

DIFFERENCES IN READING AS A FUNCTION OF THE ECONOMIC STATUS,  
ETHNICITY/RACE, AND ENGLISH LANGUAGE LEARNER STATUS OF TEXAS  
GRADE 4 BOYS AND GIRLS IN SPECIAL EDUCATION: A MULTIYEAR  
STATEWIDE INVESTIGATION

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Doctor of Education

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by

Matthew M. Pariseau

December, 2019

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## **DEDICATION**

I dedicate this work to my family, Sara and Claire. Sara, my partner in life and whose ceaseless encouragement, love, and support made it possible for me to continue in my doctoral studies despite the challenges that life, work, and ranching brought into our lives. Claire, my precious daughter, who was only a hope of someday when I started this program and who is now two years old, provided a lot of laughs between my breaks from writing. These two beautiful gals are my whole world, they bring unending joy into my life, and their love is the greatest gift that I have ever received.

Additionally, I dedicate this work to all my teachers and professors who believed in the man that I could become, who challenged me, and stirred in my soul a love for learning. It is because of them that I am an educator. Finally, I dedicate this work to all the young men and women of tomorrow, for whom I hope insights from this research will help to open doors of opportunity for them to dream and achieve the impossible.

## ABSTRACT

Pariseau, Matthew, *Differences in reading as a function of the economic status, ethnicity/race, and English Language Learner status of Texas Grade 4 boys and girls in special education: A multiyear statewide investigation*. Doctor of Education (Educational Leadership), December 2018, Sam Houston State University, Huntsville, Texas.

### **Purpose**

The purpose of this journal-ready dissertation was to examine the extent to which economic status, ethnicity/race, and English Language Learner status differences were present in the reading performance of Texas Grade 4 boys and girls in special education. In the first article, the degree to which economic status (i.e., Not Poor, and Poor) was related to the reading achievement of Texas Grade 4 boys and girls in special education was examined. In the second article, the extent to which ethnicity/race (i.e., Black, Hispanic, and White) differences were present in the reading achievement of Texas Grade 4 boys and girls in special education was determined. In the third article, the extent to which English Language Learner status (i.e., English Language Learner and Not English Language Learner) existed related to the reading achievement of Texas Grade 4 boys and girls in special education was addressed.

### **Method**

For this quantitative study, a causal-comparative research design was present. Archival data from the State of Texas Assessment of Academic Readiness (STAAR) test for Grade 4 students were obtained from the Texas Education Agency Public Education Information Management System for the 2014-2015, 2015-2016, 2016-2017 and 2017-2018 school years. Participants were Grade 4 students who had been enrolled in special education in the four school years.

## **Findings**

With respect to economic status, Grade 4 boys and girls who were Poor had statistically significantly lower reading test scores than boys and girls who were Not Poor. Regarding ethnicity/race, a clear stair-step effect was present for the majority of the analyses, with White boys and girls having the highest reading scores, followed by Hispanic boys and girls. Black boys and girls consistently had the lowest reading scores. English Language Learner boys and girls in special education had statistically significant lower reading scores than girls and boys who were Not English Language Learners. Results in all four school years and for all three articles was consistent with the existing research literature. Implications for policy and for practice, as well as recommendations for future research, were provided.

*KEY WORDS:* Special education, Reading performance, Economically disadvantaged, Ethnicity/race, Literacy, Economic status, Poverty, Disabilities, Academic achievement, Gender, English Language Learner status, STAAR Reading test, Reporting Categories, Phase-in Standards

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## CHAPTER I

### INTRODUCTION/BRIEF REVIEW OF THE LITERATURE

In an age of increased public education accountability demands brought on through the enactment of Federal education reforms, the No Child Left Behind Act of 2001 and the Every Student Succeeds Act of 2015, local school districts must ensure that all subpopulations of students are successful. State education agencies across the United States are mandated to develop standardized assessment exams to monitor and to report student academic performance (United States Department of Education, 2017). Furthermore, state education agencies are required to hold local school districts accountable to develop interventions and supports to remediate their struggling learners.

However, after nearly two decades of high stakes testing and invasive state accountability systems, the goal of ensuring that no child has been left behind or that every child succeeds still has not been achieved (American Psychological Association, 2012). Moreover, students with the highest needs such as students in special education, English Language Learners, ethnic/racial minorities, and students in poverty continue to be denied a free and appropriate public education commensurate with their mainstream peers (Ravitch, 2013). With this journal-ready dissertation, the degree to which differences might exist in the reading performance of Texas Grade 4 boys and girls in special education as a function of their economic status, ethnicity/race, and English Language Learner status was examined.

#### **Literature Review on Reading and Economic Status**

Of the children in the State of Texas, 24% of them are in poverty, a rate that is 5% higher than the national average (National Center for Children in Poverty, 2019). Even

more alarming is the percentage of students who are in poverty who attend Texas Public schools accounting for 59% of elementary school students (National Center for Education Statistics, 2019c). Similarly, results high numbers of students in poverty exists in the secondary level comprising 58% of middle school students (Write & Slate, 2015) and 43% of high school students (Lee & Slate, 2014). The sheer number of students in poverty is staggering with over 7,000,000 children who experience the negative effects of poverty (National Center for Children in Poverty, 2019). In a study sponsored by the Annie E. Casey Foundation, 4,000 students who did not read at grade level by Grade 3 were determined to be four times more likely to drop out of school than their peers who were reading at grade level (Hernandez, 2012). When poor reader status was combined with living in poverty, the probability of dropping out exponentially increased, thus creating a “double jeopardy” that negatively influenced high school graduation rates (p. 4). Of the children who are in poverty, 22% of them will not graduate from high school. This high dropout rate increases to 32% for students who spend half of their life in poverty (Hernandez, 2012). These statistics are in stark contrast to the dropout rate of 6% for students who were never in a poverty situation.

With respect to the state of interest in this article, Texas, McGown (2016) analyzed the reading performance of Texas elementary school students as a function of their economic status. In her multiyear investigation, McGown analyzed three years (i.e., 2012-2013, 2013-2014, 2014-2015) of Texas data on the State of Texas Assessment of Academic Readiness (STAAR). Examined in her study were the three STAAR Reading Reporting Categories and the percentage of students who met the Level II Final Satisfactory Performance Standard. Economic status in McGown’s (2016) research

investigation consisted of three groups, based upon their eligibility for the federal free or reduced price lunch program. Students who were eligible for a free lunch were defined as Extremely Poor, students who were eligible for a reduced-price lunch were regarded as Moderately Poor, and students who were not eligible for either program were defined as Not Poor.

McGown (2016) documented the presence of strong relationships between student poverty and poor reading performance. On all three STAAR Reading Reporting categories, students who were in the Not Poor group had the highest average raw scores, followed by students in the Moderately Poor group, and then by students in the Extremely Poor group. This clear stair-step effect (Carpenter, Ramirez, & Severn, 2006) was present in all three school years and for all three STAAR Reading Reporting categories. Effect sizes for these statistically significant differences ranged from small to moderate in nature.

With respect to the percentages of students who met the state-mandated performance standards, McGown (2016) established the presence of statistically significant differences among the three groups of students. In all three school years, higher percentages of students who were in the Not Poor group met the performance standard, followed by students who were in the Moderately Poor group, and then by students in the Extremely Poor group. The differences in the percentages of students who met the state-mandated performance standard between the Not Poor and Moderately Poor groups of students were 18.9% (2012-2013), 19.4% (2013-2014), and 19.9% (2014-2015). The differences in the percentages who met the state-mandated performance standard were the greatest between students who were in the Not Poor group and students

who were in the Extremely Poor group, with the differences being 28.8% (2012-2013), 30.9% (2013-2014), and 29.3% (2014-2015).

In a similar multiyear analysis that was also conducted in Texas, Harris (2018) analyzed the reading performance of Texas Grade 4 students as a function of their economic status. What was unique to Harris' (2018) investigation was her use of Grade 4 students as her sample. She analyzed Texas statewide STAAR Reading data from the 2012-2013, 2013-2014, and 2014-2015 school years. Economic status in Harris's (2018) research investigation was defined in the same manner as McGown (2016). Harris (2018) established that as poverty levels increased, student reading performance decreased. In all three school years, a clear stair-step effect (Carpenter et al., 2006) was present for the three STAAR Reading Reporting Categories. On all three STAAR Reading Reporting categories, Grade 4 students who were in the Not Poor group had the highest average raw scores, followed by students in the Moderately Poor group, and then by students in the Extremely Poor group. This clear stair-step effect (Carpenter et al., 2006) was present in all three school years and for all three STAAR Reading Reporting categories. Effect sizes for these statistically significant differences were moderate for all three school years.

With respect to the performance standards, in all three school years, higher percentages of Grade 4 students who were in the Not Poor group met the performance standard, followed by students who were in the Moderately Poor group, and then by students in the Extremely Poor group. The differences in the percentages of students who met the state-mandated performance standard between the Not Poor and Moderately Poor groups of students were 19.3% (2012-2013), 18.7% (2013-2014), and 19.7% (2014-

2015). The differences in the percentages who met the state-mandated performance standard were the greatest between students who were in the Not Poor group and students who were in the Very Poor group, with the differences being 29.4% (2012-2013), 27.9% (2013-2014), and 31.9% (2014-2015).

In a similar investigation, but based on Grade 6 students, Wright and Slate (2015) examined data from the 2010-2011 Texas Assessment of Knowledge and Skills Reading assessment, the standardized test predecessor to the STAAR exam. With respect to economic status, students who were eligible for either the free or reduced price lunch program were in the Economically Disadvantaged group, and students who were not eligible for either the free or reduced price lunch program were in the Not Economically Disadvantaged group. Wright and Slate (2015) documented the presence of a 4% to 6% lower performance in reading of students in poverty in comparison to their peers who were not poor. Wright and Slate (2015) stated, “the academic achievement gap between students who were or were not economically disadvantaged has grown substantially over the past few generations” (p. 345).

Additionally, Reardon (2011) analyzed five decades of academic achievement data by student economic status. Reardon (2011) ascertained that over the last 50 years, the association between parental education and student achievement has remained stable, although the association between parent income and student achievement has dramatically increased. Reardon (2011) suggested the increase over time between the relationship between parent income and student achievement was due to an increase in parent involvement in their children’s cognitive development in recent years. Similar to

parental education, economic status was a strong predictor of student academic achievement (Reardon, 2011).

In another recent investigation, directly related to the sample of students whose data will be analyzed in this investigation, Jones, Ostojic, Menard, Picard, and Miller (2017) sought to identify factors that most contributed to poor student reading outcomes. Of particular interest to this article was their examination of the relationship between reading performance, economic status, and special education status. Specifically analyzed were the 2011-2013 achievement tests results of 1,429 Grade 3 students from Southwestern Ontario. Jones et al. discovered that the students who were at the highest risk (i.e., students who were economically disadvantaged, English Language Learners, or in special education) for poor reading outcomes did not make the same reading performance gains as their peers in higher income schools.

### **Literature Review on Reading Performance by Student Ethnicity/Race**

Racial segregation in public schools has been unconstitutional since the Supreme Court ruling from *Brown v. The Board of Education* (1954) in which separate instructional services were deemed as not equal in providing educational opportunities for students (American Psychological Association, 2012). It has been over 50 years since the landmark ruling, yet ethnic and racial disparity gaps in public schools continue to be prevalent (American Psychological Association, 2012; Harris, 2018; McGown, 2016). For example, the American Psychological Association (2012) analyzed reading scores by racial/ethnic groups from 1992 to 2011 and identified statistically significant disparities. Specifically, White students had average scale scores that were between 24 to 35 points higher on Grade 4 and Grade 8 reading assessments than were the average scale scores of

Hispanic students from the same years. Similarly, the average scale scores of White students were 24 to 38 points higher than were the average scale scores of Black students in reading assessments from 1992 to 2011. The percentage of White and Asian students who read below grade level from Grade 4 to Grade 12 have remained constant over the last two decades. In contrast, however, the percentage of Black and Hispanic students who read below grade level, across the same time period, ranged from 40% to 54% for Grades 4 to Grade 12. As such, the American Psychological Association (2012) determined that further research was needed on ethnicity/race within the area of special education to address disparities for students who may be served in multiple federal programs.

In the state of interest for this investigation, Texas, Rojas-LeBouef (2010) examined the extent to which differences were present in academic achievement among Hispanic, Limited English Proficient, and White students. She analyzed Texas statewide data obtained from the Texas Education Agency Academic Excellence Indicator System. Specifically examined were the Texas Assessment of Academic Skills (TAAS) and the Texas Assessment of Knowledge and Skills (TAKS) Grade 5 Reading and Mathematics passing rates from the 1993 through the 2009 school years. On these two Texas state-mandated assessments, Rojas-LeBouef (2010) established that White students consistently outperformed Hispanic students and students with Limited English Proficiency. Across the wide time span of 16 school years, state assessment results, and across all 60 research questions, White students consistently had statistically significant higher TAAS and TAKS Reading and Mathematics test scores than their Hispanic and Limited English Proficient peers.



Rojas-LeBouef (2010) specifically documented that the state test passing rates for White students since the enactment of the No Child Left Behind Act (2001) ranged from 71.82% to 93.41% for reading and from 80.85% to 97.92% for mathematics. State test passing rates for Hispanic students since the enactment of the No Child Left Behind Act (2001) ranged from 54.19% to 85.93% for reading and from 67.31% to 96.42% for mathematics. In contrast, the state test passing rates for Limited English Proficient students across the school years analyzed were between 38.43% to 58.31% for reading and from 38.43% to 69.67% for mathematics. Of the 60 statistical analyses conducted, 43 were large effect sizes, 15 were moderate effect sizes, and 2 were small effect sizes. Readers should note that despite increases in student passing rates across the 16 years of data analyzed, the achievement gap between White students and Hispanic students and between White students and Limited English Proficient students remained.

More recently, McGown (2016) analyzed the reading performance of Texas Grade 3 students as a function of their ethnicity/race (i.e., Asian, White, Hispanic, and Black). In her multiyear investigation, McGown examined three years (i.e., 2012-2013, 2013-2014, 2014-2015) of Texas data on the current state-mandated assessment, the State of Texas Assessment of Academic Readiness Reading test. Addressed in her study were the three STAAR Reading Reporting Categories and the percentage of students who met the Level II Final Satisfactory Performance Standard. McGown (2016) documented the presence of statistically significant differences in reading performance among the four ethnic/racial groups of students. On all three STAAR Reading Reporting categories, Black students had statistically significantly lower average raw scores than Asian, White, and Hispanic students. Hispanic students had statistically significantly lower average raw

scores lower than Asian and White students and White students had statistically significantly lower average raw scores than Asian students. As such, a clear ethnic/racial stair-step effect (Carpenter, Ramirez, & Severn, 2006) was present in that Asian students had the best reading performance, followed by White students, Hispanic students, and then Black students.

With respect to the percentages of Grade 3 students who met the state-mandated performance standards, McGown (2016) established the presence of statistically significant differences among the four ethnic/racial groups of students. In all three school years, Asian and White students had the highest STAAR Reading passing rates, followed by Hispanic students and then by Black students. Black students demonstrated the lowest reading performance and were the least likely to meet the Satisfactory Performance Standard on all three school years. Fewer than 30% of Black students met the STAAR Satisfactory Performance Standard for all three school years compared to over 60% of Asian students who met the STAAR Satisfactory Performance Standard for all three school years.

In a similar multiyear analysis that was also conducted in Texas, Harris (2018) analyzed the reading performance of Texas Grade 4 students as a function of their ethnicity/race. She used Texas statewide STAAR Reading data from the 2012-2013, 2013-2014, and 2014-2015 school years. Ethnicity/race in Harris's (2018) research investigation was defined in the same manner as in McGown's (2016) study. Similar to McGown's (2016) results on Grade 3 students, Harris (2018) established the presence of statistically significant differences in reading performance among the four ethnic/racial groups of students. On all three STAAR Reading Reporting categories, Black students

had statistically significantly lower average raw scores than Asian, White, and Hispanic students. Hispanic students had statistically significantly lower average raw scores lower than Asian and White students and White students had statistically significantly lower average raw scores than Asian students. The differences in the percentages of students who met the state-mandated performance standard were the largest between Asian students and Black students with the differences being 36% (2012-2013), 36.5% (2013-2014), and 40.5% (2014-2015). Based on her findings, Harris (2018) revealed the presence of a clear stair-step effect (Carpenter et al., 2006) was present based on the ethnic/racial membership of Texas Grade 4 students on the STAAR Reading assessment.

Rojas-LeBouef (2010), McGown (2016), and Harris (2018) all established the presence of academic achievement disparities by the ethnicity/race of Grade 3 and Grade 4 students on all three versions of Texas state-mandated assessments (i.e., TAAS, TAKS, STAAR). They all documented that ethnic/racial gaps were present in reading and in mathematics for over two and a half decades in Texas. Readers should note that the disparities they documented have also been identified on national assessments. In a study conducted by Harvey (2013), he analyzed 10 school years of ACT and SAT data on Texas students. Archival data were obtained from the Texas Education Agency Academic Excellence Indicator System for the 2001-2002 through the 2010-2011 school years. In almost every analysis, Harvey (2013) established the presence of statistically significant gaps in the percent of students who met the ACT and/or SAT passing criteria among Asian, Black, Hispanic, and White students. Across the span of the 10 school years, the average ACT and SAT test scores of Texas high school students improved only slightly. In Harvey's (2013) study, in virtually every analysis of ACT/SAT averages and

percent of students at or above the ACT/SAT passing criteria, Asian and White students outperformed Black and Hispanic students and Hispanic students outperformed Black students.

Although prior researchers (American Psychological Association, 2012; Harris, 2018; McGown, 2016; Rojas-LeBouef, 2010, Rojas-LeBouef & Slate, 2011a, 2011b) have examined ethnic/racial achievement gaps for the general student population or for Limited English Proficient students (Rojas-LeBouef, 2010, Rojas-LeBouef & Slate, 2011a, 2011b), limited research exists on the degree to which ethnic/racial achievement gaps are present for students in special education. In an article of note, with respect to reading performance for students in special education, Wei, Blackorby, and Schiller (2011) sought to identify the effect of student demographic factors on reading growth. With particular interest to this article was the examination of the relationship between reading performance, ethnicity/race, and special education status. Specifically analyzed were the data from the United States Department of Education's 2002 Special Education Elementary Longitudinal Study. The data set included a nationally representative sample of 3,421 students with disabilities between the ages of 7 to 17. Wei et al. (2011) discovered that although student reading levels increased as students moved to higher grade levels, gender and ethnic/racial achievement gaps in reading persisted over time. Specifically, Black and Hispanic students with disabilities had lower reading achievement scores than White students with disabilities. Additionally, the reading growth trajectories for Black and Hispanic students flattened as students reached secondary grade levels.

## **Literature Review on Reading and English Language Learner Status**

The United States has undergone a dramatic change in the demographics of students in public schools in the past two decades. The greatest change has been in the growth of English Language Learners which increased 26% from the 2000 to 2015, resulting in approximately 5 million English Language Learners in public schools and accounting for 9.5% of the total U.S public school student population (National Center for Education Statistics, 2019b). These dramatic changes in public school demographics have led to recent legislative action through the Every Student Succeeds Act of 2015 and ongoing federal guidance from the U.S. Department of Education. The former U.S. Secretary of Education, John B. King Jr. stated, “In too many places across the country, English learners get less access to quality teachers, less access to advanced coursework, and less access to the resources they need to succeed” (U.S. Department of Education, 2016, para. 2).

Compounding these educational pedagogy challenges, within the English Language Learner population, additional demographic challenges are present, especially in the area of special education (National Center for Education Statistics, 2019a). Across the United States, 713,000 English Language Learners were also identified as students with disabilities and represented 14.7% of the total English Language Learner population (National Center for Education Statistics, 2019b). The total percentage of English Language Learners in public schools varies greatly by state with eight states (i.e., Alaska, California, Colorado, Kansas, Nevada, New Mexico, Texas, and Washington) having more than 10% of their public school population being identified as English Language Learners.

The large increase in the numbers of English Language Learners over the last two decades has spurred heightened awareness of achievement gaps and pressures for researchers to examine the achievement of English Language Learners in greater depth. Li, Kruger, Beneville, Kimble, and Kirshnan (2018) contended that the increased dependence on high stakes testing, brought about by the No Child Left Behind Act (2001) and the Every Student Succeeds Act (2015), has had negative effects on academic performance outcomes and instead of closing the achievement gaps between the total student population and English Language Learners has instead caused greater disproportionalities to exist.

Evidence of English Language Learner academic achievement gaps were evident in a multiple state study of 6,662,994 students from two separate midwestern states and two large urban districts (Abedi, 2002). Student data spanned Grades 1 to Grade 11 and were comprised of a demographically diverse English Language Learner populations ranging from 6.9% to 24.1% of the total general population. Abedi (2002) revealed that English Language Learners performed lower than students who were not English Language Learners on reading, mathematics, and science tests. Specifically, the degree of disproportionality was greatest on the state achievement tests with the higher levels of language demand (i.e., reading) and lower on state achievement tests where language has less of an effect (i.e., mathematics).

Although Abedi (2002) examined the results from two specific western states, a larger scale study was completed by Fry (2007) in a national study. His results were congruent with the findings of Abedi (2002), reflected the continuation of growing achievement gaps between English Language Learners and non-English Language

Learners. Fry analyzed the 2005 National Assessment of Education Progress, which contained state assessment data from 39 states for mathematics and 34 states for reading. Specifically examined were the Grade 4 and Grade 8 Reading and Mathematics gaps between English Language Learners and students who were not English Language Learners. One interesting finding was that regardless of the grade or subject area, the academic achievement of English Language Learners was statistically significantly lower than the academic achievement of their peers who were not English Language Learners. Specifically, the reading proficiency of English Language Learners was 73% below grade level for Grade 4 students and 71% below grade level for Grade 8 students.

With respect to the State of Texas, Rojas-LeBouef (2010) investigated the academic achievement of Grade 5 Limited English Proficient, Hispanic, and White students to determine whether gaps were present in their reading and mathematics performance. State assessment data for the Texas Assessment of Knowledge and Skills (TAKS) test from the 2002-2003 school year through the 2008-2009 school year were obtained from the Texas Education Agency Academic Excellence Indicator System and analyzed. Rojas-LeBouef (2010) demonstrated that Limited English Proficient students had the lowest TAKS Reading and Mathematics test scores in comparison to White and Hispanic students for all 7 years of Texas statewide data. For Limited English Proficient students, their average passing rates across the 7-year time period were 49.91% on the TAKS Reading test and 59.61% on the TAKS Mathematics test. In comparison, Hispanic students had average passing rates across the 7-year time period of 71.33% on the TAKS Reading test and 73.98% on the TAKS Mathematics test. White students had the highest average passing rates across the 7-years which were 86.99% for Reading and

86.23% for Mathematics. The effect sizes were large on the TAKS Reading test and moderate or large on the TAKS Mathematics test across the 7-year time frame of data analyzed.

In a similar investigation that was also conducted in Texas, Craft (2011) examined the academic achievement of Grade 8 White, Hispanic, and Limited English Proficient students. Specifically examined were the TAKS Grade 8 Reading, Mathematics, Science, and Social Studies passing rates from the 2003-2004 through the 2009-2010 school years. Craft (2011) established that the achievement gaps between Limited English Proficient and non-Limited English Proficient students were persistent throughout the data analyzed. Specifically, Craft (2011) documented that Limited English Proficient students had statistically significantly lower academic achievement in the four subject areas assessed than did Hispanic students and White students. Of the statistical analyses, effect sizes were in the large or very large category (Craft, 2011).

More recently, Schleeter (2017) analyzed the reading performance of Texas Grade 3 English Language Learners as a function of their economic status, ethnicity/race, and gender. In his multiyear investigation, Schleeter (2017) analyzed three years (i.e., 2012-2013, 2013-2014, 2014-2015) of Texas statewide archival data. Schleeter (2017) addressed the effect of economic status, ethnicity/race, and gender on the three STAAR Reading Reporting categories and the percentage of students who met state-mandated performance standards (i.e. STAAR Phase-in 1, 2, and 3) for English Language Learners. For each statistical analysis, with respect to economic status, as poverty increased reading performance decreased for English Language Learners. Additionally, regarding ethnicity/race, Hispanic English Language Learners had the poorest reading performance



results and Asian English Language Learners had the highest reading performance results in comparison to Black and White English Language Learners. With respect to gender, English Language Learner girls outperformed English Language boys. Effect sizes ranged from below small to large (Schleeter, 2017).

Further examining the effects of English Language Learner status on student achievement in Texas public schools, Flores, Batalova, and Fix (2012) analyzed reading and mathematics performance by English Language Learner status. In this multiyear investigation, they analyzed 20 years (i.e., 1990 through 2009) of Texas data on the TAAS and the TAKS assessments. Examined in their study were the passing rates on the state-mandated reading and mathematics tests from Grade 3 through Grade 11. English Language Learners were categorized in the Flores et al. (2012) research investigation in three groupings: (a) Ever-English Language Learners (i.e., students who were ever identified as English Language Learners); (b) the On-Time Cohort (i.e., students who entered Grade 1 in 1995 and reaching Grade 12 in 2006); and (c) Non-English language Learners (i.e., students who were never identified as English Language Learners). Flores et al. (2012) documented the presence of strong relationships between English Language Learner status and poor reading performance. Clear disparities were established in all 12 years and for all tested grade levels (i.e., Grades 3, 4, 5, 8, 10, and 11). With respect to the percentages of students who met the state-mandated performance standards. Flores et al. (2012) established the presence of statistically significant differences among Ever-English Language Learner, On-Time Cohort, and Non-English Language Learners. From 1995 through 2007, only 38% of Ever-English Language Learners met the Grade 4

reading performance standard in comparison to 71% of the On-Time Cohort English Language Learners, and 79% of Non-English Language Learners.

### **Statement of the Problem**

Education itself has gone through numerous reforms in the United States. Over the last century, the level of rigor of public school curriculum has continued to expand along with state and federal levels of accountability for school districts. In accordance with the requirements outlined by the No Child Left Behind Act of 2001 and the Every Student Succeeds Act of 2015, state education agencies across the United States were mandated to develop standardized assessment exams to monitor and to report student academic performance (United States Department of Education, 2017). With billions of dollars in special education funding being provided to school districts, federal accountability for student achievement tied to those dollars is on the increase. In recent investigations, researchers (e.g., Harris, 2018; McGown, 2016; Schleeter, 2017) have documented the presence of continued substantial achievement gaps as a function of special education enrollment status, ethnicity/race, gender, poverty, and English Language Learner status

Families with incomes below the federal poverty threshold are considered poor, but the cost of raising a child with basic needs requires at least twice the federal poverty threshold. Therefore, when taking into consideration the actual cost of raising a child utilizing a basic need calculation, the actual percentage of children in poverty is close to 43% (National Center for Children in Poverty, 2019). According to the U.S. Department of Department of Agriculture (2017), the cost of raising a child from birth to age 18 is almost \$240,000 and the cost of raising a child with special needs can increase to almost

1 million dollars (National Center for Children in Poverty, 2019). Researchers (e.g., Harris, 2018; Hernandez, 2012; McGown, 2016; Reardon, 2011; Wright & Slate, 2015) have all demonstrated that childhood poverty is a substantial threat to children's ability to learn, thereby negatively affecting the ability to read. Students in special education are more likely to be raised in poverty, tend to struggle with reading at greater rates, and respond less effectively from academic interventions (Jones et al., 2017). Consequently, the limited research available on reading performance of students who in are special education and in poverty needs to be addressed to provide empirical insights and to ensure a firm foundation to develop education practices for student learning.

