garage or yard sale (p<.05).

**Table 4. Frequency of Library Visits**

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not visit the library</td>
<td>27%</td>
<td>22%</td>
</tr>
<tr>
<td>A few times a year</td>
<td>18%</td>
<td>24%</td>
</tr>
<tr>
<td>A few times a month</td>
<td>32%</td>
<td>31%</td>
</tr>
<tr>
<td>At least once a week</td>
<td>23%</td>
<td>24%</td>
</tr>
</tbody>
</table>

**Table 5. Number of Children's Books in the Home**

<table>
<thead>
<tr>
<th>Number of Books</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>5 or Fewer</td>
<td>9%</td>
<td>3%</td>
</tr>
<tr>
<td>6-10</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>11-20</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>More than 20</td>
<td>55%</td>
<td>64%</td>
</tr>
</tbody>
</table>

**Figure 9. Source of Reading Materials**

[Graph showing the percentage of parents who obtained reading materials from various sources, with bars for pre-test and post-test]
Use of Reading and Literacy Materials

There were statistically significant increases in the use of four types of reading materials ($p < .05$): newspapers, recipes, alphabet or word puzzles or games, and audiobooks or stories.

The most commonly used reading and literacy materials at post-test were storybooks and picture books (97% each) and the greatest increases were in the use of recipes (41% to 54%) and audiobooks/stories (36% to 47%).

Parents reported using a significantly wider variety of reading and literacy materials at post-test ($m = 5.9$) than at pre-test ($m = 5.4$), ($t(297) = 4.91$; $p < .05$).

* = statistically significant, $p < .05$
Reading Activities

Parents indicated whether they completed the activities listed in Figure 11 with their child (yes/no). The number of items that parents reported completing were added together to create a Reading Activities score (0-7).

There was a statistically significant increase in Reading Activities scores from pre-test ($m = 6.1, SD = 1.45$) to post-test ($m = 6.6, SD = 0.83$), ($t(326)= 6.65$, $p<.05$).

There were statistically significant increases in completion of every reading activity except "child sees parent reading". At post-test, nearly all parents reported providing utensils for writing and drawing (99%) and made a variety of children’s books available to their child (98%). The greatest increase from pre-to post-test was reported for reading street signs, food labels, etc. (73% to 87%).

* = statistically significant, $p < .05$
**Frequency of Parent-Child Interactive Activities**

Parents were asked to indicate how many times in the last week they completed the interactive activities shown in Figure 12 with their child on a scale of 1-5, where 1 = not at all and 5 = more than once a day. These items were combined into a Frequency of Parent-Child Interactive Activities scale ranging from 11-55.

There was a statistically significant increase in parents’ scores on the Frequency of Parent-Child Interactive Activities scale from pretest ($m = 36.7$; $SD = 9.64$) to post-test ($m = 39.6$; $SD = 8.27$), $t(288) = 5.44$, $p < .05$.

There were statistically significant increases in the frequency of all literacy activities except for “play with games or puzzles.”

* = statistically significant, $p < .05
PA RE NTING HEL P, ADVI CE OR SUPPORT

There was a statistically significant increase in parents’ reported ability to ask friends, family, or neighbors for parenting help, advice, and support from pre-test (m= 3.5, SD = 1.50) to post-test (m= 3.8, SD = 1.32), t(301)= 4.05, p < .05.

CONFIDENCE IN PARENTING PRACTICES

Seven items were used to measure confidence in parenting practices on a scale of 1-5, with 1 indicating “not confident at all” and 5 indicating “very confident.” All items were combined to create a parent confidence total score (ranging from 7-35).

There was a statistically significant increase in mean confidence in parenting practices from pre-test (m = 28.9; SD = 5.11) to post-test (m = 29.9; SD = 5.00), t(311) = 4.08, p < .05.

Mean scores on all items increased significantly from pre- to post-test except “your home is a good learning environment.”

