MEMORANDUM May 6, 2016

TO: Lance Menster
Officer of Elementary Curriculum and Development

FROM: Carla Stevens
Assistant Superintendent, Department of Research and Accountability

SUBJECT: **HISD PREKINDERGARTEN PROGRAMS LONGITUDINAL EFFECTS STUDY: 2014–2015 THIRD GRADE STAAR READING AND MATHEMATICS PERFORMANCE**

The purpose of this report was to evaluate the lasting impact of HISD prekindergarten programs on students' academic performance. The 2014–2015 third grade STAAR (regular English and Spanish versions) reading and mathematics tests were used as the outcome measures to assess the lasting impact of HISD programs by comparing the third grade STAAR reading and mathematics performance of two cohorts of students who attended HISD prekindergarten program to students who were not enrolled in HISD prekindergarten programs in 2010–2011.

Key findings include:

- Economically-disadvantaged students who attended HISD prekindergarten programs obtained higher mean scale scores, and had higher percentages of students who met the 2015 STAAR (English and Spanish) Level II: Satisfactory (Phase-In 1) standard on both third grade reading and mathematics tests than their non-HISD prekindergarten peers in the district.
- The achievement gap between economically-disadvantaged students and non-economically-disadvantaged students in the HISD prekindergarten cohort was smaller than that in the non-HISD prekindergarten cohort on the 2015 third grade STAAR (English) reading and mathematics tests.

Further distribution of this report is at your discretion. Should you have any further questions, please contact me at 713-556-6700.

Carla L. Stevens CS

Attachment

cc: Andrew Houlihan
Chief School Officers
Rachele Vincent
Janice Dingayan

HOUSTON INDEPENDENT SCHOOL DISTRICT

RESEARCH

Educational Program Report

HISD PREKINDERGARTEN PROGRAMS LONGITUDINAL EFFECTS STUDY: 2014–2015 THIRD GRADE STAAR READING AND MATHEMATICS PERFORMANCE

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EVALUATION REPORT
BUREAU OF PROGRAM EVALUATION
Volume 9, Issue 2, March 2016

HISD Prekindergarten Programs Longitudinal Effects Study: 2014–2015 Third Grade STAAR Reading and Mathematics Performance

By Lai Kwan Pei, Ph.D.

The goal of HISD prekindergarten programs is to offer the youngest learners strong foundations built on solid concept, as well as individual and group discovery. The program curriculum focuses on beginning literacy, numeracy, social emotional development as well as supporting the individual linguistic and cultural needs of the children served. The purpose of this report was to investigate the persistence of educational effects of HISD prekindergarten programs on students' performance on the third grade STAAR (English and Spanish) reading and mathematics tests. The findings suggested that economically-disadvantaged students who attended HISD programs obtained higher mean scale scores, and had higher percentages of students who met the 2015 STAAR (English and Spanish) Level II: Satisfactory (Phase-In 1) standard on both third grade reading and mathematics tests than their non-HISD prekindergarten peers in the district. The findings also suggested that the achievement gap between economically-disadvantaged students and non-economically-disadvantaged students in the HISD prekindergarten cohort was smaller than that in the non-HISD prekindergarten cohort on the 2015 third grade STAAR (English) reading and mathematics tests.

Background

In compliance with the Texas Education Code § 29.153, the Houston Independent School District (HISD) has provided free prekindergarten classes for eligible Houston area four-year old students since the 1985–1986 academic year. The program curriculum focuses on beginning literacy, numeracy, social emotional development as well as supporting the individual linguistic and cultural needs of the children served. The prekindergarten program curriculum forms the basis of children's future academic success. Presently, HISD has 153 prekindergarten campuses that provide a nurturing environment for young learners to reach their highest potential.

Review of the Literature

Early childhood education researchers have found that high quality prekindergarten programs enhance students' cognitive development and increase academic achievement, particularly for students from disadvantaged backgrounds (Brooks-Gunn, 2003; Currie, 2001; Gormley, Gayer, Phillips, & Dawson, 2005; Magnuson, Rhum, & Waldfogel, 2007; Shager et al., 2013). Children who take part in high-quality prekindergarten programs are more likely to stay in school and graduate from high school, which leads to greater lifetime earning power. Review of the literature also suggests that the beneficial effects of early childhood interventions are typically much larger for more disadvantaged youth (Currie, 2001; Magnuson et al., 2007).

The short-term benefits of HISD prekindergarten programs have been evaluated in other reports that found that HISD prekindergarten programs have positive impact on kindergarteners' academic performance. The goal of this study was to measure the lasting effect of the HISD prekindergarten programs on students' 2014–2015 third grade State of Texas Assessments of Academic Readiness (STAAR) reading and mathematics performance. Specifically, this study compared the third grade STAAR reading and mathematics performance of two cohorts of students who attended HISD prekindergarten programs to students who were not enrolled in HISD prekindergarten programs in 2010–2011.

Variations in findings regarding the benefits of early childhood education sometimes have to do with methodological differences and the selection of comparison groups (Zhai, Brooks-Gunn, & Waldfogel, 2011; Shager et al., 2013). Previous studies have compared students who received a formal preschool education to all other students who did not receive a formal preschool education without controlling for demographic characteristics, such as socioeconomic status, that influence student performance (Gormley et al., 2005). Given the negative effects of low socio-economic status on academic outcomes (e.g., Aikens & Barbarin, 2008; Brooks-Gunn, 2003, 2005; Chatterji, 2006), this report has taken into consideration students' demographic characteristics when comparing HISD prekindergarten and non-HISD prekindergarten students' performance on the third grade 2014–2015 STAAR reading and mathematics tests.

Measures

Student performance data were collected through the STAAR (regular English and Spanish versions) reading and mathematics tests. STAAR is the state of Texas criterion-referenced assessment, and it replaced the Texas Assessment of Knowledge and Skills (TAKS) test in spring 2012. The Texas Education Agency (TEA), in collaboration with the Texas Higher Education Coordinating Board (THECB) and Texas educators, developed this new assessment system in response to requirements set forth by the 80th, 81st and 83rd Texas legislatures. This new system focuses on increasing postsecondary readiness of graduating high school students, and helps to ensure that Texas students are competitive with their peers both nationally and internationally.

The key outcome measures for this report were the 2014–2015 third grade STAAR reading and mathematics scale scores of third grade students. The 2014–2015 STAAR Level II: Satisfactory (Phase-in I) performance standard was also used to measure the proportion of students who met the standard in reading and mathematics.

