DIFFERENCES IN READING PERFORMANCE OF TEXAS ELEMENTARY

SCHOOL STUDENTS AS A FUNCTION OF ECONOMIC STATUS, GENDER, AND

ETHNICITY/RACE: A MULTIYEAR STATEWIDE STUDY

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In Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

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by

Jenny A. M. McGown

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APPROVED:

_____
Dr. John R. Slate
Dissertation Chair

_____
Dr. George W. Moore
Committee Member

_____
Dr. Frederick C. Lunenburg
Committee Member

Approved:

_____
Dr. Stacey L. Edmonson
Dean, College of Education

DEDICATION

I dedicate this dissertation to my parents, my first and most important teachers. My dear dad, Dr. Donald Wallace, went to be with the Lord before I could complete this work. He is both the reason I started and the reason I finished. Most importantly, he has been and always will be the voice in my ear, encouraging me to run the race set before me by fixing my eyes on Jesus, the author and perfecter of our faith. My dad and his joyful, hopeful spirit–he is with me still.

And to my amazing mom, Mary Wallace. She is the bravest and most beautiful woman I know. She has risen above every difficult circumstance and trial that has marked her journey, and her life testifies to the power of His grace and mercy. Each student I serve whose odds are stacked against her inspires me to speak hope, truth, and joy into her story, the way my mom has done for me and countless others. My mom and her fierce, steady love—I serve kids in her honor.

ABSTRACT

McGown, Jenny A. M., *Differences in reading performance of Texas elementary school students as a function of economic status, gender, and ethnicity/race: A multiyear statewide study.* Doctor of Education (Educational Leadership), December 2016, Sam Houston State University, Huntsville, Texas.

Purpose

The purpose of this journal-ready dissertation was to examine the extent to which degree of economic status, gender, and ethnicity/race are related to the reading achievement of Texas elementary school students. The first purpose was to analyze the degree to which differences exist in reading performance by degree of economic disadvantage for elementary school students. A second purpose was to examine the extent to which differences are present in reading performance between boys and girls in elementary schools. Finally, a third purpose was to determine the extent to which differences are present in reading performance for four different ethnic/racial groups (i.e., Asian, White, Hispanic, and Black) of elementary school students. Archival data from the Texas Education Agency Public Education Information Management System was analyzed to make these determinations. A multiyear statewide analysis of academic performance of the state-mandated reading assessments in Grade 3 was used to determine the degree to which trends were present in reading performance by economic status, between boys and girls, and among different ethnic/racial groups.

Method

A causal-comparative research design was used in this quantitative study. Grade 3 STAAR archival data were obtained for the 2012-2013 through the 2014-2015 school years. Each of the three Reporting Categories was analyzed to determine if differences

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existed by degree of economic status, gender, and ethnic/racial groupings. Additionally, the percentage of students meeting the Level II Final Satisfactory Performance Standard was analyzed to determine progress in closing historic achievement gaps.

Findings

Students who were extremely poor had statistically significant lower average scores than students who were moderately poor on the Grade 3 STAAR Reading assessment. Both groups of students in poverty had lower reading scores than students who were not poor. Boys had statistically significantly lower average scores than girls in all reporting categories. Trends present across ethnic/racial groups were that Hispanic and Black students had statistically significantly lower average scores than Asian and White students and Black students had the statistically significant lowest average scores. Results were congruent with the existing literature regarding economic status, gender, and ethnicity/race as factors influencing literacy.

KEY WORDS: Literacy, Economically disadvantaged, Ethnicity/race, Reading skills, Gender, Texas.

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me to pursue this work while walking down the main hallway of Zwink Elementary. He

continues to be a trusted mentor and colleague, and I will always be grateful for his

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educator. None has done so more, however, than my chair, Dr. John R. Slate, a truly

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guidance, and support, especially after the passing of my dad, I am quite certain I would

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level of respect and admiration I have for Dr. Slate. He is quite simply the best professor

I've ever had the privilege of knowing. I am "Team Slate" all the way!

To my colleagues and friends in Cohort 32, I'm thankful for all of the laughter

and learning we shared every Thursday for over two years. We are a testament to the

power and beauty of diversity. May we all run our own race in a way that makes

education better for all students and ensures a bright future for our nation and world.

Finally, I am nothing but for the grace of God. For all that He has done and all

that He is going to do, I am humbled, grateful, and overwhelmed by His mercy and love.

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CHAPTER I

INTRODUCTION

Despite the claim that education is society's "great equalizer" (Gonzalez, 2001, p.1), a tremendous disparity exists in student performance, particularly with regard to differences in economic status, gender, and ethnicity/race (Barnes & Slate, 2014; Egelund, 2012; Saez, 2012). In an effort to address these performance gaps, legislators issued the No Child Left Behind Act (2002) and, most recently, the Every Student Succeeds Act (2015) to ensure that all students meet at least a basic proficiency level of academic readiness (Lee & Slate, 2014). Coinciding with such federal reform measures and mandates, the Texas Education Agency developed a state literacy plan to ensure that every Texas child is strategically prepared for the literacy demands of college and career by high school graduation (Texas Education Agency State Literacy Plan, 2015).

To measure reading proficiency, the State of Texas Assessment of Academic Readiness (STAAR) Reading test is administered annually beginning with students in Grade 3. The state regularly assesses and monitors the performance of historically low-performing groups, yet little progress has been made in closing the gaps present in most Texas schools, and across the nation for that matter, with regard to literacy (e.g. Reardon, 2013; Wright, Slate, & Moore, 2016). In fact, despite large investments of financial and human capital, economic inequality has reached a historic high (Reardon, Valentino, & Shores, 2012; Saez, 2012), differences in performance by gender continue to fluctuate (Chudowsky & Chudowsky, 2010; Egeland, 2012; Klecker, 2006), and racial inequalities persist in education outcomes (Reardon et al., 2012). Not only should these outcomes alarm educators from the standpoint of equality and social justice, failure to provide early

and effective intervention to address reading difficulties could result in the decreasing likelihood of high school graduation, college matriculation, and robust workforce opportunities (Lee & Slate, 2014).

Purpose of the Study

The purpose of this journal-ready dissertation was to examine the extent to which degree of economic status, gender, and ethnicity/race were related to the reading achievement of Texas elementary school students. The first purpose was to analyze the degree to which differences existed in reading performance by degree of economic disadvantage for elementary school students. A second purpose was to examine the extent to which differences were present in reading performance between boys and girls in elementary schools. Finally, a third purpose was to determine the extent to which differences were present in reading performance for four different ethnic/racial groups (i.e., Asian, White, Hispanic, and Black) of elementary school students. Archival data from the Texas Education Agency Public Education Information Management System were analyzed to make these determinations. A multiyear statewide analysis of academic performance of the state-mandated reading assessments in Grade 3 was conducted to determine the degree to which trends were present in reading performance by economic status, between boys and girls, and among different ethnic/racial groups.

Significance of the Study

A large body of research has been generated illustrating academic achievement gaps along economic, gender, and racial/ethnic lines (Chudowsky & Chudowsky, 2010; Egelund, 2012; Klecker, 2006; Reardon et al., 2012; Saez, 2012). Additionally, much research, nationally and internationally, has been conducted on the disparities in literacy

rates (Reardon et al., 2012; Stinnett, 2014). Few researchers, however, have focused their efforts on the relationship between these variables and literacy in the formative elementary school years as measured by the recently developed State of Texas Assessment of Academic Readiness. In particular, an analysis of the relationship between degrees of economic status and achievement in reading has not been conducted to date. By examining the differences in the performance of students who qualified for reduced lunch (e.g., moderately poor) and those students who qualified for free lunch (e.g., extremely poor), the gradation of student poverty and its relationship to foundational reading skills acquisition can be revealed. Results from this study will add to the literature related to the reading skills of elementary school students and the effect of economic status, gender, and ethnicity/race on the acquisition of these skills.

Findings of this study may have practical application for educational leaders such as principals, literacy coaches, and classroom teachers—particularly at the elementary level in Texas—in ensuring all students become literate and master fundamental reading skills established during the elementary school years prior to moving on to secondary and higher education regardless of degrees of economic status, gender, and ethnicity/race. By examining the relationship between these factors and the likelihood of the student achieving the STAAR Reading proficiency standard, educators could direct quality early interventions to students in a timely and effective manner. Furthermore, findings may also assist policy makers at the state and district levels in working collaboratively to develop a comprehensive strategy to close the persistent achievement gap evident among socioeconomic groups, boys and girls, and ethnic/racial groups.

Literature Review Search Procedures

For this journal-ready dissertation, the literature regarding reading performance and degree of economic status, gender, and ethnicity/race for Texas elementary school students was examined. Phrases that were used in the search for relevant literature were: literacy, race, ethnicity, gender, poverty, socioeconomic status, reading, and student. All searches were conducted through the EBSCO Host database for academic journals that contained scholarly peer reviewed articles.

A key word search for "literacy" generated 36,239 results and by limiting the range from 1996 to 2016 and including the words "student" and "reading", the search was reduced to 2,987. When "economic disadvantage" was used for the key word search for articles between 1996 and 2016, 213 articles were displayed; when the word "student" was added to the search, the number of articles was reduced to 78. A key word search for "socioeconomic status" from 1996 to 2016 yielded 15,788 results. By including the word "student" the field narrowed to 4,098, and by adding the term "reading", it was reduced to 479. When "poverty" was used for the key word search for articles from 1996 to 2016, 997 articles were generated; adding "student" to this key word search further reduced the number of articles to 531. A key word search for "gender" yielded 54,879 articles. This field was reduced to 1,998 when "reading" was added and again to 599 when "student" was added to the search. A key word search for "ethnicity" between 1996 and 2016 generated 12,256 articles, but was condensed to 164 articles when "reading" and "student" were also included in the search. Articles were reviewed for their application to elementary school students and reading achievement.

Reading Skills and Economic Status

Inequities in the income achievement gap have grown increasingly over the last several decades. To determine the extent by which income-related achievement gaps increased or decreased over time, Reardon (2013) examined the relationship between family income and student achievement over the last 50 years in the United States. In his analysis of 12 nationally representative studies, the reading achievement gap by socioeconomic status began to grow in the mid-1970s and had widened approximately 40% since that time. Additionally, Reardon (2013) revealed that although the racial inequality gap has decreased over time, economic inequality has reached "historic highs" (2013, p. 12). Sadly, the economic achievement gap widens almost immediately from birth, as students from low-income families lack academic opportunities and rigor in the early years and are more likely to be raised in an information-poor environment with limited exposure to after-school and summer enrichment programs (Burney & Beilke, 2008). The result is not only large achievement gaps evident when students enter Kindergarten, but achievement gaps that widen incrementally over time. Subsequently, Reardon (2013) purported that narrowing the inequality gap must be a joint effort between schools and policy makers, and that more financial and human capital should be expended for early intervention during the primary school years.

Along these lines, Hagans and Good (2013) conducted a study to determine the influence of early literacy intervention on reading skills of students from affluent and poor economic backgrounds. In their examination of 75 Grade 1 students from three different elementary schools, economic status and student instructional group were examined in relation to oral reading fluency skills. Statistically significant differences

were revealed between students who were at or below the poverty line and those students from middle or high economic backgrounds. Students from a low economic background were determined to be at a disproportionately increased risk for reading problems even after targeted instructional intervention (Hagans & Good, 2013).

Similarly, Reardon et al. (2012) revealed an increase in the performance gap as a function of economic status when examining how well students in the United States read. In an analysis of data from national and international literacy assessments, literacy skills varied tremendously among student groups by race, ethnicity, and socioeconomic status. Although gaps in racial and ethnic disparities decreased over the last 40 years, Reardon et al. discovered an increase in the performance gap for students in poverty. Black and Hispanic students entered high school three years further behind in reading than White and Asian students, yet students who were economically disadvantaged had literacy skills more than five years behind students from affluent backgrounds (Reardon et al., 2012).

To determine the influence of poverty on student achievement in reading and mathematics, Eamon (2002) analyzed data on 1,324 students between the ages of 12 and 14 in New York. An analysis of the mother/child National Longitudinal Survey of Youth (2009) was utilized to determine not only the connections between poverty and lower achievement in reading and math but also the influence of mitigating variables (e.g., stimulating home environments) affecting student success (Eamon, 2002). Consistent with other researchers (e.g., Eamon, 2002; Kornrich & Furtsenberg, 2013), students living in poverty underperformed students who were not economically disadvantaged, regardless of ethnicity or race. Moreover, reading achievement correlated specifically to

the cognitive home environment and the parent-to-child ratio, whereas poverty connected directly to school behavior problems (Eamon, 2002).

