

READING PERFORMANCE AND ECONOMIC STATUS OF TEXAS GRADE 3  
UNDERREPRESENTED STUDENTS: A MULTIYEAR, STATEWIDE  
INVESTIGATION

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Doctor of Education

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by

Heather A. Hamilton

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APPROVED:

Dr. Frederick C. Lunenburg  
Dissertation Chair

Dr. John R. Slate  
Committee Member

Dr. Wally Barnes  
Committee Member

Dr. Stacy L. Edmonson  
Dean, College of Education

## **DEDICATION**

I dedicate this dissertation to my parents, Ann and Glenn. Perhaps time has embellished my memory of how repetitive and how insistent they were, but the message was always clear and firm: Education comes first. Thank you, Mom and Dad. Thank you for pushing, even when I pushed back. Thank you for supporting every dream, providing what was needed for every goal, and for knowing when to pick me up after I fell. Thank you for getting me through every moment where I didn't think I had the strength. Thank you for wanting more for me and giving me the chance to achieve. I may not have understood all the wisdom you shared with me until far too late, but I promise eventually it all sunk in. The older I get, the more I see pieces of each of you in me. I am successful because of you, and every day I work hard to make you proud. Who knew your little girl would grow up to be a Doctor? I love you both more than words can say. This is all because of you!

If only every child were so lucky as to have parents like mine, I know the world would be a much better place.

## **ABSTRACT**

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### **Purpose**

The purpose of this journal-ready dissertation was to examine the extent to which differences were present by student demographic characteristic in the reading achievement of Texas Grade 3 students. In the first article, the extent to which the economic status (i.e., Poor, Not Poor) of Grade 3 underrepresented boys in Texas is related to their reading achievement was examined. In the second article, the degree to which the economic status (i.e., Poor, Not Poor) of Grade 3 underrepresented girls in Texas is related to their reading achievement was addressed. In the third study, the degree to which demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) of Grade 3 students in Texas is related to their reading achievement was determined. Utilizing archival data, an analysis of academic performance for the 2015-2016 through the 2018-2019 school years was conducted to determine the degree to which trends are present.

### **Method**

For this quantitative study, a causal-comparative research design was present. Archival data were obtained from the Texas Education Agency Public Education Information Management System for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years for all Grade 3 students who took the STAAR Reading assessment during the four school years, as well as their student demographic characteristics.

## **Findings**

Underrepresented boys who were Poor were outperformed by their counterparts who were Not Poor in every STAAR Reading Reporting Category and every Grade Level Phase-in Standard. Similarly, in all cases, reading achievement was lowest for underrepresented girls who were Poor. Regarding student reading achievement by demographic characteristics, statistically significant results were present in all four school years for boys and for girls. In three of the four years analyzed regarding the performance of boys, being Poor, Black, or Hispanic was indicative of not meeting the Meets Grade Level standard. In three of the four years investigated regarding the performance of girls, being White or Asian was indicative of meeting the Meets Grade Level standard. Results in all four school years and for all three articles were consistent with existing research. Implications for policy and practice and recommendations for future research were provided.

*KEY WORDS:* Economic status, Poverty, Asian, Black, Hispanic, White, English Language Learner, Texas, STAAR Reading Assessment, Grade 3, Boys, Girls, Literacy

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A huge thank you goes to my dissertation committee. Thank you to my chair, Dr. Lunenburg. I knew from our very first conversation that we would be working together. I am so glad to have found someone with a connection to Canada. Your support has been instrumental in my success. Thank you to Dr. Slate for serving on my committee and playing such a large role in transitioning this wordy literacy-lover into an academic-writing, SPSS-navigating statistician. I sometimes question whether you are part robot, but I know you take great pride in supporting your students, and that is why. You dedicated a great deal of time to ensure my progress and achievement, and I will never be able to thank you enough for that. Thank you to Dr. Barnes for serving on my committee. I am sorry we joined together at such an odd time in history and were not able to work more closely together. I am thankful for your kindness, joyful demeanor, and ever-present smile.

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There are far too many other friends and family members for me to properly name and thank here, so I apologize to anyone I did not specifically name. These years of work do not come without many, many people helping in one way or another, and an omission is not a sign of a lack of appreciation. I would be remiss if I did not give a special thank you to one of my dearest friends, Becky Coulter, who was subjected to far too many texts every step of this journey. Part of this degree probably belongs to you.

Lastly, I want to thank my little brother and point out that I got here first.

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## **CHAPTER I**

### **INTRODUCTION**

In the 1980s, Texas became one of the first states to create statewide testing systems, leading to a mandated accountability system in the early 1990s (Ravitch, 2014; Vasquez Heilig & Darling-Hammond, 2008). The high-stakes testing policies in Texas became the model for the No Child Left Behind Act of 2002, one year after the presidential inauguration of George W. Bush in 2001 (Hong & Youngs, 2008; Ravitch, 2014). Rod Paige (2006), former Superintendent of Houston Independent School District, was appointed U.S. Secretary of Education. President Bush and Secretary Paige attempted to lead educators across the US in closing the achievement gap between underrepresented student populations, such as students in ethnic/racial groups and students considered economically disadvantaged and their more advantaged peers, but opposite outcomes have occurred (Hong & Youngs, 2008; Nichols, Glass, & Berliner, 2012).

The current education legislation is the Every Student Succeeds Act of 2015 (2015). Under this federal mandate, state policy makers can choose the standardized test to be used and set proficiency standards for success (Hamlin & Peterson, 2018). The assessment tool used in Texas is the State of Texas Assessments of Academic Readiness ([STAAR] Texas Assessment, 2019)., and the standards assessed are the Texas Essential Knowledge and Skills (Texas Education Agency, 2019g). Texas students take the STAAR Reading test for the first time in Grade 3 (Texas Assessment, 2019), providing great weight to demonstrate their level of reading abilities attained during the primary school years.

Public school employees in the State of Texas disaggregate data from the Grade 3 STAAR Reading test as part of requirements of the Every Student Succeeds Act (2015). Scores are reported by demographic characteristic (Texas Education Agency, 2016). School performance is determined in part by the achievement of 11 student groups, including (a) Black students, (b) Hispanic students, (c) Asian students, (d) White students, and (e) students who were economically disadvantaged (Texas Education Agency, 2016). Achievement by all students within each of these monitored groups on the Grade 3 STAAR Reading test is of great importance to Texas educators.

### **Review of the Literature on Poverty and Reading Achievement of Underrepresented Boys**

Literacy, a skill that encompasses word recognition, vocabulary, comprehension, and much more, is a necessary part of everyday life (Stinnett, 2014). Literacy skills can be divided into general categories, word-reading literacy skills, and knowledge-based competencies (Reardon, Valentino, & Shores, 2012). Word-reading skills, the necessary first steps in acquiring the ability to read, include letter-word recognition, beginning and ending sounds, fluency, and recognizing sight words (Reardon et al., 2012; Stinnett, 2014). Knowledge-based competencies, the application of the ability to read, encompass analysis, synthesis, and evaluation (Golden, 2012). Grade 3 is a vital point in the literacy development of students because students are required to make the transition from “learning to read” to “reading to learn” (Hernandez, 2011, p. 4). Unfortunately, some students have not developed the academic ability make this transition, as approximately 10% of 17-year old students have the literacy skills of 9-year old students (Reardon et al., 2012; Stinnett, 2014).

A lack of literacy skills beyond the early years of schooling is clearly detrimental because of the influence on social mobility and the reliance on literacy skills in the workforce (Reardon et al., 2012). Gaps in literacy skills could potentially perpetuate the “Matthew Effect,” where students who do not come from poverty are more equipped to learn at a more rapid pace than their peers who have lived in poverty (Stanovich, 2017). Additionally, compared to students who are not poor, students in poverty do not have the same home advantages and background knowledge (Stanovich, 2017). For example, students who are economically disadvantaged have fewer chances to participate in literacy-related activities, fewer shared reading activities, and fewer library visits (Stinnett, 2014). Students who come from poverty have less exposure to varied vocabulary and syntax (Stinnett, 2014) than their more privileged peers. Moreover, children who live in poverty are more likely to have weaker language and narrative skills and lower emergent literacy scores (Gardner-Neblett & Iruka, 2015). Furthermore, educational opportunities for these children are minimized due to frequent absences attributed to increased health or family problems (Hernandez, 2011).

In the State of Texas, the population of students living in poverty has remained over 50% since the 2001-2002 school year (Texas Education Agency, 2003). In 2015-2016, almost 60% of the public school population was living in poverty. This figure remained steady in 2016-2017 and 2017-2018 before increasing to almost 61% of the population in 2018-2019 (Texas Education Agency, 2019b). Students are eligible for either the reduced lunch program or free lunch program depending on family income. Students qualify for the reduced lunch program with a family income of 131% to 185% of the federal poverty line (Burney & Beilke, 2008). The percentages of students who

qualified for the reduced lunch program during the four school years from 2015-2016 to 2018-2019 ranged from just under 4.5% to 6% (Texas Education Agency, 2019b). More concerning is the percentage of students who qualified for the free lunch program for the same four years. These figures were comprised of just under 42% of students and just under 44% of students on the high end (Texas Education Agency, 2019b). Students who were eligible for the free lunch program have a family income of 130% or less of the federal poverty line (Burney & Beilke, 2008). For the purposes of this study, due to the small percentages of students qualifying for the reduced lunch program, all students qualifying for either free or reduced lunch programs will be considered Poor.

According to the Texas Education Agency (2019b), the percentages of Black students living in poverty increased from 71% to 74% from 2015-2016 to 2018-2019. The percentages of Asian and Hispanic students living in poverty also increased during this time. The increase of Asian students living in poverty was one percentage point, but the increase consisted of over 10,000 students. Hispanic students living in poverty experienced an increase of less than one percent, however, this statistic reflected a growth of over 78,000 students.

In addition to the influence of poverty on academic achievement, gender is a contributing factor, as well. Boys and girls differ in their reading skills. Nationally, boys are falling behind each year from kindergarten to Grade 3 (National Assessment of Educational Progress, 2019). The reading achievement of boys decreased from 2017 to 2019, and, in Texas, this achievement by boys is below the national average (National Assessment of Educational Progress, 2019). To determine reading achievement, the Texas Education Agency has adopted the Texas Essential Knowledge and Skills as the

guiding standards for what students must learn (Texas Education Agency, 2019g). The STAAR test is the instrument used to determine if students have achieved mastery of the standards (Texas Assessment, 2019). Grade 3 standards specifically require students to read a variety of texts, recognize characteristics of digital media, and engage in their reading by using metacognitive skills to deepen comprehension (Texas Administrative Code, 2019).

Several studies have been conducted by researchers (Harris, 2018; McGown, 2016; Schleeter, 2017) who have analyzed the reading achievement of boys as assessed by the Texas state-mandated assessment. McGown (2016) investigated Grade 3 STAAR Reading performance for three school years (i.e., 2012-2013, 2013-2014, 2014-2015). In all three school years, less than 40% of boys achieved the Level II Satisfactory Performance Standard, now referred to as Approaches Grade Level (Texas Education Agency, 2017). With regard to the STAAR Reading Reporting Category One, in all three school years, boys responded incorrectly to approximately two out of six questions, in Reporting Category Two, boys missed approximately seven out of 18 questions, and in Reporting Category Three, boys answered approximately five questions incorrectly out of 16 (McGown, 2016). Across the three years of Texas data examined by McGown (2016), results were consistent regarding the performance of boys.

In another Texas analysis conducted for the same three school years, Schleeter (2017) analyzed the passing rates of Grade 3 English Language Learner boys on the STAAR Reading Level III Advanced Performance Standard, now referred to as Masters Grade Level (Texas Education Agency, 2017). At no point in the 3-year period was the passing percentage on the Masters Grade Level standard for English Language Learner

boys above 11%. At the Meets Grade Level standard, the passing percentage of English Language Learner boys was consistently below 50%. At the Approaches Grade Level, the passing percentage was always lower than 65% passing. Results for English Language Learner boys were remarkably consistent across the three years of Texas data (Schleeter, 2017).

In another related study, Harris (2018) conducted an analysis of the same three school years of statewide data for the STAAR Reading Level II Final Satisfactory Performance Standard, now referred to as Meets Grade Level (Texas Education Agency, 2017), by gender. In all three school years, statistically significant results for boys were present. The passing rate of Texas Grade 4 boys was not above 37% for any of the three school years.

In a comparison (Hamilton & Slate, 2019) of the reading performance of Grade 3 Black students by their economic status (i.e., Not Economically Disadvantaged or Economically Disadvantaged), Black students in poverty had statistically significantly lower passing rates than Black students who were not economically disadvantaged at the Approaches Grade Level, Meets Grade Level, and Masters Grade Level Phase-in standards on the Grade 3 STAAR Reading test. At the Approaches Grade Level standard, 53.6% of Black students who were Poor met the standard, compared to 81.7% of Black students who were Not Poor. At the Meets Grade Level standard, 21.8% of Black students who were Poor met the standard, compared to 50.7% of Black students who were Not Poor. At the Masters Grade Level standard, only 9.4% of Black students who were Poor met the standard, compared to 29.4% of Black students who were Not Poor.



Similar results were evident by the economic status of Hispanic students (Hamilton & Slate, 2019). At the Approaches Grade Level standard, 63.5% of Hispanic students who were Poor met the standard, compared to 87.8% of Hispanic students who were Not Poor. At the Meets Grade Level standard, 29.2% of Hispanic students who were Poor met the standard, compared to 59.1% of Hispanic students who were Not Poor. At the Masters Grade Level standard, 13.9% of Hispanic students who were Poor met the standard, compared to 35.6% of Hispanic students who were Not Poor. In the Hamilton and Slate (2019) Texas statewide investigation, poverty clearly had a strong influence on the reading achievement of Black and Hispanic Grade 3 students.

Within ethnic/racial groups, Hispanic boys, Black boys, and Asian boys all achieve at a lower rate than their girl counterparts (Husain & Millimet, 2009). As such, in this investigation only the reading achievement of boys was addressed. Though literature regarding a difference between boys and girls in reading achievement is plentiful, published empirical research of literacy academic performance by only boys within an ethnic/racial group are limited. Analyses of the performance of boys with consideration to the variable of economic status is even more limited in the literature. As such, reading data on only Asian, Black, and Hispanic boys was examined in this multiyear, statewide investigation.

### **Review of the Literature on Poverty and Reading Achievement of Underrepresented Girls**

Literacy necessitates the ability to analyze, synthesize, and evaluate information (Goldman, 2012). Millions of children in the United States; however, complete Grade 3 without learning to read proficiently, resulting in an increased likelihood of dropping out

of high school (Annie E. Casey Foundation, 2010). The rate of students who do not graduate from high school is four times greater for Grade 3 students who are not proficient readers than for Grade 3 students who are proficient readers (Hernandez, 2011). With respect to Black and Hispanic students living in poverty who are not proficient readers in Grade 3, the high school graduation rate is eight times lower than proficient readers (Hernandez, 2011).

Financial inequality is growing in the United States, and as a result, the inequality in academic achievement of children living in poverty is increasing (David & Marchant, 2015; Paschall, Gershoff, & Kuhfeld, 2018). Inequality is evident in reviewing the prenatal care accessed by the mother. Access to health care influences the health of the baby before and during pregnancy (Center for Public Policy Priorities, 2018). Poverty has substantial effects on birth weight, chronic illness, and infant mortality, leading to lifelong difficulties (Council on Community Pediatrics, 2016). In the State of Texas, many children lack the health care and nutrition they need (Center for Public Policy Priorities, 2018).

Problems arise because students living in poverty experience greater levels of violence and family disruption than their peers who are not poor (Evans, 2004; Ravitch, 2014). These disruptions prevent students who are poor from obtaining the most basic needs. Furthermore, the parental support of students living in poverty is minimal and discipline responses are more authoritarian (Carter & Welner, 2013; Evans, 2004). Students who are economically disadvantaged are more likely to attend a school deemed to be inadequate (Ravitch, 2014) and arrive at school less prepared than their peers who were not economically disadvantaged (Ansari et al., 2017).

The influence of poverty is of great concern because of the high percentage of students in the State of Texas who are poor. As of the 2001-2002 school year, the population of Texas students who were economically disadvantaged was over 50% (Texas Education Agency, 2003). In 2018-2019, the percentage of students in the State of Texas living in poverty increased to almost 61% of the population (Texas Education Agency, 2019a). The number of students living in poverty increased by almost 1.2 million students between the 2001-2002 and 2018-2019 school years (Texas Education Agency 2003; Texas Education Agency, 2019a).

For the purposes of this study, students were considered Poor or Not Poor. Students who were Not Poor did not qualify for free or reduced lunch. Students whose family income is 131% to 185% of the federal poverty line (Burney & Beilke, 2008) are eligible for the reduced lunch program. During the 2015-2016 school year through the 2018-2019 school year, the percentages of students who qualified for the reduced lunch program ranged from just under 4.5% to 6% (Texas Education Agency, 2019b) or a range of 243,000-317,000 students (Texas Education Agency, 2019b). Students who were eligible for the free lunch program have a family income of 130% or less of the federal poverty line (Burney & Beilke, 2008). For the same four school years (i.e., 2015-2016 through 2018-2019), the percentage of students who qualified for the free lunch program ranged from slightly under 42% of students to slightly under 44% of students (Texas Education Agency, 2019a), equaling approximately 2,270,000-2,380,000 students (Texas Education Agency, 2019a).

In addition to analyzing academic performance by poverty level, reviewing performance by gender is important. Many researchers (e.g., Mechtenberg, 2009; Moss,

2011; Tepper, 2000) have conducted studies on the reading abilities of girls. Fewer girls than boys are low achieving in reading (Mechtenberg, 2009). Girls tend to develop social and behavioral skills quickly, which results in high academic achievement between Kindergarten and Grade 5 (DiPrete & Jennings, 2012). Additionally, teachers are more likely to encourage girls in their reading abilities (DiPrete & Jennings, 2012). This teacher bias influences literacy achievement.

In the State of Texas, girls make up 48.7% of the student population (Texas Education Agency, 2019b). Although fewer girls than boys are enrolled in Texas public schools, over the last 10 years, the population of girls has increased more rapidly than the rate of boys (Texas Education Agency, 2019b), increasing the importance of inquiries regarding their academic performance. Differences in reading between girls and boys have been well documented (Harris, 2018; McGown, 2016; Schleeter, 2017). However, published analyses of academic performance in literacy by only girls within an ethnic/racial group are limited, and analyses of the performance of girls with consideration to the variable of economic status is even more limited. As such, reading data on only Asian, Black, and Hispanic girls were examined in this multiyear, statewide investigation.

In addition to research regarding reading achievement by gender, the variable of performance by ethnic/racial background is of importance and available in the literature. In one study, McGown (2016) analyzed the reading achievement of Grade 3 Black, Hispanic, and Asian students as assessed by the State of Texas Assessments of Academic Readiness (STAAR) test for the 2012-2013 through the 2014-2015 school years. Statistically significant results were present, with Asian students performing better than

all other ethnic/racial groups on all three STAAR Reading Reporting Categories and on the Level II STAAR Reading Phase-In standard (McGown, 2016), now referred to as Approaches Grade Level (Texas Education Agency, 2017). The Level II standard was the only Phase-In standard on which analyses were conducted in this study. Black students had the poorest reading performance on all STAAR Reading measures (McGown, 2016). However, in this study, McGown (2016) did not include the variable of economic status or gender, necessitating further research within each ethnic/racial group.

In a related study relating to Grade 3 students who were English Language Learners, Schleeter (2017) determined that Asian Language Learners performed well when compared to Black Language Learners and Hispanic Language Learners on the Grade 3 STAAR Reading test. These results were consistent across each Reading Reporting Category and all three Phase-In standards (i.e., Approaches Grade Level, Meets Grade Level, and Masters Grade Level) for the 2012-2013 through the 2014-2015 school years (Schleeter, 2017). Economic status was not included in the statistical analyses, again necessitating additional studies within ethnic/racial and gender groups with this consideration.

The academic performance of Texas Grade 4 students on the STAAR Reading test was analyzed in a third related study. Harris (2018) documented a “stair-step effect” (Carpenter, Ramirez, & Severn, 2006, p. 117) in that Asian students had statistically higher reading performance than Hispanic students and Hispanic students performed better than Black students. These results were statistically significant and consistent in all three STAAR Reading Reporting Categories for the 2012-2013 through 2014-2015

school years (Harris, 2018). Because economic status was not a variable included in this study, and data for girls were not analyzed separately, additional information is needed to understand the reading achievement of underrepresented students in Texas.

Moreover, poverty status within ethnic/racial groups is an important variable to consider when predicting academic achievement. In an investigation concerning the reading achievement of Grade 3 Black and Hispanic students who were economically disadvantaged, statistically significant findings were present (Hamilton & Slate, 2019). Hispanic students who were poor were outperformed by Hispanic students who were not poor at the Approaches Grade Level, Meets Grade Level, and Masters Grade Level Phase-In standards (Hamilton & Slate, 2019). Similarly, Black students who were poor were also outperformed by Black students who were not poor at each of the Phase-In standards (Hamilton & Slate, 2019). Continued analysis regarding the academic performance of students in poverty is necessary, as long as the gap between Poor and Not Poor students remains.

### **Review of the Literature on Predictive Variables for Reading**

The ability to read and write is critical to be successful, not only in school but in life after school (Korbey, 2019). How students acquire these vital literacy skills varies. Word-reading skills and knowledge-based literacy competencies are some of the complex skillsets required to be literate (Reardon, Valentino, & Shores, 2012). Literacy skills are not acquired in a linear fashion, but the focus of reading instruction in Kindergarten through Grade 2 centers around word-reading skills. The instruction includes teaching students (a) letter recognition, (b) beginning and ending sounds, (c) sight words, (d)

comprehension of words in context, (e) literal inferences, and (f) extrapolation (Reardon, et al., 2012).

In Grade 3 the transition from “learning to read” moves to “reading to learn” (Hernandez, 2011). Students then increasingly engage in knowledge-based literacy competencies. The instruction includes evaluation, evaluating nonfiction, and evaluating complex syntax (Reardon et al., 2012). Students build background knowledge while developing comprehension skills (Reardon et al, 2012). Prior knowledge is critical to identifying clues to make inferences.

Additionally, expert readers build on prior knowledge (Horbec, 2012). Therefore, a lack of background knowledge and learning experiences may be detrimental to development of reading skills. Some students have opportunities to gain reading skills at home. Access to books, being immersed in literacy experiences, and sharing what they have read is part of a positive home reading environment (Waldfogel, 2012). Unfortunately, not all students are exposed to reading outside of the school day. Lack of exposure can be concerning considering the increase of literacy skills required for many of today’s jobs (Reardon et al, 2012).

Standardized testing allows assessment of student academic achievement in reading. The Every Student Succeeds Act (2015) contains provisions allowing state lawmakers to determine the assessment tool and standards tested. In Texas, all public school students are assessed annually in reading and mathematics, beginning in Grade 3 (Texas Assessment, 2019). Results from the State of Texas Assessment of Academic Readiness (STAAR) test are used to determine school effectiveness. Scores are reported by demographic characteristics of 11 student groups (Texas Education Agency, 2016).

It is imperative that educators understand the influence of demographic characteristics on student learning. The demographics of America are changing (Annie E. Casey Foundation, 2010), and educators must adapt to meet the varied needs of their students. Understanding variables that contribute to student reading achievement is necessary to remediate current gaps and to mitigate future gaps. At this time, research studies conducted at the national level will be discussed, followed by empirical investigations conducted in the state of interest for this article, Texas.

To provide data to document achievement gaps between different student demographic categories, the U.S. National Assessment of Educational Progress is administered to fourth and eighth grade students (David & Marchant, 2015). As assessed by the National Assessment of Educational Progress, the gap between students not living in poverty and students living in poverty increased from 2002-2009 from 23 points to 24 points for fourth grade reading (Nichols, Glass, & Berliner, 2012). From 2003-2013, the score gap between students in poverty and students not in poverty remained steady at approximately 25 points for fourth grade reading (David & Marchant, 2015).

Gender gaps have also been revealed in the results of the National Assessment of Educational Progress. In an analysis of the years 1988-2015, girls performed at a statistically significant higher rate than boys in reading (Reilly, Neumann, & Andrews, 2019). In a related study, Robinson and Lubienski (2011) revealed, in addition to a gap between boys and girls, students achieving below the fifth percentile were comprised of almost three-fourths boys. The National Assessment of Educational Progress results were consistent with this finding, as more boys than girls perform below the minimum



proficiency level (Reilly et al., 2019). Nationally, not only are boys achieving at a lower rate than girls, they are underperforming more often as well.

The influence of ethnicity/race on student academic achievement is apparent in analyzing National Assessment of Educational Progress results. Though the scores of Hispanic students have increased from 2003-2013, they still achieve at a rate behind White students (David & Marchant, 2015). Black students achieve at a lesser rate than Hispanic and White students and the gap has persisted over the same time frame (David & Marchant, 2015). These results were consistent with National Assessment of Educational Progress data from 2002-2009 as Black students averaged a result of just over 200 points, Hispanic students earned approximately 205 points, and White students averaged 227 points (Nichols et al., 2012).

Furthermore, the discrepancy in achievement between English Language Learners and students not categorized as English Language Learners is visible in National Assessment of Educational Progress scores. Between 2003 and 2011, a gap in performance on the reading portion of the assessment was present (Polat, Zarecky-Hodge, & Schreiber, 2016). The scores earned by English Language Learners remained stagnant over the time period, whereas the scores of students who were not English Language Learners slightly increased, indicating the gap is growing (Polat et al., 2016).

In addition to studies regarding student reading achievement at the national level, several researchers in Texas (e.g., Hamilton & Slate, 2019; Harris, 2018; McGown, 2016; Pariseau, 2019; Schleeter, 2017) have conducted studies with respect to student economic status, gender, ethnicity/race, and English Language Learner status. Conducting research at the state level is important so that educators may understand how their students may

compare to students nationwide. This information also allows an analysis of trends in reading performance by various student groups as populations change over time.

The percentage of Texas students who are economically disadvantaged has steadily increased from the 2015-2016 school year to the 2018-2019 school year and is now over 60% of all students (Texas Education Agency, 2019a). The high percentage of students who are in poverty is particularly problematic because poverty is adversely related to student academic performance. Texas students from poverty backgrounds achieved at a lower rate than Texas students who were not from poverty backgrounds by every measure (Hamilton & Slate, 2019; Harris, 2018; McGown, 2016; Pariseau, 2019; Schleeter, 2017).

The number of students attending Texas public schools has increased each year from 2015-2016 to 2018-2019, and the percentage of boys has remained higher than the percentage of girls for the same time period (Texas Education Agency, 2019a). The State of Texas requires the State of Texas Assessments of Academic Readiness (STAAR) test results to be reported in multiple ways, but disaggregating results by gender is not one of those ways. The lack of reporting is concerning because boys repeatedly achieve at a lesser rate than girls (Harris, 2018; McGown, 2016; Schleeter, 2017).

As student enrollment in Texas schools increases, the ethnic/racial diversity has also increased each year from 2015-2016 to 2018-2019 (Texas Education Agency, 2019a). Meanwhile, the population of White students has decreased during the same time period (Texas Education Agency, 2019a). This increased diversity matters because the academic achievement of students is color is statistically significantly lower than the academic achievement of their White and Asian peers (Harris, 2018; McGown, 2016;

Pariseau, 2019; Schleeter, 2017). In fact, Hispanic students make up the largest percent of Texas public school students, nearly double the population of the next-largest group (Texas Education Agency, 2019a), magnifying the low performance achieved by this student group.

Another student demographic group with yearly population increases between 2015-2016 and 2018-2019 are students classified as English Language Learners (Texas Education Agency, 2019a). English Language Learners achieve lower scores than their English-speaking peers (Pariseau, 2019). When data are analyzed from the precursor to the STAAR assessment, the Texas Assessment of Knowledge and Skills test, English Language Learners achieved at statistically significantly lower rates than their Hispanic and White peers (Rojas-LeBouef, 2010).

### **Statement of the Problem**

Reading and literacy encompass multiple skills, including (a) phonemic awareness, (b) phonics, (c) vocabulary, (d) fluency, and (e) comprehension (Annie E. Casey Foundation 2010). In the State of Texas, reading achievement is assessed by the state-mandated STAAR test. Grade 3 is a pivotal year for literacy development. The test is administered for the first time to Grade 3 students, providing an initial determination of the reading and literacy skills students have obtained. Although students are assessed yearly in reading until graduation, 26% of students who have lived in poverty and do not read on grade level in Grade 3 will not graduate from high school (Hernandez, 2011).

From the 2015-2016 school year through the 2018-2019 school year, an average of 43.5% of Grade 3 students in the State of Texas achieved at the Meets Grade Level standard (Texas Education Agency, 2019b). Achievement at the Meets Grade Level

standard indicates that a student may need short-term academic intervention in the following school year (Texas Education Agency, 2017), indicating almost 60% of all Grade 3 students over this time period required additional support to be successful in the following school year. Furthermore, trends in reading achievement have, on average, revealed boys were outperformed by girls on the National Assessment of Educational Progress scores from 2003 to 2013 (David & Marchant, 2015). In Texas, gender is not one of the monitored subgroups in student academic achievement data. As such, opportunities to increase boys' knowledge could potentially be missed due to this lack of required monitoring. In addition, the population of girls has increased over the last 10 years (Texas Education Agency, 2019a). Continued analyses of gender-based data are necessary to understand the reading performance of boys and if generalized literacy efforts are mitigating the issue.

The State of Texas has a 5% higher poverty rate than does the United States as a whole (National Center for Children in Poverty, 2017), and more than 60% of Texas public school children are classified as economically disadvantaged (Texas Education Agency, 2019a). Additionally, the percentage of students qualifying for free or reduced lunch is growing yearly and at a higher rate than the United States as a whole (Texas Education Agency, 2019a). The population of the State of Texas is increasing. The enrollment of Black, Hispanic, and Asian students is increasing each year, but so is the percent within each ethnic/racial group who are economically disadvantaged (Texas Education Agency, 2019a). For the 2015-2016 through the 2018-2019 school years, Black, Hispanic, and Asian students accounted for approximately 70% of all Grade 3 students in the state of Texas (Texas Education Agency, 2019a). Black and Hispanic

students are much more likely to be economically disadvantaged, at a rate almost twice of the next-closest ethnic/racial group (National Center for Children in Poverty, 2017).

Although only 10% of Asian children in Texas are living in poverty (National Center for Children in Poverty, 2017), the effects of living in poverty remain. Providing reading acquisition opportunities to these student groups is a necessity.

### **Purpose of the Study**

The purpose of this journal-ready dissertation was to examine the extent to which differences were present by student demographic characteristic (i.e., economic status, ethnicity/race, English Language Learner status) in the reading achievement of Texas Grade 3 students. In the first article, the extent to which the economic status (i.e., Poor, Not Poor) of Grade 3 underrepresented boys in Texas schools is related to their reading achievement was examined. In the second article, the degree to which the economic status (i.e., Poor, Not Poor) of Grade 3 Asian, Black, and Hispanic girls in Texas schools is related to their reading achievement was addressed. In the third study, the degree to which demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) of Grade 3 students in Texas is related to their reading achievement was determined. For each of these studies, archival data were analyzed. An analysis of academic performance for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years was conducted to determine the degree to which trends are present.

### **Significance of the Study**

Studies regarding the combination of the demographic characteristics of economic status and reading achievement within ethnic/racial groups are limited. To date, no researchers have conducted a within-group comparison in which the relationship between

economic status and the reading achievement of Black, Hispanic, and Asian boys, as measured by the Texas state-mandated STAAR assessment, has been addressed, nor have researchers conducted a within-group comparison on the relationship between economic status and the reading achievement of Black, Hispanic, and Asian girls as measured by the Texas state-mandated STAAR assessment. In analyzing the reading performance of Asian boys, Black boys, and Hispanic boys by their economic status as well as Asian girls, Black girls, and Hispanic girls by their economic status, additional information can be provided to stakeholders. Worldwide, the current economy requires strong reading skills (Annie E. Casey Foundation, 2010), indicating that all educators could benefit from this study.

Moreover, published empirical studies regarding the combination of the demographic characteristics and reading achievement are limited. To date, no published studies were located in which researchers had examined the relationship between demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) and reading achievement as measured by the Texas state-mandated reading assessment. In analyzing the reading performance of Grade 3 Texas students by their demographic characteristics, stakeholders can be proactive rather than reactive in providing interventions to student groups.

### **Definition of Terms**

The following terms are defined to assist the reader in understanding the context of this journal-ready dissertation.

**Approaches Grade Level**

Approaches Grade Level on the STAAR indicates targeted academic intervention will be required in the following school year for a student to be successful. Students achieving at this level do not typically exhibit an understanding of the knowledge and skills assessed (Texas Education Agency, 2017).

**Asian**

A student identified as Asian has origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam (Texas Education Agency, 2019a).

**Black**

A student identified as Black indicates they have origins in any of the Black racial groups of Africa (Texas Education Agency, 2019a).

**Did Not Meet Grade Level**

Did Not Meet Grade level on the STAAR demonstrates future success is unlikely without substantial and consistent academic intervention. Students at this level do not exhibit an understanding of the knowledge and skills assessed (Texas Education Agency, 2017).

**Economic Status**

For the purposes of this study, economic status will include the categories of Poor and Not Poor.

**English Language Learner**

An English Language Learner has a language other than English as their primary language and is in the process of acquiring English (Texas Education Code, 2018).

**Ethnicity/Race**

In October 2007, the United States Department of Education issued federal standards for collecting and reporting ethnicity and race data. Ethnicity refers to either being of Hispanic/Latino origin or not Hispanic/Latino. Race refers to (a) American Indian or Alaska Native; (b) Asian; (c) Native Hawaiian or Other Pacific Islander; (d) Black or African American; or (e) White (Texas Education Agency, 2019a).

**Hispanic**

A student identified as Hispanic indicates they are a person of Cuban, Mexican, Puerto Rican, South or Central American, other Spanish culture or origin, regardless of race (Texas Education Agency, 2019a).

**Masters Grade Level**

Masters Grade Level on the STAAR indicates the students will be successful in the following school year with little or no intervention. At the Masters Grade Level, students show the ability to think critically, apply knowledge and skills in familiar contexts, and utilize knowledge and skill in unfamiliar contexts (Texas Education Agency, 2017).

**Meets Grade Level**

Meets Grade level on the STAAR indicates the students will most likely be successful in the following school year but may need short-term academic intervention. In this category, students demonstrate the ability to apply the knowledge and skills



assessed in familiar contexts. Additionally, a general ability to think critically is evident (Texas Education Agency, 2017).

### **Not Poor**

For the purposes of this study, Students not eligible for free or reduced lunch were referred to as Not Poor.

### **Phase-In Standards**

Measured by the STAAR are three levels of success. The performance labels used to describe these levels are (a) Approaches Grade Level, (b) Meets Grade Level, and (c) Masters Grade Level. The Phase-In standards attempt to predict the level of success attainable, and the amount of academic intervention potentially required, in the following school year (Texas Education Agency, 2017).

### **Poor**

For the purposes of this study, students who were eligible for the free lunch program, which indicates a family income of 130% or less of the federal poverty line (Burney & Beilke, 2008), and students who were eligible for the reduced lunch program, indicating a family income of 131% to 185% of the federal poverty line (Burney & Beilke, 2008), were referred to as Poor.

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

The Texas Education Agency Public Education Information Management System (Texas Education Agency, 2019e) encompasses student demographic and academic performance, personnel, financial, and organizational information about public education in Texas. The System includes all data requested and received by The Texas Education Agency (Texas Education Agency, 2019e).

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

The STAAR assessment is administered to public school students in Grades 3-12. The STAAR is the curriculum-based, state-mandated assessment in Texas and is designed to measure what students are learning in each grade. Students are assessed in reading and mathematics each year and additional content-area tests depending on the grade level (Texas Assessment, 2019).

**STAAR Reading Reporting Category One**

Assessed in the Grade 3 STAAR Reading Reporting Category One is student understanding across genres of a variety of texts, specifically reading and vocabulary development (Texas Education Agency, 2011).

**STAAR Reading Reporting Category Two**

Measured in the Grade 3 STAAR Reading Reporting Category Two are students' abilities to understand and analyze literary texts, including fiction, literary nonfiction, poetry, and media literacy (Texas Education Agency, 2011).

**STAAR Reading Reporting Category Three**

The Grade 3 STAAR Reading Reporting Category Three assesses students' abilities to understand and analyze informational texts, including expository, procedural, and media literacy (Texas Education Agency, 2011).

**Texas Education Agency**

The Texas Education Agency oversees primary and secondary public education in the state of Texas (Texas Education Agency, 2019h). The Texas Education Agency is a state agency operating under the direction of the commissioner of education. Some of the roles and responsibilities of the Agency are to administer the distribution of state and

federal funding, work with the State Board of Education, and monitor for compliance (Texas Education Agency, 2019h).

### **Underrepresented Students**

For the purposes of this study, underrepresented students will refer to Asian, Black, and Hispanic students.

### **White**

A student identified as White indicates they are a person with origins in any of the original people of Europe, the Middle East, or North Africa (Texas Education Agency, 2019a).

### **Literature Review Search Procedures**

For this journal-ready dissertation, the literature related to reading performance of underrepresented students (i.e., Black, Hispanic, and Asian), economic status (i.e., Poor, Not Poor), and standardized testing was reviewed. Additionally, the literature related to reading performance of students by demographic category was reviewed. Electronic databases were the primary sources for relevant articles associated with these topics. The electronic databases used in the searches were EBSCO Host and ProQuest. In addition, archival data were used in the search from the Texas Education Agency Public Education Information Management System.

For the mentioned electronic databases, several variations of keywords were used in the search. The various keywords used were *student achievement*, *literacy*, *reading*, *poverty*, *Asian*, *Black*, *Hispanic*, and *gender*. For EBSCO Host, the initial search of *poverty* and *student achievement* generated 636 articles and *girl*, *poverty*, and *literacy* generated 90 articles. When the terms *Black*, *Hispanic*, or *Asian* were included, the

former search produced 68 articles whereas the latter generated 2 articles. A search of boy, *poverty*, and *literacy* produced 10 articles, and when the terms *Black*, *Hispanic* or *Asian* were included, the search generated 3 articles.

For all searches conducted on the electronic database, several criteria were determined for article inclusion. First, all articles were scholarly in nature. Second, articles were required to be published after the year 2009 to be relatively current. With regard to the ProQuest searches, doctoral dissertations were limited to Sam Houston State University students. Finally, all articles were analyzed to determine the relevancy to the topics of Grade 3 STAAR Reading performance by underrepresented boys and by underrepresented girls, as well as student demographics related to Grade 3 STAAR Reading test performance.

### **Delimitations**

In this journal-ready dissertation, only the reading performance of Texas Grade 3 students as measured by the State of Texas Assessments of Academic Readiness exam was analyzed. Only four years of data (i.e., 2015-2016, 2016-2017, 2017-2018, and 2018-2019) was examined, which restricts generalizability of the results to these four years. Another delimitation is that economic status was limited to the definition provided by the federal government regarding free and reduced lunch. For the first two studies, a final delimitation involved a sole focus on three underrepresented ethnic/racial groups (i.e., Asian, Black, and Hispanic) of students in Texas public schools. The final delimitation for the third study involved a focus on the demographic characteristics of poverty, gender, and ethnicity/race.

### **Limitations**

Due to the causal-comparative nature of the study, the independent variables (i.e., economic status, ethnicity/race, English Language Learner status) were not controlled and the dependent variables (i.e., academic achievement in reading), because they had already occurred, also were controlled (Johnson & Christensen, 2020). Furthermore, students in Grade 3 encounter the State of Texas Assessments of Academic Readiness for the first time in this grade level, thereby limiting their experience with such a rigorous summative assessment. Additionally, other variables may have also contributed to any differences that were obtained in the reading achievement by economic status, gender, or ethnicity/race.

### **Assumptions**

For this journal-ready dissertation, the assumption was made that the achievement data and the student demographic data (i.e., economic status, ethnicity/race, English Language Learner status) in the Public Education Information Management System were accurately reported to the state. Furthermore, the consistency in which Texas elementary schools collect and report student data was assumed to be accurate and consistent statewide. A final assumption was that the validity and consistency in which the STAAR Reading scores were collected from elementary schools across the state of Texas adhered to the requirements outlined by the state. As such, any deviations from these assumptions could possibly result in inaccurate results.

### **Procedures**

In this journal-ready dissertation, initial approval was requested from the researcher's dissertation committee. Once approval was obtained from the dissertation

committee, additional approval was requested from the Sam Houston State University Institutional Review Board to perform the study. Upon approval from the Institutional Review Board, data from the Texas Education Agency Public Education Information Management System were downloaded and analyzed. Through a Public Information Request form, data were requested from the Texas Education Agency Public Education Information Management System. Specifically requested was the Grade 3 STAAR Reading test scores by Phase-in standard and Reporting Category. The data analyzed were from the 2015-2016 through the 2018-2019 school years.

### **Organization of the Study**

In this journal-ready dissertation, three research studies were conducted. In the first journal-ready dissertation study, the overarching research question that was addressed was the degree to which differences were present in the reading performance of Texas Grade 3 underrepresented boys as a function of their economic status (i.e., Poor, Not Poor) for the 2015-2016 through the 2018-2019 school years. In the second journal-ready dissertation article, the overarching research question examined was the extent to which differences might exist in the reading performance of Texas Grade 3 underrepresented girls as a function of their economic status (i.e., Poor, Not Poor) for the 2015-2016 through the 2018-2019 school years. Lastly, for the third journal-ready dissertation article, the research question for the third study was to predict reading performance by student demographic (i.e., economic status, ethnicity/race, English Language Learner status) for the 2015-2016 through the 2018-2019 school years.

This journal-ready dissertation is comprised of five chapters. Chapter I includes the background of the study, statement of the problem, purpose of the study, significance

of the study, definition of terms, delimitations, limitations, assumptions, and outline of the journal-ready dissertation. In Chapter II, the first journal-ready dissertation investigation involving the degree to which differences might be present in reading achievement by the economic status of underrepresented boys is provided. In Chapter III, the second journal-ready research study involving the extent to which differences might exist in reading achievement by the economic status of underrepresented girls is presented. In Chapter IV, the third journal-ready investigation regarding a prediction of reading performance by demographic characteristics was presented. Lastly, in Chapter V, the results of the three research articles were discussed.

## CHAPTER II

# DIFFERENCES IN READING PERFORMANCE BY THE ECONOMIC STATUS OF TEXAS GRADE 3 UNDERREPRESENTED BOYS: A MULTIYEAR, STATEWIDE INVESTIGATION

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



### **Abstract**

In this statewide, multiyear analysis, the extent to which differences were present in reading by the economic status of Grade 3 Asian, Black, and Hispanic boys was determined. Specifically examined was the relationship of poverty to the three State of Texas Assessment of Academic Readiness (STAAR) Reading Reporting Categories for Grade 3 Asian, Black, and Hispanic boys in the 2015-2016 through the 2018-2019 school years. Also examined was the relationship of poverty to the STAAR Grade Level Phase-in Standards for Grade 3 Asian, Black, and Hispanic boys. Inferential statistical analyses revealed the presence of statistically significant differences in reading as a function of the economic status of Asian boys, Black boys, and Hispanic boys. In every instance, Asian boys, Black boys, and Hispanic boys who were Poor were outperformed by their counterparts who were Not Poor. Considering the majority of students in Texas come from poverty backgrounds, these findings are of great concern. Implications of these findings and recommendations for future research are discussed.

*Keywords:* Texas, Grade 3, STAAR, Reading, Economic Status, Asian, Black, Hispanic Boys

## DIFFERENCES IN READING PERFORMANCE BY THE ECONOMIC STATUS OF TEXAS GRADE 3 UNDERREPRESENTED BOYS: A MULTIYEAR, STATEWIDE INVESTIGATION

Literacy, a skill that encompasses word recognition, vocabulary, comprehension, and much more, is a necessary part of everyday life (Stinnett, 2014). Literacy skills can be divided into general categories, word-reading literacy skills, and knowledge-based competencies (Reardon, Valentino, & Shores, 2012). Word-reading skills, the necessary first steps in acquiring the ability to read, include letter-word recognition, beginning and ending sounds, fluency, and recognizing sight words (Reardon et al., 2012; Stinnett, 2014). Knowledge-based competencies, the application of the ability to read, encompass analysis, synthesis, and evaluation (Golden, 2012). Grade 3 is a vital point in the literacy development of students because students are required to make the transition from “learning to read” to “reading to learn” (Hernandez, 2011, p. 4). Unfortunately, some students have not developed the academic ability make this transition, as approximately 10% of 17-year old students have the literacy skills of 9-year old students (Reardon et al., 2012; Stinnett, 2014).

A lack of literacy skills beyond the early years of schooling is clearly detrimental because of the influence on social mobility and the reliance on literacy skills in the workforce (Reardon et al., 2012). Gaps in literacy skills could potentially perpetuate the “Matthew Effect” where students who do not come from poverty are more equipped to learn at a more rapid pace than their peers who have lived in poverty (Stanovich, 2017). Additionally, compared to students who are not poor, students in poverty do not have the same home advantages and background knowledge (Stanovich, 2017). For example,

students who are economically disadvantaged have fewer chances to participate in literacy-related activities, fewer shared reading activities, and fewer library visits (Stinnett, 2014). Students who come from poverty have less exposure to varied vocabulary and syntax (Stinnett, 2014) than their more privileged peers. Moreover, children who live in poverty are more likely to have weaker language and narrative skills and lower emergent literacy scores (Gardner-Neblett & Iruka, 2015). Furthermore, educational opportunities for these children are minimized due to frequent absences attributed to increased health or family problems (Hernandez, 2011).

In the State of Texas, the population of students living in poverty has remained over 50% since the 2001-2002 school year (Texas Education Agency, 2003). In 2015-2016, almost 60% of the public school population was living in poverty. This figure remained steady in 2016-2017 and 2017-2018 before increasing to almost 61% of the population in 2018-2019 (Texas Education Agency, 2019a). Students are eligible for either the reduced lunch program or free lunch program depending on family income. Students qualify for the reduced lunch program with a family income of 131% to 185% of the federal poverty line (Burney & Beilke, 2008). The percentages of students who qualified for the reduced lunch program during the four school years from 2015-2016 to 2018-2019 ranged from just under 4.5% to 6% (Texas Education Agency, 2019c). More concerning is the percentage of students who qualified for the free lunch program for the same four years. These figures were comprised of just under 42% of students and just under 44% of students on the high end (Texas Education Agency, 2019a). Students who were eligible for the free lunch program have a family income of 130% or less of the federal poverty line (Burney & Beilke, 2008). For the purposes of this study, due to the

small percentages of students qualifying for the reduced lunch program, all students qualifying for either free or reduced lunch programs will be considered Poor.

According to the Texas Education Agency (2019a), the percentages of Black students living in poverty increased from 71% to 74% from 2015-2016 to 2018-2019. The percentages of Asian and Hispanic students living in poverty also increased during this time. The increase of Asian students living in poverty was one percentage point, but the increase consisted of over 10,000 students. Hispanic students living in poverty experienced an increase of less than one percent, however, this statistic reflected a growth of over 78,000 students.

In addition to the influence of poverty on academic achievement, gender is a contributing factor, as well. Boys and girls differ in their reading skills. Nationally, boys are falling behind each year from kindergarten to Grade 3 (National Assessment of Educational Progress, 2019). The reading achievement of boys decreased from 2017 to 2019, and, in Texas, this achievement by boys is below the national average (National Assessment of Educational Progress, 2019). To determine reading achievement, the Texas Education Agency has adopted the Texas Essential Knowledge and Skills as the guiding standards for what students must learn (Texas Education Agency, 2019c). The STAAR test is the instrument used to determine if students have achieved mastery of the standards (Texas Assessment, 2019). Grade 3 standards specifically require students to read a variety of texts, recognize characteristics of digital media, and engage in their reading by using metacognitive skills to deepen comprehension (Texas Administrative Code, 2019).

