

2017-18 Evaluation of the Home Instruction for Parents of Preschool Youngsters (HIPPY) Program

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At-a-Glance¹

Home Instruction for Parents of Preschool Youngsters (HIPPY) is a home visiting program for parents of three-, four-, and five-year-olds that involves training parents to be their children's first teachers. The program targets school readiness and parent involvement and is the largest of the 11 HIPPY programs in the state of Texas. HIPPY Dallas Independent School District (ISD) had a total budget of \$2,441,326 for program year 2017-18, including \$900,000 from Dallas ISD general operating funds, \$1,100,000 from Title I funding, and \$441,326 from external sources.²

Purpose of the Evaluation

The purpose of this evaluation was to evaluate and report outcomes of the HIPPY program. Specifically, this evaluation reports (1) demographic data for participants, (2) pre- and post-test results from a school readiness assessment, (3) kindergarten readiness levels, and (4) long-term reading and mathematics outcomes for former HIPPY participants.

Participants

Methodology

HIPPY Dallas ISD program implementation information primarily came from an interview with the HIPPY Dallas ISD program director and data files from the Texas HIPPY office. The evaluator conducted frequency analyses to summarize participant characteristics.

Results

In 2017-18, HIPPY Dallas ISD served 1,231 children and 1,097 parents. Enrollment was highest in HIPPY Year 1 (44%).³ A majority of the children (84%) and parents (85%) in the program were Hispanic. About half of the children were female (52%). Most children participated with a biological parent (90%). A majority of the parents were married (67%); had a high school

education, GED, or less (74%); and/or completed the program using the Spanish curriculum (76%).

A few more children participated in HIPPY Dallas ISD this year ($n = 1,231$) compared to 2016-17 ($n = 1,226$). The number of completers also increased slightly ($n = 1,106$ in 2017-18 compared to $n = 1,087$ in 2016-17).

Participant Retention

Methodology

The evaluator used frequency analyses to determine the number of HIPPY children who remained enrolled in the program from 2016-17 to 2017-18.

Results

Of the 620 2016-17 HIPPY Year 1 children, 271 (44%) remained enrolled in 2017-18 as HIPPY Year 2 children.⁴ Of the 395 2016-17 HIPPY Year 2 children, 257 (65%) remained enrolled in 2017-18 as HIPPY Year 3 children.⁵

School Readiness

Methodology

The evaluator used paired-sample t tests (statistical significance) and Cohen's d effect sizes (practical significance)⁶ to compare pre- and post-test scores on the English and Spanish versions of the *Bracken School Readiness Assessment (BSRA-3)*.⁷

Results

Composite test raw scores at all curriculum levels in both the English and Spanish versions statistically significantly improved from pre-test to post-test ($p < .001$). All improvements were practically significant with Cohen's d effect size values ranging from 0.78 (HIPPY Year 3 English) to 1.59 (HIPPY Year 2 English). Both English and Spanish average standard scores for

¹ Portions of this evaluation were adapted from Turner and Hinkley (2017).

² As reported by the HIPPY director. In addition, much of a Title 1 workscope (totaling \$2,156,450) funded expenditures related to HIPPY.

³ The HIPPY curriculum consists of three years: Year 1 (first year) through Year 3 (last year). Four children could not be classified by year and are not included in the percentage.

⁴ Fifty-four percent did not return, two percent repeated Year 1, and 0.5 percent completed Year 3.

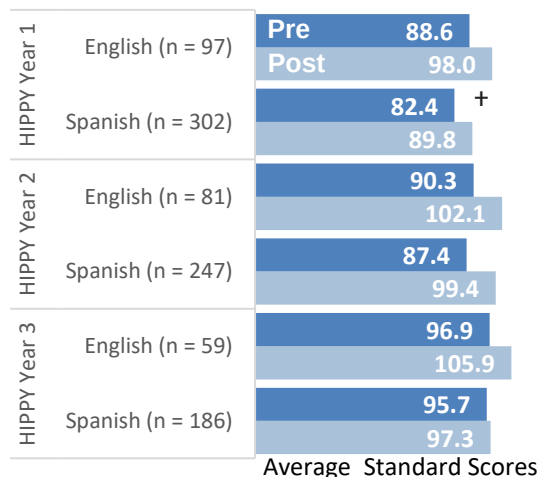
⁵ Thirty-three percent did not return and two percent repeated Year 2.

⁶ Cohen's d values of 0.2, 0.5, and 0.8 are considered small, medium, and large effect sizes, respectively (Cohen, 1988).

⁷ Children with birthdates outside of the testable age range, or with missing pre- or post-tests, birthdates, or curriculum years were excluded from analyses.

all curriculum years improved from pre-test to post-test (Figure 1). Average standard scores in both languages improved across all curriculum years and exceeded the school-ready threshold (standard scores > 85) by the end of the program year. Many HIPPY Year 1 (78% English; 58% Spanish), Year 2 (90% English; 83% Spanish), and Year 3 (83% English; 82% Spanish) children were classified as meeting age-appropriate standards by the end of the year.