In a recent study in the state of interest for this investigation, Lee and Slate (2014) conducted a quantitative study of high school students in Texas to determine the extent to which differences might be present in advanced achievement in reading and math as a function of economic disadvantage. In their analysis of the exit-level results of the Texas Assessment of Knowledge and Skills for over 150,000 students, almost 43% of the sample were students living in poverty (Lee & Slate, 2014). For the Commended Performance and the college-readiness indicator, statistically significant difference existed in subjects. Students who were economically disadvantaged were considerably less likely to meet an advanced performance standard on the state-mandated assessments than were students who were not economically disadvantaged (Lee & Slate, 2014). The implications of this disparity in performance included potentially limited access to college admissions and the subsequent effect not only on the individuals involved but also on the economy (Lee & Slate, 2014). Recommendations for further research included an analysis of the differences that exist in advanced academic performance at other grade levels and other subject areas, as well as the relationship between teacher expectations and advanced performance of students (Lee & Slate, 2014; Wright, Slate, & Moore, 2016).

Reading Skills and Gender

The question, then, concerning why this literacy achievement gap persists despite widespread study and increased awareness must be asked. Some researchers trace the origins of the gender gap in reading achievement to developmental physiological and

psychological differences (Logan & Johnston, 2010). Although extensively debated, some researchers (e.g., Holbrook, 1988; Zuze & Reddy, 2014) posit that unique brain structures and chemical differences between girls and boys account for girls maturing and developing verbal skills much earlier than boys, consequently making it easier for girls to complete reading tasks. These physiological-maturation theories link deficits in boys' sequential processing to increased difficulties in fundamentals such as phonetic decoding, giving girls the initial advantage in the acquisition of early reading skills (Below et al., 2010; Zuze & Reddy, 2014).

Beyond the controversial physiological explanation for the gender literacy gap, researchers also point to sociological factors heavily influencing why boys rapidly fall behind girls in reading skills acquisition at a young age (Smyth, 2007). To counter the biological argument, children's earliest experiences with reading at home as well as their parent's literacy practices significantly influence children's attitudes toward literacy regardless of gender. That is, for boys and girls, the quality of family context correlates to young children's literacy attitudes (Bracken & Fischel, 2008; Ozturk, Hill, & Yates, 2016; Senechal & Martini, 2012). Boys and girls in poverty, for example, may have fewer resources at home to develop their literacy and are less likely to have adults encouraging them to practice their reading skills. Gender, in this case, has little to do with their delayed development as readers (Zuze & Leibbrandt, 2011). Conversely, a "literacy-supportive home environment" (e.g., books are available, reading experiences are shared frequently) positively influences a child's interest in reading and more rapid acquisition of foundational reading skills (De Naeghel & Van Keer, 2013, p. 353). As students enter formal schooling, however, the gender gap in reading appears across the

economic spectrum and other sociological factors. For example, in a study of 1,218

kindergarten students of diverse socioeconomic levels, girls scored statistically

significantly higher than boys in all fundamental kindergarten literacy skills (Below et al.,

2010). Other researchers (e.g., Camarata & Woodcock, 2006; Chatterji, 2006) have

documented that girls have stronger reading skill development when they enter

Kindergarten and that this advantage is maintained or increased during elementary school

and into adolescence.

So if education is, in fact, the great equalizer, the gender literacy gap should not

widen as students move through the education system. Possible explanations for this

widening of the gender literacy gap range from school-work and reading in particular

being perceived as "too feminine" by boys (Zuze & Reddy, 2014, p. 101) to a lack of

interesting reading materials available in schools for boys (Robinson & Lubienski, 2011).

Girls are also thought to use the reading strategies taught in schools more frequently and

effectively than boys (Poole, 2010) and to receive more contact and time from teachers

during reading instruction (Below et al., 2010). These factors may contribute to why

reading is more enjoyable for girls, as indicated by the latest Program for International

Student Assessment (2009) capturing a decade of data on reading literacy trends across

the globe. Also revealed in these data, importantly, is that higher engagement in reading

is closely associated with stronger reading performance regardless of socioeconomic

group in all participating countries, and that the gender difference in reading performance

is attributable in part to this "engagement gap" between boys and girls (Brozo et al.,

2014, p. 587). Because reading enjoyment and engagement decline as children go

through school (Guthrie & Wigfield, 2000) and boys enter school already less interested in reading than girls, it is little wonder why the gender literacy gap widens and persists.

Reading Skills and Ethnicity/Race

Given the grave consequences of being illiterate and the ongoing study and attention paid to the literacy achievement gap, identifying the root cause of this disparity in achievement could point to solutions for eliminating the discrepancy in performance by ethnicity/race. Some researchers trace parental influence (e.g., income, family size, marital status, educational attainment) or home environment (e.g., number of books available, amount of time spent reading in the home) to the origin of the ethnic/racial literacy achievement gap (Farkas, 2006; Ozturk, Hill, & Yates, 2016). In a study of family educational involvement, Sibley and Dearing (2014) determined that parents of White students were more likely to be involved in their child's education in early elementary schools than immigrant parents of color. Positive associations between family educational involvement and student achievement in reading were evident as early as first grade (Sibley & Dearing, 2014). Additionally, parent expectations played a significant role in students' achievement in reading and math; Asian parents displayed the highest expectations for the children and Hispanic students were at "relatively high risk" for underachievement (Sibley & Dearing, 2014, p. 827). This finding is important in that ample evidence connects parental expectations to children's interest in reading (Hood, Conlon, & Andrews, 2008; Senechal & Martini, 2012) and children whose parents value reading and who engage frequently in parent-child literacy activities are more likely to have solid early reading skills (Ozturk et al., 2016).

Beyond the home and family context, school quality, and differences in socioeconomic status repeatedly surface as explanations for ethnic/racial gaps in student achievement. Students from higher socioeconomic backgrounds consistently outperform their peers of lower socioeconomic backgrounds, in part due to increased access to stimulating learning materials, higher-quality health care, and more-educated parents who use a more complex vocabulary (Currie, 2005; Quinn & Cooc, 2015; Reardon, 2013; Reardon, Valentino, & Shores, 2012). In a study conducted by Crane, Huang, and Barrat (2011), students who were enrolled in non-Title schools in all subgroups had higher reading proficiency rates that those students who were enrolled in Title I schools, indicating once more that even at the aggregate school level, poverty as it pertains to ethnicity/race matters. Regarding school quality, compared with White students, Black and Hispanic students have less access to school resources promoting literacy achievement (Jacob, 2007) and have less qualified and experienced teachers (Ruby, 2006). Additionally, lack of caring relationships between teaching staff and Black and Hispanic students negatively influences student achievement (Robinson, Paccione, & Rodriguez, 2003; Wright, 2015). By 2020, the most diverse portion of the population will attend elementary school, as nearly 30% of students aged 8 or under will live in immigrant families (Hernandez, Takanishi, & Marotz, 2009; Sibley & Dearing, 2014), increasing the need for educators to learn and to utilize culturally responsive strategies to improve the performance of Black and Hispanic students early on in their educational experience (Hawley & Nieto, 2010).

Although researchers have made efforts to control for the aforementioned factors of economic status, parental engagement, and school quality, the gap among ethnic/racial

groups remains, as White and Asian students consistently outperform their Black and Hispanic counterparts (Bradley & Corwin, 2002; Lee, 2015). Gaps between Hispanic and White students and Black and White students originate upon matriculation and increase over time (Ang, 2014; Lee, 2002; Reardon & Galindo, 2008). In Texas, Hispanic students comprise the majority of students in the state, comprising 51.9% of the total student population (Texas Education Agency, 2016a), and are less likely than White and Asian students to graduate from high school (National Center for Education Statistics, 2015), enroll in postsecondary education, and demonstrate college-readiness in reading or mathematics (Barnes & Slate, 2014). Black students in Texas fare even worse than Hispanic students and are the lowest performing ethnic/racial group on state achievement tests (Alford-Stephens & Slate, 2015) and the least likely to graduate from high school and be college-ready in reading and mathematics (Barnes & Slate, 2014). Wilkins et al. (2012) examined how prepared subgroups of Texas students were for college-level reading; the percentage of students who were very well prepared to read college textbooks was 24 percentage points higher for White students than for Hispanic students and 27 percentage points higher for White students than for Black students. Furthermore, the percentage of Asian students who were very well prepared was highest of all, exceeding the percentage of White students by 5 percentage points (Wilkins et al., 2012).

Not only are Hispanic and Black students more likely to enter Kindergarten less skilled in reading than their Asian and White peers (Reardon, 2011; Reardon & Galindo, 2009), they are less likely to pass state exit-level reading assessments (Wright, 2015). Davis-Kean and Jager (2014) analyzed the growth trajectory of students by ethnicity/race

as indicated by the 2006 Early Childhood Longitudinal Study-Kindergarten study of 17,565 students. Not only were statistically significant differences ascertained in reading achievement levels among ethnic/racial groups, but discrepancies were evident in student growth in reading achievement into the top trajectory over time enrolled in school (Davis-Kean & Jager, 2014). Black students represented the lowest performing subgroup in Kindergarten and remained the lowest performing subgroup by Grade 5, and Black readers in the high trajectory reading group performed more like White students in the low trajectory reading group (Davis-Kean & Jager, 2014). Hispanic students entered school with lower reading performance than White and Asian students but an interesting "catch up group" (p. 202) appeared, revealing a substantial percentage of Hispanic students who increased their reading performance across time and finished in the highest trajectory reading group mirroring that of their White counterparts (Davis-Kean & Jager, 2014). Consistent with other researchers (e.g., Lee & Slate, 2014; Wright, 2015) revealing Asian students as top performers among ethnic/racial subgroups, more Asian students were in the high trajectory reading group than any other racial/ethnic group (Davis-Kean & Jager, 2014). Clearly, closing the ethnic/racial achievement gap and thereby ensuring equity for all students is a goal that still looms in the distance unattained.

Definition of Terms

Terms that are important to the three research studies that were conducted in this journal-ready dissertation are provided for the reader below.

Asian

A person of Asian ethnicity has an origin 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 Appendix F, 2009, p. 9).

Black

A person of Black ethnicity is an individual who has origins in any of the Black racial groups of Africa (Texas Education Agency Appendix F, 2009, p. 9).

Economically Disadvantaged

Although economic disadvantage status is commonly synonymous to poverty, the programmatic label *economically disadvantaged* as defined by the Texas Education Agency represents those students in Texas who are eligible for the federal free- and reduced-lunch program. Eligibility for free meals necessitates family income of 130% or less of the federal poverty line, whereas eligibility for reduced-price meals requires family income of 131% to 185% of the federal poverty line (Burney & Beilke, 2008). For the purpose of this study, students who were eligible for the free lunch program will be referred to as extremely poor. Those students who were eligible for the reduced lunch program will be referred to as moderately poor.

Ethnicity/Race

In 2009, the U. S. Department of Education issued new guidelines for the collection of data on race and ethnicity in public schools allowing individuals to be identified in both ethnic and racial classifications and in more than one racial category if applicable. Students and staff are provided two choices for ethnicity: Hispanic/Latino or

Not Hispanic/Latino. Five racial groups are provided as options and include American Indian or Alaska Native; Asian; Black or African American; Native Hawaiian or Other Pacific Islander; and White (Texas Education Agency Appendix F, 2009, p. 4).

Hispanic

A person of Hispanic ethnicity is an individual who is of Cuban, Mexican, Puerto Rican, South or Central American descent, other Spanish culture or origin, regardless of race (Texas Education Agency Appendix F, 2009, p. 9).

Level I Unsatisfactory Academic Performance

Level I Unsatisfactory Academic Performance refers to the label given to students who are inadequately prepared for success in the next grade level and who will require extensive intervention to succeed academically (STAAR Performance Labels and Policy Definitions, 2013).

Level II Satisfactory Academic Performance

Level II Satisfactory Academic Performance refers to the label given to students who met the state passing standard and who are sufficiently prepared for the next grade level although they may require short-term intervention (STAAR Performance Labels and Policy Definitions, 2013).

Level III Advanced Performance

Level III Advanced Performance refers to the label given to students who are well-prepared for the next grade level and who have a high likelihood of success with little intervention (STAAR Performance Labels and Policy Definitions, 2013).

Literacy

For the purpose of this study, literacy is defined as "the ability to access, evaluate, and integrate information from a wide range of textual sources" (Reardon et al., 2012, p. 18) and encompasses a complex set of skills (e.g., phonological, comprehension, analysis) that students acquire most rapidly during the elementary and middle school years (Reardon et al., 2012).

Public Education Information Management System

The Texas Public Education Information Management System is a database of demographic student data used to monitor student enrollment and achievement statewide. All data received and requested about public education by the Texas Education Agency are compiled using the Public Education Information Management System, including "student demographic and academic performance, personnel, financial, and organizational information" (Public Education Information Management System - Overview, 2015, para. 1). Legal review and functional oversight of public education in Texas is conducted by the Texas Education Agency and the Texas state legislature with the assistance of necessary Public Education Information Management System data (Public Education Information Management System-Overview, 2015).