Methods

In order to examine the effects of HISD prekindergarten programs on students' third grade academic performance, the academic performance of students who attended an HISD prekindergarten program was compared to students who were not enrolled in an HISD prekindergarten program in 2010–2011. The descriptive statistics (mean scale scores and percentage of students who met STAAR Level II: Satisfactory (Phase-in I) standard on the 2014–2015 STAAR reading and mathematics tests) were used to describe the lasting impact of HISD prekindergarten programs on students enrolled in the program in 2010–2011.

Aikens and Barbarin (2008) suggested that socioeconomic status has a strong effect on students' performance, and other factors, such as Limited English proficiency (LEP) and at-risk status are also associated with student performance. Thus, student groups were disaggregated by ethnicity, gender, economically-disadvantaged, special education placement, LEP, and at-risk status to control for the effect of student demographic characteristics on the students' academic performance on third grade STAAR reading and mathematics tests.

The demographic information of students in this report was based on the Public Education Information Management System (PEIMS). The academic achievement data were based on students' performance in the 2014–2015 third grade STAAR (English and Spanish versions) reading and mathematics tests. Only students who had 2015 third grade STAAR reading and mathematics scores and demographic information in PEIMS were included in this study. Consequently, the total number of students in the HISD prekindergarten cohort and non-HISD prekindergarten cohort was not the same as the number of total students used to calculate the district mean scale scores and percentage of students passing the third grade STAAR (English and Spanish) Level II: Satisfactory (Phase-In 1) reading and mathematics standard in the district summary report. The district mean scale scores and district's percentage of students passing the third grade STAAR (English and Spanish) Level II: Satisfactory (Phase-In 1) reading and mathematics standard used in this report were extracted from the district STAAR (English and Spanish) reading and mathematics summary reports.

Sample

Two cohorts of students were tracked up to the end of third grade. One cohort was students who attended the HISD prekindergarten programs in 2010–2011 whereas another cohort of students were not enrolled in HISD prekindergarten programs in 2010–2011. Both cohorts of students attended HISD third grade, and took the third grade STAAR test in 2014–2015. Consequently, the sample size of the HISD prekindergarten cohort in this study was 8,760, whereas, 7,861students were identified as non-HISD prekindergarten students. The demographic characteristics of the two cohorts of students are shown in **Appendix-Table 1**.

The demographic characteristics of HISD and non-HISD prekindergarten students were similar with respect to gender, special education placement, and at-risk status, but were different relative to ethnicity, economically-disadvantaged status, and LEP status based on their third grade enrollment record in 2014–2015. Notably, 75.9% of the HISD prekindergarten students were Hispanic, 86.6% were economically-disadvantaged, and 54.9% were LEP. These proportions of Hispanic, economically-disadvantaged, and LEP students were lower in the non-HISD prekindergarten sample. Therefore, student groups were controlled by ethnicity, gender, economically-disadvantaged, special education placement, LEP, and at-risk status when the academic performance of HISD and non-HISD prekindergarten students were compared.

How did HISD prekindergarten and non-HISD prekindergarten students perform on the 2014–2015 third grade STAAR reading test?

The impact of HISD prekindergarten programs on students' third grade performance was measured using the STAAR (English and Spanish) reading and mathematics test scores. The 2015 third grade STAAR mean scale scores in reading test for HISD and non-HISD prekindergarten students were compared, and the results are displayed in **Figures 1** and **2**. **Appendix-Tables 2** and **4** present the number of students who took the third grade STAAR reading test in 2014–2015, and the means and standard deviations of the scale scores by student groups (ethnicity, gender, economically-disadvantaged, special education placement, LEP, and at-risk status).

Figure 1 shows that both HISD prekindergarten students (M = 1414.1) and non-HISD prekindergarten students (M = 1415.1) obtained comparable mean scale scores as the district's mean scale score (M = 1412.0) on the 2014–2015 third grade STAAR (English) reading test.

Figure 2 shows that HISD prekindergarten students (M = 1400.4) obtained a higher means scale score than their peers who did not attend HISD prekindergarten programs (M = 1370.8) and the district's mean scale score (M = 1388.0) on the 2014–2015 third grade STAAR (Spanish) reading test.

Appendix-Table 2 shows, that among students who attended HISD prekindergarten, economically-disadvantaged students obtained a lower mean standard score than their non-economically-disadvantaged peers on the 2014–2015 third grade STAAR (English) reading test (mean scale score difference = 70). However, this gap was smaller than the one evidenced for students who did not attend HISD prekindergarten (mean scale score difference = 142.5).

Appendix-Table 4 shows, that among students who attended HISD prekindergarten, economically-disadvantaged students obtained a lower mean standard score than their non-economically-disadvantaged peers on the 2014–2015 third grade STAAR (Spanish) reading test (mean scale score difference = 8.3). This gap was slightly smaller than the one evidenced for students who did not attend HISD prekindergarten (mean scale score difference = 10.3).

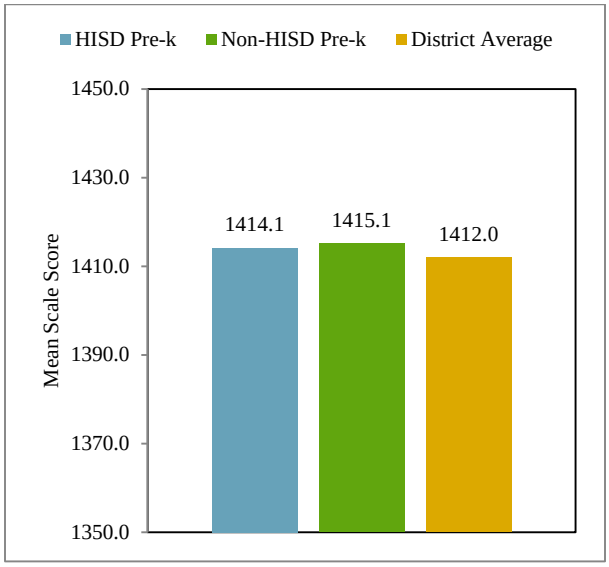

Figure 1. Mean scale scores on the 2014–2015 third grade STAAR (English) reading test for the 2010–2011 HISD and non-HISD prekindergarten cohorts.