* = statistically significant, p < .05
CONFIDENCE IN SUPPORTING CHILD DEVELOPMENT

Twelve items were used to measure parent’s confidence in supporting child development on a scale of 1-5, with 1 indicating “not confident at all” and 5 indicating “very confident.” All items were combined to create a parent confidence total score (ranging 12-60).

There was a statistically significant increase in mean confidence in supporting child development from pre-test ($m = 47.4; SD = 9.75$) to post-test ($m = 51.3; SD = 8.23$), $t(297) = 8.15, p < .05$.

In fact, mean scores on all items except one (“playing with other children”) increased significantly from pre- to post-test (all $p < .05$), with the greatest increase in writing skills.

* = statistically significant, $p < .05$
DIFFERENCES IN PARENT SURVEY SCALES BY DEMOGRAPHICS

Additional analyses were conducted to evaluate whether parents responded differently to 5 parent survey scales based on two demographic variables: family income and parents’ preferred language. Two tests were conducted for each demographic:

1. Was there a significant difference between groups in their mean scores at pre- and post-test (i.e., did one group score higher than the other, on average, at pre- and post-test)?
2. Was there a significant difference between groups in their change in score from pre- to post-test (i.e., did one group demonstrate greater growth from pre- to post-test)?

Items/scales included in analysis: Confidence in Parenting Practices, Confidence in Supporting Child Development, Use of Literacy Materials, Reading Activities, and Parent-Child Literacy Activities.

Family Income: Differences between groups (only significant differences between groups are included below):

- **Confidence in Supporting Child Development:**
  - There was not a statistically significant difference in mean scores between families *not* living in poverty\(^3\) (n=107) and families living in poverty\(^4\) (n=133).
  - However, compared to families *not* living in poverty, families living in poverty demonstrated a greater increase in mean scores from pre- to post-test, \(F(1, 238) = 10.14, p < .05\).

- **Use of Literacy Materials:**
  - At pre- and post-test, families *not* living in poverty (n=107) had significantly higher mean scores than families living in poverty (n=134), \(F(1, 239) = 4.48, p < .05\).
  - There was not a significant group difference in mean score change (i.e., growth) from pre- to post-test.

- **Reading Activities:**
  - At pre- and post-test, families *not* living in poverty (n=115) had significantly higher mean scores than families living in poverty (n=144), \(F(1, 257) = 8.65, p < .05\).
  - Compared to families *not* living in poverty, families living in poverty demonstrated a greater increase in mean scores from pre- to post-test, \(F(1, 257) = 5.45, p < .05\).

---

\(^3\) Families with incomes greater than 100% of the FPL.

\(^4\) Families with incomes less than or equal to 100% of the FPL.
Parents’ Preferred Language: Differences between groups (only significant differences between groups are included below):

- **Confidence in Parenting Practices:**
  - At pre- and post-test, parents preferring English (n=110) had significantly higher mean scores than parents preferring Spanish (n=181), $F(1, 289) = 21.21, p < .05$.
  - There was not a significant group difference in mean score change (i.e., growth) from pre- to post-test.

- **Confidence in Supporting Child Development:**
  - At pre- and post-test, parents preferring English (n=106) had significantly higher mean scores than parents preferring Spanish (n=170), $F(1, 274) = 17.98, p < .05$.
  - Compared to parents preferring English, parents preferring Spanish demonstrated a greater increase in mean scores from pre- to post-test, $F(1, 274) = 6.27, p < .05$.

- **Use of Literacy Materials:**
  - At pre- and post-test, parents preferring English (n=101) had significantly higher mean scores than parents preferring Spanish (n=174), $F(1, 273) = 5.39, p < .05$.
  - Compared to parents preferring English, parents preferring Spanish demonstrated a greater increase in mean scores from pre- to post-test, $F(1, 273) = 3.96, p < .05$.