Reading Skills

For this study, reading skills are measured using the reporting categories for the State of Texas Assessment of Academic Readiness (STAAR) Reading exam in Grades 5. The reporting categories are as follows:

Reporting Category 1: The student will demonstrate an ability to understand a variety of written texts across reading genres; Reporting Category 2: The student

will demonstrate an ability to understand and analyze literary texts; and Reporting

Category 3: The student will demonstrate an ability to understand and analyze

informational texts. (Texas Education Agency Student Assessment Division

STAAR Information Booklet, 2011, p. 2-5)

State of Texas Assessment of Academic Readiness (STAAR)

The State of Texas Assessment of Academic Readiness (STAAR) is the academic

skills testing program implemented in the state in 2011 wherein students are assessed

annually beginning in Grade 3 in core subjects such as reading and mathematics. Test

results assigned to students include a raw numeric score and a corresponding

achievement label: Level I Unsatisfactory Academic Performance; Level II Satisfactory

Academic Performance; and Level III Advanced Academic Performance (Texas

Education Agency Student Assessment Division STAAR Information Booklet, 2011).

Texas Education Agency

The Texas Education Agency is the entity that oversees public education in the

state of Texas (Texas Education Agency About TEA, 2016a, para. 1). The mission of the

Texas Education Agency is to "provide leadership, guidance and resources to help

schools meet the educational needs of all students and prepare them for success in the

global economy" (Texas Education Agency About TEA, 2016a, para. 2).

White

A person of White ethnicity is an individual who has origins in any of the original

peoples of Europe, the Middle East, or North Africa (Texas Education Agency Appendix

F, 2009, p. 9).

Delimitations

Only student achievement in reading as measured by the state-mandated assessment of Texas elementary school students in Grade 3 was analyzed. Results from Grade 5 were excluded because students in this grade level participate in the Texas Student Success Initiative, and therefore have multiple opportunities to demonstrate mastery of the assessed skills (Texas Education Agency, 2016b). A second delimitation was that only three years of data (i.e., 2012-2013, 2013-2014, and 2014-2015) were analyzed, thus restricting generalizability of the results to these three school years. A third delimitation was that the degree of economic status will be exclusive to the federal definition of free and reduced lunch. The final delimitation was a focus on ethnicity/race that was limited to the four major ethnic/racial groups: Asian, White, Hispanic, and Black, in Texas.

Limitations

For the purpose of this journal-ready dissertation, reading assessment data on Texas elementary school students were analyzed. Due to the high stakes nature of state standardized testing, test anxiety is a legitimate threat to the internal validity of the data acquired, assuming that students' anxiety could be reflected in achievement results instead of their true mastery of the content and skills (Onwuegbuzie, 2003). Moreover, students in Grade 3 face the State of Texas Assessment of Academic Readiness for the first time in this grade level, thereby limiting their experience with such a rigorous summative assessment. Additionally, the independent variables (i.e., economic status, gender, and ethnicity/race) and the dependent variables (i.e., academic achievement in reading) were not controlled due to the causal-comparative nature of the study (Johnson

& Christensen, 2012). Furthermore, other variables could also contribute to any

differences that might be present in reading achievement by economic status, gender, or

ethnicity/race.

Assumptions

For the purpose of this journal-ready dissertation, the assumption was made that

the achievement data and the economic status, gender, and ethnicity/racial data 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 may result in inaccurate

data yielding varying outcomes.

Organization of the Study

In this journal-ready dissertation, three research investigations were conducted.

In the first journal-ready dissertation article, research questions were on the degree to

which differences were present on the STAAR Reading Grade 3 exam among students

who were not economically disadvantaged, those students who were moderately poor,

and those students who were extremely poor for the 2012-2013, 2013-2014, and 2014-

2015 school years. In the second journal-ready dissertation article, the research questions

that were addressed were on the extent to which differences were present on the STAAR

Reading Grade 3 exam between girls and boys for the 2012-2013, 2013-2014, and 2014-

2015 school years. Finally, for the third journal-ready dissertation article, the research

questions involved the degree to which differences were present on the STAAR Reading Grade 3 exam among four ethnic/racial groups (i.e., Asian, Black, Hispanic, and White) for the 2012-2013, 2013-2014, and 2014-2015 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 proposed journal-ready dissertation. In Chapter II, the first journal-ready dissertation investigation involving student economic status and reading achievement is provided. In Chapter III, the second proposed journal-ready research investigation on gender and reading achievement was discussed. In Chapter IV, the third proposed journal-ready research investigation on ethnicity/race and reading achievement was presented. Finally, in Chapter V, an overview of the results interpreted in the three research articles was provided. Additionally, implications for future policy and practice along with recommendations for future research obtained from the three research articles were provided.

CHAPTER II

DIFFERENCES IN READING PERFORMANCE OF TEXAS ELEMENTARY

SCHOOL STUDENTS AS A FUNCTION OF DEGREE OF ECONOMIC

DISADVANTAGE: A MULTIYEAR STATEWIDE STUDY

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

Abstract

In this investigation, differences in the reading performance as a function of degree of economic disadvantage for Texas Grade 3 students were examined. Data were obtained from the Texas Education Agency on all Texas Grade 3 students for the 2012-2013, 2013-2014, and 2014-2015 school years. In all analyses, statistically significant differences, with small to moderate effect sizes, were present in reading performance, as measured by the State of Texas Assessment of Academic Readiness, by student economic status. For all three Reading Reporting categories, a "stair-step of achievement effect" (Carpenter, Ramirez, & Severn, 2006, p. 117) was present in that the greater the degree of poverty the lower student reading scores were. Analyses of passing standards revealed a similar pattern in that the greater the degree of poverty, the less likely students were to meet the passing standard. Suggestions for future research and implications for policy and practice were made.

Keywords: Literacy, Economically disadvantaged, Reading skills, STAAR, Texas.

DIFFERENCES IN READING PERFORMANCE OF TEXAS ELEMENTARY

SCHOOL STUDENTS AS A FUNCTION OF DEGREE OF ECONOMIC

DISADVANTAGE: A MULTIYEAR STATEWIDE STUDY

With more children living in poverty in the United States today than during the Great Depression (Potter, 2015), the academic performance of these children and their ability for upward social mobility should be of upmost importance. As a nation, education historically has been hailed as the great equalizer, the vehicle of democracy driving the attainment of the American Dream. Yet repeatedly, researchers (e.g., Hagans & Good, 2013; Reardon, 2013; Saez, 2012) have revealed an ever-widening gap in academic success between students in poverty and students who are not in poverty. This "income inequality gap" (Reardon, Valentino, & Shores, 2012, p. 29) has now surpassed historical racial achievement gaps, increasing to the point that family income is now the best predictor of a child's academic success.

This reality appears in the results of standardized testing, particularly as it pertains to student literacy, a fundamental life skill needed for success (Reardon, 2013). As with grades, graduation rates, college admission, and degree completion, students from higher economic status groups outperform students from lower economic status groups on standardized assessments (Lee & Slate, 2014). To provide a foundation for the reader, some of the research related to the disparities in student achievement of students in poverty, particularly as it pertains to literacy, is summarized briefly here.

Literacy and Reading Skills

To begin, the complexity of the word *literacy* and what it means to be literate involves a broad spectrum of definitions. For purposes of this study, literacy is defined

as "the ability to access, evaluate, and integrate information from a wide range of textual sources" (Reardon et al., 2012, p. 18) and encompasses a complex set of skills (i.e., phonological, comprehension, analysis) that students acquire most rapidly during the elementary and middle school years (Reardon et al., 2012). To meet minimum requirements on state assessments, student must demonstrate basic reading skills (Garcia & Cain, 2014).

In Texas, reading skills are defined across the three reporting categories of the State of Texas Assessment of Academic Readiness (STAAR) Reading exam in Grade 3. Students' ability to demonstrate basic reading understanding across genres (i.e., fiction, poetry, drama, literary non-fiction, expository, persuasive) by determining "the meaning of grade-level academic words in English, using context to determine the meaning of unfamiliar words, and comparing and contrasting themes or moral lessons" is assessed in Reporting Category 1 (Texas Education Agency Student Assessment Division, 2011, para. 3). In Reporting Category 2, students must demonstrate the ability "to comprehend and analyze literary texts (i.e. fiction, poetry, drama, literary nonfiction) for elements such as foreshadowing, character development, sensory detail, and figurative language" (Texas Education Agency Student Assessment Division, 2011, para. 4). For Reporting Category 3, students must be able "to comprehend and analyze informational texts (i.e. expository, persuasive) by demonstrating the ability to summarize the main idea and supporting details, analyze organizational patterns and text features, and make logical connections between ideas and across texts" (Texas Education Agency Student Assessment Division, 2011, para. 5). As previously noted, the acquisition of these basic reading comprehension and analysis skills is foundational for individual success not only

in school but also for future economic success (Stinnett, 2014). To that end, questions remain regarding the degree of literacy students have and the extent to which disparities exist by economic status.

Economic Disadvantage

Inequities in the income achievement gap have grown increasingly over the last several decades. To determine the extent by which income-related achievement gaps increased or decreased over time, Reardon (2013) examined the relationship between family income and student achievement over the last 50 years in the United States. In his analysis of 12 nationally representative studies, the reading achievement gap by socioeconomic status began to grow in the mid-1970s and had widened approximately 40% since that time. Additionally, Reardon (2013) revealed that although the racial inequality gap has decreased over time, economic inequality has reached "historic highs" (2013, p. 12). Sadly, the economic achievement gap widens almost immediately from birth, as students from low-income families lack academic opportunities and rigor in the early years and are more likely to be raised in an information-poor environment with limited exposure to after-school and summer enrichment programs (Burney & Beilke, 2008). The result is not only large achievement gaps evident when students enter Kindergarten, but achievement gaps that widen incrementally over time. Subsequently, Reardon (2013) purported that narrowing the inequality gap must be a joint effort between schools and policy makers, and that more financial and human capital should be expended for early intervention during the primary school years.

Along these lines, Hagans and Good (2013) conducted a study to determine the influence of early literacy intervention on reading skills of students from affluent and

poor economic backgrounds. In their examination of 75 Grade 1 students from three different elementary schools, both economic status and student instructional group were examined in relation to oral reading fluency skills. Statistically significant differences were revealed between students who were at or below the poverty line and those students from middle or high economic backgrounds. Students from a low economic background were determined to be at a disproportionately increased risk for reading problems even after targeted instructional intervention (Hagans & Good, 2013).

Similarly, Reardon et al. (2012) revealed an increase in the performance gap as a function of economic status when examining how well students in the United States read. In an analysis of data from national and international literacy assessments, literacy skills varied tremendously among student groups by race, ethnicity, and socioeconomic status. Although gaps in racial and ethnic disparities decreased over the last 40 years, Reardon et al. (2012) discovered an increase in the performance gap for students in poverty. Black and Hispanic students entered high school three years further behind in reading than White and Asian students, yet students who were economically disadvantaged had literacy skills more than five years behind students from affluent backgrounds (Reardon et al., 2012).

To determine the influence of poverty on student achievement in reading and mathematics, Eamon (2002) analyzed data on 1,324 students between the ages of 12 and 14 in New York. An analysis of the mother/child National Longitudinal Survey of Youth (2009) was utilized to determine not only the connections between poverty and lower achievement in reading and math but also the influence of mitigating variables (e.g., stimulating home environments) affecting student success (Eamon, 2002). Consistent

with other researchers (e.g., Eamon, 2002; Kornrich & Furtsenberg, 2013), students living in poverty underperformed students who were not economically disadvantaged regardless of ethnicity or race. Moreover, reading achievement correlated specifically to the cognitive home environment and the parent-to-child ratio, whereas poverty connected directly to school behavior problems (Eamon, 2002).

In a recent study in the state of interest for this investigation, Lee and Slate (2014) conducted a quantitative study of high school students in Texas to determine the extent to which differences might be present in advanced achievement in reading and math as a function of economic disadvantage. In their analysis of the exit-level results of the Texas Assessment of Knowledge and Skills for over 150,000 students, almost 43% of the sample were students living in poverty (Lee & Slate, 2014). For the Commended Performance and the college-readiness indicator, statistically significant difference existed in both subjects. Students who were economically disadvantaged were considerably less likely to meet an advanced performance standard on the state-mandated assessments than were students who were not economically disadvantaged (Lee & Slate, 2014). The implications of this disparity in performance included potentially limited access to college admissions and the subsequent effect not only on the individuals involved but also on the economy (Lee & Slate, 2014). Recommendations for further research included an analysis of the differences that exist in advanced academic performance at other grade levels and other subject areas, as well as the relationship between teacher expectations and advanced performance of students (Lee & Slate, 2014; Wright, Slate, & Moore, 2016)

Statement of the Problem

As indicated in the review of the literature, a tremendous disparity exists between the performance of students in poverty and students with more affluent circumstances. This gap in performance stems at least in part from a lack of educational resources and exposure during a child's early development prior to entering school. For example, in 2005, parents in the highest income quintile spent nearly seven times more on their child's educational enrichment and development during the formative years than did their counterparts in the lowest income quintile (Kornrich & Furtsenberg, 2013). Although educators have little control over a child's initial environment, the purpose of the No Child Left Behind Act (2002) was to ensure that all students, regardless of economic status, met at least a basic proficiency level of academic readiness as a result of their education (Lee & Slate, 2014).