Additionally, the requirement for school districts to provide free and appropriate public education to all students, coupled with the increasing pressures on student academic performance has created a need for research investigations into student achievement based on student race/ethnicity demographic trends. After reviewing research conducted at the national level, despite federal legislative actions, ethnic and racial disparity gaps are prevalent (e.g., American Psychological Association, 2012; Harvey, 2013; Wei et al., 2011). Furthermore, the similar reading disparity gaps based on race/ethnicity were established in Texas by Harris (2018), McGown (2016), and Rojas-LeBouef (2010). To date, however, limited research is available on reading performance of students by race/ethnicity and who are in special education. These gaps in the literature need to be addressed to provide empirical insights and inform educational policy makers on how to address potential disparities among their ethnically/racially diverse special education populations.

Furthermore, almost 6 million students served in public schools are identified as English Language Learners and predominantly receive instruction in their non-native language, resulting in reading deficits that can have negative lifelong effects for individuals and for society (Flores et al., 2012). Researchers (e.g., Abedi, 2002; Craft, 2011; Flores et al., 2012; Fry, 2007; Li et al., 2018; National Center for Education Statistics, 2019b; Schleeter, 2017) have all demonstrated that English Language Learner status is a substantial threat to children's ability to learn, thereby negatively affecting the ability to read and lowering their overall economic contribution to society. Additionally, English Language Learners in special education face greater challenges than the general student population and account for almost 15% of the total English Language Learners population. Furthermore, additional students fail to be identified for special education and miss out on essential supports due to language barriers (National Center for Education Statistics, 2019b). English Language Learners struggle with reading at greater rates, and respond less effectively from academic interventions (Abedi, 2002; Li et al., 2018). Consequently, the limited research available on reading performance of students who are in special education and who are English Language Learners needs to be addressed to provide empirical insights and to ensure a firm foundation to develop education practices for student learning.

### **Purpose of the Study**

The overall purpose of this journal-ready dissertation was to examine the effect of economic status, ethnicity/race, and English Language Learner status on the overall reading performance of Grade 4 students in special education. In the first study, the effect of economic status (i.e., Not Poor, Poor) on the reading performance of Grade 4

students in special education was examined. In the second study, the effect of ethnicity/race (i.e., Black, Hispanic, White) on the reading performance of Grade 4 students in special education was addressed. In the third study, English Language Learner status and its relationship to the reading performance of Grade 4 students in special education was examined. In all three studies, the extent to which trends were present in student performance across four school years was addressed.

### **Significance of the Study**

A substantial amount of literature exists on the relationships of reading, gender, special education enrollment, and economic status. However, research is limited on the interaction of all four variables. Though researchers (Harris, 2018; McGown, 2016) have recently examined reading performance and trends for the STAAR Reading Reporting Categories I, II, and III and for the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards, no studies were located in which researchers examined reading by the economic status of students in special education. Accordingly, gaps in the existing literature may be filled as a result of this study. Additionally, school leaders and policymakers might use the insights from this investigation to improve instruction for students with disabilities.

Additionally, extensive research exists on the relationships between student ethnicity/race, gender, special education, and reading performance. However, few studies were identified in which researchers examined all four variables simultaneously. Although several researchers (Harris, 2018; McGown, 2016) have recently conducted studies on student reading performance on the STAAR Reading test, no research studies were located in which the reading performance of students in special education

populations was addressed in conjunction with their ethnicity/race. As such, results from this study may provide insights and relevant data that can guide school administrators, teachers, and legislatures in making more informed decisions for students in special education with consideration of ethnicity/race.

Moreover, a considerable amount of research has been conducted on the relationship of English Language Learner status, special education status, and gender on student reading achievement. However, research is limited on the interrelationships of English Language Learner status, special education status, and gender on student reading performance. Though researchers (Harris, 2018; Schleeter, 2017) have recently examined reading performance across the STAAR Reading Reporting Categories I, II, and III or across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards; no studies were located in which the reading performance of students in special education was addressed by their English Language Learner status. As such, valuable insights are provided from the results of this empirical, multiyear investigation for school district leaders, policymakers, and teachers.

### **Definition of Terms**

The key terms for the three research investigations in this journal-ready dissertation are provided for the reader below.

#### **Asian**

The Texas Education Agency (2018a) defines Asian descent as, “a person having origins in any of the original peoples of the Far East, Southeast Asia, Indian subcontinent, Polynesian Islands, Micronesian Islands, Melanesian Islands, or Philippine Islands” (p. 4).

**Black**

The Texas Education Agency (2018a) defines Black, “a non-Hispanic person having origins in any of the Black racial groups of Africa” (p. 4).

**Economic Status**

The term economic status is a label to distinguish between students who are living in poverty and students who are not. The Texas Education Agency (2016) codes students based on their economic status through the Texas Education Agency Public Information Management System based on student participation in the free or reduced lunch program. Qualifications for the free or reduced lunch program are based on family income and the Federal poverty line at the time of application. For the purpose of this journal-ready dissertation, students who did not qualify for free or reduced lunch (i.e., household income of more than 185% of the Federal poverty line) will be in the Not Poor group. Students who qualified for the reduced lunch program (i.e., household income of between 131% to 185% of the Federal poverty line) or the free lunch program (i.e., family income of 130% or less of the Federal poverty line) were considered to be Poor (Burney & Beilke, 2008).

**English Language Learners**

The Texas Education Agency (2016) accountability manual defines English Language Learners as “students whose primary language is other than English and who are in the process of acquiring English” (p. 108). The English Language Learner student population is not a homogenous population but rather a highly heterogeneous group of students with various background and family environments. English Language Learners come from households in which no English is spoken, where only English is spoken, and

other students from homes in which multiple languages are spoken. The English Language Learner designation is a term that is primary used in the United States to refer to students in Grades Kindergarten through 12 who are actively learning English (National Council of Teachers of English, 2008).

### **Ethnicity/Race**

The United States Census Bureau makes a distinction between the use of the terms ethnicity and race. The United States Census Bureau (2017) defines race as, “a person’s self-identification with one or more social groups” and in contrast, “ethnicity determines whether a person is of Hispanic origin or not” (p. 1).

### **Hispanic**

The Texas Education Agency (2018a) defines Hispanic descent as, “a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race” (p. 4).

### **Not Poor**

In this investigation, the Not Poor group will be defined as students who did not qualify for the Federal free or reduced lunch program. Families with incomes above 185% of the Federal poverty line are not eligible for the Federal free or reduced lunch program (Burney & Beilke, 2008).

### **Phase-In Standards**

The Texas Education Agency (2014) developed three Phase-in standards for meeting satisfactory performance on the STAAR assessment. Meeting the STAAR Satisfactory criteria requires that a student meet a minimum scaled score. The minimum scaled scores increased in three phases over a 5-year period. The English STAAR Grade



4 Reading assessment for 2014-2015 school year (i.e., Phase-in 1) required a scaled score of 1422 for a Satisfactory performance designation, for 2015-2016 through 2017-2018 (i.e., Phase-in 2) a minimum scaled score of 1460 was required, and for the 2018-2019 (i.e., Phase-in 3) school year the minimum required scale score was 1511.

### **Poor**

In this journal-ready dissertation, students in the Poor group will be students who qualified for the Federal free or reduced lunch program. According to Burney and Beilke (2008), families with incomes of 130% or less of the Federal poverty line qualify for the Federal free lunch program. Students who qualify for the Federal reduced lunch program are required to have family home incomes between 131% to 185% of the Federal poverty line (Burney & Beilke, 2008).

### **Public Education Information Management System**

The Public Education Information Management System is a standardized digital compilation of data entered and certified by public school districts as required by the Texas Education Code. The Texas Education Agency annually defines the data standards which cover a broad array of variables including personnel, financial, and organizational information, student demographic and academic performance (Public Education Information Management System Data Standards, 2018).

### **Reading Reporting Category I**

The Texas Education Agency (2011) defines the STAAR Reading Reporting Category I as an indicator measuring a student's ability, "to understand and analyze a variety of written texts across reading genres" (p. 2).

**Reading Reporting Category II**

The STAAR Reading Reporting Category II is defined by The Texas Education Agency (2011) as an indicator measuring a student’s ability, “to understand and analyze literary texts” (p. 3).

**Reading Reporting Category III**

The Texas Education Agency (2011) defines the STAAR Reading Reporting Category III as an indicator measuring a student’s ability, “to understand and analyze informational texts” (p. 5).

**Special Education**

Special education is defined by the Texas Education Agency (2016) as, “the population of students served by special education programs” (p. 25). Students qualify to be served in special education programs after meeting one of 13 eligibility criteria outlined by the Individuals with Disabilities Education Act (1990) and have a disability that negatively influences student academic performance. Additionally, for a student to be coded as a student served in special education, the student must have an Individualized Education Program developed within a calendar year and have a Full Educational Evaluation completed within the last three years.

**State of Texas Assessment of Academic Readiness (STAAR)**

Since 2012, Texas has used the State of Texas Assessments of Academic Readiness (STAAR) program standardized assessment batteries to monitor student academic achievement based on the state curriculum standards. The assessments are administered in Grades 3-8 in the areas of Reading, Writing, Science, Social Studies, and Mathematics. Additionally, high school students enrolled in Algebra I, English I and II,

United States History, and Biology courses are required to take the examinations. (Texas Education Agency, 2018d).

### **Texas Education Agency**

The Texas Education Agency oversees over 1,200 public school districts and billions of dollars through its mission to provide leadership, resources, and guidance to help meet the education needs of students in the state of Texas (Texas Education Agency, 2018b, para 1 & 3). The Texas Education Agency is headed by the Commissioner of Education who works collaboratively with the State Board of Education and 20 Regional Education Service Centers to guide and support public primary and secondary schools and districts Texas (Texas Education Agency, 2018b, para 1, 6 & 8).

### **White**

The Texas Education Agency (2018a) defines White ethnicity/race as, “a non-Hispanic person having origins in any of the original peoples of Europe, North Africa, or the Middle East” (p. 4).

### **Procedures**

For this journal-ready dissertations, initial approval was requested from this researcher’s dissertation committee. After approval was granted from the dissertation committee, further approval was requested from Sam Houston State University’s Institutional Review Board. Once approval was received, archival data that had been previously obtained from the Texas Public Education Information Management System for Grade 4 boys and girls in special education who took the STAAR Reading assessment in the 2014-2015, 2015-2016, 2016-2017 and 2017-2018 were analyzed.

### **Literature Review Search Procedures**

For this journal-ready dissertation, the literature regarding the reading academic achievement of students was reviewed. Specifically examined were reading achievement literature on the influence that special education, gender, economic status, race/ethnicity, and English Language Learners. Phrases that were used in the search for relevant literature were: *reading performance, special education, disabilities, poverty, ethnicity/race, and English Language Learners*. The search was conducted through the EBSCO Host data for academic journals. Only peer reviewed articles from 2009-2019 were considered. Additionally, results were filtered to contain only studies in English.

### **Delimitations**

For this study, only the reading performance of Texas Grade 4 students in special education was analyzed. Only four school years of STAAR data (i.e., 2014-2015, 2015-2016, 2016-2017, 2017-2018) were used which may limit the degree to which results are generalizable over time. An additional delimitation is that economically disadvantaged status was restricted to the requirements of the Federal free and reduced lunch program. Furthermore, ethnicity/race was only analyzed for the three major ethnic/racial groups (i.e., Black, Hispanic, and White) of students in Texas.

### **Limitations**

For the purpose of this journal-ready dissertation, only the reading achievement of Texas Grade 4 students in special education was analyzed. Another limitation was the variables (i.e., special education status, poverty, ethnicity/race, and English Language Learners status) were coded by local public school districts in Texas through the Public Education Information Management System. As such, errors may be present. However,

due to routine audits conducted by the Texas Education Agency, errors in the data set are considered to be minimal in nature (Escalante, 2017). Furthermore, many variables exist that may also influence differences in reading achievement beyond the independent variables (i.e., economic status, ethnicity/race, and English Language Learner status) in this journal-ready dissertation. A final limitation was the use of archival data for this causal-comparative study, as no definitive determination of cause and effect relationships can be made.

### **Assumptions**

For the purpose of this journal ready dissertation, the assumption was made that the achievement data, special education status, gender, economic status, ethnicity/race, and English Language Learner status were accurately delineated in the Texas Education Agency Public Education Information Management System. Additionally, the consistency in which Texas school districts gather and report student data was assumed to be accurate and based on state-wide guidelines which should create uniform parameters across the state. Consequently, any modifications to these assumptions could result in inaccurate data and produce contradictory conclusions.

### **Organization of the Study**

In this journal-ready dissertation, three research investigations were conducted. Addressed in the first journal-ready dissertation article was the degree to which differences were present in the reading performance of Texas Grade 4 boys and girls in special education as function of their economic status (i.e., Not Poor, Poor) for the 2014-2015, 2015-2016, 2016-2017, and the 2017-2018 school years. Examined in the second article was the extent to which differences existed in the reading performance of Texas

Grade 4 boys and girls in special education as function of their ethnicity/race (i.e., Black, Hispanic, White) for the same four school years. In the third article, the focus was placed on whether differences were present in the reading performance of Texas Grade 4 boys and girls in special education as function of their English Language Learner status for the same four school years.

The journal-ready dissertation consists of five chapters. Chapter I contains the background of all three studies, the statement of the problem, purpose of the study, significance of the study, definitions of terms, delimitations, limitations, assumptions, and outline of the of the three research investigations. Discussed in Chapter II was the background information for the first article involving reading achievement for students in special education based on their economic status. Chapter III contains the background information for the second article involving reading achievement for students in special education based on their ethnicity/race. Addressed in Chapter IV was the background information for the third article involving reading achievement for students in special education based on English Language Learner status. Lastly, in Chapter V, the results of all three investigation were interpreted and the implications for future policy were discussed.

**CHAPTER II****DIFFERENCES IN READING AS A FUNCTION OF THE ECONOMIC STATUS OF  
TEXAS GRADE 4 BOYS AND GIRLS IN SPECIAL EDUCATION: A MULTIYEAR  
STATEWIDE INVESTIGATION**

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This dissertation follows the style and format of *Research in the Schools (RITS)*.

### **Abstract**

In this investigation, the degree to which the economic status (i.e., Not Poor and Poor) of Texas Grade 4 boys and girls in special education was related to their reading performance was addressed. Archival data from the Texas Education Agency Public Education Information Management System were analyzed for the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years on the Texas state-mandated reading assessment for Grade 4 students. Inferential statistical analyses, conducted separately for boys and girls in special education, revealed that boys and girls who were Poor had statistically significantly lower reading test scores than boys and girls who were Not Poor. Results in all four school years were consistent with the existing research literature in that poverty negatively affects reading performance. Implications for policy and for practice were provided, as well as recommendations for future research.

*Keywords:* Special education, STAAR, Reading achievement, Poverty, Economic status, Gender, Disabilities, STAAR Reading test, Reporting Categories, Phase-in Standard



DIFFERENCES IN READING AS A FUNCTION OF THE ECONOMIC STATUS OF  
TEXAS GRADE 4 BOYS AND GIRLS IN SPECIAL EDUCATION: A MULTIYEAR  
STATEWIDE INVESTIGATION

Of the children in the State of Texas, 24% of them are in poverty, a rate that is 5% higher than the national average (National Center for Children in Poverty, 2019). Even more alarming is the percentage of students who are in poverty (i.e., 59% of elementary school students) who attend Texas public schools (National Center for Education Statistics, 2019c). Similarly, high numbers of students in poverty exists in the secondary level, 58% of middle school students (Write & Slate, 2015) and 43% of high school students (Lee & Slate, 2014). The sheer number of students in poverty is staggering with over 7,000,000 children who experience the negative effects of poverty (National Center for Children in Poverty, 2019).

In a study sponsored by the Annie E. Casey Foundation, 4,000 students who did not read at grade level by Grade 3 were determined to be four times more likely to drop out of school than their peers who were reading at grade level (Hernandez, 2012). When poor reader status was combined with living in poverty, the probability of the dropping out exponentially increased, thus creating a “double jeopardy” that negatively influenced high school graduation rates (p. 4). Of the children who are in poverty, 22% of them will not graduate from high school. This high dropout rate increases to 32% for students who spend half of their life in poverty (Hernandez, 2012). These statistics are in stark contrast to the dropout rate of 6% for students who were never in a poverty situation.

With respect to the state of interest in this article, Texas, McGown (2016) analyzed the reading performance of Texas elementary school students as a function of

their economic status. In her multiyear investigation, McGown analyzed three years (i.e., 2012-2013, 2013-2014, 2014-2015) of Texas data on the State of Texas Assessment of Academic Readiness (STAAR). Examined in her study were the three STAAR Reading Reporting Categories and the percentage of students who met the Level II Final Satisfactory Performance Standard. Economic status in McGown's (2016) research investigation consisted of three groups, based upon their eligibility for the federal free or reduced price lunch program. Students who were eligible for a free lunch were defined as Extremely Poor, students who were eligible for a reduced-price lunch were regarded as Moderately Poor, and students who were not eligible for either program were defined as Not Poor.

McGown (2016) documented the presence of strong relationships between student poverty and poor reading performance. On all three STAAR Reading Reporting categories, students who were in the Not Poor group had the highest average raw scores, followed by students in the Moderately Poor group, and then by students in the Extremely Poor group. This clear stair-step effect (Carpenter, Ramirez, & Severn, 2006) was present in all three school years and for all three STAAR Reading Reporting categories. Effect sizes for these statistically significant differences ranged from small to moderate in nature.

With respect to the percentages of students who met the state-mandated performance standards, McGown (2016) established the presence of statistically significant differences among the three groups of students. In all three school years, higher percentages of students who were in the Not Poor group met the performance standard, followed by students who were in the Moderately Poor group, and then by

students in the Extremely Poor group. The differences in the percentages of students who met the state-mandated performance standard between the Not Poor and Moderately Poor groups of students were 18.9% (2012-2013), 19.4% (2013-2014), and 19.9% (2014-2015). The differences in the percentages who met the state-mandated performance standard were the greatest between students who were in the Not Poor group and students who were in the Extremely Poor group, with the differences being 28.8% (2012-2013), 30.9% (2013-2014), and 29.3% (2014-2015).

In a similar multiyear analysis that was also conducted in Texas, Harris (2018) analyzed the reading performance of Texas Grade 4 students as a function of their economic status. What was unique to Harris' (2018) investigation was her use of Grade 4 students as her sample. She analyzed Texas statewide STAAR Reading data from the 2012-2013, 2013-2014, and 2014-2015 school years. Economic status in Harris's (2018) research investigation was defined in the same manner as McGown (2016). Harris (2018) established that as poverty levels increased, student reading performance decreased. In all three school years, a clear stair-step effect (Carpenter et al., 2006) was present for the three STAAR Reading Reporting Categories. On all three STAAR Reading Reporting categories, Grade 4 students who were in the Not Poor group had the highest average raw scores, followed by students in the Moderately Poor group, and then by students in the Extremely Poor group. This clear stair-step effect (Carpenter et al., 2006) was present in all three school years and for all three STAAR Reading Reporting categories. Effect sizes for these statistically significant differences were moderate in all three school years.

With respect to the performance standards, in all three school years, higher percentages of Grade 4 students who were in the Not Poor group met the performance standard, followed by students who were in the Moderately Poor group, and then by students in the Extremely Poor group. The differences in the percentages of students who met the state-mandated performance standard between the Not Poor and Moderately Poor groups of students were 19.3% (2012-2013), 18.7% (2013-2014), and 19.7% (2014-2015). The differences in the percentages who met the state-mandated performance standard were the greatest between students who were in the Not Poor group and students who were in the Very Poor group, with the differences being 29.4% (2012-2013), 27.9% (2013-2014), and 31.9% (2014-2015).

In a similar investigation, but based on Grade 6 students, Wright and Slate (2015) examined data from the 2010-2011 Texas Assessment of Knowledge and Skills Reading assessment, the standardized test predecessor to the STAAR exam. With respect to economic status, students who were eligible for either the free or reduced price lunch program were in the Economically Disadvantaged group, and students who were not eligible for either the free or reduced price lunch program were in the Not Economically Disadvantaged group. Wright and Slate (2015) documented the presence of a 4% to 6% lower performance in reading of students in poverty in comparison to their peers who were not poor. Wright and Slate (2015) stated, “the academic achievement gap between students who were or were not economically disadvantaged has grown substantially over the past few generations” (p. 345).

Additionally, Reardon (2011) analyzed five decades of academic achievement data by student economic status. Reardon (2011) ascertained that over the last 50 years,

the association between parental education and student achievement has remained stable, although the association between parent income and student achievement has dramatically increased. Reardon (2011) suggested the increase over time between the relationship between parent income and student achievement was due to an increase in parent involvement in their children's cognitive development in recent years. Similar to parental education, economic status was a strong predictor of student academic achievement (Reardon, 2011).

In another recent investigation, directly related to the sample of students whose data will be analyzed in this investigation, Jones, Ostojic, Menard, Picard, and Miller (2017) sought to identify factors that most contributed to poor student reading outcomes. Of particular interest to this article was their examination of the relationship between reading performance, economic status, and special education status. Specifically analyzed were the 2011-2013 achievement tests results of 1,429 Grade 3 students from Southwestern Ontario. Jones et al. discovered that the students who were at the highest risk (i.e., students who were economically disadvantaged, English Language Learners, or in special education) for poor reading outcomes did not make the same reading performance gains as their peers in higher income schools.

### **Statement of the Problem**

Families with incomes below the federal poverty threshold are considered poor, but the cost of raising a child with simply the basic needs requires at least twice the federal poverty threshold, resulting in the actual percentage of children in poverty being closer to 43% (National Center for Children in Poverty, 2019). According to the U.S. Department of Agriculture (2017), the cost of raising a child from birth to age 18 is

almost \$240,000 and the cost of raising a child with special needs can increase to almost \$1,000,000 (National Center for Children in Poverty, 2019). Researchers (e.g., Harris, 2018; Hernandez, 2012; McGown, 2016; Reardon, 2011; Wright & Slate, 2015) have all demonstrated that childhood poverty is a substantial threat to the ability of children to learn, thereby negatively affecting the ability to read. Students in special education are more likely to be raised in poverty, tend to struggle with reading at greater rates, and respond less effectively from academic interventions (Jones et al., 2017). Consequently, the limited research available on reading performance of students who in are special education and in poverty was addressed to provide empirical insights and ensure a firm foundation to develop education practices for student learning.

### **Purpose of the Study**

The purpose of this study was to examine the degree to which differences existed in reading by the economic status of Texas Grade 4 boys and girls in special education. In this study, student economic status consisted of two groups of students: Not Poor and Poor. Specifically examined was the effect of economic status on the ability of Grade 4 boys and girls in special education to understand a variety of written texts across reading genres, the ability to understand and analyze literary texts, and the ability to understand and analyze informational texts. A second purpose was to determine the degree to which economic status was related to student performance across the three phase-in performance standards for Grade 4 boys and girls in special education. A third purpose was to determine the extent to which trends were present across the reporting categories for four school years by the economic status of Grade 4 boys and girls w in special education. A fourth purpose was to determine the extent to which trends were present

across the three phase-in standards across four school years (i.e., 2014-2015, 2015-2016, 2016-2017, 2017-2018).

### **Significance of the Study**

A substantial amount of literature exists on the relationships of reading, gender, special education enrollment, and economic status. However, research is limited on the interaction of all four variables. Though researchers (Harris, 2018; McGown, 2016) have recently examined reading performance and trends for the STAAR Reading Reporting Categories I, II, and III and for the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards, no studies were located in which researchers examined reading by the economic status of students in special education. Accordingly, gaps in the existing literature may be filled as a result of this study. Additionally, school leaders and policymakers may gain insights for improving instruction for students with disabilities.

### **Research Questions**

The following overarching research question was addressed in this study: What is the effect of economic status on the overall reading performance of Grade 4 students in special education? Within the overarching research question eight sub-questions were present: (a) What is the effect of economic status on the ability to understand a variety of written texts across reading genres (i.e., STAAR Reading Reporting Category I) of Grade 4 students in special education?; (b) What is the effect of economic status on the ability to understand and analyze literary texts (i.e., STAAR Reading Reporting Category II) of Grade 4 students in special education?; (c) What is effect of economic status on the ability to understand and analyze informational texts (i.e., STAAR Reading Reporting Category III) of Grade 4 students in special education?; (d) What is the effect of

economic status on the STAAR Reading Phase-in 1 standard of Grade 4 students in special education?; (e) What is the effect of economic status on the STAAR Reading Phase-in 2 standard of Grade 4 students in special education?; (f) What is the effect of economic status on the STAAR Reading Phase-in 3 standard of Grade 4 students in special education?; (g) What trend is present across the STAAR Reading Reporting Categories I, II, and III by the economic status of Grade 4 students across four school years of data?; and (h) What trend is present across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards by the economic status of Grade 4 students across four school years of data? The first six research questions were addressed separately for boys and for girls and were repeated for four school years. The last two research questions involved comparisons across all four school years (i.e., 2014-2015, 2015-2016, 2016-2017, 2017-2018).

## **Method**

### **Research Design**

For this empirical investigation, a non-experimental, causal-comparative research design was used (Creswell & Creswell, 2018; Johnson & Christensen, 2017). A state archival dataset was analyzed to determine the effect of economic status on the overall reading performance of Grade 4 students in special education. The independent variable involved in this research article was economic status (i.e., Not Poor, Poor). The dependent variables were the STAAR Reading Reporting Categories 1, 2, and 3 of boys and girls in special education and the Phase-In Satisfactory Performance Standards 1, 2, and 3 of boys and girls in special education.



## **Participants and Instrumentation**

Data for this study were obtained from the Texas Education Agency Public Education Information Management System Texas state-mandated reading assessment for the 2014-2015, 2015-2016, 2016-2017, and the 2017-2018 school years. These data were analyzed to determine the degree to which student economic status was related to their reading performance in each of the four school years. Also addressed was the extent to which trends were present in reading performance by the economic status of Grade 4 boys and girls in special education across four school years of data. Additional analyses were conducted to identify trends across the STAAR Reading Reporting Categories I, II, and III and across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards by student economic status.

All statistical analyses were conducted separately for boys and girls due to the gender disproportionality that exists in special education and the potential that this disparity could skew the overall results. In Texas, the under-identification of girls in special education is apparent in enrollment data. That is, girls account for 33% of the special education population, yet they constitute 49% of the overall public school enrollment (Texas Education Agency, 2018b). Gender disproportionality is also present at the national level with public school students in special education representing 17% percent of boys and 9% of girls (National Center for Education Statistics, 2019a).