Several studies have been conducted by researchers (Harris, 2018; McGown, 2016; Schleeter, 2017) who have analyzed the reading achievement of boys as assessed by the Texas state-mandated assessment. McGown (2016) investigated Grade 3 STAAR Reading performance for three school years (i.e., 2012-2013, 2013-2014, 2014-2015). In all three school years, less than 40% of boys achieved the Level II Satisfactory Performance Standard, now referred to as Approaches Grade Level (Texas Education Agency, 2017). With regard to the STAAR Reading Reporting Category One, in all three school years, boys responded incorrectly to approximately two out of six questions, in Reporting Category Two, boys missed approximately seven out of 18 questions, and in Reporting Category Three, boys answered approximately five questions incorrectly out of 16 (McGown, 2016). Across the three years of Texas data examined by McGown (2016), results were consistent regarding the performance of boys.

In another Texas analysis conducted for the same three school years, Schleeter (2017) analyzed the passing rates of Grade 3 English Language Learner boys on the STAAR Reading Level III Advanced Performance Standard, now referred to as Masters Grade Level (Texas Education Agency, 2017). At no point in the 3-year period was the passing percentage on the Masters Grade Level standard for English Language Learner boys above 11%. At the Meets Grade Level standard, the passing percentage of English Language Learner boys was consistently below 50%. At the Approaches Grade Level, the passing percentage was always lower than 65% passing. Results for English Language Learner boys were remarkably consistent across the three years of Texas data (Schleeter, 2017).

In another related study, Harris (2018) conducted an analysis of the same three school years of statewide data for the STAAR Reading Level II Final Satisfactory Performance Standard, now referred to as Meets Grade Level (Texas Education Agency, 2017), by gender. In all three school years, statistically significant results for boys were present. The passing rate of Texas Grade 4 boys was not above 37% for any of the three school years.

In a comparison (Hamilton & Slate, 2019) of the reading performance of Grade 3 Black students by their economic status (i.e., Not Economically Disadvantaged or Economically Disadvantaged), Black students in poverty had statistically significantly lower passing rates than Black students who were not economically disadvantaged at the Approaches Grade Level, Meets Grade Level, and Masters Grade Level Phase-in standards on the Grade 3 STAAR Reading test. At the Approaches Grade Level standard, 53.6% of Black students who were Poor met the standard, compared to 81.7% of Black students who were Not Poor. At the Meets Grade Level standard, 21.8% of Black students who were Poor met the standard, compared to 50.7% of Black students who were Not Poor. At the Masters Grade Level standard, only 9.4% of Black students who were Poor met the standard, compared to 29.4% of Black students who were Not Poor.

Similar results were evident by the economic status of Hispanic students (Hamilton & Slate, 2019). At the Approaches Grade Level standard, 63.5% of Hispanic students who were Poor met the standard, compared to 87.8% of Hispanic students who were Not Poor. At the Meets Grade Level standard, 29.2% of Hispanic students who were Poor met the standard, compared to 59.1% of Hispanic students who were Not Poor.

At the Masters Grade Level standard, 13.9% of Hispanic students who were Poor met the standard, compared to 35.6% of Hispanic students who were Not Poor. In the Hamilton and Slate (2019) Texas statewide investigation, poverty clearly had a strong influence on the reading achievement of Black and Hispanic Grade 3 students.

Within ethnic/racial groups, Hispanic boys, Black boys, and Asian boys all achieve at a lower rate than their girl counterparts (Husain & Millimet, 2009). As such, in this investigation only the reading achievement of boys was addressed. Though literature regarding a difference between boys and girls in reading achievement is plentiful, published empirical research of literacy academic performance by only boys within an ethnic/racial group are limited. Analyses of the performance of boys with consideration to the variable of economic status is even more limited in the literature. As such, reading data on only Asian, Black, and Hispanic boys was examined in this multiyear, statewide investigation.

### **Statement of the Problem**

Trends in reading achievement have, on average, revealed boys were outperformed by girls on the National Assessment of Educational Progress scores from 2003 to 2013 (David & Marchant, 2015). In Texas, gender is not one of the monitored subgroups in student academic achievement data. As such, opportunities to increase boys' knowledge could potentially be missed due to this lack of required monitoring. Continued analyses of gender-based data are necessary to understand the reading performance of boys.

Grade 3 is a pivotal year for literacy development. Grade 3 is the first year Texas students are assessed on the STAAR test, and although students are assessed yearly in

reading until graduation, 26% of students who have lived in poverty and do not read on grade level in Grade 3 will not graduate from high school (Hernandez, 2011). Black and Hispanic students are much more likely to be economically disadvantaged, at a rate almost twice of the next-closest ethnic/racial group (National Center for Children in Poverty, 2017). Although only 10% of Asian children in Texas are living in poverty (National Center for Children in Poverty, 2017), the effects of living in poverty remain. The State of Texas has a 5% higher poverty rate than does the United States as a whole (National Center for Children in Poverty, 2017), and more than 60% of Texas public schoolchildren are classified as economically disadvantaged (Texas Education Agency, 2019a). Providing reading acquisition opportunities to these student groups is a necessity.

### **Purpose of the Study**

The purpose of this study was to examine the degree to which the economic status (i.e., Poor, Not Poor) of Grade 3 Asian, Black, and Hispanic boys in Texas schools is related to their reading achievement. Specifically examined was the relationship of poverty to three STAAR Reading Reporting Categories and the STAAR Reading Phase-in standards. These relationships were determined separately for Asian, Black, and Hispanic boys in each of the three school years (i.e., 2015-2016, 2016-2017, 2017-2018, 2018-2019). Finally, the degree to which trends might be present for each of the three ethnic/racial groups of boys across the four school years was determined.

### **Significance of the Study**

Little research regarding the intersection of economic status and reading achievement within ethnic/racial groups exists. To date, no researchers have conducted a



within-group comparison in which the relationship between economic status and the reading achievement of Black, Hispanic, and Asian boys, as measured by the Texas state-mandated STAAR assessment, has been addressed. In analyzing the reading performance of Asian boys, Black boys, and Hispanic boys by their economic status, additional information can be provided to stakeholders. Stakeholders who could benefit from this study include literacy teachers and specialists, campus principals and associated decision-makers, curriculum directors, and district-level administrators.

### **Research Questions**

The following overarching research question was addressed in this investigation:

What is the difference in reading performance by the economic status (i.e., Poor, Not Poor) of Texas Grade 3 underrepresented boys (i.e., Asian, Black, and Hispanic)?

Specific subquestions under this overarching research question were: (a) What is the difference in Reading Reporting Category One performance by the economic status of Texas Grade 3 underrepresented boys?; (b) What is the difference in Reading Reporting Category Two by the economic status of Texas Grade 3 underrepresented boys?; (c)

What is the difference in Reading Reporting Category Three performance by the economic status of Texas Grade 3 underrepresented boys?; (d) What is the difference in the Approaches Grade Level performance by the economic status of Texas Grade 3 underrepresented boys?; (e) What is the difference in the Meets Grade Level performance by the economic status of Texas Grade 3 underrepresented boys?; (f) What is the difference in the Masters Grade Level performance by the economic status of Texas Grade 3 underrepresented boys?; (g) To what extent is a trend present in the three Reading Reporting Categories performance by the economic status of Texas Grade 3

underrepresented boys for the 2015-2016 through the 2018-2019 school years?; and (h) To what extent is a trend present in the Approaches Grade Level, Meets Grade Level, and Masters Grade Level performance by the economic status of Texas Grade 3 underrepresented boys for the 2015-2016 through the 2018-2019 school years? The first six research questions were repeated separately for Asian, Black, and Hispanic boys for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years whereas the two trend questions involved all four school years. Thus, 34 research questions were present in this investigation.

## **Method**

### **Research Design**

For this empirical investigation, a non-experimental, causal-comparative research design was used (Creswell & Creswell, 2018; Johnson & Christensen, 2020). Causal-comparative research is used by researchers to find relationships between independent and dependent after the individual variables have already occurred (Johnson & Christensen, 2020). Extraneous variables are not controlled in this study design (Johnson & Christensen, 2020). The independent variable in this study was level of poverty (i.e., Poor, Not Poor) and the dependent variables were the three reporting categories (i.e., Reporting Category I, Reporting Category II, Reporting Category III) and the three Phase-in Standards (i.e., Approaches Grade Level, Meets Grade Level, Masters Grade Level) from the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 STAAR assessments. Regarding the three reporting categories, because each reporting category contains a different number of questions, data were converted from raw scores to percentages to compare differences between scores.

## **Participants and Instrumentation**

Archival data were obtained from the Texas Education Agency Public Education Information Management System for the 2015-2016 through the 2018-2019 school years for Black, Hispanic, and Asian Grade 3 boys who took the STAAR Reading assessment, as well as their student demographic characteristics. To obtain the data, a Public Information Request was submitted to the Texas Education Agency.

Three reporting categories are assessed by the STAAR Reading test at three Phase-in standard levels. Assessed in Reporting Category I is reading and vocabulary development across genres of a variety of texts (Texas Education Agency, 2011). The Grade 3 STAAR Reporting Category II assesses students' abilities to understand and analyze literary texts, including fiction, literary nonfiction, poetry, and media literacy (Texas Education Agency, 2011). Measured in the Grade 3 STAAR Reading Reporting Category Three is students' abilities to understand and analyze informational texts, including expository, procedural, and media literacy (Texas Education Agency, 2011).

The Phase-In standards attempt to predict the level of success attainable, and the amount of academic intervention potentially required, in the following school year (Texas Education Agency, 2017). Did Not Meet Grade level on the STAAR demonstrates future success is unlikely without substantial and consistent academic intervention. Students at this level do not exhibit an understanding of the knowledge and skills assessed (Texas Education Agency, 2017). Approaches Grade Level on the STAAR indicates targeted academic intervention will be required in the following school year for a student to be successful. Students achieving at this level do not typically exhibit an understanding of the knowledge and skills assessed (Texas Education Agency, 2017). Meets Grade level

on the STAAR indicates the students will most likely be successful in the following school year but may need short-term academic intervention. In this category, students demonstrate the ability to apply the knowledge and skills assessed in familiar contexts. Additionally, a general ability to think critically is evident (Texas Education Agency, 2017). Finally, Masters Grade Level on the STAAR indicates the students will be successful in the following school year with little or no intervention. At the Masters Grade Level, students show the ability to think critically, apply knowledge and skills in familiar contexts, and utilize knowledge and skill in unfamiliar contexts (Texas Education Agency, 2017).

For the purpose of this article, economic status included the categories of Poor and Not Poor. Boys not eligible for free or reduced lunch were referred to as Not Poor. Boys who were eligible for the reduced lunch program, indicating a family income of 131% to 185% of the federal poverty line (Burney & Beilke, 2008), and boys who were eligible for the free lunch program, which indicates a family income of 130% or less of the federal poverty line (Burney & Beilke, 2008), were referred to as Poor. Due to the small percentages of boys qualifying for the reduced lunch program, all boys qualifying for either free or reduced lunch programs were considered Poor. For the purposes of this study, underrepresented boys referred to Asian, Black, and Hispanic boys.

## **Results**

Prior to conducting multivariate analysis of variance (MANOVA) procedures, its underlying assumptions were checked. Though the majority of these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use in this study (Field, 2009). Results of statistical analyses will be described by racial/ethnic group by

Reading Reporting Category followed by Phase-in Standard. The results in this study will be discussed in chronological order by year and then for Asian boys, then for Black boys, and then for Hispanic boys.

### **Reading Reporting Category Results for Asian Boys**

Regarding 2015-2016, the MANOVA revealed a statistically significant difference, Wilks'  $\Lambda = .77, p < .001$ , partial  $\eta^2 = .23$ , in overall reading performance as a function of the economic status of Asian boys. The effect size for this statistically significant difference was large (Cohen, 1988). Concerning 2016-2017, the MANOVA revealed a statistically significant difference, Wilks'  $\Lambda = .82, p < .001$ , partial  $\eta^2 = .18$ , large effect size (Cohen, 1988). With respect to 2017-2018, a statistically significant difference was revealed, Wilks'  $\Lambda = .86, p < .001$ , partial  $\eta^2 = .14$ , large effect size (Cohen, 1988). Regarding 2018-2019, a statistically significant difference was yielded, Wilks'  $\Lambda = .83, p < .001$ , partial  $\eta^2 = .17$ , large effect size (Cohen, 1988). In all four school years, effect sizes were large for Asian boys.

Following the overall results of the MANOVA, univariate follow-up Analysis of Variance (ANOVA) procedures were conducted for all four school years. A statistically significant difference was yielded between Asian boys who were Poor and Asian boys who were Not Poor in their Reading Reporting Category I performance in 2015-2016,  $F(1, 3073) = 792.33, p < .001$ , partial  $\eta^2 = .20$ , large effect size; in 2016-2017,  $F(1, 3290) = 562.50, p < .001$ , partial  $\eta^2 = .15$ , large effect size; in 2017-2018,  $F(1, 3077) = 358.00, p < .001$ , partial  $\eta^2 = .10$ , moderate effect size; and in 2018-2019,  $F(1, 3369) = 484.57, p < .001$ , partial  $\eta^2 = .13$ , moderate effect size. In regard to the Grade 3 STAAR Reading Reporting Category I scores, Asian boys who were Poor had an average score

approximately 34% lower than the average score for Asian boys who were Not Poor in 2015-2016; 26% lower than the average score for Asian boys who were Not Poor in 2016-2017; 24% lower in 2017-2018; and 31% lower in 2018-2019.

A statistically significant difference was yielded between Asian boys who were Poor and Asian boys who were Not Poor in their Reading Reporting Category II performance in 2015-2016,  $F(1, 3073) = 723.35, p < .001$ , partial  $\eta^2 = .19$ , large effect size; in the 2016-2017 school year,  $F(1, 3290) = 582.13, p < .001$ , partial  $\eta^2 = .15$ , large effect size; in 2017-2018,  $F(1, 3077) = 385.84, p < .001$ , partial  $\eta^2 = .11$ , moderate effect size; and in 2018-2019,  $F(1, 3369) = 529.80, p < .001$ , partial  $\eta^2 = .14$ , large effect size. In regard to the Grade 3 STAAR Reading Reporting Category II scores, Asian boys who were Poor had an average score approximately 30% lower than the average score for Asian boys who were Not Poor in 2015-2016; 28% lower than the average score for Asian boys who were Not Poor in 2016-2017; and 27% lower than the average score for Asian boys who were Not Poor in 2017-2018 and 2018-2019.

A statistically significant difference was yielded between Asian boys who were Poor and Asian boys who were Not Poor in their Reading Reporting Category III performance in 2015-2016,  $F(1, 3073) = 666.58, p < .001$ , partial  $\eta^2 = .18$ , large effect size; in 2016-2017,  $F(1, 3290) = 512.47, p < .001$ , partial  $\eta^2 = .14$ , large effect size; in 2017-2018,  $F(1, 3077) = 340.43, p < .001$ , partial  $\eta^2 = .10$ , moderate effect size; and in 2018-2019,  $F(1, 3369) = 412.00, p < .001$ , partial  $\eta^2 = .11$ , moderate effect size. In regard to the Grade 3 STAAR Reading Reporting Category III scores, Asian boys who were Poor had an average score approximately 29% lower than the average score for Asian boys who were Not Poor in 2015-2016; 26% lower than the average score for

Asian boys who were Not Poor in 2016-2017 and 2017-2018; and 29% lower than the average score for Asian boys who were Not Poor in 2018-2019. Delineated in Table 2.1 are the descriptive statistics for these analyses.

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 Insert Table 2.1 about here  
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### **Reading Reporting Category Results for Black Boys**

Concerning 2015-2016, the MANOVA revealed a statistically significant difference, Wilks'  $\Lambda = .93$ ,  $p < .001$ , partial  $\eta^2 = .07$ , in overall reading performance as a function of the economic status of Black boys. Using Cohen's (1988) criteria, the effect size was moderate. With respect to 2016-2017, the MANOVA yielded a statistically significant difference, Wilks'  $\Lambda = .94$ ,  $p < .001$ , partial  $\eta^2 = .06$ , moderate effect size (Cohen, 1988). Regarding 2017-2018, the a statistically significant difference was yielded, Wilks'  $\Lambda = .94$ ,  $p < .001$ , partial  $\eta^2 = .06$ , moderate effect size (Cohen, 1988). In 2018-2019, a statistically significant difference was revealed, Wilks'  $\Lambda = .94$ ,  $p < .001$ , partial  $\eta^2 = .06$ , moderate effect size. Effect sizes were moderate for Black boys in all four school years.

Following the overall results of the MANOVA, univariate follow-up ANOVA procedures were conducted for all four school years. With regard to Reading Reporting Category I performance, a statistically significant difference was yielded between Black boys who were Poor and Black boys who were Not Poor in 2015-2016,  $F(1, 9483) = 452.37$ ,  $p < .001$ , partial  $\eta^2 = .05$ , small effect size; in 2016-2017,  $F(1, 10653) = 461.14$ ,  $p < .001$ , partial  $\eta^2 = .04$ , small effect size; in 2017-2018,  $F(1, 8002) = 340.19$ ,  $p < .001$ ,

partial  $\eta^2 = .04$ , small effect size; and in 2018-2019,  $F(1, 7342) = 256.85, p < .001$ , partial  $\eta^2 = .03$ , small effect size. Concerning the Grade 3 STAAR Reading Reporting Category I scores, Black boys who were Poor had an average score approximately 16% lower than the average score for Black boys who were Not Poor in 2015-2016 and 2016-2017; 15% lower than the average score for Black boys who were Not Poor in 2017-2018; and 14% lower than the average score for Black boys who were Not Poor in 2017-2018.

With regard to the performance in Reading Reporting Category II, a statistically significant difference was yielded between Black boys who were Poor and Black boys who were Not Poor in 2015-2016,  $F(1, 9483) = 577.59, p < .001$ , partial  $\eta^2 = .06$ , small effect size; in 2016-2017,  $F(1, 10653) = 455.67, p < .001$ , partial  $\eta^2 = .04$ , small effect size; in 2017-2018,  $F(1, 8002) = 456.60, p < .001$ , partial  $\eta^2 = .05$ , small effect size; and in 2018-2019,  $F(1, 7342) = 409.18, p < .001$ , partial  $\eta^2 = .05$ , small effect size.

Concerning the Grade 3 STAAR Reading Reporting Category II scores, Black boys who were Poor had an average score approximately 15% lower than the average score for Black boys who were Not Poor in 2015-2016; 14% lower than the average score for Black boys who were Not Poor in 2016-2017; 13% lower than the average score for Black boys who were Not Poor in 2017-2018; and 15% lower than the average score for Black boys who were Not Poor in 2018-2019.

With regard to the Reading Reporting Category III performance, a statistically significant difference was yielded between Black boys who were Poor and Black boys who were Not Poor in 2015-2016,  $F(1, 9483) = 655.62, p < .001$ , partial  $\eta^2 = .07$ , small effect size; in 2016-2017,  $F(1, 10653) = 566.26, p < .001$ , partial  $\eta^2 = .05$ , small effect



size; in 2017-2018,  $F(1, 8002) = 438.47, p < .001$ , partial  $\eta^2 = .05$ , small effect size; and in 2018-2019,  $F(1, 7342) = 387.04, p < .001$ , partial  $\eta^2 = .05$ , small effect size.

Concerning the Grade 3 STAAR Reading Reporting Category III, Black boys who were Poor had an average score approximately 16% lower than the average score for Black boys who were Not Poor in 2015-2016; 15% lower than the average score for Black boys who were Not Poor in 2016-2017 and 2017-2018; and 14% lower than the average score for Black boys who were Not Poor in 2018-2019. Revealed in Table 2.2 are the descriptive statistics for these analyses.

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### **Reading Reporting Category Results for Hispanic Boys**

Regarding 2015-2016, the MANOVA yielded a statistically significant difference, Wilks'  $\Lambda = .93, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988) in overall reading performance as a function of the economic status of Hispanic boys. Concerning 2016-2017, a statistically significant difference was revealed, Wilks'  $\Lambda = .93, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988). With respect to 2017-2018, a statistically significant difference was present, Wilks'  $\Lambda = .93, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988). Regarding 2018-2019, a statistically significant difference was revealed, Wilks'  $\Lambda = .92, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size. Effect sizes for the statistically significant differences in overall reading performance were moderate for Hispanic boys in all four school years.

Following the overall results of the MANOVA, univariate ANOVA procedures were conducted for all four school years. A statistically significant difference was yielded between Hispanic boys who were Poor and Hispanic boys who were Not Poor in their Reading Reporting Category I performance in 2015-2016,  $F(1, 51689) = 2471.24$ ,  $p < .001$ , partial  $\eta^2 = .05$ , small effect size; in 2016-2017,  $F(1, 44518) = 1783.72$ ,  $p < .001$ , partial  $\eta^2 = .04$ , small effect size; in 2017-2018,  $F(1, 34403) = 1503.68$ ,  $p < .001$ , partial  $\eta^2 = .04$ , small effect size; and in 2018-2019,  $F(1, 31187) = 1658.59$ ,  $p < .001$ , partial  $\eta^2 = .05$ , small effect size. With regard to the Grade 3 STAAR Reading Reporting Category I scores, Hispanic boys who were Poor had an average score approximately 15% lower than the average score for Hispanic boys who were Not Poor in 2015-2016; 14% lower than the average score for Hispanic boys who were Not Poor in 2016-2017 and 2017-2018; and 16% lower than the average score for Hispanic boys who were Not Poor in 2018-2019.

A statistically significant difference was yielded between Hispanic boys who were Poor and Hispanic boys who were Not Poor in their Reading Reporting Category II performance in 2015-2016,  $F(1, 51689) = 3671.78$ ,  $p < .001$ , partial  $\eta^2 = .07$ , moderate effect size; in 2016-2017,  $F(1, 44518) = 3040.85$ ,  $p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; in 2017-2018,  $F(1, 34403) = 1875.47$ ,  $p < .001$ , partial  $\eta^2 = .05$ , small effect size; and in 2018-2019,  $F(1, 31187) = 2150.33$ ,  $p < .001$ , partial  $\eta^2 = .07$ , moderate effect size. With regard to the Grade 3 STAAR Reading Reporting Category II scores, Hispanic boys who were Poor had an average score approximately 15% lower than the average score for Hispanic boys who were Not Poor in 2015-2016; 16% lower than the average score for Hispanic boys who were Not Poor; 13% lower than the average score

for Hispanic boys who were Not Poor in 2017-2018; and 15% lower than the average score for Hispanic boys who were Not Poor in 2018-2019.

A statistically significant difference was yielded between Hispanic boys who were Poor and Hispanic boys who were Not Poor in their Reading Reporting Category III performance in 2015-2016,  $F(1, 51689) = 3022.38, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; in 2016-2017,  $F(1, 44518) = 2645.21, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; in 2017-2018,  $F(1, 34403) = 2129.23, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; and in 2018-2019,  $F(1, 31187) = 2100.19, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size. With regard to the Grade 3 STAAR Reading Reporting Category III scores, Hispanic boys who were Poor had an average score approximately 14% lower than the average score for Hispanic boys who were Not Poor in 2015-2016 and approximately 15% lower than the average score for Hispanic boys who were Not Poor in 2016-2017, 2017-2018, and 2018-2019. Delineated in Table 2.3 are the descriptive statistics for these analyses.

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To ascertain whether differences were present in the three Grade 3 STAAR Reading Phase-in standards (i.e., Approaches Grade Level, Meets Grade Level, or Masters Grade Level) by the economic status of underrepresented boys, Pearson chi-square analyses were conducted. Because frequency data were present for the independent and dependent variables, this statistical procedure was optimal. When both

variables are categorical, chi-squares are the statistical procedure of choice (Slate & Rojas-LeBouef, 2011).

### **Grade Level Standard Results for Asian Boys**

Regarding the economic status of Asian boys in 2015-2016 and their performance on the Approaches Grade Level standard, the result was statistically significant,  $\chi^2(1) = 516.09$ ,  $p < .001$ , Cramer's V of .41, moderate effect size (Cohen, 1988). Slightly over 55% of Asian boys who were Poor met the Approaches Grade Level standard, compared to approximately 95% of Asian boys who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 466.45$ ,  $p < .001$ , Cramer's V of .39, moderate effect size (Cohen, 1988). At the Meets Grade Level standard, less than 26% of Asian boys who were Poor met this standard in comparison to over 81% of Asian boys who were Not Poor. Finally, for the Masters Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 260.59$ ,  $p < .001$ , Cramer's V of .29, small effect size (Cohen, 1988). Less than 15% of Asian boys who were Poor met this standard, whereas slightly less than 62% of Asian boys who were Not Poor met this standard.

Concerning the economic status of Asian boys in 2016-2017 and their performance on the Approaches Grade Level standard, a statistically significant difference was yielded,  $\chi^2(1) = 472.04$ ,  $p < .001$ , Cramer's V of .38, moderate effect size (Cohen, 1988). Less than 62% of Asian boys who were Poor met the Approaches Grade Level standard, compared to approximately 96% of Asian boys who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 344.72$ ,  $p < .001$ , Cramer's V of .32, moderate effect size

(Cohen, 1988). At the Meets Grade Level standard, only about 35% of Asian boys who were Poor met this standard compared to over 83% of Asian boys who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant difference was revealed,  $\chi^2(1) = 231.66, p < .001$ , Cramer's V of .26, small effect size (Cohen, 1988). Less than 21% of Asian boys who were Poor met this highest standard, whereas slightly less than 68% of Asian boys who were Not Poor met this standard. Readers are directed to Table 2.4 which contains the frequencies and percentages of Grade 3 STAAR Reading Performance of Asian boys by their economic status for the 2015-2016 and the 2016-2017 school years.

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Insert Table 2.4 about here

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With respect to the economic status of Asian boys in 2017-2018 and their performance on the Approaches Grade Level standard, the result was statistically significant,  $\chi^2(1) = 431.39, p < .001$ , Cramer's V of .37, moderate effect size (Cohen, 1988). Slightly less than 65% of Asian boys who were Poor met the Approaches Grade Level standard in comparison to approximately 98% of Asian boys who were Not Poor who met this standard. Concerning the Meets Grade Level performance level, a statistically significant difference was yielded,  $\chi^2(1) = 221.52, p < .001$ , Cramer's V of .27, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 33% of Asian boys who were Poor met this standard compared to over 82% of Asian boys who were Not Poor. Finally, for the Masters Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 107.05, p < .001$ , Cramer's V of .19, small effect size

(Cohen, 1988). Only 20% of Asian boys who were Poor met this standard, whereas almost 63% of Asian boys who were Not Poor met this standard.

Regarding the economic status of Asian boys in 2018-2019 and their performance on the Approaches Grade Level standard, a statistically significant difference was revealed,  $\chi^2(1) = 534.89, p < .001$ , Cramer's V of .40, moderate effect size (Cohen, 1988). Only 60% of Asian boys who were Poor met the Approaches Grade Level standard, compared to almost all, 98%, of Asian boys who were Not Poor who met this standard. With respect to the Meets Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 309.90, p < .001$ , Cramer's V of .30, moderate effect size (Cohen, 1988). At the Meets Grade Level standard, only 30% of Asian boys who were Poor met this standard compared to approximately 85% of Asian boys who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant difference was yielded,  $\chi^2(1) = 177.04, p < .001$ , Cramer's V of .23, small effect size (Cohen, 1988). Less than 20% of Asian boys who were Poor met this standard, whereas approximately 70% of Asian boys who were Not Poor met this standard. Revealed in Table 2.5 are the descriptive statistics for the analyses of the Grade 3 STAAR Reading Performance of Asian boys by economic status for the 2017-2018 and the 2018-2019 school years.

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Insert Table 2.5 about here  
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### **Grade Level Standard Results for Black Boys**

Regarding the economic status of Black boys in the 2015-2016 school year and their performance on the Approaches Grade Level standard, the result was statistically significant,  $\chi^2(1) = 468.86, p < .001$ , Cramer's V of .22, small effect size (Cohen, 1988). Less than half of Black boys who were Poor met the Approaches Grade Level standard, compared to approximately 78% of Black boys who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, a statistically significant difference was revealed,  $\chi^2(1) = 542.52, p < .001$ , Cramer's V of .24, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 20% of Black boys who were Poor met this standard in comparison to over 45% of Black boys who were Not Poor. Finally, for the Masters Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 406.61, p < .001$ , Cramer's V of .21, small effect size (Cohen, 1988). Less than 8% of Black boys who were Poor met this standard, whereas slightly less than 25% of Black boys who were Not Poor met this standard.

Concerning the economic status of Black boys in 2016-2017 and their performance on the Approaches Grade Level standard, a statistically significant difference was yielded,  $\chi^2(1) = 398.50, p < .001$ , Cramer's V of .19, small effect size (Cohen, 1988). Less than half of Black boys who were Poor met the Approaches Grade Level standard, compared to almost three-fourths of Black boys who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 515.31, p < .001$ , Cramer's V of .22, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 20% of Black boys who were Poor met this standard, compared to approximately 45% of Black boys who were

Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant difference was revealed,  $\chi^2(1) = 414.04$ ,  $p < .001$ , Cramer's V of .20, small effect size (Cohen, 1988). Less than 10% of Black boys who were Poor met this highest standard, whereas slightly less than 27% of Black boys who were Not Poor met this standard. Readers are directed to Table 2.6 for the frequencies and percentages of Grade 3 STAAR Reading Performance of Black boys by their economic status for the 2015-2016 and the 2016-2017 school years.

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 Insert Table 2.6 about here  
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Regarding the economic status of Black boys in 2017-2018 and their performance on the Approaches Grade Level standard, the result was statistically significant,  $\chi^2(1) = 331.47$ ,  $p < .001$ , Cramer's V of .20, small effect size (Cohen, 1988). More than half, 56%, of Black boys who were Poor met the Approaches Grade Level standard compared to over 83% of Black boys who were Not Poor who met this standard. With respect to the Meets Grade Level performance level, a statistically significant difference was yielded,  $\chi^2(1) = 423.61$ ,  $p < .001$ , Cramer's V of .23, small effect size (Cohen, 1988). At the Meets Grade Level standard, 21% of Black boys who were Poor met this standard compared to approximately 47% of Black boys who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant difference was revealed,  $\chi^2(1) = 317.75$ ,  $p < .001$ , Cramer's V of .20, small effect size (Cohen, 1988). Less than 9% of Black boys who were Poor met this standard, whereas approximately 26% of Black boys who were Not Poor met this standard.



With respect to the economic status of Black boys in 2018-2019 and their performance on the Approaches Grade Level standard, a statistically significant difference was yielded,  $\chi^2(1) = 302.76, p < .001$ , Cramer's V of .20, moderate effect size (Cohen, 1988). Slightly less than 56% of Black boys who were Poor met the Approaches Grade Level standard in comparison to approximately 82% of Black boys who were Not Poor who met this standard. Concerning the Meets Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 370.86, p < .001$ , Cramer's V of .20, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 23% of Black boys who were Poor met this standard compared to approximately 50% of Black boys who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant difference was revealed,  $\chi^2(1) = 307.71, p < .001$ , Cramer's V of .20, small effect size (Cohen, 1988). Only 11% of Black boys who were Poor met this standard, whereas almost 30% of Black boys who were Not Poor met this standard. Revealed in Table 2.7 are the descriptive statistics for these analyses for the 2017-2018 and the 2018-2019 school years.

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 Insert Table 2.7 about here  
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### **Grade Level Standard Results for Hispanic Boys**

Concerning the economic status of Hispanic boys in 2015-2016 and their performance on the Approaches Grade Level standard, a statistically significant difference was revealed,  $\chi^2(1) = 2159.60, p < .001$ , Cramer's V of .20, small effect size (Cohen, 1988). Less than 61% of Hispanic boys who were Poor met the Approaches

Grade Level standard, compared to approximately 86% of Hispanic boys who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 3003.65, p < .001$ , Cramer's V of .24, small effect size (Cohen, 1988). At the Meets Grade Level standard, only about 27% of Hispanic boys who were Poor met this standard in comparison to over 56% of Hispanic boys who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant difference was yielded,  $\chi^2(1) = 2333.85, p < .001$ , Cramer's V of .21, small effect size (Cohen, 1988). Less than 13% of Hispanic boys who were Poor met this highest standard, whereas 33% of Hispanic boys who were Not Poor met this standard.

Regarding the economic status of Hispanic boys in 2016-2017 and their performance on the Approaches Grade Level standard, a statistically significant difference was yielded,  $\chi^2(1) = 1930.53, p < .001$ , Cramer's V of .21, small effect size (Cohen, 1988). Approximately 59% of Hispanic boys who were Poor met the Approaches Grade Level standard, compared to approximately 85% of Hispanic boys who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 2513.11, p < .001$ , Cramer's V of .24, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 29% of Hispanic boys who were Poor met this standard compared to over 57% of Hispanic boys who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant difference was revealed,  $\chi^2(1) = 2120.53, p < .001$ , Cramer's V of .22, small effect size (Cohen, 1988). Less than 16% of Hispanic boys who were Poor met this standard, whereas less than 39% of Hispanic boys who were Not Poor

met this standard. Readers are directed to Table 2.8 which contains the frequencies and percentages of Grade 3 STAAR Reading Performance of Hispanic boys by their economic status for the 2015-2016 and the 2016-2017 school years.

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 Insert Table 2.8 about here  
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With respect to the economic status of Hispanic boys in 2017-2018 and their performance on the Approaches Grade Level standard, a statistically significant difference was revealed,  $\chi^2(1) = 1117.60, p < .001$ , Cramer's V of .18, small effect size (Cohen, 1988). Slightly less than 69% of Hispanic boys who were Poor met the Approaches Grade Level standard in comparison to approximately 90% of Hispanic boys who were Not Poor who met this standard. Concerning the Meets Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 1786.78, p < .001$ , Cramer's V of .23, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 30% of Hispanic boys who were Poor met this standard compared to over 58% of Hispanic boys who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant difference was yielded,  $\chi^2(1) = 1670.94, p < .001$ , Cramer's V of .22, small effect size (Cohen, 1988). Only 14% of Hispanic boys who were Poor met this standard, whereas almost 36% of Hispanic boys who were Not Poor met this standard.

Regarding the economic status of Hispanic boys in 2018-2019 and their performance on the Approaches Grade Level standard, a statistically significant difference was revealed,  $\chi^2(1) = 1252.60, p < .001$ , Cramer's V of .20, small effect size

(Cohen, 1988). Only 67% of Hispanic boys who were Poor met the Approaches Grade Level standard compared to almost 90% of Hispanic boys who were Not Poor who met this standard. With respect to the Meets Grade Level performance level, the result was statistically significant,  $\chi^2(1) = 1868.39, p < .001$ , Cramer's V of .24, small effect size (Cohen, 1988). At the Meets Grade Level standard, only 31% of Hispanic boys who were Poor met this standard compared to approximately 61% of Hispanic boys who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant difference was yielded,  $\chi^2(1) = 1670.29, p < .001$ , Cramer's V of .23, small effect size (Cohen, 1988). Less than 16% of Hispanic boys who were Poor met this standard, whereas approximately 40% of Hispanic boys who were Not Poor met this standard. Revealed in Table 2.9 are the descriptive statistics for the analyses of the Grade 3 STAAR Reading Performance of Hispanic boys by economic status for the 2018-2019 and the 2018-2019 school years.

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 Insert Table 2.9 about here  
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### **Results for the Reading Reporting Categories Analyses Over Time**

With regard to trends in the differences in the Reading Reporting Category scores between Asian boys who were Poor and Asian boys who were Not Poor from the 2015-2016 through the 2018-2019 school years, Asian boys who were Poor scored below Asian boys who were Not Poor at every measure. Asian boys who were Poor had statistically significantly lower average scores in each Reading Reporting Category. Concerning the Reading Reporting Category I scores, Asian boys who were Poor scored

an average of 29% lower than Asian boys who were Not Poor. With respect to the Reading Reporting Category II scores, Asian boys who were Poor scored an average of approximately 28% less than Asian boys who were Not Poor. Regarding the Reading Reporting Category III scores, Asian boys who were Poor earned an average of approximately 27% less than Asian boys who were Not Poor.

Concerning the trends in the differences in the Reading Reporting Category scores between Black boys who were Poor and Black boys who were Not Poor from the 2015-2016 through the 2018-2019 school years, Black boys who were Poor scored below Black boys who were Not Poor at every measure. Black boys who were Poor had statistically significantly lower average scores in each Reading Reporting Category. Concerning the Reading Reporting Category I scores, Black boys who were Poor scored an average of 15% lower than Black boys who were Not Poor. With respect to the Reading Reporting Category II scores, Black boys who were Poor scored an average of approximately 14% less than Black boys who were Not Poor. Regarding the Reading Reporting Category III scores, Black boys who were Poor earned an average of approximately 15% less than Black boys who were Not Poor.

With respect to trends in the differences in the Reading Reporting Category scores between Hispanic boys who were Poor and Hispanic boys who were Not Poor from the 2015-2016 through the 2018-2019 school years, Hispanic boys who were Poor scored below Hispanic boys who were Not Poor at every measure. Hispanic boys who were Poor had statistically significantly lower average scores in each Reading Reporting Category. Concerning the Reading Reporting Category I scores, Hispanic boys who were Poor scored an average of approximately 15% lower than Hispanic boys who were Not

Poor. With respect to the Reading Reporting Category II scores, Hispanic boys who were Poor scored an average of approximately 15% less than Hispanic boys who were Not Poor. Regarding the Reading Reporting Category III scores, Hispanic boys who were Poor earned an average of approximately 15% less than Hispanic boys who were Not Poor.

### **Results for the Grade Level Phase-In Standards Over Time**

Concerning trends in the differences in the Grade Level Phase-in Standards between Asian boys who were Poor and Asian boys who were Not Poor from the 2015-2016 through the 2018-2019 school years, Asian boys who were Poor scored below Asian boys who were Not Poor at every measure. Asian boys who were Poor had statistically significantly lower rates of achieving each grade level standard. Asian boys who were Poor met the Approaches Grade Level standard an average of 36% less than Asian boys who were Not Poor. Asian boys who were Poor met the Meets Grade Level standard an average of 52% less than Asian boys who were Not Poor. Asian boys who were Poor met the Masters Grade Level standard an average of 47% less than Asian boys who were Not Poor.

With respect to trends in the differences in the Grade Level Phase-in Standards between Black boys who were Poor and Black boys who were Not Poor from the 2015-2016 through the 2018-2019 school years, Black boys who were Poor scored below Black boys who were Not Poor at every measure. Black boys who were Poor had statistically significantly lower rates of achieving each grade level standard. Black boys who were Poor met the Approaches Grade Level standard an average of approximately 27% less than Black boys who were Not Poor. Black boys who were Poor met the Meets

Grade Level standard an average of approximately 26% less than Black boys who were Not Poor. Black boys who were Poor met the Masters Grade Level standard an average of approximately 18% less than Black boys who were Not Poor.

Concerning trends in the differences in the Grade Level Phase-in Standards between Hispanic boys who were Poor and Hispanic boys who were Not Poor from the 2015-2016 through the 2018-2019 school years, Hispanic boys who were Poor scored below Hispanic boys who were Not Poor at every measure. Hispanic boys who were Poor had statistically significantly lower rates of achieving each grade level standard. Hispanic boys who were Poor met the Approaches Grade Level standard an average of approximately 24% less than Hispanic boys who were Not Poor. Hispanic boys who were Poor met the Meets Grade Level standard an average of approximately 29% less than Hispanic boys who were Not Poor. Hispanic boys who were Poor met the Masters Grade Level standard an average of approximately 22% less than Hispanic boys who were Not Poor.

### **Discussion**

Analyzed in this investigation was the extent to which differences were present in the reading performance of Texas Grade 3 underrepresented boys by their economic status. Four years of statewide data on the three Grade 3 STAAR Reading Reporting Categories were examined for Poor and Not Poor Asian boys, Poor and Not Poor Black boys, and Poor and Not Poor Hispanic boys. Statistically significant results were present in all four school years. Following these statistical analyses, the Grade Level Phase-in Standards by the economic status of underrepresented boys were examined and yielded statistically significant results in all four school years.

In each of the three STAAR Reading Reporting Category results in all four years analyzed, underrepresented boys who were Poor had statistically significantly lower scores than underrepresented boys who were Not Poor. The differences were consistent regarding the gap between Asian boys who were Poor and Asian boys who were Not Poor. In each Reporting Category, the gap between the two student groups was over 27%. The Reporting Category with the lowest average score for all student groups was Reporting Category III.

Similarly, in each of the three Grade Level Phase-in Standards in all four years investigated, underrepresented boys who were Poor had statistically significantly lower achievement than underrepresented boys who were Not Poor. Effect sizes for the reading performance of Asian boys ranged from moderate to small each year at each Grade Level Phase-in Standard. Effect sizes for Black boys and Hispanic boys were small each year at each Grade Level Phase-in Standard.

### **Connections to Existing Literature**

Clearly established in this multiyear, statewide analysis are the effects of poverty on student reading achievement. In previous articles, researchers (Hamilton & Slate, 2019; Harris, 2018; McGown, 2016; Schleeter, 2017) have documented statistically significant differences between students from poverty backgrounds and students who were not from poverty backgrounds. Results were consistent across grade levels and ethnic/racial backgrounds.

Researchers (Gardner-Neblett & Iruka, 2015; Hernandez, 2011; Stinnett, 2014) have examined the link between poverty and low-level literacy skills. The lack of literacy opportunities for students from poverty backgrounds is well-documented and



contributes to lower literacy skills (Gardner-Neblett & Iruka, 2015; Hernandez, 2011; Stinnett, 2014). Literacy opportunities include exposure to varied vocabulary and syntax (Stinnett, 2014) and minimized time to learn due to frequent absences attributed to increased health or family problems (Hernandez, 2011).

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

Based on the analysis of four years of Texas statewide data, several implications for policy and for practice can be recommended. With respect to policy implications, legislators passed House Bill 3 (Texas Education Agency, 2019b) in 2019, creating funding for high-quality, full-day Pre-K for all eligible 4-year old children. The funding must be maintained beyond the current legislative session. Maintaining funding will allow researchers to conduct future studies and to determine the success rate of the program. Also included in House Bill 3 was a requirement for all elementary teachers to be trained on the science of reading (Texas Education Agency, 2019b). Continuing this requirement into future legislative sessions is necessary to ensure teachers are prepared to provide literacy instruction across all content areas.

Regarding implications for practice, underrepresented boys from poverty backgrounds require additional instruction to meet the rigorous standards assessed on the STAAR Reading test. Empowering teachers with additional knowledge, including being trained in the science of reading, to combat gaps in literacy development is necessary to ensure gaps do not grow in future school years. Furthermore, teachers should utilize resources designed to address the Texas standards. Curriculum leaders must review all adopted materials and check for alignment.

### **Recommendations for Future Research**

Given the results of this empirical multiyear investigation, several recommendations for future research can be made. First, this study was conducted on data on only Grade 3 underrepresented boys. The degree to which findings obtained herein would be generalizable to underrepresented boys in other grade levels is not known. Accordingly, researchers are encouraged to examine the reading achievement of underrepresented boys at middle schools and at high schools. Second, because only reading performance was addressed in this article, researchers should examine the degree to which economic status is related to other subjects such as mathematics, science, and social studies. Third, researchers should ascertain the extent to which results from this Texas statewide analysis would be generalizable to underrepresented boys in other states. The extent to which the results of this investigation can be generalized to other states is unknown. Fourth, researchers are encouraged to examine the reading achievement of underrepresented girls, because only data on underrepresented boys were examined in this study. Finally, researchers are encouraged to conduct longitudinal studies in which they follow the progress of students over the course of their public-school careers. The results would allow researchers to analyze how economic status affects underrepresented boys over time.

### **Conclusion**

The purpose of this research investigation was to determine the degree to which differences were present in the reading performance of Texas Grade 3 underrepresented boys as a function of their economic status. Inferential statistical procedures revealed the presence of statistically significant differences in the reading achievement of Asian boys,

Black boys, and Hispanic boys by their economic status. By every measure, Asian boys who were Poor achieved at a lower rate than Asian boys who were Not Poor, Black boys who were Poor were less successful than Black boys who were Not Poor, and Hispanic boys who were Poor achieved at a lower rate than Hispanic boys who were Not Poor. As such, poverty was clearly established as a detrimental influence on student reading performance.