In Texas, this level of academic proficiency is measured by the State of Texas Assessment of Academic Readiness (STAAR) test, administered annually in reading beginning in Grade 3. Since the inception of the STAAR test in 2012, simply meeting the standard or basic level of academic proficiency has remained challenging for students, especially those students in poverty. Moreover, although in this latest accountability system the state consistently measures and monitors the performance of historically low-performing groups, little progress has been made in actually closing the income inequality gaps plaguing most schools in Texas, and across the nation for that matter, particularly with regard to literacy (Reardon et al., 2012; Wright et al., 2016). In fact, despite large investments of financial and human capital, economic inequality has reached a historic high, exceeding racial inequalities in education outcomes (Saez, 2012). Furthermore, children from low economic backgrounds are at an increased risk of reading

problems (Hagans & Good, 2013). For example, although revealed in a report from the National Assessment of Educational Progress were modest improvements in the overall proficiency of all students in reading from 2009 to 2013, merely 17% of 4th graders who were economically disadvantaged scored at or above proficient in reading (Stinnett, 2014). As children move through the education system, unfortunately things appear even bleaker, as students from low-income families enter high school with average literacy skills five years behind the literacy skills of high-income students (Stinnett, 2014). Not only should these outcomes alarm educators from the standpoint of equality and social justice, these disparities should concern all citizens in a democratic society and global economy. A concerted effort is necessary to ensure all students learn at high levels and to close quickly this ever-widening gap; the American Dream—through hard work and education even people of modest means can mobilize above their initial economic class—may remain just that, a dream.

Purpose of the Study

Given the moral imperative to ensure equality in all realms of society and the importance placed on high levels of learning for all students, including those students who are economically disadvantaged, as stated by the No Child Left Behind Act (2002) and measured by the State of Texas annually, an examination of the current economic achievement gap with regard to literacy is paramount. The purpose of this study was to determine the extent to which differences are present for Texas elementary school students in Grade 3 in their STAAR Reading performance as a function of degree of economic disadvantage. Results from Grade 5 were not analyzed because students in this grade level are required to participate in the Texas Student Success Initiative, and

therefore do not receive multiple opportunities to demonstrate mastery of the assessed

skills (Texas Education Agency, 2016b). By analyzing the differences in performance

among students who are extremely poor, moderately poor, and not poor during the

formative years of STAAR testing, educators may be able to determine an effective

response for early intervention in closing the economic achievement gap.

Significance of the Study

Clearly, a large body of research (e.g., Eamon, 2002; Kornrich & Furtsenberg,

2013; Lee & Slate, 2014; Saez, 2012) has already been conducted regarding the presence

of direct connections between academic achievement and economic status. Many

empirical investigations are available concerning disparities in literacy rates nationally

and internationally as a function of poverty. Few researchers, however, have focused

their efforts on the relationship between poverty and literacy in the formative elementary

school years as measured by the recently developed State of Texas Assessment of

Academic Readiness. Furthermore, an analysis of the relationship between degrees of

economic disadvantage and reading performance has not been examined to date. By

analyzing the differences in the performance of students who qualified for reduced lunch

(e.g., moderately poor) and those students who qualified for free lunch (e.g., extremely

poor), the gradation of student poverty and its relationship to reading skills acquisition

can be revealed. The findings of this study may have practical applications for

educational leaders such as principals, literacy coaches, and classroom teachers—

particularly at the elementary level in Texas—in ensuring all students become literate

regardless of degrees of economic disadvantage. By determining the relationship

between the depth of student poverty and the likelihood of the student achieving the basic

reading proficiency, educators could direct quality early interventions to students in a timely and effective manner. Furthermore, as a result of these findings, state and district level policymakers could develop a comprehensive strategy to close the economic achievement gap.

Research Questions

The following overarching research question was addressed in this empirical investigation: What is the difference in the reading performance of Texas elementary school students in Grade 3 as a function of degree of economic status (i.e., Not Economically Disadvantaged, Moderately Poor, and Extremely Poor) for the 2012-2013 school year? Specific subquestions under this overarching research question were: (a) What is the difference in understanding across genres of Texas elementary school students in Grade 3 as a function of degree of economic status for the 2012-2013 school year?; (b) What is the difference in comprehension and analysis of literary texts of Texas elementary school students in Grade 3 as a function of degree of economic status for the 2012-2013 school year?; (c) What is the difference in comprehension and analysis of informative texts of Texas elementary school students in Grade 3 as a function of degree of economic status for the 2012-2013 school year?; (d) What is the effect of economic status on the Level II Final Satisfactory reading performance for Grade 3 students?; and (e) What is the extent to which a trend is present in reading skills of Texas elementary school students in Grade 3 as a function of degree of economic status for the 2012-2013 through the 2014-2015 school years? The first four research questions were repeated for the 2012-2013, 2013-2014, and 2014-2015 school years, whereas the fifth research

question was repeated for the three reading objectives. Thus, 37 research questions comprised this investigation.

Method

Research Design

For this article, the research design utilized was an explanatory longitudinal investigation (Johnson, 2001). Archival data were used in examining past assessment results. The individual variables had already occurred and extraneous variables were not controlled in this study design (Johnson & Christensen, 2012). Accordingly, the independent variable in this research article was the degree of economic disadvantage and the three dependent variables were the STAAR Reading Grade 3 scores in the three reading objectives and the Level II Final Satisfactory Performance Standard for the 2012-2013 through the 2014-2015 school years.

Participants

Archival data were obtained for the 2012-2013 through the 2014-2015 school years from the Texas Education Agency Public Education Information Management System for all students who took the STAAR Reading assessments in Grade 3. Although the STAAR Reading exam is also administered in Grades 4 and 5, the STAAR Reading exam in Grade 3 is the first opportunity to gauge mastery of student reading skills in a standardized summative assessment. A Public Information Request form was submitted previously to obtain these data for an Advanced Statistics course.

For the purpose of this article, the degree of economic disadvantage was defined based on the eligibility criteria outlined by the Texas Education Agency. Eligibility for free meals necessitates family income of 130% or less of the federal poverty line,

whereas eligibility for reduced-price meals requires family income of 131% to 185% of the federal poverty line (Burney & Beilke, 2008). This delineation of economic status was defined as follows: Extremely Poor (i.e., those students who qualify for the federal free-lunch program), Moderately Poor (i.e., those students who qualify for federal reduced-lunch program), and Not Economically Disadvantaged (i.e., those students who did not qualify for the federal free- nor reduced-lunch program).

Instrumentation

Scores from the STAAR Reading assessment for students in Grade 3 were analyzed. The STAAR Reading test measures student mastery of three reporting categories. Reporting Category 1 is a measure of a student's ability to understand and analyze a variety of texts across reading genres and contains six multiple choice items (Texas Education Agency Student Assessment Division, 2011, p. 2). Reporting Category 2 is a measure of a student's ability to understand and analyze literary texts and contains 18 multiple choice items (Texas Education Agency Student Assessment Division, 2011, p. 3). Reporting Category 3 is a measure of a student's ability to understand and analyze informational texts and contains 16 multiple choice items (Texas Education Agency Student Assessment Division, 2011, p. 4). In the previously discussed research questions, Reporting Category 1 constituted the dependent variable in the first research question, Reporting Category 2 constitutes the dependent variable in the second research question, and Reporting Category 3 is the dependent variable in the third research question.

Within each reporting category are Readiness Standards and Supporting Standards that assess grade level content as defined by the Texas Essential Knowledge

and Skills (TEKS). Readiness Standards vary for each grade level but are characterized by being "essential for success" in the current grade level and "important for preparedness" for the next grade level by addressing significant content and concepts (Texas Education Agency STAAR Performance Standards, 2013, p. 26). Supporting Standards are those "more narrowly defined" content and concepts that are introduced in the current grade level and prepare students for the next grade level but are not critical to master in the current grade level (Texas Education Agency STAAR Performance Standards, 2013, p. 26). Additionally, students are expected to demonstrate "a flexible range of metacognitive reading skills in both assigned and independent reading to understand an author's message… as they become self-directed, critical readers" by being assessed in their mastery of Figure 19, a TEKS process standard, across the three Reporting Categories (Texas Education Agency Student Assessment Division, 2011, p. 4). Readers are directed to the Texas Education Agency website for information regarding the score validity and score reliability of the STAAR Reading assessment.

Results

Prior to conducting any inferential statistical procedures, the underlying assumptions of the multivariate analysis of variance (MANOVA) procedure were checked. Specifically examined were data normality, Box's Test of Equality of Covariance and the Levene's Test of Equality of Error Variances. Although the majority of these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use on the data in this study (Field, 2009).

Results of statistical analyses for students who were Extremely Poor, Moderately Poor, and Not Poor will be described by Reading Reporting Category. As mentioned

previously, the STAAR Reading Reporting Categories are as follows: (a) Reporting Category 1: understanding and analysis across genres; (b) Reporting Category 2: understanding and analysis of literary texts; and (c) Reporting Category 3: understanding and analysis of informational texts. Results will be presented in chronological order beginning with the 2012-2013 school year and concluding with the 2014-2015 school year.

Overall Results for the Three School Years

With respect to the 2012-2013 school year, the MANOVA revealed a statistically significant overall difference, Wilks' Λ = .88, p < .001, partial η^2 = .06, in reading performance as a function of economic status. Using Cohen's (1988) criteria, the effect size was moderate. Concerning the 2013-2014 school year, the MANOVA revealed a statistically significant difference, Wilks' Λ = .88, p < .001, partial η^2 = .06, in overall reading performance as a function of economic status. Using Cohen's (1988) criteria, the effect size was moderate. Regarding the 2014-2015 school year, the MANOVA revealed a statistically significant difference, Wilks' Λ = .90, p < .001, partial η^2 = .05, in overall reading performance as a function of economic status. Using Cohen's (1988) criteria, the effect size was moderate. Statistically significant differences were revealed in all three school years in the overall reading skills for the three groups of students (i.e., Extremely Poor, Moderately Poor, and Not Economically Disadvantaged). The effect sizes for all three school years were reflective of a moderate degree of practical meaningfulness.

Results for Reading Reporting Category 1: Understanding and Analysis Across Genres

For each of the three school years, univariate follow-up analysis of variance (ANOVA) procedures yielded statistically significant differences in student performance on the STAAR Reading Reporting Category 1. For the 2012-2013 school year, a statistically significant difference was revealed, $F(1, 42039) = 17987.20$, $p < .001$, partial $\eta^2 = .10$, moderate effect size. For the 2013-2014 school year, a statistically significant difference was yielded, $F(1, 41523) = 17968.29$, $p < .001$, partial $\eta^2 = .09$, moderate effect size. Finally, for the 2014-2015 school year, a statistically significant difference was revealed, $F(1, 32690) = 13151.00$, $p < .001$, partial $\eta^2 = .07$, moderate effect size. Effect sizes were moderate for all three school years on the STAAR Reading Reporting Category 1.

To determine which pairs of student groups differed from each other in their Reading Reporting Category performance, Scheffe' post hoc procedures were conducted. These post hoc procedures revealed that statistically significant differences were present by degree of economic disadvantage for all three school years for Reporting Category 1. Of the six questions on the assessment contained in this reporting category, a stair-step effect (Carpenter et al., 2006) was present for Reporting Category 1 in that the greater the degree of poverty the lower the Reading Reporting Category 1 score was. That is, students who were Extremely Poor scored statistically significantly lower on the Reading Reporting Category 1 than did students who were Moderately Poor, and students who were Moderately Poor scored statistically significantly lower than did students who were Not Poor. Readers are referred to Table 2.1 for the descriptive statistics for students'

Reading Reporting Category 1 scores by their degree of economic status for each of the three school years.

Insert Table 2.1 about here

Results for Reading Reporting Category 2: Understanding and Analysis of Literary Texts

For each of the three school years, univariate follow-up ANOVA procedures yielded statistically significant differences in student performance on STAAR Reading Reporting Category 2. Statistically significant differences were revealed for the 2012-2013 school year, $F(1, 207639) = 14136.76$, $p < .001$, partial $\eta^2 = .09$, moderate effect size; for the 2013-2014 school year, $F(1, 257563) = 19868.95$, $p < .001$, partial $\eta^2 = .10$, moderate effect size; and for the 2014-2015 school year, $F(1, 253314) = 16910.17$, $p < .001$, partial $\eta^2 = .09$, moderate effect size. Effect sizes were moderate for all three school years on the STAAR Reading Reporting Category 2.

Scheffe' post hoc procedures revealed that statistically significant differences were present by degree of economic disadvantage for all three school years for Reading Reporting Category 2. Of the 18 questions on the assessment contained in this reporting category, a stair-step effect (Carpenter et al., 2006) was present for Reading Reporting Category 2 in that the greater the degree of economic disadvantage the lower students' reading scores were. That is, students who were Extremely Poor scored statistically significantly lower on the Reading Reporting Category 2 than students who were Moderately Poor, and students who were Moderately Poor scored statistically

significantly lower than students who were Not Poor. Delineated in Table 2.2 are the descriptive statistics for students' STAAR Reading Reporting Category 2 scores by degree of economic disadvantage for each of the three school years.