The federal poverty threshold varies by calendar year and is updated each January by adjusting the threshold from the prior year to inflation identified in the Consumer Price Index. For 2019, the poverty threshold for the 48 contiguous states and the District of Columbia was: (a) \$12,490 for a single person household; (b) \$16, 910 for a two

person household; (c) 21,330 for a three person household; (d) \$25,750 for a four person household; (e) \$30,170 for a five person household; (f) \$34,590 for a six person household; (g) 39,010 for a seven person household; and (h) 43,430 for an eight person household (U.S. Department of Health and Human Services, 2019). In this study, economic status will refer to two groups of students. For the purpose of this article, students who did not qualify for free or reduced lunch (i.e., household income of more than 185% of the Federal poverty threshold) were in the Not Poor group. Students who qualified for the reduced lunch program (i.e., household income of between 131% to 185% of the Federal poverty threshold) or the free lunch program (i.e., family income of 130% or less of the Federal poverty threshold) were considered to be Poor (Burney & Beilke, 2008).

Reading performance was based on the STAAR Reading Reporting Categories. The Texas Education Agency (2011) has defined the STAAR Reading Reporting Category I as an indicator measuring a student's ability, "to understand and analyze a variety of written texts across reading genres" (p. 2). In contrast, the STAAR Reading Reporting Category II is defined as an indicator measuring a student's ability, "to understand and analyze literary texts" (p. 3) and the STAAR Reading Reporting Category III was defined as an indicator measuring a student's ability, "to understand and analyze informational texts" (p. 5).

In addition to data analyses of the three STAAR Reading Reporting Categories, student reading performance on the STAAR Phase-in standards 1, 2, and 3 was also examined. Meeting the STAAR Satisfactory criteria requires that a student meet a minimum scaled score based on the Phase-in performance standard in place during the

school year of the assessment. The minimum scaled scores were designed to increase in three phases over a 5-year period. The English STAAR Grade 4 Reading assessment for 2014-2015 school year (i.e., Phase-in 1) required a scaled score of 1422 for a Satisfactory performance designation, for 2015-2016 through 2017-2018 (i.e., Phase-in 2) a minimum scaled score of 1460 was required, and for the 2018-2019 (i.e., Phase-in 3) school year the minimum required scale score was 1511. Examining the STAAR Satisfactory criteria across each of the Phase-in standards enabled a comparison of student reading achievement data across the four school years of data even though the satisfactory performance scaled scores changed.

### **Results**

Prior to conducting multivariate analysis of variance (MANOVA) procedures to address the research questions previously delineated, its underlying assumptions were checked. Specifically examined were data normality, Box's Test of Equality of Covariance, and the Levene's Test of Equality of Error Variances. Although these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use on the data in this study (Field, 2009). Results will be presented in chronological order beginning with the 2014-2015 school year and concluding with the 2017-2018 school year.

#### **Overall Results for Boys Across All Four School Years**

For the 2014-2015 school year, the MANOVA yielded a statistically significant difference in overall reading performance by the economic status of Grade 4 boys in special education, Wilks'  $\Lambda = .91$ ,  $p < .001$ , partial  $\eta^2 = .09$ , moderate effect size (Cohen, 1988). With respect to the 2015-2016 school year, a statistically significant difference

was present in overall reading performance, Wilks'  $\Lambda = .85, p < .001$ , partial  $\eta^2 = .15$ , large effect size (Cohen, 1988). Concerning the 2016-2017 school year, a statistically significant difference was yielded, Wilks'  $\Lambda = .90, p < .001$ , partial  $\eta^2 = .10$ , a moderate effect size (Cohen, 1988). Regarding the 2017-2018 school year, a statistically significant difference was again present in overall reading, Wilks'  $\Lambda = .99, p = .006$ , partial  $\eta^2 = .01$ , small effect size (Cohen, 1988). One effect size was large, two effect sizes were moderate, and one effect size was small.

### **Results for Reading Reporting Category I for Boys Across All Four School Years**

For each of the four school years, univariate follow-up analysis of variance (ANOVA) procedures were calculated to determine whether statistically significant differences were present for the STAAR Reading Reporting Category I scores by economic status. Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(1, 845) = 85.08, p < .001$ , partial  $\eta^2 = .09$ , moderate effect size (Cohen, 1988). For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(1, 947) = 129.75, p < .001$ , partial  $\eta^2 = .12$ , moderate effect size (Cohen, 1988), on the STAAR Reading Reporting Category I by student economic status. Regarding the 2016-2017 school year, a statistically significant difference was again revealed,  $F(1, 1157) = 107.76, p < .001$ , partial  $\eta^2 = .08$ , moderate effect size (Cohen, 1988). With respect to the 2017-2018 school year, a statistically significant difference was yielded,  $F(1, 890) = 4.70, p = .03$ , partial  $\eta^2 = .01$ , a small effect size (Cohen, 1988). In all four school years, Grade 4 boys in special education who were Poor answered statistically significant fewer items correctly on the STAAR Reading Reporting Category

I than boys who were Not Poor. Three of the effect sizes were moderate and one effect size was in the below small category.

With respect to the 2014-2015, 2015-2016, and 2016-2017 school years, Grade 4 boys in special education who were Poor answered, on average, over one and one-half items fewer correctly than was answered correctly by boys who were Not Poor. Boys who were Poor answered, on average, about one-half a question fewer correctly than boys who were Not Poor in the 2017-2018 school year. Descriptive statistics are contained in Table 2.1.

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### **Results for Reading Reporting Category II for Boys Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(1, 845) = 76.73, p < .001$ , partial  $\eta^2 = .08$ , moderate effect size (Cohen, 1988). For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(1, 947) = 106.84, p < .001$ , partial  $\eta^2 = .10$ , moderate effect size (Cohen, 1988). Regarding the 2016-2017 school year, a statistically significant difference was again revealed,  $F(1, 1157) = 79.24, p < .001$ , partial  $\eta^2 = .08$ , moderate effect size (Cohen, 1988). With respect to the 2017-2018 school year, a statistically significant difference was yielded,  $F(1, 890) = 9.80, p = .002$ , partial  $\eta^2 = .01$ , a small effect size (Cohen, 1988). In all four school years, Grade 4 boys in special education who were Poor answered a statistically significant fewer number of items on the STAAR Reading

Reporting Category II than students who were Not Poor. Three effect sizes were moderate and one effect size was small.

Regarding the STAAR Reading Reporting Category II, during the 2014-2015 and 2015-2016 school years, Grade 4 boys in special education who were Poor answered, on average, over three and one-quarter items fewer correctly than was answered correctly by boys who were Not Poor. In 2016-2017, Grade 4 boys in special education who were Poor answered, on average, two and one-quarter items fewer correctly than were answered correctly by boys who were Not Poor. Boys who were Poor answered, on average, about one fewer question correctly than boys who were Not Poor in 2017-2018. Descriptive statistics for the STAAR Reading Reporting Category II are contained in Table 2.2.

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### **Results for Reading Reporting Category III for Boys Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(1, 845) = 74.99, p < .001$ , partial  $\eta^2 = .08$ , moderate effect size (Cohen, 1988), on the STAAR Reading Reporting Category III by student economic status. Regarding the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(1, 947) = 155.06, p < .001$ , partial  $\eta^2 = .14$ , large effect size (Cohen, 1988). For the 2016-2017 school year, a statistically significant difference was again revealed,  $F(1, 1157) = 122.43, p < .001$ , partial  $\eta^2 = .10$ , moderate effect size (Cohen, 1988). With respect to the 2017-2018 school year, a statistically significant difference was yielded,

$F(1, 890) = 11.05, p = .001, \text{partial } \eta^2 = .01$ , a small effect size (Cohen, 1988). In all four school years, Grade 4 boys in special education who were Poor answered statistically significantly fewer items on the STAAR Reading Reporting Category III than boys who were Not Poor. One effect size was large, two were moderate, and one effect size was small.

With respect to the 2014-2015, 2015-2016, and 2016-2017 school years, Grade 4 boys in special education who were Poor answered, on average, over two and one-half items fewer correctly than was answered correctly by boys who were Not Poor. Boys who were Poor answered, on average, about one fewer question correctly than boys who were Not Poor in 2017-2018. Descriptive statistics for the STAAR Reading Reporting Category III are presented in Table 2.3.

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### **Overall Results for Girls Across All Four School Years**

For the 2014-2015 school year, the MANOVA yielded a statistically significant difference in overall reading performance by the economic status of Grade 4 girls in special education, Wilks'  $\Lambda = .91, p < .001, \text{partial } \eta^2 = .09$ , moderate effect size (Cohen, 1988). With respect to the 2015-2016 school year, a statistically significant difference was present, Wilks'  $\Lambda = .85, p < .001, \text{partial } \eta^2 = .15$ , large effect size (Cohen, 1988). Concerning the 2016-2017 school year, a statistically significant difference was yielded, Wilks'  $\Lambda = .90, p < .001, \text{partial } \eta^2 = .10$ , a moderate effect size (Cohen, 1988). Regarding the 2017-2018 school year, a statistically significant difference was not

present in overall reading, Wilks'  $\Lambda = .96, p = .065$ . One effect size was large and two effect sizes were moderate.

### **Results for Reading Reporting Category I for Girls Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was not revealed,  $F(1, 241) = 0.92, p = .34$ , for girls on the STAAR Reading Reporting Category I. For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(1, 142) = 10.63, p = .001$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988). Regarding the 2016-2017, a statistically significant difference was not revealed,  $F(1, 221) = 0.38, p = .54$ , for girls. In 2017-2018, a statistically significant difference was not present,  $F(1, 157) = 1.89, p = .17$ . Of the four school years of data analyzed, in only one school year, 2015-2016, did economic status affect the reading performance of Grade 4 girls in special education. The effect size for this school year was moderate.

With respect to the 2015-2016 school year, Grade 4 girls in special education who were Poor answered, on average, over one and three-quarter items fewer correctly on the STAAR Reading Reporting Category 1 than was answered correctly by girls who were Not Poor. In the other three school years, girls in special education, regardless of their economic status, answered a similar number of items correctly on this reading reporting category. Descriptive statistics are presented in Table 2.4.

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### **Results for Reading Reporting Category II for Girls Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was not revealed  $F(1, 241) = 1.03, p = .31$ , for girls. For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(1, 142) = 9.93, p = .006$ , partial  $\eta^2 = .05$ , small effect size (Cohen, 1988). Regarding the 2016-2017 school year, a statistically significant difference was not revealed,  $F(1, 221) = 0.59, p = .44$ . In 2017-2018 a statistically significant difference was also not present,  $F(1, 157) = 0.10, p = .92$ . Only in 2015-2016 was a statistically significant effect present. The effect size for this difference was small.

Regarding the STAAR Reading Reporting Category II, during the 2015-2016 school year, Grade 4 girls in special education who were Poor answered, on average, over two and one-half items fewer correctly than was answered correctly by girls who were Not Poor. Girls who were Poor and girls who were Not Poor answered a similar number of questions correctly on the STAAR Reading Reporting Category II in the other three school years. Delineated in Table 2.5 are the descriptive statistics for these school years.

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### **Results for Reading Reporting Category III for Girls Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was not present,  $F(1, 241) = 0.20, p = .66$ , for girls. For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(1, 142) = 5.82, p = .017$ , partial  $\eta^2 = .04$ , small effect size (Cohen, 1988). Regarding the 2016-2017 school year, a

statistically significant difference was not revealed,  $F(1, 221) = 0.68, p = .41$ . In 2017-2018, a statistically significant difference was also not yielded,  $F(1, 157) = 0.16, p = .69$ . Only for the 2015-2016 school year was a statistically significant difference present, with a small effect size.

With respect to the 2015-2016 school year, Grade 4 girls in special education who were Poor answered, on average, nearly two items fewer correctly than was answered correctly by girls who were Not Poor. In the other three school years, Grade 4 girls who were Poor and who were Not Poor answered correctly a similar number of items in this reading category. Revealed in Table 2.6 are the descriptive statistics for these school years.

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### **Results for the STAAR Reading Phase-in 1 Standard for Boys Across All Four School Years**

Student performance on the STAAR Reading Phase-in 1 standard was examined next through the use of Pearson chi-square procedures. Concerning the STAAR Reading Phase-in 1 standard by the economic status of Grade 4 boys, the result for the 2014-2015 school year was statistically significant,  $\chi^2(1) = 167.92, p < .001$ . The effect size for this finding, Cramer's V, was large, .50 (Cohen, 1988). The Poor group had 4.62 times fewer boys who met this standard than the Not Poor group of boys. Table 2.7 contains the frequencies and percentages for the 2014-2015 school year.

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With regard to the 2015-2016 school year, the result was statistically significant,  $\chi^2(1) = 175.79, p < .001$ , moderate effect size Cramer's V of .43 (Cohen, 1988). As presented in Table 2.7, the Poor group had 3.67 times fewer boys who met this standard than the Not Poor group of boys. Concerning the 2016-2017 school year, a statistically significant difference was revealed,  $\chi^2(1) = 222.21, p < .001$ , moderate effect size, Cramer's V of .44 (Cohen, 1988). As delineated in Table 2.7, the Poor group had 4.12 times fewer boys who met this standard than the Not Poor group of boys. With regard to the 2017-2018 school year, the result was statistically significant,  $\chi^2(1) = 73.06, p < .001$ , small effect size, Cramer's V of .29 (Cohen, 1988). The Poor group, as revealed in Table 2.7, had 3.01 times fewer boys who met this standard than the Not Poor group of boys.

**Results for the STAAR Reading Phase-in 2 Standard for Boys Across All Four School Years**

Concerning the STAAR Reading Phase-in 2 standard by the economic status of Grade 4 boys, the result for the 2014-2015 school year was statistically significant,  $\chi^2(1) = 173.54, p < .001$ , large effect size, Cramer's V of .50 (Cohen, 1988). The Poor group had 54 times fewer boys who met this standard than the Not Poor group of boys. Table 2.8 contains the frequencies and percentages for the 2014-2015 school year.

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With respect to the 2015-2016 school year, a statistically significant difference was yielded,  $\chi^2(1) = 187.86, p < .001$ , moderate effect size, Cramer's V of .44 (Cohen, 1988). As presented in Table 2.8, the Poor group had 12.03 times fewer boys who met this standard than the Not Poor group of boys. Concerning the 2016-2017 school year, the result was statistically significant,  $\chi^2(1) = 242.98, p < .001$ , moderate effect size, Cramer's V of .46 (Cohen, 1988). As delineated in Table 2.8, the Poor group had 11.33 times fewer boys who met this standard than the Not Poor group of boys. Regarding the 2017-2018 school year, the result was statistically significant,  $\chi^2(1) = 73.61, p < .001$ , small effect size, Cramer's V of .29 (Cohen, 1988). The Poor group, as revealed in Table 2.8, had 5.54 times fewer boys who met this standard than the Not Poor group of boys.

### **Results for the STAAR Reading Phase-in 3 Standard for Boys Across All Four School Years**

With respect to the STAAR Reading Phase-in 3 standard by the economic status of Grade 4 boys, the result for the 2014-2015 school year was statistically significant,  $\chi^2(1) = 81.83, p < .001$ , moderate effect size, Cramer's V of .31 (Cohen, 1988). The Poor group had 22 times fewer boys who met this standard than the Not Poor group of boys. Table 2.9 contains the frequencies and percentages for the 2014-2015 school year.

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Regarding the 2015-2016 school year, the result was statistically significant,  $\chi^2(1) = 112.91, p < .001$ , moderate effect size, Cramer's V of .34 (Cohen, 1988). As delineated in Table 2.7, the Poor group had 161.60 times fewer boys who met this standard than the

Not Poor group of boys. Concerning the 2016-2017 school year, a statistically significant difference was yielded,  $\chi^2(1) = 118.89, p < .001$ , moderate effect size, Cramer's V of .32 (Cohen, 1988). As revealed in Table 2.9, the Poor group had 10.94 times fewer boys who met this standard than the Not Poor group of boys. With regard to the 2017-2018 school year, the result was statistically significant,  $\chi^2(1) = 56.63, p < .001$ , small effect size, Cramer's V of .25 (Cohen, 1988). The Poor group, as revealed in Table 2.9, had 10.92 times fewer boys who met this standard than the Not Poor group of boys.

### **Results for the STAAR Reading Phase-in 1 Standard for Girls Across All Four School Years**

Concerning the STAAR Reading Phase-in 1 standard by the economic status of Grade 4 girls, the result for the 2014-2015 school year was statistically significant,  $\chi^2(1) = 2.24, p < .001$ , small effect size, Cramer's V of .10 (Cohen, 1988). The Poor group had 1.61 times fewer girls who met this standard than the Not Poor group of girls. Table 2.10 contains the frequencies and percentages for the 2014-2015 school year.

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With regard to the 2015-2016 school year, a statistically significant difference was yielded,  $\chi^2(1) = 34.85, p < .001$ , moderate/near large effect size, Cramer's V of .49 (Cohen, 1988). As presented in the Table 2.10, the Poor group had 10.23 times fewer girls who met this standard than the Not Poor group of girls. Concerning the 2016-2017 school year, a statistically significant difference was revealed,  $\chi^2(1) = 10.66, p = .001$ , small effect size, Cramer's V of .22 (Cohen, 1988). As delineated in Table 2.10, the Poor

group had 2.56 times fewer girls who met this standard than the Not Poor group of girls. With respect to the 2017-2018 school year, the result was statistically significant,  $\chi^2(1) = 3.69, p = .055$ , small effect size, Cramer's V of .15 (Cohen, 1988). The Poor group, as revealed in Table 2.7, had 1.90 times fewer girls who met this standard than the Not Poor group of girls.

### **Results for the STAAR Reading Phase-in 2 Standard for Girls Across All Four School Years**

Concerning the STAAR Reading Phase-in 2 standard by the economic status of Grade 4 girls, the result for the 2014-2015 school year was statistically significant,  $\chi^2(1) = 10.25, p = .001$ , small effect size, Cramer's V of .27 (Cohen, 1988). The Poor group had 6.30 times fewer girls who met this standard than the Not Poor group of girls. Table 2.11 contains the frequencies and percentages for the 2014-2015 school year.

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 Insert Table 2.11 about here  
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Regarding the 2015-2016 school year, the result was statistically significant,  $\chi^2(1) = 24.35, p < .001$ . The effect size yielded for this finding, Cramer's V, was moderate, .41 (Cohen, 1988). As presented in Table 2.11, the Poor group had 14.28 times fewer girls who met this standard than the Not Poor group of girls. With respect to the 2016-2017 school year, a statistically significant difference was yielded,  $\chi^2(1) = 10.66, p = .001$ , small effect size, Cramer's V of .22 (Cohen, 1988). As delineated in Table 2.11, the Poor group had 7.52 times fewer girls who met this standard than the Not Poor group of girls. For the 2017-2018 school year, the result was statistically significant,  $\chi^2(1) = 4.53, p =$

.033, small effect size, Cramer's V of .17 (Cohen, 1988). The Poor group, as revealed in Table 2.11, had 3.26 times girls who met this standard than the Not Poor group of girls.

### **Results for the STAAR Reading Phase-in 3 Standard for Girls Across All Four School Years**

Concerning the STAAR Reading Phase-in 3 standard by the economic status of Grade 4 girls, the result for the 2014-2015 school year was statistically significant,  $\chi^2(1) = 8.52, p = .004$ , small effect size, Cramer's V of .19 (Cohen, 1988). The Poor group had 7.33 times fewer girls who met this standard than the Not Poor group of girls. Table 2.12 contains the frequencies and percentages for the 2014-2015 school year.

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 Insert Table 2.12 about here  
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With regard to the 2015-2016 school year, a statistically significant difference was yielded,  $\chi^2(1) = 18.05, p < .001$ , moderate effect size, Cramer's V of, .35 (Cohen, 1988). As presented in Table 2.12, the Poor group had no girls who met this standard and 18% of Not Poor group of girls met the standard. With respect to the 2016-2017 school year, a statistically significant difference was revealed,  $\chi^2(1) = 24.10, p < .001$ , moderate effect size, Cramer's V of, .33 (Cohen, 1988). As delineated in Table 2.12, The Poor group had 27.83 times fewer girls who met this standard than the Not Poor group of girls. Concerning the 2017-2018 school year, the result was statistically significant,  $\chi^2(1) = 7.31, p = .007$ , small effect size, Cramer's V of .21 (Cohen, 1988). The Poor group, as revealed in Table 2.7, had 6.82 times fewer girls who met this standard than the Not Poor group of girls.

## Discussion

In this multiyear investigation, the reading performance of Grade 4 boys and girls in special education was examined as a function of their economic status. Reading performance consisted of two different sets of measures: (a) number of test questions answered correctly and (b) percentages of students who met three reading standards. Inferential statistical analyses revealed the presence of statistically significant differences in all of the reading performance measures of Grade 4 boys by their economic status. Results were different for girls in that statistically significant differences occurred infrequently in the number of test questions answered correctly but in all of the percentage measures. Results will now be discussed separately for boys and for girls.

In each STAAR Reading Reporting Category and in all four years investigated, boys in the Poor group had statistically significantly lower reading scores than boys in the Not Poor group. In addition, the same trends were present in all four years concerning the STAAR Reading Phase-in 1, 2, and 3 Standards by student economic status in that lower percentages of boys in the Poor group met this standard than boys in the Not Poor group.

In examining the reading performance of Grade 4 girls in Texas across the four years of data that were analyzed herein, few statistically significant results were present for the STAAR Reading Reporting Categories. In the majority of these analyses, regardless of their economic status, girls answered a similar number of items correctly on the STAAR Reading Reporting Categories. In contrast, consistent trends in scores were present by student economic status for the STAAR Reading Phase-in 1, 2, and 3 Standards. For each of the STAAR Reading Phase-in 1, 2, and 3 Standards, and in all



four years investigated, girls in the Poor Group had statistically significantly lower percentages who met this standard than girls in the Not Poor group.

### **Connection with Existing Literature**

As revealed in this study, boys and girls in special education who were Poor had statistically significantly lower reading test scores than boys and girls who were Not Poor. These findings are commensurate with the results of other researchers (Harris, 2018; Harris & Slate, 2017; McGown, 2016; Schleeter, 2017) who documented the presence of substantial achievement gaps as a function of special education enrollment status, gender, and poverty. Furthermore, the research results delineated herein were congruent with national educational reform legislation in that substantial disparity gaps continue to deny students a free and appropriate public education that is commensurate with their mainstream peers (American Psychological Association, 2012; Ravitch, 2013). Childhood poverty continues to influence negatively the ability of children to learn and read (e.g., Harris, 2018; Harris & Slate, 2017; Hernandez, 2012; McGown, 2016; Reardon, 2011; Wright & Slate, 2015). Prior researchers (e.g., Jones et al., 2017) revealed that students in special education tend to struggle with reading at greater rates than their nondisabled peers which was further supported by this research.

### **Implications for Policy and Practice**

Based upon the results of this multiyear statewide analysis, several implications for policy and practice can be made. First, action needs to be taken by educators and policymakers to provide funding and resources to address the reading performance imbalance that exists for students enrolled in special education who are also in poverty. Specifically, additional funding could be used to provide support and resources to

students in special education who have the greatest needs based on screening data. Second, more financial resources should be provided to school districts to fund pre-kindergarten special education programs and to build foundational literacy skills in students through early intervention. Third, Grade 3 STAAR Reading results should be used to create differentiated instructional interventions for Grade 4 boys and girls in special education to respond to reading gaps immediately. Fourth, educator professional development should include strategies for teaching literacy to students with disabilities could help teachers who may be unaware of the instructional needs of the special education student population.

### **Suggestions for Future Research**

Based upon the results of this multiyear investigation, several suggestions can be made for future research. First, researchers should determine if similar gaps in reading performance are evident based on ethnicity/race for boys and girls in special education. In this study, only economic status was examined. However, other demographic factors may contribute to reading performance for boys and girls in special education. Second, researchers should also examine the degree to which English Language Learner status are related to reading performance of boys and girls in special education. As in the first recommendation, only the connection between economic status and reading performance in this study but other demographic analysis may provide additional insights. Third, researchers should replicate this study in other states. This investigation only included students in the State of Texas. Fourth, researchers should examine the connections between other content areas such as mathematics, social studies, and science. The focus of this study was only reading performance. Fifth, researchers should determine whether

differences are present for boys and girls in special education in other grade levels. Data on only boys and girls in Grade 4 were examined in this study.

### **Conclusion**

The purpose of this research study was to determine the extent to which differences were present in the reading performance of Texas Grade 4 boys and girls as a function of their economic status (i.e., Poor and Not Poor). Through inferential statistical analyses of four years of Texas statewide data, statistically significant differences were revealed in the reading performance of boys in all four years in all Reading Reporting Categories I, II, and III and STAAR Reading Phase-in 1, 2, and 3 standards. Specifically, boys in the Poor group had lower reading skills than boys in the Not Poor group.

In examining the reading performance of Grade 4 girls in Texas across the four years of data, few statistically significant results were present. Regardless of their economic status, girls answered a similar number of items correctly on the STAAR Reading Reporting Categories. In contrast, consistent trends in scores were present by student economic status for the STAAR Reading Phase-in 1, 2, and 3 Standards. For each of the STAAR Reading Phase-in 1, 2, and 3 Standards, and in all four years investigated, girls in the Poor Group had statistically significantly lower percentages of girls met this standard than girls in the Not Poor group. Pertaining to the substantial reading imbalance for students in poverty, findings of this multiyear statewide investigation were consistent with prior researchers (American Psychological Association, 2012; Harris, 2018; Harris & Slate, 2017; Hernandez, 2012; Jones et al., 2017; McGown, 2016; Ravitch, 2013; Reardon, 2011; Wright & Slate, 2015).