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Table 2.1

*Descriptive Statistics for the STAAR Grade 3 Reading Reporting Category Scores by the Economic Status of Asian Boys for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 School Years*

Reporting Category and Year	<i>n</i>	<i>M%</i>	<i>SD%</i>
Reporting Category I: 2015-2016			
Not Poor	2,777	87.00	18.59
Poor	298	52.68	30.16
Reporting Category I: 2016-2017			
Not Poor	3,031	92.48	15.37
Poor	261	66.13	31.66
Reporting Category I: 2017-2018			
Not Poor	2,927	93.14	13.93
Poor	152	68.95	32.45
Reporting Category I: 2018-2019			
Not Poor	3,215	90.00	16.26
Poor	156	58.72	32.34
Reporting Category II: 2015-2016			
Not Poor	2,777	83.03	16.39
Poor	298	53.80	27.87
Reporting Category II: 2016-2017			
Not Poor	3,031	82.40	16.70
Poor	261	54.66	27.70
Reporting Category II: 2017-2018			
Not Poor	2,927	82.91	15.31
Poor	152	56.40	28.39
Reporting Category II: 2018-2019			
Not Poor	3,215	88.88	13.27
Poor	156	62.18	26.40
Reporting Category III: 2015-2016			
Not Poor	2,777	81.31	17.61
Poor	298	51.89	26.81
Reporting Category III: 2016-2017			
Not Poor	3,031	85.12	16.44
Poor	261	59.25	28.67
Reporting Category III: 2017-2018			
Not Poor	2,927	82.75	15.73
Poor	152	57.19	29.24
Reporting Category III: 2018-2019			
Not Poor	3,215	81.46	16.82
Poor	156	52.56	26.19



Table 2.2

*Descriptive Statistics for the STAAR Grade 3 Reading Reporting Category Scores by the Economic Status of Black Boys for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 School Years*

Reporting Category and Year	<i>n</i>	<i>M%</i>	<i>SD%</i>
Reporting Category I: 2015-2016			
Not Poor	1,689	71.59	26.44
Poor	7,796	55.75	28.03
Reporting Category I: 2016-2017			
Not Poor	1,966	74.79	26.95
Poor	8,689	59.07	29.81
Reporting Category I: 2017-2018			
Not Poor	1,314	82.42	22.94
Poor	6,690	67.52	27.45
Reporting Category I: 2018-2019			
Not Poor	1,209	75.90	25.99
Poor	6,135	61.49	29.05
Reporting Category II: 2015-2016			
Not Poor	1,689	68.24	22.02
Poor	7,796	53.70	22.65
Reporting Category II: 2016-2017			
Not Poor	1,966	63.78	25.00
Poor	8,689	50.49	24.92
Reporting Category II: 2017-2018			
Not Poor	1,314	68.42	21.28
Poor	6,690	54.03	22.51
Reporting Category II: 2018-2019			
Not Poor	1,209	75.80	21.77
Poor	6,135	60.64	24.20
Reporting Category III: 2015-2016			
Not Poor	1,689	63.70	23.48
Poor	7,796	47.67	23.28
Reporting Category III: 2016-2017			
Not Poor	1,966	63.34	25.46
Poor	8,689	48.81	24.22
Reporting Category III: 2017-2018			
Not Poor	1,314	66.59	22.26
Poor	6,690	51.96	23.31
Reporting Category III: 2018-2019			
Not Poor	1,209	61.41	23.23
Poor	6,135	47.54	22.25

Table 2.3

*Descriptive Statistics for the STAAR Grade 3 Reading Reporting Category Scores by the Economic Status of Hispanic Boys for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 School Years*

Reporting Category and Year	<i>n</i>	<i>M%</i>	<i>SD%</i>
Reporting Category I: 2015-2016			
Not Poor	9,111	75.77	24.04
Poor	42,580	60.60	26.92
Reporting Category I: 2016-2017			
Not Poor	8,059	81.68	23.51
Poor	36,461	67.46	28.12
Reporting Category I: 2017-2018			
Not Poor	6,041	86.02	20.65
Poor	28,364	72.40	25.59
Reporting Category I: 2018-2019			
Not Poor	5,990	80.47	23.08
Poor	25,199	64.88	27.40
Reporting Category II: 2015-2016			
Not Poor	9,111	73.61	19.50
Poor	42,580	58.32	22.32
Reporting Category II: 2016-2017			
Not Poor	8,059	71.28	22.02
Poor	36,461	55.02	24.36
Reporting Category II: 2017-2018			
Not Poor	6,041	72.37	20.24
Poor	28,364	59.12	21.86
Reporting Category II: 2018-2019			
Not Poor	5,990	79.75	18.75
Poor	25,199	65.09	22.71
Reporting Category III: 2015-2016			
Not Poor	9,111	69.91	21.31
Poor	42,580	55.52	22.96
Reporting Category III: 2016-2017			
Not Poor	8,059	71.90	22.46
Poor	36,461	56.58	24.57
Reporting Category III: 2017-2018			
Not Poor	6,041	72.25	20.83
Poor	28,364	57.67	22.59
Reporting Category III: 2018-2019			
Not Poor	5,990	69.17	21.56
Poor	25,199	54.26	22.88

Table 2.4

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Asian Boys by Their Economic Status for the 2015-2016 and the 2016-2017 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2015-2016 Approaches Grade Level		
Not Poor	( <i>n</i> = 142) 5.1%	( <i>n</i> = 2,635) 94.9%
Poor	( <i>n</i> = 133) 44.6%	( <i>n</i> = 165) 55.4%
2015-2016 Meets Grade Level		
Not Poor	( <i>n</i> = 511) 18.4%	( <i>n</i> = 2,266) 81.6%
Poor	( <i>n</i> = 222) 74.5%	( <i>n</i> = 76) 25.5%
2015-2016 Masters Grade Level		
Not Poor	( <i>n</i> = 1,061) 38.2%	( <i>n</i> = 1,716) 61.8%
Poor	( <i>n</i> = 259) 86.9%	( <i>n</i> = 39) 13.1%
2016-2017 Approaches Grade Level		
Not Poor	( <i>n</i> = 114) 3.8%	( <i>n</i> = 2,917) 96.2%
Poor	( <i>n</i> = 100) 38.3%	( <i>n</i> = 161) 61.7%
2016-2017 Meets Grade Level		
Not Poor	( <i>n</i> = 501) 16.5%	( <i>n</i> = 2,530) 83.5%
Poor	( <i>n</i> = 169) 64.8%	( <i>n</i> = 92) 35.2%
2016-2017 Masters Grade Level		
Not Poor	( <i>n</i> = 976) 32.2%	( <i>n</i> = 2,055) 67.8%
Poor	( <i>n</i> = 207) 79.3%	( <i>n</i> = 54) 20.7%

Table 2.5

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Asian Boys by Their Economic Status for the 2017-2018 and the 2018-2019 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2017-2018 Approaches Grade Level		
Not Poor	( <i>n</i> = 65) 2.2%	( <i>n</i> = 2,862) 97.8%
Poor	( <i>n</i> = 54) 35.5%	( <i>n</i> = 98) 64.5%
2017-2018 Meets Grade Level		
Not Poor	( <i>n</i> = 524) 17.9%	( <i>n</i> = 2,403) 82.1%
Poor	( <i>n</i> = 103) 67.8%	( <i>n</i> = 49) 32.2%
2017-2018 Masters Grade Level		
Not Poor	( <i>n</i> = 1,098) 37.5%	( <i>n</i> = 1,829) 62.5%
Poor	( <i>n</i> = 121) 79.6%	( <i>n</i> = 31) 20.4%
2018-2019 Approaches Grade Level		
Not Poor	( <i>n</i> = 78) 2.4%	( <i>n</i> = 3,137) 97.6%
Poor	( <i>n</i> = 63) 40.4%	( <i>n</i> = 93) 59.6%
2018-2019 Meets Grade Level		
Not Poor	( <i>n</i> = 491) 15.3%	( <i>n</i> = 2,724) 84.7%
Poor	( <i>n</i> = 110) 70.5%	( <i>n</i> = 46) 29.5%
2018-2019 Masters Grade Level		
Not Poor	( <i>n</i> = 973) 30.3%	( <i>n</i> = 2,242) 69.7%
Poor	( <i>n</i> = 127) 81.4%	( <i>n</i> = 29) 18.6%

Table 2.6

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Black Boys by Their Economic Status for the 2015-2016 and the 2016-2017 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2015-2016 Approaches Grade Level		
Not Poor	( <i>n</i> = 375) 22.2%	( <i>n</i> = 1,314) 77.8%
Poor	( <i>n</i> = 3,989) 51.2%	( <i>n</i> = 3,807) 48.8%
2015-2016 Meets Grade Level		
Not Poor	( <i>n</i> = 926) 54.8%	( <i>n</i> = 763) 45.2%
Poor	( <i>n</i> = 6,338) 81.3%	( <i>n</i> = 1,458) 18.7%
2015-2016 Masters Grade Level		
Not Poor	( <i>n</i> = 1,271) 75.3%	( <i>n</i> = 418) 24.7%
Poor	( <i>n</i> = 7,181) 92.1%	( <i>n</i> = 615) 7.9%
2016-2017 Approaches Grade Level		
Not Poor	( <i>n</i> = 545) 27.7%	( <i>n</i> = 1,421) 72.3%
Poor	( <i>n</i> = 4,573) 52.6%	( <i>n</i> = 4,116) 47.4%
2016-2017 Meets Grade Level		
Not Poor	( <i>n</i> = 1,102) 56.1%	( <i>n</i> = 864) 43.9%
Poor	( <i>n</i> = 6,979) 80.3%	( <i>n</i> = 1,710) 19.7%
2016-2017 Masters Grade Level		
Not Poor	( <i>n</i> = 1,444) 73.4%	( <i>n</i> = 522) 26.6%
Poor	( <i>n</i> = 7,854) 90.43%	( <i>n</i> = 835) 9.6%

Table 2.7

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Black Boys by Their Economic Status for the 2017-2018 and the 2018-2019 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2018-2019 Approaches Grade Level		
Not Poor	( <i>n</i> = 220) 16.7%	( <i>n</i> = 1,094) 83.3%
Poor	( <i>n</i> = 2,914) 43.6%	( <i>n</i> = 3,776) 56.4%
2018-2019 Meets Grade Level		
Not Poor	( <i>n</i> = 691) 52.6%	( <i>n</i> = 623) 47.4%
Poor	( <i>n</i> = 5,316) 79.5%	( <i>n</i> = 1,374) 20.5%
2018-2019 Masters Grade Level		
Not Poor	( <i>n</i> = 970) 73.8%	( <i>n</i> = 344) 26.2%
Poor	( <i>n</i> = 6,096) 91.1%	( <i>n</i> = 594) 8.9%
2018-2019 Approaches Grade Level		
Not Poor	( <i>n</i> = 215) 17.8%	( <i>n</i> = 994) 82.2%
Poor	( <i>n</i> = 2,738) 44.6%	( <i>n</i> = 3,397) 55.4%
2018-2019 Meets Grade Level		
Not Poor	( <i>n</i> = 615) 50.9%	( <i>n</i> = 594) 49.1%
Poor	( <i>n</i> = 4,766) 77.7%	( <i>n</i> = 1,369) 22.3%
2018-2019 Masters Grade Level		
Not Poor	( <i>n</i> = 850) 70.3%	( <i>n</i> = 359) 29.7%
Poor	( <i>n</i> = 5,481) 89.3%	( <i>n</i> = 654) 10.7%

Table 2.8

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Hispanic Boys by Their Economic Status for the 2015-2016 and the 2016-2017 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2015-2016 Approaches Grade Level		
Not Poor	( <i>n</i> = 1,282) 14.1%	( <i>n</i> = 7,829) 85.9%
Poor	( <i>n</i> = 16,898) 39.7%	( <i>n</i> = 25,682) 60.3%
2015-2016 Meets Grade Level		
Not Poor	( <i>n</i> = 3,975) 43.6%	( <i>n</i> = 5,136) 56.4%
Poor	( <i>n</i> = 31,148) 73.2%	( <i>n</i> = 11,432) 26.8%
2015-2016 Masters Grade Level		
Not Poor	( <i>n</i> = 6,104) 67.0%	( <i>n</i> = 3,007) 33.0%
Poor	( <i>n</i> = 37,257) 87.5%	( <i>n</i> = 5,323) 12.5%
2016-2017 Approaches Grade Level		
Not Poor	( <i>n</i> = 1,231) 15.3%	( <i>n</i> = 6,828) 84.7%
Poor	( <i>n</i> = 15,069) 41.3%	( <i>n</i> = 21,392) 58.7%
2016-2017 Meets Grade Level		
Not Poor	( <i>n</i> = 3,417) 42.4%	( <i>n</i> = 4,642) 57.6%
Poor	( <i>n</i> = 26,095) 71.6%	( <i>n</i> = 10,366) 28.4%
2016-2017 Masters Grade Level		
Not Poor	( <i>n</i> = 4,985) 61.9%	( <i>n</i> = 3,074) 38.1%
Poor	( <i>n</i> = 30,771) 84.4%	( <i>n</i> = 5,690) 15.6%

Table 2.9

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Hispanic Boys by Their Economic Status for the 2017-2018 and the 2018-2019 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2017-2018 Approaches Grade Level		
Not Poor	( <i>n</i> = 630) 10.4%	( <i>n</i> = 5,411) 89.6%
Poor	( <i>n</i> = 8,988) 31.7%	( <i>n</i> = 19,376) 68.3%
2017-2018 Meets Grade Level		
Not Poor	( <i>n</i> = 2,531) 41.9%	( <i>n</i> = 3,510) 58.1%
Poor	( <i>n</i> = 19,966) 70.4%	( <i>n</i> = 8,398) 29.6%
2017-2018 Masters Grade Level		
Not Poor	( <i>n</i> = 3,882) 64.3%	( <i>n</i> = 2,159) 35.7%
Poor	( <i>n</i> = 24,479) 86.3%	( <i>n</i> = 3,885) 13.7%
2018-2019 Approaches Grade Level		
Not Poor	( <i>n</i> = 603) 10.1%	( <i>n</i> = 5,387) 89.9%
Poor	( <i>n</i> = 8,333) 33.1%	( <i>n</i> = 16,866) 66.9%
2018-2019 Meets Grade Level		
Not Poor	( <i>n</i> = 2,354) 39.3%	( <i>n</i> = 3,636) 60.7%
Poor	( <i>n</i> = 17,442) 69.2%	( <i>n</i> = 7,757) 30.8%
2018-2019 Masters Grade Level		
Not Poor	( <i>n</i> = 3,623) 60.5%	( <i>n</i> = 2,367) 39.5%
Poor	( <i>n</i> = 21,206) 84.2%	( <i>n</i> = 3,993) 15.8%



### CHAPTER III

## DIFFERENCES IN READING PERFORMANCE BY THE ECONOMIC STATUS OF TEXAS GRADE 3 UNDERREPRESENTED GIRLS: 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., Poor and Not Poor) of Texas Grade 3 underrepresented girls (i.e., Asian, Black, and Hispanic) was related to their reading performance was addressed. Archival data from the Texas Education Agency Public Education Information Management System were analyzed for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years on the State of Texas Assessment of Academic Readiness test for Grade 3 students. Specifically examined was the relationship of poverty to the three State of Texas Assessment of Academic Readiness (STAAR) Reading Reporting Categories as well as the relationship of poverty to the STAAR Grade Level Phase-in Standards. In all cases, reading achievement was lowest for underrepresented girls who were Poor. Statistically significant differences were present between Asian girls, Black girls, and Hispanic girls who were Poor and their counterparts who were Not Poor in every STAAR Reading Reporting Category and every Grade Level Phase-in Standard. Implications for policy and practice, as well as recommendations for future research, are provided.

*Keywords:* Poverty, Girls, Texas, Grade 3, Asian, Black, Hispanic, Reading, Literacy, STAAR Reading Assessment

## DIFFERENCES IN READING PERFORMANCE BY THE ECONOMIC STATUS OF TEXAS GRADE 3 UNDERREPRESENTED GIRLS: A MULTIYEAR, STATEWIDE INVESTIGATION

Literacy necessitates the ability to analyze, synthesize, and evaluate information (Goldman, 2012). Millions of children in the United States; however, complete Grade 3 without learning to read proficiently, resulting in an increased likelihood of dropping out of high school (Annie E. Casey Foundation, 2010). The rate of students who do not graduate from high school is four times greater for Grade 3 students who are not proficient readers than for Grade 3 students who are proficient readers (Hernandez, 2011). With respect to Black and Hispanic students living in poverty who are not proficient readers in Grade 3, the high school graduation rate is eight times lower than proficient readers (Hernandez, 2011).

Financial inequality is growing in the United States, and as a result, the inequality in academic achievement of children living in poverty is increasing (David & Marchant, 2015; Paschall, Gershoff, & Kuhfeld, 2018). Inequality is evident in reviewing the prenatal care accessed by the mother. Access to health care influences the health of the baby before and during pregnancy (Center for Public Policy Priorities, 2018). Poverty has substantial effects on birth weight, chronic illness, and infant mortality, leading to lifelong difficulties (Council on Community Pediatrics, 2016). In the State of Texas, many children lack the health care and nutrition they need (Center for Public Policy Priorities, 2018).

Problems arise because students living in poverty experience greater levels of violence and family disruption than their peers who are not poor (Evans, 2004; Ravitch,

2014). These disruptions prevent students who are poor from obtaining the most basic needs. Furthermore, the parental support of students living in poverty is minimal and discipline responses are more authoritarian (Carter & Welner, 2013; Evans, 2004). Students who are economically disadvantaged are more likely to attend a school deemed to be inadequate (Ravitch, 2014) and arrive at school less prepared than their peers who were not economically disadvantaged (Ansari et al., 2017).

The influence of poverty is of great concern because of the high percentage of students in the State of Texas who are poor. As of the 2001-2002 school year, the population of Texas students who were economically disadvantaged was over 50% (Texas Education Agency, 2003). In 2018-2019, the percentage of students in the State of Texas living in poverty increased to almost 61% of the population (Texas Education Agency, 2019a). The number of students living in poverty increased by almost 1.2 million students between the 2001-2002 and 2018-2019 school years (Texas Education Agency 2003; Texas Education Agency, 2019a).

For the purposes of this study, students were considered Poor or Not Poor. Students who were Not Poor did not qualify for free or reduced lunch. Students whose family income is 131% to 185% of the federal poverty line (Burney & Beilke, 2008) are eligible for the reduced lunch program. During the 2015-2016 school year through the 2018-2019 school year, the percentages of students who qualified for the reduced lunch program ranged from just under 4.5% to 6% (Texas Education Agency, 2019b) or a range of 243,000-317,000 students (Texas Education Agency, 2019b). Students who were eligible for the free lunch program have a family income of 130% or less of the federal poverty line (Burney & Beilke, 2008). For the same four school years (i.e., 2015-2016

through 2018-2019), the percentage of students who qualified for the free lunch program ranged from slightly under 42% of students to slightly under 44% of students (Texas Education Agency, 2019a), equaling approximately 2,270,000-2,380,000 students (Texas Education Agency, 2019a).

In addition to analyzing academic performance by poverty level, reviewing performance by gender is important. Many researchers (e.g., Mechtenberg, 2009; Moss, 2011; Tepper, 2000) have conducted studies on the reading abilities of girls. Fewer girls than boys are low achieving in reading (Mechtenberg, 2009). Girls tend to develop social and behavioral skills quickly, which results in high academic achievement between Kindergarten and Grade 5 (DiPrete & Jennings, 2012). Additionally, teachers are more likely to encourage girls in their reading abilities (DiPrete & Jennings, 2012). This teacher bias influences literacy achievement.

In the State of Texas, girls make up 48.7% of the student population (Texas Education Agency, 2019b). Although fewer girls than boys are enrolled in Texas public schools, over the last 10 years, the population of girls has increased more rapidly than the rate of boys (Texas Education Agency, 2019b), increasing the importance of inquiries regarding their academic performance. Differences in reading between girls and boys have been well documented (Harris, 2018; McGown, 2016; Schleeter, 2017). However, published analyses of academic performance in literacy by only girls within an ethnic/racial group are limited, and analyses of the performance of girls with consideration to the variable of economic status is even more limited. As such, reading data on only Asian, Black, and Hispanic girls were examined in this multiyear, statewide investigation.

In addition to research regarding reading achievement by gender, the variable of performance by ethnic/racial background is of importance and available in the literature. In one study, McGown (2016) analyzed the reading achievement of Grade 3 Asian, Black, and Hispanic students as assessed by the State of Texas Assessments of Academic Readiness (STAAR) test for the 2012-2013 through the 2014-2015 school years. Statistically significant results were present, with Asian students performing better than all other ethnic/racial groups on all three STAAR Reading Reporting Categories and on the Level II STAAR Reading Phase-In standard (McGown, 2016), now referred to as Approaches Grade Level (Texas Education Agency, 2017). The Level II standard was the only Phase-In standard on which analyses were conducted in this study. Black students had the poorest reading performance on all STAAR Reading measures (McGown, 2016). However, in this study, McGown (2016) did not include the variable of economic status or gender, necessitating further research within each ethnic/racial group.

In a related study relating to Grade 3 students who were English Language Learners, Schleeter (2017) determined that Asian Language Learners performed well when compared to Hispanic Language Learners and Black Language Learners on the Grade 3 STAAR Reading test. These results were consistent across each Reading Reporting Category and all three Phase-In standards (i.e., Approaches Grade Level, Meets Grade Level, and Masters Grade Level) for the 2012-2013 through the 2014-2015 school years (Schleeter, 2017). Economic status was not included in the statistical analyses, again necessitating additional studies within ethnic/racial and gender groups with this consideration.

The academic performance of Texas Grade 4 students on the STAAR Reading test was analyzed in a third related study. Harris (2018) documented a “stair-step effect” (Carpenter, Ramirez, & Severn, 2006, p. 117) in that Asian students had statistically higher reading performance than Hispanic students and Hispanic students performed better than Black students. These results were statistically significant and consistent in all three STAAR Reading Reporting Categories for the 2012-2013 through 2014-2015 school years (Harris, 2018). Because economic status was not a variable included in this study, and data for girls were not analyzed separately, additional information is needed to understand the reading achievement of underrepresented students in Texas.

Moreover, poverty status within ethnic/racial groups is an important variable to consider when predicting academic achievement. In an investigation concerning the reading achievement of Grade 3 Black and Hispanic students who were economically disadvantaged, statistically significant findings were present (Hamilton & Slate, 2019). Hispanic students who were poor were outperformed by Hispanic students who were not poor at the Approaches Grade Level, Meets Grade Level, and Masters Grade Level Phase-In standards (Hamilton & Slate, 2019). Similarly, Black students who were poor were also outperformed by Black students who were not poor at each of the Phase-In standards (Hamilton & Slate, 2019). Continued analysis regarding the academic performance of students in poverty is necessary, as long as the gap between Poor and Not Poor students remains.

### **Statement of the Problem**

Reading and literacy encompass multiple skills, including (a) phonemic awareness, (b) phonics, (c) vocabulary, (d) fluency, and (e) comprehension (Annie E.

Casey Foundation 2010). In the State of Texas, reading achievement is assessed by the state-mandated STAAR test. The test is administered for the first time to Grade 3 students, providing the initial determination of the reading and literacy skills students have obtained. For the 2015-2016 through the 2018-2019 school years, Black, Hispanic, and Asian students accounted for approximately 70% of all Grade 3 students in the state of Texas (Texas Education Agency, 2019a). In Texas, gender is not one of the monitored subgroups in student academic achievement data, but continued analyses of gender-based data are necessary to ensure achievement levels are maintained or improved.

The majority of students in Texas come from a background of poverty (Texas Education Agency, 2019a). Additionally, the percentage of students qualifying for free or reduced lunch is growing yearly and at a higher rate than the United States as a whole (Texas Education Agency, 2019a). The population of Texas is increasing. The enrollment of Black, Hispanic, and Asian students is increasing each year, as well as the percent within each ethnic/racial group who are economically disadvantaged (Texas Education Agency, 2019a). Furthermore, the population of girls has increased over the last 10 years (Texas Education Agency, 2019a).

### **Purpose of the Study**

The purpose of this study was to examine the degree to which the economic status (i.e., Poor, Not Poor) of Grade 3 Asian, Black, and Hispanic girls in Texas schools is related to their reading achievement. Specifically examined was the relationship of poverty to the three STAAR Reading Reporting Categories and the STAAR Reading Phase-in standards first separately for the 2015-2016 school year through the 2018-2019



school year and then across the four school years to determine the extent to which trends were present.

### **Significance of the Study**

Studies regarding the combination of the demographic characteristics of economic status and reading achievement within ethnic/racial groups are limited. To date, no researchers have conducted a within-group comparison examining the relationship between economic status and the reading achievement of Black, Hispanic, and Asian girls as measured by the Texas state-mandated STAAR assessment. In analyzing the reading performance of Asian girls, Black girls, and Hispanic girls by their economic status, additional information can be provided to stakeholders. Worldwide, the current economy requires strong reading skills (Annie E. Casey Foundation, 2010), indicating that all educators could benefit from this study.

### **Research Questions**

The following overarching research question were addressed in this investigation: What is the difference in reading performance by the economic status (i.e., Poor, Not Poor) of Texas Grade 3 girls of color (i.e., Asian, Black, and Hispanic)? Specific subquestions under this overarching research question were: (a) What is the difference in Reading Reporting Category One by the economic status of Texas Grade 3 underrepresented girls?; (b) What is the difference in Reading Reporting Category Two by the economic status of Texas Grade 3 underrepresented girls?; (c) What is the difference in Reading Reporting Category Three performance by the economic status of Texas Grade 3 underrepresented girls?; (d) What is the difference in the Approaches Grade Level performance by the economic status of Texas Grade 3 underrepresented

girls?; (e) What is the difference in the Meets Grade Level performance by the economic status of Texas Grade 3 underrepresented girls?; (f) What is the difference in the Masters Grade Level performance by the economic status of Texas Grade 3 underrepresented girls?; (g) To what extent is a trend present in the three Reading Reporting Categories performance by the economic status of Texas Grade 3 underrepresented girls for the 2015-2016 through the 2018-2019 school years?; and (h) To what extent is a trend present in the Approaches Grade Level, Meets Grade Level, and Masters Grade Level performance by the economic status of Texas Grade 3 underrepresented girls for the 2015-2016 through the 2018-2019 school years? The first six research questions were repeated separately for Asian, Black, and Hispanic girls for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years whereas the two trend questions involved all four school years. Thus, 34 research questions were present in this investigation.

## **Method**

### **Research Design**

In conducting an analysis of archival data, an ex post facto research design was present (Creswell & Creswell, 2018; Johnson & Christensen, 2020). Causal-comparative research is used by researchers to find relationships between independent and dependent variables after the individual variables have already occurred (Johnson & Christensen, 2020). When conducting causal-comparative research with a pre-existing dataset, extraneous variables cannot be controlled (Johnson & Christensen, 2020). The independent variable in this study was level of poverty (i.e., Poor, Not Poor) and the dependent variables were the three reporting categories (i.e., Reporting Category I, Reporting Category II, Reporting Category III) and the three Phase-in Standards (i.e.,

Approaches Grade Level, Meets Grade Level, Masters Grade Level) from the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 STAAR assessments. Regarding the three reporting categories, as each reporting category contains a different number of questions, data were converted from raw scores to percentages to compare differences between scores.

### **Participants and Instrumentation**

Archival data were obtained from the Texas Education Agency Public Education Information Management System for the 2015-2016 through the 2018-2019 school years for Grade 3 students who took the STAAR Reading assessment, as well as their student demographic characteristics. To obtain the data, a Public Information Request was submitted to the Texas Education Agency.

Three reporting categories are assessed by the STAAR Reading test at three Phase-in standard levels. Assessed in Reporting Category I is reading and vocabulary development across genres of a variety of texts (Texas Education Agency, 2011). The Grade 3 STAAR Reporting Category II assesses students' abilities to understand and analyze literary texts, including fiction, literary nonfiction, poetry, and media literacy (Texas Education Agency, 2011). Measured in the Grade 3 STAAR Reading Reporting Category Three is students' abilities to understand and analyze informational texts, including expository, procedural, and media literacy (Texas Education Agency, 2011).

The Phase-In standards attempt to predict the level of success attainable, and the amount of academic intervention potentially required, in the following school year (Texas Education Agency, 2017). Did Not Meet Grade level on the STAAR demonstrates future success is unlikely without substantial and consistent academic intervention. Students at

this level do not exhibit an understanding of the knowledge and skills assessed (Texas Education Agency, 2017). Approaches Grade Level on the STAAR indicates targeted academic intervention will be required in the following school year for a student to be successful. Students achieving at this level do not typically exhibit an understanding of the knowledge and skills assessed (Texas Education Agency, 2017). Meets Grade level on the STAAR indicates the students will most likely be successful in the following school year but may need short-term academic intervention. In this category, students demonstrate the ability to apply the knowledge and skills assessed in familiar contexts. Additionally, a general ability to think critically is evident (Texas Education Agency, 2017). Finally, Masters Grade Level on the STAAR indicates the students will be successful in the following school year with little or no intervention. At the Masters Grade Level, students show the ability to think critically, apply knowledge and skills in familiar contexts, and utilize knowledge and skill in unfamiliar contexts (Texas Education Agency, 2017).

For the purpose of this article, economic status included the categories of Poor and Not Poor. Girls not eligible for free or reduced lunch were referred to as Not Poor. Girls who were eligible for the reduced lunch program, indicating a family income of 131% to 185% of the federal poverty line (Burney & Beilke, 2008), and girls who were eligible for the free lunch program, which indicates a family income of 130% or less of the federal poverty line (Burney & Beilke, 2008), were referred to as Poor. Due to the small percentages of girls qualifying for the reduced lunch program, all girls qualifying for either free or reduced lunch programs were considered Poor. For the purposes of this study, underrepresented girls referred to Asian, Black, and Hispanic girls.

## **Results**

Prior to conducting multivariate analysis of variance (MANOVA) procedures, its underlying assumptions were checked. Though the majority of these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use in this study (Field, 2009). Results of statistical analyses will be described by racial/ethnic group by Reading Reporting Category followed by Phase-in Standard. The results in this study will be discussed in chronological order by year and then for Asian girls, Black girls, and Hispanic girls.

### **Reading Reporting Category Results for Asian Girls**

Regarding 2015-2016, the MANOVA revealed a statistically significant difference, Wilks'  $\Lambda = .78, p < .001$ , partial  $\eta^2 = .22$ , in overall reading performance as a function of the economic status of Asian girls. The effect size for this statistically significant difference was large (Cohen, 1988). With respect to 2016-2017, the MANOVA revealed a statistically significant difference, Wilks'  $\Lambda = .77, p < .001$ , partial  $\eta^2 = .23$ , large effect size (Cohen, 1988). Concerning 2017-2018, a statistically significant difference was yielded, Wilks'  $\Lambda = .88, p < .001$ , partial  $\eta^2 = .12$ , moderate effect size (Cohen, 1988). Regarding 2018-2019, a statistically significant difference was yielded, Wilks'  $\Lambda = .89, p < .001$ , partial  $\eta^2 = .11$ , moderate effect size (Cohen, 1988). For Asian girls, effect sizes were large for 2015-2016 and 2016-2017 and moderate in 2017-2018 and 2018-2019.

Following the overall results of the MANOVA, univariate follow-up Analysis of Variance (ANOVA) procedures were conducted for all four school years. A statistically significant difference was yielded between Asian girls who were Poor and Asian girls

who were Not Poor in their Reading Reporting Category I performance in 2015-2016,  $F(1, 3116) = 721.16, p < .001$ , partial  $\eta^2 = .19$ , large effect size; in 2016-2017,  $F(1, 3195) = 799.15, p < .001$ , partial  $\eta^2 = .20$ , large effect size; in 2017-2018,  $F(1, 3049) = 296.92, p < .001$ , partial  $\eta^2 = .09$ , moderate effect size; and in 2018-2019,  $F(1, 3350) = 295.38, p < .001$ , partial  $\eta^2 = .08$ , moderate effect size. Concerning the Grade 3 STAAR Reading Reporting Category I scores, Asian girls who were Poor had an average score approximately 32% lower than the average score for Asian girls who were Not Poor in 2015-2016; 32% lower than the average score for Asian girls who were Not Poor in 2017-2018; 21% lower than the average score for Asian girls who were Not Poor in 2017-2018; and 23% lower than the average score for Asian girls who were Not Poor in 2018-2019.

A statistically significant difference was yielded between Asian girls who were Poor and Asian girls who were Not Poor in their Reading Reporting Category II performance in 2015-2016,  $F(1, 3116) = 711.23, p < .001$ , partial  $\eta^2 = .19$ , large effect size; in 2016-2017,  $F(1, 3195) = 723.26, p < .001$ , partial  $\eta^2 = .19$ , large effect size; in 2017-2018,  $F(1, 3049) = 294.93, p < .001$ , partial  $\eta^2 = .09$ , moderate effect size; and in 2018-2019,  $F(1, 3350) = 314.66, p < .001$ , partial  $\eta^2 = .09$ , moderate effect size. Concerning the Grade 3 STAAR Reading Reporting Category II scores, Asian girls who were Poor had an average score approximately 26% lower than the average score for Asian girls who were Not Poor in 2015-2016; 31% lower than the average score for Asian girls who were Not Poor in 2016-2017; 22% lower than the average score for Asian girls who were Not Poor in 2017-2018; and 19% lower than the average score for Asian girls who were not Poor in 2018-2019.

A statistically significant difference was yielded between Asian girls who were Poor and Asian girls who were Not Poor in their Reading Reporting Category III performance in 2015-2016,  $F(1, 3116) = 670.89, p < .001$ , partial  $\eta^2 = .18$ , large effect size; in 2016-2017,  $F(1, 3195) = 716.90, p < .001$ , partial  $\eta^2 = .18$ , large effect size; in 2017-2018,  $F(1, 3049) = 323.82, p < .001$ , partial  $\eta^2 = .10$ , moderate effect size; and in 2018-2019,  $F(1, 3350) = 255.54, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size. Concerning the Grade 3 STAAR Reading Reporting Category III scores, Asian girls who were Poor had an average score approximately 28% lower than the average score for Asian girls who were Not Poor in 2015-2016; 32% lower than the average score for Asian girls who were Not Poor. In 2016-2017; 24% lower than the average score for Asian girls who were Not Poor in 2017-2018; and 22% lower than the average score for Asian girls who were Not Poor in 2018-2019. Delineated in Table 3.1 are the descriptive statistics for these analyses.

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Insert Table 3.1 about here

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### **Reading Reporting Category Results for Black Girls**

With respect to 2015-2016, the MANOVA revealed a statistically significant difference, Wilks'  $\Lambda = .91, p < .001$ , partial  $\eta^2 = .09$ , moderate effect size (Cohen, 1988) in overall reading performance as a function of the economic status of Black girls. In 2016-2017, a statistically significant difference was yielded, Wilks'  $\Lambda = .93, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988). Concerning 2017-2018, a statistically significant difference was revealed, Wilks'  $\Lambda = .93, p < .001$ , partial  $\eta^2 = .07$ ,

moderate effect size (Cohen, 1988). Regarding 2018-2019, a statistically significant difference was yielded, Wilks'  $\Lambda = .94$ ,  $p < .001$ , partial  $\eta^2 = .06$ , moderate effect size (Cohen, 1988). Effect sizes were moderate for Black girls in all four school years.

Following the overall results of the MANOVA, univariate follow-up ANOVA procedures were conducted for all four school years. A statistically significant difference was yielded between Black girls who were Poor and Black girls who were Not Poor in their Reading Reporting Category I performance in 2015-2016,  $F(1, 9851) = 595.71$ ,  $p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; in 2016-2017,  $F(1, 10369) = 547.35$ ,  $p < .001$ , partial  $\eta^2 = .05$ , small effect size; in 2017-2018,  $F(1, 8872) = 367.94$ ,  $p < .001$ , partial  $\eta^2 = .04$ , small effect size; and in 2018-2019,  $F(1, 8108) = 263.51$ ,  $p < .001$ , partial  $\eta^2 = .03$ , small effect size. With regard to the Grade 3 STAAR Reading Reporting Category I scores, Black girls who were Poor had an average score approximately 16% lower than the average score for Black girls who were Not Poor in 2015-2016; 17% lower than the average score for Black girls who were Not Poor in 2016-2017; and 13% lower than the average score for Black girls who were Not Poor in 2017-2018 and 2018-2019.

Concerning the performance of Black girls, a statistically significant difference was yielded between Black girls who were Poor and Black girls who were Not Poor in their Reading Reporting Category II performance in 2015-2016,  $F(1, 9851) = 722.79$ ,  $p < .001$ , partial  $\eta^2 = .07$ , moderate effect size; in 2016-2017,  $F(1, 10369) = 594.74$ ,  $p < .001$ , partial  $\eta^2 = .05$ , small effect size; in 2017-2018,  $F(1, 8872) = 553.69$ ,  $p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; and in 2018-2019,  $F(1, 8108) = 464.19$ ,  $p < .001$ , partial  $\eta^2 = .05$ , small effect size. Regarding the Grade 3 STAAR Reading Reporting Category II scores, Black girls who were Poor had an average score approximately 15% lower than



the average score for Black girls who were Not Poor in 2015-2016 and 2016-2017 and 14% lower than the average score for Black girls who were Not Poor in 2017-2018 and 2018-2019.

Regarding the performance of Black girls, a statistically significant difference was revealed between Black girls who were Poor and Black girls who were Not Poor in their Reading Reporting Category III performance in 2015-2016,  $F(1, 9851) = 873.33, p < .001$ , partial  $\eta^2 = .08$ , moderate effect size; in 2016-2017,  $F(1, 10369) = 658.59, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; in 2017-2018,  $F(1, 8872) = 599.87, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; and in 2018-2019,  $F(1, 8108) = 477.50, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size. With respect to the Grade 3 STAAR Reading Reporting Category III scores, Black girls who were Poor had an average score approximately 17% lower than the average score for Black girls who were Not Poor in 2015-2016; 16% lower than the average score for Black girls who were Not Poor in 2016-2017; 15% lower than the average score for Black girls who were Not Poor in 2017-2018; and 14% lower than the average score for Black girls who were Not Poor in 2018-2019. Delineated in Table 3.2 are the descriptive statistics for these analyses.

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### **Reading Reporting Category Results for Hispanic Girls**

Regarding 2015-2016, the MANOVA yielded a statistically significant difference, Wilks'  $\Lambda = .93, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988), in overall reading performance as a function of the economic status of Hispanic girls. With respect

to 2016-2017, a statistically significant difference was revealed, Wilks'  $\Lambda = .93, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988). Concerning 2017-2018, a statistically significant difference was present, Wilks'  $\Lambda = .93, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size (Cohen, 1988). In 2018-2019, a statistically significant difference was revealed, Wilks'  $\Lambda = .93, p < .001$ , partial  $\eta^2 = .08$ , moderate effect size. Effect sizes were moderate for Hispanic girls in all four school years.

Following the overall results of the MANOVA, univariate follow-up ANOVA procedures were conducted for all four school years. A statistically significant difference was yielded between Hispanic girls who were Poor and Hispanic girls who were Not Poor in their Reading Reporting Category I performance in 2015-2016,  $F(1, 52731) = 2409.88, p < .001$ , partial  $\eta^2 = .04$ , small effect size; in 2016-2017,  $F(1, 42183) = 1784.89, p < .001$ , partial  $\eta^2 = .04$ , small effect size; in 2017-2018,  $F(1, 35275) = 1570.79, p < .001$ , partial  $\eta^2 = .04$ , small effect size; and the 2018-2019,  $F(1, 32241) = 1571.51, p < .001$ , partial  $\eta^2 = .05$ , small effect size. Concerning the Grade 3 STAAR Reading Reporting Category I scores, Hispanic girls who were Poor had an average score approximately 14% lower than the average score for Hispanic girls who were Not Poor in 2015-2016 and 2016-2017; 13% lower than the average score for Hispanic girls who were Not Poor in 2017-2018; and 14% lower than the average score for Hispanic girls who were Not Poor in 2018-2019.

A statistically significant difference was yielded between Hispanic girls who were Poor and Hispanic girls who were Not Poor in their Reading Reporting Category II performance in 2015-2016,  $F(1, 52731) = 3818.54, p < .001$ , partial  $\eta^2 = .07$ , moderate effect size; in 2016-2017,  $F(1, 42183) = 2727.28, p < .001$ , partial  $\eta^2 = .06$ , moderate

effect size; in 2017-2018,  $F(1, 35275) = 2034.77, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; and in 2018-2019,  $F(1, 32241) = 1997.16, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size. Regarding the Grade 3 STAAR Reading Reporting Category II scores, Hispanic girls who were Poor had an average score approximately 15% lower than the average score for Hispanic girls who were Not Poor in 2015-2016 and 2016-2017 and 13% lower than the average score for Hispanic girls who were Not Poor in 2017-2018 and 2018-2019.

A statistically significant difference was yielded between Hispanic girls who were Poor and Hispanic girls who were Not Poor in their Reading Reporting Category III performance in 2015-2016,  $F(1, 5273) = 3211.06, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; in 2016-2017,  $F(1, 42183) = 2534.94, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; in 2017-2018,  $F(1, 35275) = 2366.77, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size; and in 2018-2019,  $F(1, 32241) = 2220.15, p < .001$ , partial  $\eta^2 = .06$ , moderate effect size. Regarding the Grade 3 STAAR Reading Reporting Category III scores for the school years, Hispanic girls who were Poor had an average score approximately 14% lower than the average score for Hispanic girls who were Not Poor in 2015-2016 and 2017-2018 and approximately 15% lower than the average score for Hispanic girls who were Not Poor in 2016-2017 and 2018-2019. Revealed in Table 3.3 are the descriptive statistics for these analyses.

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To ascertain whether differences were present in the three Grade 3 STAAR Reading Phase-in standards (i.e., Approaches Grade Level, Meets Grade Level, or Masters Grade Level) by the economic status of underrepresented girls, Pearson chi-square analyses were conducted. Because frequency data were present, this statistical procedure was optimal. When both variables are categorical, chi-squares are the statistical procedure of choice (Slate & Rojas-LeBouef, 2011).

### **Grade Level Standard Results for Asian Girls**

Regarding the economic status of Asian Girls in 2015-2016 and their performance on the Approaches Grade Level standard, a statistically significant was revealed,  $\chi^2(1) = 517.23, p < .001$ , Cramer's V of .41, moderate effect size (Cohen, 1988). Slightly over 63% of Asian girls who were Poor met the Approaches Grade Level standard, compared to approximately 97% of Asian girls who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, a statistically significant was yielded,  $\chi^2(1) = 415.42, p < .001$ , Cramer's V of .37, moderate effect size (Cohen, 1988). At the Meets Grade Level standard, less than 37% of Asian girls who were Poor met this standard in comparison to 86% of Asian girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant was present,  $\chi^2(1) = 261.40, p < .001$ , Cramer's V of .29, small effect size (Cohen, 1988). Less than 20% of Asian girls who were Poor met this standard, whereas 68% of Asian girls who were Not Poor met this standard.

Concerning the economic status of Asian girls in 2016-2017 and their performance on the Approaches Grade Level standard, a statistically significant was yielded,  $\chi^2(1) = 599.70, p < .001$ , Cramer's V of .43, moderate effect size (Cohen, 1988). Only 59% of

Asian girls who were Poor met the Approaches Grade Level standard, compared to approximately 98% of Asian girls who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, a statistically significant result was revealed,  $\chi^2(1) = 454.46, p < .001$ , Cramer's V of .38, moderate effect size (Cohen, 1988). At the Meets Grade Level standard, only 34% of Asian girls who were Poor met this standard, compared to approximately 89% of Asian girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was yielded,  $\chi^2(1) = 270.35, p < .001$ , Cramer's V of .29, small effect size (Cohen, 1988). Only 22% of Asian girls who were Poor met this highest standard, whereas slightly less than 76% of Asian girls who were Not Poor met this standard. Delineated in Table 3.4 are the descriptive statistics for these analyses.

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With respect to the economic status of Asian girls in 2017-2018 and their performance on the Approaches Grade Level standard, a statistically significant result was revealed,  $\chi^2(1) = 280.26, p < .001$ , Cramer's V of .30, moderate effect size (Cohen, 1988). Slightly less than 76% of Asian girls who were Poor met the Approaches Grade Level standard in comparison to almost all, 99%, of Asian girls who were Not Poor who met this standard. Concerning the Meets Grade Level performance level, a statistically significant result was yielded,  $\chi^2(1) = 184.83, p < .001$ , Cramer's V of .25, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 43% of Asian girls who were Poor met this standard compared to over 85% of Asian girls who were Not

Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was present,  $\chi^2(1) = 99.40, p < .001$ , Cramer's V of .18, small effect size (Cohen, 1988). Slightly less than 27% of Asian girls who were Poor met this standard, whereas almost 67% of Asian girls who were Not Poor met this standard.

Regarding the economic status of Asian girls in 2018-2019 and their performance on the Approaches Grade Level standard, a statistically significant was revealed,  $\chi^2(1) = 318.70, p < .001$ , Cramer's V of .31, moderate effect size (Cohen, 1988). Approximately 75% of Asian girls who were Poor met the Approaches Grade Level standard, compared to almost all, 99%, of Asian girls who were Not Poor who met this standard. With respect to the Meets Grade Level performance level, a statistically significant was revealed,  $\chi^2(1) = 251.12, p < .001$ , Cramer's V of .27, small effect size (Cohen, 1988). At the Meets Grade Level standard, only 43% of Asian girls who were Poor met this standard in comparison to approximately 89% of Asian girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was present,  $\chi^2(1) = 122.13, p < .001$ , Cramer's V of .19, small effect size (Cohen, 1988). Less than 32% of Asian girls who were Poor met this standard, whereas approximately 74% of Asian girls who were Not Poor met this standard. Delineated in Table 3.5 are the descriptive statistics for these analyses.

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### **Grade Level Standard Results for Black Girls**

Regarding the economic status of Black girls in 2015-2016 and their performance on the Approaches Grade Level standard, a statistically significant result was present,

$\chi^2(1) = 495.03, p < .001$ , Cramer's V of .22, small effect size (Cohen, 1988).

Approximately 58% of Black girls who were Poor met the Approaches Grade Level standard, compared to approximately 85% of Black girls who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, a statistically significant result was yielded,  $\chi^2(1) = 694.60, p < .001$ , Cramer's V of .27, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 25% of Black girls who were Poor met this standard compared to over 55% of Black girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was revealed,  $\chi^2(1) = 612.82, p < .001$ , Cramer's V of .25, small effect size (Cohen, 1988). Less than 11% of Black girls who were Poor met this standard, whereas slightly more than 33% of Black girls who were Not Poor met this standard.

Concerning the economic status of Black girls in 2016-2017 and their performance on the Approaches Grade Level standard, a statistically significant result was yielded,  $\chi^2(1) = 435.19, p < .001$ , Cramer's V of .21, small effect size (Cohen, 1988). Less than 58% of Black girls who were Poor met the Approaches Grade Level standard, compared to approximately 83% of Black girls who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, a statistically significant result was revealed,  $\chi^2(1) = 591.09, p < .001$ , Cramer's V of .24, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 28% of Black girls who were Poor met this standard in comparison to approximately 57% of Black girls who were Not Poor.

Finally, for the Masters Grade Level performance level, a statistically significant result was present,  $\chi^2(1) = 558.01, p < .001$ , Cramer's V of .23, small effect size (Cohen, 1988). Less than 15% of Black girls who were Poor met this highest standard, whereas approximately 38% of Black girls who were Not Poor met this standard. Readers are directed to Table 3.6 which contains the frequencies and percentages of Grade 3 STAAR Reading Performance of Black girls by their economic status for the 2015-2016 and the 2016-2017 school years.

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Regarding the economic status of Black girls in 2017-2018 and their performance on the Approaches Grade Level standard, a statistically significant result was revealed,  $\chi^2(1) = 351.62, p < .001$ , Cramer's V of .20, small effect size (Cohen, 1988). Just over 65% of Black girls who were Poor met the Approaches Grade Level standard, compared to over 89% of Black girls who were Not Poor who met this standard. With respect to the Meets Grade Level performance level, a statistically significant result was present,  $\chi^2(1) = 581.93, p < .001$ , Cramer's V of .26, small effect size (Cohen, 1988). At the Meets Grade Level standard, only 27% of Black girls who were Poor met this standard compared to 58% of Black girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was yielded,  $\chi^2(1) = 459.29, p < .001$ , Cramer's V of .23, small effect size (Cohen, 1988). Less than 13% of Black girls who were Poor met this standard, whereas approximately 35% of Black girls who were Not Poor met this standard.



With respect to the economic status of Black girls in 2018-2019 and their performance on the Approaches Grade Level standard, a statistically significant result was yielded,  $\chi^2(1) = 277.54, p < .001$ , Cramer's V of .19, small effect size (Cohen, 1988). Slightly more than 66% of Black girls who were Poor met the Approaches Grade Level standard in comparison to approximately 88% of Black girls who were Not Poor who met this standard. Concerning the Meets Grade Level performance level, a statistically significant result was revealed,  $\chi^2(1) = 519.14, p < .001$ , Cramer's V of .25, small effect size (Cohen, 1988). At the Meets Grade Level standard, 30% of Black girls who were Poor met this standard compared to approximately 62% of Black girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was yielded,  $\chi^2(1) = 387.00, p < .001$ , Cramer's V of .22, small effect size (Cohen, 1988). Slightly less than 17% of Black girls who were Poor met this standard, whereas almost 40% of Black girls who were Not Poor met this standard. Readers are directed to Table 3.11, which contains the frequencies and percentages of Grade 3 STAAR Reading Performance of Black girls by their economic status for the 2017-2018 and the 2018-2019 school years.

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### **Grade Level Standard Results for Hispanic Girls**

Concerning the economic status of Hispanic girls in 2015-2016 and their performance on the Approaches Grade Level standard, a statistically significant result was revealed,  $\chi^2(1) = 2029.44, p < .001$ , Cramer's V of .20, small effect size (Cohen,

1988). Less than 67% of Hispanic girls who were Poor met the Approaches Grade Level standard, compared to approximately 90% of Hispanic girls who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, a statistically significant result was yielded,  $\chi^2(1) = 3060.04, p < .001$ , Cramer's V of .24, small effect size (Cohen, 1988). At the Meets Grade Level standard, only about 32% of Hispanic girls who were Poor met this standard in comparison to over 61% of Hispanic girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was revealed,  $\chi^2(1) = 2606.20, p < .001$ , Cramer's V of .22, small effect size (Cohen, 1988). Less than 16% of Hispanic girls who were Poor met this highest standard, whereas 38% of Hispanic girls who were Not Poor met this standard.

Regarding the economic status of Hispanic girls in 2016-2017 and their performance on the Approaches Grade Level standard, a statistically significant result was present,  $\chi^2(1) = 1519.10, p < .001$ , Cramer's V of .19, small effect size (Cohen, 1988). Approximately 67% of Hispanic girls who were Poor met the Approaches Grade Level standard, compared to approximately 89% of Hispanic girls who were Not Poor who met this standard. In regard to the Meets Grade Level performance level, a statistically significant result was revealed,  $\chi^2(1) = 2504.39, p < .001$ , Cramer's V of .24, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 35% of Hispanic girls who were Poor met this standard compared to 66% of Hispanic girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was yielded,  $\chi^2(1) = 2329.99, p < .001$ , Cramer's V of .24, small effect size (Cohen, 1988). Less than 21% of Hispanic girls who were Poor met this standard, whereas more than 46% of Hispanic girls who were Not Poor met this standard. Readers

are directed to Table 3.13 which contains the frequencies and percentages of Grade 3 STAAR Reading Performance of Hispanic girls by their economic status for the 2015-2016 and the 2016-2017 school years.

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With respect to the economic status of Hispanic girls in 2017-2018 and their performance on the Approaches Grade Level standard, a statistically significant result was yielded,  $\chi^2(1) = 968.04$ ,  $p < .001$ , Cramer's V of .17, small effect size (Cohen, 1988). Slightly less than 75% of Hispanic girls who were Poor met the Approaches Grade Level standard in comparison to approximately 93% of Hispanic girls who were Not Poor who met this standard. Concerning the Meets Grade Level performance level, a statistically significant result was revealed,  $\chi^2(1) = 1896.47$ ,  $p < .001$ , Cramer's V of .23, small effect size (Cohen, 1988). At the Meets Grade Level standard, 34% of Hispanic girls who were Poor met this standard compared to 63% of Hispanic girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was yielded,  $\chi^2(1) = 1913.89$ ,  $p < .001$ , Cramer's V of .23, small effect size (Cohen, 1988). Slightly less than 17% of Hispanic girls who were Poor met this standard, whereas over 40% of Hispanic girls who were Not Poor met this standard.