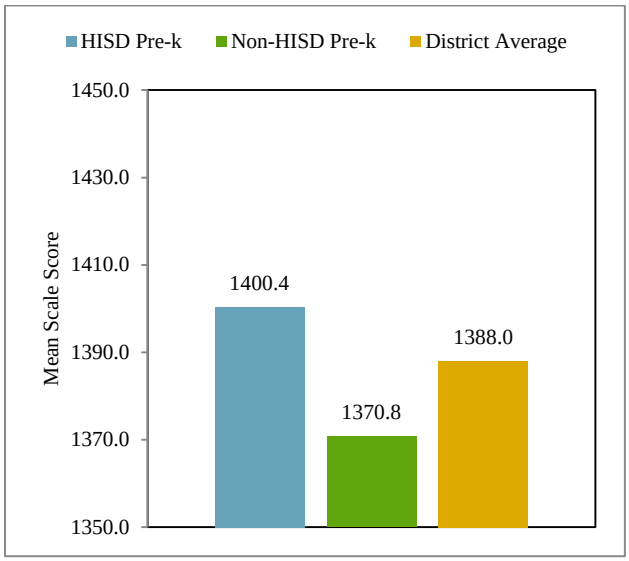

Figure 2. Mean scale scores on the 2014–2015 third grade STAAR (Spanish) reading test for the 2010–2011 HISD and non-HISD prekindergarten cohorts.

The percentages of the 2010–2011 HISD and non-HISD prekindergarten students who met the 2015 STAAR

(English and Spanish) Level II: Satisfactory (Phase-In 1) reading standard are displayed in **Figures 3** and **4**. **Appendix-Tables 3** and **5** present the number of students who took the third grade STAAR reading test in 2014–2015, and the percentage of students who met the STAAR (English and Spanish) Level II: Satisfactory (Phase-In 1) reading standard by student groups (ethnicity, gender, economically-disadvantaged, special education placement, LEP, and at-risk status).

Figure 3 shows that the HISD prekindergarten cohort (72.9%) had a higher percentage of students who met the 2015 STAAR (English) Level II: Satisfactory (Phase-In 1) standard on the reading test, than the non-HISD prekindergarten cohort percentage (67.5%) and the district percentage (69.0%).

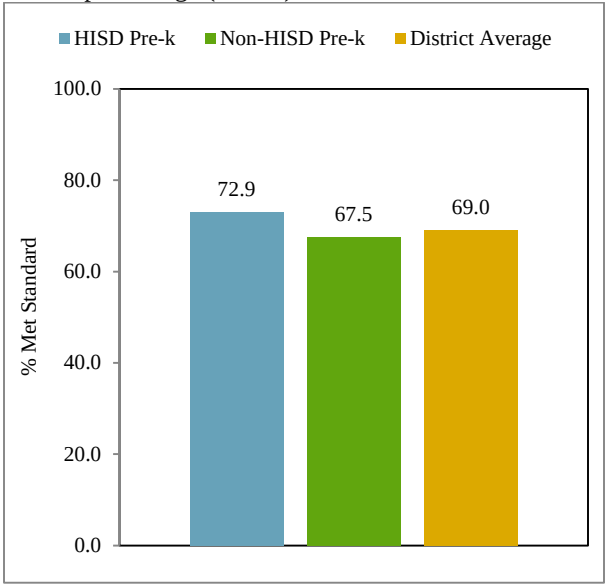

Figure 3. Percentage of the 2010–2011 HISD and non-HISD prekindergarten students who met the 2015 third grade STAAR (English) Level II: Satisfactory (Phase-In 1) reading standard.

Figure 4 shows that the HISD prekindergarten cohort (73.5%) had a higher percentage of students who met the 2015 STAAR (Spanish) Level II: Satisfactory (Phase-In 1) standard on the reading test, than the non-HISD prekindergarten cohort percentage (66.7%) and the district percentage (71.0%).

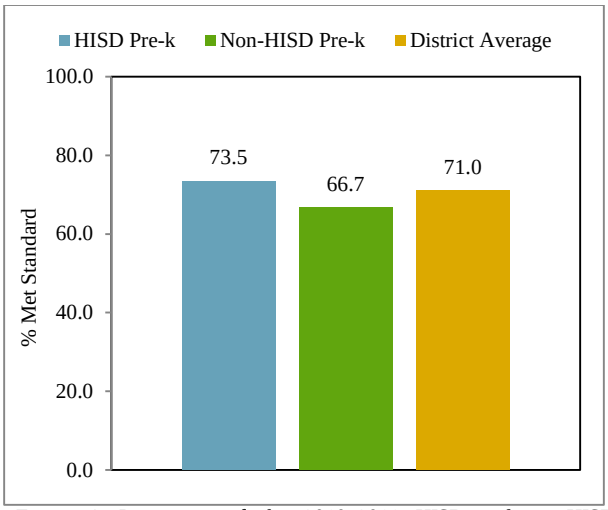

Figure 4. Percentage of the 2010–2011 HISD and non-HISD prekindergarten students who met the 2015 third grade STAAR (Spanish) Level II: Satisfactory (Phase-In 1) reading standard.

How did HISD prekindergarten and non-HISD prekindergarten students perform on the 2014–2015 third grade STAAR mathematics test?

The 2014–2015 third grade STAAR (English and Spanish) mean scale scores in mathematics test for the 2010–2011 HISD and non-HISD prekindergarten cohorts are displayed in **Figures 5** and **6**. **Appendix - Tables 6** and **8** present the number of students who took the third grade STAAR (English and Spanish) mathematics test in 2014–2015, and the means and standard deviations of the scale scores by student groups (ethnicity, gender, economically-disadvantaged, special education placement, LEP, and at-risk status).

Figure 5 (p. 5) shows that students who attended HISD prekindergarten programs (M = 1441.1) obtained a comparable mean scale score as their peers who did not attend HISD prekindergarten programs (M = 1441.0) on the 2014–2015 third grade STAAR (English) mathematics test.

Both HISD prekindergarten students and non-HISD prekindergarten students obtained higher mean scale scores than the district's mean scale score (M = 1438.0) on the 2014–2015 third grade STAAR (English) mathematics test (Figure 5, p. 5).