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Table 2.1

*Descriptive Statistics for the STAAR Reading Reporting Category I by the Economic Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not Poor	346	4.48	3.82
Poor	501	2.55	2.25
2015-2016			
Not Poor	349	5.84	3.66
Poor	600	3.56	2.49
2016-2017			
Not Poor	310	4.63	3.01
Poor	849	3.00	2.07
2017-2018			
Not Poor	153	3.39	3.06
Poor	739	2.98	1.92

Table 2.2

*Descriptive Statistics for the STAAR Reading Reporting Category II by the Economic Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not Poor	346	8.24	6.82
Poor	501	4.96	4.06
2015-2016			
Not Poor	349	9.50	5.83
Poor	600	6.28	3.74
2016-2017			
Not Poor	310	7.94	5.24
Poor	849	5.65	3.24
2017-2018			
Not Poor	153	6.16	5.39
Poor	739	5.12	3.28



Table 2.3

*Descriptive Statistics for the STAAR Reading Reporting Category III by the Economic Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not Poor	346	6.94	5.96
Poor	501	4.08	3.62
2015-2016			
Not Poor	349	8.59	5.31
Poor	600	5.19	3.11
2016-2017			
Not Poor	310	6.18	4.45
Poor	849	3.86	2.53
2017-2018			
Not Poor	153	5.50	4.88
Poor	739	4.51	2.92

Table 2.4

*Descriptive Statistics for the STAAR Reading Reporting Category I by the Economic Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not Poor	80	1.46	3.02
Poor	163	1.81	2.46
2015-2016			
Not Poor	50	3.92	4.36
Poor	94	2.13	2.25
2016-2017			
Not Poor	60	2.93	3.23
Poor	163	2.71	2.08
2017-2018			
Not Poor	43	1.88	2.59
Poor	116	2.45	2.18

Table 2.5

*Descriptive Statistics for the STAAR Reading Reporting Category II by the Economic Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not Poor	80	3.11	6.19
Poor	163	3.84	4.73
2015-2016			
Not Poor	50	6.44	7.16
Poor	94	3.91	3.62
2016-2017			
Not Poor	60	4.88	5.49
Poor	163	5.37	3.61
2017-2018			
Not Poor	43	3.88	5.27
Poor	116	3.96	3.69

Table 2.6

*Descriptive Statistics for the STAAR Reading Reporting Category III by the Economic Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not Poor	80	2.48	5.03
Poor	163	2.72	3.58
2015-2016			
Not Poor	50	5.58	6.23
Poor	94	3.62	3.54
2016-2017			
Not Poor	60	3.95	4.85
Poor	163	3.53	2.57
2017-2018			
Not Poor	43	3.42	4.85
Poor	116	3.69	3.29

Table 2.7

*Frequencies and Percentages for the STAAR Reading Phase-in 1 Standard by the Economic Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not Poor	179	51.70	167	48.30
Poor	56	11.20	445	88.80
2015-2016				
Not Poor	201	57.60	148	42.40
Poor	97	16.20	503	83.80
2016-2017				
Not Poor	176	56.80	134	43.20
Poor	117	13.80	732	86.20
2017-2018				
Not Poor	70	45.80	83	54.20
Poor	112	15.20	627	84.80

Table 2.8

*Frequencies and Percentages for the STAAR Reading Phase-in 2 Standard by the Economic Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not Poor	107	37.80	176	62.20
Poor	3	0.70	410	99.30
2015-2016				
Not Poor	126	36.10	223	63.90
Poor	18	3.00	582	97.00
2016-2017				
Not Poor	116	37.40	194	62.60
Poor	28	3.30	821	96.70
2017-2018				
Not Poor	39	25.50	114	74.50
Poor	34	4.60	705	95.40

Table 2.9

*Frequencies and Percentages for the STAAR Reading Phase-in 3 Standard by the Economic Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not Poor	61	17.60	285	82.40
Poor	4	0.80	497	99.20
2015-2016				
Not Poor	67	80.80	282	19.20
Poor	3	0.50	597	99.50
2016-2017				
Not Poor	61	19.70	249	80.30
Poor	15	1.80	834	98.20
2017-2018				
Not Poor	20	13.10	133	86.90
Poor	9	1.20	730	98.80

Table 2.10

*Frequencies and Percentages for the STAAR Reading Phase-in 1 Standard by the Economic Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not Poor	15	18.80	65	81.30
Poor	19	11.70	144	88.30
2015-2016				
Not Poor	22	44.00	28	56.00
Poor	4	4.30	90	95.70
2016-2017				
Not Poor	18	30.00	42	70.00
Poor	19	11.70	144	88.30
2017-2018				
Not Poor	12	27.90	31	72.10
Poor	17	14.70	99	85.30



Table 2.11

*Frequencies and Percentages for the STAAR Reading Phase-in 2 Standard by the Economic Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not Poor	7	18.90	30	81.10
Poor	3	3.00	98	97.00
2015-2016				
Not Poor	15	30.00	35	70.00
Poor	2	2.10	92	97.90
2016-2017				
Not Poor	14	23.30	46	76.70
Poor	5	3.10	158	96.90
2017-2018				
Not Poor	6	14.00	37	86.00
Poor	5	4.30	111	95.70

Table 2.12

*Frequencies and Percentages for the STAAR Reading Phase-in 3 Standard by the Economic Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Economic Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not Poor	7	8.80	73	91.30
Poor	2	1.20	161	98.80
2015-2016				
Not Poor	9	18.00	41	82.00
Poor	0	0.00	94	100.00
2016-2017				
Not Poor	10	16.70	50	83.30
Poor	1	0.60	162	99.40
2017-2018				
Not Poor	5	11.60	38	88.40
Poor	2	1.70	114	98.30

**CHAPTER III**

DIFFERENCES IN READING AS A FUNCTION OF THE ETHNICITY/RACE OF  
TEXAS GRADE 4 BOYS AND GIRLS IN SPECIAL EDUCATION: A MULTIYEAR  
STATEWIDE INVESTIGATION

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This dissertation follows the style and format of *Research in the Schools (RITS)*.

### **Abstract**

In this study, the extent to which ethnic/racial (i.e., Black, Hispanic, and White) differences were present in the reading achievement of Texas Grade 4 boys and girls in special education was determined. Data from the Texas Education Agency Public Education Information Management System for all Texas Grade 4 boys and girls in special education who took the state-mandated reading assessment were analyzed for the 2014-2015, 2015-2016, 2016-2017 and 2017-2018 school years. Inferential statistical analyses, conducted separately for boys and girls in special education, revealed that across all four years analyzed, clear stair-steps were present in the majority of the analyses. White boys and girls had statistically significantly better reading performance than Hispanic boys and girls and Black boys and girls. Similarly, Hispanic boys and girls had statistically significantly better reading performance than Black boys and girls. Of concern was that Black boys and girls had the lowest reading performance in all analyses. Results in all four school years and for all three articles was consistent with the existing research literature. Suggestions for future research, as well as implications for policy and practice, were provided.

*Keywords:* Special education, Reading performance, Ethnicity/race, Gender, Literacy, Disabilities, STAAR Reading test, Reporting Categories, Phase-in Standards

DIFFERENCES IN READING AS A FUNCTION OF ETHNICITY/RACE OF TEXAS  
GRADE 4 BOYS AND GIRLS IN SPECIAL EDUCATION: A MULTIYEAR  
STATEWIDE INVESTIGATION

Racial segregation in public schools has been unconstitutional since the Supreme Court ruling from *Brown v. The Board of Education* (1954) in which separate instructional services were deemed as not equal in providing educational opportunities for students (American Psychological Association, 2012). It has been over 65 years since the landmark ruling, yet ethnic and racial disparity gaps in public schools continue to be prevalent (American Psychological Association, 2012; Harris, 2018; Harris & Slate, 2017; McGown, 2016). For example, the American Psychological Association (2012) analyzed reading scores by racial/ethnic groups from 1992 to 2011 and identified statistically significant disparities. Specifically, White students had average scale scores that were between 24 to 35 points higher on Grade 4 and Grade 8 reading assessments than were the average scale scores of Hispanic students from the same years. Similarly, the average scale scores of White students were 24 to 38 points higher than were the average scale scores of Black students in reading assessments from 1992 to 2011. The percentage of White and Asian students who read below grade level from Grade 4 to Grade 12 have remained constant over the last two decades. In contrast, however, the percentage of Black and Hispanic students who were read below grade level, across the same time period, ranged from 40% to 54% for Grades 4 to Grade 12. As such, the American Psychological Association (2012) determined that further research was needed on ethnicity/race within the area of special education to address disparities for students who may be served in multiple federal programs.

In the state of interest for this investigation, Texas, Rojas-LeBouef (2010) examined the extent to which differences were present in academic achievement among Hispanic, Limited English Proficient, and White students. She analyzed Texas statewide data obtained from the Texas Education Agency Academic Excellence Indicator System. Specifically examined were the Texas Assessment of Academic Skills (TAAS) and the Texas Assessment of Knowledge and Skills (TAKS) Grade 5 Reading and Mathematics passing rates from the 1993 through the 2009 school years. On these two Texas state-mandated assessments, Rojas-LeBouef (2010) established that White students consistently outperformed Hispanic students and students with Limited English Proficiency. Across the wide time span of 16 school years, state assessment results, and across all 60 research questions, White students consistently had statistically significantly higher TAAS and TAKS Reading and Mathematics test scores than their Hispanic and Limited English Proficient peers.

Rojas-LeBouef (2010) specifically documented that the state test passing rates for White students since the enactment of the No Child Left Behind Act (2001) ranged from 71.82% to 93.41% for Reading and from 80.85% to 97.92% for Mathematics. State test passing rates for Hispanic students since the enactment of the No Child Left Behind Act (2001) ranged from 54.19% to 85.93% for Reading and from 67.31% to 96.42% for Mathematics. In contrast, the state test passing rates for Limited English Proficient students across the school years analyzed were between 38.43% to 58.31% for Reading and from 38.43% to 69.67% for Mathematics. Of the 60 statistical analyses conducted, 43 were large effect sizes, 15 were moderate effect sizes, and 2 were small effect sizes. Readers should note that despite increases in student passing rates across the 16 years of

data analyzed, the achievement gap between White students and Hispanic students and between White students and Limited English Proficient students remained.

More recently, McGown (2016) analyzed the reading performance of Texas Grade 3 students as a function of their ethnicity/race (i.e., Asian, White, Hispanic, and Black). In her multiyear investigation, McGown examined three years (i.e., 2012-2013, 2013-2014, 2014-2015) of Texas data on the current state-mandated assessment, the State of Texas Assessment of Academic Readiness (STAAR) Reading test. Addressed in her study were the three STAAR Reading Reporting Categories and the percentage of students who met the Level II Final Satisfactory Performance Standard. McGown (2016) documented the presence of statistically significant differences in reading performance among the four ethnic/racial groups of students. On all three STAAR Reading Reporting categories, Black students had statistically significantly lower average raw scores than Asian, White, and Hispanic students. Hispanic students had statistically significantly lower average raw scores lower than Asian and White students and White students had statistically significantly lower average raw scores than Asian students. As such, a clear ethnic/racial stair-step effect (Carpenter, Ramirez, & Severn, 2006) was present in that Asian students had the best reading performance, followed by White students, Hispanic students, and then Black students.

With respect to the percentages of Grade 3 students who met the state-mandated performance standards, McGown (2016) established the presence of statistically significant differences among the four ethnic/racial groups of students. In all three school years, Asian and White students had the highest STAAR Reading passing rates, followed by Hispanic students and then by Black students. Black students demonstrated the lowest

reading performance and were the least likely to meet the Satisfactory Performance Standard on all three school years. Fewer than 30% of Black students met the STAAR Satisfactory Performance Standard for all three school years compared to over 60% of Asian students who met the STAAR Satisfactory Performance Standard for all three school years.

In a similar multiyear analysis that was also conducted in Texas, Harris (2018) analyzed the reading performance of Texas Grade 4 students as a function of their ethnicity/race. She used Texas statewide STAAR Reading data from the 2012-2013, 2013-2014, and 2014-2015 school years. Ethnicity/race in Harris's (2018) research investigation was defined in the same manner as in McGown's (2016) study. Similar to McGown's (2016) results on Grade 3 students, Harris (2018) established the presence of statistically significant differences in reading performance among the four ethnic/racial groups of students. On all three STAAR Reading Reporting categories, Black students had statistically significantly lower average raw scores than Asian, White, and Hispanic students. Hispanic students had statistically significantly lower average raw scores lower than Asian and White students and White students had statistically significantly lower average raw scores than Asian students. The differences in the percentages of students who met the state-mandated performance standard were the largest between Asian students and Black students with the differences being 36% (2012-2013), 36.5% (2013-2014), and 40.5% (2014-2015). Based on her findings, Harris (2018) revealed the presence of a clear stair-step effect (Carpenter et al., 2006) was present based on the ethnic/racial membership of Texas Grade 4 students on the STAAR Reading assessment.



Rojas-LeBouef (2010), McGown (2016), and Harris (2018) all established the presence of academic achievement disparities by the ethnicity/race of Grade 3 and Grade 4 students on all three versions of Texas state-mandated assessments (i.e., TAAS, TAKS, STAAR). They all documented that ethnic/racial gaps were present in reading and in mathematics for over two and a half decades in Texas. Readers should note that the disparities they documented have also been identified on national assessments. In a study conducted by Harvey (2013), he analyzed 10 school years of ACT and SAT data on Texas students. Archival data were obtained from the Texas Education Agency Academic Excellence Indicator System for the 2001-2002 through the 2010-2011 school years. In almost every analysis, Harvey (2013) established the presence of statistically significant gaps in the percent of students who met the ACT and/or SAT passing criteria among Asian, Black, Hispanic, and White students. Across the span of the 10 school years, the average ACT and SAT test scores of Texas high school students improved only slightly. In Harvey's (2013) study, in virtually every analysis of ACT/SAT averages and percent of students at or above the ACT/SAT passing criteria, Asian and White students outperformed Black and Hispanic students and Hispanic students outperformed Black students.

Although prior researchers (American Psychological Association, 2012; Harris, 2018; McGown, 2016; Rojas-LeBouef, 2010; Rojas-LeBouef & Slate, 2011a, 2011b) have examined ethnic/racial achievement gaps for the general student population or for Limited English Proficient students (Rojas-LeBouef, 2010; Rojas-LeBouef & Slate, 2011a, 2011b), limited research exists on the degree to which ethnic/racial achievement gaps are present for students in special education. In an article of note, with respect to

reading performance for students in special education, Wei, Blackorby, and Schiller (2011) sought to identify the effect of student demographic factors on reading growth. With particular interest to this article was the examination of the relationship between reading performance, ethnicity/race, and special education status. Specifically analyzed were data from the United States Department of Education's 2002 Special Education Elementary Longitudinal Study. The data set included a nationally representative sample of 3,421 students with disabilities between the ages of 7 to 17. Wei et al. (2011) discovered that although student reading levels increased as students moved to higher grade levels, gender and ethnic/racial achievement gaps in reading persisted over time. Specifically, Black and Hispanic students with disabilities had lower reading achievement scores than White students with disabilities. Additionally, the reading growth trajectories for Black and Hispanic students flattened as students reached secondary grade levels.

### **Statement of the Problem**

Historically, public school personnel have focused on the needs of the majority of their students, but the passage of the Individuals with Disabilities Education Act (1990), the No Child Left Behind Act (2001), and Every Student Succeeds Act of 2015 requires school districts to shift their focus and ensure equal access to all student subpopulations. The requirement for school districts to provide free and appropriate public education to all students, coupled with the increasing pressures on student academic performance has created a need for research investigations into student achievement based on student subpopulation demographic trends. After reviewing research studies conducted at the national level, despite federal legislative actions, ethnic and racial disparity gaps are

prevalent (e.g., American Psychological Association, 2012; Harvey, 2013; Harvey et al., 2013; Wei et al., 2011). Furthermore, the similar reading disparity gaps based on race/ethnicity were established in Texas by Harris (2018), McGown (2016), Rojas-LeBouef (2010), Rojas-LeBouef & Slate (2011a), and Rojas-LeBouef & Slate (2011b). To date, however, limited research is available on reading performance of students by race/ethnicity and who are in special education. These gaps in the literature need to be addressed to provide empirical insights and inform educational policy makers on how to address potential disparities among their diverse special education populations.

### **Purpose of the Study**

The purpose of this study was to examine the degree to which differences existed in reading by the ethnicity/race of Texas Grade 4 boys and girls in special education. In this study, student ethnicity/race consisted of three groups of students: Black, Hispanic, and White. Specifically examined was the effect of ethnicity/race on the ability of Grade 4 boys and girls in special education to understand a variety of written texts across reading genres (i.e., STAAR Reading Reporting Category I), the ability to understand and analyze literary texts (i.e., STAAR Reading Reporting Category II), and the ability to understand and analyze informational texts (i.e., STAAR Reading Reporting Category III). A second purpose was to determine the degree to which student ethnicity/race was related to performance across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards for Grade 4 boys and girls in special education. A third purpose was to determine the extent to which trends were present across the STAAR Reading Reporting Categories I, II, and III of Grade 4 boys and girls by their ethnicity/race and across the four school years of data. A fourth purpose was to determine the degree to

which trends were present across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards by the ethnicity/race of Grade 4 boys and girls across four school years of data (i.e., 2014-2015, 2015-2016, 2016-2017, 2017-2018).

### **Significance of the Study**

Extensive research exists on the relationships between student ethnicity/race, gender, special education, and reading performance. However, few studies were identified in which researchers examined all four variables simultaneously. Although several researchers (Harris, 2018; McGown, 2016) have recently conducted studies on student reading performance on the STAAR Reading test, no research studies were located in which the reading performance of students in special education was addressed in conjunction with their ethnicity/race. As such, results from this study may provide insights and relevant data that can guide school administrators, teachers, and policymakers in making more informed decisions for students in special education with consideration of ethnicity/race.

### **Research Questions**

The following overarching research question were addressed in this study: What is the effect of ethnicity/race on the overall reading performance of Grade 4 students in special education? Within the overarching research question eight sub-questions were present: (a) What is the effect of ethnicity/race on the ability to understand a variety of written texts across reading genres (i.e., STAAR Reading Reporting Category I) of Grade 4 students in special education?; (b) What is the effect of ethnicity/race on the ability to understand and analyze literary texts (i.e., STAAR Reading Reporting Category II) of Grade 4 students in special education?; (c) What is effect of ethnicity/race on the ability

to understand and analyze informational texts (i.e., STAAR Reading Reporting Category III) of Grade 4 students in special education?; (d) What is the effect of ethnicity/race on the STAAR Reading Phase-in 1 standard of Grade 4 students in special education?; (e) What is the effect of ethnicity/race on the STAAR Reading Phase-in 2 standard of Grade 4 students in special education?; (f) What is the effect of ethnicity/race on the STAAR Reading Phase-in 3 standard of Grade 4 students in special education?; (g) What trend was present across the STAAR Reading Reporting Categories I, II, and III by the ethnicity/race of Grade 4 students across four school years of data?; and (h) What trend was present across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards by the ethnicity/race of Grade 4 students across four school years of data? The first six research questions were addressed separately for boys and for girls and were repeated for four school years. The last two research questions, being trend questions, involved comparisons across all four school years (i.e., 2014-2015, 2015-2016, 2016-2017, 2017-2018).

## **Method**

### **Research Design**

For this empirical investigation, a non-experimental, causal-comparative research design was utilized (Creswell & Creswell, 2018; Johnson & Christensen, 2017). A state archival dataset was analyzed to determine the effect of ethnicity/race on the overall reading performance of Grade 4 students in special education. The independent variable involved in this research article was ethnicity/race (i.e., Black, Hispanic, White). The dependent variables were the academic achievement for the STAAR Reading Reporting

Categories 1, 2, and 3 of boys and girls in special education and the Phase-In Satisfactory Performance Standards 1, 2, and 3 of boys and girls in special education.

### **Participants and Instrumentation**

For the purpose of this study, data were obtained from the Texas Education Agency Public Education Information Management System. Specifically, the reading performance on the Texas state-mandated reading assessment for the 2014-2015, 2015-2016, 2016-2017, and the 2017-2018 academic school years by Black, Hispanic, and White Grade 4 boys and girls in special education across four school years of data were addressed. Initially, the intention was to analyze data on Asian student performance. However, the sample size of Asian students in special education was too small for analysis. As such, data on only the three major racial/ethnic groups of students in Texas were analyzed.

Reading performance was examined based on the STAAR Reading Reporting Categories. The Texas Education Agency (2011) has defined STAAR Reading Reporting Category I as an indicator measuring a student's ability, "to understand and analyze a variety of written texts across reading genres" (p. 2). In contrast, STAAR Reading Reporting Category II is defined as an indicator measuring a student's ability, "to understand and analyze literary texts" (p. 3) and STAAR Reading Reporting Category III was defined as an indicator measuring a student's ability, "to understand and analyze informational texts" (p. 5).

In addition to data analysis across the STAAR Reading Reporting Categories, the data were examined by STAAR Phase-in standards 1, 2, and 3. Meeting the STAAR Satisfactory criteria requires that a student meet a minimum scaled score based on the

Phase-in performance standard in place during the school year of the assessment. The minimum scaled scores were designed to increase in three phases over a 5-year period. The English STAAR Grade 4 Reading assessment for 2014-2015 school year (i.e., Phase-in 1) required a scaled score of 1422 for a Satisfactory performance designation, for 2015-2016 through 2017-2018 (i.e., Phase-in 2) a minimum scaled score of 1460 was required, and for the 2018-2019 (i.e., Phase-in 3) school year the minimum required scale score was 1511. Examining the STAAR Satisfactory criteria across each of the Phase-in standards enabled a comparison of student reading achievement data across the four school years of data even though the satisfactory performance scaled scores changed.

### **Results**

Prior to conducting multivariate analysis of variance (MANOVA) procedures to address the research questions previously delineated, its underlying assumptions were checked. Specifically examined were data normality, Box's Test of Equality of Covariance, and the Levene's Test of Equality of Error Variances. Although these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use on the data in this study (Field, 2009). Results will be presented in chronological order beginning with the 2014-2015 school year and concluding with the 2017-2018 school year.

#### **Overall Results for Boys Across All Four School Years**

For the 2014-2015 school year, the MANOVA yielded a statistically significant difference in overall reading performance by the ethnicity/race of Grade 4 boys in special education, Wilks'  $\Lambda = .90$ ,  $p < .001$ , partial  $\eta^2 = .05$ , small effect size (Cohen, 1988). With respect to the 2015-2016 school year, a statistically significant difference was

present in overall reading performance, Wilks'  $\Lambda = .86, p < .001$ , partial  $\eta^2 = .05$ , small effect size (Cohen, 1988). Concerning the 2016-2017 school year, a statistically significant difference was yielded, Wilks'  $\Lambda = .90, p < .001$ , partial  $\eta^2 = .05$ , small effect size (Cohen, 1988). Regarding the 2017-2018 school year, a statistically significant difference was again present in overall reading, Wilks'  $\Lambda = .98, p = .020$ , partial  $\eta^2 = .01$ , small effect size (Cohen, 1988). All four effect sizes were small.

### **Results for Reading Reporting Category I for Boys Across All Four School Years**

For each of the four school years, univariate follow-up analysis of variance (ANOVA) procedures were calculated to determine whether statistically significant differences were present for the STAAR Reading Reporting Category I scores by ethnicity/race. Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(2, 1026) = 52.22, p < .001$ , partial  $\eta^2 = .09$ , moderate effect size (Cohen, 1988), on the STAAR Reading Reporting Category I by student ethnicity/race. For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(3, 1054) = 45.75, p < .001$ , partial  $\eta^2 = .12$ , moderate effect size (Cohen, 1988). Regarding the 2016-2017 school year, a statistically significant difference was again revealed,  $F(2, 1263) = 61.30, p < .001$ , partial  $\eta^2 = .09$ , moderate effect size (Cohen, 1988). With respect to the 2017-2018 school year, a statistically significant difference was yielded,  $F(3, 933) = 3.46, p = .02$ , partial  $\eta^2 = .01$ , a small effect size (Cohen, 1988). Three effect sizes were moderate and one effect size was small.

Following the four ANOVA procedures, Scheffe' post hoc procedures were conducted to determine which ethnic/racial pairings were statistically significantly



different. Statistically significant differences on the STAAR Reading Reporting Category I were revealed for all of the ethnic/racial comparisons. For the 2014-2015 school year, White boys answered correctly 1.88 more items than Hispanic boys and 1.96 more items than Black boys. Hispanic boys answered 0.08 more items correctly than Black boys. With respect to the 2015-2016 school year, White boys answered 1.97 more items correctly than Hispanic boys and 2.57 more items correctly than Black boys. Hispanic boys answered 0.60 more items correctly than Black boys. In the 2016-2017 school year, White boys answered 1.32 more items correctly than Hispanic boys and 2.12 items more correctly than Black boys. Hispanic boys answered 0.80 more items correctly than Black boys. Concerning the 2017-2018 school year, White boys answered 0.39 more items correctly than Hispanic boys and answered 0.70 more items more correctly than Black boys. Hispanic boys answered 0.31 more items correctly than Black boys. In all four school years, a clear stair-step effect (Carpenter, Ramirez, & Severn, 2006) was present for boys on the STAAR Reading Reporting Category I. In all four school years, White boys outperformed Hispanic boys, and Hispanic boys outperformed Black boys. Black boys had the poorest reading scores in all instances. Descriptive statistics for the four school years for the STAAR Reading Reporting Category I scores are contained in Table 3.1.

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Insert Table 3.1 about here  
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### **Results for Reading Reporting Category II for Boys Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(2, 1026) = 50.87, p < .001$ , partial  $\eta^2 = .09$ , moderate effect size (Cohen, 1988), on the STAAR Reading Reporting Category II by student ethnicity/race. For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(3, 1054) = 42.91, p < .001$ , partial  $\eta^2 = .11$ , moderate effect size (Cohen, 1988). Regarding the 2016-2017 school year, a statistically significant difference was again revealed,  $F(2, 1263) = 53.08, p < .001$ , partial  $\eta^2 = .08$ , moderate effect size (Cohen, 1988). With respect to the 2017-2018 school year, a statistically significant difference was yielded,  $F(3, 933) = 5.20, p = .001$ , partial  $\eta^2 = .02$ , a small effect size (Cohen, 1988). Three effect sizes were moderate and one effect size was small.

Following the four ANOVA procedures, Scheffe' post hoc procedures were conducted to determine which ethnic/racial pairings were statistically significantly different. Statistically significant differences on the STAAR Reading Reporting Category II were revealed for all of the ethnic/racial comparisons. For the 2014-2015 school year, White boys answered correctly 3.34 more items than Hispanic boys and 3.40 more items than Black boys. Hispanic boys answered 0.06 more items correctly than Black boys. With respect to the 2015-2016 school year, White boys answered 2.87 more items correctly than Hispanic boys and 4.79 more items correctly than Black boys. Hispanic boys answered 1.92 more items correctly than Black boys. In the 2016-2017 school year, White boys answered 1.81 more items correctly than Hispanic boys and 3.44 items more correctly than Black boys. Hispanic boys answered 1.63 items more correctly than Black boys. Concerning the 2017-2018 school year, White boys answered 0.85

more items correctly than Hispanic boys and answered 1.48 more items correctly than Black boys. Hispanic boys answered 0.63 more items correctly than Black boys. In all four school years, a clear stair-step effect (Carpenter et al., 2006) was present for boys on the STAAR Reading Reporting Category II. In all four school years, White boys outperformed Hispanic boys, and Hispanic boys outperformed Black boys. Black boys had the poorest reading scores in all instances. Descriptive statistics for these school years for the STAAR Reading Reporting Category II are contained in Table 3.2.

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### **Results for Reading Reporting Category III for Boys Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(2, 1026) = 47.58, p < .001$ , partial  $\eta^2 = .09$ , moderate effect size (Cohen, 1988), on the STAAR Reading Reporting Category III by student ethnicity/race. Regarding the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(3, 1054) = 53.81, p < .001$ , partial  $\eta^2 = .13$ , moderate effect size (Cohen, 1988). For the 2016-2017 school year, a statistically significant difference was again revealed,  $F(2, 1263) = 53.01, p < .001$ , partial  $\eta^2 = .08$ , moderate effect size (Cohen, 1988). With respect to the 2017-2018 school year, a statistically significant difference was yielded,  $F(3, 933) = 4.94, p = .002$ , partial  $\eta^2 = .02$ , a small effect size (Cohen, 1988). Three effect size were moderate and one effect size was small .