Insert Table 2.2 about here

Results for Reading Reporting Category 3: Understanding and Analysis of Informational Texts

With respect to each of the three school years, univariate follow-up ANOVA procedures yielded statistically significant differences in student performance on the STAAR Reading Reporting Category 3. Statistically significant differences were revealed for the 2012-2013 school year, $F(1, 194237) = 18666.01$, $p < .001$, partial $\eta^2 = .10$, moderate effect size; for the 2013-2014 school year, $F(1, 257563) = 19868.95$, $p < .001$, partial $\eta^2 = .10$, moderate effect size; and for the 2014-2015 school year, $F(1, 253314) = 16910.17$, $p < .001$, partial $\eta^2 = .09$, moderate effect size. Effect sizes were moderate for all three school years on the STAAR Reading Reporting Category 3.

Scheffe' post hoc procedures revealed that statistically significant differences were present by degree of economic disadvantage for all three school years for Reporting Category 3. Of the 16 questions on the assessment contained in Reporting Category 3, as evident in the previous reporting category results, a stair-step effect (Carpenter et al., 2006) was present for Reporting Category 3 in that the greater the degree of economic disadvantages the lower students' scores were evident. That is, students who were Extremely Poor scored statistically significantly lower on Reporting Category 3 than

students who were Moderately Poor, and students who were Moderately Poor scored statistically significantly lower than students who were Not Poor. Readers are referred to Table 2.3 for the descriptive statistics for students' STAAR Grade 3 Reading scores for Reporting Category 3 and degree of economic status for each of the three school years.

Insert Table 2.3 about here

Overall Results for the Level II Final Satisfactory Performance Standard

Because the raw scores for each Reading Reporting Category were statistically significantly different by student economic status, a decision was made to analyze the percentage of students who met the Level II Final Satisfactory Performance Standard to gauge progress in closing achievement gaps. That is, differences in raw scores may or may not translate to differences in students meeting the performance standard in reading. Public schools in Texas are held accountable not for student raw score performance but rather on the extent to which their students meet the performance standard.

To determine whether a difference was present in the Level II Final Satisfactory Performance Standard as measured by the Grade 3 STAAR Reading test by degree of economic disadvantage, Pearson chi-square procedures were calculated. This statistical procedure was viewed as the optimal statistical procedure to use because frequency data were present for the Level II Final Satisfactory Performance Standard and for economic status. As such, chi-squares are the preferred statistical procedure when both variables are categorical (Field, 2013). In addition, with the large sample size, the available sample

size per cell was more than five. Therefore, the assumptions for utilizing a chi-square

were met.

Concerning the Level II Final Satisfactory Performance Standard by student

economic status, the results for all three school years were statistically significant. For

the 2012-2013 school year, the result, $\chi^2(2) = 27{,}384.79$, $p < .001$, yielded an effect size,

Cramer's V, that was small, .28 (Cohen, 1988). For the 2013-2014 school year, the result

was also statistically significant, $\chi^2(2) = 31{,}177.91$, $p < .001$. The effect size for this

finding, Cramer's V, was moderate, .30 (Cohen, 1988). Similarly, for the 2014-2015

school year, the result was also statistically significant, $\chi^2(2) = 29{,}642.40$, $p < .001$. The

effect size for this finding, Cramer's V, was moderate, .30 (Cohen, 1988). Effect sizes

for these analyses were small for one school year and moderate for two school years.

As revealed in Table 2.4, for all three school years, a stair-step effect (Carpenter

et al., 2006) was present. Higher percentages of students who were Not Poor met this

Level II Final Satisfactory Performance Standard in all three school years than did

students who were Moderately Poor and students who were Extremely Poor. The

difference in percentages between the Not Poor and the Moderately Poor groups of

students not meeting the standard was 18.9%, 19.4%, and 18.9% for the three school

years, respectively. Students who were Not Poor achieved the standard more frequently

than those students who were Moderately Poor, and students who were Moderately Poor

outperformed students who were Extremely Poor. Moreover, the largest gap in meeting

the performance standard occurred between students who were Not Poor and students

who were Extremely Poor with a difference in percentage of students not meeting the

passing standard occurring 28.8%, 30.9%, and 29.3% for the three school years,

respectively. Similarly, students who were Not Poor were by far the most likely to meet the Level II Final Satisfactory Performance Standard in the 2012-2013, 2013-2014, and 2014-2015 school years than were students who were Moderately Poor or Extremely Poor. Table 2.4 contains the descriptive statistics for these analyses.

Insert Table 2.4 about here

Discussion

The extent to which differences were present in the reading performance of Texas elementary school students by their economic status was examined in this investigation. Three years of statewide data on the three Grade 3 STAAR Reading Reporting Categories were analyzed for three different student groups: Not Poor, Moderately Poor, and Extremely Poor. In all three school years, statistically significant results were present. Following these statistical analyses, the presence of trends for the three reading performance reporting categories by degree of student economic status was determined. Results will be summarized in the next section.

Reading Reporting Category 1: Understanding and Analysis Across Genres

Reading Reporting Category 1 contained six questions on the Grade 3 STAAR Reading assessment during each of the 2012-2013 through 2014-2015 school years. Students who were Not Poor scored 0.51 to 0.59 points higher on the Reading Reporting Category 1 than students who were Moderately Poor during the 2012-2013 through the 2014-2015 school years. Students who were Moderately Poor had an average score that

was 0.38 to 0.44 points higher on the Reading Reporting Category 1 than students who were Extremely Poor.

To determine the magnitude of the difference between the average scores for the two groups of students in poverty (i.e., Moderately Poor and Extremely Poor) for each school year, a Cohen's *d* was calculated between the Not Poor group and the Moderately Poor group and between the Not Poor group and the Extremely Poor group for Reading Reporting Category 1. The array of the Cohen's *d* calculations ranged from a low of 0.33 (moderate effect size) to a high of 0.68 (moderate effect size). The average Cohen's *d* was 0.51 (moderate effect size) for the three school years of data analyzed. Readers are referred to Table 2.5 for the Cohen's *d* effect size calculations.

Insert Table 2.5 about here

Reading Reporting Category 2: Understanding and Analysis of Literary Texts

Reading Reporting Category 2 contained 18 questions on the STAAR Grade 3 Reading assessment during each of the 2012-2013 through 2014-2015 school years. Students who were Not Poor scored higher on Reading Reporting Category 2 than students who were Moderately Poor during the 2012-2013 through the 2014-2015 school years. Students who were Moderately Poor scored higher on Reporting Category 2 than students who were Extremely Poor. To determine the magnitude of the difference between the average scores for these three groups of students for each school year, a Cohen's *d* was calculated for each school year for Reading Reporting Category 2. The array of the Cohen's *d* calculations ranged from a low of 0.37 (small effect size) to a high

of 0.72 (moderate effect size). The average effect size was 0.53 (moderate effect size) for the three years of data analyzed. Readers are referred to Table 2.5 for the Cohen's *d* effect size calculations for the STAAR Reading Reporting Category 2.

Insert Table 2.5 about here

Reading Reporting Category 3: Comprehension and Analysis of Informational Texts

Reading Reporting Category 3 contained 16 questions on the STAAR Grade 3 Reading assessment during each of the 2012-2013 through 2014-2015 school years. Students who were Not Poor scored higher on Reading Reporting Category 3 than students who were Moderately Poor during the 2012-2013 through the 2014-2015 school years. Students who were Moderately Poor scored higher on Reporting Category 3 than students who were Extremely Poor. To determine the magnitude of the difference between the average score for these three groups of students for each school year, a Cohen's *d* was calculated for each school year for Reading Reporting Category 3. The array of the Cohen's *d* calculations ranged from a low of 0.38 (small effect size) to a high of 0.70 (moderate effect size). The average effect size was 0.54 (moderate effect size) for the three years of data analyzed. Readers are referred to Table 2.5 for the Cohen's *d* effect size calculations for the STAAR Reading Reporting Category 3.

Insert Table 2.5 about here

Overall Results for the Level II Final Satisfactory Performance Standard

Consistent with other research studies (e.g., Reardon, 2013; Stinnett, 2014; Wright & Slate, 2015) regarding the economic achievement gap, Texas students living in poverty or near-poverty conditions did not perform as well as their peers. At the first opportunity for student performance to be measured by the State of Texas Assessment of Academic Readiness in reading in Grade 3, statistically significant performance gaps by economic status occurred. A stair-step effect (Carpenter et al., 2006) was present both across reporting categories and the passing standard in that the achievement gap in performance increased the greater the degree of poverty. Additionally, reading achievement was the poorest for students who were Extremely Poor for all three school years.

Connection with Existing Literature

When examining reading performance, poverty definitely matters (Reardon, Valentino, & Shores, 2012); the greater the degree of student poverty, the lower students' scores were, both by reporting category raw score and the overall percentage of students meeting the Level II Final Satisfactory Performance Standard. This difference in performance can be attributed in part to the fact that students from low-income families lack academic opportunities and rigor in the early years and are more likely to be raised in an information-poor environment with limited exposure to after-school and summer enrichment programs (Burney & Beilke, 2008). The implications of this disparity in performance include potentially limited access to college admissions and the subsequent effect not only on the individuals involved but also on the economy (Lee & Slate, 2014). Results of this research investigation are consistent with the outcomes of other

researchers (Eamon, 2002; Kornrich & Furtsenberg, 2013; Lee & Slate, 2014; Saez, 2012) who noted the presence of lower reading achievement scores among students who are economically disadvantaged when compared to students who are not economically disadvantaged.

Implications for Policy and Practice

Clearly, economic disadvantage has a negative influence on literacy and reading performance on standardized assessments, as demonstrated by this longitudinal investigation in which STAAR Reading scores were analyzed. Despite concerted efforts for decades at the local, state, and federal level to address and close this gap, the gap sadly persists. This disparity in performance indicates the need for further collaborative efforts on behalf of policymakers and educators to close the achievement gap.

Certainly efforts have been made to provide additional funding to schools with a total student enrollment of over 40% of students who meet the definition of poverty (U.S. Department of Education, 2014, para. 5). That is, over 6,000 of the nearly 8,400 campuses in Texas receive some federal funding to assist students who are identified as economically disadvantaged (Education Bug, 2015). Additionally, state compensatory funds are available to students who are identified as "at-risk" in order to provide additional supports such an increased instructional time and targeted intervention (Texas Education Agency, 2016). However, given the rigorous academic standards students in Texas public schools are held to in a funding system recently acknowledged by the state Supreme Court as "undeniably imperfect, with immense room for improvement" (Collier, 2016, para. 6), the funding system obviously needs further attention and modifications to

improve learning outcomes for Texas students, especially those students living in poverty.

Furthermore, as students in poverty demonstrate poorer reading skills immediately upon matriculation, federally funded programs such as Head Start and full-day Pre-Kindergarten are essential to providing foundational early literacy skills and preventing the widening of the achievement gap (Kornrich & Furtsenberg, 2013). Additionally, high poverty schools have a higher concentration of inexperienced teachers (Haycock & Crawford, 2008), who may not be as skilled in teaching reading and thereby further contribute to literacy gap. Teachers of all experience levels could benefit from the support of a Literacy Coach on staff to provide additional modeling and support of research-based best practices (Matsumura, L. C., Garnier, H. E., Correnti, R., Junker, B. & Bickel, D. D., 2010). School districts should also regularly provide quality professional development on literacy practices, as solid reading skills are foundational to success in all other academic subjects and life beyond graduation. Subsequently, educators and policymakers should work collaboratively to ensure additional resources and targeted interventions are allocated to students of poverty—and even more so to those students qualifying for free lunch—so that foundational skills are established during the elementary school years prior to moving on to secondary and higher education.

Recommendations for Future Research

Commensurate with other researchers (e.g., Lee & Slate, 2014; Reardon, 2013; Reardon et al., 2012), the disparity in performance of students who were economically disadvantaged, and particularly those students who were extremely poor, was revealed by the large sample size represented in this study of over 358,150 students. Revealed in a

study of this scale once more is the inequality in overall reading performance and literacy as a result of the degree of economic status. These results further indicate the need for targeted intervention and remediation as soon as students enter school (Hagans & Good, 2013). As evidenced in the results from this multiyear investigation, a gap in achievement was already present at the first opportunity for standardized assessment by the state in third grade. This gap in achievement is cause for concern because should it continue as students are promoted through the school system, students living in poverty, especially those students qualifying for free lunch, may ultimately be at higher risk for lower high school completion rates, inequitable access to college admissions, and inability to compete well for high-earning jobs against students from more affluent backgrounds (Lee & Slate, 2014).

Due to the recent development and implementation of the State of Texas Assessment of Academic Readiness program and therefore the limited longitudinal data available for analysis, further research is recommended in the future to examine the uniformity of the performance gap over time as measured by this standardized assessment. Additionally, researchers should examine other grade level data at the elementary school level to determine whether or not the gap closes as students are promoted in the system, as well as extend the examination to students in high school who must meet the passing standard in order to graduate. The study of student performance in other states where state-mandated assessments occur could also contribute meaningfully to this body of research. Other questions that could be explored in future research related to the performance of students in Texas include (a) What differences exist in student Level III Advanced Performance for STAAR Reading and other STAAR-tested subjects

(e.g., writing and science) by degree of economic disadvantage?; (b) What differences exist in student performance in Reading in other grades (i.e., Grades 4 through 8 and high school End of Course exams)?; and (c) Which early interventions in schools effectively narrow the economic achievement gap between students in poverty and those with more affluent family incomes? Quantitative, qualitative research, and mixed methods studies are to address these questions could provide meaningful data to inform the practice of educational leaders and policymakers.