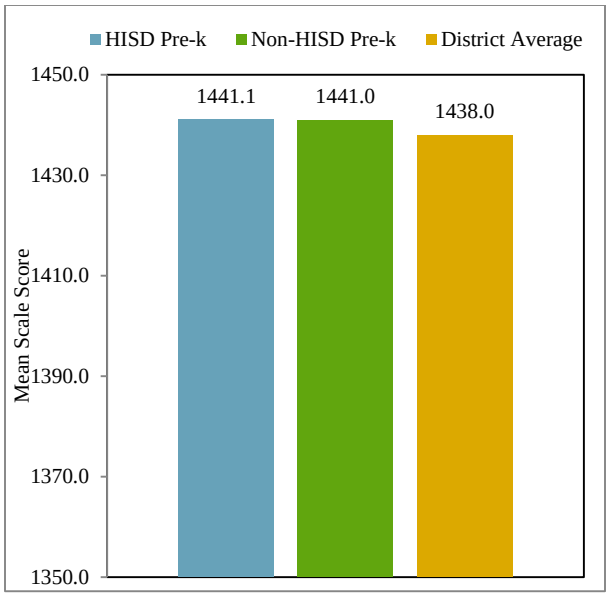

Figure 5. Mean scale scores on the 2014–2015 third grade STAAR (English) mathematics test for the 2010–2011 HISD and non-HISD prekindergarten cohorts.

Figure 6 shows that students who attended HISD prekindergarten programs (M = 1439.8) obtained a higher mean scale score than their peers who did not attend HISD prekindergarten programs (M = 1411.1) and the district's mean scale score (M = 1427.0) on the 2014–2015 third grade STAAR (Spanish) mathematics test.

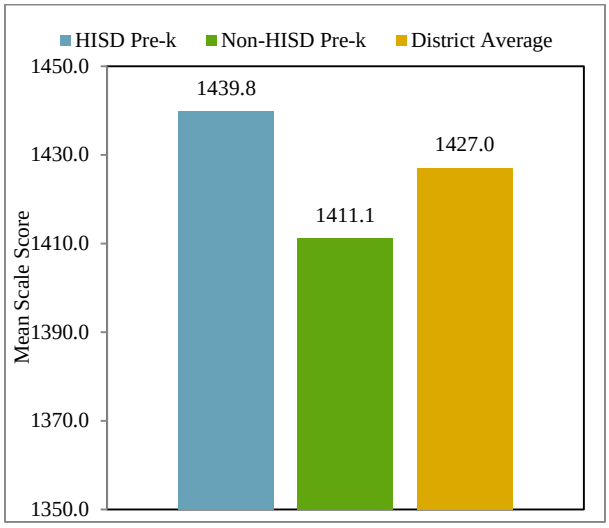

Figure 6. Mean scale scores on the 2014–2015 third grade STAAR (Spanish) mathematics test for the 2010–2011 HISD and non-HISD prekindergarten cohorts.

Appendix-Table 6 shows that among students who attended the HISD prekindergarten programs, economically-disadvantaged students obtained a lower mean standard score than their non-economically-disadvantaged peers on the 2014–2015 third grade STAAR (English) mathematics test (mean scale score difference = 59.1). However, this gap was smaller than the one evidenced for students who did not attend the HISD prekindergarten programs (mean scale score difference = 143.8).

Appendix-Table 8 shows that economically-disadvantaged students in both cohorts obtained lower mean standard scores than their non-economically-disadvantaged peers on the 2014–2015 third grade STAAR (Spanish) mathematics test. The mean scale score difference between economically-disadvantaged students and their non-economically-disadvantaged peers in the HISD prekindergarten cohort (D = 10.4) was slightly larger than the gap in the non-HISD prekindergarten cohort (D = 6.2) on the STAAR (Spanish) mathematics test.

The percentages of the 2010–2011 HISD and non-HISD prekindergarten students who met the 2015 STAAR (English and Spanish) Level II: Satisfactory (Phase-In 1) mathematics standard are displayed in **Figures 7** and **8. Appendix -Tables 7** and **9** present the number of students who took the third grade STAAR (English and Spanish) mathematics test in 2014–2015, and the percentage of students who met the STAAR Level II: Satisfactory (Phase-In 1) mathematics standard by student groups (ethnicity, gender, economically-disadvantaged, special education placement, LEP, and at-risk status).

Figure 7 (p. 6) shows that the HISD prekindergarten cohort (73.6%) had a higher percentage of students who met the 2015 STAAR (English) Level II: Satisfactory (Phase-In 1) standard on the mathematics test, than the non-HISD prekindergarten cohort percentage (69.4%) and the district percentage (71.0%).

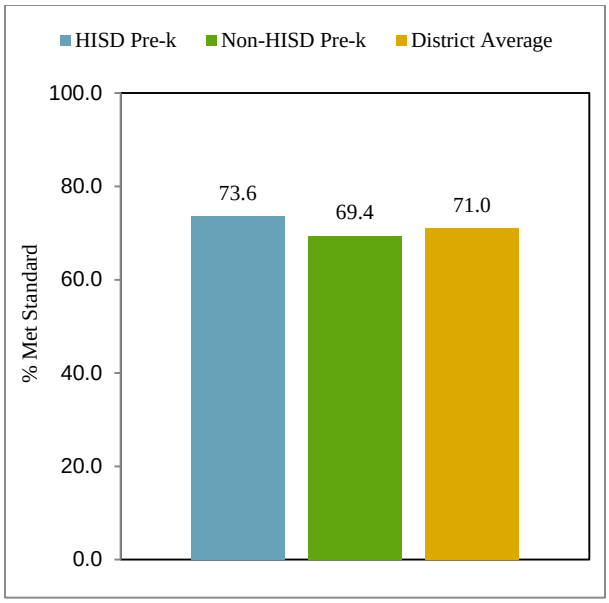

Figure 7. Percentage of the 2010–2011 HISD and non-HISD prekindergarten students who met the 2015 third grade STAAR (English) Level II: Satisfactory (Phase-In 1) mathematics standard.

Figure 8 shows that the HISD prekindergarten cohort (76.5%) had a higher percentage of students who met the 2015 STAAR (Spanish) Level II: Satisfactory (Phase-In 1) standard on the mathematics test, than the non-HISD prekindergarten cohort percentage (68.0%) and the district percentage (73.0%).