Following the four ANOVA procedures, Scheffe' post hoc procedures were conducted to determine which ethnic/racial pairings were statistically significantly

different. Statistically significant differences on the STAAR Reading Reporting Category III were revealed for all ethnic/racial comparisons. For the 2014-2015 school year White boys answered correctly 2.68 more items than Black boys and answered 2.90 more items correctly than Hispanic boys. Black boys answered 0.22 more items correctly than Hispanic boys. With respect to the 2015-2016 school year, White boys answered 2.89 more items correctly than Hispanic boys and answered 3.79 more items correctly than Black boys. Hispanic answered 0.90 more items correctly than Black boys. In the 2016-2017 school year, White boys answered 1.62 more items correctly than Hispanic boys and answered 2.73 more items correctly than Black boys. Hispanic boys answered 1.11 items more correctly than Black boys. Concerning the 2017-2018 school year, White boys answered correctly 0.56 more items than Hispanic boys and 1.45 more items than Black boys. Hispanic boys answered correctly 0.89 more items than Black boys. A clear stair-step effect (Carpenter et al., 2006) was present for boys on the STAAR Reading Reporting Category III. In three of the four school years, White boys outperformed Hispanic boys, and Hispanic boys outperformed Black boys. Black boys had the poorest reading scores in all instances. Descriptive statistics for these school years for the STAAR Reading Reporting Category III are contained in Table 3.3.

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### **Overall Results for Girls Across All Four School Years**

For the 2014-2015 school year, the MANOVA yielded a statistically significant difference in overall reading performance by the ethnicity/race of Grade 4 girls in special

education, Wilks'  $\Lambda = .95$ ,  $p = .05$ , partial  $\eta^2 = .02$ , small effect size (Cohen, 1988). With respect to the 2015-2016 school year, a statistically significant difference was present in overall reading performance, Wilks'  $\Lambda = .86$ ,  $p = .01$ , partial  $\eta^2 = .05$ , small effect size (Cohen, 1988). Concerning the 2016-2017 school year, a statistically significant difference was yielded, Wilks'  $\Lambda = .88$ ,  $p = .001$ , partial  $\eta^2 = .04$ , small effect size (Cohen, 1988). Regarding the 2017-2018 school year, a statistically significant difference was present, Wilks'  $\Lambda = .89$ ,  $p = .03$ , partial  $\eta^2 = .04$ , small effect size. All four effect sizes were small.

### **Results for Reading Reporting Category I for Girls Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(2, 268) = 4.31$ ,  $p = .01$ , partial  $\eta^2 = .03$ , small effect size (Cohen, 1988), for girls on the STAAR Reading Reporting Category I by student ethnicity/race. For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(3, 143) = 3.99$ ,  $p = .01$ , partial  $\eta^2 = .08$ , moderate effect size (Cohen, 1988). Regarding the 2016-2017, a statistically significant difference was revealed,  $F(3, 223) = 5.14$ ,  $p = .002$ , partial  $\eta^2 = .06$ , moderate effect size (Cohen, 1988), for girls. For the 2017-2018 school year, a statistically significant difference was present  $F(3, 159) = 3.35$ ,  $p = .02$ , partial  $\eta^2 = .06$ , moderate effect size (Cohen, 1988), for girls. Three effect sizes were moderate and one effect size was small.

Following the four ANOVA procedures, Scheffe' post hoc procedures were conducted to determine which ethnic/racial pairings were statistically significantly different. Statistically significant differences on the STAAR Reading Reporting Category I were revealed for all ethnic/racial comparisons. For the 2014-2015 school

year, White girls answered correctly 0.42 more items than Hispanic girls and 1.58 more items than Black girls. Hispanic girls answered 1.16 more items correctly than Black girls.

With respect to the 2015-2016 school year, White girls answered correctly 1.67 more items correctly than Black girls and 1.71 items more correctly than Hispanic girls. Black girls answered 0.04 more items correctly than Hispanic girls. Hispanic girls were the lowest performing group on the STAAR Reading Reporting Category I for the 2015-2016 school year. In the 2016-2017 school year, White girls answered 0.42 more items correctly than Hispanic girls and 2.47 items more correctly than Black girls. Hispanic girls answered 2.05 more items correctly than Black girls. Concerning the 2017-2018 school year, Hispanic girls answered 0.40 items more correctly than White girls and answered 1.56 more items correctly than Black girls. White girls answered 1.16 more items correctly than Black girls. In three of the four school years, a clear stair-step effect (Carpenter et al., 2006) was present for girls on the STAAR Reading Reporting Category I with Hispanic girls having the highest scores, followed by White girls, and then Black girls. Black girls had the poorest reading scores in all instances. Descriptive statistics are contained in Table 3.4.

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### **Results for Reading Reporting Category II for Girls Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was yielded,  $F(2, 268) = 5.73, p = .004, \text{partial } \eta^2 = .04$ , small effect size (Cohen, 1988), for

girls on the STAAR Reading Reporting Category II by ethnicity/race. For the 2015-2016 school year, the ANOVA did not yield a statistically significant difference,  $F(3, 143) = 2.17, p = .09$ . Regarding the 2016-2017 school year, a statistically significant difference was revealed,  $F(3, 223) = 5.29, p = .002$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988), for girls. Concerning the 2017-2018 school year, a statistically significant difference was not present,  $F(3, 159) = 2.39, p = .07$ . Only in the 2014-2015 and the 2016-2017 school years were statistically significant results present. Effect sizes were in the small and moderate category.

Following the four ANOVA procedures, Scheffe' post hoc procedures were conducted to determine which ethnic/racial pairings were statistically significantly different. Statistically significant differences on the STAAR Reading Reporting Category II were revealed for all of the ethnic/racial comparisons. For the 2014-2015 school year, White girls answered correctly 0.77 more items than Hispanic girls and answered 3.61 more items correctly than Black girls. Hispanic girls answered 2.84 more items correctly than Black girls. With respect to the 2015-2016 school year, White girls answered 1.77 more items correctly than Hispanic girls and 2.36 more items correctly than Black girls. Hispanic girls answered 0.59 more items correctly than Black girls. In the 2016-2017 school year, Hispanic girls answered 0.06 more items correctly than White girls and 4.05 items more correctly than Black girls. White girls answered 3.99 more items correctly than Black girls.

Concerning the 2017-2018 school year, White girls answered 0.39 items more correctly than Hispanic girls and answered 2.32 more items correctly than Black girls. Hispanic answered 1.93 more items correctly than Black girls. In three of the four school

years, a clear stair-step effect (Carpenter et al., 2006) was present for girls on the STAAR Reading Reporting Category II with White girls having the highest scores, followed by Hispanic girls, and then Black girls. Black girls had the poorest reading scores in all instances. Descriptive statistics for these school years are contained in Table 3.5.

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### **Results for Reading Reporting Category III for Girls Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was present  $F(2, 268) = 4.69, p = .01$ , partial  $\eta^2 = .03$ , small effect size (Cohen, 1988), for girls on the STAAR Reading Reporting Category III by ethnicity/race. For the 2015-2016 school year, the ANOVA did not yield a statistically significant difference,  $F(3, 143) = 1.66, p = .18$ . Regarding the 2016-2017 school year, a statistically significant difference was revealed,  $F(3, 223) = 5.54, p = .001$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988). Concerning the 2017-2018 school year, a statistically significant difference was not revealed,  $F(3, 159) = 2.58, p = .06$ . Only in the 2014-2015 and the 2016-2017 school years were statistically significant results present. Effect sizes were small and moderate.

Following the ANOVA procedures, Scheffe' post hoc procedures were conducted to determine which ethnic/racial pairings were statistically significantly different. Statistically significant differences on the STAAR Reading Reporting Category III were revealed for all ethnic/racial comparisons. For the 2014-2015 school year, White girls answered correctly 0.40 more items than Hispanic girls and 2.57 more items than Black



girls. Hispanic girls answered 2.17 more items correctly than Black girls. With respect to the 2015-2016 school year, White girls answered 1.15 more items correctly than Hispanic girls and answered 2.08 more items correctly than Black girls. Hispanic girls answered 0.93 more items correctly than Black girls. In the 2016-2017 school year, White girls answered 0.58 more items correctly than Hispanic girls and 3.41 items more correctly than Black girls. Hispanic girls answered 2.83 more items correctly than Black girls. Concerning the 2017-2018 school year, White girls answered 0.11 more items correctly than Hispanic girls and answered 2.17 more items correctly than Black girls. Hispanic girls answered 2.06 more items correctly than Black girls. In all four school years, a clear stair-step effect (Carpenter et al., 2006) was present for girls on the STAAR Reading Reporting Category III with White girls having the highest scores, followed by Hispanic girls, and then Black girls. Black girls had the poorest reading scores in all instances. Descriptive statistics for these school years are contained in Table 3.6.

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### **Results for the STAAR Reading Phase-in 1 Standard for Boys Across All Four School Years**

Student performance on the STAAR Reading Phase-in 1 standard was examined next through the use of Pearson chi-square procedures. This statistical procedure was the most appropriate statistical procedure to use because dichotomous data were present for the STAAR Reading Phase-in 1 standard (i.e., met or did not meet this standard) and categorical data were present for ethnicity/race (i.e., White, Hispanic, Black). As such,

the Pearson chi-square is the preferred statistical procedure when both variables are categorical (Field, 2009). Because a large sample size was present, the assumptions for using a chi-square were met.

Concerning the STAAR Reading Phase-in 1 standard by the ethnicity/race of Grade 4 boys, the result for the 2014-2015 school year was statistically significant,  $\chi^2(2) = 191.19, p < .001$ , moderate effect size, Cramer's V of .43 (Cohen, 1988). White boys had 3.27 times more boys who met the Phase-in 1 standard than did Black boys and 4.62 times more than Hispanic boys. Black boys had 1.41 times more boys who met this standard than Hispanic boys. Table 3.7 contains the frequencies and percentages for the 2014-2015 school year.

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With regard to the STAAR Reading Phase-in 1 standard by the ethnicity/race of Grade 4 boys, the result for the 2015-2016 school year was statistically significant,  $\chi^2(3) = 165.87, p < .001$ , moderate effect size, Cramer's V of .40 (Cohen, 1988). As presented in Table 3.7, White boys had 3.18 times more boys who met the Phase-in 1 standard than did Hispanic boys and 3.71 times more than Black boys. Hispanic boys had 1.17 times more boys who met this standard than Black boys. The result for the 2016-2017 school year was statistically significant,  $\chi^2(2) = 178.72, p < .001$ , moderate effect size, Cramer's V of .38 (Cohen, 1988). As delineated in Table 3.7, White boys had 3.06 times more boys who met the Phase-in 1 standard than did Hispanic boys and 10.98 times more than Black boys. Hispanic boys had 3.58 times more boys who met this standard than Black

boys. The result for the 2017-2018 school year was statistically significant,  $\chi^2(3) = 28.34, p < .001$ , small effect size, Cramer's V of .17 (Cohen, 1988). White boys, as revealed in Table 2.7, had 1.89 times more boys who met the Phase-in 1 standard than did Hispanic boys and 2.43 times more than Black boys. Hispanic boys had 1.29 times more boys who met this standard than Black boys.

### **Results for the STAAR Reading Phase-in 2 Standard for Boys Across All Four School Years**

Concerning the STAAR Reading Phase-in 2 standard by the ethnicity/race of Grade 4 boys, the result for the 2014-2015 school year was statistically significant,  $\chi^2(2) = 191.18, p < .001$ , moderate effect size, Cramer's V of .47 (Cohen, 1988). White boys had 24.29 times more boys who met the Phase-in 2 standard than did Black boys and 34 times more than Hispanic boys. Black boys had 1.40 times more boys who met this standard than Hispanic boys. Table 3.8 contains the frequencies and percentages for the 2014-2015 school year.

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With regard to the 2015-2016 school year, a statistically significant difference was revealed,  $\chi^2(3) = 180.61, p < .001$ , moderate effect size, Cramer's V of .41 (Cohen, 1988). As presented in Table 3.8, White boys had 11.54 times more boys who met the Phase-in 2 standard than did Hispanic boys and 13.46 times more than Black boys.

Hispanic boys had 1.17 times more boys who met this standard than Black boys.

Concerning the result for the 2016-2017 school year, a statistically significant difference

was yielded,  $\chi^2(2) = 175.43, p < .001$ , moderate effect size, Cramer's V of .37 (Cohen, 1988). As delineated in Table 3.8, White boys had 7.78 times more boys who met the Phase-in 2 standard than did Hispanic boys and 20.57 times more than Black boys. Hispanic boys had 2.64 times more boys who met this standard than Black boys. With regard the 2017-2018 school year, a statistically significant difference was revealed,  $\chi^2(3) = 28.20, p < .001$ , small effect size, Cramer's V of .17 (Cohen, 1988). White boys, as revealed in Table 3.8, had 2.98 times more boys who met the Phase-in 2 standard than did Hispanic boys and 3.58 times more than Black boys. Hispanic boys had 1.2 times more boys who met this standard than Black boys.

### **Results for the STAAR Reading Phase-in 3 Standard for Boys Across All Four School Years**

Concerning the STAAR Reading Phase-in 3 standard by the ethnicity/race of Grade 4 boys, the result for the 2014-2015 school year was statistically significant,  $\chi^2(2) = 92.54, p < .001$ , moderate effect size, Cramer's V of .30 (Cohen, 1988). White boys had 6.14 times more boys who met the Phase-in 3 standard than did Black boys and 15.64 times more than Hispanic boys. Black boys had 2.55 times more boys who met this standard than Hispanic boys. Table 3.9 contains the frequencies and percentages for the 2014-2015 school year.

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 Insert Table 3.9 about here  
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With regard to the 2015-2016 school year, a statistically significant difference was yielded,  $\chi^2(3) = 116.28, p < .001$ , moderate effect size, Cramer's V of .33 (Cohen,

1988). As presented in Table 3.9, White boys had 85.5 times more boys who met the Phase-in 3 standard than did Hispanic boys. No Black boys met the standard.

Concerning the 2016-2017 school year, a statistically significant difference was yielded,

$\chi^2(2) = 98.12, p < .001$ , small effect size, Cramer's V of .28 (Cohen, 1988). As

delineated in Table 3.9, White boys had 9.18 times more boys who met the Phase-in 3 standard than did Hispanic boys. No Black boys met the standard. With regard to the

2017-2018 school year, a statistically significant difference was yielded,  $\chi^2(3) = 22.29, p < .001$ , small effect size, Cramer's V of .15 (Cohen, 1988). White boys, as revealed in

Table 3.9, had 4.50 times more boys who met the Phase-in 3 standard than did Hispanic boys and 7.36 times more than Black boys. Hispanic boys had 1.64 times more boys who met this standard than Black boys.

### **Results for the STAAR Reading Phase-in 1 Standard for Girls Across All Four School Years**

Concerning the STAAR Reading Phase-in 1 standard by the ethnicity/race of Grade 4 girls, the result for the 2014-2015 school year was statistically significant,  $\chi^2(2) = 9.60, p = .01$ , small effect size, Cramer's V of .19 (Cohen, 1988). White girls had 1.70 times more girls who met the Phase-in 1 standard than did Hispanic girls. No Black girls met the standard. Table 3.10 contains the frequencies and percentages for the 2014-2015 school year.

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Insert Table 3.10 about here  
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With regard to the 2015-2016 school year, a statistically significant result was yielded,  $\chi^2(3) = 165.87, p < .001$ , moderate effect size, Cramer's V of .40 (Cohen, 1988). As presented in Table 3.10, White girls had 2.71 times more girls who met the Phase-in 1 standard than did Black girls and 12.45 times more than Hispanic girls. Black girls had 4.59 times more girls who met this standard than Hispanic girls. Concerning the 2016-2017 school year, a statistically significant difference was yielded,  $\chi^2(3) = 13.00, p = .005$ , small effect size, Cramer's V of .24 (Cohen, 1988). As delineated in Table 3.10, White girls had 2.34 times more girls who met the Phase-in 1 standard than did Hispanic girls. No Black girls met the standard. With regard to the 2017-2018 school year, a statistically significant difference was yielded,  $\chi^2(3) = 8.74, p = .033$ , small effect size, Cramer's V of .23 (Cohen, 1988). White girls, as revealed in Table 3.10, had 2.07 times more girls who met the Phase-in 1 standard than did Hispanic girls. No Black girls met the standard.

### **Results for the STAAR Reading Phase-in 2 Standard for Girls Across All Four School Years**

Concerning the STAAR Reading Phase-in 2 standard by the ethnicity/race of Grade 4 girls, the result for the 2014-2015 school year was statistically significant,  $\chi^2(2) = 8.80, p = .01$ , moderate effect size, Cramer's V of .47 (Cohen, 1988). White girls had 6.09 times more girls who met the Phase-in 2 standard than did Hispanic girls. No Black

girls met the standard. Table 3.11 contains the frequencies and percentages for the 2014-2015 school year.

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 Insert Table 3.11 about here  
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With regard to the 2015-2016 school year, a statistically significant result was revealed,  $\chi^2(3) = 17.64, p = .001$ , moderate effect size, Cramer's V of .35 (Cohen, 1988). As presented in Table 3.11, White girls had 3.67 times more girls who met the Phase-in 2 standard than did Black girls and 17.57 times more than Hispanic girls. Black girls had 4.79 more girls who met this standard than Hispanic girls. Concerning the 2016-2017 school year, a statistically significant difference was yielded,  $\chi^2(3) = 20.84, p < .001$ , moderate effect size, Cramer's V of .30 (Cohen, 1988). As delineated in Table 3.11, White girls had 6.14 times more girls who met the Phase-in 2 standard than did Hispanic girls. No Black girls met the standard. With regard to the 2017-2018 school year, a statistically significant difference was not yielded,  $\chi^2(3) = 3.78, p = .29$ . Similar percentages of White, Hispanic, and Black girls met the Phase-in 2 standard.

### **Results for the STAAR Reading Phase-in 3 Standard for Girls Across All Four School Years**

Concerning the STAAR Reading Phase-in 3 standard by the ethnicity/race of Grade 4 girls, the result for the 2014-2015 school year was statistically significant,  $\chi^2(2) = 9.24, p = .01$ , small effect size, Cramer's V of .19 (Cohen, 1988). White girls had 6.23 times more girls who met the Phase-in 3 standard than did Hispanic girls. No Black girls

met the standard. Table 3.12 contains the frequencies and percentages for the 2014-2015 school year.

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Insert Table 3.12 about here  
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With regard to the 2015-2016 school year, a statistically significant difference was revealed,  $\chi^2(3) = 13.52, p = .004$ , moderate effect size, Cramer's V of .30 (Cohen, 1988). As presented in Table 3.12, 14.80% of White girls met the standard. No Black girls or Hispanic girls met the STAAR Reading Phase-in 3 standard in the 2015-2016 school year. Concerning the 2016-2017 school year, a statistically significant difference was yielded,  $\chi^2(3) = 21.96, p < .001$ , small effect size, Cramer's V of .28 (Cohen, 1988). As delineated in Table 3.12, White girls had 21.57 times more girls who met the Phase-in 3 standard than Hispanic girls, No Black girls met the standard. With regard to the 2017-2018 school year, a statistically significant result was revealed,  $\chi^2(3) = 8.17, p = .04$ , small effect size, Cramer's V of .22 (Cohen, 1988). White girls, as presented in Table 3.12, had 10 times more girls who met the Phase-in 3 standard than did Hispanic girls. No Black girls met the standard.



## Discussion

In this investigation, the degree to which ethnic/racial differences were present in the reading performance of Grade 4 boys and girls in special education was addressed. Two sets of measures were used as indicators of reading performance. The first set of measures involved the number of reading test items that were answered correctly. The second set of measures involved the percentages of boys and girls who met three levels of state mandated scale score performance standards. The inferential statistical analyses conducted herein revealed the presence of statistically significant racial/ethnic differences in all of the reading performance measures of Grade 4 boys in special education. In contrast, the statistical analyses conducted for Grade 4 girls did not reveal many statistically significant ethnic/racial differences in reading performance. Specific findings for boys and girls will be discussed separately for boys and for girls.

In each STAAR Reading Reporting Category and in all four years investigated, Hispanic and Black boys had statistically significantly lower reading scores than White boys. In addition, the same trends were present in all four years concerning the STAAR Reading Phase-in 1, 2, and 3 Standards by student ethnicity/race. Statistically significantly lower percentages of Black and Hispanic boys met these standards than White boys.

In examining the reading performance of Grade 4 girls in Texas across the four years of data that were analyzed herein, consistent trends in scores were present by student ethnicity/race. In eight of the 12 analyses of the STAAR Reading Reporting Category across the four years investigated, Hispanic and Black girls had statistically significantly lower reading scores than White girls. In addition, the same trends were

present in 11 of the 12 analyses concerning the STAAR Reading Phase-in 1, 2 and 3 Standards. Statistically significantly lower percentages of Black and Hispanic girls met these standards than White girls.

### **Connections with Existing Literature**

Racial/ethnic achievement gaps are prevalent for boys and girls in special education, differences that are congruent with the ethnic and racial disparities documented at the national level (American Psychological Association, 2012; Harvey, 2013; Wei et al., 2011). Previously, researchers (Harris, 2018; Harris & Slate, 2017; McGown, 2016; Rojas-LeBouef, 2010) had identified similar racial/ethnic disparities on the state of Texas STAAR achievement tests which were supported by this study. As evidenced by the results of this investigation, racial/ethnic disparities are present for Grade 4 boys and girls for each STAAR Reading Reporting Category and in all four years investigated. Specifically, Hispanic and Black boys and girls had statistically significantly lower reading scores than White boys and girls. Furthermore, statistically significantly lower percentages of Black and Hispanic boys and girls met these standards than White boys and girls. The same trends were present in all four years concerning the STAAR Reading Phase-in 1, 2, and 3 Standards by student ethnicity/race. Although efforts have been made by federal and state governments to remove disproportionalities present by ethnicity/race (American Psychological Association, 2012; Craft, 2011; Harvey, 2013; Wei et al., 2011), considerable achievement gaps remain for boys and girls in special education.

### **Implications for Policy and Practice**

Based on the results of this multiyear investigation in which Grade 4 reading achievement of boys and girls in special education were analyzed by ethnicity/race, several implications for policy and practice can be made. First, schools and colleges need to provide professional development to educators on cultural learning differences based on ethnicity/race. Boys and girls in special education face multiple challenges due to their disability and for racial/ethnic minority groups, additional roadblocks to learning are evident. Second, additional funds should be allocated by the state and federal government to provide for more culturally relevant texts. Students who have texts to which they can personally relate or that are aligned to their interests are more likely to engage in reading and literacy practices. Third, funding should be allocated more heavily to provide instructional interventions that meet individual student needs. Differences were identified in reading between boys and girls in special education by ethnicity/race. The reading scores of girls were substantially lower than the reading scores of boys in all three ethnic/racial groups. Due to these gaps, the types of instructional interventions offered to boys and girls should be differentiated.

### **Suggestions for Future Research**

Based upon the findings of this multiyear investigation, several suggestions can be made for future research. First, researchers should examine the degree to which results delineated here would be generalizable to other content areas such as mathematics and science. In this multiyear analysis, only reading achievement was addressed. Second, researchers should determine the extent to which disparities might be present for boys and girls in special education at other grade levels. In this investigation, only the

reading performance of Grade 4 boys and girls was examined. Third, researchers should determine the degree to which reading performance might differ by other demographic factors such as poverty, at-risk status, and English Language Learner status. In this study, only the demographic characteristic of ethnicity/race was examined. A final recommendation is for research to conduct mixed methods research studies and qualitative studies to gain greater insights into the underlying causes of the disparities and provide valuable data educators and policymakers can use to make informed decisions.

### **Conclusion**

The purpose of this research study was to determine the extent to which differences were present in the reading performance of Texas Grade 4 boys and girls in special education as a function of their ethnicity/race. After the analysis of four years of Texas statewide data, statistically significant differences were revealed in the reading performance of White, Hispanic, and Black boys in special education for all four years in Reading Reporting Categories I, II and III and STAAR Reading Phase-in 1, 2, and 3 standards. Similarly, statistically significant differences were revealed in the reading performance of White, Hispanic, and Black girls in special education in eight of the 12 analyses for Reading Reporting Categories I, II, and III and 11 of the 12 analyses for STAAR Reading Phase-in 1, 2, and 3 standards. A clear stair-step effect (Carpenter et al., 2006) was present in that Black boys and girls in special education had lower reading skills than Hispanic and White boys and girls. Hispanic boys and girls had lower reading skills than White boys and girls. Regarding the significant reading disparity for minority students, results of this 4-year statewide investigation were congruent with previous researchers (Harris, 2018; Harris & Slate, 2017; McGown, 2016; Rojas-LeBouef, 2010).