Regarding the economic status of Hispanic girls in 2018-2019 and their performance on the Approaches Grade Level standard, a statistically significant result was present,  $\chi^2(1) = 1035.68$ ,  $p < .001$ , Cramer's V of .18, small effect size (Cohen, 1988). Only 73% of Hispanic girls who were Poor met the Approaches Grade Level

standard, compared to 92% of Hispanic girls who were Not Poor who met this standard. With respect to the Meets Grade Level performance level, a statistically significant result was revealed,  $\chi^2(1) = 1910.13, p < .001$ , Cramer's V of .24, small effect size (Cohen, 1988). At the Meets Grade Level standard, less than 37% of Hispanic girls who were Poor met this standard compared to approximately 67% of Hispanic girls who were Not Poor. Finally, for the Masters Grade Level performance level, a statistically significant result was yielded,  $\chi^2(1) = 1752.84, p < .001$ , Cramer's V of .23, small effect size (Cohen, 1988). Less than 20% of Hispanic girls who were Poor met this standard, whereas approximately 45% of Hispanic girls who were Not Poor met this standard. Delineated in Table 3.9 are the descriptive statistics for these analyses.

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### **Results for the Reading Reporting Categories Analyses Over Time**

With regard to trends in the differences in the Reading Reporting Category scores between Asian girls who were Poor and Asian girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Asian girls who were Poor scored below Asian girls who were Not Poor at every measure. Asian girls who were Poor had statistically significantly lower average scores in each Reading Reporting Category. Concerning the Reading Reporting Category I scores, Asian girls who were Poor scored an average of approximately 27% lower than Asian girls who were Not Poor. With respect to the Reading Reporting Category II scores, Asian girls who were Poor scored an average of approximately 24% less than Asian girls who were Not Poor. Regarding the Reading

Reporting Category III scores, Asian girls who were Poor earned an average of approximately 26% less than Asian girls who were Not Poor.

With respect to the trends in the differences in the Reading Reporting Category scores between Black girls who were Poor and Black girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Black girls who were Poor scored below Black girls who were Not Poor at every measure. Black girls who were Poor had statistically significantly lower average scores in each Reading Reporting Category. Concerning the Reading Reporting Category I scores, Black girls who were Poor scored an average of approximately 15% lower than Black girls who were Not Poor. With respect to the Reading Reporting Category II scores, Black girls who were Poor scored an average of approximately 14% less than Black girls who were Not Poor. Regarding the Reading Reporting Category III scores, Black girls who were Poor earned an average of approximately 16% less than Black girls who were Not Poor.

With respect to trends in the differences in the Reading Reporting Category scores between Hispanic girls who were Poor and Hispanic girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Hispanic girls who were Poor scored below Hispanic girls who were Not Poor at every measure. Hispanic girls who were Poor had statistically significantly lower average scores in each Reading Reporting Category. Concerning the Reading Reporting Category I scores, Hispanic girls who were Poor scored an average of 14% lower than Hispanic girls who were Not Poor. With respect to the Reading Reporting Category II scores, Hispanic girls who were Poor scored an average of approximately 14% less than Hispanic girls who were Not Poor. Regarding

the Reading Reporting Category III scores, Hispanic girls who were Poor earned an average of approximately 15% less than Hispanic girls who were Not Poor.

### **Results for the Grade Level Phase-In Standards Over Time**

Regarding trends in the differences in the Grade Level Phase-in Standards between Asian girls who were Poor and Asian girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Asian girls who were Poor scored below Asian girls who were Not Poor at every measure. Asian girls who were Poor had statistically significantly lower rates of achieving each grade level standard. Asian girls who were Poor met the Approaches Grade Level standard an average of approximately 30% less than Asian girls who were Not Poor. Asian girls who were Poor met the Meets Grade Level standard an average of approximately 48% less than Asian girls who were Not Poor. Asian girls who were Poor met the Masters Grade Level standard an average of approximately 46% less than Asian girls who were Not Poor.

With respect to trends in the differences in the Grade Level Phase-in Standards between Black girls who were Poor and Black girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Black girls who were Poor scored below Black girls who were Not Poor at every measure. Black girls who were Poor had statistically significantly lower rates of achieving each grade level standard. Black girls who were Poor met the Approaches Grade Level standard an average of approximately 25% less than Black girls who were Not Poor. Black girls who were Poor met the Meets Grade Level standard an average of approximately 31% less than Black girls who were Not Poor. Black girls who were Poor met the Masters Grade Level standard an average of approximately 23% less than Black girls who were Not Poor.

Concerning trends in the differences in the Grade Level Phase-in Standards between Hispanic girls who were Poor and Hispanic girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Hispanic girls who were Poor scored below Hispanic girls who were Not Poor at every measure. Hispanic girls who were Poor had statistically significantly lower rates of achieving each grade level standard. Hispanic girls who were Poor met the Approaches Grade Level standard an average of approximately 20% less than Hispanic girls who were Not Poor. Hispanic girls who were Poor met the Meets Grade Level standard an average of approximately 30% less than Hispanic girls who were Not Poor. Hispanic girls who were Poor met the Masters Grade Level standard an average of approximately 25% less than Hispanic girls who were Not Poor.

### **Discussion**

Analyzed in this investigation was the extent to which differences were present in the reading performance of Texas Grade 3 underrepresented girls by their economic status. Four years of statewide data on the three Grade 3 STAAR Reading Reporting Categories were examined for Poor and Not Poor Asian girls, Poor and Not Poor Black girls, and Poor and Not Poor Hispanic girls. Statistically significant results were present in all four school years. Following these statistical analyses, the Grade Level Phase-in Standards by the economic status of underrepresented girls were examined and determined to yield statistically significant results in all four school years.

In all four years analyzed for each of the three STAAR Reading Reporting Category results, underrepresented girls who were Poor had statistically significantly lower scores than underrepresented girls who were Not Poor. Similarly, in each of the

three Grade Level Phase-in Standards in all four years investigated, underrepresented girls who were Poor had statistically significantly lower achievement than underrepresented girls who were Not Poor.

### **Connections to Existing Literature**

As indicated in the review of the literature, strong relationships are present between literacy achievement and poverty. As revealed in this study, girls from poverty backgrounds had statistically significantly lower reading achievement than girls who were not from poverty backgrounds. These findings are commensurate with the results of other researchers. As documented by Hamilton and Slate (2019), statistically significant differences were present between students from poverty backgrounds and students who were not from poverty backgrounds. Students living in poverty were outperformed by their Not Poor peers on every measure.

Furthermore, the growth of financial inequality in the United States has resulted in increasing inequality in academic achievement of children living in poverty (David & Marchant, 2015; Paschall, Gershoff, & Kuhfeld, 2018). Students from poverty backgrounds arrive at school less prepared than their peers who were not economically disadvantaged (Ansari et al., 2017), which is particularly problematic considering the percentage of students in the State of Texas living in poverty increased to almost 61% of the population in 2018-2019 (Texas Education Agency, 2019a).

Prior researchers (Harris, 2018; McGown, 2016; Schleeter, 2017) have documented differences in performance by ethnic/racial background, with consistent results across grade levels. Asian students consistently outperformed all other ethnic/racial groups, resulting in a “stair-step effect” (Carpenter, Ramirez, & Severn,



2006, p. 117) in that Asian students had statistically higher reading performance than Hispanic students and Hispanic students performed better than Black students, which was further supported by the findings of this empirical research investigation.

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

Based on the results of this investigation of four years of statewide data, several implications for policy and for practice can be suggested. With respect to policy implications, ensuring funding is directed towards the students who need it most is essential. The 2019 passage of Texas' House Bill 3 (Texas Education Agency, 2019c) included increased funding for low-income students. If legislators decrease or remove this funding in subsequent sessions, students from poverty backgrounds will be detrimentally affected. Policymakers should take note of the documented differences in academic performance to justify the increased spending.

Regarding practice implications, leaders in schools with students from poverty backgrounds should prioritize hiring teachers with literacy backgrounds and providing support staff dedicated to improving literacy skills. With consideration to the weight of Grade 3 reading assessment results, principals cannot allow gaps to form in early school years. Grade 3 students who are not proficient readers are four times less likely to graduate from high school than for Grade 3 students who are proficient readers (Hernandez, 2011). The implications for school district leaders are clear. Placing talented teachers in classrooms and building a strong support system is necessary to prevent harm district accountability scores for years to come.

### **Recommendations for Future Research**

Given the results of this empirical multiyear investigation, several recommendations for future research can be made. As this investigation was conducted on data for Grade 3 underrepresented girls in Texas, the degree to which findings obtained herein could be generalizable to other grade levels or states is not known. Researchers should analyze the reading performance of underrepresented girls in other grade levels and states. Of particular interest would be results from middle schools and high schools in Texas to determine the extent to which the results delineated herein would be generalizable to those grade levels. Researchers should also examine the reading achievement of underrepresented boys to determine if similar gaps are present for boys. These studies should be conducted at all grade levels and in other states to determine if results are consistent with the results of this study.

Additionally, analyzed in this study was only reading academic achievement as determined by the STAAR assessment. Researchers are encouraged to conduct future studies to determine if differences are present in other subjects. Literacy skills require students to analyze, synthesize, and evaluate information (Goldman, 2012), indicating weak literacy skills could result in lower scores for other subject areas. Finally, researchers should investigate the relation of demographic variables to academic performance as assessed by the STAAR Reading test to determine degree to which demographic characteristics of students in Texas schools is related to their reading achievement. As the STAAR test is administered for the first time in Grade 3, analyses at this grade level is recommended.

## **Conclusion**

In this multiyear analysis, the degree to which differences were present in the reading performance of Texas Grade 3 underrepresented girls as a function of their economic status was addressed. Inferential statistical procedures revealed the presence of statistically significant differences in the reading achievement of Asian girls, Black girls, and Hispanic girls by their economic status. By every measure, Asian girls, Black girls, and Hispanic girls who were Poor achieved at a lower rate than their counterparts who were Not Poor. Considering families from poverty backgrounds frequently have limited access to health care and nutrition (Center for Public Policy Priorities, 2018) and their children are more likely arrive unprepared (Ansari et al., 2017) to a school deemed to be inadequate (Ravitch, 2014), it is time to examine the cycle of systematic poverty rather than blame teachers who are unable to overcome the long odds created by teaching children from poverty backgrounds.

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Table 3.1

*Descriptive Statistics for the STAAR Grade 3 Reading Reporting Category Scores by the Economic Status of Asian Girls for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 School Years*

Reporting Category and Year	<i>n</i>	<i>M%</i>	<i>SD%</i>
Reporting Category I: 2015-2016			
Not Poor	2,838	88.66	17.69
Poor	280	56.55	28.81
Reporting Category I: 2016-2017			
Not Poor	2,997	94.19	13.44
Poor	200	62.10	34.05
Reporting Category I: 2017-2018			
Not Poor	2,906	93.77	13.08
Poor	145	72.41	32.24
Reporting Category I: 2018-2019			
Not Poor	3,209	91.03	14.90
Poor	143	67.97	28.30
Reporting Category II: 2015-2016			
Not Poor	2,838	85.93	13.57
Poor	280	60.30	27.51
Reporting Category II: 2016-2017			
Not Poor	2,997	85.71	14.42
Poor	200	54.70	29.50
Reporting Category II: 2017-2018			
Not Poor	2,906	84.88	13.94
Poor	145	63.03	28.52
Reporting Category II: 2018-2019			
Not Poor	3,209	90.61	11.83
Poor	143	71.52	24.08
Reporting Category III: 2015-2016			
Not Poor	2,838	83.79	15.74
Poor	280	56.03	27.39
Reporting Category III: 2016-2017			
Not Poor	2,997	86.95	14.80
Poor	200	55.43	29.55
Reporting Category III: 2017-2018			
Not Poor	2,906	84.03	14.45
Poor	145	60.34	29.16
Reporting Category III: 2018-2019			
Not Poor	3,209	83.46	15.56
Poor	143	61.59	23.97



Table 3.2

*Descriptive Statistics for the STAAR Grade 3 Reading Reporting Category Scores by the Economic Status of Black Girls for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 School Years*

Reporting Category and Year	<i>n</i>	<i>M%</i>	<i>SD%</i>
Reporting Category I: 2015-2016			
Not Poor	2,008	76.00	23.57
Poor	7,845	59.72	27.41
Reporting Category I: 2016-2017			
Not Poor	1,948	80.68	24.75
Poor	8,423	63.54	30.05
Reporting Category I: 2017-2018			
Not Poor	1,613	85.41	20.72
Poor	7,261	72.05	26.20
Reporting Category I: 2018-2019			
Not Poor	1,449	79.65	24.16
Poor	6,661	66.71	28.18
Reporting Category II: 2015-2016			
Not Poor	2,008	73.79	19.55
Poor	7,845	59.25	22.12
Reporting Category II: 2016-2017			
Not Poor	1,948	71.53	22.50
Poor	8,423	56.52	24.92
Reporting Category II: 2017-2018			
Not Poor	1,613	72.94	19.31
Poor	7,261	59.01	21.98
Reporting Category II: 2018-2019			
Not Poor	1,449	80.46	19.05
Poor	6,661	66.53	22.95
Reporting Category III: 2015-2016			
Not Poor	2,008	69.00	21.73
Poor	7,845	51.95	23.39
Reporting Category III: 2016-2017			
Not Poor	1,948	70.09	23.57
Poor	8,423	54.19	24.89
Reporting Category III: 2017-2018			
Not Poor	1,613	71.66	20.55
Poor	7,261	56.35	23.16
Reporting Category III: 2018-2019			
Not Poor	1,449	67.39	22.11
Poor	6,661	53.00	22.84

Table 3.3

*Descriptive Statistics for the STAAR Grade 3 Reading Reporting Category Scores by the Economic Status of Hispanic Girls for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 School Years*

Reporting Category and Year	<i>n</i>	<i>M%</i>	<i>SD%</i>
Reporting Category I: 2015-2016			
Not Poor	9,727	76.81	23.37
Poor	43,006	62.57	26.38
Reporting Category I: 2016-2017			
Not Poor	7,662	84.64	22.00
Poor	34,523	70.41	27.60
Reporting Category I: 2017-2018			
Not Poor	6,588	87.12	19.04
Poor	28,689	74.56	24.06
Reporting Category I: 2018-2019			
Not Poor	6,858	82.06	21.64
Poor	25,885	67.77	26.67
Reporting Category II: 2015-2016			
Not Poor	9,727	76.95	17.98
Poor	43,006	62.32	21.73
Reporting Category II: 2016-2017			
Not Poor	7,662	75.40	20.61
Poor	34,523	60.05	23.82
Reporting Category II: 2017-2018			
Not Poor	6,588	75.56	18.52
Poor	28,689	62.90	20.99
Reporting Category II: 2018-2019			
Not Poor	6,858	82.28	17.42
Poor	25,885	69.31	21.50
Reporting Category III: 2015-2016			
Not Poor	9,727	72.29	20.51
Poor	43,006	58.31	22.29
Reporting Category III: 2016-2017			
Not Poor	7,662	75.71	20.85
Poor	34,523	60.42	24.14
Reporting Category III: 2017-2018			
Not Poor	6,588	74.40	19.39
Poor	28,689	60.23	21.74
Reporting Category III: 2018-2019			
Not Poor	6,858	71.67	20.67
Poor	25,885	56.99	22.63

Table 3.4

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Asian Girls by Their Economic Status for the 2015-2016 and the 2016-2017 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2015-2016 Approaches Grade Level		
Not Poor	( <i>n</i> = 84) 3.0%	( <i>n</i> = 2,754) 97.0%
Poor	( <i>n</i> = 103) 36.8%	( <i>n</i> = 177) 63.2%
2015-2016 Meets Grade Level		
Not Poor	( <i>n</i> = 398) 14.0%	( <i>n</i> = 2,440) 86.0%
Poor	( <i>n</i> = 178) 63.6%	( <i>n</i> = 102) 36.4%
2015-2016 Masters Grade Level		
Not Poor	( <i>n</i> = 908) 32.0%	( <i>n</i> = 1,930) 68.0%
Poor	( <i>n</i> = 226) 80.7%	( <i>n</i> = 54) 19.3%
2016-2017 Approaches Grade Level		
Not Poor	( <i>n</i> = 74) 2.5%	( <i>n</i> = 2,923) 97.5%
Poor	( <i>n</i> = 82) 41.0%	( <i>n</i> = 118) 59.0%
2016-2017 Meets Grade Level		
Not Poor	( <i>n</i> = 333) 11.1%	( <i>n</i> = 2,664) 88.9%
Poor	( <i>n</i> = 132) 66.0%	( <i>n</i> = 68) 34.0%
2016-2017 Masters Grade Level		
Not Poor	( <i>n</i> = 728) 24.3%	( <i>n</i> = 2,269) 75.7%
Poor	( <i>n</i> = 156) 78.0%	( <i>n</i> = 44) 22.0%

Table 3.5

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Asian Girls by Their Economic Status for the 2017-2018 and the 2018-2019 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2017-2018 Approaches Grade Level		
Not Poor	( <i>n</i> = 44) 1.5%	( <i>n</i> = 2,862) 98.5%
Poor	( <i>n</i> = 35) 24.1%	( <i>n</i> = 110) 75.9%
2017-2018 Meets Grade Level		
Not Poor	( <i>n</i> = 418) 14.4%	( <i>n</i> = 2,488) 85.6%
Poor	( <i>n</i> = 83) 57.2%	( <i>n</i> = 62) 42.8%
2017-2018 Masters Grade Level		
Not Poor	( <i>n</i> = 967) 33.3%	( <i>n</i> = 1,939) 66.7%
Poor	( <i>n</i> = 107) 73.8%	( <i>n</i> = 38) 26.2%
2018-2019 Approaches Grade Level		
Not Poor	( <i>n</i> = 47) 1.5%	( <i>n</i> = 3,162) 98.5%
Poor	( <i>n</i> = 36) 25.2%	( <i>n</i> = 107) 74.8%
2018-2019 Meets Grade Level		
Not Poor	( <i>n</i> = 364) 11.3%	( <i>n</i> = 2,845) 88.7%
Poor	( <i>n</i> = 82) 57.3%	( <i>n</i> = 61) 42.7%
2018-2019 Masters Grade Level		
Not Poor	( <i>n</i> = 839) 26.1%	( <i>n</i> = 2,370) 73.9%
Poor	( <i>n</i> = 98) 68.5%	( <i>n</i> = 45) 31.5%

Table 3.6

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Black Girls by Their Economic Status for the 2015-2016 and the 2016-2017 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2015-2016 Approaches Grade Level		
Not Poor	( <i>n</i> = 301) 15.0%	( <i>n</i> = 1,707) 85.0%
Poor	( <i>n</i> = 3,275) 41.7%	( <i>n</i> = 4,570) 58.3%
2015-2016 Meets Grade Level		
Not Poor	( <i>n</i> = 898) 44.7%	( <i>n</i> = 1,110) 55.3%
Poor	( <i>n</i> = 5,900) 75.2%	( <i>n</i> = 1,945) 24.8%
2015-2016 Masters Grade Level		
Not Poor	( <i>n</i> = 1,338) 66.6%	( <i>n</i> = 670) 33.4%
Poor	( <i>n</i> = 6,986) 89.1%	( <i>n</i> = 859) 10.9%
2016-2017 Approaches Grade Level		
Not Poor	( <i>n</i> = 339) 17.4%	( <i>n</i> = 1,609) 82.6%
Poor	( <i>n</i> = 3,611) 42.9%	( <i>n</i> = 4,812) 57.1%
2016-2017 Meets Grade Level		
Not Poor	( <i>n</i> = 847) 43.5%	( <i>n</i> = 1,101) 56.5%
Poor	( <i>n</i> = 6,086) 72.3%	( <i>n</i> = 2,337) 27.7%
2016-2017 Masters Grade Level		
Not Poor	( <i>n</i> = 1,205) 61.9%	( <i>n</i> = 743) 38.1%
Poor	( <i>n</i> = 7,179) 85.2%	( <i>n</i> = 1,244) 14.8%

Table 3.7

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Black Girls by Their Economic Status for the 2017-2018 and the 2018-2019 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2017-2018 Approaches Grade Level		
Not Poor	( <i>n</i> = 176) 10.9%	( <i>n</i> = 1,437) 89.1%
Poor	( <i>n</i> = 2,515) 34.6%	( <i>n</i> = 4,746) 64.5%
2017-2018 Meets Grade Level		
Not Poor	( <i>n</i> = 677) 42.0%	( <i>n</i> = 936) 58.0%
Poor	( <i>n</i> = 5,307) 73.1%	( <i>n</i> = 1,954) 26.9%
2017-2018 Masters Grade Level		
Not Poor	( <i>n</i> = 1,047) 64.9%	( <i>n</i> = 566) 35.1%
Poor	( <i>n</i> = 6,321) 87.1%	( <i>n</i> = 940) 12.9%
2018-2019 Approaches Grade Level		
Not Poor	( <i>n</i> = 170) 11.7%	( <i>n</i> = 1,279) 88.3%
Poor	( <i>n</i> = 2,254) 33.8%	( <i>n</i> = 4,407) 66.2%
2018-2019 Meets Grade Level		
Not Poor	( <i>n</i> = 556) 38.4%	( <i>n</i> = 893) 61.6%
Poor	( <i>n</i> = 4,663) 70.0%	( <i>n</i> = 1,998) 30.0%
2018-2019 Masters Grade Level		
Not Poor	( <i>n</i> = 875) 60.4%	( <i>n</i> = 574) 39.6%
Poor	( <i>n</i> = 5,560) 83.5%	( <i>n</i> = 1,101) 16.5%

Table 3.8

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Hispanic Girls by Their Economic Status for the 2015-2016 and the 2016-2017 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
2015-2016 Approaches Grade Level		
Not Poor	( <i>n</i> = 1,008) 10.4%	( <i>n</i> = 8,719) 89.6%
Poor	( <i>n</i> = 14,337) 33.3%	( <i>n</i> = 28,669) 66.7%
2015-2016 Meets Grade Level		
Not Poor	( <i>n</i> = 3,738) 38.4%	( <i>n</i> = 5,989) 61.6%
Poor	( <i>n</i> = 29,430) 68.4%	( <i>n</i> = 13,576) 31.6%
2015-2016 Masters Grade Level		
Not Poor	( <i>n</i> = 6,035) 62.0%	( <i>n</i> = 3,692) 38.0%
Poor	( <i>n</i> = 36,440) 84.7%	( <i>n</i> = 6,566) 15.3%
2016-2017 Approaches Grade Level		
Not Poor	( <i>n</i> = 849) 11.1%	( <i>n</i> = 6,813) 88.9%
Poor	( <i>n</i> = 11,570) 33.5%	( <i>n</i> = 22,953) 66.5%
2016-2017 Meets Grade Level		
Not Poor	( <i>n</i> = 2,607) 34.0%	( <i>n</i> = 5,055) 66.0%
Poor	( <i>n</i> = 22,460) 65.1%	( <i>n</i> = 12,063) 34.9%
2016-2017 Masters Grade Level		
Not Poor	( <i>n</i> = 4,073) 53.2%	( <i>n</i> = 3,589) 46.8%
Poor	( <i>n</i> = 27,487) 79.6%	( <i>n</i> = 7,036) 20.4%

Table 3.9

*Frequencies and Percentages of Grade 3 STAAR Reading Performance of Hispanic Girls by Their Economic Status for the 2017-2018 and the 2018-2019 School Years*

School Year, Performance, and Group Membership	Did Not Meet Standard <i>n</i> and %age of Total	Met Standard <i>n</i> and %age of Total
Approaches Grade Level		
Not Poor	( <i>n</i> = 515) 7.8%	( <i>n</i> = 6,073) 92.9%
Poor	( <i>n</i> = 7,309) 25.5%	( <i>n</i> = 21,380) 74.5%
Meets Grade Level		
Not Poor	( <i>n</i> = 2,435) 37.0%	( <i>n</i> = 4,153) 63.0%
Poor	( <i>n</i> = 18,944) 66.0%	( <i>n</i> = 9,745) 34.0%
Masters Grade Level		
Not Poor	( <i>n</i> = 3,893) 59.1%	( <i>n</i> = 2,695) 40.9%
Poor	( <i>n</i> = 23,947) 83.5%	( <i>n</i> = 4,742) 16.5%
2018-2019 Approaches Grade Level		
Not Poor	( <i>n</i> = 506) 8.0%	( <i>n</i> = 5,852) 92.0%
Poor	( <i>n</i> = 6,984) 27.0%	( <i>n</i> = 18,901) 73.0%
2018-2019 Meets Grade Level		
Not Poor	( <i>n</i> = 2,124) 33.4%	( <i>n</i> = 4,234) 66.6%
Poor	( <i>n</i> = 16,471) 63.6%	( <i>n</i> = 9,414) 36.4%
2018-2019 Masters Grade Level		
Not Poor	( <i>n</i> = 3,478) 54.7%	( <i>n</i> = 2,880) 45.3%
Poor	( <i>n</i> = 20,723) 80.1%	( <i>n</i> = 5,162) 19.9%



**CHAPTER IV**  
**PREDICTING READING PERFORMANCE BY TEXAS STUDENT DEMOGRAPHIC**  
**CHARACTERISTICS: A STATEWIDE ANALYSIS**

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

### **Abstract**

Analyzed in this research study was the degree to which demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) of Grade 3 students in Texas schools was related to their reading achievement as assessed by the State of Texas Assessment of Academic Readiness (STAAR) Reading test. Archival data from the Texas Education Agency Public Education Information Management System were analyzed. Specifically examined was each of the variables listed above for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years separately for boys and for girls, followed by a comparison of these variables across the four school years. Statistically significant results were present in all four school years for boys and for girls. In three of the four years analyzed regarding the performance of boys, being Poor, Black, or Hispanic was indicative of not meeting the Meets Grade Level standard. In three of the four years investigated regarding the performance of girls, being White or Asian was indicative of meeting the Meets Grade Level standard. Implications for policy and practice, as well as recommendations for future research, are provided.

*Keywords:* Economic status, Asian, Black, Hispanic, White, English Language Learner, Texas, STAAR Reading Assessment, Grade 3, Boys, Girls

## PREDICTING READING PERFORMANCE BY TEXAS STUDENT DEMOGRAPHIC CHARACTERISTICS: A STATEWIDE ANALYSIS

The ability to read and write is critical to be successful, not only in school but in life after school (Korbey, 2019). How students acquire these vital literacy skills varies. Word-reading skills and knowledge-based literacy competencies are some of the complex skillsets required to be literate (Reardon, Valentino, & Shores, 2012). Literacy skills are not acquired in a linear fashion, but the focus of reading instruction in Kindergarten through Grade 2 centers around word-reading skills. The instruction includes teaching students (a) letter recognition, (b) beginning and ending sounds, (c) sight words, (d) comprehension of words in context, (e) literal inferences, and (f) extrapolation (Reardon, et al., 2012).

In Grade 3 the transition from “learning to read” moves to “reading to learn” (Hernandez, 2011). Students then increasingly engage in knowledge-based literacy competencies. The instruction includes evaluation, evaluating nonfiction, and evaluating complex syntax (Reardon et al., 2012). Students build background knowledge while developing comprehension skills (Reardon et al, 2012). Prior knowledge is critical to identifying clues to make inferences.

Additionally, expert readers build on prior knowledge (Horbec, 2012). Therefore, a lack of background knowledge and learning experiences may be detrimental to development of reading skills. Some students have opportunities to gain reading skills at home. Access to books, being immersed in literacy experiences, and sharing what they have read is part of a positive home reading environment (Waldfoegel, 2012). Unfortunately, not all students are exposed to reading outside of the school day. Lack of

exposure can be concerning considering the increase of literacy skills required for many of today's jobs (Reardon et al, 2012).

Standardized testing allows assessment of student academic achievement in reading. The Every Student Succeeds Act (2015) contains provisions allowing state lawmakers to determine the assessment tool and standards tested. In Texas, all public school students are assessed annually in reading and mathematics, beginning in Grade 3 (Texas Assessment, 2019). Results from the State of Texas Assessment of Academic Readiness (STAAR) test are used to determine school effectiveness. Scores are reported by demographic characteristics of 11 student groups (Texas Education Agency, 2016).

It is imperative that educators understand the influence of demographic characteristics on student learning. The demographics of America are changing (Annie E. Casey Foundation, 2010), and educators must adapt to meet the varied needs of their students. Understanding variables that contribute to student reading achievement is necessary to remediate current gaps and to mitigate future gaps. At this time, research studies conducted at the national level will be discussed, followed by empirical investigations conducted in the state of interest for this article, Texas.

To provide data to document achievement gaps between different student demographic categories, the U.S. National Assessment of Educational Progress is administered to fourth and eighth grade students (David & Marchant, 2015). As assessed by the National Assessment of Educational Progress, the gap between students not living in poverty and students living in poverty increased from 2002-2009 from 23 points to 24 points for fourth grade reading (Nichols, Glass, & Berliner, 2012). From 2003-2013, the

score gap between students in poverty and students not in poverty remained steady at approximately 25 points for fourth grade reading (David & Marchant, 2015).

Gender gaps have also been revealed in the results of the National Assessment of Educational Progress. In an analysis of the years 1988-2015, girls performed at a statistically significant higher rate than boys in reading (Reilly, Neumann, & Andrews, 2019). In a related study, Robinson and Lubienski (2011) revealed, in addition to a gap between boys and girls, students achieving below the fifth percentile were comprised of almost three-fourths boys. The National Assessment of Educational Progress results were consistent with this finding (The Nation's Report Card, 2019), as more boys than girls perform below the minimum proficiency level (Reilly et al., 2019). Nationally, not only are boys achieving at a lower rate than girls, they are underperforming more often as well.

The influence of ethnicity/race on student academic achievement is apparent in analyzing National Assessment of Educational Progress results. Though the scores of Hispanic students have increased from 2003-2013, they still achieve at a rate behind White students (David & Marchant, 2015). Black students achieve at a lesser rate than Hispanic and White students and the gap has persisted over the same time frame (David & Marchant, 2015). These results were consistent with National Assessment of Educational Progress data from 2002-2009 as Black students averaged a result of just over 200 points, Hispanic students earned approximately 205 points, and White students averaged 227 points (Nichols et al., 2012).

Furthermore, the discrepancy in achievement between English Language Learners and students not categorized as English Language Learners is visible in National

Assessment of Educational Progress scores. Between 2003 and 2011, a gap in performance on the reading portion of the assessment was present (Polat, Zarecky-Hodge, & Schreiber, 2016). The scores earned by English Language Learners remained stagnant over the time period, whereas the scores of students who were not English Language Learners slightly increased, indicating the gap is growing (Polat et al., 2016).

In addition to studies regarding student reading achievement at the national level, several researchers in Texas (e.g., Hamilton & Slate, 2019; Harris, 2018; McGown, 2016; Pariseau, 2019; Schleeter, 2017) have conducted studies with respect to student economic status, gender, ethnicity/race, and English Language Learner status. Conducting research at the state level is important so that educators may understand how their students may compare to students nationwide. This information also allows an analysis of trends in reading performance by various student groups as populations change over time.

The percentage of Texas students who are economically disadvantaged has steadily increased from the 2015-2016 school year to the 2018-2019 school year and is now over 60% of all students (Texas Education Agency, 2019b). The high percentage of students who are in poverty is particularly problematic because poverty is adversely related to student academic performance. Texas students from poverty backgrounds achieved at a lower rate than Texas students who were not from poverty backgrounds by every measure (Hamilton & Slate, 2019; Harris, 2018; McGown, 2016; Pariseau, 2019; Schleeter, 2017).

The number of students attending Texas public schools has increased each year from 2015-2016 to 2018-2019, and the percentage of boys has remained higher than the percentage of girls for the same time period (Texas Education Agency, 2019b). The State

of Texas requires the State of Texas Assessments of Academic Readiness (STAAR) test results to be reported in multiple ways, but disaggregating results by gender is not one of those ways. The lack of reporting is concerning because boys repeatedly achieve at a lesser rate than girls (Harris, 2018; McGown, 2016; Schleeter, 2017).

As student enrollment in Texas schools increases, the ethnic/racial diversity has also increased each year from 2015-2016 to 2018-2019 (Texas Education Agency, 2019b). Meanwhile, the population of White students has decreased during the same time period (Texas Education Agency, 2019b). This increased diversity matters because the academic achievement of students is color is statistically significantly lower than the academic achievement of their White and Asian peers (Harris, 2018; McGown, 2016; Pariseau, 2019; Schleeter, 2017). In fact, Hispanic students make up the largest percent of Texas public school students, nearly double the population of the next-largest group (Texas Education Agency, 2019b), magnifying the low performance achieved by this student group.

Another student demographic group with yearly population increases between 2015-2016 and 2018-2019 are students classified as English Language Learners (Texas Education Agency, 2019b). English Language Learners achieve lower scores than their English-speaking peers (Pariseau, 2019). When data are analyzed from the precursor to the STAAR assessment, the Texas Assessment of Knowledge and Skills test, English Language Learners achieved at statistically significantly lower rates than their Hispanic and White peers (Rojas-LeBouef, 2010).

**Statement of the Problem**

The State of Texas requires all public school students to be assessed annually in reading and mathematics, beginning in Grade 3 (Texas Assessment, 2019). From the 2015-2016 school year through the 2018-2019 school year, an average of 43.5% of Grade 3 students in the State of Texas achieved at the Meets Grade Level standard (Texas Education Agency, 2019c). Achievement at the Meets Grade Level standard indicates that a student may need short-term academic intervention in the following school year (Texas Education Agency, 2017), indicating almost 60% of Grade 3 students over this period required additional support to be successful in the following school year.

**Purpose of the Study**

The purpose of this study was to examine the degree to which demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) of Grade 3 students in Texas schools is related to their reading achievement. Specifically examined was each of the variables listed above for each of the four school years separately for boys and for girls, followed by a comparison of these variables across the four school years. Reading achievement was determined by the percent of students achieving at the Meets Grade Level Phase-in standard.

**Significance of the Study**

Published empirical studies regarding the combination of the demographic characteristics and reading achievement are limited. To date, no published studies were located in which researchers had examined the relationship between demographic characteristics (i.e., economic status, ethnicity/race) and reading achievement as measured by the Texas state-mandated reading assessment. In analyzing the reading



performance of Grade 3 Texas students by their demographic characteristics, stakeholders can be proactive rather than reactive in providing interventions to student groups.

### **Research Questions**

The research questions addressed in this investigation were: (a) Which student demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) predict likelihood of academic achievement at the Meets Grade Level standard as assessed by the Grade 3 STAAR Reading assessment?; Of these demographic characteristics, which ones are the better predictors?; Which ones are the poorest predictors?; and (b) To what extent is a trend present in the predictors for the 2015-2016 through the 2018-2019 school years? The first research question was repeated for separately for boys and for girls and separately for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years whereas the trend question involved all four school years. Thus, 10 research questions were present in this investigation.

## **Method**

### **Research Design**

The research design for this empirical investigation was a non-experimental, causal-comparative design (Creswell & Creswell, 2018; Johnson & Christensen, 2020). The independent variable in this study was reading academic achievement as assessed by the Grade 3 STAAR Reading test. The dependent variables were student demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner Status) from the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 Grade 3 STAAR Reading assessments.

## **Participants and Instrumentation**

Archival data were obtained from the Texas Education Agency Public Education Information Management System for the 2015-2016 through the 2018-2019 school years for all Grade 3 students who took the STAAR Reading assessment, as well as their student demographic characteristics. To obtain the data, a Public Information Request was submitted to the Texas Education Agency for an Advanced Statistics course.

The STAAR assessment is administered to public school students in Grades 3-12. The STAAR is the curriculum-based, state-mandated assessment in Texas and is designed to measure what students are learning in each grade. Students are assessed in reading and mathematics each year and additional content-area tests depending on the grade level (Texas Assessment, 2019).

The STAAR Grade Level Phase-In standards attempt to predict the level of success attainable, and the amount of academic intervention potentially required, in the following school year (Texas Education Agency, 2017). Meets Grade level on the STAAR indicates the students will most likely be successful in the following school year but may need short-term academic intervention. In this category, students demonstrate the ability to apply the knowledge and skills assessed in familiar contexts and a general ability to think critically is evident (Texas Education Agency, 2017).

For the purpose of this article, economic status included the categories of Poor and Not Poor. Students who were not eligible for free or reduced lunch were referred to as Not Poor. Students who were eligible for the reduced lunch program, indicating a family income of 131% to 185% of the federal poverty line (Burney & Beilke, 2008), as well as students who were eligible for the free lunch program, which indicates a family

income of 130% or less of the federal poverty line (Burney & Beilke, 2008), were referred to as Poor. Due to the small percentages of students qualifying for the reduced lunch program, all students who qualified for either the free or the reduced lunch programs were considered Poor. An English Language Learner has a language other than English as their primary language and is in the process of acquiring English (Texas Education Code, 2018).

## **Results**

Prior to conducting discriminant analysis procedures for these research questions, its underlying assumptions were checked. Though the majority of the data were not normally distributed, the majority of the underlying assumptions were met. To determine which student demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) predicted academic achievement on the Grade 3 STAAR Reading Meets Grade Level standard, stepwise canonical discriminant analyses were conducted for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years, separately for boys and for girls. Finally, the degree to which trends were present across the four school years was determined. Results of statistical analyses will be described by school year in chronological order by year and then across all four school years.

### **Results for Boys**

Regarding the 2015-2016 school year, the stepwise discriminant analysis involved the performance of Grade 3 Texas boys on the STAAR Reading Meets Grade Level standard (i.e., Met or Not Met) as the grouping variable and the demographic variables (i.e., economic status, ethnicity/race, English Language Learner status) as the discriminating variables. The function that resulted from the stepwise discriminant

analysis was statistically significant,  $\chi^2(5) = 17389.61$ ,  $p < .001$ , and accounted for 16.08% of the variance between the two groups (canonical  $R = .40$ ; Wilks'  $\Lambda = .84$ ). This discriminant function included five demographic variables: economic status (Standardized Coefficient = .73); ethnic/racial group Black (Standardized Coefficient = .52); ethnic/racial group Hispanic (Standardized Coefficient = .60); ethnic/racial group White (Standardized Coefficient = .33); and English Language Learner (Standardized Coefficient = .09). An examination of the standardized coefficients revealed that, using a cutoff coefficient of .3 (Lambert & Durand, 1975), economic status and ethnic/racial group Hispanic, Black, and White variables made an important contribution to the canonical function.

Group centroids were -0.50 for boys who met the Meets Grade Level standard and 0.38 for boys who did not meet the Meets Grade Level standard. Positive standardized coefficients, present for economic status, ethnic/racial group Hispanic, ethnic/racial group Black, and English Language Learner, were reflective that being poor, being Hispanic, being Black, or being an English Language Learner was predictive of not meeting the Meets Grade Level standard. Readers are directed to Table 4.1 for the descriptive statistics for these analyses.

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 Insert Table 4.1 about here  
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Concerning the 2016-2017 school year, the stepwise discriminant analysis involved the performance of Grade 3 Texas boys on the STAAR Reading Meets Grade Level standard (i.e., Met or Not Met) as the grouping variable and the demographic

variables as the discriminating variables. The function that resulted from the stepwise discriminant analysis was statistically significant,  $\chi^2(5) = 15987.20$ ,  $p < .001$ , and accounted for 15.21% of the variance between the two groups (canonical  $R = .39$ ; Wilks'  $\Lambda = .85$ ). This discriminant function included five demographic variables: economic status (Standardized Coefficient = .76); ethnic/racial group Black (Standardized Coefficient = .32); ethnic/racial group Hispanic (Standardized Coefficient = .21); ethnic/racial group Asian (Standardized Coefficient = .16); and English Language Learner (Standardized Coefficient = .04). An examination of the standardized coefficients revealed that, using a cutoff coefficient of .3 (Lambert & Durand, 1975), only two variables, economic status and ethnic/racial group Black, made an important contribution to the canonical function.

Group centroids were -0.48 for boys who met the Meets Grade Level standard and 0.38 for boys who did not meet the Meets Grade Level standard. Positive standardized coefficients, present for economic status, ethnic/racial group Hispanic, ethnic/racial group Black, and English Language Learner, were reflective that being poor, being Hispanic, being Black, or being an English Language Learner was predictive of not meeting the Meets Grade Level standard. Readers are directed to Table 4.2 for the descriptive statistics for these analyses.

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With respect to the 2017-2018 school year, the stepwise discriminant analysis involved the performance of Grade 3 Texas boys on the STAAR Reading Meets Grade

Level standard as the grouping variable and the demographic variables (i.e., economic status, ethnicity/race) as the discriminating variables. The variable of English Language Learner was not present in this year's dataset. The function that resulted from the stepwise discriminant analysis was statistically significant,  $\chi^2(4) = 13421.08, p < .001$ , and accounted for 16% of the variance between the two groups (canonical  $R = .40$ ; Wilks'  $\Lambda = .84$ ). This discriminant function included four demographic variables: economic status (Standardized Coefficient = .72); ethnic/racial group Hispanic (Standardized Coefficient = .61); ethnic/racial group Black (Standardized Coefficient = .53); and ethnic/racial group White (Standardized Coefficient = .31). An examination of the standardized coefficients revealed that, using a cutoff coefficient of .3 (Lambert & Durand, 1975), all of the variables made an important contribution to the canonical function.

Group centroids were -0.46 for boys who met the Meets Grade Level standard and 0.42 for boys who did not meet the Meets Grade Level standard. Positive standardized coefficients, present for economic status, ethnic/racial group Hispanic, and ethnic/racial group Black, were reflective that being poor, being Hispanic, or being Black was predictive of not meeting the Meets Grade Level standard. Readers are directed to Table 4.3 for the descriptive statistics for these analyses.

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 Insert Table 4.3 about here  
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Concerning the 2018-2019 school year, the stepwise discriminant analysis involved the performance of Grade 3 Texas boys on the STAAR Reading Meets Grade

Level standard as the grouping variable and the demographic variables as the discriminating variables. The function that resulted from the stepwise discriminant analysis was statistically significant,  $\chi^2(5) = 12379.99, p < .001$ , and accounted for 15.60% of the variance between the two groups (canonical  $R = .40$ ; Wilks'  $\Lambda = .84$ ). This discriminant function included four demographic variables: economic status (Standardized Coefficient = .77); ethnic/racial group White (Standardized Coefficient = .44); ethnic/racial group Asian (Standardized Coefficient = .36); and ethnic/racial group Hispanic (Standardized Coefficient = .24). An examination of the standardized coefficients revealed that, using a cutoff coefficient of .3 (Lambert & Durand, 1975), economic status and ethnic/racial group variables White and Asian made an important contribution to the canonical function.

Group centroids were 0.43 for boys who met the Meets Grade Level standard and -0.43 for boys who did not meet the Meets Grade Level standard. Positive standardized coefficients were present for ethnic/racial group White and ethnic/racial group Asian meant that these two groups of boys were more likely to have met the Meets Grade Level standard than were their counterparts. Readers are directed to Table 4.4 for the descriptive statistics for these analyses.

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### **Results for Girls**

Regarding the 2015-2016 school year, the stepwise discriminant analysis involved the performance of Grade 3 Texas girls on the STAAR Reading Meets Grade Level

standard (i.e., Met or Not Met) as the grouping variable and the demographic variables (i.e., economic status, ethnicity/race, English Language Learner status) as the discriminating variables. The function that resulted from the stepwise discriminant analysis was statistically significant,  $\chi^2(5) = 17080.69$ ,  $p < .001$ , and accounted for 16.08% of the variance between the two groups (canonical  $R = .40$ ; Wilks'  $\Lambda = .84$ ). This discriminant function included five demographic variables: economic status (Standardized Coefficient = .78); ethnic/racial group White (Standardized Coefficient = .40); ethnic/racial group Asian (Standardized Coefficient = .28); ethnic/racial group Hispanic (Standardized Coefficient = .21); and English Language Learner (Standardized Coefficient = .06). An examination of the standardized coefficients revealed that, using a cutoff coefficient of .3 (Lambert & Durand, 1975), only two variables, economic status and ethnic/racial group White, made an important contribution to the canonical function.

Group centroids were 0.45 for girls who met the Meets Grade Level standard and -0.42 for girls who did not meet the Meets Grade Level standard. Positive standardized coefficients, present for ethnic/racial group White and ethnic/racial group Asian, meant that these two groups of girls were more likely to have met the Meets Grade Level standard than were their counterparts. Readers are directed to Table 4.5 for the descriptive statistics for these analyses.

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Concerning the 2016-2017 school year, the stepwise discriminant analysis involved the performance of Grade 3 Texas girls on the STAAR Reading Meets Grade



Level standard as the grouping variable and the demographic variables as the discriminating variables. The function that resulted from the stepwise discriminant analysis was statistically significant,  $\chi^2(4) = 15189.66, p < .001$ , and accounted for 15.13% of the variance between the two groups (canonical  $R = .39$ ; Wilks'  $\Lambda = .85$ ). This discriminant function included five demographic variables: economic status (Standardized Coefficient = .81); ethnic/racial group Asian (Standardized Coefficient = .21); ethnic/racial group White (Standardized Coefficient = .18); and ethnic/racial group Black (Standardized Coefficient = .13). An examination of the standardized coefficients revealed that, using a cutoff coefficient of .3 (Lambert & Durand, 1975), only economic status made an important contribution to the canonical function.

Group centroids were -0.41 for girls who met the Meets Grade Level standard and 0.44 for girls who did not meet the Meets Grade Level standard. Positive standardized coefficients, present for economic status, ethnic/racial group Hispanic, ethnic/racial group Black, and English Language Learner, were reflective that being poor, being Hispanic, being Black, or being an English Language Learner was predictive of not meeting the Meets Grade Level standard. Readers are directed to Table 4.6 for the descriptive statistics for these analyses.

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 Insert Table 4.6 about here  
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With respect to the 2017-2018 school year, the stepwise discriminant analysis involved the performance of Grade 3 Texas girls on the STAAR Reading Meets Grade Level standard as the grouping variable and the demographic variables (i.e., economic

status, ethnicity/race) as the discriminating variables. The variable of English Language Learner was not present in this year's dataset. The function that resulted from the stepwise discriminant analysis was statistically significant,  $\chi^2(4) = 13641.57, p < .001$ , and accounted for 16% of the variance between the two groups (canonical  $R = .40$ ; Wilks'  $\Lambda = .84$ ). This discriminant function included four demographic variables: economic status (Standardized Coefficient = .74); ethnic/racial group White (Standardized Coefficient = .45); ethnic/racial group Asian (Standardized Coefficient = .30); and ethnic/racial group Hispanic (Standardized Coefficient = .17). An examination of the standardized coefficients revealed that, using a cutoff coefficient of .3 (Lambert & Durand, 1975), only three variables, economic status, ethnic/racial group White, and ethnic/racial group Hispanic, made an important contribution to the canonical function.

Group centroids were 0.42 for girls who met the Meets Grade Level standard and -0.46 for girls who did not meet the Meets Grade Level standard. Positive standardized coefficients, present for ethnic/racial group White and ethnic/racial group Asian, meant that these two groups of girls were more likely to have met the Meets Grade Level standard than were their counterparts. Readers are directed to Table 4.7 for the descriptive statistics for these analyses.

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Concerning the 2018-2019 school year, the stepwise discriminant analysis involved the performance of Grade 3 Texas girls on the STAAR Reading Meets Grade Level standard as the grouping variable and the demographic variables as the

discriminating variables. The function that resulted from the stepwise discriminant analysis was statistically significant,  $\chi^2(5) = 11804.33, p < .001$ , and accounted for 14.75% of the variance between the two groups (canonical  $R = .38$ ; Wilks'  $\Lambda = .85$ ). This discriminant function included five demographic variables: economic status (Standardized Coefficient = .81); ethnic/racial group White (Standardized Coefficient = .45); ethnic/racial group Asian (Standardized Coefficient = .31); ethnic/racial group Hispanic (Standardized Coefficient = .15); and English Language Learner (Standardized Coefficient = .03). An examination of the standardized coefficients revealed that, using a cutoff coefficient of .3 (Lambert & Durand, 1975), only three variables, economic status, ethnic/racial group White, and ethnic/racial group Hispanic, made an important contribution to the canonical function.

Group centroids were 0.38 for girls who met the Meets Grade Level standard and -0.46 for girls who did not meet the Meets Grade Level standard. Positive standardized coefficients were present for ethnic/racial group White and ethnic/racial group Asian meant that these two groups of girls were more likely to have met the Meets Grade Level standard than were their counterparts. Readers are directed to Table 4.8 for the descriptive statistics for these analyses.