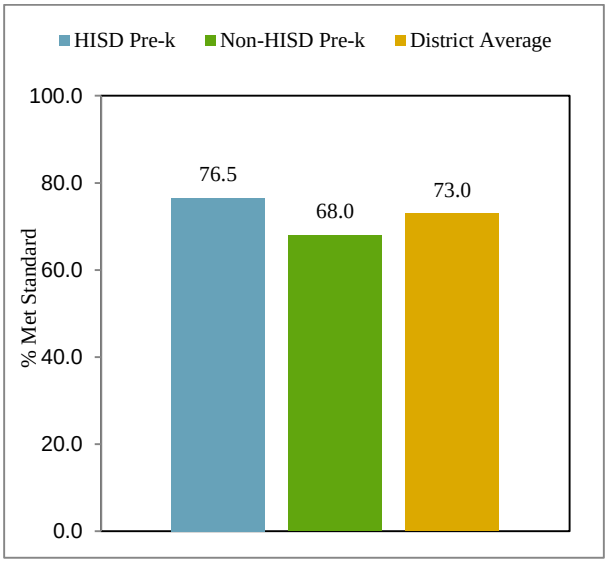

Figure 8. Percentage of the 2010–2011 HISD and non-HISD prekindergarten students who met the 2015 third grade STAAR (Spanish) Level II: Satisfactory (Phase-In 1) mathematics standard.

How did HISD prekindergarten and non-HISD prekindergarten economically-disadvantaged students perform differently on the 2014–2015 third grade STAAR reading and mathematics tests?

The mean scale scores and percentage of students who met STAAR (English and Spanish) standard of HISD and non-HISD prekindergarten economically-disadvantaged students were compared, and the results are displayed in **Figures 9** to **12**.

Figure 9 shows the HISD prekindergarten economically-disadvantaged students (M = 1402.1) had a higher mean scale score than their non-HISD peers (M = 1362.9) and the district average (M = 1383.0) on the 2014–2015 third grade STAAR (English) reading test.

HISD prekindergarten economically-disadvantaged students (M = 1431.1) had a higher mean scale score than their non-HISD peers (M = 1388.8) and the district (M = 1410.0) on the 2014–2015 third STAAR (English) mathematics test (Figure 9).

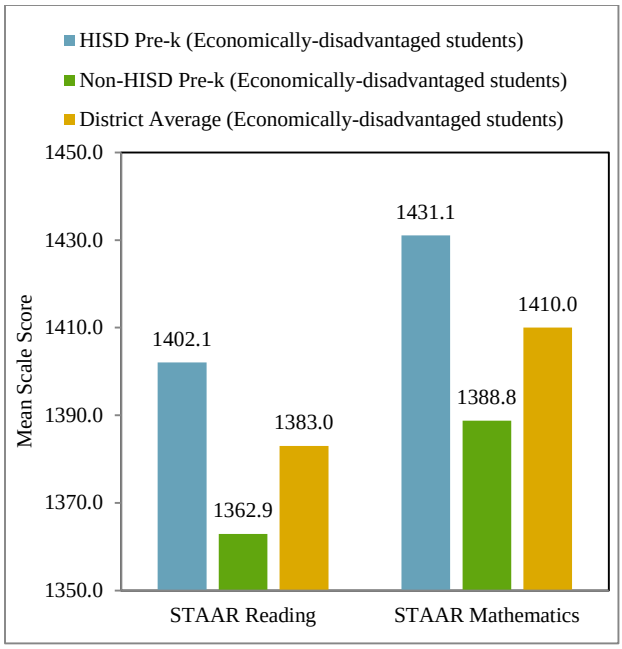

Figure 9. Mean scale scores on the 2014–2015 STAAR (English) reading and mathematics tests for economically-disadvantaged students who were in the 2010–2011 HISD and non-HISD prekindergarten cohorts.

Figure 10 (p. 7) shows the HISD prekindergarten economically-disadvantaged students (M = 1399.9) had a higher mean scale score than their non-HISD peers (M = 1369.4) and the district average (M = 1388.0) on the 2014–2015 third grade STAAR (Spanish) reading test.

HISD prekindergarten economically-disadvantaged students (M = 1439.2) had a higher mean scale score than their non-HISD peers (M = 1410.3) and the district (M = 1427.0) on the 2014–2015 third STAAR (Spanish) mathematics test (Figure 10, p. 7).

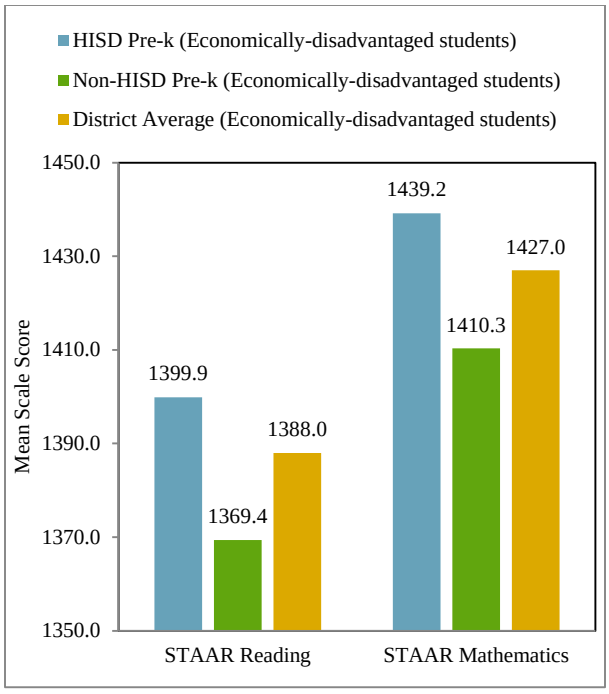

Figure 10. Mean scale scores on the 2014–2015 STAAR (Spanish) reading and mathematics tests for economically-disadvantaged students who were in the 2010–2011 HISD and non-HISD prekindergarten cohorts.

Figure 11 shows that the HISD prekindergarten cohort (70.7%) had higher percentage of economically-disadvantaged students who met the 2015 STAAR (English) Level II: Satisfactory (Phase-In 1) standard on the reading test, than the percentage of economically-disadvantaged students in the non-HISD prekindergarten cohort (57.4%) and the district percentage (64.0%).

On the 2014–2015 third grade STAAR (English) mathematics test, the HISD prekindergarten cohort (71.7%) had higher percentage of economically-disadvantaged prekindergarten students who met the STAAR (English) Level II: Satisfactory (Phase-In 1) mathematics standard than the percentage of economically-disadvantaged students in the non-HISD prekindergarten cohort (60.0%) and the district percentage (66.0%) (Figure 11).