- **Reading Activities:**
  - At pre- and post-test, parents preferring English (n=110) had significantly higher mean scores than parents preferring Spanish (n=195), $F(1, 303) = 8.54, p < .05$.
  - There was not a significant group difference in mean score change (i.e., growth) from pre- to post-test.

- **Parent-Child Literacy Activities:**
  - At pre- and post-test, parents preferring English (n=98) had significantly higher mean scores than parents preferring Spanish (n=171), $F(1, 267) = 8.74, p < .05$.
  - There was not a significant group difference in mean score change (i.e., growth) from pre- to post-test.
PARENT-CHILD INTERACTIONS ASSESSMENT (PICCOLO)

99 parent-child dyads completed a PICCOLO pre-test. Of these 99 families, 45 also completed a PICCOLO post-test, resulting in a 46% match rate. In this section, we provide demographic information on all participating children (n=99), followed by results for all families that completed a pre-test (n=99), followed by results for all families with matched pre-test and post-test data (n=45).

Child Characteristics
At pre-test, children ranged in age from 3 years to 5 years, with a mean age of 3 years and 7 months ($SD=.58$ months).

There were slightly more girls than boys, with 54% female and 47% male.

Most were White (64%) and Hispanic (89%).

![Figure 15. Child Gender](image)

![Figure 16. Parent Race](image)
Figure 17 shows the percentages of parents at pre-test that scored within the below average, average, and above average cutoffs (established by PICCOLO Developers) for each domain and for Total PICCOLO Scores.
**PICCOLO Domain Results for All Families with Matched Data (n=45)**

Figure 18 displays the percentages of families that scored within each proficiency level for each domain.

**Figure 18:** Percentage of Families at each PICCOLO Proficiency Level at Pre- and Post-Test

- **Affection**
  - Pre-Test: 69% Below Average, 7% Average, 22% Above Average
  - Post-Test: 69% Below Average, 18% Average, 9% Above Average

- **Responsiveness**
  - Pre-Test: 36% Below Average, 40% Average, 9% Above Average
  - Post-Test: 56% Below Average, 51% Average, 9% Above Average

- **Encouragement**
  - Pre-Test: 9% Below Average, 9% Average, 53% Above Average
  - Post-Test: 4% Below Average, 44% Average, 42% Above Average

- **Teaching**
  - Pre-Test: 84% Below Average, 11% Average, 4% Above Average
  - Post-Test: 78% Below Average, 13% Average, 9% Above Average

- **Total PICCOLO Score**
  - Pre-Test: 73% Below Average, 22% Average, 4% Above Average
  - Post-Test: 69% Below Average, 22% Average, 9% Above Average

- **Legend:**
  - Gray = Below Average
  - Red = Average
  - Blue = Above Average
ADDITIONAL ANALYSES

In addition, paired-samples t-tests on each domain score and for Total PICCOLO Scores were conducted to determine whether parents increased developmentally appropriate parenting behaviors. Not surprisingly, significant changes from pre- to post-test were not found for any domain or Total PICCOLO Scores, possibly due to the small sample size and high scores in each domain at baseline.

In the Affection domain, there was not a statistically significant difference in parents’ mean scores from pre-test ($m = 12.69; SD = 2.08$) to post-test ($m = 12.82; SD = 1.99$), $t(44) = .62$, $p = .54$. At post-test, 76% of parents are considered above average in exhibiting affection with their child.

In the Responsiveness domain, there was not a statistically significant difference in parents’ mean scores from pre-test ($m = 12.04; SD = 2.52$) to post-test ($m = 12.13; SD = 2.42$), $t(44) = .38$, $p = .71$. At post-test, 40% of parents are considered above average in exhibiting responsiveness with their child.

In the Encouragement domain, there was not a statistically significant difference in parents’ mean scores from pre-test ($m = 12.20; SD = 2.17$) to post-test ($m = 11.78; SD = 2.65$), $t(44) = -1.35$, $p = .19$. At post-test, 47% of parents are considered above average in exhibiting encouragement with their child.