Conclusion

The purpose of this research study was to determine the extent to which differences were present in the reading performance of Texas elementary school students as a function of their economic status. After obtaining and analyzing three school years of Texas statewide data, statistically significant differences were revealed in the reading achievement of students who were Not Poor, Moderately Poor, and Extremely Poor. In each school year between 2012-2013 and 2014-2015, the average STAAR Grade 3 reading scores revealed a stair-step effect (Carpenter et al, 2006) in that students who were Not Poor performed better than students who were Moderately Poor, and those students who were Moderately Poor performed better than those students who were Extremely Poor. Consistent with previous researchers (e.g., Eamon, 2002; Kornrich & Furtsenberg, 2013; Lee & Slate, 2014; Saez, 2012), students who were not economically disadvantaged outperformed students who were economically disadvantaged when reading performance was measured on the Grade 3 STAAR Reading exam. These results are cause for concern, particularly given the large numbers of Grade 3 students in Texas who met the poverty guidelines.

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Table 2.1

Descriptive Statistics for the STAAR Grade 3 Reporting Category 1 Scores by Economic

Status for the 2012-2013, 2013-2014, and 2014-2015 School Years

Reporting Category 1	*n*	*M*	*SD*
2012-2013			
Not Poor	138,884	4.73	1.40
Moderately Poor	24,729	4.14	1.55
Extremely Poor	177,686	3.70	1.62
2013-2014			
Not Poor	140,570	4.85	1.36
Moderately Poor	25,772	4.27	1.54
Extremely Poor	180,170	3.83	1.63
2014-2015			
Not Poor	148,996	4.51	1.49
Moderately Poor	24,785	4.00	1.58
Extremely Poor	184,369	3.62	1.64

Table 2.2

Descriptive Statistics for the STAAR Grade 3 Reporting Category 2 Scores by Economic Status for the 2012-2013, 2013-2014, and 2014-2015 School Years

Reporting Category 2	*n*	*M*	*SD*
2012-2013			
Not Poor	138,884	12.71	3.37
Moderately Poor	24,729	11.39	3.59
Extremely Poor	177,686	10.41	3.75
2013-2014			
Not Poor	140,570	13.40	3.34
Moderately Poor	25,772	11.95	3.61
Extremely Poor	180,170	11.96	3.79
2014-2015			
Not Poor	148,996	12.55	3.77
Moderately Poor	24,785	11.14	3.86
Extremely Poor	184,369	10.07	3.95

Table 2.3

Descriptive Statistics for the STAAR Grade 3 Reporting Category 3 Scores by Economic Status for the 2012-2013, 2013-2014, and 2014-2015 School Years

Reporting Category 3	*n*	*M*	*SD*
2012-2013			
Not Poor	177,686	11.63	3.07
Moderately Poor	24,729	10.33	3.23
Extremely Poor	177,686	9.40	3.34
2013-2014			
Not Poor	140,570	11.21	3.25
Moderately Poor	25,772	9.86	3.36
Extremely Poor	180,170	8.88	3.43
2014-2015			
Not Poor	148,996	11.70	3.26
Moderately Poor	24,785	10.46	3.35
Extremely Poor	184,369	9.48	3.46

Table 2.4

Frequencies and Percentages for the Grade 3 STAAR Reading Level II Satisfactory

Performance Standard by Degree of Economic Disadvantage for the 2012-2013, 2013-

2014, and 2014-2015 School Years

	Met Standard		Did Not Meet Standard	
School Year	*n*	%	*n*	%
2012-2013				
Not Poor	79,205	56.5	60,884	43.5
Moderately Poor	9,394	37.6	15,567	62.4
Extremely Poor	49,781	27.7	130,106	72.3
2013-2014				
Not Poor	85,048	60.0	56,759	40.0
Moderately Poor	10,579	40.6	15,451	59.4
Extremely Poor	53,066	29.1	129,328	70.9
2014-2015				
Not Poor	80,959	54.8	66,656	45.2
Moderately Poor	8,944	36.4	15,595	63.6
Extremely Poor	46,348	25.5	135,331	74.5

Table 2.5

Cohen's ds for Economic Status Differences in STAAR Grade 3 Results by Reporting

Category for the 2012-2013 through the 2014-2015 School Years

School Year	Reporting Category 1 *d*	Reporting Category 2 *d*	Reporting Category 3 *d*
2012-2013			
Moderately Poor	0.40	0.38	0.41
Extremely Poor	0.68	0.64	0.69
2013-2014			
Moderately Poor	0.40	0.42	0.41
Extremely Poor	0.68	0.72	0.70
2014-2015			
Moderately Poor	0.33	0.37	0.38
Extremely Poor	0.57	0.64	0.66

CHAPTER III

DIFFERENCES IN READING PERFORMANCE OF TEXAS ELEMENTARY

SCHOOL STUDENTS AS A FUNCTION OF GENDER: A MULTIYEAR

STATEWIDE STUDY

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

Abstract

In this investigation, differences in the reading performance as a function of gender for Texas Grade 3 students were examined. Data were obtained from the Texas Education Agency Public Education Information Management System on all Texas Grade 3 students for the 2012-2013, 2013-2014, and 2014-2015 school years. In all analyses, statistically significant differences, with trivial to moderate effect sizes, were present in reading performance on the State of Texas Assessment of Academic Readiness by gender. For all three Reading Reporting categories, girls outperformed boys. Effect sizes for these differences were trivial. Analyses of passing standards revealed the same findings in that a greater percentage of girls met the passing standard than boys. Suggestions for future research and implications for policy and practice were made.

Keywords: Literacy, Gender, Reading skills, STAAR, Texas.

DIFFERENCES IN READING PERFORMANCE OF TEXAS ELEMENTARY

SCHOOL STUDENTS AS A FUNCTION OF GENDER: A MULTIYEAR

STATEWIDE STUDY

Concern over the gender reading literacy gap is hardly a new notion (e.g., Ayers, 1909). Given that proficiency in reading is foundational for learning across many domains, including advanced educational opportunities and subsequent economic wellbeing (Zuze & Reddy, 2014), it is no surprise that inequities in reading skills by gender have been widely analyzed across age and grade levels on both a national and global scale (e.g., Branson & Zuze, 2012; Davenport et al., 2002; Klecker, 2006). Girls tend to enter school with better literacy skills (Below, Skinner, Fearrington, & Sorrell, 2010; Taylor, 2004) and go on to outperform boys in the 12th grade, as evident in national results garnered from the National Assessment of Educational Progress (Cohen, White, & Cohen, 2012). Similarly, and of particular importance to this study, high school girls in Texas continue to outperform boys on state-mandated reading assessments (Wright, 2015). This female literacy advantage may certainly contribute to women being more likely to graduate from high school and college than men, a trend that ensued in the late 1990s and continues today (Cho, 2007; Freeman, 2004). Moreover, strong reading comprehension and critical thinking are of paramount importance in competing for the most desirable jobs in the 21st century; to that end, male and female students must acquire such literacy skills early in their education.

Literacy and Reading Skills

The acquisition of reading skills is inextricably linked to education and has economic, cultural, social, and political benefits. Literacy is a foundational life skill

recognized by many as a human right (United Nations Educational, Scientific, and Cultural Organization, 2016). Although the word literacy can encompass a variety of definitions and broadly include reading, writing, numeracy, and other basic skills associated with education, for purposes of this study, literacy is defined as "the ability to access, evaluate, and integrate information from a wide range of textual sources" (Reardon et al., 2012, p. 18) and encompasses a complex set of skills (e.g., phonological, comprehension, analysis) that students acquire most rapidly during the elementary and middle school years (Reardon et al., 2012). Accordingly, state assessments reflect the importance of students becoming literate, as meeting minimum requirements on state assessments requires students to demonstrate basic reading skills (Garcia & Cain, 2014).

In Texas, reading skills are measured across the three reporting categories of the State of Texas Assessment of Academic Readiness (STAAR) Reading exam in Grade 3. In Reporting Category 1, students must be able to comprehend various genres (i.e., fiction, poetry, drama, literary non-fiction, expository, persuasive) by determining "the meaning of grade-level academic words in English, using context to determine the meaning of unfamiliar words, and comparing and contrasting themes or moral lessons" (Texas Education Agency Student Assessment Division, 2011, para. 3). Students must demonstrate the ability "to comprehend and analyze literary texts (i.e. fiction, poetry, drama, literary nonfiction) for elements such as foreshadowing, character development, sensory detail, and figurative language" in Reporting Category 2 (Texas Education Agency Student Assessment Division, 2011, para. 4). For Reporting Category 3, students must be able "to comprehend and analyze informational texts (i.e. expository, persuasive) by accurately summarizing the main idea and supporting details, analyzing organizational

patterns and text features, and making logical connections between ideas and across texts" (Texas Education Agency Student Assessment Division, 2011, para. 5). As indicated previously, the acquisition of these basic reading comprehension and analysis skills is instrumental for individual success not only in school but also for future economic success (Stinnett, 2014). To that end, questions remain regarding the degree of literacy students have and the extent to which disparities exist by gender.

Gender Differences in Literacy

The question, then, concerning why this literacy achievement gap persists despite widespread study and increased awareness must be asked. Some researchers (e.g., Logan & Johnston, 2010) trace the origins of the gender gap in reading achievement to developmental physiological and psychological differences. Although extensively debated, some researchers (e.g., Holbrook, 1988; Zuze & Reddy, 2014) posited that unique brain structures and chemical differences between girls and boys account for girls maturing and developing verbal skills much earlier than boys, consequently making it easier for girls to complete reading tasks. These physiological-maturation theories link deficits in boys' sequential processing to increased difficulties in fundamentals such as phonetic decoding, giving girls the initial advantage in the acquisition of early reading skills (Below et al., 2010; Zuze & Reddy, 2014).

Beyond the controversial physiological explanation for the gender literacy gap, researchers also point to sociological factors heavily influencing why boys rapidly fall behind girls in reading skills acquisition at a young age (Smyth, 2007). To counter the biological argument, children's earliest experiences with reading at home as well as their parent's literacy practices significantly influence children's attitudes toward literacy

regardless of gender. That is, for both boys and girls, the quality of family context correlates to young children's literacy attitudes (Bracken & Fischel, 2008; Ozturk, Hill, & Yates, 2016; Senechal & Martini, 2012). Boys and girls in poverty, for example, may have fewer resources at home to develop their literacy and are less likely to have adults encouraging them to practice their reading skills. Gender, in this case, has little to do with their delayed development as readers (Zuze & Leibbrandt, 2011). Conversely, a "literacy-supportive home environment" (De Naeghel & Van Keer, 2013, p. 353) where, for example, books are available and reading experiences are shared frequently positively influences a child's interest in reading and more rapid acquisition of foundational reading skills. As students enter formal schooling, however, the gender gap in reading appears across the economic spectrum and other sociological factors. For example, in a study of 1,218 kindergarten students of diverse socioeconomic levels, girls scored statistically significantly higher than boys in all fundamental kindergarten literacy skills (Below et al., 2010). Other researchers (e.g., Camarata & Woodcock, 2006; Chatterji, 2006) have documented that girls have stronger reading skill development when they enter Kindergarten and that this advantage is maintained or increased during elementary school and into adolescence.

So if education is, in fact, the great equalizer, the gender literacy gap should not widen as students move through the education system. Possible explanations for this widening of the gender literacy gap range from school-work and reading in particular being perceived as "too feminine" by boys (Zuze & Reddy, 2014, p. 101) to a lack of interesting reading materials available in schools for boys (Robinson & Lubienski, 2011). Girls are also thought to use the reading strategies taught in schools more frequently and

effectively than boys (Poole, 2010) and to receive more contact and time from teachers during reading instruction (Below et al., 2010). These factors may contribute to why reading is more enjoyable for girls, as indicated by the latest Program for International Student Assessment (2009) capturing a decade of data on reading literacy trends across the globe. Also revealed in these data, importantly, is that higher engagement in reading is closely associated with stronger reading performance regardless of socioeconomic group in all participating countries, and that the gender difference in reading performance is attributable in part to this "engagement gap" between boys and girls (Brozo et al., 2014, p. 587). Because reading enjoyment and engagement decline as children go through school (Guthrie & Wigfield, 2000) and boys enter school already less interested in reading than girls, it is little wonder why the gender literacy gap widens and persists.