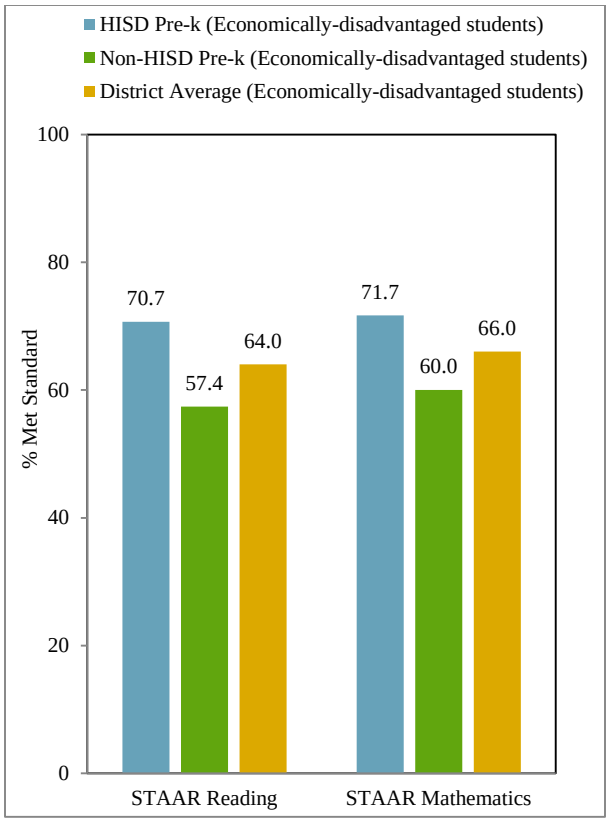

Figure 11. Percentage of the 2010–2011 HISD and non-HISD prekindergarten economically-disadvantaged students who met the 2015 third grade STAAR (English) Level II: Satisfactory (Phase-In 1) reading and mathematics standard.

Figure 12 (p. 8) shows that the HISD prekindergarten cohort (73.4%) had higher percentage of economically-disadvantaged students who met the 2015 STAAR (Spanish) Level II: Satisfactory (Phase-In 1) standard on the reading test, than the percentage of economically-disadvantaged students in the non-HISD prekindergarten cohort (66.5%) and the district percentage (70.0%).

On the 2014–2015 third grade STAAR mathematics test, the HISD prekindergarten cohort (76.3%) had higher percentage of economically-disadvantaged prekindergarten students who met the STAAR (Spanish) Level II: Satisfactory (Phase-In 1) mathematics standard than the percentage of economically-disadvantaged students in the non-HISD prekindergarten cohort (68.5%) and the district percentage (73.0%) (Figure 12, p. 8).

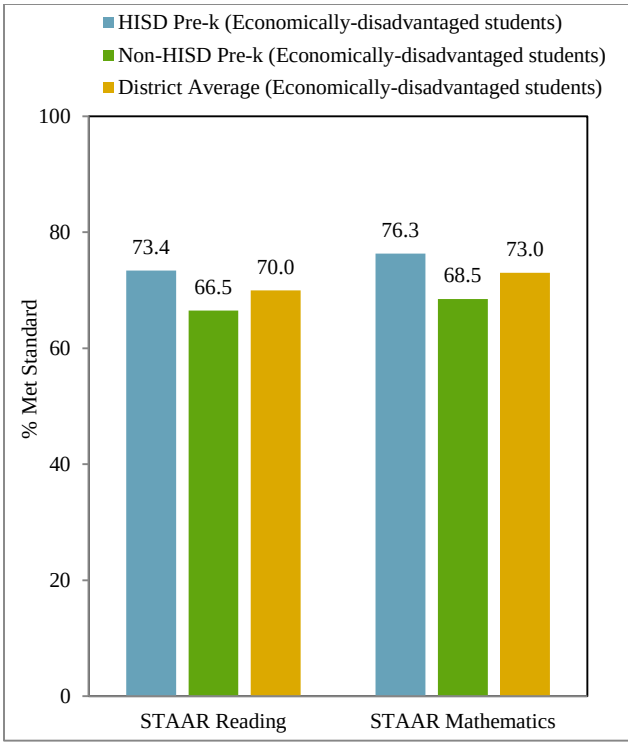

Figure 12. Percentage of the 2010–2011 HISD and non-HISD prekindergarten economically-disadvantaged students who met the 2015 third grade STAAR (Spanish) Level II: Satisfactory (Phase-In 1) reading and mathematics standard.

Discussion

The overall goal of prekindergarten education is to increase school readiness of disadvantaged students who may otherwise fall behind because of their environments and conditions. The current report examined the lasting effect of HISD prekindergarten programs on students' performance in third grade by analyzing student academic performance on the 2014–2015 STAAR (English and Spanish) third grade reading and mathematics tests.

The findings based on the 2014–2015 third grade STAAR (English and Spanish) reading and mathematics tests show that HISD prekindergarten programs had positive effects on economically-disadvantaged students' third grade STAAR (English and Spanish) reading and mathematics performance. The findings also suggested that HISD prekindergarten programs may help to close the achievement gap between disadvantaged students and their non-disadvantaged peers on the third grade STAAR (English) reading and mathematics performance. However, the achievement gap between disadvantaged students and their non-disadvantaged peers of HISD cohort and non-HISD cohort were comparable on the third grade STAAR (Spanish) reading and mathematics tests.

A methodological challenge of this report is selection bias. The non-HISD prekindergarten students in this report may have had preschool experience in other non-HISD prekindergarten programs. Therefore, findings concerning the magnitude of the effect of HISD prekindergarten programs on students' third grade performance may be biased.

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Appendix

Table 1. Demographic Characteristics of HISD Third Grade Students by Prekindergarten Enrollment Status in 2010–2011

		HISD Pre-k (n = 8,760)		Non-HISD Pre-k (n = 7,861)	
Demographic Characteristic		**n**	**%**	**n**	**%**
Gender	Female	4,445	50.7%	3,730	47.4%
	Male	4,315	49.3%	4,131	52.6%
Ethnicity	Asian	162	1.8%	421	5.4%
	Black	1,700	19.4%	2,225	28.3%
	Hispanic	6,650	75.9%	4,046	51.5%
	White	191	2.2%	1,019	13.0%
	Other	57	.7%	150	1.9%
Economically-Disadvantaged	No	1,173	13.4%	2,487	31.6%
	Yes	7,587	86.6%	5,374	68.4%
Special Education	No	8,516	97.2%	7,396	94.1%
	Yes	244	2.8%	465	5.9%
Limited English Proficient (LEP)	No	3,951	45.1%	5,259	66.9%
	Yes	4,809	54.9%	2,602	33.1%
At-Risk	No	1,842	21.0%	2,491	31.7%
	Yes	6,918	79.0%	5,370	68.3%

Note. The demographic information used in this table was based on student information at the time that the student enrolled in HISD third grade in 2014–2015, and was extracted from PEIMS database.