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Table 3.1

*Descriptive Statistics for the STAAR Reading Reporting Category I by the Ethnicity/Race of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Black	108	2.68	2.55
Hispanic	566	2.76	2.22
White	355	4.64	3.66
2015-2016			
Black	124	3.13	2.60
Hispanic	528	3.73	2.45
White	403	5.70	3.54
2016-2017			
Black	140	2.22	1.91
Hispanic	702	3.02	2.05
White	424	4.34	2.84
2017-2018			
Black	88	2.69	2.17
Hispanic	612	3.00	1.94
White	236	3.39	2.65



Table 3.2

*Descriptive Statistics for the STAAR Reading Reporting Category II by the Ethnicity/Race of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Black	108	5.20	4.97
Hispanic	566	5.26	3.93
White	355	8.60	6.48
2015-2016			
Black	124	4.56	3.16
Hispanic	528	6.48	3.65
White	403	9.35	5.55
2016-2017			
Black	140	4.16	2.87
Hispanic	702	5.79	3.23
White	424	7.60	4.81
2017-2018			
Black	88	4.55	3.77
Hispanic	612	5.18	3.28
White	236	6.03	4.58

Table 3.3

*Descriptive Statistics for the STAAR Reading Reporting Category III by the Ethnicity/Race of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Black	108	4.56	4.48
Hispanic	566	4.34	3.51
White	355	7.24	5.71
2015-2016			
Black	124	4.56	3.16
Hispanic	528	5.46	3.11
White	403	8.35	5.07
2016-2017			
Black	140	2.94	2.35
Hispanic	702	4.05	2.60
White	424	5.67	4.12
2017-2018			
Black	88	3.80	3.12
Hispanic	612	4.69	2.99
White	236	5.25	4.11

Table 3.4

*Descriptive Statistics for the STAAR Reading Reporting Category I by the Ethnicity/Race of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Black	31	0.58	1.54
Hispanic	154	1.74	2.38
White	86	2.16	3.14
2015-2016			
Black	15	2.07	2.68
Hispanic	69	2.03	1.89
White	61	3.74	4.20
2016-2017			
Black	17	0.76	1.20
Hispanic	144	2.81	2.10
White	65	3.23	3.03
2017-2018			
Black	13	1.00	1.22
Hispanic	96	2.56	2.20
White	50	2.16	2.55

Table 3.5

*Descriptive Statistics for the STAAR Reading Reporting Category II by the Ethnicity/Race of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Black	31	0.94	2.32
Hispanic	154	3.78	4.74
White	86	4.55	6.33
2015-2016			
Black	15	3.53	4.69
Hispanic	69	4.12	3.31
White	61	5.89	6.78
2016-2017			
Black	17	1.53	2.40
Hispanic	144	5.58	3.56
White	65	5.52	5.18
2017-2018			
Black	13	2.00	2.42
Hispanic	96	3.93	3.61
White	50	4.32	5.03

Table 3.6

*Descriptive Statistics for the STAAR Reading Reporting Category III by the Ethnicity/Race of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Black	31	0.71	1.90
Hispanic	154	2.88	3.83
White	86	3.28	4.97
2015-2016			
Black	15	3.00	4.14
Hispanic	69	3.93	3.45
White	61	5.08	5.88
2016-2017			
Black	17	0.88	1.50
Hispanic	144	3.71	2.56
White	65	4.29	4.54
2017-2018			
Black	13	1.69	2.06
Hispanic	96	3.75	3.25
White	50	3.86	4.69

Table 3.7

*Frequencies and Percentages for the STAAR Reading Phase-in 1 Standard by the Ethnicity/Race of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Black	17	15.70	91	84.30
Hispanic	63	11.10	503	88.90
White	182	51.30	173	48.70
2015-2016				
Black	18	14.50	106	85.50
Hispanic	89	16.90	439	83.10
White	217	53.80	186	46.20
2016-2017				
Black	6	4.30	134	95.70
Hispanic	108	15.40	594	84.60
White	200	47.20	224	52.80
2017-2018				
Black	12	13.60	76	86.40
Hispanic	107	17.50	505	82.50
White	78	33.10	158	66.90

Table 3.8

*Frequencies and Percentages for the STAAR Reading Phase-in 2 Standard by the Ethnicity/Race of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Black	1	1.40	72	98.60
Hispanic	5	1.00	473	99.00
White	108	34.00	210	66.00
2015-2016				
Black	3	2.40	121	97.60
Hispanic	15	2.80	513	97.20
White	130	32.30	273	67.70
2016-2017				
Black	2	1.40	138	98.60
Hispanic	26	3.70	676	96.30
White	122	28.80	302	71.20
2017-2018				
Black	4	4.50	84	95.50
Hispanic	33	5.40	579	94.60
White	38	16.10	198	83.90

Table 3.9

*Frequencies and Percentages for the STAAR Reading Phase-in 3 Standard by the Ethnicity/Race of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Black	3	2.80	105	97.20
Hispanic	6	1.10	560	98.90
White	61	17.20	294	82.80
2015-2016				
Black	0	0.00	124	100.00
Hispanic	1	0.20	527	99.80
White	69	17.10	334	82.90
2016-2017				
Black	0	0.00	140	100.00
Hispanic	12	1.70	690	98.30
White	66	15.60	358	84.40
2017-2018				
Black	1	1.10	87	98.90
Hispanic	11	1.80	601	98.20
White	19	8.10	217	91.90



Table 3.10

*Frequencies and Percentages for the STAAR Reading Phase-in 1 Standard by the Ethnicity/Race of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Black	0	0.00	31	100.00
Hispanic	20	13.00	134	87.00
White	19	22.10	67	77.90
2015-2016				
Black	2	13.30	13	86.70
Hispanic	2	2.90	67	97.10
White	22	36.10	39	63.90
2016-2017				
Black	0	0.00	17	100.00
Hispanic	18	12.50	126	87.50
White	19	29.20	46	70.80
2017-2018				
Black	0	0.00	13	100.00
Hispanic	13	13.50	83	86.50
White	14	28.00	36	72.00

Table 3.11

*Frequencies and Percentages for the STAAR Reading Phase-in 2 Standard by the Ethnicity/Race of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Black	0	0.00	12	100.00
Hispanic	2	2.30	85	97.70
White	8	14.00	49	86.00
2015-2016				
Black	1	6.70	14	93.30
Hispanic	1	1.40	68	98.60
White	15	24.60	46	75.40
2016-2017				
Black	0	0.00	17	100.00
Hispanic	5	3.50	139	96.50
White	14	21.50	51	78.50
2017-2018				
Black	0	0.00	13	100.00
Hispanic	5	5.20	91	94.80
White	6	12.00	44	88.00

Table 3.12

*Frequencies and Percentages for the STAAR Reading Phase-in 3 Standard by the Ethnicity/Race of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Ethnicity/Race	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Black	0	0.00	31	100.00
Hispanic	2	1.30	152	98.70
White	7	8.10	79	91.90
2015-2016				
Black	0	0.00	15	100.00
Hispanic	0	0.00	69	100.00
White	9	14.80	52	85.20
2016-2017				
Black	0	0.00	17	100.00
Hispanic	1	0.70	143	99.30
White	10	15.40	55	84.60
2017-2018				
Black	0	0.00	13	100.00
Hispanic	1	1.00	95	99.00
White	5	10.00	45	90.00

**CHAPTER IV**

DIFFERENCES IN READING AS A FUNCTION OF ENGLISH LANGUAGE  
LEARNER STATUS OF TEXAS GRADE 4 BOYS AND GIRLS IN SPECIAL  
EDUCATION: A MULTIYEAR STATEWIDE INVESTIGATION

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This dissertation follows the style and format of *Research in the Schools (RITS)*.

### **Abstract**

In this article, the extent to which English Language Learner status (i.e., English Language Learner and Not English Language Learner) was related to the reading achievement of Texas Grade 4 boys and girls in special education was examined. For this investigation, four school years (i.e., 2014-2015, 2015-2016, 2016-2017, and 2017-2018) of archival data from the Texas Education Agency Public Education Information Management System were analyzed. Inferential statistical analyses were conducted separately for boys and girls in special education. English Language Learner girls and boys in special education had statistically significant lower reading scores than girls and boys who were Not English Language Learners. Results were consistent with the existing research literature. Suggestions for future research, as well as implications for policy and practice, were provided.

*Keywords:* Special education, Reading performance, Literacy, Disabilities, Academic achievement, Gender, English Language Learner status, STAAR Reading test, Reporting Category, Phase-in Standard

DIFFERENCES IN READING AS A FUNCTION OF ENGLISH LANGUAGE  
LEARNER STATUS OF TEXAS GRADE 4 BOYS AND GIRLS IN SPECIAL  
EDUCATION: A MULTIYEAR STATEWIDE INVESTIGATION

The United States has undergone a dramatic change in the demographics of students in public schools in the past two decades. The greatest change has been in the growth of English Language Learners which increased 26% from the 2000 to 2015, resulting in approximately 5 million English Language Learners in public schools and accounting for 9.5% of the total U.S public school student population (National Center for Education Statistics, 2019b). These dramatic changes in public school demographics have led to recent legislative action through the Every Student Succeeds Act of 2015 and ongoing federal guidance from the U.S. Department of Education. The former U.S. Secretary of Education, John B. King Jr. stated, “In too many places across the country, English learners get less access to quality teachers, less access to advanced coursework, and less access to the resources they need to succeed” (U.S. Department of Education, 2016, para. 2).

Compounding these educational pedagogy challenges, within the English Language Learner population, additional demographic challenges are present, especially in the area of special education (National Center for Education Statistics, 2019a). Across the United States, 713,000 English Language Learners were also identified as students with disabilities and represented 14.7% of the total English Language Learner Population (National Center for Education Statistics, 2019b). The total percentage of English Language Learners in public schools varies greatly by state with eight states (i.e., Alaska, California, Colorado, Kansas, Nevada, New Mexico, Texas, and Washington) having

more than 10% of their public school population being identified as English Language Learners.

The large increase in the numbers of English Language Learners over the last two decades has spurred heightened awareness of achievement gaps and pressures for researchers to examine the achievement of English Language Learners in greater depth. Li, Kruger, Beneville, Kimble, and Kirshnan (2018) contended that the increased dependence on high stakes testing, brought about by the No Child Left Behind Act (2001) and the Every Student Succeeds Act (2015), has had negative effects on academic performance outcomes and instead of closing the achievement gaps between the total student population and English Language Learners has instead caused greater disproportionalities to exist.

Evidence of English Language Learner academic achievement gaps were evident in a multiple state study of 6,662,994 students from two separate midwestern states and two large urban districts (Abedi, 2002). Student data spanned Grades 1 to Grade 11 and were comprised of a demographically diverse English Language Learner population ranging from 6.9% to 24.1% of the total general population. Abedi (2002) revealed that English Language Learners performed lower than students who were not English Language Learners on reading, mathematics, and science tests. Specifically, the degree of disproportionality was greatest on the state achievement tests with the higher levels of language demand (i.e., reading) and lower on state achievement tests where language has less of an effect (i.e., mathematics).

Although Abedi (2002) examined the results from two specific western states, a larger scale study was completed by Fry (2007) in a national study. His results,

congruent the findings of Abedi (2002), reflected the continuation of growing achievement gaps between English Language Learners and non-English Language Learners. Fry analyzed the 2005 National Assessment of Education Program which contained state assessment data from 39 states for mathematics and 34 states for reading. Specifically examined were the Grade 4 and Grade 8 Reading and Mathematics gaps between English Language Learners and students who were not English Language Learners. One interesting finding was that regardless of the grade or subject area, the academic achievement of English Language Learners was statistically significantly lower than the academic achievement of their peers who were not English Language Learners. Specifically, the reading proficiency of English Language Learners was 73% below grade level for Grade 4 students and 71% below grade level for Grade 8 students.

With respect to the State of Texas, Rojas-LeBouef (2010) investigated the academic achievement of Grade 5 Limited English Proficient, Hispanic, and White students to determine whether gaps were present in their reading and mathematics performance. State assessment data for the Texas Assessment of Knowledge and Skills (TAKS) test from the 2002-2003 school year through the 2008-2009 school year were obtained from the Texas Education Agency Academic Excellence Indicator System and analyzed. Rojas-LeBouef (2010) demonstrated that Limited English Proficient students had the lowest TAKS Reading and Mathematics test scores in comparison to White and Hispanic students for all 7 years of Texas statewide data. For Limited English Proficient students, their average passing rates across the 7-year time period were 49.91% on the TAKS Reading test and 59.61% on the TAKS Mathematics test. In comparison, Hispanic students had average passing rates across the 7-year time period of 71.33% on



the TAKS Reading test and 73.98% on the TAKS Mathematics test. White students had the highest average passing rates across the 7-years which were 86.99% for Reading and 86.23% for Mathematics. Effect sizes were large on the TAKS Reading test and moderate or large on the TAKS Mathematics test across the 7-year time frame of data analyzed.

In a similar investigation that was also conducted in Texas, Craft (2011) examined the academic achievement of Grade 8 White, Hispanic, and Limited English Proficient students. Specifically examined were the TAKS Grade 8 Reading, Mathematics, Science, and Social Studies passing rates from the 2003-2004 through the 2009-2010 school years. Craft (2011) established that the achievement gaps between Limited English Proficient and non-Limited English Proficient students were persistent throughout the data analyzed. Specifically, Craft (2011) documented that Limited English Proficient students had statistically significantly lower academic achievement in the four subject areas assessed than did Hispanic students and White students. Of the statistical analyses, effect sizes were in the large or very large category (Craft, 2011).

More recently, Schleeter (2017) analyzed the reading performance of Texas Grade 3 English Language Learners as a function of their economic status, ethnicity/race, and gender. In his multiyear investigation, Schleeter (2017) analyzed three years (i.e., 2012-2013, 2013-2014, 2014-2015) of Texas statewide archival data. Schleeter (2017) addressed the effect of economic status, ethnicity/race, and gender on the three STAAR Reading Reporting categories and the percentage of students who met state-mandated performance standards (i.e., STAAR Phase-in 1, 2, and 3) for English Language Learners. For each statistical analysis, with respect to economic status, as poverty

increased reading performance decreased for English Language Learners. Additionally, regarding ethnicity/race, Hispanic English Language Learners had the poorest reading performance results and Asian English Language Learners had the highest reading performance results in comparison to Black and White English Language Learners. With respect to gender, English Language Learner girls outperformed English Language boys. Effect sizes ranged from below small to large (Schleeter, 2017).

Further examining the effects of English Language Learner status on student achievement in Texas public schools, Flores, Batalova, and Fix (2012) analyzed reading and mathematics performance by English Language Learner status. In this multiyear investigation, they analyzed 20 years (i.e., 1990 through 2009) of Texas data on the TAAS and the TAKS assessments. Addressed in their study were the passing rates on the state-mandated reading and mathematics tests from Grade 3 through Grade 11. English Language Learners were categorized in the Flores et al. (2012) research investigation in three groupings: (a) Ever-English Language Learners (i.e., students who were ever identified as English Language Learners); (b) the On-Time Cohort (students who entered Grade 1 in 1995 and reaching Grade 12 in 2006); and (c) Non-English language Learners (students who were never identified as English language Learners). Flores et al. (2012) documented the presence of strong relationships between English Language Learner status and poor reading performance. Clear disparities were established in all 12 years and for all tested grade levels (i.e., Grades 3, 4, 5, 8, 10, and 11). With respect to the percentages of students who met the state-mandated performance standards. Flores et al. (2012) established the presence of statistically significant differences among Ever-English Language Learner, On-Time Cohort, and Non-English Language Learners. From

1995 through 2007, only 38% of Ever-English Language Learners met the Grade 4 reading performance standard in comparison to 71% of the On-Time Cohort English Language Learners, and 79% of Non-English Language Learners.

### **Statement of the Problem**

Almost 6 million students served in public schools are identified as English Language Learners and predominantly receive instruction in their non-native language, resulting in reading deficits that can have negative lifelong effects for individuals and for society (Flores et al., 2012). Researchers (e.g., Abedi, 2002; Craft, 2011; Flores et al., 2012; Fry, 2007; Li et al., 2018; National Center for Education Statistics, 2019b; Schleeter, 2017) have all demonstrated that English Language Learner status is a substantial threat to children's ability to learn, thereby negatively affecting their ability to read and lowering their overall economic contribution to society. Additionally, English Language Learners in special education face greater challenges than the general student population and account for almost 15% of the total English Language Learners population. Compounding the threats to student achievement, many students fail to be identified for special education and miss out on essential supports due to language barriers (National Center for Education Statistics, 2019b). English Language Learners struggle with reading at greater rates and respond less effectively from academic interventions (Abedi, 2002; Li et al., 2018). Consequently, the limited research available on reading performance of students who are in special education and who are English Language Learners needs to be addressed to provide empirical insights and ensure a firm foundation to develop education practices for student learning.

### **Purpose of the Study**

The purpose of this study was to examine the degree to which differences were present in the reading performance of Texas Grade 4 English Language Learner boys and girls in special education. Specifically examined was the effect of English Language Learner status on the ability of Grade 4 boys and girls in special education to understand a variety of written texts across reading genres (i.e., STAAR Reading Reporting Category I), the ability to understand and analyze literary texts (i.e., STAAR Reading Reporting Category II), and the ability to understand and analyze informational texts (i.e., STAAR Reading Reporting Category III). A second purpose was to determine the degree to which English Language Learner status was related to student performance across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards for Grade 4 boys and girls in special education. A third purpose was to determine the extent to which trends were present across the STAAR Reading Reporting Categories I, II, and III of Grade 4 English Language Learner boys and girls across the four school years of data. A fourth purpose was to determine the extent to which trends were present across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards by the English Language Learner status of Grade 4 boys and girls across four school years of data s (i.e., 2014-2015, 2015-2016, 2016-2017, 2017-2018).

### **Significance of the Study**

A considerable amount of research has been conducted on the relationship of English Language Learner status, special education status, and gender on student reading achievement. However, research is limited on the interrelationships of English Language Learner status, special education status, and gender on student reading performance.

Though Schleeter (2017) recently examined reading performance across the STAAR Reading Reporting Categories I, II, and III or across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards; no studies were located in which the reading performance students in special education was addressed by their English Language Learner status. As such, valuable insights are provided from the results of this empirical, multiyear investigation for school district leaders, policymakers, and teachers.

### **Research Questions**

The following overarching research question was addressed in this study: What is the effect of English Language Learner status on the overall reading performance of Grade 4 students in special education? Within the overarching research question eight sub-questions were present: (a) What is the effect of English Language Learner status on the ability to understand a variety of written texts across reading genres (i.e., STAAR Reading Reporting Category I) of Grade 4 students in special education?; (b) What is the effect of English Language Learner status on the ability to understand and analyze literary texts (i.e., STAAR Reading Reporting Category II) of Grade 4 students in special education?; (c) What is the effect of English Language Learner status on the ability to understand and analyze informational texts (i.e., STAAR Reading Reporting Category III) of Grade 4 students in special education?; (d) What is the effect of English Language Learner status on the STAAR Reading Phase-in 1 standard of Grade 4 students in special education?; (e) What is the effect of English Language Learner status on the STAAR Reading Phase-in 2 standard of Grade 4 students in special education?; (f) What is the effect of English Language Learner status on the STAAR Reading Phase-in 3 standard of Grade 4 students in special education?; (g) What trend is present across the STAAR

Reading Reporting Categories I, II, and III by the English Language Learner status of Grade 4 boys and girls across the four school years of data?; and (h) What trend is present across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards by the English Language Learner status of Grade 4 boys and girls across the four school years of data? The first six research questions were addressed separately for boys and for girls and were repeated for four school years. The last two research questions involved comparisons across all four research questions (i.e., 2014-2015, 2015-2016, 2016-2017, 2017-2018).

## **Method**

### **Research Design**

For this empirical investigation, a non-experimental, causal-comparative research design was present (Creswell & Creswell, 2018; Johnson & Christensen, 2017). A state archival dataset was analyzed to determine the effect of English Language Learner status on the overall reading performance of Grade 4 students in special education. The independent variable herein was English Language Learner status (i.e., Yes, No) as specified in the Texas Education Agency Public Education Information Management System data. Dependent variables were the STAAR Reading Reporting Categories 1, 2, and 3 of boys and girls in special education and the Phase-In Satisfactory Performance Standards 1, 2, and 3 of boys and girls in special education.

### **Participants and Instrumentation**

The data for this study were obtained from archival data from the Texas Education Agency Public Education Information Management System. Specifically, an analysis of the reading performance of the Texas state-mandated reading assessment for

the 2014-2015, 2015-2016, 2016-2017, and the 2017-2018 school years was completed to identify trends present in reading performance by English Language Learner status between Grade 4 boys and girls in special education across the four school years of data. Additional analyses were conducted to identify trends across the STAAR Reading Reporting Categories I, II, and III and across the STAAR Reading Phase-in 1, 2, and 3 Satisfactory performance standards for English Language Learner status.

The Texas Education Agency (2016) accountability manual defines English Language Learners as “students whose primary language is other than English and who are in the process of acquiring English” (p. 108). The English Language Learner population is not a homogenous population but rather a highly heterogenous group of students with various background and family environments. English Language Learners come from households in which no English is spoken, where only English is spoken, and other students from homes in which multiple languages are spoken. The English Language Learner designation is a term that is primarily used in the United States to refer to students in Grades Kindergarten through 12 who are actively learning English (National Council of Teachers of English, 2008).

Reading performance was examined based on the STAAR Reading Reporting Categories. The Texas Education Agency (2011) has defined STAAR Reading Reporting Category I as an indicator measuring a student’s ability, “to understand and analyze a variety of written texts across reading genres” (p. 2). In contrast, STAAR Reading Reporting Category II is defined as an indicator measuring a student’s ability, “to understand and analyze literary texts” (p. 3) and STAAR Reading Reporting Category III

was defined as an indicator measuring a student's ability, "to understand and analyze informational texts" (p. 5).

In addition to examining student performance on the three STAAR Reading Reporting Categories, student performance on the STAAR Phase-in standards 1, 2, and 3 was also addressed. Meeting the STAAR Satisfactory criteria requires that a student meet a minimum scaled score based on the Phase-in performance standard in place during the school year of the assessment. The minimum scaled scores increased in three phases over a 5-year period. The English STAAR Grade 4 Reading assessment for 2014-2015 school year (i.e., Phase-in 1) required a scaled score of 1422 for a Satisfactory performance designation, for 2015-2016 through 2017-2018 (i.e., Phase-in 2) a minimum scaled score of 1460 was required, and for the 2018-2019 (i.e., Phase-in 3) school year the minimum required scale score was 1511. Examining the STAAR Satisfactory criteria across each of the Phase-in standards enabled a comparison of student reading achievement data across the four school years of data even though the satisfactory performance scaled scores changed.

## **Results**

Prior to conducting multivariate analysis of variance (MANOVA) procedures to address the research questions previously delineated, its underlying assumptions were checked. Specifically examined were data normality, Box's Test of Equality of Covariance, and the Levene's Test of Equality of Error Variances. Although these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use on the data in this study (Field, 2009). Results will be presented in chronological



order beginning with the 2014-2015 school year and concluding with the 2017-2018 school year.

### **Overall Results for Boys Across All Four School Years**

For the 2014-2015 school year, the MANOVA yielded a statistically significant difference in overall reading performance by the English Language Learner status of Grade 4 boys in special education, Wilks'  $\Lambda = .99$ ,  $p = .056$ , partial  $\eta^2 = .01$ , small effect size (Cohen, 1988). With respect to the 2015-2016 school year, a statistically significant difference was present in overall reading performance, Wilks'  $\Lambda = .32$ ,  $p = .012$ , partial  $\eta^2 = .01$ , small effect size (Cohen, 1988). Concerning the 2016-2017 school year, a statistically significant difference was yielded in overall reading performance, Wilks'  $\Lambda = .33$ ,  $p < .001$ , partial  $\eta^2 = .10$ , a moderate effect size (Cohen, 1988). Regarding the 2017-2018 school year, a statistically significant difference was again present in overall reading, Wilks'  $\Lambda = .99$ ,  $p = .048$ , partial  $\eta^2 = .01$ , small effect size (Cohen, 1988). One effect size was moderate and three effect sizes were small.

### **Results for Reading Reporting Category I for Boys Across All Four School Years**

For each of the four school years, univariate follow-up analysis of variance (ANOVA) procedures were calculated to determine whether statistically significant differences were present for the STAAR Reading Reporting Category I scores by English Language Learner status. Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(1, 1039) = 6.51$ ,  $p = .011$ , partial  $\eta^2 = .01$ , small effect size (Cohen, 1988), on the STAAR Reading Reporting Category I by English Language Learner status. For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(1, 1059) = 11.61$ ,  $p = .001$ , partial  $\eta^2 = .01$ , small

effect size (Cohen, 1988). Regarding the 2016-2017 school year, a statistically significant difference was again revealed,  $F(1, 1258) = 5.24, p = .022$ , partial  $\eta^2 = .004$ , small effect size (Cohen, 1988). With respect to the 2017-2018 school year, a statistically significant difference was not present,  $F(1, 939) = 0.22, p = .64$ . In three of the four school years, Grade 4 boys in special education who were English Language Learners answered statistically significant fewer items correctly on the STAAR Reading Reporting Category I than boys who were not English Language Learners. All three effect sizes were in the small category.

With respect to the 2014-2015, 2015-2016, and 2016-2017 school years, Grade 4 boys in special education who were English Language Learners answered, on average, about one-half an item fewer correctly than was answered correctly by boys who were not English Language Learners. Descriptive statistics for these school years for the STAAR Reading Reporting Category I scores are contained in Table 4.1.

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### **Results for Reading Reporting Category II for Boys Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(1, 1039) = 3.95, p = .047$ , partial  $\eta^2 = .004$ , small effect size (Cohen, 1988), on the STAAR Reading Reporting Category II by English Language Learner status. For the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(1, 1059) = 9.48, p = .002$ , partial  $\eta^2 = .01$ , small effect size (Cohen, 1988). Regarding the 2016-2017 school year, a statistically significant difference was not revealed,  $F(1, 1258)$

= 0.50,  $p = .48$ . With respect to the 2017-2018 school year, a statistically significant difference was not yielded,  $F(1, 939) = 1.32, p = .25$ . In the 2014-2015 and 2015-2016 school years, Grade 4 boys in special education who were English Language Learners answered statistically significant fewer number of items correctly on the STAAR Reading Reporting Category II than students who were not English Language Learners. Both effect sizes were small.

Regarding the STAAR Reading Reporting Category II, during the 2014-2015 and 2015-2016 school years, Grade 4 boys in special education who were English Language Learners answered, on average, about three-quarter of an item fewer correctly than was answered correctly by boys who were not English Language Learners. Descriptive statistics for these school years for the STAAR Reading Reporting Category II are contained in Table 4.2.

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### **Results for Reading Reporting Category III for Boys Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(1, 1039) = 6.13, p = .013$ , partial  $\eta^2 = .01$ , small effect size (Cohen, 1988), on the STAAR Reading Reporting Category III by English Language Learner status.

Regarding the 2015-2016 school year, the ANOVA yielded a statistically significant difference,  $F(1, 1059) = 12.69, p < .001$ , partial  $\eta^2 = .01$ , small effect size (Cohen, 1988).

For the 2016-2017 school year, a statistically significant difference was not revealed,  $F(1, 1258) = 0.03, p = .87$ . With respect to the 2017-2018 school year, again a statistically

significant difference was not yielded,  $F(1, 939) = 1.65, p = .20$ . In the 2015-2016 and 2016-2017 school years, Grade 4 boys in special education who were English Language Learners answered statistically significantly fewer items on the STAAR Reading Reporting Category III than boys who were not English Language Learners. The two effect sizes were in the small category. With respect to the 2014-2015 and 2015-2016 school years, Grade 4 boys in special education who were English Language Learners answered, on average, over three-quarters of an item fewer correctly than was answered correctly by boys who were not English Language Learners. Descriptive statistics for these school years for the STAAR Reading Reporting Category III are contained in Table 4.3.

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### **Overall Results for Girls Across All Four School Years**

For the 2014-2015 school year, the MANOVA yielded a statistically significant difference in overall reading performance by the English Language Learner status of Grade 4 girls in special education, Wilks'  $\Lambda = .96, p = .006$ , partial  $\eta^2 = .05$ , small effect size (Cohen, 1988). With respect to the 2015-2016 school year, a statistically significant difference was present in overall reading performance, Wilks'  $\Lambda = .92, p = .008$ , partial  $\eta^2 = .08$ , moderate effect size (Cohen, 1988). Concerning the 2016-2017 school year, a statistically significant difference was yielded in overall reading performance, Wilks'  $\Lambda = .97, p = .047$ , partial  $\eta^2 = .03$ , a small effect size (Cohen, 1988). Regarding the 2017-

2018 school year, a statistically significant difference was not present in overall reading, Wilks'  $\Lambda = .97, p = .16$ . One effect size was moderate and two effect sizes were small.

### **Results for Reading Reporting Category I for Girls Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was revealed,  $F(1, 272) = 6.88, p = .01$ , partial  $\eta^2 = .03$ , small effect size (Cohen, 1988), for girls on the STAAR Reading Reporting Category I by English Language Learner status. For the 2015-2016 school year, the ANOVA did not reveal a statistically significant difference,  $F(1, 145) = 4.37, p = .52$ . Regarding the 2016-2017, a statistically significant difference was not revealed,  $F(1, 228) = 3.58, p = .06$ . For the 2017-2018 school year, a statistically significant difference was present,  $F(1, 161) = 4.82, p = .03$ , partial  $\eta^2 = .03$ , small effect size (Cohen, 1988). Only for the 2014-2015 and 2017-2018 school years did Grade 4 girls in special education who were English Language Learners answer a statistically significant different number of items on the STAAR Reading Reporting Category I. Effect sizes were small.