In the Teaching domain, there was not a statistically significant difference in parents’ mean scores from pre-test ($m = 13.07; SD = 3.01$) to post-test ($m = 12.51; SD = 3.89$), $t(44) = -1.63$, $p = .11$. At post-test, 78% of parents are considered above average in exhibiting teaching behaviors with their child.

There was not a statistically significant difference in parents’ mean Total PICCOLO Scores from pre-test ($m = 50.00; SD = 8.88$) to post-test ($m = 49.24; SD = 10.38$), $t(44) = -.93$, $p = .36$. At post-test, 69% of parents are considered above average in exhibiting developmentally appropriate interactions with their child.
DIFFERENCES IN PICCOLO SCALE SCORES BY DEMOGRAPHICS

Additional analyses were conducted to evaluate whether parents’ PICCOLO scale scores differed based on one demographic variable: family income. Two tests were conducted for this demographic:

1. Was there a significant difference *between groups in their mean scores* at pre- and post-test (i.e., did one group score higher than the other, on average, at pre- and post-test)?
2. Was there a significant difference *between groups in their change in score* from pre- to post-test (i.e., did one group demonstrate greater growth from pre- to post-test)?

Items/scales included in analysis: Affection Scale Score, Responsiveness Scale Score, Encouragement Scale Score, Teaching Scale Score, Total PICCOLO Score.

No significant differences were found on any scale or the Total PICCOLO Score between groups based on family income.
CHILD SCHOOL READINESS ASSESSMENT (BRACKEN)

Home visitors conducted at least one Bracken School Readiness Assessment with 610 children. Of these 610 families, 341 also completed a post-test assessment, resulting in a 56% match rate. This section contains demographic information about participating families, followed by BSRA-3 results for matched families.

Family Characteristics
At pre-test, children ranged in age from 3 years to 6 years, 5 months, with a mean age of 4 years, 2 months ($SD = 9.5$ months).

There were about an equal number of girls and boys, with 51% female and 49% male.

Most children were White (74%) and nearly two-thirds report being of Hispanic or Latino Ethnicity (65%).

Most of the children lived with at least one biological parent (91%). 4% did not report their living situation.
Findings from the BSRA-3 Assessment

Percentile Rank

Percentile ranks demonstrate school readiness skills compared to other children of the same age. This ranking takes into account normal growth based on child age. Scores range from 0-100, with 50th percentile as an average.

Children significantly increased their school readiness percentile rank from pre-test \((m = 47.69; SD = 24.29)\) to post-test \((m = 66.43; SD = 22.46)\), \(t(340) = 25.57, p < .001\).

Proficiency Levels

Proficiency levels are calculated based upon the raw scores and then adjusted for age to determine whether children are very delayed, delayed, average, advanced, or very advanced in their school readiness.

Figure 22. School Readiness Percentile Rank

Figure 23. School Readiness Proficiency Levels
Percent Mastery of Subdomain Areas

Children's percent mastery was also assessed in each subdomain: colors, letters, numbers, sizes, and shapes.

Children had a statistically significant increase in their average percent mastery in each of the domain areas, with an increase of:

- 13% for **colors** \(t(340)=9.86, p<.001\);
- 21% for **letters** \(t(340)=15.07, p<.001\);
- 21% for **numbers/counting** \(t(340)=16.76, p<.001\);
- 17% for **sizes** \(t(340)=13.94, p<.001\); and
- 18% for **shapes** \(t(340)=17.37, p<.001\).
DIFFERENCES IN BRACKEN SCALE SCORES BY DEMOGRAPHICS

Additional analyses were conducted to evaluate whether children's scores differed on the 6 scales of the Bracken assessment based on two demographic variables: family income and children's preferred language. Two tests were conducted for each demographic:

1. Was there a significant difference **between groups in their mean scores** at pre- and post-test (i.e., did one group score higher than the other, on average, at pre- and post-test)?
2. Was there a significant difference **between groups in their change in score** from pre- to post-test (i.e., did one group demonstrate greater growth from pre- to post-test)?