Table 2. Performance of HISD Pre-k Students and Non-HISD Pre-k Students on the 2014–2015 Third Grade STAAR (English) Reading Test by Student Groups

		HISD Pre-k			Non-HISD Pre-k		
Student Group		**Mean**	**SD**	**n**	**Mean**	**SD**	**n**
Overall Sample		1414.1	135.3	5,926	1415.1	157.8	6,257
Gender	Female	1421.8	133.4	3,025	1429.7	158.1	3,016
	Male	1406.1	136.9	2,901	1401.4	156.3	3,241
Ethnicity	Asian	1554.4	142.2	159	1535.1	178.3	420
	Black	1381.3	130.5	1,687	1360.7	133.2	2,206
	Hispanic	1418.1	130.1	3,857	1389.4	135.2	2,491
	White	1496.3	149.4	178	1534.4	156.9	995
	Other	1480.0	150.4	45	1516.4	153.9	145
Economically-disadvantaged	No	1472.1	145.8	1,017	1505.4	164.8	2,290
	Yes	1402.1	129.9	4,909	1362.9	127.1	3,967
Special Education	No	1417.8	134.3	5,738	1421.6	156.8	5,889
	Yes	1301.1	115.6	188	1310.3	134.0	368
Limited English Proficient (LEP)	No	1420.8	140.0	3,884	1429.2	161.1	5,159
	Yes	1401.3	125.0	2,042	1348.8	120.7	1,098
At-Risk	No	1506.5	122.9	1,802	1534.3	141.4	2,444
	Yes	1373.7	119.9	4,124	1338.6	114.3	3,813

Note. The demographic information used in this table was based on student information at the time that the student enrolled in HISD third grade in 2014–2015, and was extracted from PEIMS database.

Table 3. Percentage of Students Who Met the 2015 Third Grade STAAR (English) Level II: Satisfactory (Phase-in 1) Reading Standard by Student Groups

		HISD Pre-k		Non-HISD Pre-k	
Student Group		**% passed**	**n passed**	**% passed**	**n passed**
Overall Sample		72.9%	4,323	67.5%	4,221
Gender	Female	75.7%	2,290	71.5%	2,155
	Male	70.1%	2,033	63.7%	2,066
Ethnicity	Asian	95.6%	152	86.0%	361
	Black	64.0%	1,079	56.1%	1,238
	Hispanic	75.2%	2,899	64.1%	1,597
	White	87.1%	155	89.8%	894
	Other	84.4%	38	90.3%	131
Economically-disadvantaged	No	83.8%	852	84.8%	1,942
	Yes	70.7%	3,471	57.4%	2,279
Special Education	No	74.1%	4,254	69.5%	4,092
	Yes	36.7%	69	35.1%	129
Limited English Proficient (LEP)	No	73.9%	2,870	70.6%	3,640
	Yes	71.2%	1,453	52.9%	581
At-Risk	No	94.2%	1,698	93.9%	2,294
	Yes	63.7%	2,625	50.5%	1,927

Note. The demographic information used in this table was based on student information at the time that the student enrolled in HISD third grade in 2014–2015, and was extracted from PEIMS database.

Table 4. Performance of HISD Pre-k Students and Non-HISD Pre-k Students on the 2014–2015 Third Grade STAAR (Spanish) Reading Test by Student Groups

		HISD Pre-k			Non-HISD Pre-k		
Student Group		**Mean**	**SD**	**n**	**Mean**	**SD**	**n**
Overall Sample		1400.4	150.2	2,690	1370.8	149.6	1,473
Gender	Female	1419.1	147.9	1,344	1384.0	141.6	666
	Male	1381.8	150.2	1,346	1359.8	155.2	807
Ethnicity	Asian	*	*	3	*	*	0
	Black	1384.0	183.9	8	1321.4	86.9	12
	Hispanic	1399.9	150.3	2,654	1369.8	149.5	1,437
	White	1501.5	105.6	13	1451.2	142.9	19
	Other	1377.8	135.1	12	1469.6	224.2	5
Economically-disadvantaged	No	1408.2	147.3	155	1379.7	162.6	188
	Yes	1399.9	150.4	2,535	1369.4	147.6	1,285
Special Education	No	1402.9	149.5	2,639	1376.8	149.1	1,399
	Yes	1273.3	133.8	51	1256.3	106.8	74
Limited English Proficient (LEP)	No	1400.0	147.7	61	1411.8	177.9	76
	Yes	1400.4	150.3	2,629	1368.5	147.7	1,397
At-Risk	No	1469.6	127.2	39	1479.1	131.2	42
	Yes	1399.4	150.3	2,651	1367.6	149.0	1,431

Note. 1.) The demographic information used in this table was based on student information at the time that the student enrolled in HISD third grade in 2014–2015, and was extracted from PEIMS database.
2.) * Denotes fewer than 5 students tested, and were not reported.

Table 5. Percentage of Students Who Met the 2015 Third Grade STAAR (Spanish) Level II: Satisfactory (Phase-in 1) Reading Standard by Student Groups

		HISD Pre-k		Non-HISD Pre-k	
Student Group		**% passed**	**n passed**	**% passed**	**n passed**
Overall Sample		73.5%	1,977	66.7%	983
Gender	Female	78.5%	1,055	74.5%	496
	Male	68.5%	922	60.3%	487
Ethnicity	Asian	*	*	*	*
	Black	50.0%	4	50.0%	6
	Hispanic	73.4%	1,949	66.7%	958
	White	100.0%	13	78.9%	15
	Other	66.7%	8	80.0%	4
Economically-disadvantaged	No	75.5%	117	68.1%	128
	Yes	73.4%	1,860	66.5%	855
Special Education	No	74.2%	1,957	68.8%	962
	Yes	39.2%	20	28.4%	21
Limited English Proficient (LEP)	No	72.1%	44	71.1%	54
	Yes	73.5%	1,933	66.5%	929
At-Risk	No	89.7%	35	85.7%	36
	Yes	73.3%	1,942	66.2%	947

Note. 1.) The demographic information used in this table was based on student information at the time that the student enrolled in HISD third grade in 2014–2015, and was extracted from PEIMS database.
2.) * Denotes fewer than 5 students tested, and were not reported.