With respect to the 2014-2015 and 2017-2018 school years, Grade 4 girls in special education who were English Language Learners answered, on average, over three-quarters of an item more correctly on the STAAR Reading Reporting Category I than girls who were not English Language Learners. In the other two school years, girls in special education, regardless of their English Language Learner status, answered a similar number of items correctly on this reading reporting category. Descriptive statistics are contained in Table 4.4.

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### **Results for Reading Reporting Category II for Girls Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was yielded,  $F(1, 272) = 10.56, p = .001$ , partial  $\eta^2 = .04$ , small effect size (Cohen, 1988), for girls on the STAAR Reading Reporting Category II by English Language Learner status. For the 2015-2016 school year, the ANOVA did not yield statistically significant difference,  $F(1, 145) = 3.72, p = .71$ . Regarding the 2016-2017 school year, a statistically significant difference was revealed,  $F(1, 228) = 5.60, p = .02$ , partial  $\eta^2 = .02$ , small effect size (Cohen, 1988), for girls. In the 2017-2018 school year, a statistically significant difference was not present,  $F(1, 161) = 3.06, p = .08$ . Only in the 2014-2015 and 2016-2017 school years did Grade 4 girls in special education who were English Language Learners answer a statistically significant different number of items on the STAAR Reading Reporting Category II. Effect sizes were both small.

Regarding the STAAR Reading Reporting Category II, during the 2014-2015 school year, Grade 4 girls in special education who were English Language Learners answered, on average, over two and one-quarter items more correctly than were answered correctly by girls who were not English Language Learners. For the 2016-2017 school year, girls in special education who were English Language Learners answered, on average, almost one and one-half more questions correctly than were answered correctly by girls who were not English Language Learners. For the other school years,

statistically significant differences were not present. Descriptive statistics for these school years are contained in Table 4.5.

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### **Results for Reading Reporting Category III for Girls Across All Four School Years**

Concerning the 2014-2015 school year, a statistically significant difference was present,  $F(1, 272) = 11.62, p = .001$ , partial  $\eta^2 = .04$ , small effect size (Cohen, 1988) for girls on the STAAR Reading Reporting Category III by English Language Learner status. For the 2015-2016 school year, the ANOVA did not yield a statistically significant difference,  $F(1, 145) = 0.89, p = .35$ . Regarding the 2016-2017 school year, a statistically significant difference was revealed,  $F(1, 228) = 7.54, p = .007$ , partial  $\eta^2 = .03$ , small effect size (Cohen, 1988). Concerning the 2017-2018 school year, a statistically significant difference was not yielded,  $F(1, 161) = 2.26, p = .14$ . Only for the 2014-2015 and 2016-2017 school years did Grade 4 girls in special education who were English Language Learners answer a statistically significant different number of items on the STAAR Reading Reporting Category III. Effect sizes were small.

With respect to the 2014-2015 school year, Grade 4 girls in special education who were English Language Learners answered, on average, nearly two items more correctly than were answered correctly by girls who were not English Language Learners. For the 2016-2017 school year, Grade 4 girls who in special education who were English Language Learners answered, on average, over one and one-quarter items more correctly than were answered correctly by girls who were not English Language Learners.

Statistically significant differences were not present for Grade 4 girls for the other two school years. Descriptive statistics for these school years are contained in Table 4.6.

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### **Results for the STAAR Reading Phase-in 1 Standard for Boys Across All Four School Years**

Student performance on the STAAR Reading Phase-in 1 standard was examined next through the use of Pearson chi-square procedures. This statistical procedure was the most appropriate statistical procedure to use because dichotomous data were present for the STAAR Reading Phase-in 1 standard (i.e., met or did not meet this standard) and categorical data were present for English Language Learner status (i.e., not English Language Learner, English Language Learner). As such, the Pearson chi-square is the preferred statistical procedure when both variables are categorical (Field, 2009). Because a large sample size was present, the assumptions for using a chi-square were met.

Concerning the STAAR Reading Phase-in 1 standard by the English Language Learner status of Grade 4 boys, the result for the 2014-2015 school year was statistically significant,  $\chi^2(1) = 53.67, p < .001$ , small effect size, Cramer's V of .28 (Cohen, 1988). The English Language Learner group had 7.39 times fewer boys who met this standard than the not English Language Learner group of boys. Table 4.7 contains the frequencies and percentages for the 2014-2015 school year.



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With regard to the 2015-2016 school year, the result was statistically significant,  $\chi^2(1) = 35.25, p < .001$ , small effect size, Cramer's V of .18 (Cohen, 1988). As presented in Table 4.7, the English Language Learner group had 2.01 times fewer boys who met this standard than the not English Language Learner group of boys. Concerning the 2016-2017 school year, a statistically significant difference was revealed,  $\chi^2(1) = 8.65, p = .003$ , below small effect size, Cramer's V of .08 (Cohen, 1988). As delineated in Table 4.7, the English Language Learner group had 1.42 times fewer boys who met this standard than the not English Language Learner group of boys. With regard to the 2017-2018 school year, the result was not statistically significant,  $\chi^2(1) = 0.09, p = .77$ . Boys who were English Language Learners, as revealed in Table 4.7, had similar met standard rates as boys who were not English Language Learners.

### **Results for the STAAR Reading Phase-in 2 Standard for Boys Across All Four School Years**

Concerning the STAAR Reading Phase-in 2 standard by the English Language Learner status of Grade 4 boys, the result for the 2014-2015 school year was statistically significant,  $\chi^2(1) = 53.76, p < .001$ , small effect size, Cramer's V of .25 (Cohen, 1988). The English Language Learner group had 26.71 times fewer boys who met this standard than the not English Language Learner group of boys. Table 4.8 contains the frequencies and percentages for the 2014-2015 school year.

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Insert Table 4.8 about here  
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With regard to the 2015-2016 school year, the result was statistically significant,  $\chi^2(1) = 50.00, p < .001$ , small effect size, Cramer's V of .21 (Cohen, 1988). As presented in Table 4.8, the English Language Learner group had 6.3 times fewer boys who met this standard than the not English Language Learner group of boys. Concerning the 2016-2017 school year, the result was statistically significant,  $\chi^2(1) = 24.85, p < .001$ , small effect size, Cramer's V of .14 (Cohen, 1988). As delineated in Table 4.8, the English Language Learner group had 3.20 times fewer boys who met this standard than the not English Language Learner group of boys. With regard to the 2017-2018 school year, the result was statistically significant,  $\chi^2(1) = 5.03, p = .03$ , small effect size, Cramer's V of .07 (Cohen, 1988). The English Language Learner group, as revealed in Table 4.8, had 1.79 times fewer boys who met this standard than the not English Language Learner group of boys.

### **Results for the STAAR Reading Phase-in 3 Standard for Boys Across All Four School Years**

Concerning the STAAR Reading Phase-in 3 standard by the English Language Learner status of Grade 4 boys, the result for the 2014-2015 school year was statistically significant,  $\chi^2(1) = 28.98, p < .001$ , small effect size, Cramer's V of .17 (Cohen, 1988). No boys in the English Language Learner group met this standard and 9.30% of the not English Language Learner group of boys met the standard. Table 4.9 contains the frequencies and percentages for the 2014-2015 school year.

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Insert Table 4.9 about here  
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With regard to the 2015-2016 school year, the result was statistically significant,  $\chi^2(1) = 30.51, p < .001$ , small effect size, Cramer's V of .17 (Cohen, 1988). As presented in Table 4.9, the English Language Learner group had 31.33 times fewer boys who met this standard than the not English Language Learner group of boys. Concerning the 2016-2017 school year, a statistically significant difference was yielded,  $\chi^2(1) = 9.27, p = .002$ , a below small effect size, Cramer's V of .09 (Cohen, 1988). As delineated in Table 4.9, the English Language Learner group had 2.59 times fewer boys who met this standard than the not English Language Learner group of boys. With regard to the 2017-2018 school year, the result was statistically significant,  $\chi^2(1) = 5.46, p = .02$ , below small effect size, Cramer's V of .08 (Cohen, 1988). The English Language Learner group, as revealed in Table 4.9, had 2.87 times fewer boys who met this standard than the not English Language Learner group of boys.

#### **Results for the STAAR Reading Phase-in 1 Standard for Girls Across All Four School Years**

Concerning the STAAR Reading Phase-in 1 standard by the English Language Learner status of Grade 4 girls, the result for the 2014-2015 school year was not statistically significant,  $\chi^2(1) = 0.17, p = .68$ . Similar percentages of girls met this standard, regardless of their English Language Learner status. Table 4.10 contains the frequencies and percentages for the 2014-2015 school year.

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 Insert Table 4.10 about here  
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With respect to the 2015-2016 school year, the result was statistically significant,  $\chi^2(1) = 3.95, p = .04$ , small effect size, Cramer's V of .16 (Cohen, 1988). The English Language Learner group had 3.44 times fewer girls who met this standard than the not English Language Learner group of girls. Concerning the 2016-2017 school year, a statistically significant difference was not revealed,  $\chi^2(1) = 0.02, p = .88$ . Regardless of their English Language Learner status, similar percentages of girls met this standard. Table 4.10 contains the frequencies and percentages for this analysis. In the 2017-2018 school year, the result was not statistically significant,  $\chi^2(1) = 0.13, p = .72$ . Regardless of their English Language Learner status, similar percentages of girls met this standard. Revealed in Table 4.10 are the frequencies and percentages for this school year.

### **Results for the STAAR Reading Phase-in 2 Standard for Girls Across All Four School Years**

Concerning the STAAR Reading Phase-in 2 standard by the English Language Learner status of Grade 4 girls, the result for the 2014-2015 school year was not statistically significant,  $\chi^2(1) = 1.06, p = .30$ . Regardless of their English Language Learner status, similar percentages of girls met this standard. Table 4.11 contains the frequencies and percentages for the 2014-2015 school year.

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 Insert Table 4.11 about here  
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With regard to the 2015-2016 school year, the result was not statistically significant,  $\chi^2(1) = 3.03, p = .08$ . Regardless of their English Language Learner status, similar percentages of girls met this standard. Table 4.11 contains the frequencies and percentages for this school year. Concerning the 2016-2017 school year, a statistically significant difference was not yielded,  $\chi^2(1) = 1.67, p = .19$ . Regardless of their English Language Learner status, similar percentages of girls met this standard. Delineated in Table 4.11 are the frequencies and percentages for this analysis. In the 2017-2018 school year, the result was not statistically significant,  $\chi^2(1) = 0.01, p = .91$ . Similar percentages of girls met this standard, regardless of their English Language Learner status. Presented in Table 4.11 are the frequencies and percentages for this school year.

### **Results for the STAAR Reading Phase-in 3 Standard for Girls Across All Four School Years**

Concerning the STAAR Reading Phase-in 3 standard by the English Language Learner status of Grade 4 girls, the result for the 2014-2015 school year was not statistically significant,  $\chi^2(1) = 1.02, p = .31$ . Regardless of their English Language Learner status, similar percentages of girls met this standard. Table 4.12 contains the frequencies and percentages for the 2014-2015 school year.

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 Insert Table 4.12 about here  
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With respect to the 2015-2016 school year, statistically significant difference was not yielded,  $\chi^2(1) = 2.78, p = .10$ . Similar percentages of girls met this standard, regardless of their English Language Learner status. Revealed in Table 4.12 are the

frequencies and percentages for this school year. Concerning the 2016-2017 school year, a statistically significant difference was not yielded,  $\chi^2(1) = 2.17, p = .14$ . Regardless of their English Language Learner status, similar percentages of girls met this standard. Delineated in Table 4.12 are the frequencies and percentages for this school year. In the 2017-2018 school year, the result was not statistically significant,  $\chi^2(1) = 0.45, p = .50$ . Similar percentages of girls met this standard, regardless of their English Language Learner status. Table 4.12 contains the frequencies and percentages for this analysis.

### **Discussion**

In this multiyear statewide investigation, the reading performance of Grade 4 boys and girls in special education was examined as a function of their English Language Learner status. To measure reading performance, two key indicators were analyzed: (a) number of exam questions answered correctly and (b) the percentage of students who met each of the Texas performance measures (i.e., Phase-in 1, 2, and 3 Standards). Both of these indicators are used by the state of Texas school accountability system to measure academic performance. Through the use of inferential statistical analyses, statistically significant differences were present for Grade 4 boys by their English Language Learner status. For Grade 4 girls, however, few statistically significant differences were determined, with the majority occurring in the number of test questions answered correctly. Results will now be addressed separately for boys and for girls.

In seven of the 12 analyses conducted, English Language Learner boys had statistically significantly lower reading scores than boys in the not English Language Learner group for the STAAR Reading Reporting Categories across the four years investigated. Similar trends were present in all four years concerning the STAAR

Reading Phase-in 1, 2, and 3 Standards by English Language Learner status, in that lower percentages of English Language Learner boys met this standard than boys in the not English Language Learner group in 11 of the 12 analyses conducted.

In contrast, analyses of the reading performance of Grade 4 girls in Texas across the four years of data revealed a lack of statistically significant results for the STAAR Reading Reporting Categories. Specifically, in the six of the 12 analyses conducted, girls in special education, regardless of their English Language Learner status answered a similar number of items correctly on the STAAR Reading Reporting Categories. Similarly, girls in special education, regardless of their English Language Learner status had similar percentages for the STAAR Reading Phase-in 1, 2, and 3 Standards.

### **Connection with Existing Literature**

Results discussed herein were congruent with prior researchers (e.g., Abedi, 2002; Craft, 2011; Flores et al., 2012; Fry, 2007; Li et al., 2018; National Center for Education Statistics, 2019b; Schleeter, 2017) who documented that English Language Learner status was negatively related to student reading performance. When students fail to be identified, or are delayed in identification, for special education, reading disparity begins to manifest because essential supports needed to overcome language barriers may not be available (National Center for Education Statistics, 2019b). Additionally, language barriers coupled with other demographic factors (e.g., gender, special education) create almost unsurmountable odds for students to overcome. For example, Harris (2018) revealed statistically significant differences in reading performance in terms of gender and English Language Learner status that were commensurate with the findings of this investigation.

### **Implications for Policy and Practice**

Over the last 20 years, billions of federal and state dollars have provided to school districts to combat the academic disparity of English Language Learner and special education status. Despite the funds provided and legislation to address the achievement needs of these special populations, reading performance for students who are in special education and who are English Language Learners continues to lag behind their not English Language Learner peers. To ensure that funds are used appropriately to overcome the disparity gaps, policymakers and educators need to earmark funds to be used for specific purposes. First, additional funding allotments should be made available to public schools for students who have been identified as students who are in special education and who are English Language Learners. Students with these dual indicator demographic characteristics face greater challenges that increase the likelihood of reading skill deficits. Second, early intervention programs should be fully funded at the federal level and begin in pre-kindergarten to help offset the deficits for students who have special needs and who also face language barriers. Early intervention programs would serve a critical role in helping students close the reading performance gaps. Third, educator certification programs should be required to provide in-depth training to educators on strategies to help English Language Learners who are also served in special education programs overcome reading challenges. Teachers who have a strong foundation in understanding language and disability barriers would be greater equipped to help students. Fourth, additional funds should also be provided to school districts to offer greater professional development opportunities for teachers and school administrators on overcoming English Language Learner reading skill deficits. Increased



training would provide educators with the research-based strategies necessary to close the achievement for students.

### **Suggestions for Future Research**

Based upon the results of this multiyear, statewide study, several recommendations for future research can be made. Given the lower reading performance levels of Grade 4 boys and girls in special education who are English Language Learners, researchers should conduct similar investigations in other states. This study was limited to students in Texas. Additionally, researchers should examine additional grade levels. The focus of this investigation was solely on Grade 4 boys and girls. Data from other grade levels could provide valuable insights regarding the achievement gaps that were revealed in this study. Moreover, researchers should analyze other student demographics such as poverty and ethnicity/race to ascertain the extent to which those factors influence student reading performance. Furthermore, researchers are also encouraged to examine if academic achievement disparities are present in other subject areas. Only reading performance was examined in this investigation. The extent to which the results of this study can be generalized to other content areas is unknown. Finally, researchers should conduct a longitudinal investigation, beginning in prekindergarten and going through Grade 12. Only Grade 4 results across four separate school years were analyzed in this investigation. A longitudinal study of this magnitude would provide valuable insights regarding reading performance in multiple grade levels to assist policymakers and educators in leading education reform for boys and girls in special education.

## Conclusion

The purpose of this research investigation was to determine the degree to which differences were present in the reading performance of Texas Grade 4 boys and girls as a function of their English Language Learner status (i.e., English Language Learner and not English Language Learner). Inferential statistical analyses of four years of Texas statewide data, statistically significant differences were revealed in the reading performance of boys for the majority of the Reading Reporting Categories I, II and III and the STAAR Reading Phase-in 1, 2, and 3 standards. Specifically, in 18 of the 24 analyses conducted boys who were English Language Learners had lower reading skills than boys who were not English Language Learners.

Through the analyses of the reading performance of Grade 4 girls in Texas across the four years of data, statistically significant differences were revealed in the reading performance of girls for six of the 12 analyses of the Reading Reporting Categories I, II and III. Girls who were English Language Learners answered fewer questions correctly, on average, than girls who were not English Language Learners. In contrast, a lack of statistically significant results were present for STAAR Reading Phase-in 1, 2, and 3 Standards. Specifically, results were that regardless of their English Language Learner status girls answered a similar number of items correctly on the STAAR Reading Phase-in 1, 2, and 3 Standards. Concerning the considerable reading inequality for English Language Learners, results of this multiyear statewide investigation were congruent with prior researchers (Abedi, 2002; Craft, 2011; Flores et al., 2012; Fry, 2007; Li et al., 2018; National Center for Education Statistics, 2019b; Schleeter, 2017).

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Table 4.1

*Descriptive Statistics for the STAAR Reading Reporting Category I by the English Language Learner Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not English language Learner	751	3.51	3.26
English Language Learner	290	2.99	1.98
2015-2016			
Not English Language Learner	733	4.61	3.35
English Language Learner	328	3.91	2.41
2016-2017			
Not English Language Learner	910	3.47	2.57
English Language Learner	350	3.12	2.07
2017-2018			
Not English Language Learner	603	3.03	2.31
English Language Learner	338	3.10	1.90

Table 4.2

*Descriptive Statistics for the STAAR Reading Reporting Category II by the English Language Learner Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not English Language Learner	751	6.54	5.89
English Language Learner	290	5.81	3.29
2015-2016			
Not English Language Learner	733	7.72	5.22
English Language Learner	328	6.75	3.48
2016-2017			
Not English Language Learner	910	6.28	4.19
English Language Learner	350	6.10	3.31
2017-2018			
Not English Language Learner	603	5.20	4.05
English Language Learner	338	5.49	3.09

Table 4.3

*Descriptive Statistics for the STAAR Reading Reporting Category III by the English Language Learner Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not English Language Learner	751	5.53	5.19
English Language Learner	290	4.73	2.94
2015-2016			
Not English Language Learner	733	6.74	4.70
English Language Learner	328	5.73	2.98
2016-2017			
Not English Language Learner	910	4.49	2.77
English Language Learner	350	4.45	3.49
2017-2018			
Not English Language Learner	603	4.61	3.58
English Language Learner	338	4.91	2.87



Table 4.4

*Descriptive Statistics for the STAAR Reading Reporting Category I by the English Language Learner Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not English Language Learner	204	1.50	2.63
English Language Learner	70	2.43	2.39
2015-2016			
Not English Language Learner	114	2.81	3.52
English Language Learner	33	2.39	1.90
2016-2017			
Not English Language Learner	164	2.55	2.56
English Language Learner	66	3.21	1.97
2017-2018			
Not English Language Learner	116	2.02	2.32
English Language Learner	47	2.87	2.08

Table 4.5

*Descriptive Statistics for the STAAR Reading Reporting Category II by the English Language Learner Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not English Language Learner	204	3.10	5.29
English Language Learner	70	5.40	4.52
2015-2016			
Not English Language Learner	114	4.65	5.67
English Language Learner	33	5.03	3.32
2016-2017			
Not English Language Learner	164	4.81	4.40
English Language Learner	66	6.23	3.26
2017-2018			
Not English Language Learner	116	3.47	4.16
English Language Learner	47	4.68	3.65

Table 4.6

*Descriptive Statistics for the STAAR Reading Reporting Category III by the English Language Learner Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	<i>n</i>	<i>M</i>	<i>SD</i>
2014-2015			
Not English Language Learner	204	2.25	4.08
English Language Learner	70	4.16	3.91
2015-2016			
Not English Language Learner	114	4.06	4.99
English Language Learner	33	4.94	3.54
2016-2017			
Not English Language Learner	164	3.23	3.54
English Language Learner	66	4.53	2.43
2017-2018			
Not English Language Learner	116	3.25	3.91
English Language Learner	47	4.21	3.14

Table 4.7

*Frequencies and Percentages for the STAAR Reading Phase-in 1 Standard by the English Language Learner Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not English Language Learner	235	68.70	515	31.30
English Language Learner	27	9.30	263	90.70
2015-2016				
Not English Language Learner	265	36.20	468	63.80
English Language Learner	59	18.00	269	82.00
2016-2017				
Not English Language Learner	247	27.10	663	72.90
English Language Learner	67	19.10	283	80.90
2017-2018				
Not English Language Learner	128	21.20	475	78.80
English Language Learner	69	20.40	269	79.6.80

Table 4.8

*Frequencies and Percentages for the STAAR Reading Phase-in 2 Standard by the English Language Learner Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not English Language Learner	112	18.70	488	81.30
English Language Learner	2	0.70	274	99.30
2015-2016				
Not English Language Learner	138	18.90	595	81.20
English Language Learner	10	3.00	318	97.00
2016-2017				
Not English Language Learner	134	14.70	776	85.30
English Language Learner	16	4.60	334	95.40
2017-2018				
Not English Language Learner	57	9.50	546	90.50
English Language Learner	18	5.30	320	94.70

Table 4.9

*Frequencies and Percentages for the STAAR Reading Phase-in 3 Standard by the English Language Learner Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not English Language Learner	70	9.30	681	90.70
English Language Learner	0	0.00	290	100.00
2015-2016				
Not English Language Learner	69	9.40	664	90.60
English Language Learner	1	0.30	327	99.70
2016-2017				
Not English Language Learner	68	7.50	842	92.50
English Language Learner	10	2.90	340	97.10
2017-2018				
Not English Language Learner	26	4.30	577	95.70
English Language Learner	5	1.50	333	98.50

Table 4.10

*Frequencies and Percentages for the STAAR Reading Phase-in 1 Standard by the English Language Learner Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not English Language Learner	28	13.70	176	86.30
English Language Learner	11	15.70	59	84.30
2015-2016				
Not English Language Learner	24	21.10	90	78.90
English Language Learner	2	6.10	31	93.90
2016-2017				
Not English Language Learner	26	15.90	138	84.10
English Language Learner	11	16.70	55	83.30
2017-2018				
Not English Language Learner	20	17.20	96	82.80
English Language Learner	7	14.90	40	85.10

Table 4.11

*Frequencies and Percentages for the STAAR Reading Phase-in 2 Standard by the English Language Learner Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not English Language Learner	8	7.80	94	92.20
English Language Learner	2	3.60	53	96.40
2015-2016				
Not English Language Learner	16	14.00	98	86.00
English Language Learner	1	3.00	32	97.00
2016-2017				
Not English Language Learner	16	9.80	148	90.20
English Language Learner	3	4.50	63	95.50
2017-2018				
Not English Language Learner	8	6.90	108	93.10
English Language Learner	3	6.40	44	93.60



Table 4.12

*Frequencies and Percentages for the STAAR Reading Phase-in 3 Standard by the English Language Learner Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and English Language Learner Status	Met Standard		Did Not Meet Standard	
	<i>n</i>	%	<i>n</i>	%
2014-2015				
Not English Language Learner	8	3.90	196	96.10
English Language Learner	1	1.40	69	98.60
2015-2016				
Not English Language Learner	9	7.90	105	92.10
English Language Learner	0	0.00	33	100.00
2016-2017				
Not English Language Learner	10	6.10	154	93.90
English Language Learner	1	1.50	65	98.50
2017-2018				
Not English Language Learner	5	4.30	111	95.70
English Language Learner	1	2.10	46	97.90

## CHAPTER V

### DISCUSSION

The purpose of this journal-ready dissertation was to examine the extent to which economic status, ethnicity/race, and English Language Learner status differences were present in the reading performance of Texas Grade 4 boys and girls in special education. In the first article, the degree to which economic status (i.e. Poor, and Not Poor) is related to the reading achievement of Texas Grade 4 boys and girls in special education was examined. In the second article, the extent to which ethnicity/race (i.e., Black, Hispanic, and White) differences might be present in the reading achievement of Texas Grade 4 boys and girls in special education was determined. In the third article, the extent to which English Language Learner status (i.e., English Language Learner and Not English Language Learner) might exist related to the reading achievement of Texas Grade 4 boys and girls in special education was examined. In this chapter, results are discussed and summarized for each of the three investigations that comprise this journal-ready dissertation. Additionally, the implications of these findings for policy and practice are discussed followed by recommendations for future research.

#### **Discussion of Results based on Economic Status**

Summarized in Table 5.1 are the results of the statistical analyses of Texas Grade 4 boys in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. In each STAAR Reading Reporting Category and in all four years investigated, boys in the Poor group had statistically significantly lower reading scores than boys in the Not Poor group. Across the four years

and three reporting categories, one effect size was large, eight effect sizes were moderate, and three effect sizes were small (Cohen, 1988).

Table 5.1

*Summary of Reading Results for the STAAR Reading Reporting Categories by the Economic Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Reading Reporting Category	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Reporting Category I	Yes	Moderate	Poor
Reporting Category II	Yes	Moderate	Poor
Reporting Category III	Yes	Moderate	Poor
2015-2016			
Reporting Category I	Yes	Moderate	Poor
Reporting Category II	Yes	Moderate	Poor
Reporting Category III	Yes	Large	Poor
2016-2017			
Reporting Category I	Yes	Moderate	Poor
Reporting Category II	Yes	Moderate	Poor
Reporting Category III	Yes	Moderate	Poor
2017-2018			
Reporting Category I	Yes	Small	Poor
Reporting Category II	Yes	Small	Poor
Reporting Category III	Yes	Small	Poor

Presented in Table 5.2 is a summary of the results of the statistical analyses of Texas Grade 4 girls in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. In examining the reading performance of Grade 4 girls in Texas across the four years of data, few statistically significant results were present. Regardless of their economic status, girls answered a similar number of items correctly on the STAAR Reading Reporting Categories. Only for the 2015-2016 school year were statistically significant results

revealed. For this school year, girls who were Poor had lower reading performance results than girls who were Not Poor. For the 2015-2016 school year, across the three reporting categories, one effect size was moderate and two effect sizes were small (Cohen, 1988).