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### **Results for the Student Demographic Characteristics Analyses Over Time for Boys**

Following the stepwise discriminant analyses involving the performance of Grade 3 Texas boys on the STAAR Reading Meets Grade Level standard, results were reviewed

to determine the presence of trends across the four school years. With consideration to boys, results were consistent for three out of the four school years in that being Poor, Hispanic, or Black was indicative of not meeting the Meets Grade Level standard. Being Poor was the most important predictor, more predictive than was being a student of color. Being an English Language Learner was indicative of not meeting the Meets Grade Level standard in two of the three years data were available. In all school years analyzed, less than 35% of boys who were Poor, Hispanic, Black, or categorized as an English Language Learner failed to meet the Meets Grade Level standard.

### **Results for the Student Demographic Characteristics Analyses Over Time for Girls**

Following the stepwise discriminant analyses involving the performance of Grade 3 Texas girls on the STAAR Reading Meets Grade Level standard, results were reviewed to determine the presence of trends across the four school years. With consideration to girls, results were consistent for three out of the four school years in that being White or Asian was indicative of meeting the Meets Grade Level standard. In all school years analyzed, more than 66% of girls who were White or Asian met the Meets Grade Level standard.

### **Discussion**

Analyzed in this investigation was the degree to which demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) of Grade 3 students in Texas schools was related to their reading achievement. Specifically examined was each of the variables listed above for each of the four school years separately for boys and for girls. followed by a comparison of these variables across the four school years. Statistically significant results were present in all four school years for

boys and for girls. In three of the four years analyzed regarding the performance of boys, being Poor, Black, or Hispanic was indicative of not meeting the Meets Grade Level standard. In three of the four years investigated regarding the performance of girls, being White or Asian was indicative of meeting the Meets Grade Level standard. For boys, poverty was the single most important variable related to not meeting the Meets Grade Level standard. The second most important factor was whether or not they were Black. With respect to girls, not being White or Asian, was predictive of not meeting the Meets Grade Level standard.

### **Connections to Existing Literature**

As revealed in this study, boys from poverty backgrounds, Black boys, Hispanic boys, and English Language Learner boys were less likely to meet the Meets Grade Level standard on the Grade 3 STAAR Reading assessment. In addition, White or Asian girls were more likely to meet this standard than were their counterparts. Nationally (David & Marchant, 2015; Nichols, Glass, & Berliner, 2012) and in Texas (Hamilton & Slate, 2019; Harris, 2018; McGown, 2016; Pariseau, 2019; Schleeter, 2017), Grade 3 and Grade 4 students from poverty backgrounds consistently achieve at lower rates than their Not Poor peers, congruent with the findings of this study. Grade 3 and Grade 4 Asian students outperformed students from all other ethnic/racial backgrounds, followed by White students, Hispanic students, and then Black students. The results of this article are quite consistent with the findings, across America (David & Marchant, 2015; Nichols et al., 2012), and in Texas (Harris, 2018; McGown, 2016; Pariseau, 2019; Schleeter, 2017). Students who are English Language Learners achieve at lesser rates than their English-

speaking peers both nationally (Polat et al., 2016) and in Texas (Pariseau, 2019; Rojas-LeBouef, 2010), findings with which the results of this investigation are commensurate.

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

Based on the results of this research study of four years of statewide data, several implications for policy and for practice can be suggested. With respect to policy implications, politicians and educational decision-makers should review options to mitigate the effects of poverty. The percentage of Texas students who are living in poverty is just over 60% of all students and has increased by over 22% in the last 10 years (Texas Education Agency, 2019b). Current policies in place are not eliminating poverty, therefore new ideas should be considered.

With respect to practice implications, educational leaders should prioritize inclusive hiring practices. Though more Black and Hispanic teachers have entered the workforce in the last 10 years, Black, Hispanic, and Asian teachers comprise approximately one-third of total teachers whereas students from the same ethnic/racial background make up more than two-thirds of Texas students (Campbell, 2017).

Another strategy educational leaders can implement is training teachers to use culturally responsive teaching in their classroom. When the ethnic/racial background of the teacher does not match the ethnic/racial background of the students, cultural differences can result in instruction that is irrelevant and ineffective (Muniz, 2019). A lack of culturally responsive training in teacher preparation programs (Muniz, 2019) indicates a need for school districts to develop and administer their own trainings.

Lastly, educators must be trained in best practices when instructing students from poverty backgrounds. Until poverty, or its effects, are eliminated, teachers must have the

skills to understand how poverty can influence student health, behavior, and academic achievement. As long as educators are tasked with overcoming these tremendous odds, there is no other option.

### **Recommendations for Future Research**

Given the results of this multiyear, statewide investigation, several recommendations for future research can be made. This research study was conducted on data for Grade 3 students in Texas. Therefore, the degree to which findings obtained herein could be generalizable to other grade levels or states is not known. Researchers should analyze the reading performance of students in other grade levels. Researchers should also examine the reading achievement of students in other states to determine if similar results are present across America. To analyze trends over several years, researchers are encouraged to conduct longitudinal studies. Determining if similar results are present across multiple years would provide extremely valuable information to policymakers and practitioners. Finally, because only reading academic achievement as determined by the STAAR assessment was analyzed in this study, researchers are encouraged to conduct future studies to determine if similar trends are present in other subjects.

### **Conclusion**

In this multiyear analysis, the degree to which demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) of Grade 3 students in Texas schools is related to their reading achievement was investigated. Specifically examined was each of the variables listed above for the 2015-2016 through the 2018-2019 school years separately for boys and for girls, followed by a comparison of these

variables across the four school years. Statistically significant results were present in all four school years for boys and for girls. Trends were that being Poor, Black, or Hispanic was indicative of not meeting the Meets Grade Level standard for boys, with poverty being the single most important predictor. Being White or Asian was indicative of meeting the Meets Grade Level standard for girls. With respect to the years analyzed in this study, an average of 72% of Black students and 76% of Hispanic students were considered Poor compared to only 28% of Asian students and 29% of White students (Texas Education Agency, 2019b). Poverty affects academic performance. Far too many students are being left behind when the goal is for every student to succeed.



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Table 4.1

*Descriptive Statistics for Grade 3 STAAR Reading Meets Grade Level Performance by the Demographic Characteristics of Boys for the 2015-2016 School Year*

Demographic Characteristic	Met the Grade Level	Did Not Meet the Grade
	Standard	Level Standard
Poor	26.5%	73.5%
Black	22.9%	77.1%
Hispanic	31.8%	68.2%
White	62.5%	37.5%
English Language Learner	27.5%	72.5%
Asian	76.0%	24.0%

Table 4.2

*Descriptive Statistics for Grade 3 STAAR Reading Meets Grade Level Performance by the Demographic Characteristics of Boys for the 2016-2017 School Year*

Demographic Characteristic	Met the Grade Level	Did Not Meet the Grade
	Standard	Level Standard
Poor	27.9%	72.1%
Black	23.4%	76.6%
Hispanic	33.6%	66.4%
English Language Learner	29.2%	70.8%
White	61.2%	38.8%
Asian	79.6%	20.4%

Table 4.3

*Descriptive Statistics for Grade 3 STAAR Reading Meets Grade Level Performance by the Demographic Characteristics of Boys for the 2017-2018 School Year*

Demographic Characteristic	Met the Grade Level	Did Not Meet the Grade
	Standard	Level Standard
Poor	29.5%	70.5%
Black	24.3%	75.7%
Hispanic	34.8%	65.2%
White	64.8%	35.2%
Asian	79.6%	20.4%



Table 4.4

*Descriptive Statistics for Grade 3 STAAR Reading Meets Grade Level Performance by the Demographic Characteristics of Boys for the 2018-2019 School Year*

Demographic Characteristic	Met the Grade Level	Did Not Meet the Grade
	Standard	Level Standard
Poor	30.2%	69.8%
Black	23.5%	74.7%
Hispanic	25.3%	74.7%
English Language Learner	32.7%	67.3%
White	64.2%	35.8%
Asian	81.5%	18.5%

Table 4.5

*Descriptive Statistics for Grade 3 STAAR Reading Meets Grade Level Performance by the Demographic Characteristics of Girls for the 2015-2016 School Year*

Demographic Characteristic	Met the Grade Level	Did Not Meet the Grade
	Standard	Level Standard
Poor	35.9%	73.8%
White	66.8%	19.5%
Asian	81.3%	18.7%
Hispanic	44.3%	63.0%
English Language Learner	32.2%	67.8%
Black	30.2%	69.8%

Table 4.6

*Descriptive Statistics for Grade 3 STAAR Reading Meets Grade Level Performance by the Demographic Characteristics of Girls for the 2016-2017 School Year*

Demographic Characteristic	Met the Grade Level	Did Not Meet the Grade
	Standard	Level Standard
Poor	34.5%	65.5%
Asian	85.2%	14.8%
White	67.8%	32.2%
Black	32.4%	67.6%
Hispanic	40.7%	59.3%
English Language Learner	35.6%	64.4%

Table 4.7

*Descriptive Statistics for Grade 3 STAAR Reading Meets Grade Level Performance by the Demographic Characteristics of Girls for the 2017-2018 School Year*

Demographic Characteristic	Met the Grade Level	Did Not Meet the Grade
	Standard	Level Standard
Poor	34.0%	66.0%
White	69.7%	30.3%
Asian	83.5%	16.5%
Hispanic	39.8%	60.2%
Black	31.6%	68.4%

Table 4.8

*Descriptive Statistics for Grade 3 STAAR Reading Meets Grade Level Performance by the Demographic Characteristics of Girls for the 2018-2019 School Year*

Demographic Characteristic	Met the Grade Level	Did Not Meet the Grade
	Standard	Level Standard
Poor	36.1%	63.9%
White	69.0%	31.0%
Asian	86.4%	13.6%
Hispanic	57.0%	43.0%
English Language Learner	38.8%	61.2%
Black	34.6%	65.4%

## CHAPTER V

### DISCUSSION

The purpose of this journal-ready dissertation was to examine the extent to which differences were present by student demographic characteristic (i.e., economic status, ethnicity/race, English Language Learner status) in the reading achievement of Texas Grade 3 students. In the first article, the extent to which the economic status (i.e., Poor, Not Poor) of Grade 3 underrepresented boys in Texas schools is related to their reading achievement was examined. In the second article, the degree to which the economic status (i.e., Poor, Not Poor) of Grade 3 Asian, Black, and Hispanic girls in Texas schools is related to their reading achievement was addressed. In the third study, the degree to which demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) of Grade 3 students in Texas is related to their reading achievement was determined. For each of these studies, archival data were analyzed. An analysis of academic performance for the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years was conducted to determine the degree to which trends are present.

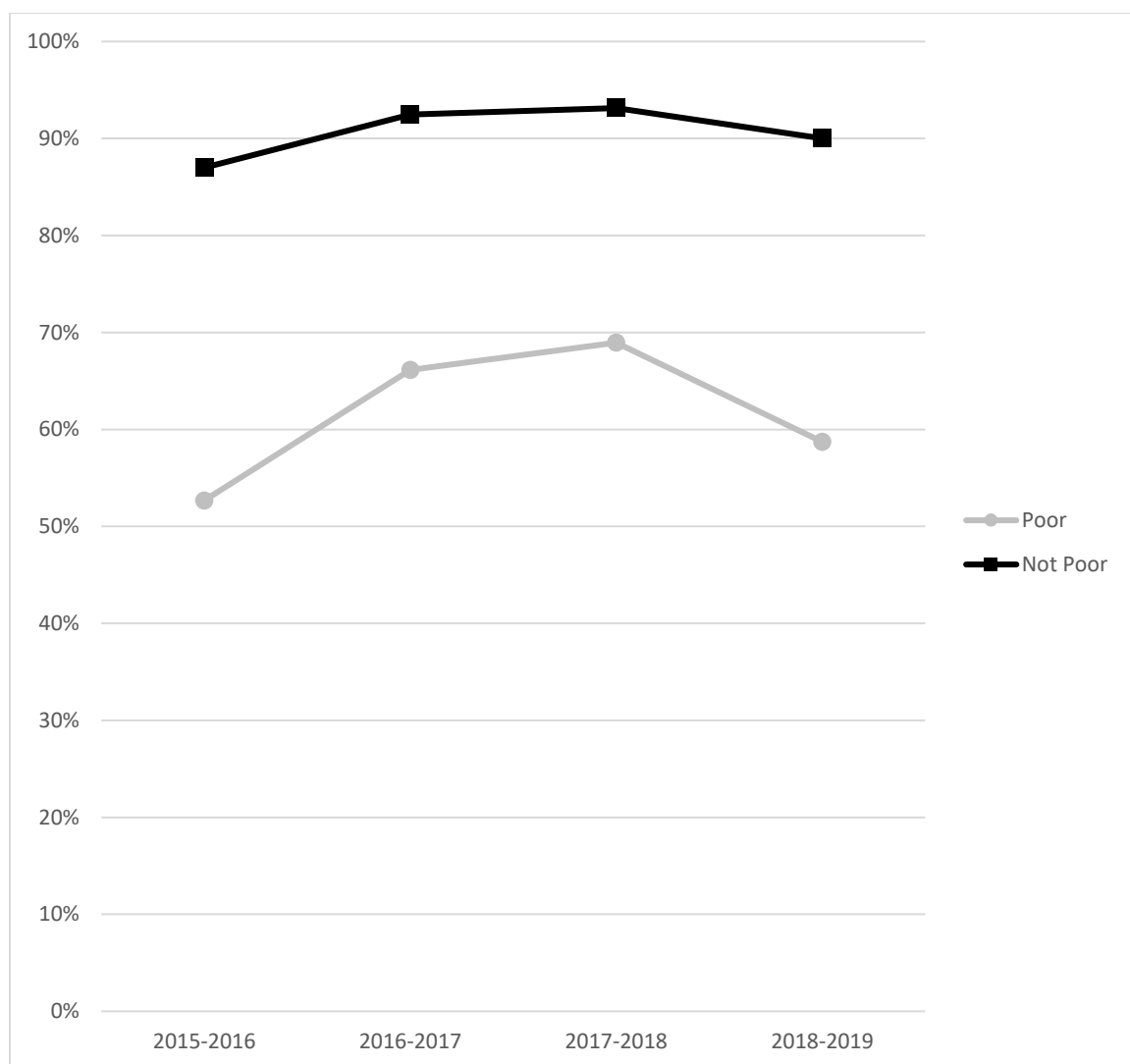
In this chapter, the results of the three articles in this journal-ready dissertation will be summarized and discussed. Additionally, the implications of these findings for policy and practice are discussed, followed by recommendations for future research.

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

Four years of statewide data on the three Grade 3 STAAR Reading Reporting Categories were examined for Poor and Not Poor Asian boys, Poor and Not Poor Black boys, and Poor and Not Poor Hispanic boys. Statistically significant results were present in all four school years. In each of the three STAAR Reading Reporting Category results

in all four years analyzed, underrepresented boys who were Poor had statistically significantly lower scores than underrepresented boys who were Not Poor. The Reporting Category with the lowest average score for all student groups was Reporting Category III.

Differences were present regarding the gap between Asian boys who were Poor and Asian boys who were Not Poor. In regard to the Grade 3 STAAR Reading Reporting Category I scores, Asian boys who were Poor had an average score approximately 34% lower than the average score for Asian boys who were Not Poor in 2015-2016; 26% lower than the average score for Asian boys who were Not Poor in 2016-2017; 24% lower in 2017-2018; and 31% lower in 2018-2019. Portrayed in Figure 5.1 are the results of Reading Reporting Category I scores for Asian boys who were Poor and Asian boys who were Not Poor.

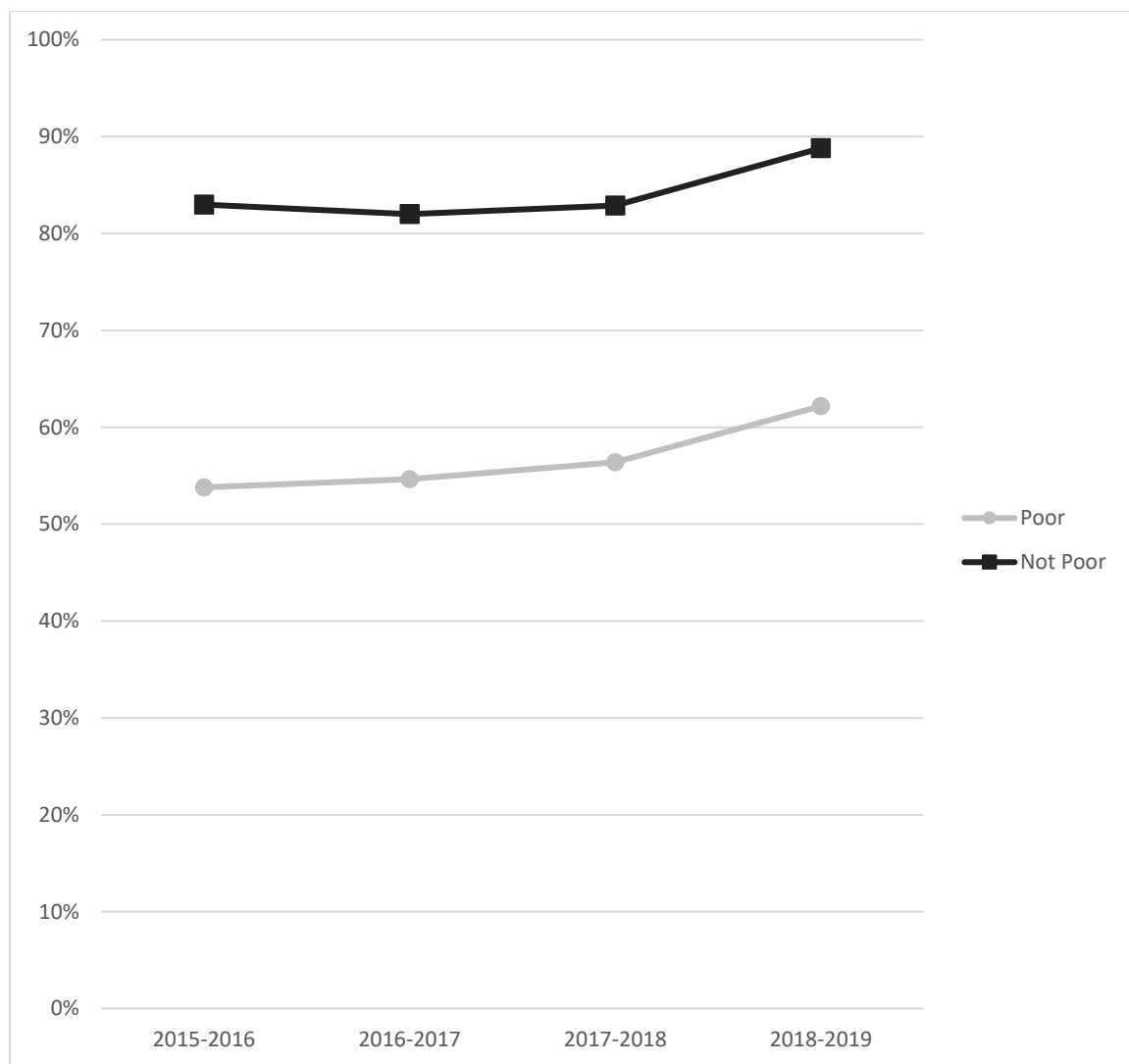


*Figure 5.1.* Grade 3 Reading Reporting Category I scores by the economic status of Asian boys for the 2015-2016 through the 2018-2019 school years.

Statistically significant differences between Asian boys who were Poor and Asian boys who were Not Poor were consistent in regard to the Grade 3 STAAR Reading Reporting Category II scores. Asian boys who were Poor had an average score approximately 30% lower than the average score for Asian boys who were Not Poor in 2015-2016; 28% lower than the average score for Asian boys who were Not Poor in 2016-2017; and 27% lower than the average score for Asian boys who were Not Poor in



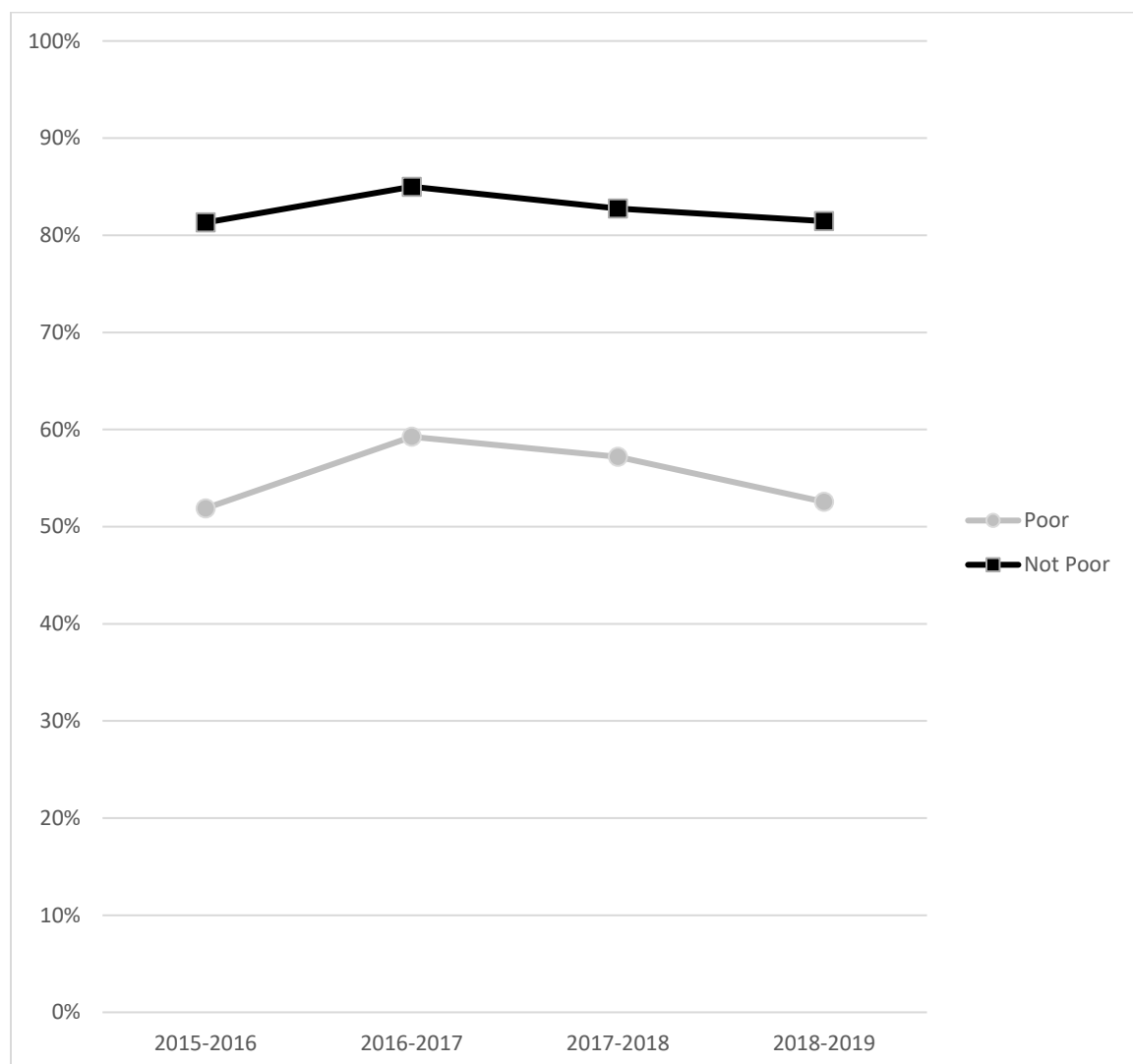
2017-2018 and 2018-2019. Depicted in Figure 5.2 are the results of Reading Reporting Category II scores for Asian boys who were Poor and Asian boys who were Not Poor.



*Figure 5.2.* Grade 3 Reading Reporting Category II scores by the economic status of Asian boys for the 2015-2016 through the 2018-2019 school years.

Statistically significant differences between Asian boys who were Poor and Asian boys who were Not Poor were also consistent in regard to the Grade 3 STAAR Reading Reporting Category III scores. Asian boys who were Poor had an average score approximately 29% lower than the average score for Asian boys who were Not Poor in 2015-2016; 26% lower than the average score for Asian boys who were Not Poor in

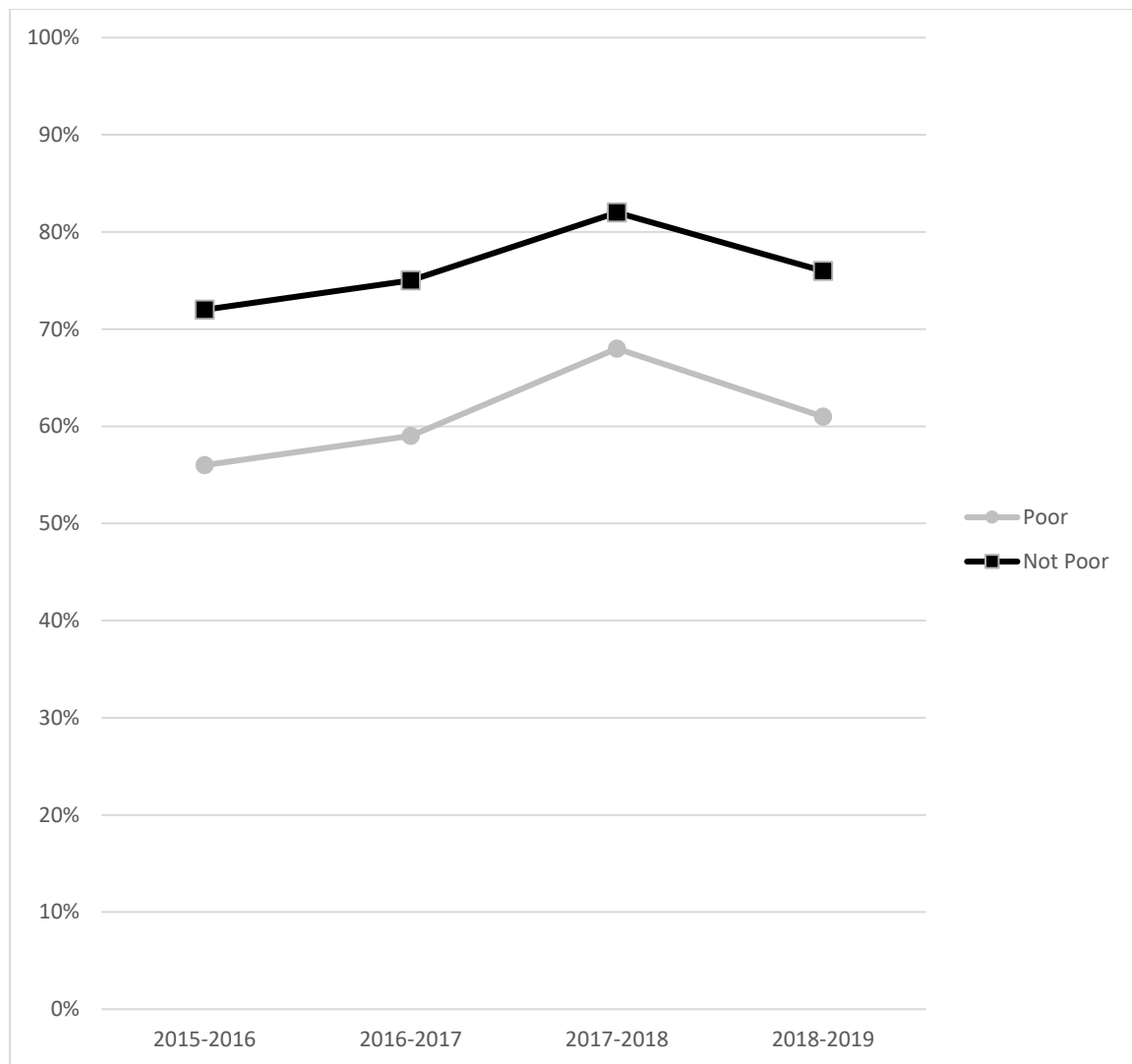
2016-2017 and 2017-2018; and 29% lower than the average score for Asian boys who were Not Poor in 2018-2019. Illustrated in Figure 5.2 are the results of Reading Reporting Category III scores for Asian boys who were Poor and Asian boys who were Not Poor.



*Figure 5.3.* Grade 3 Reading Reporting Category III scores by the economic status of Asian boys for the 2015-2016 through the 2018-2019 school years.

Differences were consistent regarding the gap between Black boys who were Poor and Black boys who were Not Poor. Concerning the Grade 3 STAAR Reading Reporting Category I scores, Black boys who were Poor had an average score approximately 16%

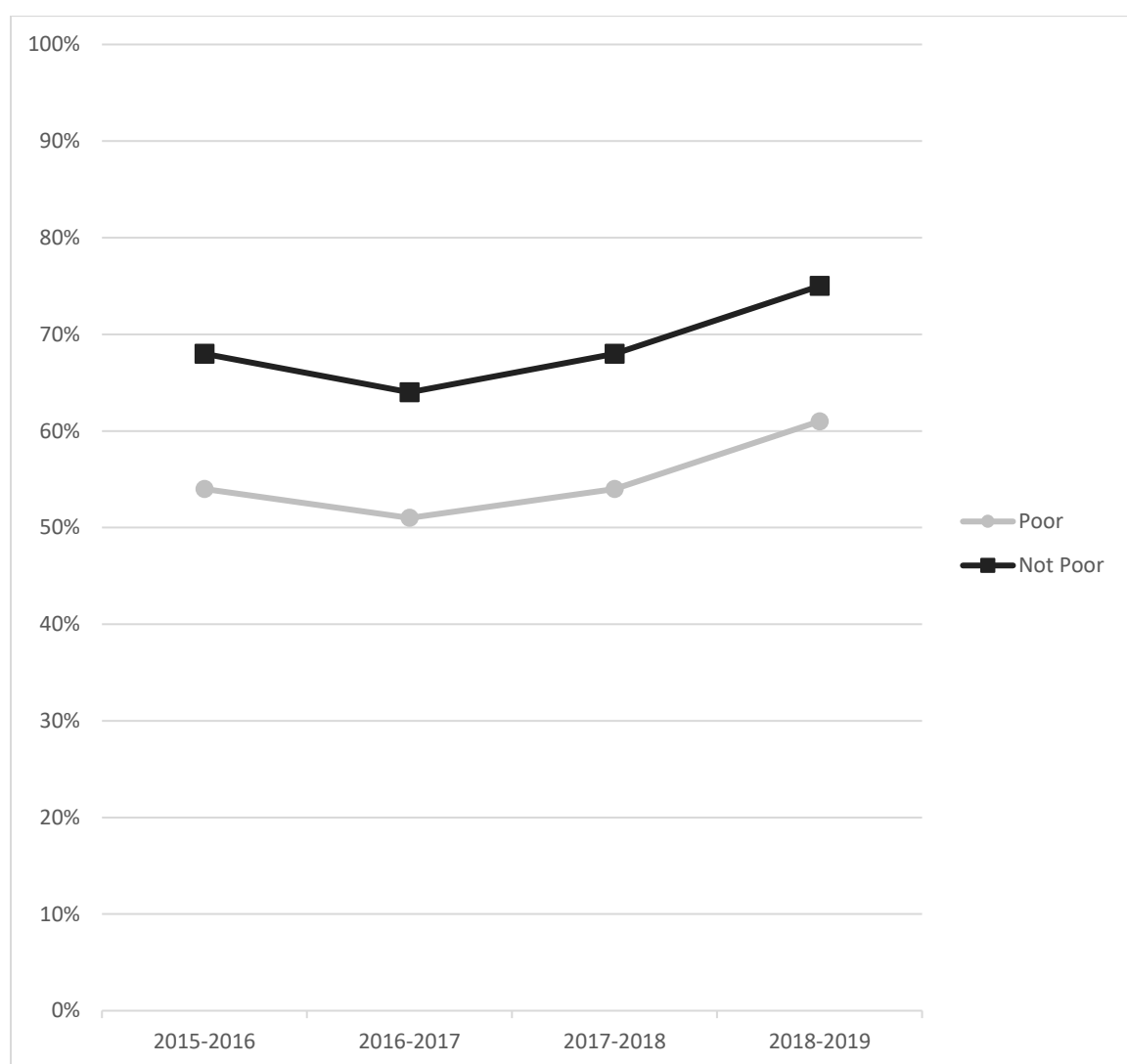
lower than the average score for Black boys who were Not Poor in 2015-2016 and 2016-2017; 15% lower than the average score for Black boys who were Not Poor in 2017-2018; and 14% lower than the average score for Black boys who were Not Poor in 2017-2018. Portrayed in Figure 5.4 are the results of Reading Reporting Category I scores for Black boys who were Poor and Black boys who were Not Poor.



*Figure 5.4.* Grade 3 Reading Reporting Category I scores by the economic status of Black boys for the 2015-2016 through the 2018-2019 school years.

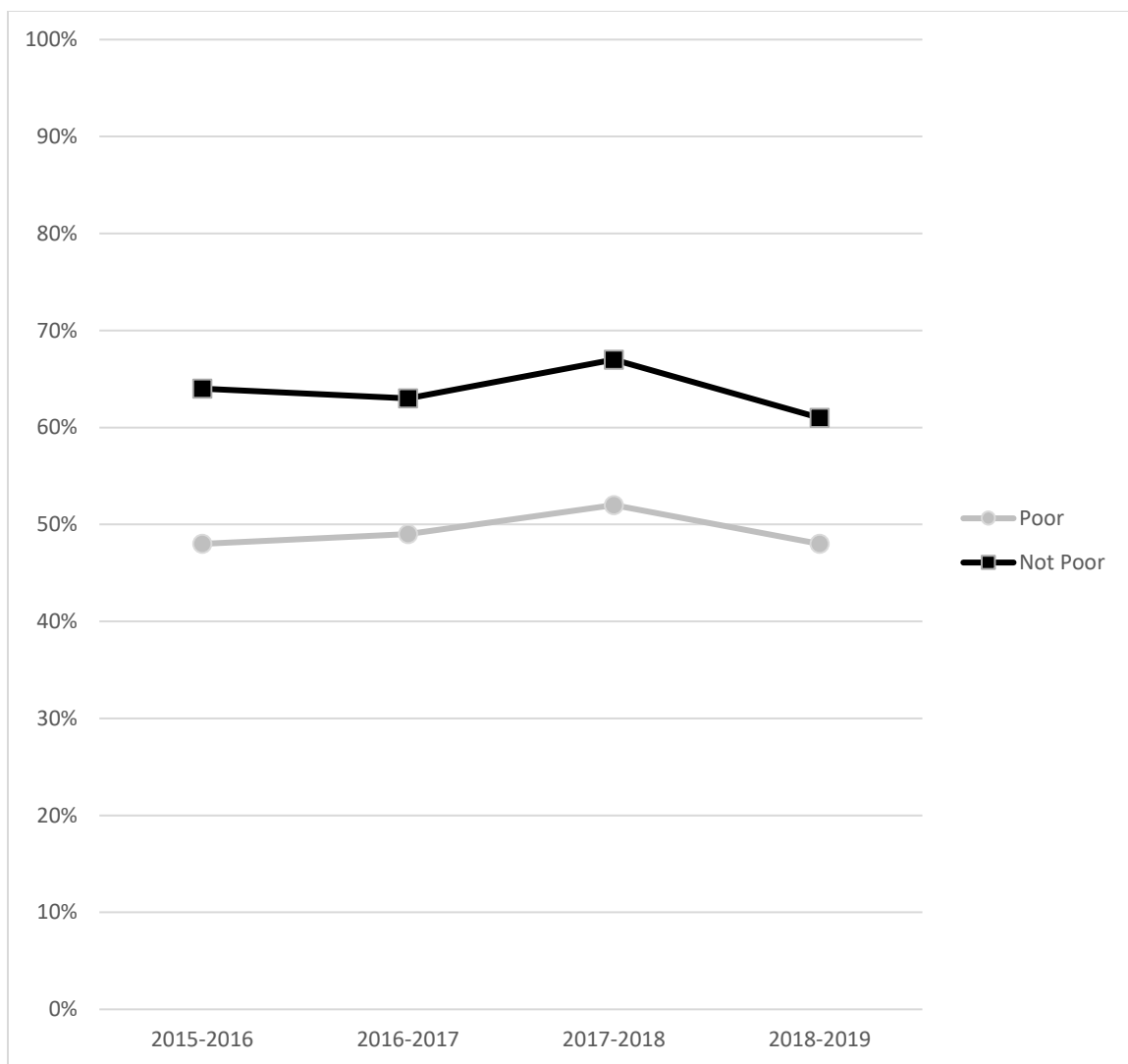
The statistically significant differences between Black boys who were Poor and Black boys who were Not Poor were consistent in regard to the Grade 3 STAAR Reading

Reporting Category II scores. Black boys who were Poor had an average score approximately 15% lower than the average score for Black boys who were Not Poor in 2015-2016; 14% lower than the average score for Black boys who were Not Poor in 2016-2017; 13% lower than the average score for Black boys who were Not Poor in 2017-2018; and 15% lower than the average score for Black boys who were Not Poor in 2018-2019. Illustrated in Figure 5.5 are the results of Reading Reporting Category II scores for Black boys who were Poor and Black boys who were Not Poor.



*Figure 5.5.* Grade 3 Reading Reporting Category II scores by the economic status of Black boys for the 2015-2016 through the 2018-2019 school years.

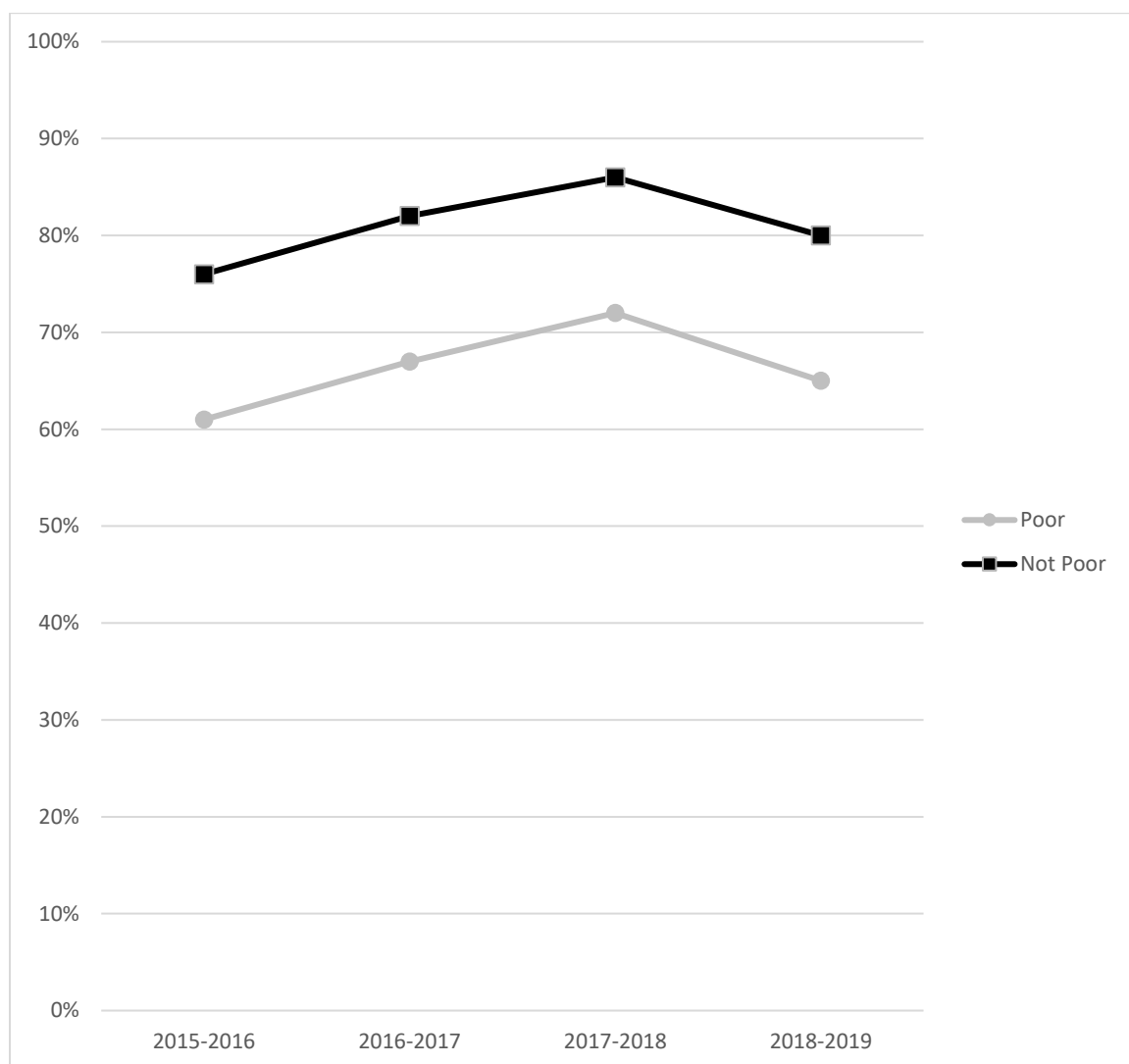
Statistically significant differences between Black boys who were Poor and Black boys who were Not Poor were also consistent in regard to the Grade 3 STAAR Reading Reporting Category III scores. Black boys who were Poor had an average score approximately 16% lower than the average score for Black boys who were Not Poor in 2015-2016; 15% lower than the average score for Black boys who were Not Poor in 2016-2017 and 2017-2018; and 14% lower than the average score for Black boys who were Not Poor in 2018-2019. Depicted in Figure 5.6 are the results of Reading Reporting Category III scores for Black boys who were Poor and Black boys who were Not Poor.



*Figure 5.6.* Grade 3 Reading Reporting Category III scores by the economic status of Black boys for the 2015-2016 through the 2018-2019 school years.

Differences were consistent regarding the gap between Hispanic boys who were Poor and Hispanic boys who were Not Poor. With regard to the Grade 3 STAAR Reading Reporting Category I scores, Hispanic boys who were Poor had an average score approximately 15% lower than the average score for Hispanic boys who were Not Poor in 2015-2016; 14% lower than the average score for Hispanic boys who were Not Poor in 2016-2017 and 2017-2018; and 16% lower than the average score for Hispanic boys who were Not Poor in 2018-2019. Portrayed in Figure 5.7 are the results of Reading

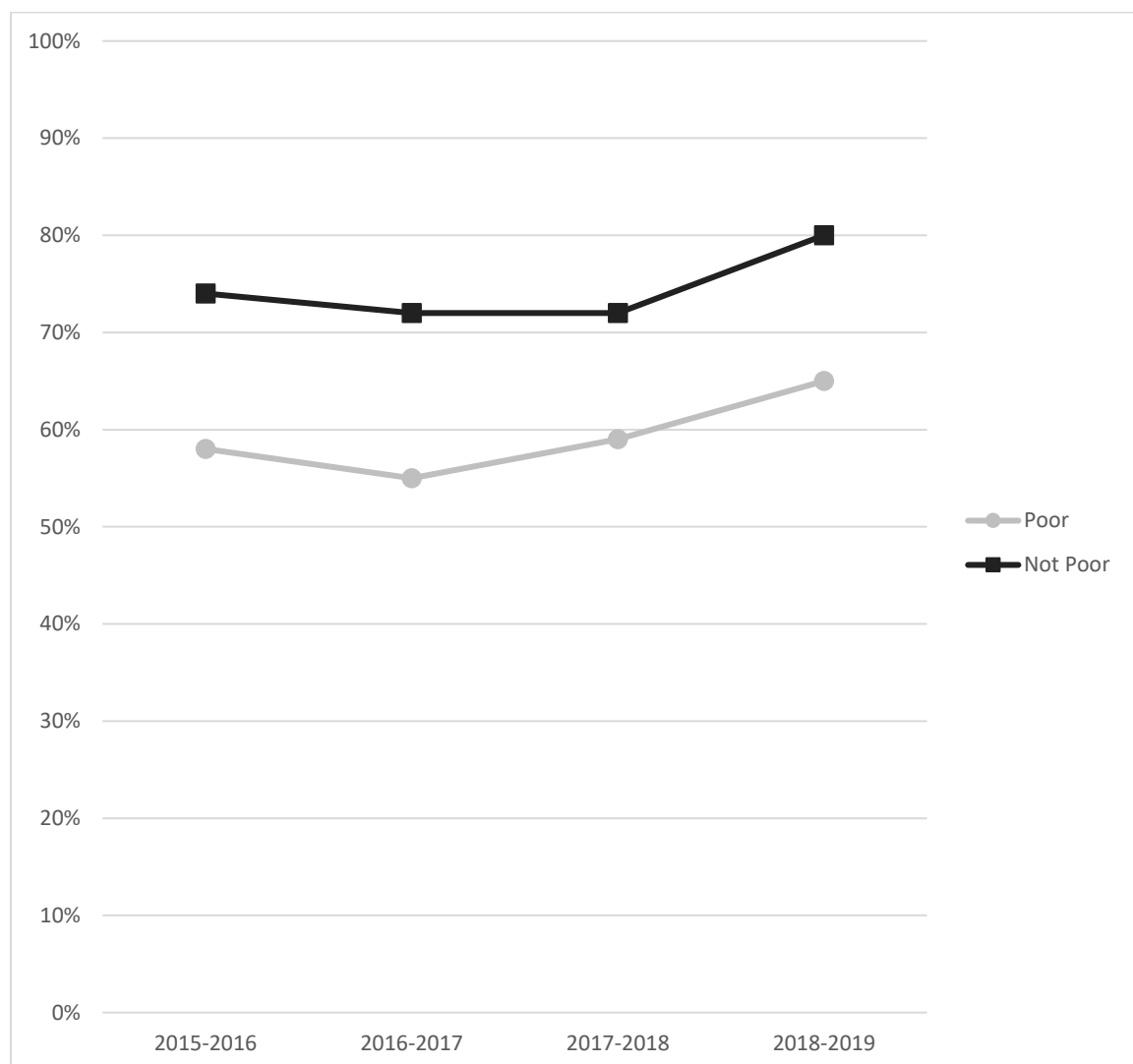
Reporting Category I scores for Hispanic boys who were Poor and Hispanic boys who were Not Poor.



*Figure 5.7.* Grade 3 Reading Reporting Category I scores by the economic status of Hispanic boys for the 2015-2016 through the 2018-2019 school years.

The statistically significant differences between Hispanic boys who were Poor and Hispanic boys who were Not Poor were consistent in regard to the Grade 3 STAAR Reading Reporting Category II scores. Hispanic boys who were Poor had an average score approximately 15% lower than the average score for Hispanic boys who were Not Poor in 2015-2016; 16% lower than the average score for Hispanic boys who were Not

Poor; 13% lower than the average score for Hispanic boys who were Not Poor in 2017-2018; and 15% lower than the average score for Hispanic boys who were Not Poor in 2018-2019. Illustrated in Figure 5.8 are the results of Reading Reporting Category II scores for Hispanic boys who were Poor and Hispanic boys who were Not Poor.