**Scales included in analysis:** Overall School Readiness, Colors, Letters, Numbers, Sizes, and Shapes.

**Family Income:** Differences between groups (only significant differences between groups are included below):

- **Overall School Readiness:**
  - At pre- and post-test, children *not* living in poverty\(^5\) (n=122) had significantly higher mean scores than children living in poverty\(^6\) (n=159), \(F(1, 279) = 4.50, p < .05\).
  - Compared to children *not* living in poverty, children living in poverty demonstrated a greater increase in mean scores from pre- to post-test, \(F(1, 279) = 9.62, p < .05\).

- **Letters:**
  - At pre- and post-test, children *not* living in poverty (n=122) had significantly higher mean scores than children living in poverty (n=159), \(F(1, 279) = 4.16, p < .05\).
  - Compared to children *not* living in poverty, children living in poverty demonstrated a greater increase in mean scores from pre- to post-test, \(F(1, 279) = 4.66, p < .05\).

- **Sizes:**
  - There was not a statistically significant difference in mean scores between children *not* living in poverty (n=122) and children living in poverty (n=159).
  - Compared to children *not* living in poverty, children living in poverty demonstrated a greater increase in mean scores from pre- to post-test, \(F(1, 279) = 4.16, p < .05\).

---

\(^5\) Families with incomes greater than 100% of the FPL.

\(^6\) Families with incomes less than or equal to 100% of the FPL.
• **Shapes:**
  o At pre- and post-test, children *not* living in poverty (n=122) had significantly higher mean scores than children living in poverty (n=159), \( F(1, 279) = 4.39, p < .05. \)
  o There was not a significant group difference in mean score change (i.e., growth) from pre- to post-test.

**Children’s Preferred Language:** Differences between groups (only significant differences between groups are included below):

• **Overall School Readiness:**
  o At pre- and post-test, children preferring English (n=131) had significantly higher mean scores than children preferring Spanish (n=184), \( F(1, 313) = 18.56, p < .05. \)
  o Compared to children preferring English, children preferring Spanish demonstrated a greater increase in mean scores from pre- to post-test, \( F(1, 313) = 7.47, p < .05. \)

• **Colors:**
  o At pre- and post-test, children preferring English (n=131) had significantly higher mean scores than children preferring Spanish (n=184), \( F(1, 313) = 10.30, p < .05. \)
  o Compared to children preferring English, children preferring Spanish demonstrated a greater increase in mean scores from pre- to post-test, \( F(1, 313) = 8.67, p < .05. \)

• **Letters:**
  o At pre- and post-test, children preferring English (n=131) had significantly higher mean scores than children preferring Spanish (n=184), \( F(1, 313) = 16.40, p < .05. \)
  o Compared to children preferring English, children preferring Spanish demonstrated a greater increase in mean scores from pre- to post-test, \( F(1, 313) = 5.72, p < .05. \)

• **Numbers:**
  o At pre- and post-test, children preferring English (n=131) had significantly higher mean scores than children preferring Spanish (n=184), \( F(1, 313) = 12.26, p < .05. \)
  o Compared to children preferring English, children preferring Spanish demonstrated a greater increase in mean scores from pre- to post-test, \( F(1, 313) = 3.80, p = .05. \)

• **Shapes:**
  o At pre- and post-test, children preferring English (n=131) had significantly higher mean scores than children preferring Spanish (n=184), \( F(1, 313) = 37.63, p < .05. \)
  o There was not a significant group difference in mean score change (i.e., growth) from pre- to post-test.
Summary and Conclusions

Results from the 2016-17 evaluation indicate positive findings overall. Parents report positive changes in parenting behaviors from pre- to post-test; parents were observed to engage in developmentally appropriate ways with their children; and children demonstrated overall gains in school readiness.
References