Table 5.2

*Summary of Reading Results for the STAAR Reading Reporting Categories by the Economic Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Reading Reporting Category	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Reporting Category I	No	-	-
Reporting Category II	No	-	-
Reporting Category III	No	-	-
2015-2016			
Reporting Category I	Yes	Moderate	Poor
Reporting Category II	Yes	Small	Poor
Reporting Category III	Yes	Small	Poor
2016-2017			
Reporting Category I	No	-	-
Reporting Category II	No	-	-
Reporting Category III	No	-	-
2017-2018			
Reporting Category I	No	-	-
Reporting Category II	No	-	-
Reporting Category III	No	-	-

Delineated in Table 5.3 are the results of the statistical analyses of Texas Grade 4 boys in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. Analyses revealed that in all four years and across all STAAR Reading Phase-in 1, 2, and 3 Standards by student economic status, lower percentages of boys in the Poor group met this standard than boys in the Not

Poor group. Effects sizes were comprised of one large effect size, eight moderate effect sizes, and three small effect sizes (Cohen, 1988).

Table 5.3

*Summary of Reading Results for the STAAR Reading Phase-in Standards by the Economic Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Phase-in Standard	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Phase-in Standard 1	Yes	Moderate	Poor
Phase-in Standard 2	Yes	Large	Poor
Phase-in Standard 3	Yes	Moderate	Poor
2015-2016			
Phase-in Standard 1	Yes	Moderate	Poor
Phase-in Standard 2	Yes	Moderate	Poor
Phase-in Standard 3	Yes	Moderate	Poor
2016-2017			
Phase-in Standard 1	Yes	Moderate	Poor
Phase-in Standard 2	Yes	Moderate	Poor
Phase-in Standard 3	Yes	Moderate	Poor
2017-2018			
Phase-in Standard 1	Yes	Small	Poor
Phase-in Standard 2	Yes	Small	Poor
Phase-in Standard 3	Yes	Small	Poor

Summarized in Table 5.4 are the results of the statistical analyses of Texas Grade 4 Girls in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. In each STAAR Phase-in Standard and in all four years investigated, girls in the Poor group had statistically significantly lower reading scores than girls in the Not Poor group. Across the four years and three Phase-in Standards, girls in the Poor group were the lowest performing group. With respect to practical importance, eight effect sizes were moderate, and four effect sizes were small (Cohen, 1988).

Table 5.4

*Summary of Reading Results for the STAAR Reading Phase-in Standards by the Economic Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Phase-in Standard	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Phase-in Standard 1	Yes	Small	Poor
Phase-in Standard 2	Yes	Small	Poor
Phase-in Standard 3	Yes	Small	Poor
2015-2016			
Phase-in Standard 1	Yes	Moderate/Near Large	Poor
Phase-in Standard 2	Yes	Moderate	Poor
Phase-in Standard 3	Yes	Moderate	Poor
2016-2017			
Phase-in Standard 1	Yes	Small	Poor
Phase-in Standard 2	Yes	Small	Poor
Phase-in Standard 3	Yes	Moderate	Poor
2017-2018			
Phase-in Standard 1	Yes	Small	Poor
Phase-in Standard 2	Yes	Small	Poor
Phase-in Standard 3	Yes	Small	Poor

### **Discussion of Results based on Ethnicity/Race**

Readers are directed to Table 5.5 for a summary of the results of the statistical analyses of Texas Grade 4 boys in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. In each STAAR Reading Reporting Category and in all four years investigated, Hispanic and Black boys had statistically significantly lower reading scores than White boys. Across the four years and three Reading Reporting Categories, Black boys were the lowest performing group. Regarding practical relevance, nine effect sizes were moderate and three effect sizes were small (Cohen, 1988).

Table 5.5

*Summary of Reading Results for the STAAR Reading Reporting Categories by the Ethnicity/Race of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Reading Reporting Category	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Reporting Category I	Yes	Moderate	Black
Reporting Category II	Yes	Moderate	Black
Reporting Category III	Yes	Moderate	Black
2015-2016			
Reporting Category I	Yes	Moderate	Black
Reporting Category II	Yes	Moderate	Black
Reporting Category III	Yes	Moderate	Black
2016-2017			
Reporting Category I	Yes	Moderate	Black
Reporting Category II	Yes	Moderate	Black
Reporting Category III	Yes	Moderate	Black
2017-2018			
Reporting Category I	Yes	Small	Black
Reporting Category II	Yes	Small	Black
Reporting Category III	Yes	Small	Black

Delineated in Table 5.6 are the results of the statistical analyses of Texas Grade 4 girls in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. In examining the reading performance of Grade 4 girls in Texas across the four years of data that were analyzed herein, consistent trends in scores were present by student ethnicity/race. In eight of the 12 analyses of the STAAR Reading Reporting Category across the four years investigated, Hispanic and Black girls had statistically significantly lower reading scores than White girls. In all eight of these analyses, Black girls were the lowest performing group. Five effect sizes were moderate and three effect sizes were small (Cohen, 1988).

Table 5.6

*Summary of Reading Results for the STAAR Reading Reporting Categories by the Ethnicity/Race of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Reading Reporting Category	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Reporting Category I	Yes	Small	Black
Reporting Category II	Yes	Small	Black
Reporting Category III	Yes	Small	Black
2015-2016			
Reporting Category I	Yes	Moderate	Black
Reporting Category II	No	-	-
Reporting Category III	No	-	-
2016-2017			
Reporting Category I	Yes	Moderate	Black
Reporting Category II	Yes	Moderate	Black
Reporting Category III	Yes	Moderate	Black
2017-2018			
Reporting Category I	Yes	Moderate	Black
Reporting Category II	No	-	-
Reporting Category III	No	-	-

Presented in Table 5.7 are the results of the statistical analyses of Texas Grade 4 boys in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. In all four years, concerning the STAAR Reading Phase-in 1, 2, and 3 Standards by student ethnicity/race, the analyses revealed statistically significantly lower percentages of Black and Hispanic boys met these standards than White boys. Black boys were lowest performing group in all three Phase-in Standards for three of the four years. Eight effect sizes were moderate and four effect sizes were small (Cohen, 1988).



Table 5.7

*Summary of Reading Results for the STAAR Reading Phase-in Standards by the Ethnicity/Race of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Phase-in Standard	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Phase-in Standard 1	Yes	Moderate	Hispanic
Phase-in Standard 2	Yes	Moderate	Hispanic
Phase-in Standard 3	Yes	Moderate	Hispanic
2015-2016			
Phase-in Standard 1	Yes	Moderate	Black
Phase-in Standard 2	Yes	Moderate	Black
Phase-in Standard 3	Yes	Moderate	Black
2016-2017			
Phase-in Standard 1	Yes	Moderate	Black
Phase-in Standard 2	Yes	Moderate	Black
Phase-in Standard 3	Yes	Small	Black
2017-2018			
Phase-in Standard 1	Yes	Small	Black
Phase-in Standard 2	Yes	Small	Black
Phase-in Standard 3	Yes	Small	Black

Summarized in Table 5.8 are the results of the statistical analyses of Texas Grade 4 Girls in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. Regarding the STAAR Reading Phase-in 1, 2, and 3 Standards by ethnicity/race of Grade 4 girls, the analyses revealed statistically significant differences in 11 of the 12 analyses. Statistically significantly lower percentages of Black and Hispanic girls met these standards than White girls. Specifically, in the 2014-2015, 2016-2017, and 2017-2018 school years Black girls were the lowest performing group. Only for the 2015-2016 school year where Hispanic girls

the lowest performing group. Six effect sizes were moderate and five were in the small category (Cohen, 1988).

Table 5.8

*Summary of Reading Results for the STAAR Reading Phase-in Standards by the Ethnicity/Race of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Phase-in Standard	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Phase-in Standard 1	Yes	Small	Black
Phase-in Standard 2	Yes	Moderate	Black
Phase-in Standard 3	Yes	Small	Black
2015-2016			
Phase-in Standard 1	Yes	Moderate	Hispanic
Phase-in Standard 2	Yes	Moderate	Hispanic
Phase-in Standard 3	Yes	Moderate	Hispanic/Black
2016-2017			
Phase-in Standard 1	Yes	Small	Black
Phase-in Standard 2	Yes	Moderate	Black
Phase-in Standard 3	Yes	Small	Black
2017-2018			
Phase-in Standard 1	Yes	Small	Black
Phase-in Standard 2	No	-	-
Phase-in Standard 3	Yes	Moderate	Black

### **Discussion of Results based on English Language Learner Status**

Readers are directed to Table 5.9 for the results of the statistical analyses of Texas Grade 4 boys in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. Concerning the reading performance of Grade 4 boys by English Language Learners status, in seven of the 12 analyses conducted, English Language Learner boys had statistically significantly lower reading scores than boys in the not English Language Learner group for the STAAR

Reading Reporting Categories across the four years investigated. All seven effect sizes were small (Cohen, 1988).

Table 5.9

*Summary of Reading Results for the STAAR Reading Reporting Categories by the English Language Learner Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Reading Reporting Category	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Reporting Category I	Yes	Small	English Language Learners
Reporting Category II	Yes	Small	English Language Learners
Reporting Category III	Yes	Small	English Language Learners
2015-2016			
Reporting Category I	Yes	Small	English Language Learners
Reporting Category II	Yes	Small	English Language Learners
Reporting Category III	Yes	Small	English Language Learners
2016-2017			
Reporting Category I	Yes	Small	English Language Learners
Reporting Category II	No	-	-
Reporting Category III	No	-	-
2017-2018			
Reporting Category I	No	-	-
Reporting Category II	No	-	-
Reporting Category III	No	-	-

Delinated in Table 5.10 are the results of the statistical analyses of Texas Grade 4 girls in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. Analyses of the reading performance of Grade 4 girls in Texas across the four years of data revealed a lack of statistically significant results for the STAAR Reading Reporting Categories. Specifically, in six of the 12 analyses conducted, girls in special education, regardless of their English Language Learner status answered a similar number of items correctly on the STAAR

Reading Reporting Categories. Regarding the statistically significant results, in all six analyses English Language Learners were the lowest performing group. All effect sizes were in the small category (Cohen, 1988).

Table 5.10

*Summary of Reading Results for the STAAR Reading Reporting Categories by the English Language Learner Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Reading Reporting Category	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Reporting Category I	Yes	Small	English Language Learners
Reporting Category II	Yes	Small	English Language Learners
Reporting Category III	Yes	Small	English Language Learners
2015-2016			
Reporting Category I	No	-	-
Reporting Category II	No	-	-
Reporting Category III	No	-	-
2016-2017			
Reporting Category I	No	-	-
Reporting Category II	Yes	Small	English Language Learners
Reporting Category III	Yes	Small	English Language Learners
2017-2018			
Reporting Category I	Yes	Small	English Language Learners
Reporting Category II	No	-	-
Reporting Category III	No	-	-

Presented in Table 5.11 are the results of the statistical analyses of Texas Grade 4 boys in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. In all four years, concerning the STAAR Reading Phase-in 1, 2, and 3 Standards by English Language Learner status, a lower percentages of English Language Learner boys met this standard than boys in the

not English Language Learner group in 11 of the 12 analyses conducted. Nine effect sizes were small and two were below small effect sizes (Cohen, 1988).

Table 5.11

*Summary of Reading Results for the STAAR Reading Phase-in Standards by the English Language Learner Status of Grade 4 Boys in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Phase-in Standard	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Phase-in Standard 1	Yes	Small	English Language Learners
Phase-in Standard 2	Yes	Small	English Language Learners
Phase-in Standard 3	Yes	Small	English Language Learners
2015-2016			
Phase-in Standard 1	Yes	Small	English Language Learners
Phase-in Standard 2	Yes	Small	English Language Learners
Phase-in Standard 3	Yes	Small	English Language Learners
2016-2017			
Phase-in Standard 1	Yes	Small	English Language Learners
Phase-in Standard 2	Yes	Small	English Language Learners
Phase-in Standard 3	Yes	Below Small	English Language Learners
2017-2018			
Phase-in Standard 1	No	-	-
Phase-in Standard 2	Yes	Small	English Language Learners
Phase-in Standard 3	Yes	Below Small	English Language Learners

Summarized in Table 5.12 are the results of the statistical analyses of Texas Grade 4 Girls in special education who took the STAAR Reading test during the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. The analyses revealed that Grade 4 girls in special education, regardless of their English Language Learner status had similar percentages for the STAAR Reading Phase-in 1, 2, and 3 Standards. Only in the 2015-2016 school year, for Phase-in standard 1, were the results statistically significant. For this analysis, the English Language Learner group was the lowest performing group. The effect size was in the small category (Cohen, 1988).

Table 5.12

*Summary of Reading Results for the STAAR Reading Phase-in Standards by the English Language Learner Status of Grade 4 Girls in Special Education for the 2014-2015 School Year through the 2017-2018 School Year*

School Year and Phase-in Standard	Statistically Significant	Effect Size	Lowest Performing Group
2014-2015			
Phase-in Standard 1	No	-	-
Phase-in Standard 2	No	-	-
Phase-in Standard 3	No	-	-
2015-2016			
Phase-in Standard 1	Yes	Small	English Language Learners
Phase-in Standard 2	No	-	-
Phase-in Standard 3	No	-	-
2016-2017			
Phase-in Standard 1	No	-	-
Phase-in Standard 2	No	-	-
Phase-in Standard 3	No	-	-
2017-2018			
Phase-in Standard 1	No	-	-
Phase-in Standard 2	No	-	-
Phase-in Standard 3	No	-	-

### **Connections with the Existing Literature**

In this journal-ready investigation, the findings in all three articles were consistent with prior research. As revealed in the first study, boys and girls in special education who were Poor had statistically significantly lower reading test scores than boys and girls who were Not Poor. These findings are commensurate with the results of other researchers (Harris, 2018; McGown, 2016; Schleeter, 2017) who documented the presence of substantial achievements gaps as a function of special education enrollment status, gender, and poverty. Furthermore, the research results delineated herein were congruent with national educational reform legislation in that substantial disparity gaps

continue to deny students a free and appropriate public education that is commensurate with their mainstream peers (American Psychological Association, 2012; Ravitch, 2013). Childhood poverty continues to influence negatively the ability of children to learn and read (e.g., Harris, 2018; Hernandez, 2012; McGown, 2016; Reardon, 2011; Wright & Slate, 2015). Prior researchers (e.g., Jones et al., 2017) revealed that students in special education tend to struggle with reading at greater rates than their nondisabled peers which was further supported by this research.

As revealed in the second study, racial/ethnic achievement gaps are prevalent for boys and girls in special education, differences that are congruent with the ethnic and racial disparities documented at the national level (American Psychological Association, 2012; Harvey, 2013; Wei et al., 2011). Previously, researchers (Harris, 2018; McGown, 2016; Rojas-LeBouef, 2010, Rojas-LeBouef & Slate, 2011a, 2011b) had identified similar racial/ethnic disparities on the State of Texas STAAR achievement tests which were supported by this study. As evidenced by the results of this investigation, racial/ethnic disparities are present for Grade 4 boys and girls for each STAAR Reading Reporting Category and in all four years investigated. Specifically, Hispanic and Black boys and girls had statistically significantly lower reading scores than White boys and girls. Furthermore, statistically significantly lower percentages of Black and Hispanic boys and girls met these standards than White boys and girls. The same trends were present in all four years concerning the STAAR Reading Phase-in 1, 2, and 3 Standards by student ethnicity/race. Although efforts have been made by federal and state governments to remove disproportionalities present by ethnicity/race (American

Psychological Association, 2012; Harvey, 2013; Wei et al., 2011), considerable achievement gaps remain for boys and girls in special education.

Furthermore, the results discussed in the third study were congruent with prior researchers (e.g., Abedi, 2002; Craft, 2011; Flores et al., 2012; Fry, 2007; Li et al., 2018; National Center for Education Statistics, 2019b; Schleeter, 2017) who documented that English Language Learner status was negatively related to student reading performance. When students fail to be identified, or are delayed in identification, for special education, reading disparity begins to manifest because essential supports needed to overcome language barriers may not be available (National Center for Education Statistics, 2019b). Additionally, language barriers coupled with other demographic factors (e.g., gender, special education) create almost unsurmountable odds for students to overcome. For example, Harris (2018) revealed statistically significant differences in reading performance in terms of gender and English Language Learner status that were commensurate with the findings of this investigation.

### **Implications for Policy and Practice**

Based upon the results of this multiyear statewide analysis, several implications for policy and practice can be made. First, action needs to be taken by educators and policymakers to provide funding and resources to address the reading performance imbalance that exists for students enrolled in special education who are also in poverty, are ethnic/racial minorities, and/or who are English Language Learners. Specifically, additional funding could be used to provide support and resources to students in special education who have these greatest needs based on screening data. Second, schools and colleges need to provide professional development to educators on cultural learning



differences based on economic status, ethnicity/race, and English Language Learner status. Boys and girls in special education face multiple challenges due to their disability, economic status, racial/ethnic minority groups, and English Language Learner status as additional roadblocks to learning are evident. Third, more financial resources should be provided to school districts to fund pre-kindergarten special education programs and build foundational literacy skills in students through early intervention. Fourth, Grade 3 STAAR Reading results should be used to create differentiated instructional interventions for Grade 4 boys and girls in special education to respond to reading gaps immediately. Fifth, educator professional development should include strategies for teaching literacy to students with disabilities could help teachers who may be unaware of the instructional needs of the special education student population. Sixth, additional funds should be allocated by the state and federal government to provide for more culturally relevant texts. Students who have texts to which they can personally relate or that are aligned to their interests are more likely to engage in reading and literacy practices. Seventh, Differences were identified in reading between boys and girls in special education by economic status, ethnicity/race, and English Language Learner status. The reading scores of girls were substantially lower than the reading scores of boys across all three studies. Due to these gaps, the types of instructional interventions offered to boys and girls should be differentiated.

### **Recommendations for Future Research**

Based upon the results of this multiyear investigation, several suggestions can be made for future research regarding the performance gaps that exist for boys and girls in special education. First, researchers should determine if similar gaps in reading

performance are evident in other demographic groups for boys and girls in special education. In this journal-ready dissertation, only economic status, ethnicity/race, and English Language Learner status were examined. However, other demographic factors may contribute to reading performance for boys and girls in special education. Second, researchers should replicate this study in other states. This journal-ready dissertation only included students in the State of Texas. Third, researchers should examine the connections between other content areas such as mathematics, social studies and science. The focus of this journal-ready dissertation was only reading performance. Fourth, researchers should determine whether differences are present for boys and girls in special education in other grade levels. Data on only boys and girls in Grade 4 were examined in this journal-ready dissertation. Fifth, researchers should conduct a longitudinal investigation, beginning in prekindergarten and going through Grade 12. This journal-ready dissertation analyzed only Grade 4 results across four separate school years. A longitudinal study of this magnitude would provide valuable insights regarding reading performance in multiple grade levels. A final recommendation is for research to conduct mixed methods research studies and qualitative studies to gain greater insights into the underlying causes of the disparities and provide valuable data educators and policymakers can use to make informed decisions.

### **Conclusions**

The purpose of this multiyear state-wide investigation was to determine the extent to which differences were present in the reading performance of Texas Grade 4 boys and girls in special education as a function of their economic status, ethnicity/race, and English Language Learner status. Regarding economic status, through inferential

statistical analyses of four years of Texas statewide data, statistically significant differences were revealed in the reading performance of boys in all four years in all Reading Reporting Categories I, II, and III and STAAR Reading Phase-in 1, 2, and 3 standards. Specifically, boy who were economically disadvantaged had lower reading skills than boys who were not in poverty.

In examining the reading performance of Grade 4 girls in Texas across the four years of data, few statistically significant results were present. Regardless of their economic status, girls answered a similar number of items correctly on the STAAR Reading Reporting Categories. In contrast, consistent trends in scores were present by student economic status for the STAAR Reading Phase-in 1, 2, and 3 Standards. For each of the STAAR Reading Phase-in 1, 2, and 3 Standards, and in all four years investigated, girls in the Poor Group had statistically significantly lower percentages of girls met this standard than girls in the Not Poor group

With respect to ethnicity/race, statistically significant differences were revealed in the reading performance of White, Hispanic, and Black boys in special education for all four years in Reading Reporting Categories I, II, and III and STAAR Reading Phase-in 1, 2, and 3 standards. Similarly, statistically significant differences were revealed in the reading performance of White, Hispanic, and Black girls in special education in in eight of the 12 analyses for Reading Reporting Categories I, II and III and 11 of the 12 analyses for STAAR Reading Phase-in 1, 2, and 3 standards. A clear stair-step effect (Carpenter et al., 2006) was present in that Black boys and girls in special education had lower reading skills than Hispanic and White boys and girls. Hispanic boys and girls had lower reading skills than White boys and girls.

Concerning English Language Learner status, statistically significant differences were revealed in the reading performance of boys for the majority of the Reading Reporting Categories I, II, and III and the STAAR Reading Phase-in 1, 2, and 3 standards. Specifically, in 18 of the 24 analyses conducted boys who were English Language Learners had lower reading skills than boys who were not English Language Learners.

Through the analyses of the reading performance of Grade 4 girls in Texas across the four years of data, statistically significant differences were revealed in the reading performance of girls for six of the 12 analyses of the Reading Reporting Categories I, II and III. Girls who were English Language Learners answered fewer questions correctly, on average, than girls who were not English Language Learners. In contrast, a lack of statistically significant results were present for STAAR Reading Phase-in 1, 2, and 3 Standards. Specifically, results were that regardless of their English Language Learner status girls answered a similar number of items correctly on the STAAR Reading Phase-in 1, 2, and 3 Standards. In conclusion, the results from all three studies were commensurate with existing research.

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## APPENDIX

To:  
Lunenburg, Fred;  
Pariseau, Matthew;



Date: Jun 26, 2019 2:00 PM CDT

TO: Matthew Pariseau  
Frederick Lunenburg  
FROM: SHSU IRB  
PROJECT TITLE: Differences in reading as a function of economic status, ethnicity/race, and English Language Learner status of Texas Grade 4 boys and girls enrolled in special education: A multiyear statewide investigation  
PROTOCOL #: IRB-2019-177  
SUBMISSION TYPE: Initial  
ACTION: Exempt  
DECISION DATE: June 26, 2019  
EXEMPT REVIEW CATEGORY: Category 4. Secondary research for which consent is not required: Secondary research uses of identifiable private information or identifiable biospecimens, if at least one of the following criteria is met:  
(i) The identifiable private information or identifiable biospecimens are publicly available;  
(ii) Information, which may include information about biospecimens, is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained directly or through identifiers linked to the subjects, the investigator does not contact the subjects, and the investigator will not re-identify subjects;  
(iii) The research involves only information collection and analysis involving the investigator's use of identifiable health information when that use is regulated under 45 CFR parts 160 and 164, subparts A and E, for the purposes of "health care operations" or "research" as those terms are defined at 45 CFR 164.501 or for "public health activities and purposes" as described under 45 CFR 164.512(b); or  
(iv) The research is conducted by, or on behalf of, a Federal department or agency using government-generated or government-collected information obtained for nonresearch activities, if the research generates identifiable private information that is or will be maintained on information technology that is subject to and in compliance with section 208(b) of the E-Government Act of 2002, 44 U.S.C. 3501 note, if all of the identifiable private information collected, used, or generated as part of the activity will be maintained in systems of records subject to the Privacy Act of 1974, 5 U.S.C. 552a, and, if applicable, the information used in the research was collected subject to the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

Greetings,

Thank you for your submission of Initial Review materials for this project. The Sam Houston State University (SHSU) IRB has determined this project is EXEMPT FROM IRB REVIEW according to federal regulations.

We will retain a copy of this correspondence within our records.

**\* What should investigators do when considering changes to an exempt study that could make it nonexempt?**

It is the PI's responsibility to consult with the IRB whenever questions arise about whether planned changes to an exempt study might make that study nonexempt human subjects research.

In this case, please make available sufficient information to the IRB so it can make a correct determination.

If you have any questions, please contact the IRB Office at 936-294-4875 or [irb@shsu.edu](mailto:irb@shsu.edu). Please include your project title and protocol number in all correspondence with this committee.

Sincerely,

Donna M. Desforjes, Ph.D.  
Chair, Committee for the Protection of Human Subjects  
PHSC-IRB

## VITA

**Matthew M. Pariseau**

### EDUCATIONAL HISTORY

Doctorate of Education - Educational Leadership (December, 2019)

*Sam Houston State University, Huntsville, Texas*

Dissertation: Differences in Reading as a Function of the Economic Status, Ethnicity/Race, English Language Learner Status of Texas Grade 4 Boys and Girls in Special Education: A Multiyear Statewide Investigation

Master of School Counseling (May, 2012)

*Lamar University, Beaumont, Texas*

Bachelor of Science in Political Science (May, 2006)

Sam Houston State University

### PROFESSIONAL EXPERIENCE

Assistant Superintendent of Curriculum and Instruction, Spring ISD, July 2019-present  
Special Education Director of Accountability and Related Services, Spring ISD, June 2015-July 2019

Special Education Supervisor, Spring ISD, January 2014-June 2015

District Instructional Coach – K-12, Spring ISD, July 2013-January 2014

Testing Coordinator/Counselor, Tarkington High, Tarkington ISD, August 2011-July 2013

Teacher, Tarkington High, Tarkington ISD, August 2006-July 2013

### RECOGNITIONS

Exemplary Staff Award, Spring ISD, March 2019

Tarkington High School Teacher of the Year, Tarkington ISD, May 2011

Secondary Teacher of the Year, Tarkington ISD, May 2010

Tarkington High School Teacher of the Year, Tarkington ISD, May 2010

### PRESENTATIONS

Pariseau, M. M., & Pariseau, S. N. (2018, October). *Select Special Education Teacher Learning Modality Preferences in Professional Development*. Presentation at TCPEA Graduate Research Exchange, Austin, TX.

Pariseau, M. M., & Pariseau, S. N. (2018, May). *Select Special Education Teacher Learning Modality Preferences in Professional Development*. Workshop presentation for SHSU doctoral students of the College of Education, The Woodlands, TX.

Pariseau, M. M., & Lebron, A. (2017, January). *Empowering staff through a Special Education Digital Revolution*. Workshop presentation for Texas Council of Administrators of Special Education State Conference, Austin, TX.

- Pariseau, M. M., Lebron, A., & Allman, K. (2015, July). *Empowering staff through a Special Education Digital Revolution*. Workshop presentation for Texas Council of Administrators of Special Education State Conference, Austin, TX.
- Pariseau, M. M., & Lebron, A. (2014, July). *Co-teaching "What if"*. Workshop presentation at the Region 4 Access to the General Curriculum Institute 2014. Houston, TX
- Pariseau, M. M., & Bradford, K. (2013, October). *Nature vs. Commerce: Survival of the fittest*. Workshop presentation for the Harris County Department of Education Friends of Geography conference, Houston, TX

## **PROFESSIONAL ASSOCIATIONS**

- Association of Texas Professional Educators (ATPE)  
Gulf Coast Administrators of Special Education (GCASE)  
National Indian Education Association (NIEA)  
Texas Council of Administrators for Special Education (TCASE)