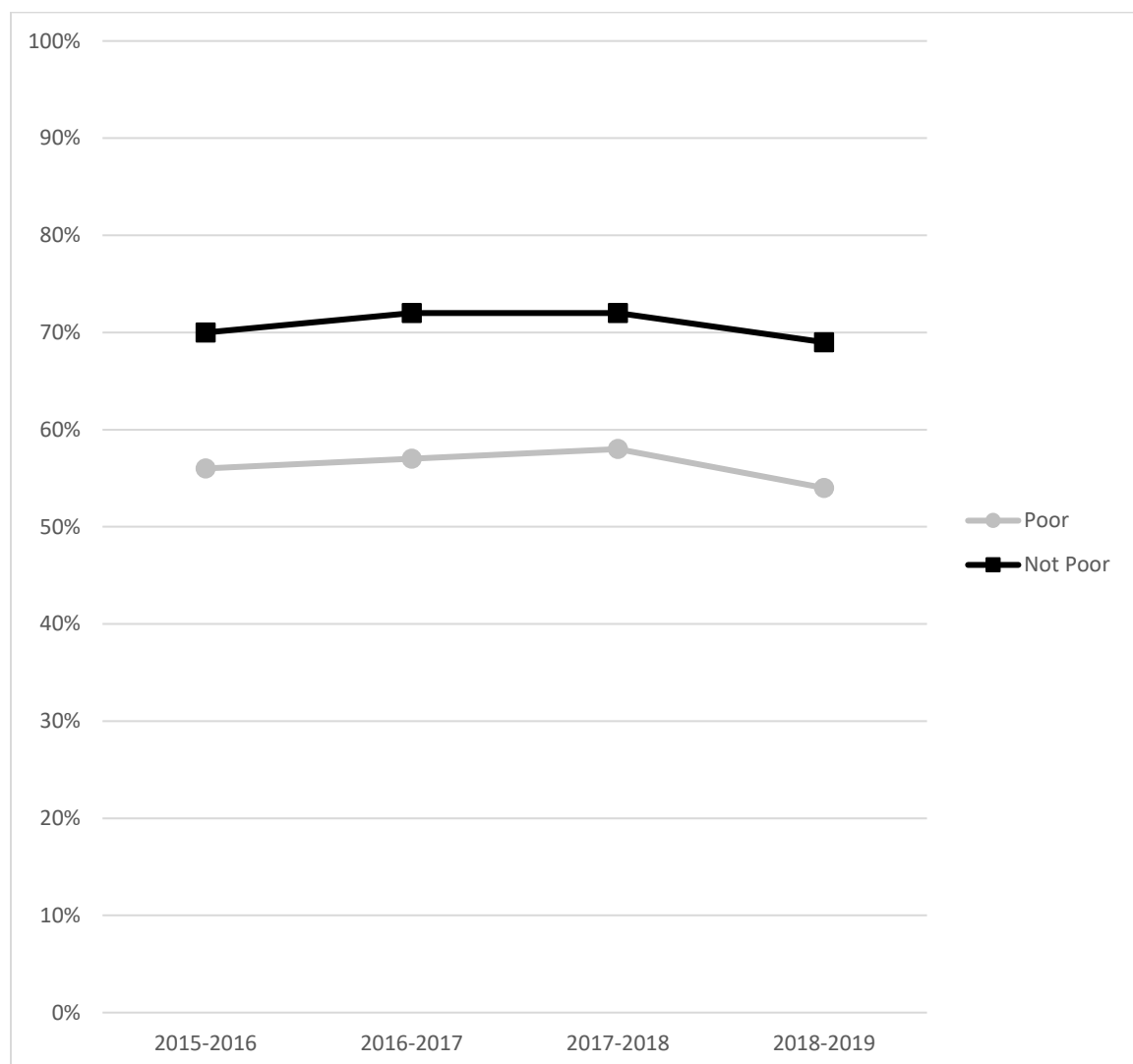


*Figure 5.8.* Grade 3 Reading Reporting Category II scores by the economic status of Hispanic boys for the 2015-2016 through the 2018-2019 school years.

Statistically significant differences between Hispanic boys who were Poor and Hispanic boys who were Not Poor were also consistent in regard to the Grade 3 STAAR Reading Reporting Category III scores. Hispanic boys who were Poor had an average



score approximately 14% lower than the average score for Hispanic boys who were Not Poor in 2015-2016 and approximately 15% lower than the average score for Hispanic boys who were Not Poor in 2016-2017, 2017-2018, and 2018-2019. Depicted in Figure 5.9 are the results of these analyses.

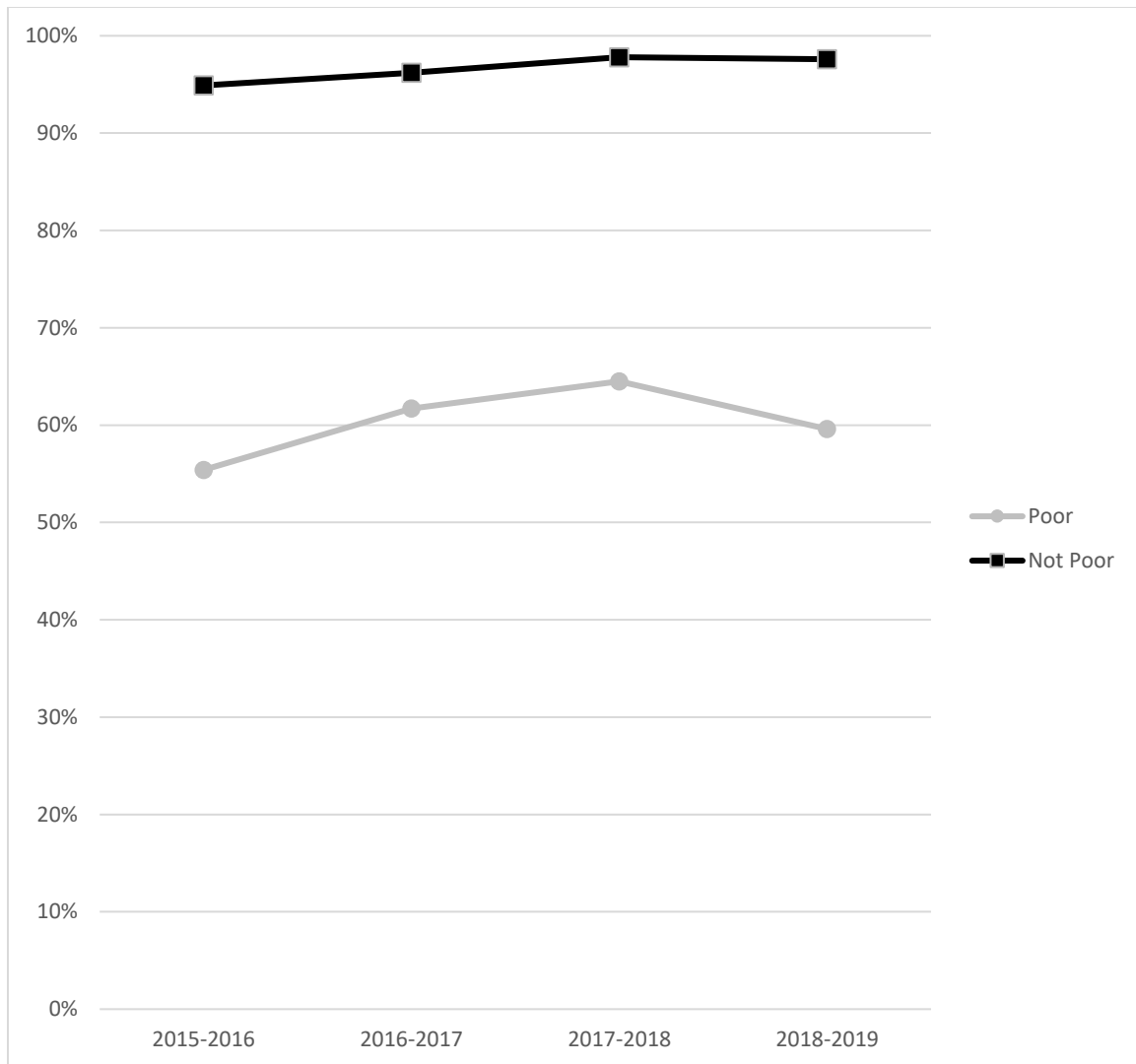


*Figure 5.9.* Grade 3 Reading Reporting Category III scores by the economic status of Hispanic boys for the 2015-2016 through the 2018-2019 school years.

Similarly, in each of the three Grade Level Phase-in Standards in all four years investigated, underrepresented boys who were Poor had statistically significantly lower achievement than underrepresented boys who were Not Poor. Effect sizes for the reading

performance of Asian boys ranged from moderate to small each year at each Grade Level Phase-in Standard. Effect sizes for Black boys and Hispanic boys were small each year at each Grade Level Phase-in Standard.

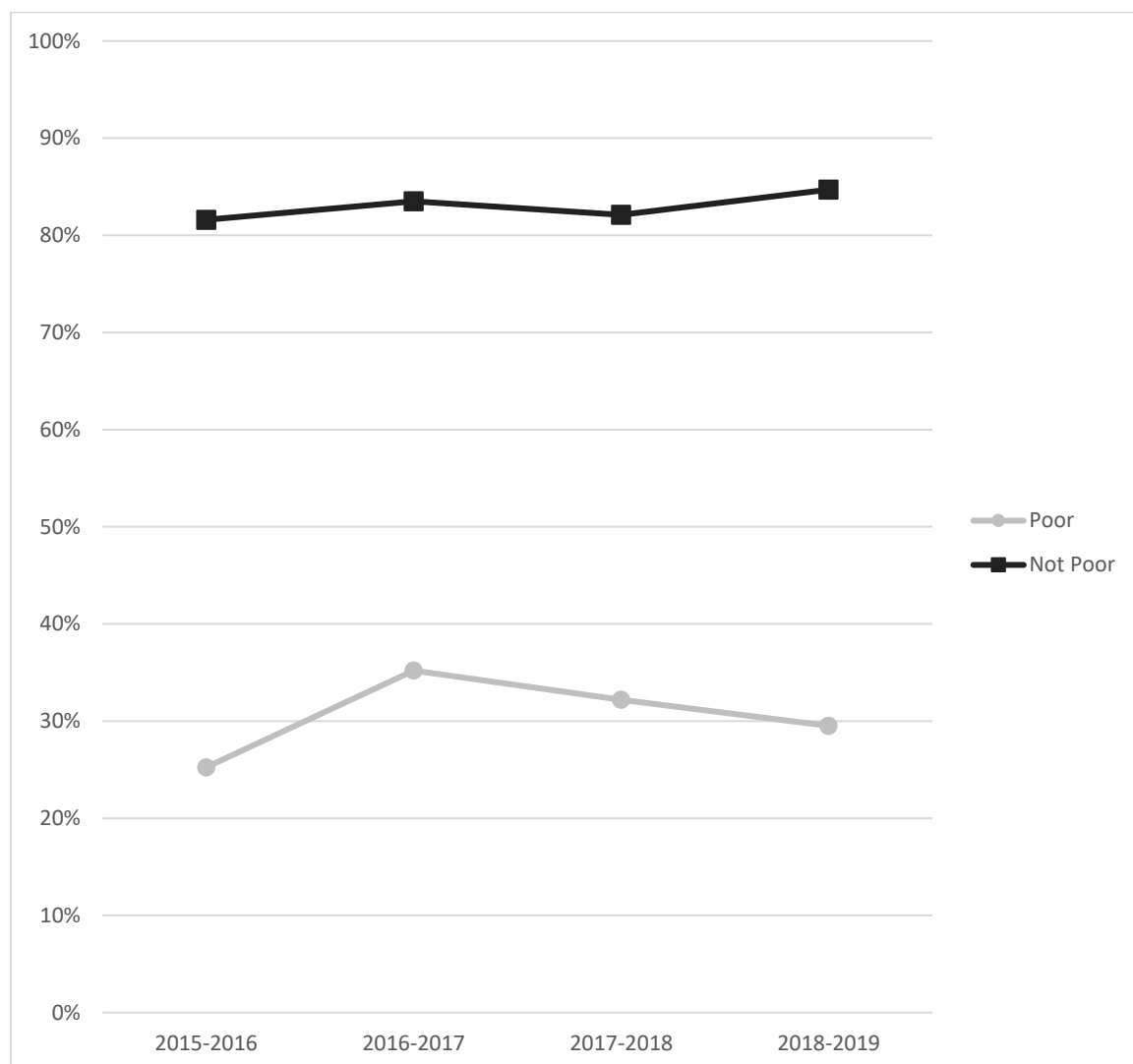
Concerning trends in the differences in the Grade Level Phase-in Standards between Asian boys who were Poor and Asian boys who were Not Poor from the 2015-2016 through the 2018-2019 school years, Asian boys who were Poor scored below Asian boys who were Not Poor at every measure. Asian boys who were Poor met the Approaches Grade Level standard an average of 36% less frequently than Asian boys who were Not Poor. Regarding the 2015-2016 school year, slightly over 55% of Asian boys who were Poor met the Approaches Grade Level standard, compared to approximately 95% of Asian boys who were Not Poor who met this standard. With respect to the 2016-2017 school year, less than 62% of Asian boys who were Poor met the Approaches Grade Level standard, compared to approximately 96% of Asian boys who were Not Poor who met this standard. Concerning the 2017-2018 school year, slightly less than 65% of Asian boys who were Poor met the Approaches Grade Level standard in comparison to approximately 98% of Asian boys who were Not Poor who met this standard. With regard to the 2018-2019 school year, only 60% of Asian boys who were Poor met the Approaches Grade Level standard, compared to almost all, 98%, of Asian boys who were Not Poor who met this standard. Portrayed in Figure 5.10 are the results of the Approaches Grade Level standard of Asian boys who were Poor and Asian boys who were Not Poor.



*Figure 5.10.* Grade 3 Reading Approaches Grade Level results by the economic status of Asian boys for the 2015-2016 through the 2018-2019 school years.

Asian boys who were Poor met the Meets Grade Level standard an average of 52% less frequently than Asian boys who were Not Poor. Regarding the 2015-2016 school year, less than 26% of Asian boys who were Poor met this standard in comparison to over 81% of Asian boys who were Not Poor. With respect to the 2016-2017 school year, only about 35% of Asian boys who were Poor met this standard compared to over 83% of Asian boys who were Not Poor. Concerning the 2017-2018 school year, less than 33% of Asian boys who were Poor met this standard compared to over 82% of Asian

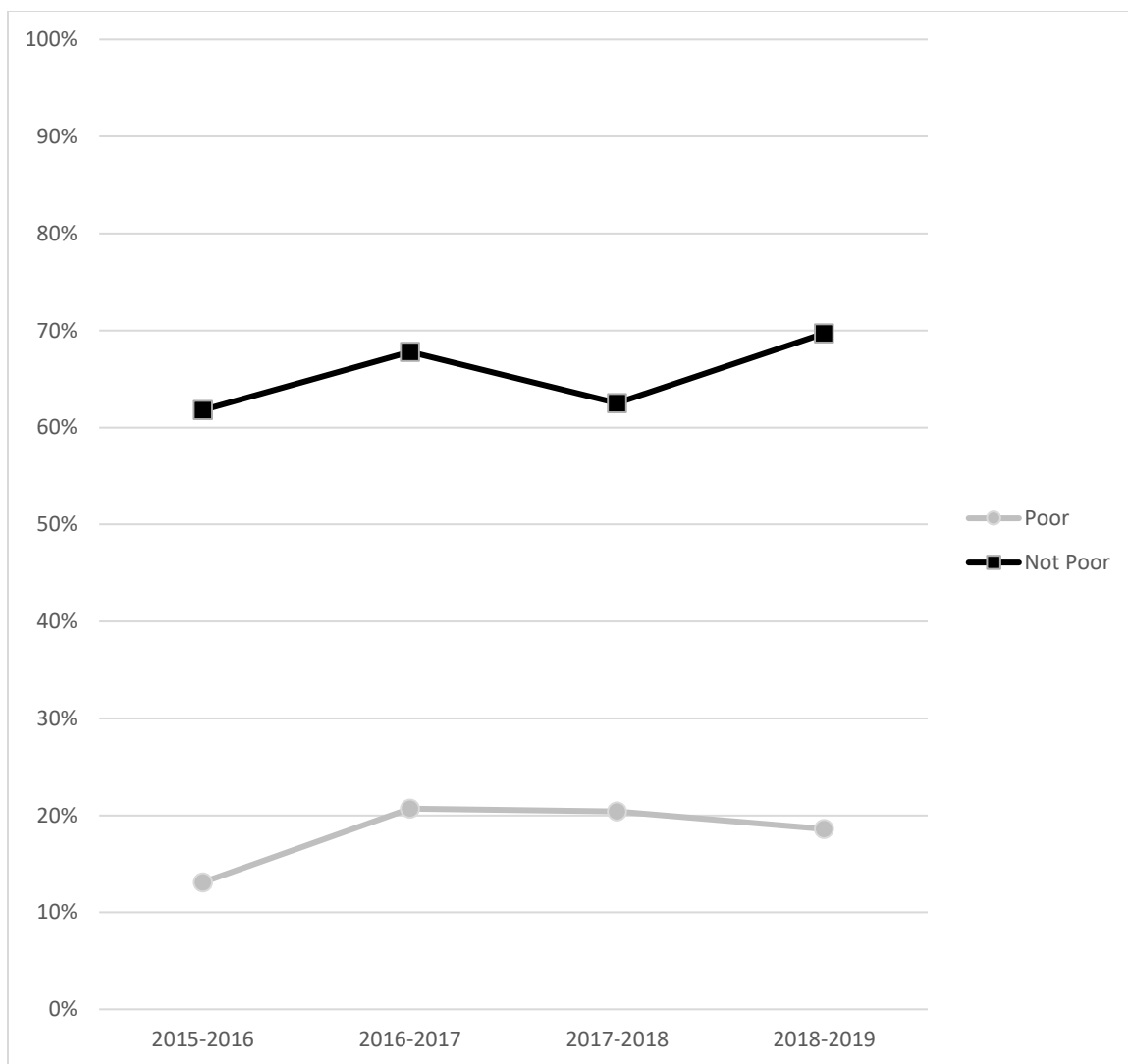
boys who were Not Poor. With regard to the 2018-2019 school year, only 30% of Asian boys who were Poor met this standard compared to approximately 85% of Asian boys who were Not Poor. Depicted in Figure 5.11 are the results of the Meets Grade Level standard.



*Figure 5.11.* Grade 3 Reading Meets Grade Level results by the economic status of Asian boys for the 2015-2016 through the 2018-2019 school years.

Asian boys who were Poor met the Masters Grade Level standard an average of 47% less frequently than Asian boys who were Not Poor. Concerning the 2015-2016 school year, less than 15% of Asian boys who were Poor met this standard, whereas

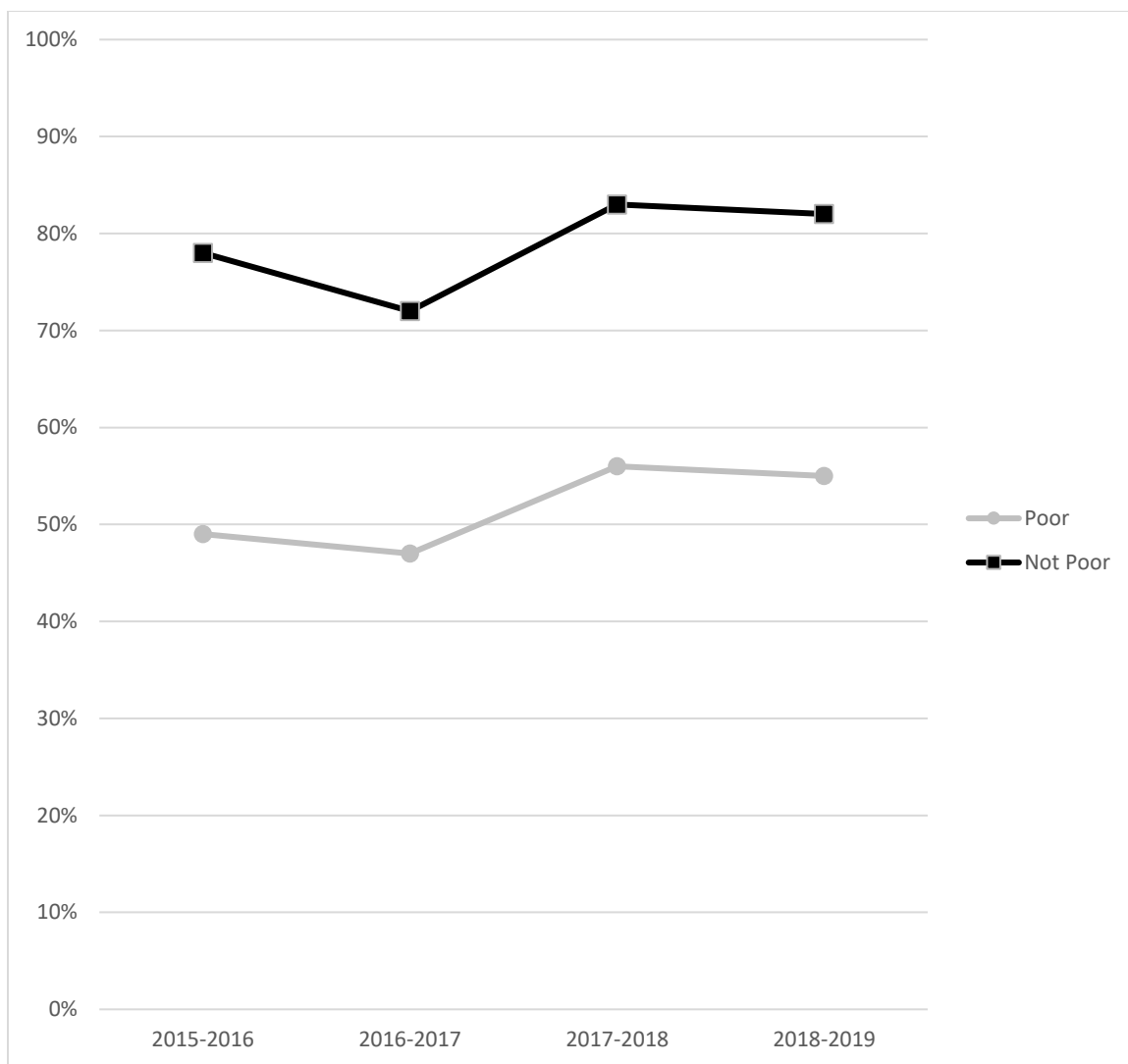
slightly less than 62% of Asian boys who were Not Poor met this standard. With respect to the 2016-2017 school year, less than 21% of Asian boys who were Poor met this highest standard, whereas slightly less than 68% of Asian boys who were Not Poor met this standard. Regarding the 2017-2018 school year, only 20% of Asian boys who were Poor met this standard, whereas almost 63% of Asian boys who were Not Poor met this standard. With regard to the 2018-2019 school year, less than 20% of Asian boys who were Poor met this standard, whereas approximately 70% of Asian boys who were Not Poor met this standard. Illustrated in Figure 5.12 are the results of the Masters Grade Level standard.



*Figure 5.12.* Grade 3 Reading Masters Grade Level results by the economic status of Asian boys for the 2015-2016 through the 2018-2019 school years.

With respect to trends in the differences in the Grade Level Phase-in Standards between Black boys who were Poor and Black boys who were Not Poor from the 2015-2016 through the 2018-2019 school years, Black boys who were Poor scored below Black boys who were Not Poor at every measure. Black boys who were Poor had statistically significantly lower rates of achieving each grade level standard. Black boys who were Poor met the Approaches Grade Level standard an average of approximately 27% less than Black boys who were Not Poor. With regard to the 2015-2016 school

year, less than half of Black boys who were Poor met the Approaches Grade Level standard, compared to approximately 78% of Black boys who were Not Poor who met this standard. Concerning the 2016-2017 school year, less than half of Black boys who were Poor met the Approaches Grade Level standard, compared to almost three-fourths of Black boys who were Not Poor who met this standard. With respect to the 2017-2018 school year, more than half, 56%, of Black boys who were Poor met the Approaches Grade Level standard compared to over 83% of Black boys who were Not Poor who met this standard. Regarding the 2018-2019 school year, slightly less than 56% of Black boys who were Poor met the Approaches Grade Level standard in comparison to approximately 82% of Black boys who were Not Poor who met this standard. Portrayed in Figure 5.13 are the results of the Approaches Grade Level standard of Black boys who were Poor and Black boys who were Not Poor.

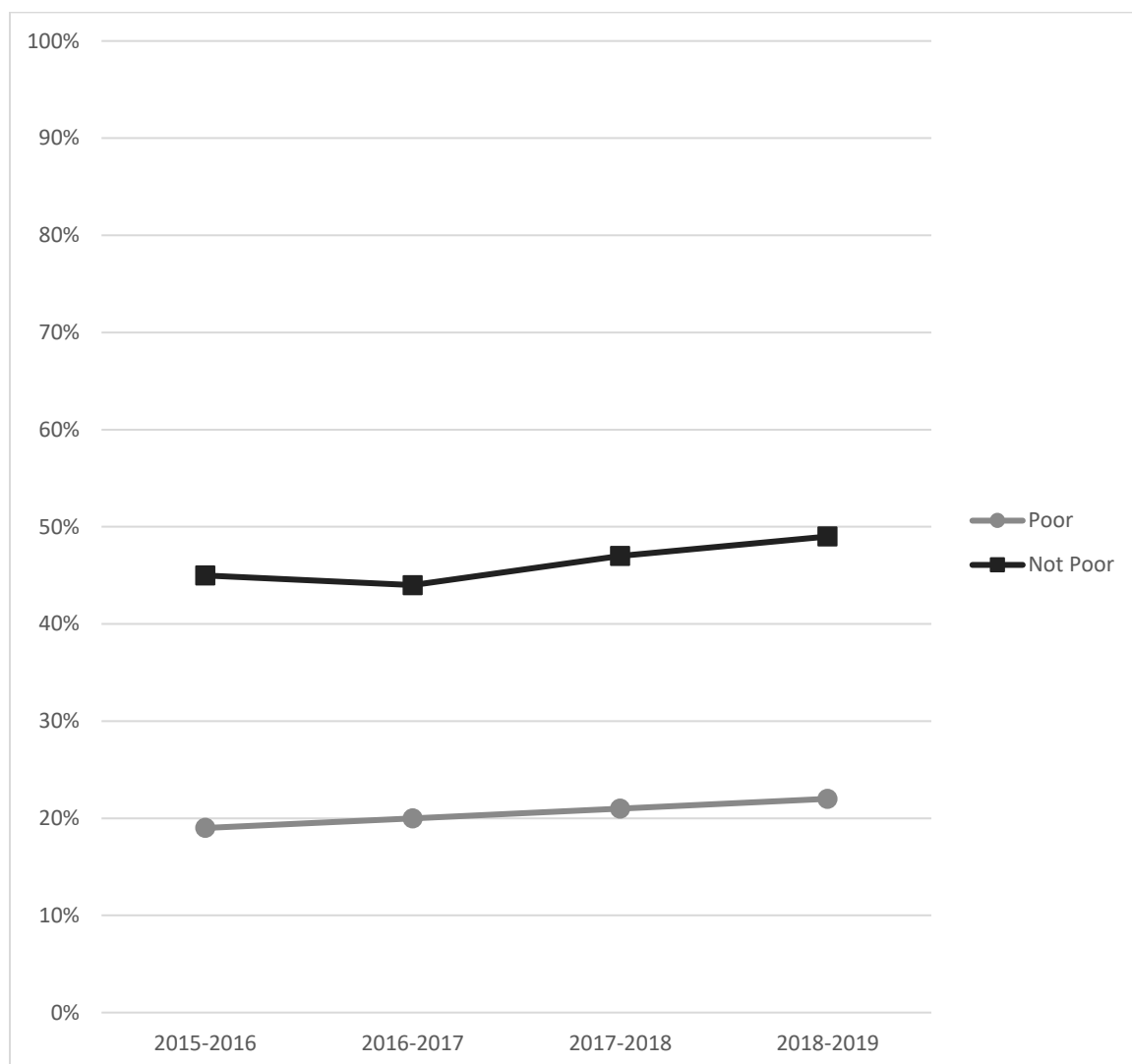


*Figure 5.13.* Grade 3 Reading Approaches Grade Level results by the economic status of Black boys for the 2015-2016 through the 2018-2019 school years.

Black boys who were Poor met the Meets Grade Level standard an average of approximately 26% less than Black boys who were Not Poor. With regard to the 2015-2016 school year, less than 20% of Black boys who were Poor met this standard in comparison to over 45% of Black boys who were Not Poor. Concerning the 2016-2017 school year, less than 20% of Black boys who were Poor met this standard, compared to approximately 45% of Black boys who were Not Poor. With respect to the 2017-2018 school year, 21% of Black boys who were Poor met this standard compared to



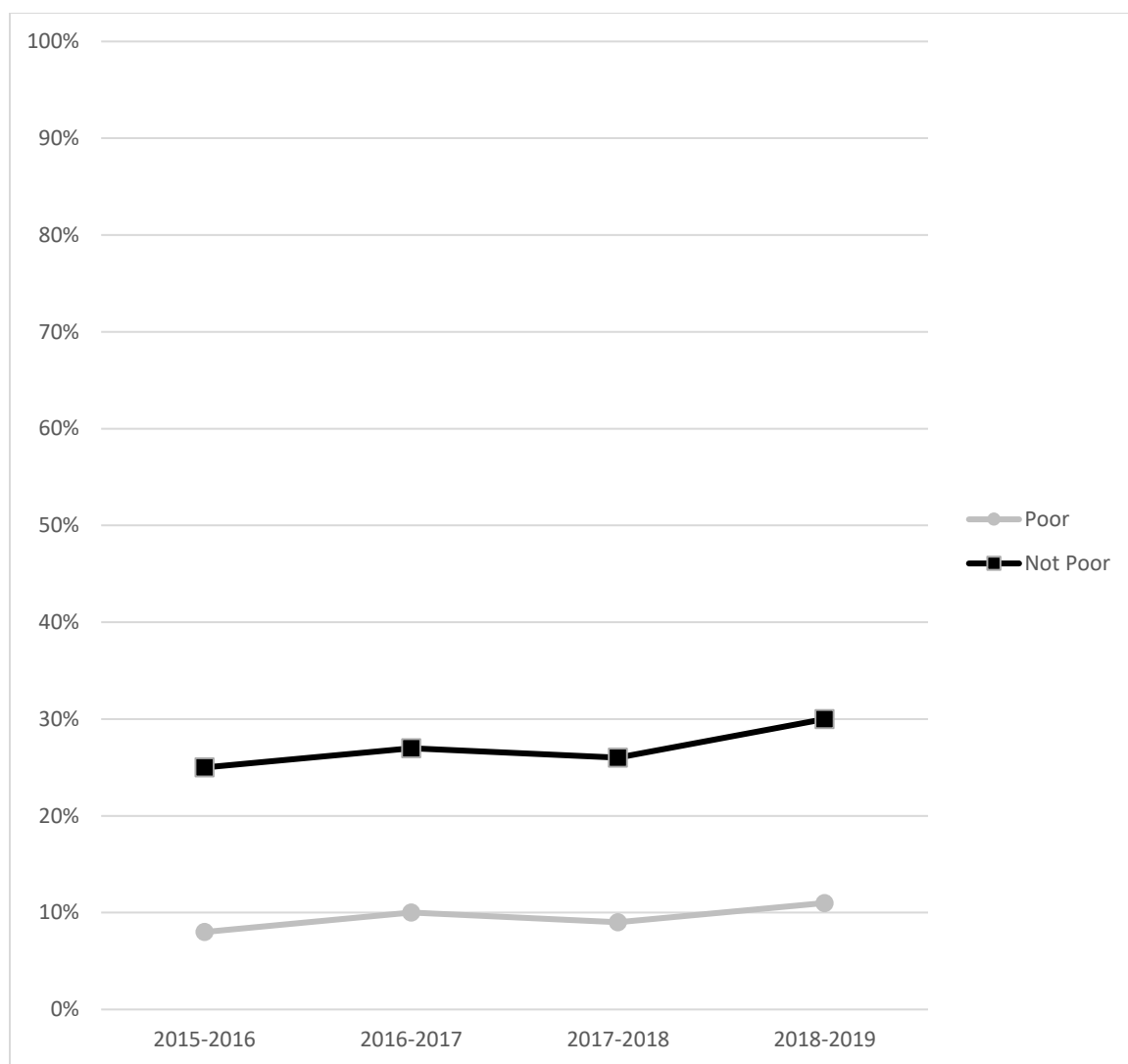
approximately 47% of Black boys who were Not Poor. Regarding the 2018-2019 school year, less than 23% of Black boys who were Poor met this standard compared to approximately 50% of Black boys who were Not Poor. Depicted in Figure 5.14 are the results of the Meets Grade Level standard.



*Figure 5.14.* Grade 3 Reading Meets Grade Level results by the economic status of Black boys for the 2015-2016 through the 2018-2019 school years.

Black boys who were Poor met the Masters Grade Level standard an average of approximately 18% less than Black boys who were Not Poor. With regard to the 2015-2016 school year, less than 8% of Black boys who were Poor met this standard, whereas

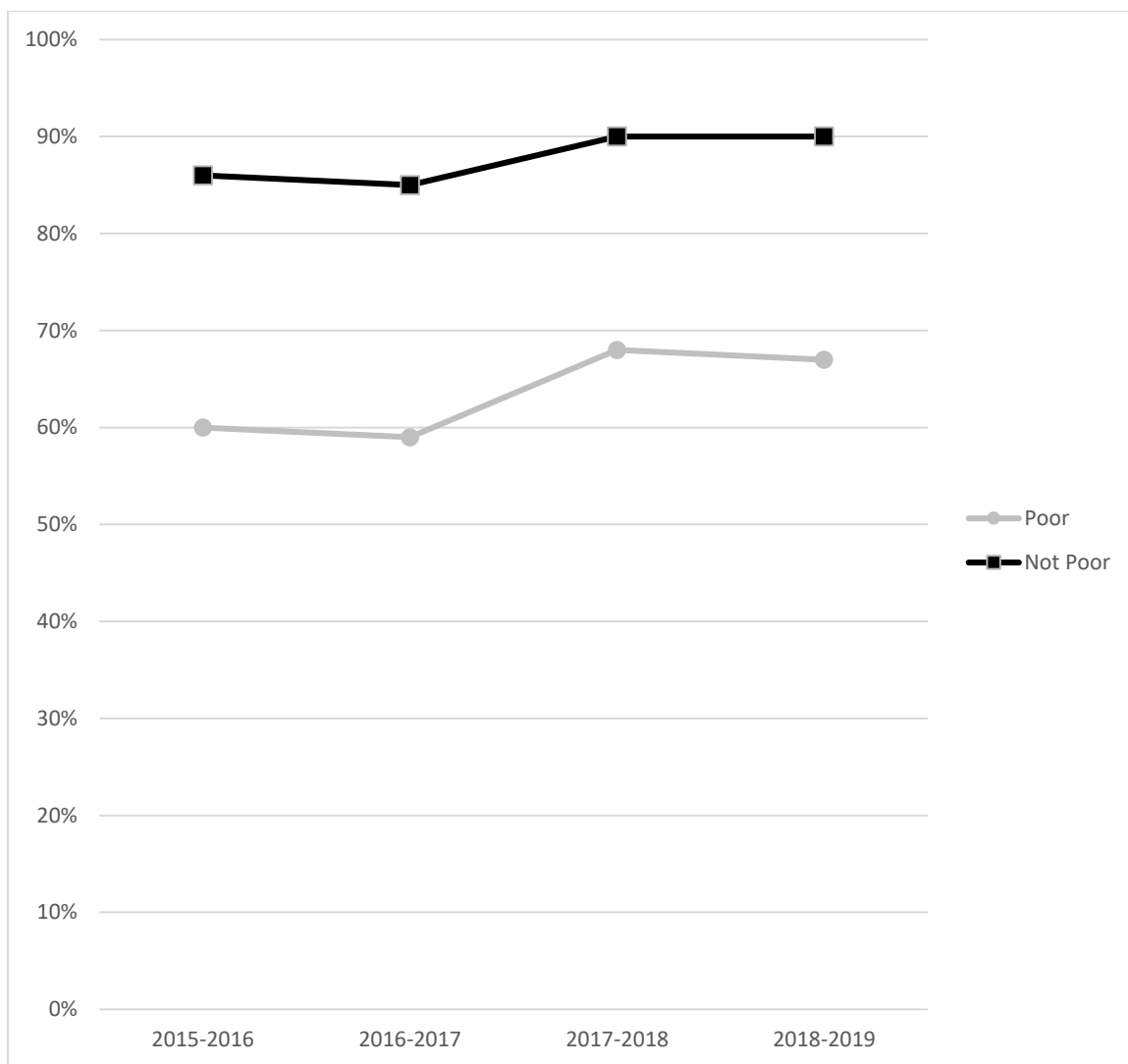
slightly less than 25% of Black boys who were Not Poor met this standard. Concerning the 2016-2017 school year, less than 10% of Black boys who were Poor met this highest standard, whereas slightly less than 27% of Black boys who were Not Poor met this standard. With respect to the 2017-2018 school year, less than 9% of Black boys who were Poor met this standard, whereas approximately 26% of Black boys who were Not Poor met this standard. Regarding the 2018-2019 school year, only 11% of Black boys who were Poor met this standard, whereas almost 30% of Black boys who were Not Poor met this standard. Illustrated in Figure 5.15 are the results of the Masters Grade Level standard.



*Figure 5.15.* Grade 3 Reading Masters Grade Level results by the economic status of Black boys for the 2015-2016 through the 2018-2019 school years.

Concerning trends in the differences in the Grade Level Phase-in Standards between Hispanic boys who were Poor and Hispanic boys who were Not Poor from the 2015-2016 through the 2018-2019 school years, Hispanic boys who were Poor scored below Hispanic boys who were Not Poor at every measure. Hispanic boys who were Poor had statistically significantly lower rates of achieving each grade level standard. Hispanic boys who were Poor met the Approaches Grade Level standard an average of

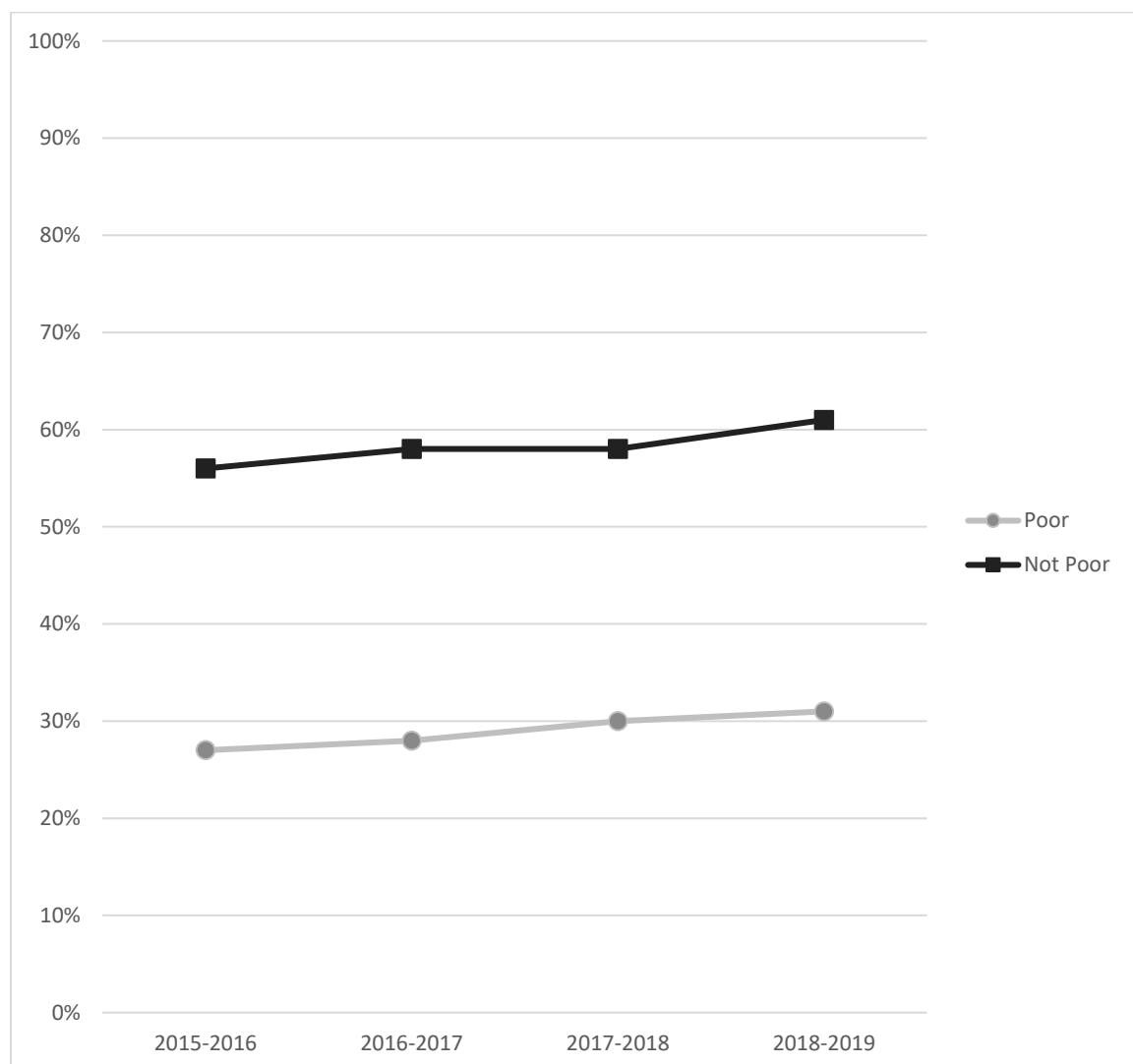
approximately 24% less than Hispanic boys who were Not Poor. With regard to the 2015-2016 school year, less than 61% of Hispanic boys who were Poor met the Approaches Grade Level standard, compared to approximately 86% of Hispanic boys who were Not Poor who met this standard. Concerning the 2016-2017 school year, approximately 59% of Hispanic boys who were Poor met the Approaches Grade Level standard, compared to approximately 85% of Hispanic boys who were Not Poor who met this standard. With respect to the 2017-2018 school year, slightly less than 69% of Hispanic boys who were Poor met the Approaches Grade Level standard in comparison to approximately 90% of Hispanic boys who were Not Poor who met this standard. Regarding the 2018-2019 school year, only 67% of Hispanic boys who were Poor met the Approaches Grade Level standard compared to almost 90% of Hispanic boys who were Not Poor who met this standard. Portrayed in Figure 5.16 are the results of the Approaches Grade Level standard of Hispanic boys who were Poor and Hispanic boys who were Not Poor.



*Figure 5.16.* Grade 3 Reading Approaches Grade Level results by the economic status of Hispanic boys for the 2015-2016 through the 2018-2019 school years.

Hispanic boys who were Poor met the Meets Grade Level standard an average of approximately 29% less than Hispanic boys who were Not Poor. With regard to the 2015-2016 school year, only about 27% of Hispanic boys who were Poor met this standard in comparison to over 56% of Hispanic boys who were Not Poor. Concerning the 2016-2017 school year, less than 29% of Hispanic boys who were Poor met this standard compared to over 57% of Hispanic boys who were Not Poor. With respect to the 2017-2018 school year, less than 30% of Hispanic boys who were Poor met this

standard compared to over 58% of Hispanic boys who were Not Poor. Regarding the 2018-2019 school year, only 31% of Hispanic boys who were Poor met this standard compared to approximately 61% of Hispanic boys who were Not Poor. Depicted in Figure 5.17 are the results of the Meets Grade Level standard.

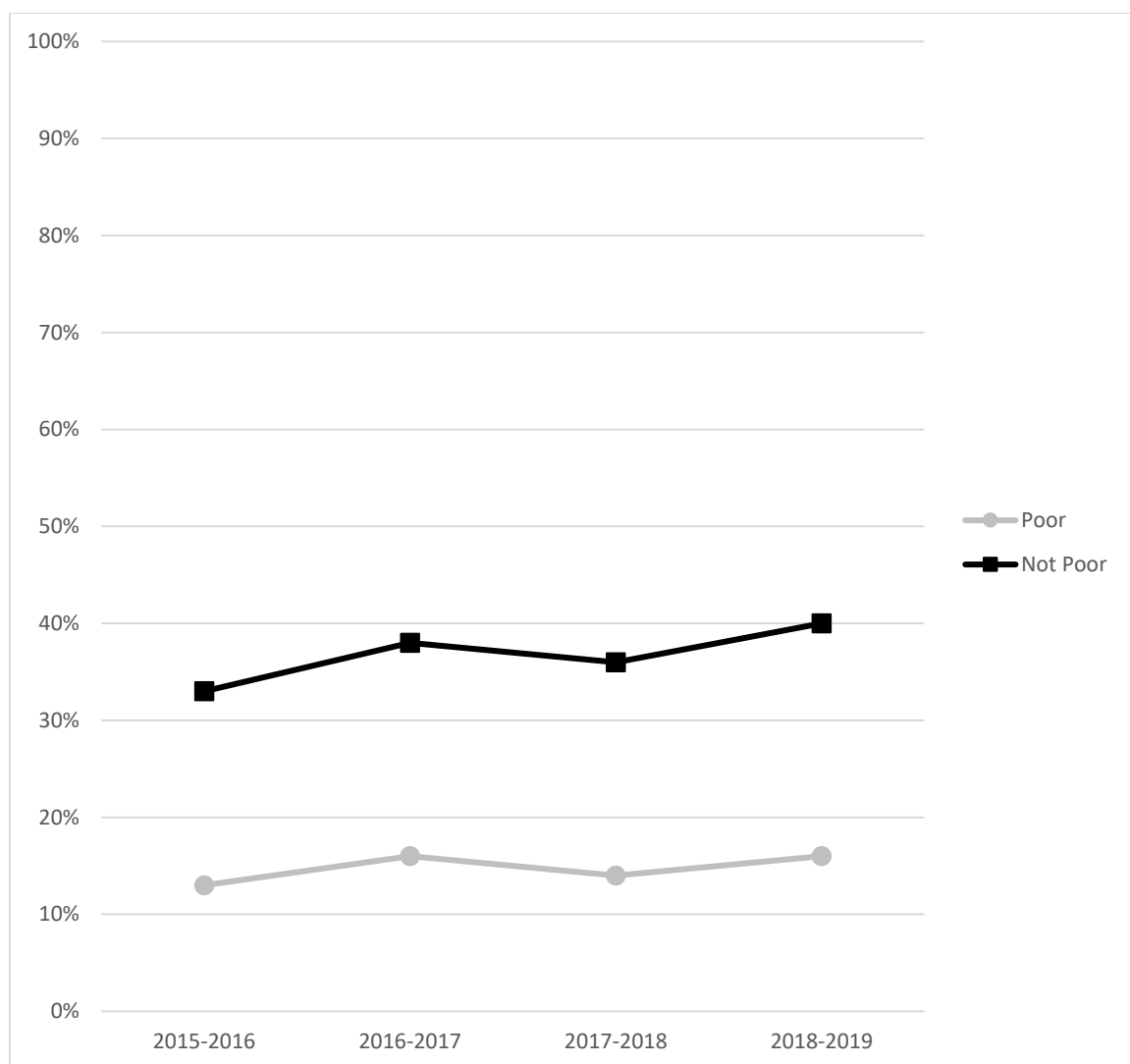


*Figure 5.17.* Grade 3 Reading Meets Grade Level results by the economic status of Hispanic boys for the 2015-2016 through the 2018-2019 school years.

Hispanic boys who were Poor met the Masters Grade Level standard an average of approximately 22% less than Hispanic boys who were Not Poor. With regard to the 2015-2016 school year, less than 13% of Hispanic boys who were Poor met this highest

standard, whereas 33% of Hispanic boys who were Not Poor met this standard.

Concerning the 2016-2017 school year, less than 16% of Hispanic boys who were Poor met this standard, whereas less than 39% of Hispanic boys who were Not Poor met this standard. With respect to the 2017-2018 school year, only 14% of Hispanic boys who were Poor met this standard, whereas almost 36% of Hispanic boys who were Not Poor met this standard. Regarding the 2018-2019 school year, less than 16% of Hispanic boys who were Poor met this standard, whereas approximately 40% of Hispanic boys who were Not Poor met this standard. Illustrated in Figure 5.18 are the results of the Masters Grade Level standard.



*Figure 5.18.* Grade 3 Reading Masters Grade Level results by the economic status of Hispanic boys for the 2015-2016 through the 2018-2019 school years.