Figure 1: 2017-18 HIPPY Dallas ISD Average BSRA-3 Standard Scores at Pre-Test and Post-Test



Source: Texas HIPPY program data files: July 9, 2018.

Note: BSRA-3 = Bracken School Readiness Assessment.

† = This standard score did not meet the age-appropriate cutoff (>85); Maximum possible score = 160 (Bracken, 2002). There was no normative sample of Spanish version test-takers. Refer to Palladino (2016) regarding limitations of the analysis and normative sample.

Kindergarten Readiness

Methodology

Istation's Indicators of Progress (ISIP) is a computer-adaptive assessment that provides continuous monitoring of progress in reading skills. The evaluator used beginning-of-year (BOY) *ISIP* data to compare overall scores and passing rates between former HIPPY students and a matched Non-HIPPY control group.⁸ The matched control group was created using propensity score matching to identify students who took the same exam but did not participate in the HIPPY program.⁹ The evaluator used *chi-square*

⁸ For the analysis, the English and Spanish administrations were combined into one file to allow for examination of overall student performance. Comparisons between the English and Spanish versions of *ISIP* are not recommended because the two versions are normed differently. Therefore, the percentage of students at or above Tier 1 (which indicates performing at grade level and being kindergarten ready) was used. BOY *ISIP* was dated November 1, 2017.

⁹ Non-HIPPY matched controls included students who took BOY *ISIP* in kindergarten who did not participate in HIPPY but

analyses to test for group differences in passing rates, and *t* tests (statistical significance) and Cohen's *d* effect sizes (practical significance) to compare overall scores.

Results

A slightly greater percentage of former HIPPY participants (62%; *n* = 292) were kindergarten ready when compared to matched Non-HIPPY participants (61%; *n* = 292). However, neither the differences in passing rates nor overall scores were statistically significant. Although the HIPPY students were not statistically compared to the district (51%; *n* = 10,091), the HIPPY students outperformed the district BOY *ISIP*.

Long-Term Reading and Mathematics Outcomes

Methodology

The evaluator used *TerraNova/SUPERA* (kindergarten through grade two) and *State of Texas Assessments of Academic Readiness (STAAR)* (grade three) to compare normal curve equivalent (NCE; *TerraNova/SUPERA*) and mean scale scores (*STAAR*) between former HIPPY students and matched Non-HIPPY control groups.¹⁰ The rates of students who were at or above the 40th percentile on *TerraNova/SUPERA* or Approaches Grade Level or Above (Approaches+) or Meets Grade Level or Above (Meets+) on *STAAR* were also compared. The matched control groups were created using propensity score matching to identify students who took the same exam but did not participate in the HIPPY program. The evaluator used *chi-square* analyses to test for group differences in passing rates, and *t* tests (statistical significance) and Cohen's *d* effect sizes (practical significance) to compare average scale scores. District passing rates were provided for reference only.

Results

TerraNova/SUPERA

The evaluator examined *TerraNova* reading and mathematics and *SUPERA* reading passing rates and NCE scores for kindergarten through grade two. HIPPY students outperformed Non-HIPPY students on five of nine *TerraNova/SUPERA* reading and mathematics exams (Figures 2 and 3). On *SUPERA*, the second grade passing rate difference between HIPPY and

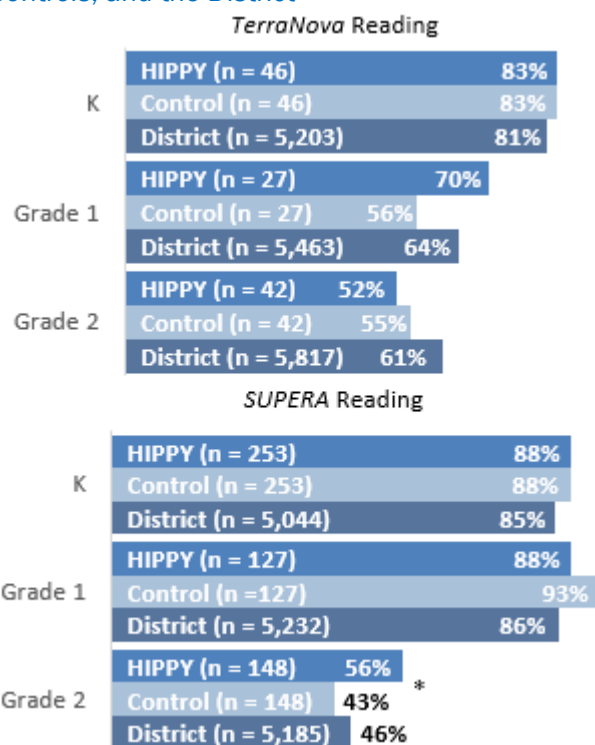
had the same probability of HIPPY enrollment. This methodology allows for group comparisons with reduced concern about systematic differences that may confound the effects of the treatment. For a detailed methodology on propensity score matching see Palladino (2016).

¹⁰ *TerraNova* was pulled on June 11, 2018, *SUPERA* was pulled on June 11, 2018, and *STAAR* was pulled on June 27, 2018.