Statement of the Problem

The American ideal is for all students regardless of background or gender to receive a quality education that encompasses solid literacy skills. Although student performance data in Texas are reported by economic status, race/ethnicity, special programs, and grade level, student outcomes are not currently reported by gender (Texas Education Agency, 2016a). As such, the gender achievement gap is not monitored as closely as other more widely publicized and scrutinized achievement gaps in the state. This lack of monitoring and attention could potentially result in minimal and insubstantial efforts towards closing the gender literacy achievement gap. Internationally and nationally, researchers (e.g., Below et al., 2010; Chudowsky & Chudowsky, 2010; Klecker, 2006) have conducted many studies illustrating the superior reading achievement of girls spanning pre-enrollment to public school through high school

graduation. Furthermore, in a longitudinal study of the effect of early childhood programs on reading achievement, girls at the elementary level demonstrated stronger language skills and outperformed boys in reading (Haas, Price, & Slate, 2013). The focus of this study on differences in reading achievement between girls and boys will enrich the available literature with large scale quantitative data obtained during students' formative elementary school years in Texas.

Purpose of the Study

The purpose of this article was to examine the degree to which differences were present in reading between Texas elementary school students in Grade 3 as a function of their gender. Specifically, three years of the Grade 3 State of Texas Assessment of Academic Readiness (STAAR) Reading assessment data were examined separately to determine whether differences are present in reading skills between boys and girls. Finally, the extent to which a trend across the three years was present in reading skills between boys and girls was determined.

Significance of the Study

As noted previously, gender differences in reading skills have been extensively analyzed across the globe for over a century (e.g., Ayers, 1909; Davenport et al., 2002; Klecker, 2006; Cohen, White, & Cohen, 2012). Particularly, the persistent literacy underachievement of boys is a complex matter garnering much attention in national and international circles. No researchers to date, however, have examined the relationship between gender and literacy in the formative elementary school years as measured by the State of Texas Assessment of Academic Readiness. By analyzing differences in the performance of boys and girls on this assessment, gender and its relationship to reading

skills acquisition can be revealed at the first level of high-stakes testing in Texas students' educational experience. The findings of this research may have practical application for educational leaders such as principals, literacy coaches, and classroom teachers—particularly at the elementary level in Texas—in ensuring all students become literate regardless of gender. Additionally, educators could utilize these outcomes to direct quality early intervention efforts to students in a timely and effective manner, taking into account physiological, sociological, and educational factors that influence student acquisition of fundamental reading skills. Moreover, policy makers at both the state and school district levels could work together collaboratively in light of these findings to monitor this persistent gap and develop a comprehensive strategy for closing the gender literacy achievement gap.

Research Questions

The following overarching research question addressed in this empirical investigation was: (a) What is the difference in the reading performance of Texas elementary school students in Grade 3 as a function of gender for the 2012-2013 school year? Specific subquestions under this overarching research question were: (a) What is the difference in understanding across genres of Texas elementary school students in Grade 3 as a function of gender?; (b) What is the difference in comprehension and analysis of literary texts of Texas elementary school students in Grade 3 as a function of gender?; (c) What is the difference in comprehension and analysis of informative texts of Texas elementary school students in Grade 3 as a function of gender? (d) What is the effect of gender on the Level II Final Satisfactory Reading Performance Standard for Grade 3 students?; and (e) What is the extent to which a trend is present in reading

performance of Texas elementary school students in Grade 3 as a function of gender for the 2012-2013 through the 2014-2015 school years? The first four research questions were repeated for the 2012-2013, 2013-2014, and 2014-2015 school years, whereas the fifth research question was repeated for each of the three reading objectives. Thus, this empirical investigation consisted of a total of 37 research questions.

Method

Research Design

For this research article, an explanatory longitudinal investigation design was utilized (Johnson, 2001). In this study design, the individual variables had already occurred and extraneous variables were not controlled (Johnson & Christensen, 2012). Archival data were utilized in examining past assessment results for Grade 3. Although the STAAR Reading exam is also administered in Grades 4 and 5, the STAAR Reading exam in Grade 3 is the first standardized summative assessment opportunity to determine student mastery of the Texas Essential Knowledge and Skills in each of the three Reading Reporting Categories (Texas Education Agency, 2016b). Accordingly, the independent variable in this research article was student gender and the three dependent variables were the STAAR Reading scores in the three reading objectives and the Level II Final Satisfactory Performance Standard for the 2012-2013, 2013-2014, and 2014-2015 school years.

Participants and Instrumentation

A causal-comparative research design was used in this quantitative study.   Grade 3 STAAR archival data were obtained from the Texas Education Agency Public Education Information Management System for the 2012-2013 through the 2014-2015

school years. A multiyear statewide analysis of academic performance of the state-mandated reading assessments in Grade 3 was used to determine the degree to which trends were present in reading performance by gender for each of the three Reading Reporting Categories. Additionally, the percentage of students meeting the Level II Final Satisfactory Performance Standard was also analyzed to determine progress in closing historic achievement gaps in reading performance.

Results from the STAAR Reading assessment for students in Grade 3 were analyzed with each of the reporting categories examined. The STAAR Reading test measures student mastery of three reporting categories. Reporting Category 1 is a measure of a student's ability to understand and analyze a variety of texts across reading genres and contains six multiple choice items (Texas Education Agency, 2011, p. 2). Reporting Category 2 is a measure of a student's ability to understand and analyze literary texts and contains 18 multiple choice items (Texas Education Agency, 2011, p. 3). Reporting Category 3 is a measure of a student's ability to understand and analyze informational texts and contains 16 multiple choice items (Texas Education Agency, 2011, p. 4).

Readiness Standards and Supporting Standards defined by the Texas Essential Knowledge and Skills are assessed within each reporting category (TEKS). Readiness Standards vary for each grade level but are characterized by being "essential for success" in the current grade level and "important for preparedness" for the next grade level by addressing significant content and concepts (Texas Education Agency STAAR Performance Standards, 2011, p. 26). Supporting Standards are those "more narrowly defined" content and concepts that are introduced in the current grade level and prepare

students for the next grade level but are not critical to master in the current grade level (Texas Education Agency STAAR Performance Standards, 2011, p. 26). Additionally, students are expected to demonstrate "a flexible range of metacognitive reading skills in both assigned and independent reading to understand an author's message… as they become self-directed, critical readers" by being assessed in their mastery of Figure 19, a process standard, across the three Reporting Categories (Texas Education Agency Student Assessment Division, 2011, p. 4). Readers are directed to the Texas Education Agency website for information regarding the score validity and score reliability of the STAAR assessment of grade level TEKS.

Results

Prior to conducting any inferential statistical procedures, the underlying assumptions of the multivariate analysis of variance (MANOVA) procedure were checked. Specifically examined were data normality, Box's Test of Equality of Covariance and the Levene's Test of Equality of Error Variances. Although the majority of these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use on the data in this study (Field, 2009).

Results of statistical analyses for boys and girls will be described by Reading Reporting Category. As mentioned previously, the STAAR Reading Reporting Categories are as follows: (a) Reporting Category 1: understanding and analysis across genres; (b) Reporting Category 2: understanding and analysis of literary texts; and (c) Reporting Category 3: understanding and analysis of informational texts. Results will be presented in chronological order beginning with the 2012-2013 school year and concluding with the 2014-2015 school year.

Overall Results for the Three School Years

With respect to the 2012-2013 school year, the MANOVA revealed a statistically significant overall difference, Wilks' Λ = .96, $p < .001$, partial η^2 = .02, in reading performance as a function of gender. Using Cohen's (1988) criteria, the effect size was small. Concerning the 2013-2014 school year, the MANOVA revealed a statistically significant difference, Wilks' Λ = .98, $p < .001$, partial η^2 = .02, in overall reading performance as a function of gender. Using Cohen's (1988) criteria, the effect size was small. Regarding the 2014-2015 school year, the MANOVA revealed a statistically significant difference, Wilks' Λ = .99, $p < .001$, partial η^2 = .01, in overall reading performance as a function of gender. Using Cohen's (1988) criteria, the effect size was small. Statistically significant differences were revealed in all three school years between boys and girls in their overall reading skills. The effect sizes for all three school years were reflective of a small degree of practical meaningfulness.

Results for Reading Reporting Category 1: Understanding and Analysis Across Genres

For each of the three school years, univariate follow-up analysis of variance (ANOVA) procedures yielded statistically significant differences on the STAAR Reading Reporting Category 1 between boys and girls. For the 2012-2013 school year, a statistically significant difference was revealed, $F(1, 377282) = 529.91$, $p < .001$, partial η^2 = .001, trivial effect size (Cohen, 1988). For the 2013-2014 school year, a statistically significant difference was yielded, $F(1, 384306) = 89.88$, $p < .001$, partial η^2 = .001, trivial effect size. Finally, for the 2014-2015 school year, a statistically significant difference was revealed, $F(1, 394602) = 198.21$, $p < .001$, partial η^2 = .001, trivial effect

size. Effect sizes were trivial in all three school years on the STAAR Reading Reporting Category 1.

Of the six questions on the assessment contained in this reporting category, boys scored statistically significantly lower on the Reading Reporting Category 1 than did girls in all three of the school years examined. The difference in performance for Reading Category 1 by school year was 0.13, 0.05, and 0.07 points, respectively. Readers are referred to Table 3.1 for the descriptive statistics for the Reading Reporting Category 1 scores by gender for each of the three school years.

Insert Table 3.1 about here

Results for Reading Reporting Category 2: Understanding and Analysis of Literary Texts

For each of the three school years, univariate follow-up ANOVA procedures yielded statistically significant differences on the STAAR Reading Reporting Category 2 between boys and girls. Statistically significant differences were revealed for the 2012-2013 school year, $F(1, 377282) = 4544.87$, $p < .001$, partial $\eta^2 = .01$, small effect size; for the 2013-2014 school year, $F(1, 384306) = 4626.30$, $p < .001$, partial $\eta^2 = .01$, small effect size; and for the 2014-2015 school year, $F(1, 394602) = 3518.74$, $p < .001$, partial $\eta^2 = .01$, small effect size. Effect sizes were small for all three school years on the STAAR Reading Reporting Category 2.

Of the 18 questions on the assessment contained in this reporting category, boys scored statistically significantly lower on Reading Reporting Category 2 than girls in all

three school years. The difference in performance for Reading Category 2 by school year was 0.82, 0.84, and 0.76, respectively. Delineated in Table 3.2 are the descriptive statistics for the STAAR Reading Reporting Category 2 scores by gender for each of the three school years.

Insert Table 3.2 about here

Results for Reading Reporting Category 3: Understanding and Analysis of Informational Texts

With respect to each of the three school years, univariate follow-up ANOVA procedures yielded statistically significant differences on the STAAR Reading Reporting Category 3 between boys and girls. Statistically significant differences were revealed for the 2012-2013 school year, $F(1, 377282) = 795.61$, $p < .001$, partial $\eta^2 = .002$, trivial effect size; for the 2013-2014 school year, $F(1, 384306) = 443.35$, $p < .001$, partial $\eta^2 = .001$, trivial effect size; and for the 2014-2015 school year, $F(1, 394602) = 1621.55$, $p < .001$, partial $\eta^2 = .004$, trivial effect size. Effect sizes were trivial for all three school years on the STAAR Reading Reporting Category 3.

Of the 16 questions on the assessment contained in the Reading Reporting Category 3, boys scored statistically significantly lower than girls on the Reading Reporting Category 3. The difference in performance for Reading Category 3 by school year was 0.31, 0.24, and 0.46, respectively. Readers are referred to Table 3.3 for the descriptive statistics for the Reporting Category 3 scores by gender for each of the three school years.

Insert Table 3.3 about here

Overall Results for the Level II Final Satisfactory Performance Standard

Because all raw scores for each Reading Reporting Category were statistically significantly different between boys and girls, the percentage of students who met the Level II Final Satisfactory Performance Standard was examined. This analysis was conducted because differences in raw scores may or may not equate to differences in students meeting the performance standard in reading. This performance standard is pertinent for educational leaders and teachers in Texas because they are held accountable not for student raw score performance but rather on the extent to which their students meet the performance standard.

To determine whether a difference was present in the Level II Final Satisfactory Performance Standard as measured by the Grade 3 STAAR Reading test between boys and girls, Pearson chi-square procedures were calculated. This statistical procedure was viewed as the optimal statistical procedure to use because frequency data were present for the Level II Final Satisfactory Performance Standard (i.e., Met or Not Met) and for gender. As such, chi-squares are the preferred statistical procedure when both variables are categorical (Field, 2013). In addition, with the large sample size, the available sample size per cell was more than five. Therefore, the assumptions for utilizing a chi-square were met.

Concerning the Level II Final Satisfactory Performance Standard by gender, results for all three school years were statistically significant. For the 2012-2013 school

year, the result, $\chi^2(1) = 934.51$, $p < .001$, yielded an effect size, Cramer's V, that was trivial, .05 (Cohen, 1988). For the 2013-2014 school year, the result was also statistically significant, $\chi^2(1) = 581.38$, $p < .001$. The effect size for this finding, Cramer's V, was trivial, .04 (Cohen, 1988). Similarly, for the 2014-2015 school year, the result was also statistically significant, $\chi^2(1) = 1052.64$, $p < .001$. The effect size for this finding, Cramer's V, was trivial, .05 (Cohen, 1988). Effect sizes for these analyses were trivial for all three school years.