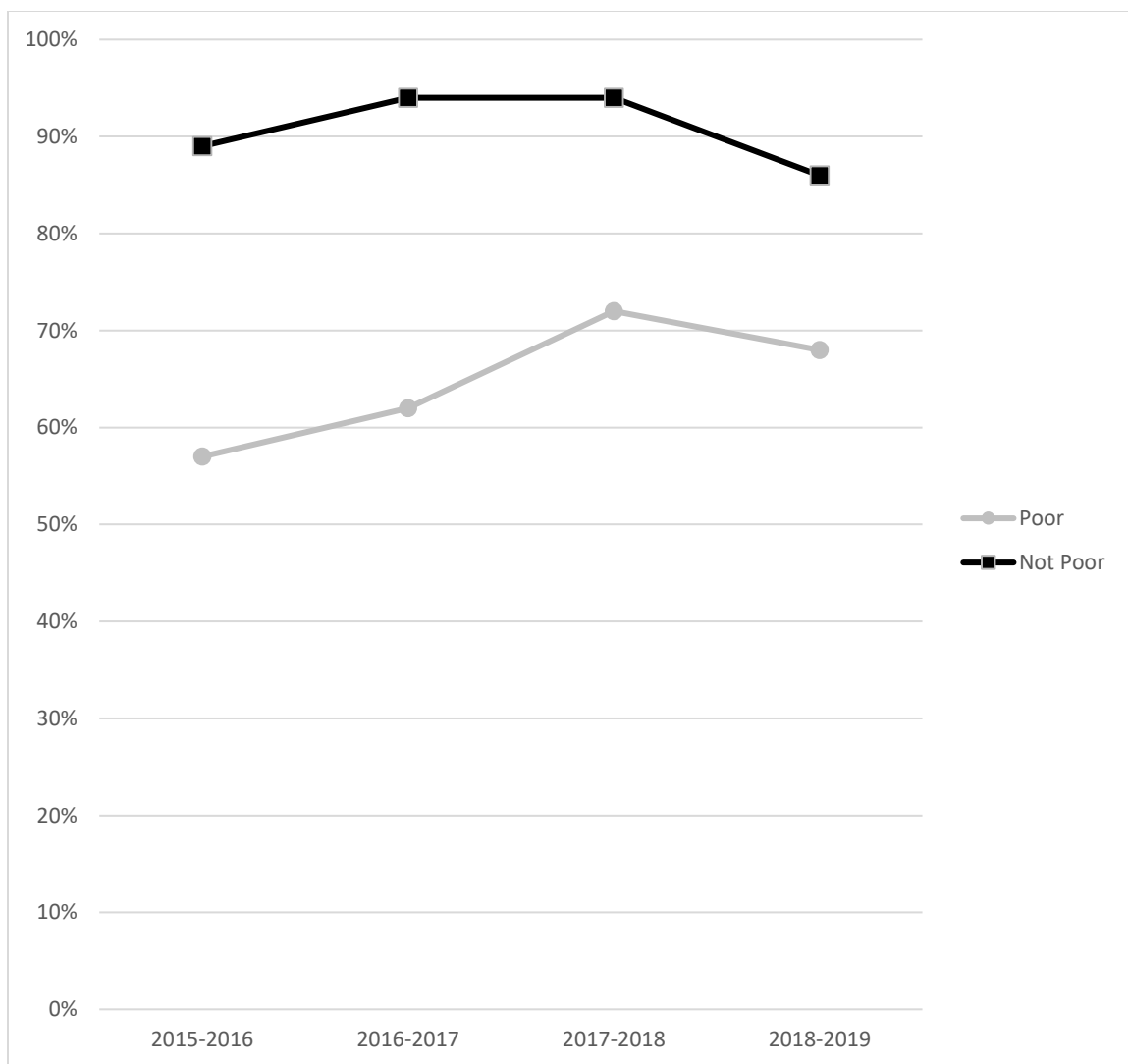
### **Discussion of Results based on Economic Status of Underrepresented Girls**

Four years of statewide data on the three Grade 3 STAAR Reading Reporting Categories were examined for Poor and Not Poor Asian girls, Poor and Not Poor Black girls, and Poor and Not Poor Hispanic girls. Statistically significant results were present in all four school years. In all four years analyzed for each of the three STAAR Reading Reporting Category results, underrepresented girls who were Poor had statistically significantly lower scores than underrepresented girls who were Not Poor. Similarly, in



each of the three Grade Level Phase-in Standards in all four years investigated, underrepresented girls who were Poor had statistically significantly lower achievement than underrepresented girls who were Not Poor.

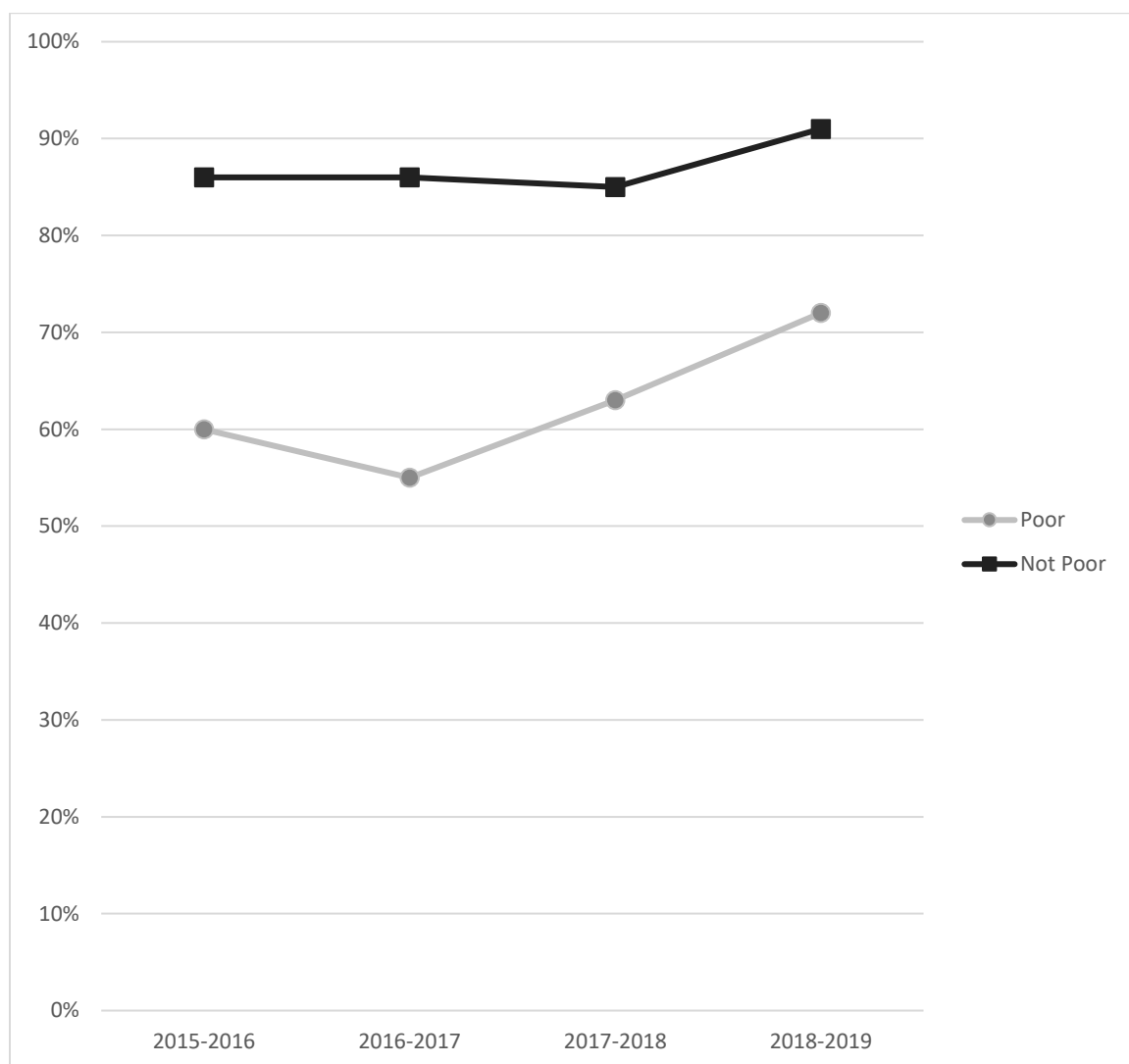
With regard to trends in the differences in the Reading Reporting Category scores between Asian girls who were Poor and Asian girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Asian girls who were Poor scored below Asian girls who were Not Poor at every measure. Concerning the Grade 3 STAAR Reading Reporting Category I scores, Asian girls who were Poor had an average score approximately 32% lower than the average score for Asian girls who were Not Poor in 2015-2016; 32% lower than the average score for Asian girls who were Not Poor in 2017-2018; 21% lower than the average score for Asian girls who were Not Poor in 2017-2018; and 23% lower than the average score for Asian girls who were Not Poor in 2018-2019. Portrayed in Figure 5.19 are the results of Reading Reporting Category I scores for Asian girls who were Poor and Asian girls who were Not Poor.



*Figure 5.19.* Grade 3 Reading Reporting Category I scores by the economic status of Asian girls for the 2015-2016 through the 2018-2019 school years.

Statistically significant difference between Asian girls who were Poor and Asian girls who were Not Poor were consistent in regard to the Grade 3 STAAR Reading Reporting Category II scores. Asian girls who were Poor had an average score approximately 26% lower than the average score for Asian girls who were Not Poor in 2015-2016; 31% lower than the average score for Asian girls who were Not Poor in 2016-2017; 22% lower than the average score for Asian girls who were Not Poor in

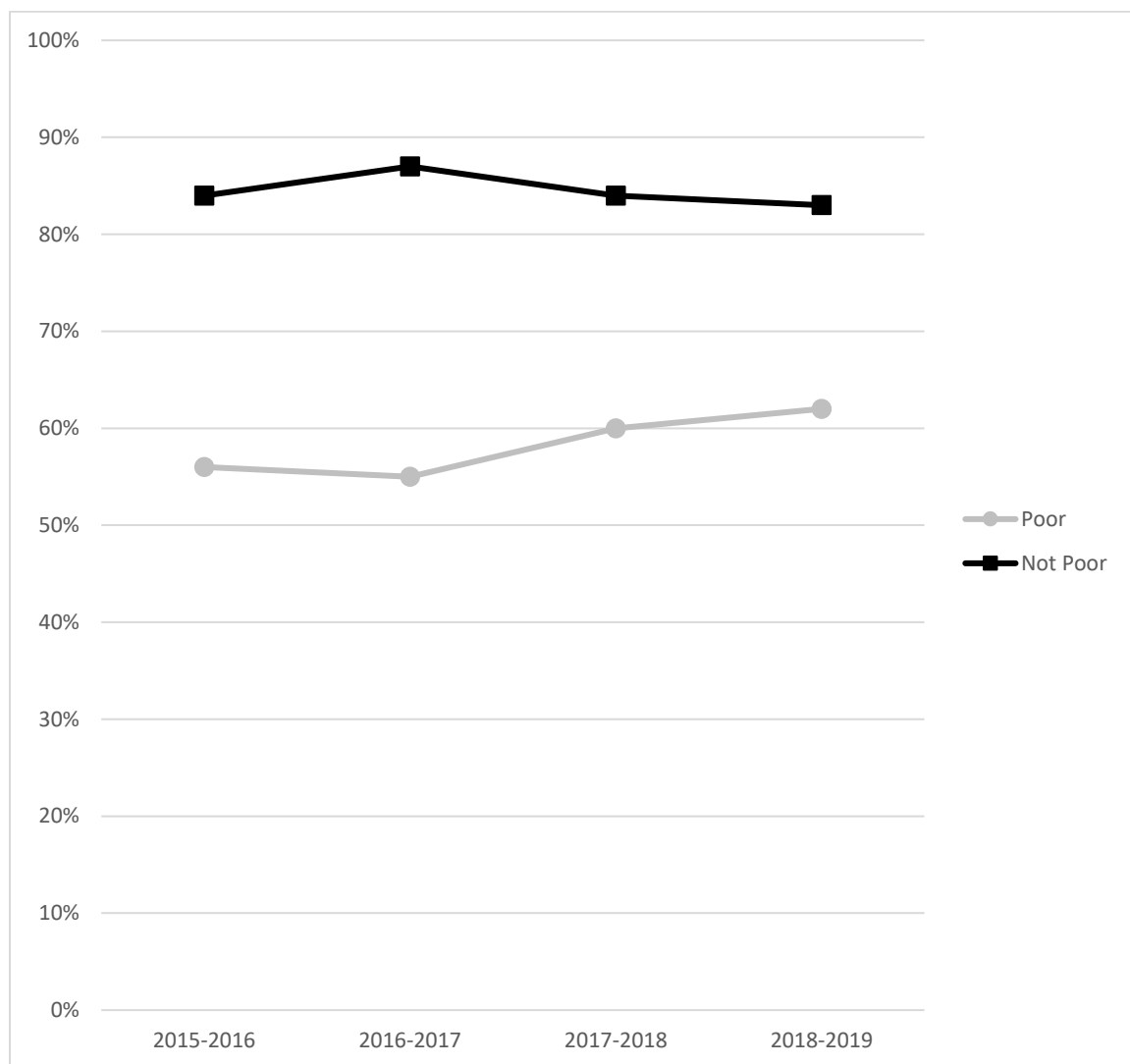
2017-2018; and 19% lower than the average score for Asian girls who were not Poor in 2018-2019. Depicted in Figure 5.20 are the results for Reporting Category II scores.



*Figure 5.20.* Grade 3 Reading Reporting Category II scores by the economic status of Asian girls for the 2015-2016 through the 2018-2019 school years.

Statistically significant differences between Asian girls who were Poor and Asian girls who were Not Poor were also consistent in regard to the Grade 3 STAAR Reading Reporting Category III scores. Asian girls who were Poor had an average score approximately 28% lower than the average score for Asian girls who were Not Poor in 2015-2016; 32% lower than the average score for Asian girls who were Not Poor. In

2016-2017; 24% lower than the average score for Asian girls who were Not Poor in 2017-2018; and 22% lower than the average score for Asian girls who were Not Poor in 2018-2019. Illustrated in Figure 5.21 are the results for Reporting Category III scores.

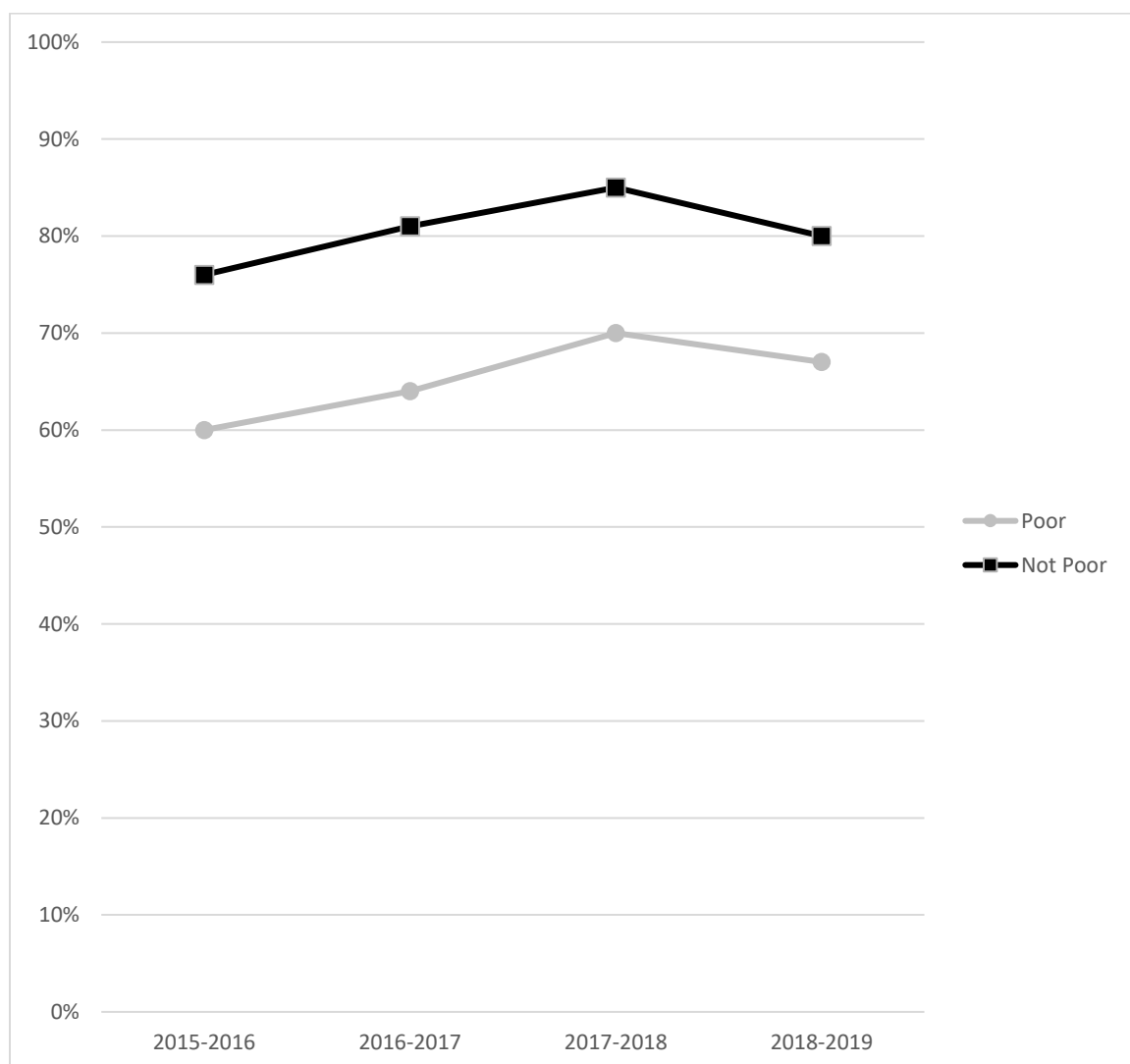


*Figure 5.21.* Grade 3 Reading Reporting Category III scores by the economic status of Asian girls for the 2015-2016 through the 2018-2019 school years.

With respect to the trends in the differences in the Reading Reporting Category scores between Black girls who were Poor and Black girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Black girls who were Poor scored below Black girls who were Not Poor at every measure. With respect to Reporting Category I,

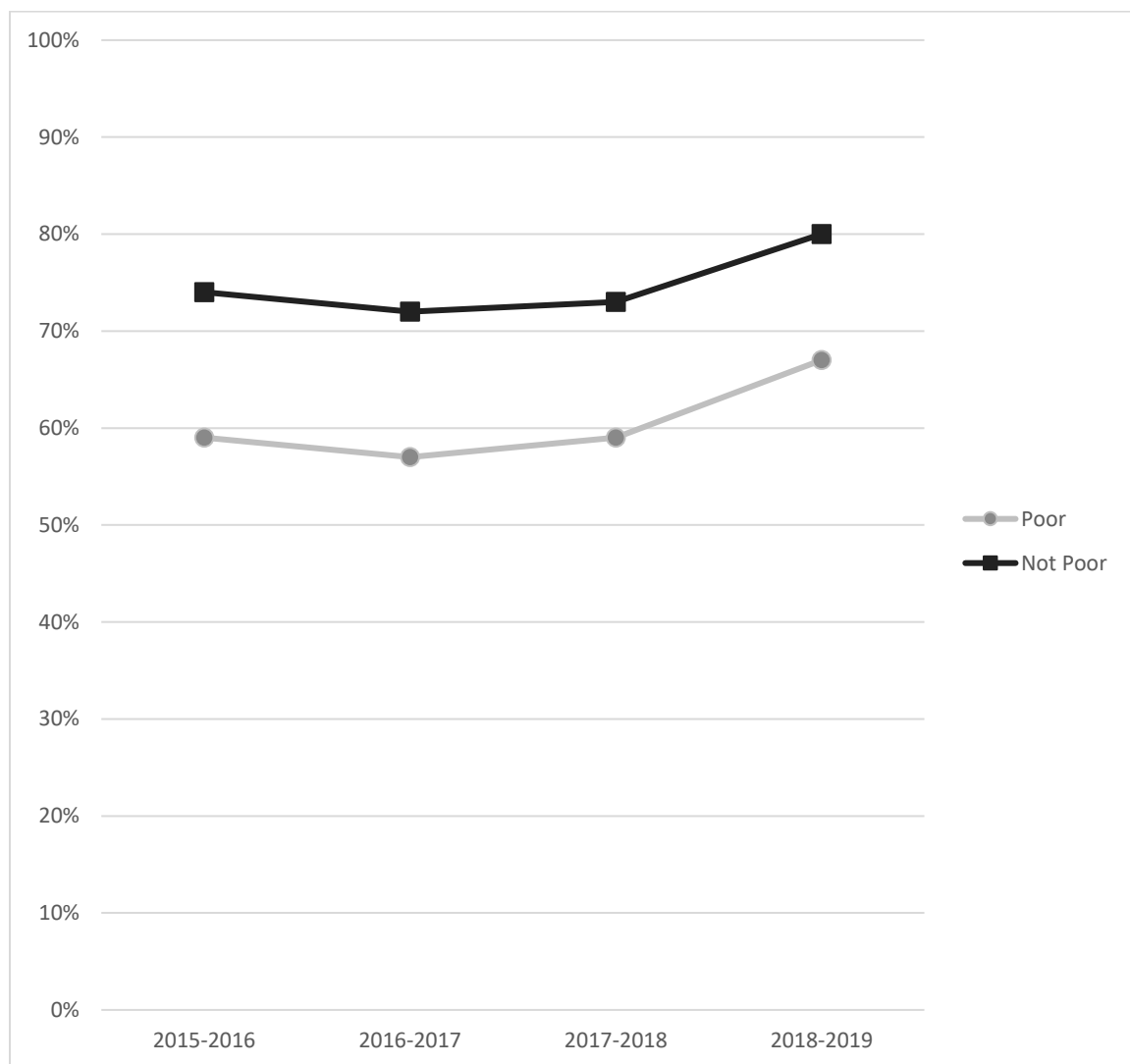
Black girls who were Poor had an average score approximately 16% lower than the average score for Black girls who were Not Poor in 2015-2016; 17% lower than the average score for Black girls who were Not Poor in 2016-2017; and 13% lower than the average score for Black girls who were Not Poor in 2017-2018 and 2018-2019.

Portrayed in Figure 5.22 are the results of Reading Reporting Category I scores for Black girls who were Poor and Black girls who were Not Poor.



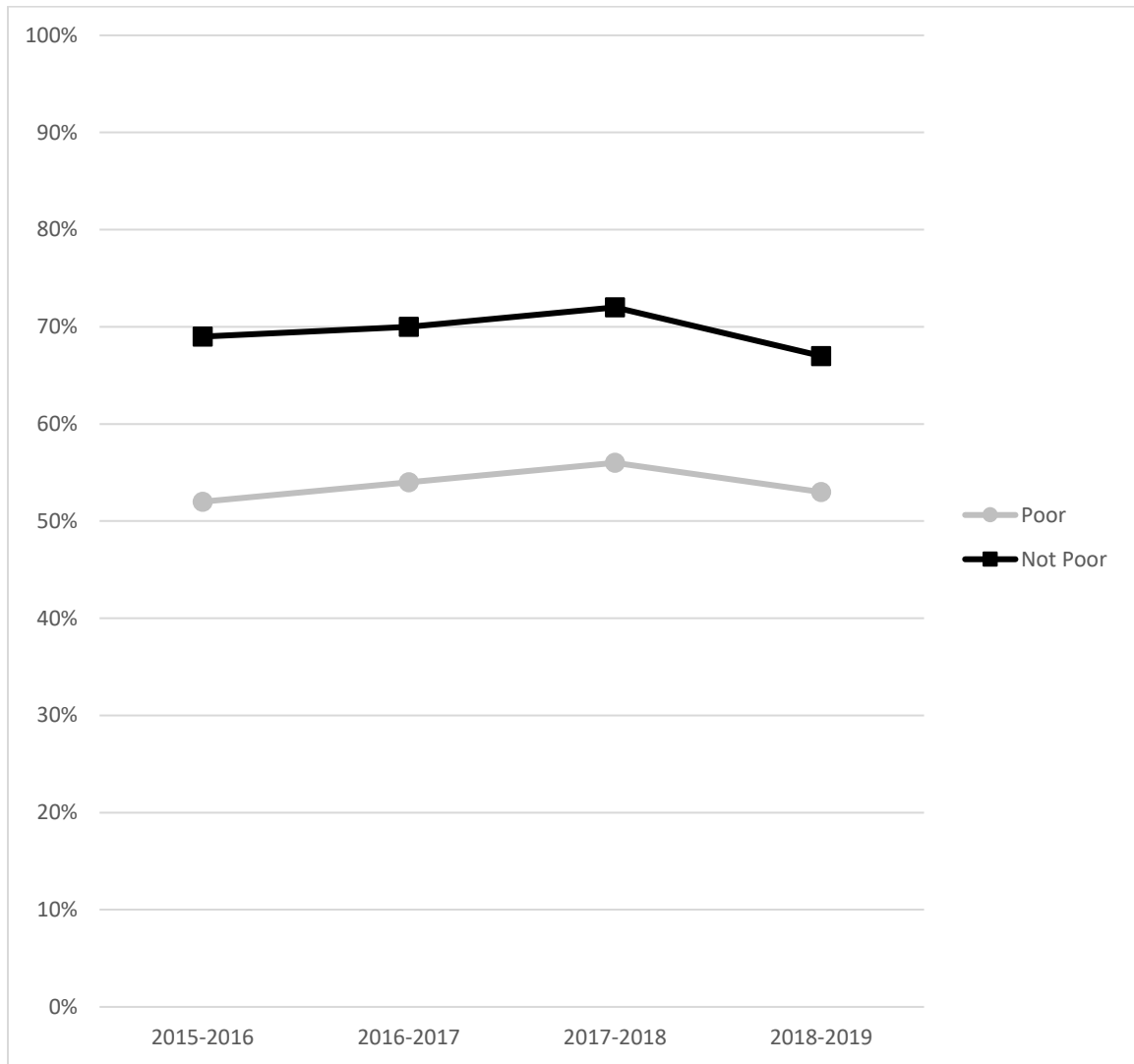
*Figure 5.22.* Grade 3 Reading Reporting Category I scores by the economic status of Black girls for the 2015-2016 through the 2018-2019 school years.

Differences were consistent regarding the gap between Black girls who were Poor and Black girls who were Not Poor in regard to the Grade 3 Reading Reporting Category II scores. Black girls who were Poor had an average score approximately 15% lower than the average score for Black girls who were Not Poor in 2015-2016 and 2016-2017 and 14% lower than the average score for Black girls who were Not Poor in 2017-2018 and 2018-2019. Depicted in Figure 5.23 are the results for Reporting Category II scores.



*Figure 5.23.* Grade 3 Reading Reporting Category II scores by the economic status of Black girls for the 2015-2016 through the 2018-2019 school years.

Statistically significant differences between Black girls who were Poor and Black girls who were Not Poor were consistent in regard to the Grade 3 STAAR Reading Reporting Category III scores. Black girls who were Poor had an average score approximately 17% lower than the average score for Black girls who were Not Poor in 2015-2016; 16% lower than the average score for Black girls who were Not Poor in 2016-2017; 15% lower than the average score for Black girls who were Not Poor in 2017-2018; and 14% lower than the average score for Black girls who were Not Poor in 2018-2019. Illustrated in Figure 5.24 are the results for Reporting Category III scores.

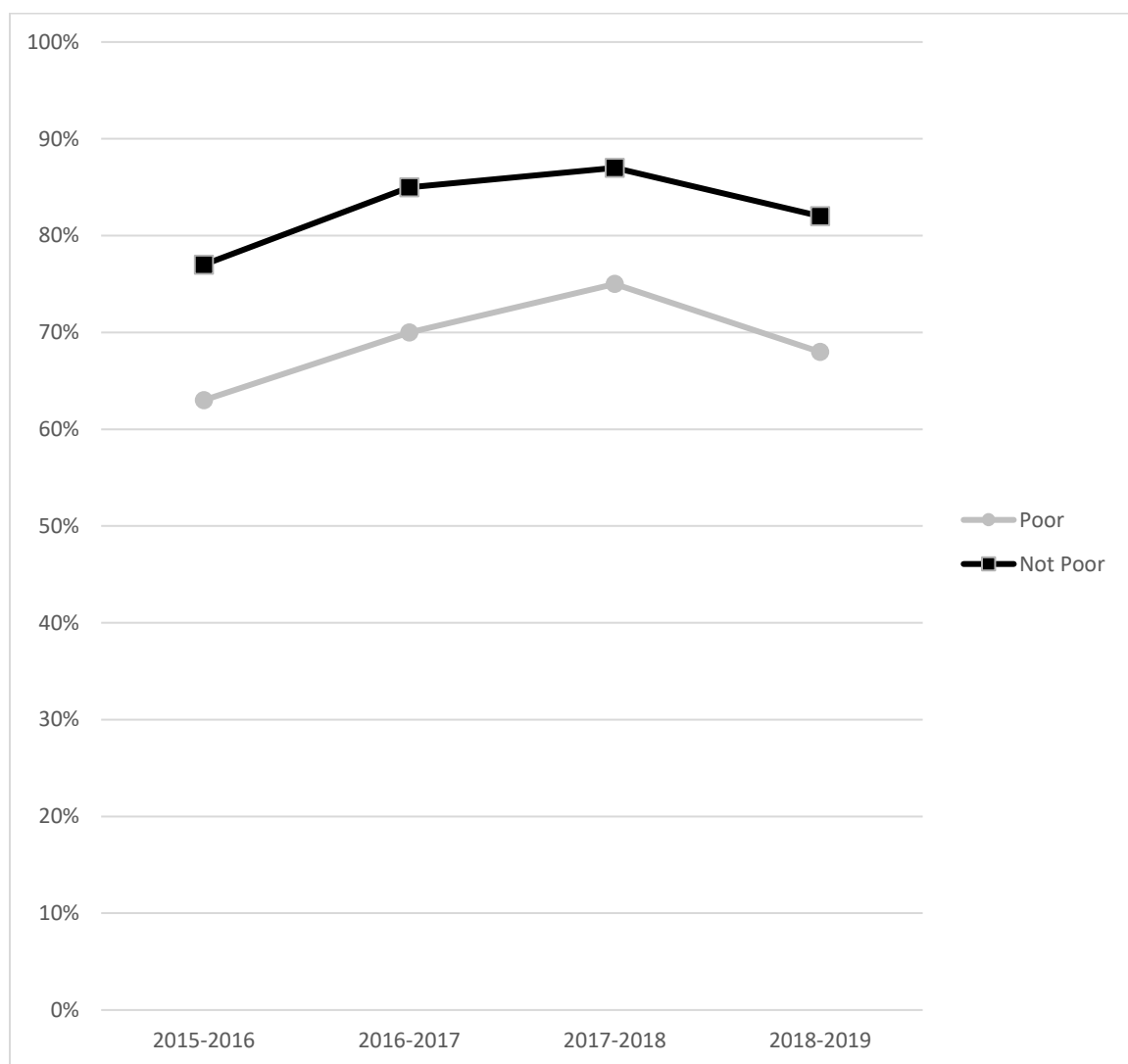


*Figure 5.24.* Grade 3 Reading Reporting Category III scores by the economic status of Black girls for the 2015-2016 through the 2018-2019 school years.

With respect to trends in the differences in the Reading Reporting Category scores between Hispanic girls who were Poor and Hispanic girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Hispanic girls who were Poor scored below Hispanic girls who were Not Poor at every measure. Hispanic girls who were Poor had statistically significantly lower average scores in each Reading Reporting Category. Concerning the Grade 3 STAAR Reading Reporting Category I scores, Hispanic girls

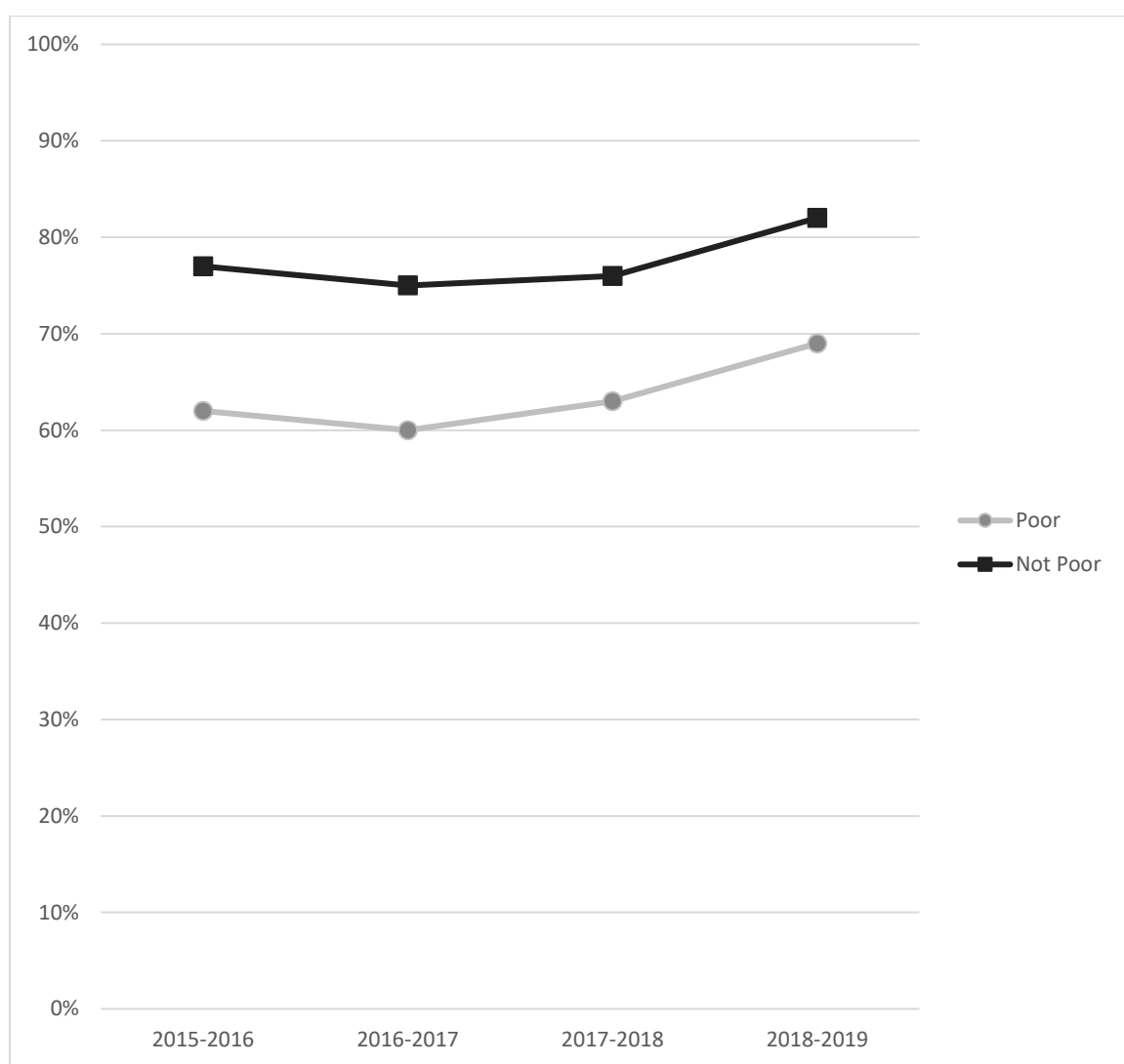


who were Poor had an average score approximately 14% lower than the average score for Hispanic girls who were Not Poor in 2015-2016 and 2016-2017; 13% lower than the average score for Hispanic girls who were Not Poor in 2017-2018; and 14% lower than the average score for Hispanic girls who were Not Poor in 2018-2019. Portrayed in Figure 5.25 are the results of Reading Reporting Category I scores for Hispanic girls who were Poor and Hispanic girls who were Not Poor.



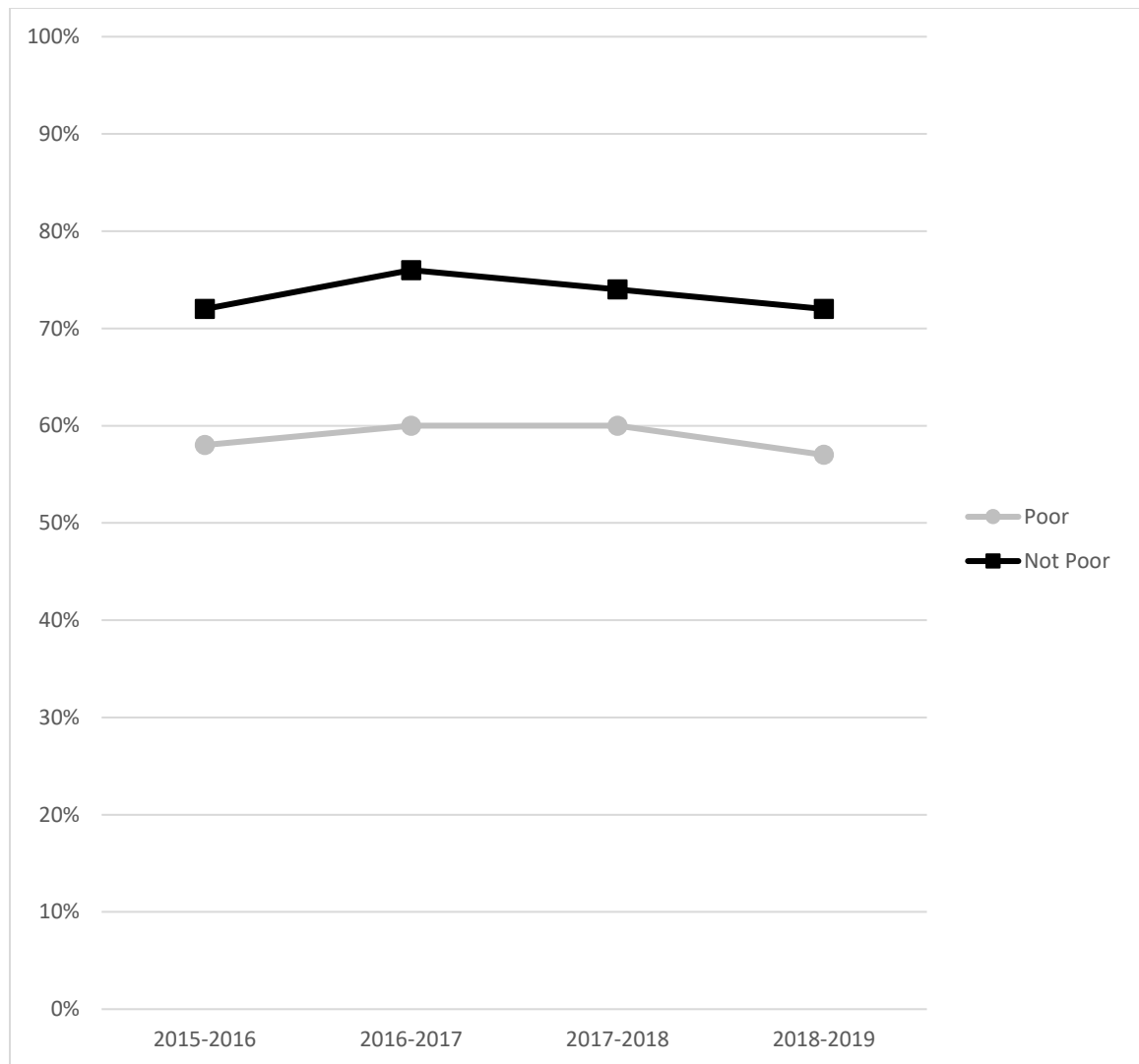
*Figure 5.25.* Grade 3 Reading Reporting Category I scores by the economic status of Hispanic girls for the 2015-2016 through the 2018-2019 school years.

The statistically significant differences between Hispanic girls who were Poor and Hispanic girls who were Not Poor were consistent in regard to the Grade 3 STAAR Reading Reporting Category II scores. Hispanic girls who were Poor had an average score approximately 15% lower than the average score for Hispanic girls who were Not Poor in 2015-2016 and 2016-2017 and 13% lower than the average score for Hispanic girls who were Not Poor in 2017-2018 and 2018-2019. Depicted in Figure 5.26 are the results for Reporting Category II scores.



*Figure 5.26.* Grade 3 Reading Reporting Category II scores by the economic status of Hispanic girls for the 2015-2016 through the 2018-2019 school years.

Statistically significant differences between Hispanic girls who were Poor and Hispanic girls who were Not Poor were also consistent in regard to the Grade 3 STAAR Reading Reporting Category III scores. Hispanic girls who were Poor had an average score approximately 14% lower than the average score for Hispanic girls who were Not Poor in 2015-2016 and 2017-2018 and approximately 15% lower than the average score for Hispanic girls who were Not Poor in 2016-2017 and 2018-2019. Illustrated in Figure 5.27 are the results for Reporting Category III scores.

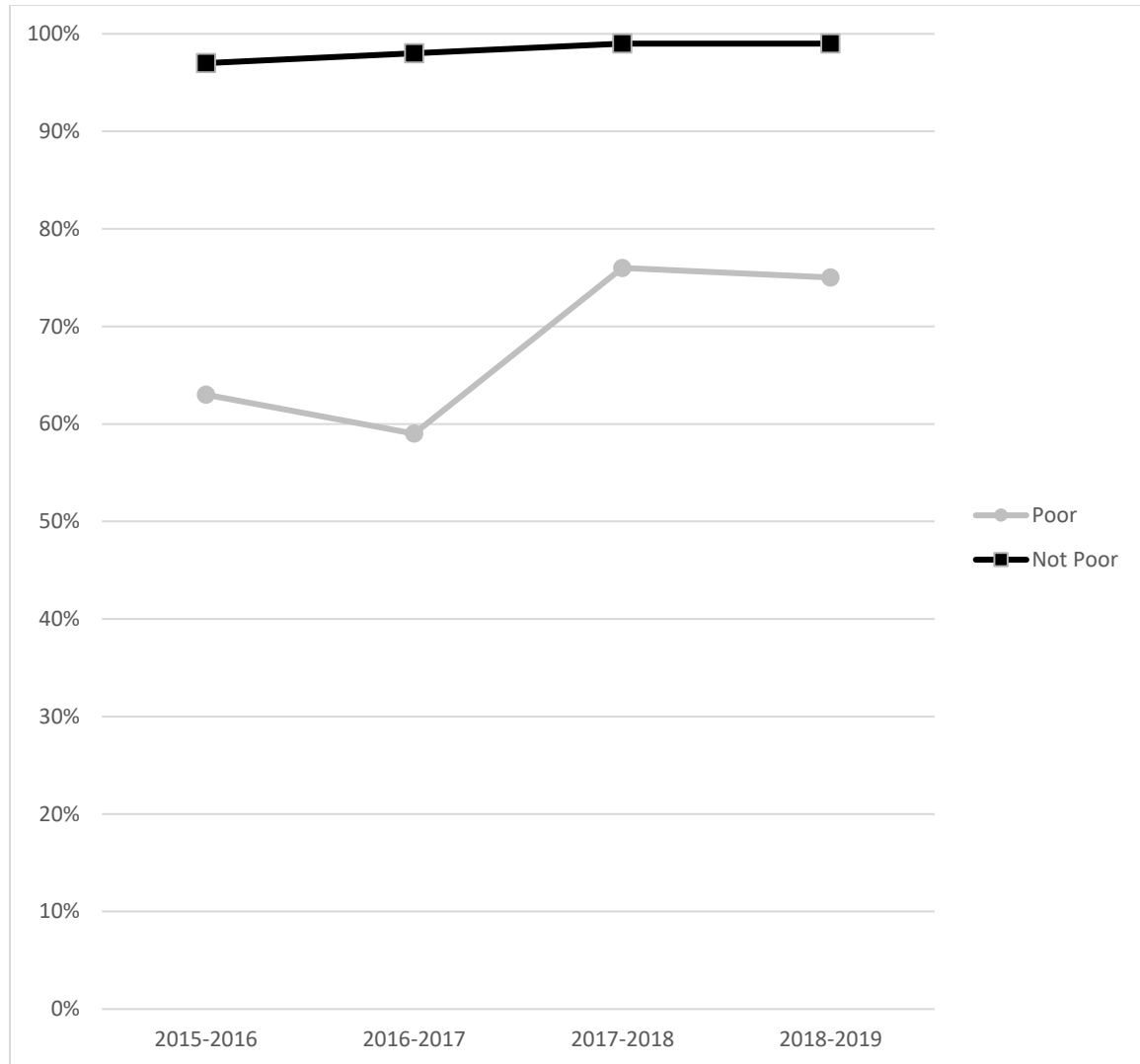


*Figure 5.27.* Grade 3 Reading Reporting Category III scores by the economic status of Hispanic girls for the 2015-2016 through the 2018-2019 school years.

Similarly, in each of the three Grade Level Phase-in Standards in all four years investigated, underrepresented girls who were Poor had statistically significantly lower achievement than underrepresented girls who were Not Poor. Effect sizes for the reading performance of Asian girls ranged from small to moderate each year at each Grade Level Phase-in Standard. Effect sizes for Black girls and Hispanic girls were small each year at each Grade Level Phase-in Standard.

Regarding trends in the differences in the Grade Level Phase-in Standards between Asian girls who were Poor and Asian girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Asian girls who were Poor had statistically significantly lower rates of achieving each grade level standard. Asian girls who were Poor met the Approaches Grade Level standard an average of approximately 30% less frequently than Asian girls who were Not Poor. With respect the 2015-2016 school year, slightly over 63% of Asian girls who were Poor met the Approaches Grade Level standard, compared to approximately 97% of Asian girls who were Not Poor who met this standard. Regarding the 2016-2017 school year, only 59% of Asian girls who were Poor met the Approaches Grade Level standard, compared to approximately 98% of Asian girls who were Not Poor who met this standard. Concerning the 2017-2018 school year, slightly less than 76% of Asian girls who were Poor met the Approaches Grade Level standard in comparison to almost all, 99%, of Asian girls who were Not Poor who met this standard. With regard to the 2018-2019 school year, approximately 75% of Asian girls who were Poor met the Approaches Grade Level standard, compared to almost all, 99%, of Asian girls who were Not Poor who met this standard. Portrayed in

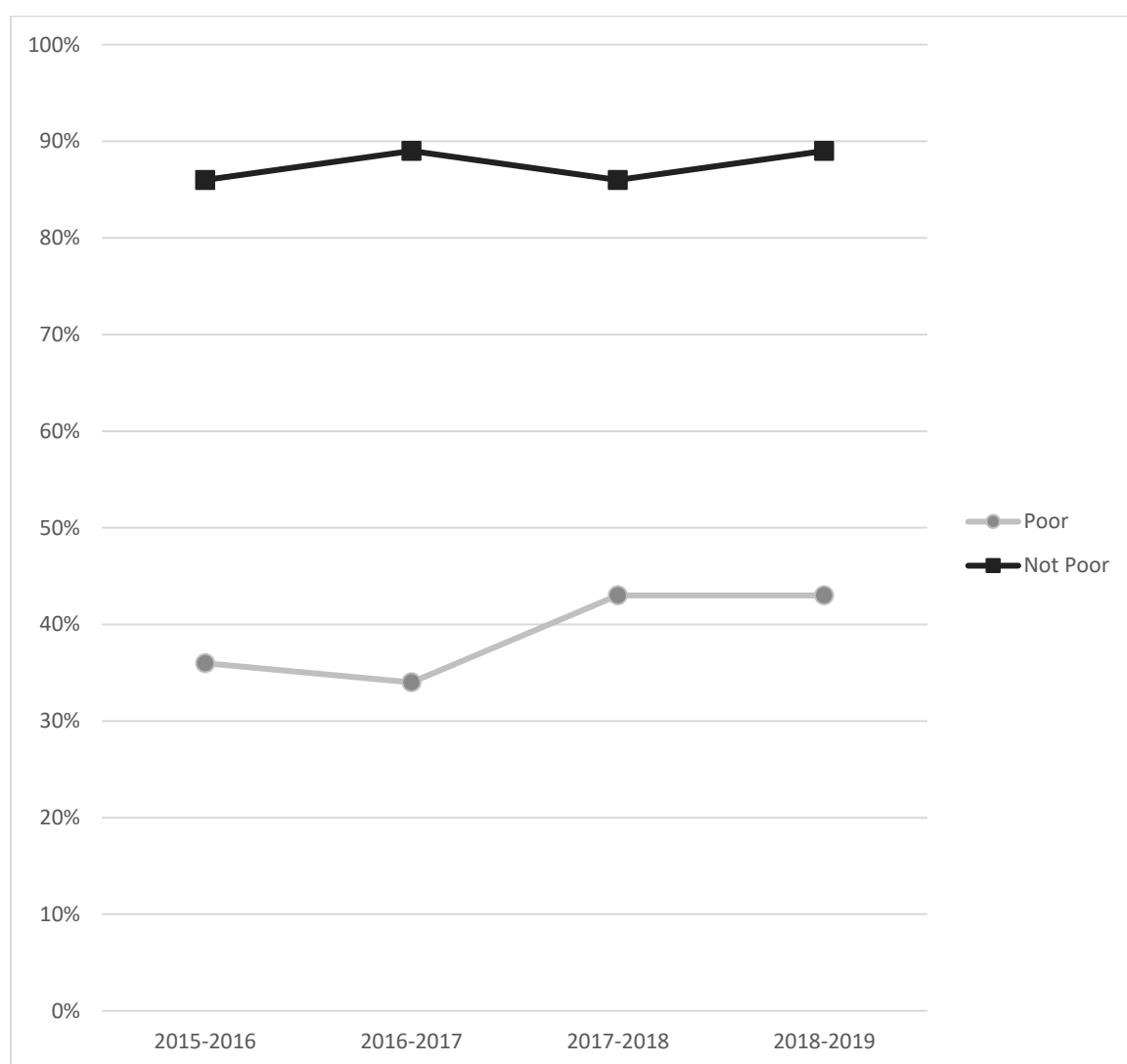
Figure 5.28 are the results of the Approaches Grade Level standard of Asian girls who were Poor and Asian girls who were Not Poor.