Non-HIPPY students was statistically and practically significant, $\chi^2 (1, n = 296) = 4.88, p = .03, d = .30$. On TerraNova Mathematics, the kindergarten passing rate difference between HIPPY and Non-HIPPY students was statistically and practically significant, $\chi^2 (1, n = 598) = 8.52, p = .004, d = .24$. No other passing rate differences were statistically significant. Although the HIPPY students were not statistically compared to the district, the HIPPY students also outperformed the district on all exams except for grade two TerraNova reading.

Kindergarten TerraNova mathematics NCE scores were higher for HIPPY students compared to non-HIPPY students. These differences were statistically and practically significant, $t (1,596) = 2.62, p = .009, d = .21$. No other differences in NCE scores were statistically significant.

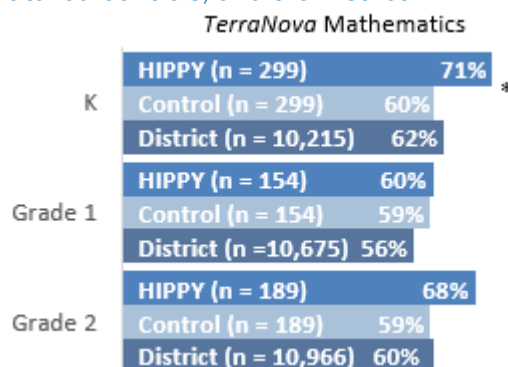
Figure 2: 2017-18 Percentage of Students At or Above the 40th Percentile on TerraNova/SUPERA Reading for Former HIPPY Participants, Matched Controls, and the District



Source: PEIMS district database: October 30, 2018; TerraNova: June 11, 2018; SUPERA: June 11, 2018.

Note: Students scoring at or above the 40th percentile were considered at grade level. * = statistically significant differences were found between HIPPY and Non-HIPPY groups on the exam passing rates.

Figure 3: 2017-18 Percentage of Students At or Above the 40th Percentile on TerraNova Mathematics for Former HIPPY Participants, Matched Controls, and the District



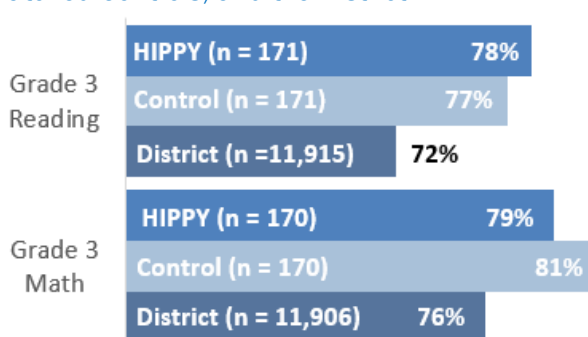
Source: PEIMS district database: October 30, 2018; TerraNova: June 11, 2018.

Note: Students scoring at or above the 40th percentile were considered at grade level. * = statistically significant differences were found between HIPPY and Non-HIPPY groups on the exam passing rates.

STAAR

The evaluator compared the percentages of STAAR reading and mathematics scores that were Approaches+ and Meets+ for grade three students. Despite HIPPY students having a lower percentage of STAAR scores at Approaches+ on mathematics and a higher percentage on reading compared to Non-HIPPY students (Figure 4), none of these differences were statistically significant.

Figure 4: 2017-18 STAAR Reading and Mathematics Percentage of Students At Approaches+ for Former HIPPY Participants, Matched Controls, and the District



Source: PEIMS district database: October 30, 2018; STAAR: June 27, 2018.

Note: STAAR = State of Texas Assessments of Academic Readiness. Passing rates reflect Approaches Grade Level or Above (Approaches+) for the first administration including Alternate 2. No differences between HIPPY and control groups were statistically significant.

Despite HIPPY students having a higher percentage of students scoring Meets+ on STAAR mathematics (54%, $n = 169$) than Non-HIPPY students (46%; $n = 168$) and a slightly lower percentage on reading (47.6%; $n = 170$) compared to Non-HIPPY students (48.2% $n = 170$), none of these differences were statistically significant.

No differences between HIPPY and Non-HIPPY groups on STAAR average scale scores were statistically significant. Although it was not appropriate to statistically compare HIPPY students to the district as a whole because of differing sample sizes and possible confounding factors, the percentage of HIPPY scores at Approaches+ exceeded the district for both STAAR exams.

Recommendations

- **Continue to seek areas for improvements in effectiveness.** The program has enjoyed pre/post gains in developmental skills every year it has been evaluated. HIPPY leadership should continue to nurture its staff and review processes to maintain these strong results.
- **Include HIPPY in the evaluation of other major Dallas ISD early childhood programs.** Many children in the Dallas ISD attend more than one pre-kindergarten program. Thus, it has become more difficult to evaluate the efficacy of any one early childhood program exclusively, particularly for long-term outcomes. Evaluation and program managers should consider program participation and dosage as a variable in future evaluations of early childhood education. Data structures and systems must be carefully reviewed and enhanced to support this goal.

References

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- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd. ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
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An electronic version of this report can be found at www.dallasisd.org/Page/888. For more information, please contact Program Evaluation at evaluation@dallasisd.org.

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