Table 6. Performance of HISD Pre-k Students and Non-HISD Pre-k Students on the 2014–2015 Third Grade STAAR (English) Mathematics Test by Student Groups

		HISD Pre-k			Non-HISD Pre-k		
Student Group		**Mean**	**SD**	**n**	**Mean**	**SD**	**n**
Overall Sample		1441.1	142.4	5,974	1441.0	160.5	6,164
Gender	Female	1438.6	139.2	3,046	1444.2	158.7	2,963
	Male	1443.8	145.7	2,928	1438.0	162.1	3,201
Ethnicity	Asian	1607.7	137.0	154	1622.5	142.0	360
	Black	1388.1	129.9	1,679	1372.1	131.4	2,176
	Hispanic	1452.8	138.2	3,923	1422.8	140.5	2,523
	White	1528.6	140.9	174	1562.5	151.1	961
	Other	1499.9	123.7	44	1534.3	160.4	144
Economically-disadvantaged	No	1490.2	149.8	1,013	1532.6	165.2	2,237
	Yes	1431.1	138.8	4,961	1388.8	131.8	3,927
Special Education	No	1444.8	142.0	5,785	1448.1	159.6	5,778
	Yes	1327.9	106.0	189	1333.9	132.6	386
Limited English Proficient (LEP)	No	1436.4	144.3	3,883	1447.0	164.2	5,172
	Yes	1450.0	138.5	2,091	1409.6	135.3	992
At-Risk	No	1514.7	132.8	1,799	1545.9	151.9	2,445
	Yes	1409.4	134.5	4,175	1372.0	124.6	3,719

Note. The demographic information used in this table was based on student information at the time that the student enrolled in HISD third grade in 2014–2015, and was extracted from PEIMS database.

Table 7. Percentage of Students Who Met the 2015 Third Grade STAAR (English) Level II: Satisfactory (Phase-in 1) Mathematics Standard by Student Groups

		HISD Pre-k		Non-HISD Pre-k	
Student Group		**% passed**	**n passed**	**% passed**	**n passed**
Overall Sample		73.6%	4,397	69.4%	4,278
Gender	Female	73.1%	2,227	70.6%	2,092
	Male	74.1%	2,170	68.3%	2,186
Ethnicity	Asian	97.4%	150	95.6%	344
	Black	59.9%	1,005	54.3%	1,182
	Hispanic	77.5%	3,042	68.9%	1,738
	White	93.1%	162	92.5%	889
	Other	86.4%	38	86.8%	125
Economically-disadvantaged	No	83.1%	842	85.8%	1,920
	Yes	71.7%	3,555	60.0%	2,358
Special Education	No	74.8%	4,325	71.3%	4,122
	Yes	38.1%	72	40.4%	156
Limited English Proficient (LEP)	No	72.3%	2,806	70.0%	3,618
	Yes	76.1%	1,591	66.5%	660
At-Risk	No	90.2%	1,623	90.7%	2,217
	Yes	66.4%	2,774	55.4%	2,061

Note. The demographic information used in this table was based on student information at the time that the student enrolled in HISD third grade in 2014–2015, and was extracted from PEIMS database.

Table 8. Performance of HISD Pre-k Students and Non-HISD Pre-k Students on the 2014–2015 Third Grade STAAR (Spanish) Mathematics Test by Student Groups

		HISD Pre-k			Non-HISD Pre-k		
Student Group		**Mean**	**SD**	**n**	**Mean**	**SD**	**n**
Overall Sample		1439.8	126.9	2,561	1411.1	131.3	1,387
Gender	Female	1438.2	124.7	1,275	1409.7	120.5	631
	Male	1441.5	129.0	1,286	1412.3	139.8	756
Ethnicity	Asian	*	*	3	*	*	0
	Black	1469.8	100.5	9	1453.9	106.5	11
	Hispanic	1438.9	126.5	2,524	1408.5	129.9	1,352
	White	1547.3	134.1	13	1528.8	136.6	19
	Other	1441.7	136.4	12	1582.8	226.9	5
Economically-disadvantaged	No	1449.6	135.5	155	1416.5	157.4	186
	Yes	1439.2	126.3	2,406	1410.3	126.9	1,201
Special Education	No	1441.3	126.5	2,514	1416.5	129.8	1,317
	Yes	1360.6	122.7	47	1309.5	117.7	70
Limited English Proficient (LEP)	No	1502.2	123.0	62	1478.2	167.4	75
	Yes	1438.3	126.6	2,499	1407.3	128.0	1,312
At-Risk	No	1536.6	121.9	40	1541.5	147.5	42
	Yes	1438.3	126.4	2,521	1407.0	128.7	1,345

Note. 1.) The demographic information used in this table was based on student information at the time that the student enrolled in HISD third grade in 2014–2015, and was extracted from PEIMS database.
2.) * Denotes fewer than 5 students tested, and were not reported.

Table 9. Percentage of Students Who Met the 2015 Third Grade STAAR (Spanish) Level II: Satisfactory (Phase-in 1) Mathematics Standard by Student Groups

		HISD Pre-k		Non-HISD Pre-k	
Student Group		**% passed**	**N passed**	**% passed**	**N passed**
Overall Sample		76.5%	1,958	68.0%	943
Gender	Female	76.9%	980	69.1%	436
	Male	76.0%	978	67.1%	507
Ethnicity	Asian	*	*	*	*
	Black	100.0%	9	81.8%	9
	Hispanic	76.3%	1,927	67.6%	914
	White	84.6%	11	84.2%	16
	Other	66.7%	8	80.0%	4
Economically-disadvantaged	No	78.7%	122	64.5%	120
	Yes	76.3%	1,836	68.5%	823
Special Education	No	76.9%	1,933	69.8%	919
	Yes	53.2%	25	34.3%	24
Limited English Proficient (LEP)	No	93.5%	58	82.7%	62
	Yes	76.0%	1,900	67.1%	881
At-Risk	No	97.5%	39	95.2%	40
	Yes	76.1%	1,919	67.1%	903

Note. 1.) The demographic information used in this table was based on student information at the time that the student enrolled in HISD third grade in 2014–2015, and was extracted from PEIMS database. 2.) * Denotes fewer than 5 students tested, and were not reported.