*Figure 5.28.* Grade 3 Reading Approaches Grade Level results by the economic status of Asian girls for the 2015-2016 through the 2018-2019 school years.

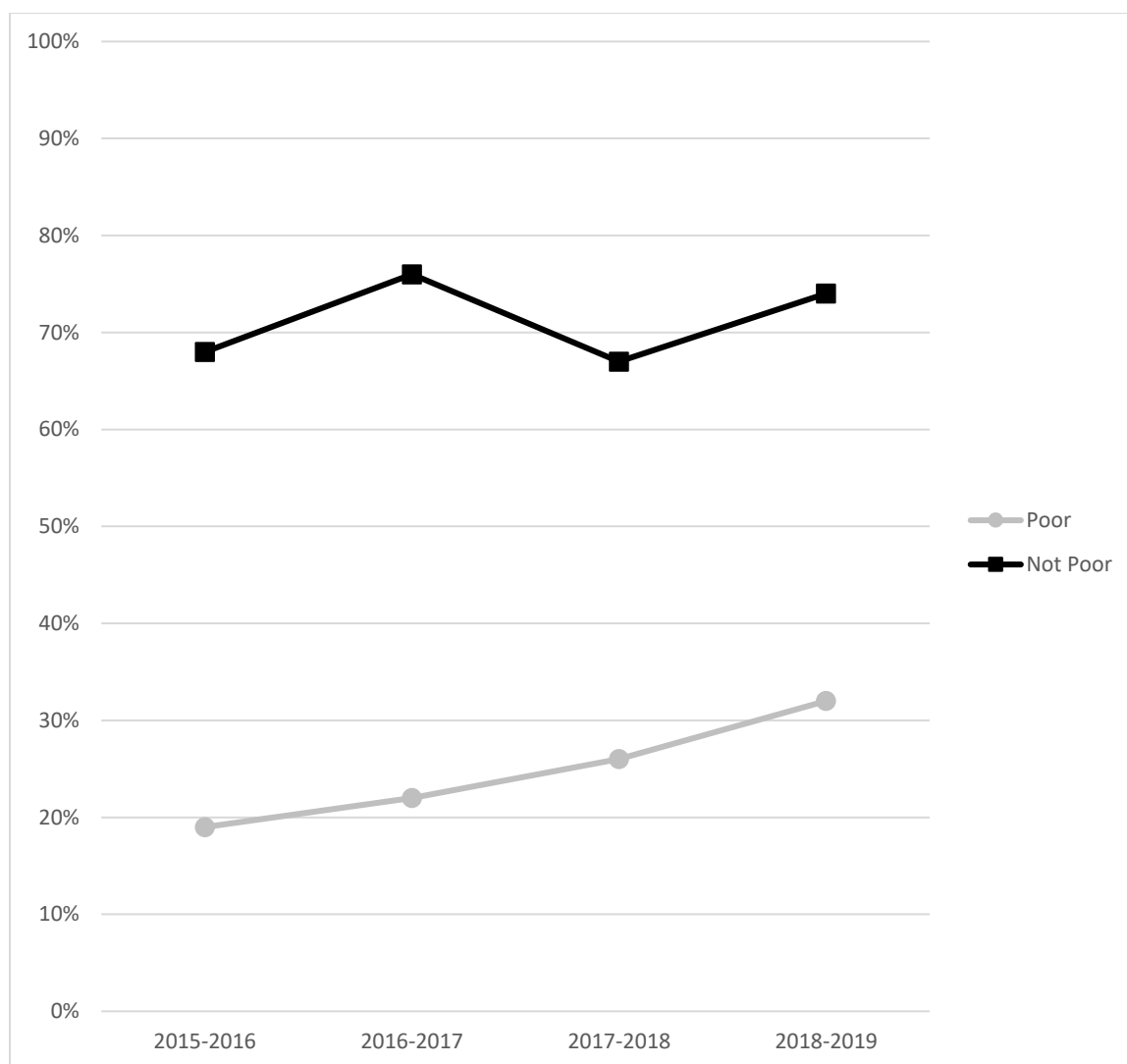
Asian girls who were Poor met the Meets Grade Level standard an average of 48% less frequently than Asian girls who were Not Poor. With respect to the 2015-2016 school year, less than 37% of Asian girls who were Poor met this standard in comparison to 86% of Asian girls who were Not Poor. Regarding the 2016-2017 school year, only 34% of Asian girls who were Poor met this standard, compared to approximately 89% of

Asian girls who were Not Poor. Concerning the 2017-2018 school year, less than 43% of Asian girls who were Poor met this standard compared to over 85% of Asian girls who were Not Poor. With regard to the 2018-2019 school year, only 43% of Asian girls who were Poor met this standard in comparison to approximately 89% of Asian girls who were Not Poor. Depicted in Figure 5.29 are the results of the Meets Grade Level standard.



*Figure 5.29.* Grade 3 Reading Meets Grade Level results by the economic status of Asian girls for the 2015-2016 through the 2018-2019 school years.

Asian girls who were Poor met the Masters Grade Level standard an average of 46% less frequently than Asian girls who were Not Poor. With respect the 2015-2016 school year, less than 20% of Asian girls who were Poor met this standard, whereas 68% of Asian girls who were Not Poor met this standard. Regarding the 2016-2017 school year, only 22% of Asian girls who were Poor met this highest standard, whereas slightly less than 76% of Asian girls who were Not Poor met this standard. Concerning the 2017-2018 school year, slightly less than 27% of Asian girls who were Poor met this standard, whereas almost 67% of Asian girls who were Not Poor met this standard. With regard to the 2018-2019 school year, less than 32% of Asian girls who were Poor met this standard, whereas approximately 74% of Asian girls who were Not Poor met this standard. Illustrated in Figure 5.30 are the results of the Masters Grade Level standard.

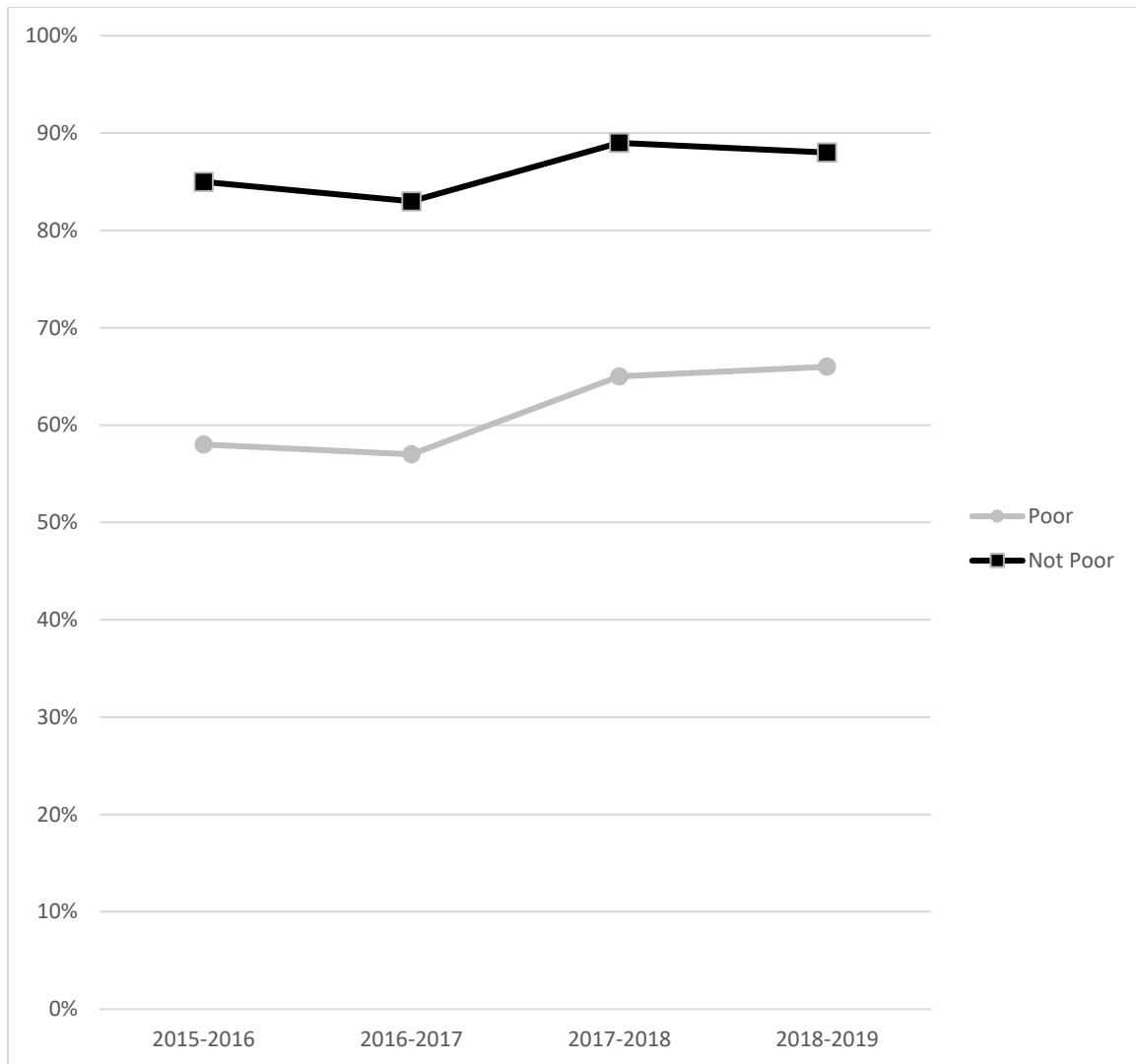


*Figure 5.30. Grade 3 Reading Masters Grade Level results by the economic status of Asian girls for the 2015-2016 through the 2018-2019 school years.*

With respect to trends in the differences in the Grade Level Phase-in Standards between Black girls who were Poor and Black girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Black girls who were Poor had statistically significantly lower rates of achieving each grade level standard. Black girls who were Poor met the Approaches Grade Level standard an average of approximately 25% less than Black girls who were Not Poor. With regard to the 2015-2016 school year, approximately 58% of Black girls who were Poor met the Approaches Grade Level



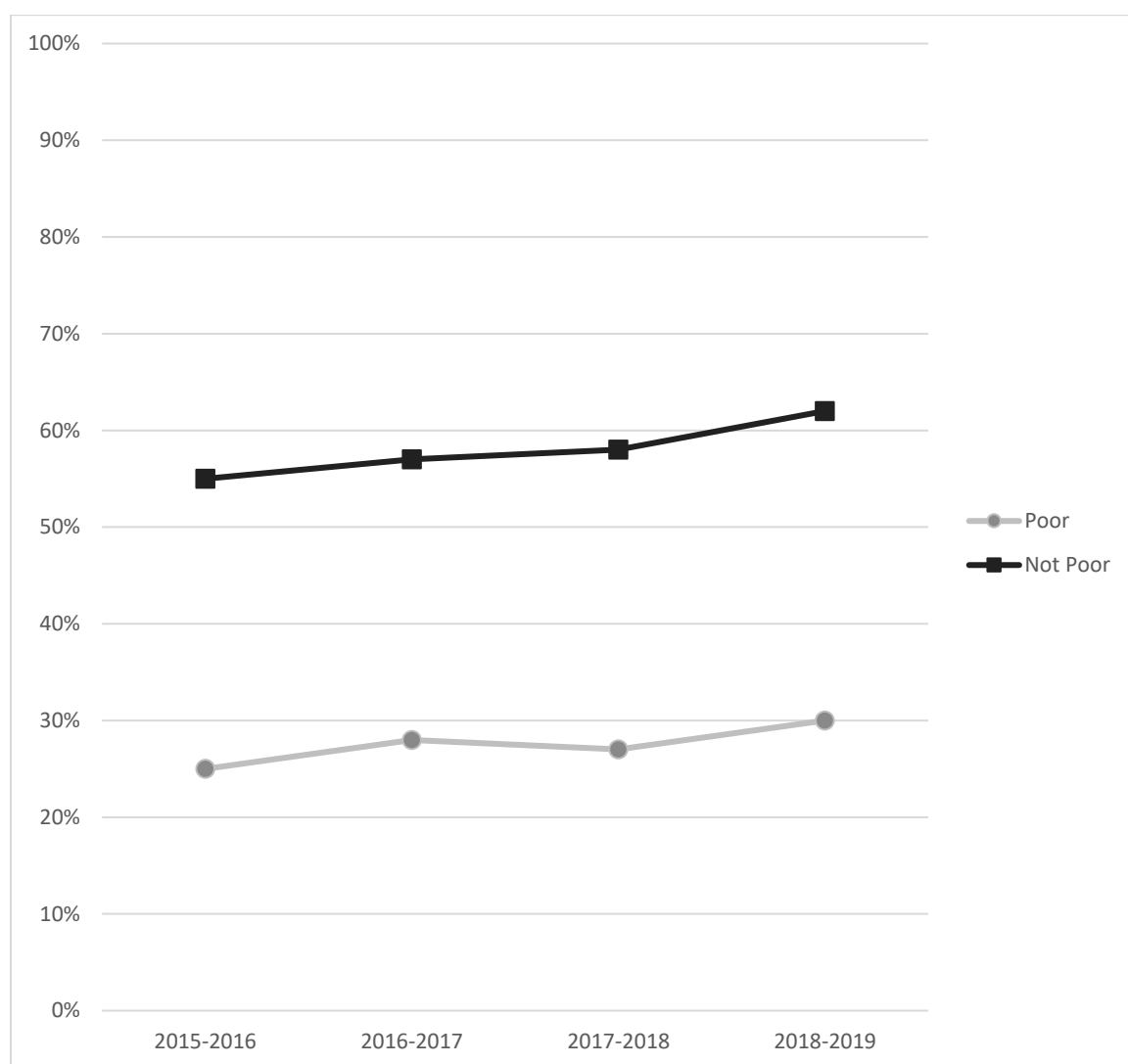
standard, compared to approximately 85% of Black girls who were Not Poor who met this standard. Concerning the 2016-2017 school year, less than 58% of Black girls who were Poor met the Approaches Grade Level standard, compared to approximately 83% of Black girls who were Not Poor who met this standard. With respect to the 2017-2018 school year, just over 65% of Black girls who were Poor met the Approaches Grade Level standard, compared to over 89% of Black girls who were Not Poor who met this standard. Regarding the 2018-2019 school year, slightly more than 66% of Black girls who were Poor met the Approaches Grade Level standard in comparison to approximately 88% of Black girls who were Not Poor who met this standard. Portrayed in Figure 5.31 are the results of the Approaches Grade Level standard of Black girls who were Poor and Black girls who were Not Poor.



*Figure 5.31.* Grade 3 Reading Approaches Grade Level results by the economic status of Black girls for the 2015-2016 through the 2018-2019 school years.

Black girls who were Poor met the Meets Grade Level standard an average of approximately 31% less than Black girls who were Not Poor. With regard to the 2015-2016 school year, less than 25% of Black girls who were Poor met this standard compared to over 55% of Black girls who were Not Poor. Concerning the 2016-2017 school year, less than 28% of Black girls who were Poor met this standard in comparison to approximately 57% of Black girls who were Not Poor. With respect to the 2017-2018 school year, only 27% of Black girls who were Poor met this standard compared to 58%

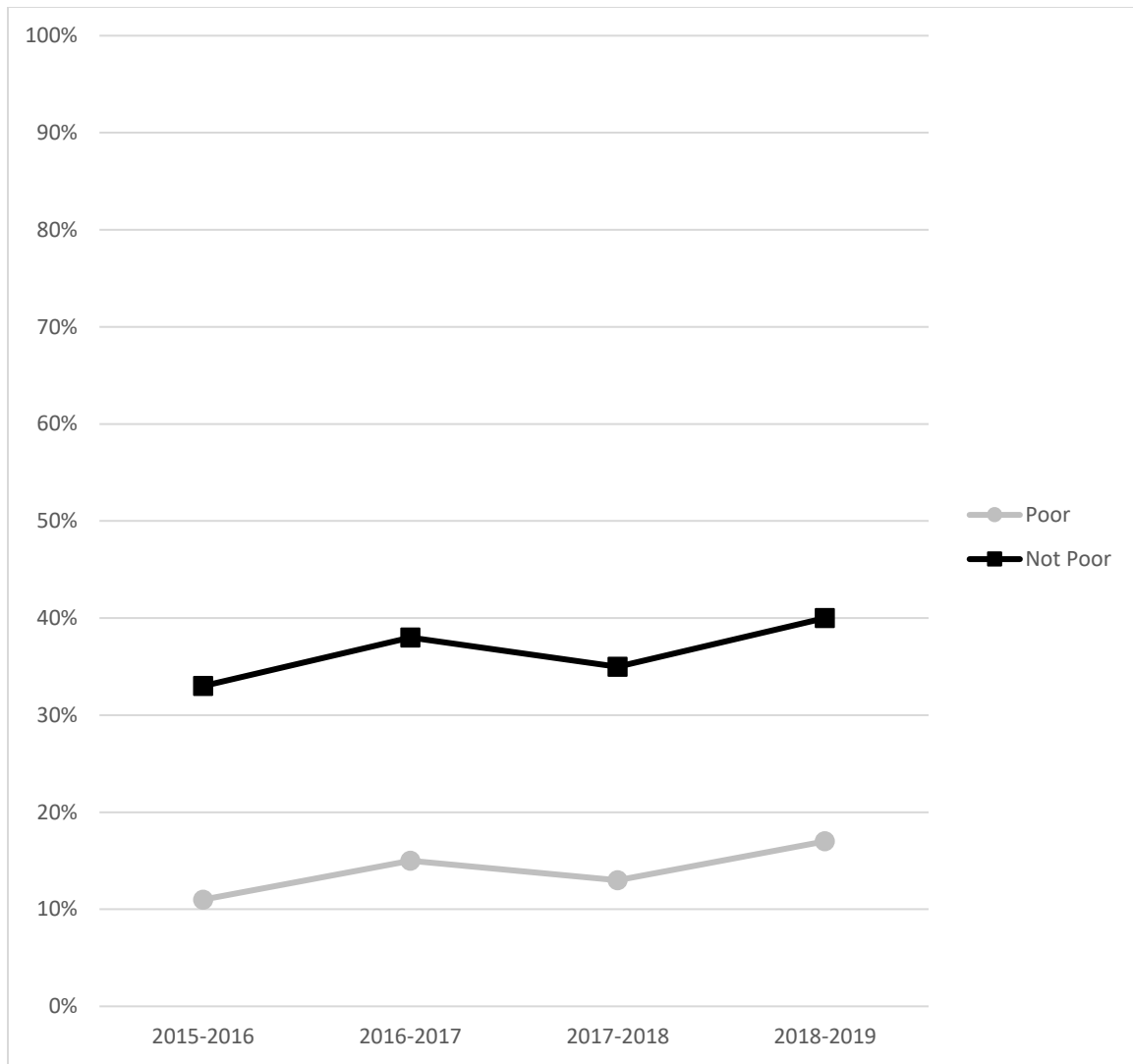
of Black girls who were Not Poor. Regarding the 2018-2019 school year, 30% of Black girls who were Poor met this standard compared to approximately 62% of Black girls who were Not Poor. Depicted in Figure 5.32 are the results of the Meets Grade Level standard.



*Figure 5.32. Grade 3 Reading Meets Grade Level results by the economic status of Black girls for the 2015-2016 through the 2018-2019 school years.*

Black girls who were Poor met the Masters Grade Level standard an average of approximately 23% less than Black girls who were Not Poor. With regard to the 2015-

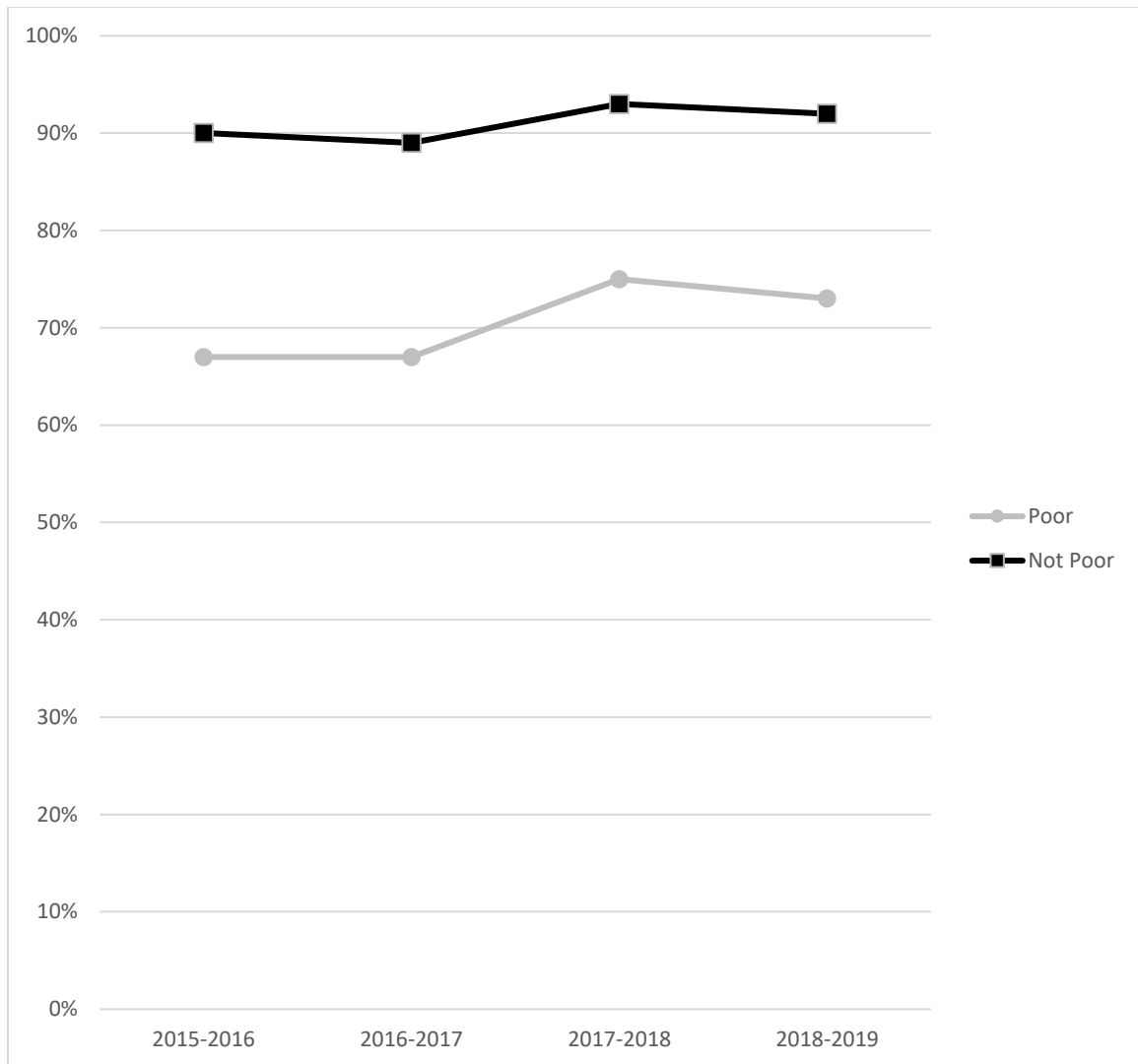
2016 school year, less than 11% of Black girls who were Poor met this standard, whereas slightly more than 33% of Black girls who were Not Poor met this standard. Concerning the 2016-2017 school year, less than 15% of Black girls who were Poor met this highest standard, whereas approximately 38% of Black girls who were Not Poor met this standard. With respect to the 2017-2018 school year, less than 13% of Black girls who were Poor met this standard, whereas approximately 35% of Black girls who were Not Poor met this standard. Regarding the 2018-2019 school year, slightly less than 17% of Black girls who were Poor met this standard, whereas almost 40% of Black girls who were Not Poor met this standard. Illustrated in Figure 5.33 are the results of the Masters Grade Level standard.



*Figure 5.33. Grade 3 Reading Masters Grade Level results by the economic status of Black girls for the 2015-2016 through the 2018-2019 school years.*

Concerning trends in the differences in the Grade Level Phase-in Standards between Hispanic girls who were Poor and Hispanic girls who were Not Poor from the 2015-2016 through the 2018-2019 school years, Hispanic girls who were Poor had statistically significantly lower rates of achieving each grade level standard. Hispanic girls who were Poor met the Approaches Grade Level standard an average of approximately 20% less than Hispanic girls who were Not Poor. Concerning the 2015-2016 school year, less than 67% of Hispanic girls who were Poor met the Approaches

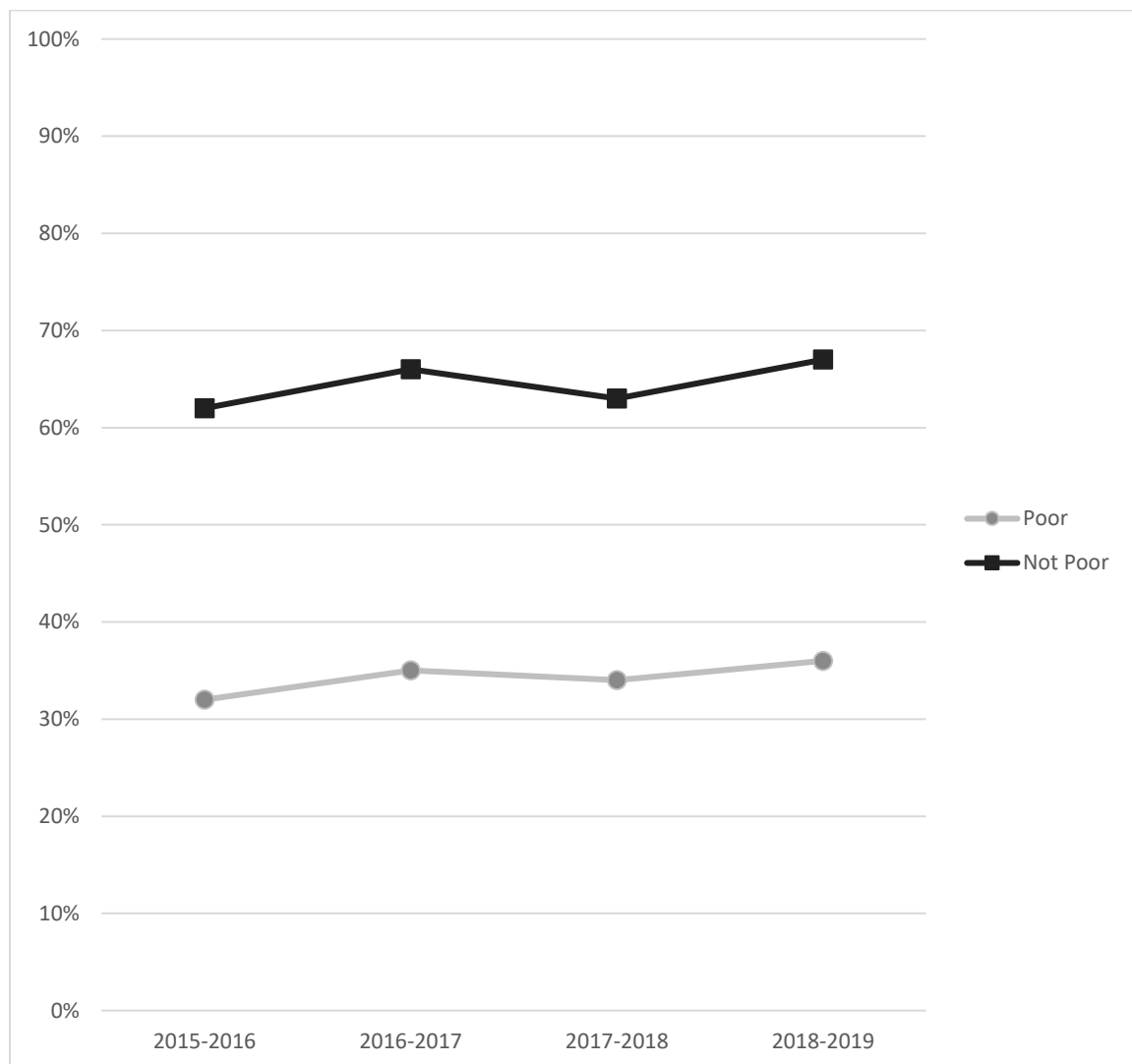
Grade Level standard, compared to approximately 90% of Hispanic girls who were Not Poor who met this standard. With respect to the 2016-2017 school year, approximately 67% of Hispanic girls who were Poor met the Approaches Grade Level standard, compared to approximately 89% of Hispanic girls who were Not Poor who met this standard. With regard to the 2017-2018 school year, slightly less than 75% of Hispanic girls who were Poor met the Approaches Grade Level standard in comparison to approximately 93% of Hispanic girls who were Not Poor who met this standard. Regarding the 2018-2019 school year, only 73% of Hispanic girls who were Poor met the Approaches Grade Level standard, compared to 92% of Hispanic girls who were Not Poor who met this standard. Portrayed in Figure 5.34 are the results of the Approaches Grade Level standard of Hispanic girls who were Poor and Hispanic girls who were Not Poor.



*Figure 5.34. Grade 3 Reading Approaches Grade Level results by the economic status of Hispanic girls for the 2015-2016 through the 2018-2019 school years.*

Hispanic girls who were Poor met the Meets Grade Level standard an average of approximately 30% less than Hispanic girls who were Not Poor. Concerning the 2015-2016 school year, only about 32% of Hispanic girls who were Poor met this standard in comparison to over 61% of Hispanic girls who were Not Poor. With respect to the 2016-2017 school year, less than 35% of Hispanic girls who were Poor met this standard compared to 66% of Hispanic girls who were Not Poor. With regard to the 2017-2018 school year, 34% of Hispanic girls who were Poor met this standard compared to 63% of

Hispanic girls who were Not Poor. Regarding the 2018-2019 school year, less than 37% of Hispanic girls who were Poor met this standard compared to approximately 67% of Hispanic girls who were Not Poor. Depicted in Figure 5.35 are the results of the Meets Grade Level standard.

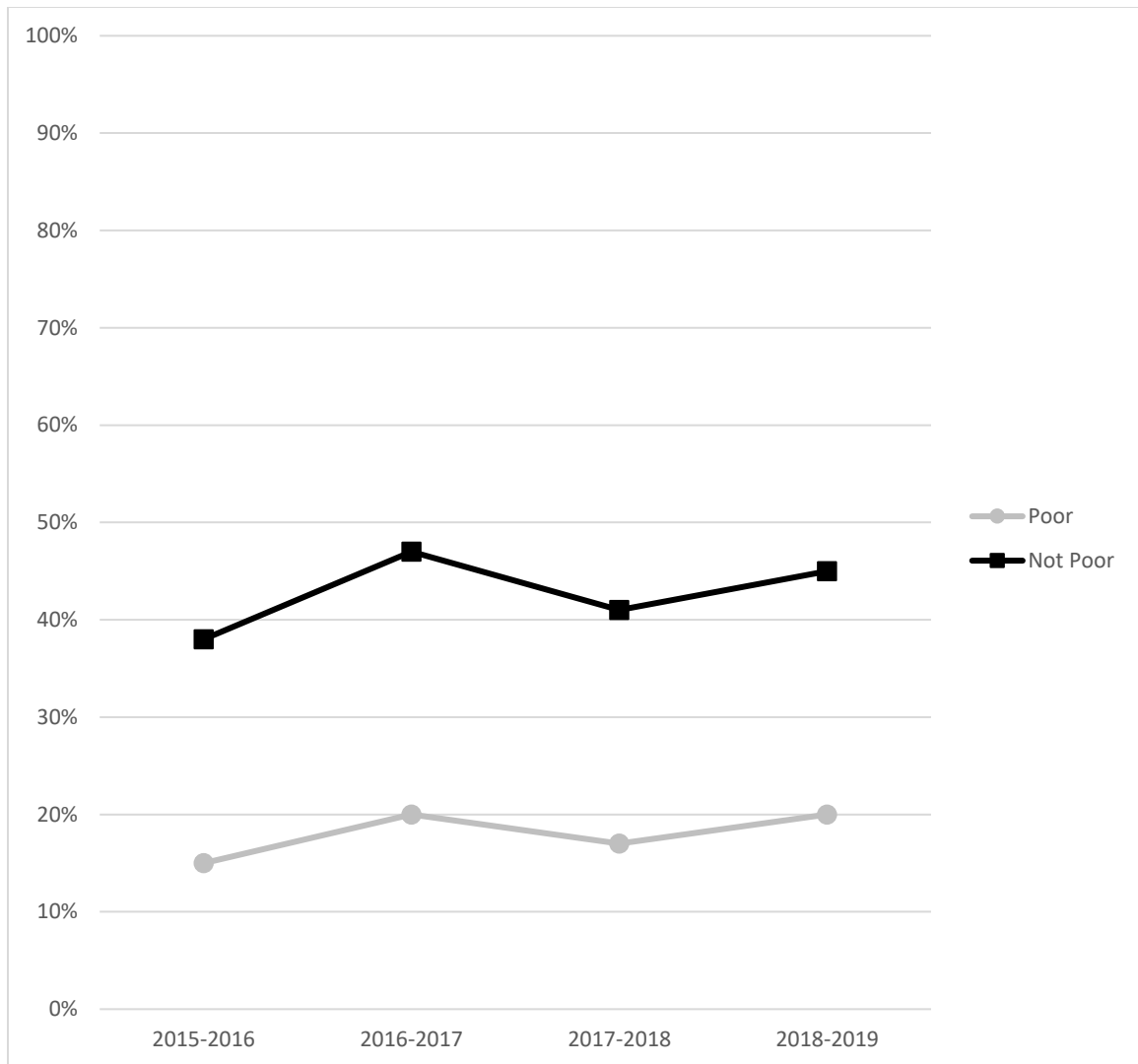


*Figure 5.35.* Grade 3 Reading Meets Grade Level results by the economic status of Hispanic girls for the 2015-2016 through the 2018-2019 school years.

Hispanic girls who were Poor met the Masters Grade Level standard an average of approximately 25% less than Hispanic girls who were Not Poor. Concerning the 2015-2016 school year, less than 16% of Hispanic girls who were Poor met this highest



standard, whereas 38% of Hispanic girls who were Not Poor met this standard. With respect to the 2016-2017 school year, less than 21% of Hispanic girls who were Poor met this standard, whereas more than 46% of Hispanic girls who were Not Poor met this standard. With regard to the 2017-2018 school year, slightly less than 17% of Hispanic girls who were Poor met this standard, whereas over 40% of Hispanic girls who were Not Poor met this standard. Regarding the 2018-2019 school year, less than 20% of Hispanic girls who were Poor met this standard, whereas approximately 45% of Hispanic girls who were Not Poor met this standard. Illustrated in Figure 5.36 are the results of the Masters Grade Level standard.



*Figure 5.36.* Grade 3 Reading Masters Grade Level results by the economic status of Hispanic girls for the 2015-2016 through the 2018-2019 school years.

### **Discussion of Results based on Student Demographic Characteristics**

Analyzed in this third investigation was the degree to which demographic characteristics (i.e., economic status, ethnicity/race, English Language Learner status) of Grade 3 students in Texas schools is related to their reading achievement. Specifically examined was each of the variables listed above for each of the four school years separately for boys and for girls. followed by a comparison of these variables across the

four school years. Statistically significant results were present in all four school years for boys and for girls.

Readers are directed to Table 5.1 for a summary of the results of the statistical analyses of Texas Grade 3 boys who took the STAAR Reading test during the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years. In three of the four years analyzed regarding the performance of boys, being Poor, Black, or Hispanic was indicative of not meeting the Meets Grade Level standard. Across the four years, results were statistically significant and revealed that poverty was the single most important predictor of not meeting the Meets Grade Level standard for boys.

Table 5.1

*Summary of the Grade 3 STAAR Reading Meets Grade Level Performance by the Contributing Variables of Boys for the 2015-2016 School Year through the 2018-2019 School Year*

School Year and Demographic Characteristic	Standardized Coefficient
2015-2016	
Poor	.73
Hispanic	.60
Black	.52
White	.33
2016-2017	
Poor	.76
Black	.32
2017-2018	
Poor	.72
Hispanic	.61
Black	.53
White	.31
2018-2019	
Poor	.77
White	.44
Hispanic	.36

Delineated in Table 5.2 are the results of the statistical analyses of Texas Grade 3 girls who took the STAAR Reading test during the 2015-2016, 2016-2017, 2017-2018, and 2018-2019 school years. In three of the four years investigated regarding the performance of girls, being White or Asian was indicative of meeting the Meets Grade Level standard. Across the four years, results were statistically significant and revealed that being Asian was the most important predictor of meeting the Meets Grade Level standard.

Table 5.2

*Summary of the Grade 3 STAAR Reading Meets Grade Level Performance by the Contributing Variables of Girls for the 2015-2016 School Year through the 2018-2019 School Year*

School Year and Demographic Characteristic	Standardized Coefficient
2015-2016	
Poor	.78
White	.40
2016-2017	
Poor	.81
2017-2018	
Poor	.74
White	.45
Hispanic	.30
2018-2019	
Poor	.81
White	.45
Hispanic	.31

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

In this journal-ready investigation, findings in all three articles were consistent with prior research results. Clearly established in this multiyear, statewide analysis are the effects of poverty on student reading achievement. Researchers (Gardner-Neblett &

Iruka, 2015; Hernandez, 2011; Stinnett, 2014) have examined the link between poverty and low-level literacy skills. The lack of literacy opportunities for students from poverty backgrounds is well-documented and contributes to lower literacy skills (Gardner-Neblett & Iruka, 2015; Hernandez, 2011; Stinnett, 2014). Literacy opportunities include exposure to varied vocabulary and syntax (Stinnett, 2014) and minimized time to learn due to frequent absences attributed to increased health or family problems (Hernandez, 2011). Furthermore, the growth of financial inequality in the United States has resulted in increasing inequality in academic achievement of children living in poverty (David & Marchant, 2015; Paschall, Gershoff, & Kuhfeld, 2018). Students from poverty backgrounds arrive at school less prepared than their peers who were not economically disadvantaged (Ansari et al., 2017), which is particularly problematic considering the percentage of students in the State of Texas living in poverty increased to almost 61% of the population in 2018-2019 (Texas Education Agency, 2019a).

Furthermore, the trends in reading performance revealed by the third study were consistent with prior literature. Nationally (David & Marchant, 2015; Nichols, Glass, & Berliner, 2012) and in Texas (Hamilton & Slate, 2019; Harris, 2018; McGown, 2016; Pariseau, 2019; Schleeter, 2017) Grade 3 and Grade 4 students from poverty backgrounds consistently achieve at lower rates than their Not Poor peers, congruent with the findings of this study. Grade 3 and Grade 4 Asian students outperform students from all other ethnic/racial backgrounds, followed by White students, Hispanic students, and then Black students. These results are consistent in this article, across America (David & Marchant, 2015; Nichols et al., 2012), and in Texas (Harris, 2018; McGown, 2016; Pariseau, 2019; Schleeter, 2017). Students who are English Language Learners achieve at lesser rates

than their English-speaking peers both nationally (Polat et al., 2016) and in Texas (Pariseau, 2019; Rojas-LeBouef, 2011), commensurate with this study.

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

Based on the analysis of four years of Texas statewide data, several implications for policy and for practice can be recommended. With respect to policy implications, the passage of House Bill 3 (Texas Education Agency, 2019b) in 2019, creating funding for high-quality, full-day Pre-K for all eligible 4-year old children. The funding must be maintained beyond the current legislative session. Maintaining funding will allow researchers to conduct future studies and to determine the success rate of the program. Furthermore, ensuring funding is directed towards the students who need it most is essential. Also included in House Bill 3 (Texas Education Agency, 2019c) was increased funding for low-income students. If legislators decrease or remove this funding in subsequent sessions, students from poverty backgrounds will be detrimentally affected. Policymakers should take note of the documented differences in academic performance to justify the increased spending.

Another requirement of House Bill 3 was a requirement for all elementary teachers to be trained on the science of reading (Texas Education Agency, 2019b). Continuing this requirement into future legislative sessions is necessary to ensure teachers are prepared to provide literacy instruction across all content areas. The skills are vital for the success of all students.

A final policy implication is the need for policymakers and educational leaders to review options to mitigate the effects of poverty. The percentage of Texas students who are living in poverty is just over 60% of all students and has increased by over 22% in the



last 10 years (Texas Education Agency, 2019b). Current policies in place are not eliminating poverty, therefore new ideas should be considered.

With respect to practice implications, educational leaders should prioritize inclusive hiring practices. Though more Black and Hispanic teachers have entered the workforce in the last 10 years, Black, Hispanic, and Asian teachers comprise approximately one-third of total teachers whereas students from the same ethnic/racial background make up more than two-thirds of Texas students (Campbell, 2017). Another priority educational leaders should consider is hiring teachers with literacy backgrounds and providing support staff dedicated to improving literacy skills. With consideration to the weight of Grade 3 reading assessment results, principals cannot allow gaps to form in early school years. Grade 3 students who are not proficient readers are four times less likely to graduate from high school than for Grade 3 students who are proficient readers (Hernandez, 2011).

Another strategy educational leaders can implement is training teachers to use culturally responsive teaching in their classroom. When the ethnic/racial background of the teacher does not match the ethnic/racial background of the students, cultural differences can result in instruction that is irrelevant and ineffective (Muniz, 2019). A lack of culturally responsive training in teacher preparation programs (Muniz, 2019) indicates a need for school districts to develop and administer their own trainings.

Lastly, educators must be trained in best practices when instructing students from poverty backgrounds. Students from poverty backgrounds require additional instruction to meet the rigorous standards assessed on the STAAR Reading test. Empowering teachers with additional knowledge, including being trained in the science of reading, to

combat gaps in literacy development is necessary to ensure gaps do not grow in future school years. Furthermore, teachers should utilize resources designed to address the Texas standards. Curriculum leaders must review all adopted materials and check for alignment. Until poverty, or its effects, are eliminated, teachers must have the skills to understand how poverty can influence student health, behavior, and academic achievement. As long as educators are tasked with overcoming these tremendous odds, there is no other option.

### **Recommendations for Future Research**

Given the results of the three articles in this journal-ready dissertation, several suggestions can be made for future research. Given the results of this empirical multiyear investigation, several recommendations for future research can be made. First, studies were conducted on data on only Grade 3 underrepresented boys and Grade 3 underrepresented girls. The degree to which findings obtained herein would be generalizable to underrepresented students in other grade levels is not known. Accordingly, researchers are encouraged to examine the reading achievement of underrepresented boys and underrepresented girls at middle schools and at high schools.

Second, because only reading performance was addressed in this article, researchers should examine the degree to which economic status is related to other subjects such as mathematics, science, and social studies. Third, researchers should ascertain the extent to which results from this Texas statewide analysis would be generalizable to underrepresented boys and underrepresented girls in other states. The extent to which the results of this investigation can be generalized to other states is unknown. Finally, researchers are encouraged to conduct longitudinal studies in which

they follow the progress of students over the course of their public-school careers. The results would allow researchers to analyze how economic status affects underrepresented boys and underrepresented girls over time.

Given the results of the third article, several recommendations for future research can be made. This research study was conducted on data for Grade 3 students in Texas. Therefore, the degree to which findings obtained herein could be generalizable to other grade levels or states is not known. Researchers should analyze the reading performance of students in other grade levels. Researchers should also examine the reading achievement of students in other states to determine if similar results are present across America. To analyze trends over several years, researchers are encouraged to conduct longitudinal studies. Determining if similar results are present across multiple years would provide extremely valuable information to policymakers and practitioners. Finally, because only reading academic achievement as determined by the STAAR assessment was analyzed in this study, researchers are encouraged to conduct future studies to determine if similar trends are present in other subjects.

### **Conclusion**

The purpose of this journal-ready dissertation was to examine the extent to which differences were present by student demographic characteristic (i.e., economic status, ethnicity/race, English Language Learner status) in the reading achievement of Texas Grade 3 students. Particularly concerning were the differences between Poor and Not Poor students. In all three articles, poverty was clearly established as a detrimental influence on student reading performance. The number of Texas students living in poverty increased by almost 1.2 million students between the 2001-2002 and 2018-2019

school years (Texas Education Agency 2003; Texas Education Agency, 2019c). With respect to the years of data that were analyzed in these investigations, an average of 72% of Black students and 76% of Hispanic students met the federal criteria for poverty compared to only 28% of Asian students and 29% of White students (Texas Education Agency, 2019c). The academic achievement of certain ethnic/racial groups is disproportionately disrupted by poverty. Additionally, considering the results of the third study, the consequences of poverty are more apparent with respect to the reading achievement of boys.

Academic gaps do not appear suddenly. Missed information and skills compound across years and are very difficult to overcome. Millions of children in the United States complete Grade 3 without learning to read proficiently, resulting in an increased likelihood of dropping out of high school (Annie E. Casey Foundation, 2010). In fact, the rate of students who do not graduate from high school is four times greater for Grade 3 students who are not proficient readers than for Grade 3 students who are proficient readers (Hernandez, 2011). With respect to Black and Hispanic students living in poverty who are not proficient readers in Grade 3, the high school graduation rate is eight times lower than proficient readers (Hernandez, 2011).

Families from poverty backgrounds frequently have limited access to health care and nutrition (Center for Public Policy Priorities, 2018) and their children are more likely to arrive unprepared (Ansari et al., 2017) to a school deemed to be inadequate (Ravitch, 2014). It is time to examine the cycle of systematic poverty rather than blame teachers who are unable to overcome the long odds created by teaching children from poverty

backgrounds. Far too many students are being left behind when the goal is for every student to succeed.

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## APPENDIX



Date: Jun 11, 2020 6:04 PM CDT

TO: Heather Hamilton Frederick Lunenburg

FROM: SHSU IRB

PROJECT TITLE: Reading Performance and Economic Status of Texas Grade 3 Underrepresented Students: A Multiyear, Statewide Investigation

PROTOCOL #: IRB-2020-161

SUBMISSION TYPE: Initial

ACTION: Exempt

DECISION DATE: June 11, 2020

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,

Chase Young, Ph.D.

Chair, IRB

Hannah R. Gerber, Ph.D.

Co-Chair, IRB

## VITA

**Heather Hamilton**

### **Educational History**

Doctorate of Education – Educational Leadership (December 2020)

*Sam Houston State University, Huntsville, Texas*

Dissertation: Reading Performance and Economic Status of Texas Grade 3

Underrepresented Students: A Multiyear, Statewide Investigation

Masters of Education -- Curriculum and Instruction, Educational Administration  
(December 2012)

*Concordia University, Austin, Texas*

Bachelor of Science in Dance (May 2007)

*Texas State University, San Marcos, Texas*

### **Professional Licensure and Certifications**

Principal EC-12

Generalist EC-6, 4-8

Physical Education and Health EC-12

Dance 8-12

ESL Supplemental EC-12

### **Presentations and Publications**

Hamilton, H. A. (2019, August). *Differences in Grade 3 reading by the economic status of students of color: Much cause for concern*. Paper presented at the annual conference of the Texas Council of Professors of Educational Administration, Dallas, TX.

Hamilton, H. A., & Slate, J. R. (2019). Differences in Grade 3 reading by the economic status of students of color: A cause for concern. *Asian Journal of Interdisciplinary Research*, 2(4), 97-104. <https://doi.org/10.34256/ajir19410>

### **Professional Experiences**

2018-Present Klein ISD, Instructional Specialist

2016-2018 Aldine ISD, Instructional Specialist

2014-2016 Aldine ISD, Teacher

2011-2014 Houston ISD, Teacher

2009-2011 Brazosport ISD, Assistant Teacher

2007-2009 Santa Fe ISD, Teacher