As revealed in Table 3.4, for all three school years, girls had statistically significantly higher percentages who met this standard than did boys. The difference in percentages between girls and boys not meeting the standard was 4.8%, 3.8%, and 5.0% for the three school years, respectively. Girls were more likely than were boys to meet the Level II Final Satisfactory Performance Standard in the 2012-2013, 2013-2014, and 2014-2015 school years. Table 3.4 contains the descriptive statistics for these analyses.

Insert Table 3.4 about here

Discussion

The degree to which differences were present between boys and girls in their reading performance on the current state-mandated assessment in Texas was addressed in this investigation. Three years of statewide data on the three Grade 3 STAAR Reading Reporting Categories were analyzed for boys and girls. In all three school years, statistically significant results were present. Following these statistical analyses, the

presence of trends for the three reading performance reporting categories by gender was determined. Results will be summarized in the next section.

Reading Reporting Category 1: Understanding and Analysis Across Genres

Reading Reporting Category 1 contained six questions on the Grade 3 STAAR Reading assessment in each of the 2012-2013 through 2014-2015 school years. Girls scored 0.05 to 0.13 points higher on the Reading Reporting Category 1 than boys during the 2012-2013 through the 2014-2015 school years. Girls had an average score that was 0.08 points higher on the Reading Reporting Category 1 than boys.

To determine the magnitude of the difference between the average scores for the two groups of students for each school year, a Cohen's d was calculated for Reading Reporting Category 1. The array of the Cohen's d calculations ranged from a low of 0.03 (trivial effect size) to a high of 0.70 (moderate effect size). The average Cohen's d was 0.25 (small effect size) for the three school years of data analyzed. Readers are referred to Table 3.5 for the Cohen's d effect size calculations.

Insert Table 3.5 about here

Reading Reporting Category 2: Understanding and Analysis of Literary Texts

Reading Reporting Category 2 contained 18 questions on the STAAR Grade 3 Reading assessment in each of the 2012-2013 through 2014-2015 school years. Girls scored higher on the Reading Reporting Category 2 than boys during the 2012-2013 through the 2014-2015 school years. To determine the magnitude of the difference between the average score for these two groups for each school year, a Cohen's d was

calculated for each school year for the Reading Reporting Category 2. The array of the Cohen's *d* calculations ranged from a low of 0.19 (small effect size) to a high of 0.22 (small effect size), and the mean was 0.21 (small effect size) for the three years of data analyzed. Readers are referred to Table 3.5 for the Cohen's *d* effect size calculations.

Insert Table 3.5 about here

Reading Reporting Category 3: Comprehension and Analysis of Informational Texts

Reading Reporting Category 3 contained 16 questions on the STAAR Grade 3 Reading assessment in each of the 2012-2013 through 2014-2015 school years. Girls scored higher on the Reading Reporting Category 3 than boys during the 2012-2013 through the 2014-2015 school years. To determine the magnitude of the difference between the average score for boys and girls for each school year, a Cohen's *d* was calculated for each school year for the Reading Reporting Category 3. The array of the Cohen's *d* calculations ranged from a low of 0.07 (trivial effect size) to a high of 0.13 (small effect size), and the mean was 0.10 (small effect size) for the three years of data analyzed. Readers are referred to Table 3.5 for the Cohen's *d* effect size calculations.

Insert Table 3.5 about here

Overall Results for the Level II Final Satisfactory Performance Standard

Consistent with other researchers (e.g., Below et al., 2010; Zuze & Reddy, 2014) regarding the gender gap, boys did not perform as well as girls. At the first opportunity for student performance to be measured by the State of Texas Assessment of Academic Readiness in reading in Grade 3, a performance gap by gender occurred, evident both across all three reporting categories and in the percentage of students meeting the Level II Final Satisfactory Performance Standard. Girls met this standard at a greater rate each school year, 4.8%, 3.8%, and 5.0%, respectively than did boys. Although the gap was small, this gender gap is worth noting and important for practitioners to respond to as they strive for equitable outcomes for all students.

Connections to Existing Literature

When examining reading performance, gender still unfortunately matters (Branson & Zuze, 2012; Davenport et al., 2002; Klecker, 2006). In this empirical investigation, girls were still more likely both by reporting category raw score and the overall percentage of students meeting the Level II Final Satisfactory Performance Standard to outperform boys. This difference in performance can be attributed in part to the fact that girls in general demonstrate more advanced verbal and literacy skills from an early age, positioning them for an advantage in reading in the early years (e.g., Camarata & Woodcock, 2006; Chatterji, 2006). Although this gap in performance between girls and boys is relatively small, it is still a concern for educators who strive for equitable outcomes for all students. Results of this research investigation are consistent with the outcomes of other researchers (e.g., Below et al., 2010; Chudowsky & Chudowsky, 2010;

Klecker, 2006) who noted the presence of lower reading achievement scores among boys when compared to girls.

Implications for Policy and Practice

Commensurate with other researchers (e.g., Ayers, 1909; Davenport et al., 2002; Klecker, 2006; Cohen, White, & Cohen, 2012), the disparity in performance of students by gender was revealed by the large sample size represented in this study of over 394,604 students. Revealed in a study of this scale once more is the inequality in overall reading performance as a result of gender. Although the gap is relatively small, these results indicate the need for attention by educators because a gap in achievement was already present at the first opportunity for standardized assessment by the state in third grade. This gap in achievement is cause for concern because boys have historically (e.g., Ayers, 1909; Cohen et al., 2012; Davenport et al., 2002; Klecker, 2006) been less skilled readers than girls. As literacy is a foundation life skill, it is critical that all students be proficient readers.

Local school districts in conjunction with state and federal agencies and resources should ensure that professional development efforts target this achievement gap by gender. At the elementary level where many teachers hold certifications in Reading and operate at a heightened awareness of their role in teaching this fundamental life skill, continued focus on closing all literacy achievement gaps should be emphasized. At the secondary level (Grades 6-12) where teachers are not required to hold a reading certification and additional reading supports like full-time Reading Specialists are not commonplace (Wright & Slate, 2016), the Response to Intervention process must ensure

careful monitoring of student performance and systematic efforts to close achievement gaps, including gaps evident by gender.

Suggestions for Future Research

Due to the recent development and implementation of the State of Texas Assessment of Academic Readiness program and therefore the limited longitudinal data available for analysis, further research is recommended in the future to examine the uniformity of the performance gap over time as measured by this standardized assessment. Additionally, researchers should examine other grade level data at the elementary level to determine whether or not the gap exists as students are promoted in the system. For these reasons, readers are cautioned not to generalize the findings of this study to other states and to recognize that further study when additional data become available would strengthen the validity of these findings.

Beyond the elementary level, further research at the secondary level could reveal the effect of the gender literacy gap on not only standardized testing results and accountability ratings but also on student graduation rates and postsecondary readiness results. This effect of the literacy gap is particularly important as students who read on or above grade level are more likely to complete high school, and those students who do not receive a high school diploma have limited postsecondary employment opportunities (Benner et al., 2011). Such research could assist policymakers and practitioners in determining the present magnitude of gender gaps on such outcomes.

<div align="center">

Conclusion

</div>

The purpose of this research study was to determine the extent to which differences were present in the reading performance of Texas elementary school students

as a function of gender. After obtaining and analyzing three school years of Texas

statewide data, statistically significant differences were revealed in the reading

performance of boys and girls. In each school year between 2012-2013 and 2014-2015,

girls performed better than boys on the STAAR Grade 3 reading scores. Consistent with

previous researchers (e.g., Ayers, 1909; Cohen et al., 2012; Davenport et al., 2002

Klecker, 2006), girls outperformed boys in both the raw scores for each reporting

category as well as the overall percentage of meeting the Level II Final Satisfactory

Performance Standard.

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Table 3.1

Descriptive Statistics for the STAAR Grade 3 Reporting Category 1 Scores by Gender for

the 2012-2013, 2013-2014, and 2014-2015 School Years

School Year by Gender	*n*	*M*	*SD*
2012-2013			
Boys	192,447	4.04	1.63
Girls	184,837	4.17	1.60
2013-2014			
Boys	196,835	4.20	1.63
Girls	187,473	4.25	1.58
2014-2015			
Boys	202,504	3.96	1.67
Girls	192,100	4.03	1.59

Table 3.2

Descriptive Statistics for the STAAR Grade 3 Reporting Category 2 Scores by Gender for the 2012-2013, 2013-2014, and 2014-2015 School Years

School Year by Gender	*n*	*M*	*SD*
2012-2013			
Boys	192,447	10.91	3.82
Girls	184,837	11.73	3.69
2013-2014			
Boys	196,835	11.42	3.87
Girls	187,473	12.26	3.73
2014-2015			
Boys	202,504	10.73	4.09
Girls	192,100	11.49	3.97

Table 3.3

Descriptive Statistics for the STAAR Grade 3 Reporting Category 3 Scores by Gender for

the 2012-2013, 2013-2014, and 2014-2015 School Years

School Year by Gender	*n*	*M*	*SD*
2012-2013			
Boys	192,447	10.11	3.48
Girls	184,837	10.42	3.33
2013-2014			
Boys	196,835	11.42	3.87
Girls	187,473	12.26	3.73
2014-2015			
Boys	202,504	10.18	3.61
Girls	192,100	10.64	3.45

Table 3.4

Frequencies and Percentages for the Grade 3 STAAR Reading Level II Satisfactory

Performance Standard by Gender for the 2012-2013, 2013-2014, and 2014-2015 School

Years

	Met Standard		Did Not Meet Standard	
School Year by Gender	*n*	%	*n*	%
2012-2013				
Boys	71,272	36.5	123,943	63.5
Girls	76,966	41.3	109,228	58.7
2013-2014				
Boys	78,187	39.2	121,483	60.8
Girls	81,132	43.0	107,701	57.0
2014-2015				
Boys	70,135	35.2	129,068	64.8
Girls	76,701	40.2	113,883	59.8

Table 3.5

Cohen's ds for Gender Differences in STAAR Grade 3 Results by Reporting Category for

the 2012-2013 through the 2014-2015 School Years

School Year	Reporting Category 1 d	Reporting Category 2 d	Reporting Category 3 d
2012-2013	0.07	0.22	0.09
2013-2014	0.03	0.22	0.07
2014-2015	0.04	0.19	0.13

CHAPTER IV

DIFFERENCES IN READING PERFORMANCE OF TEXAS ELEMENTARY

SCHOOL STUDENTS AS A FUNCTION OF ETHNICITY/RACE: A MULTIYEAR

STATEWIDE STUDY

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

Abstract

In this investigation, differences in the reading performance as a function of ethnicity/race for Texas Grade 3 students were examined. Data were obtained from the Texas Education Agency Public Education Information Management System on all Texas Grade 3 students for the 2012-2013, 2013-2014, and 2014-2015 school years. In all analyses, statistically significant differences, with small to moderate effect sizes, were present in reading performance, as measured by the State of Texas Assessment of Academic Readiness, by ethnicity/race. For all three Reading Reporting categories, Asian and White students outperformed Hispanic and Black students. Analyses of passing standards revealed the same findings in that a "stair-step effect" (Carpenter, Ramirez, & Severn, 2006, p. 117) was present in that Asian students passed at the highest rates, followed by White, Hispanic, and Black students, respectively. Suggestions for future research and implications for policy and practice were made.

Keywords: Literacy, Ethnicity/race, Asian, White, Hispanic, Black, Reading skills, STAAR, Texas.

DIFFERENCES IN READING PERFORMANCE OF TEXAS ELEMENTARY

SCHOOL STUDENTS AS A FUNCTION OF ETHNICITY/RACE: A MULTIYEAR

STATEWIDE STUDY

The achievement gap has long been the focus of educational research, practitioner intervention, and legislation such as the recently issued Every Student Succeeds Act (Civic Impulse, 2015; Davis-Kean & Jager, 2014; Farkas, 2006). Despite this persistent emphasis on closing the achievement gap, particularly those gaps that exist among ethnic/racial subgroups, few researchers have conclusively determined the cause of the gap or how practitioners in American public schools can effectively eliminate the achievement gap (Growe & Montogomery, 2003; James, Jurich, & Estes, 2001). Specific attention has been paid to the literacy achievement gap by ethnicity/race, as strong reading skills advance learning opportunities in other academic subjects and are critical for success beyond graduation (Reardon, 2013; Stinnett, 2014). Particularly, White and Asian students are more likely to obtain a college degree than Hispanic and Black students (National Center for Education Statistics, 2015). Moreover, substantial socioeconomic gaps are evident among the four ethnic/racial groups (Reardon, 2013), with the average income for Asians, $67,000, and Whites, $57,000, greatly exceeding the average income for Hispanics, $39,000, and Blacks, $33,000 (U.S. Bureau of Labor Statistics, 2013). To provide a basis for the reader, research related to the inequalities in academic achievement of students by ethnicity/race, chiefly as it pertains to literacy, is summarized here.

Literacy and Reading Skills

To begin, *literacy* is a complex concept and what is means to be literate involves a broad spectrum of definitions. For purposes of this study, literacy is defined as "the ability to access, evaluate, and integrate information from a wide range of textual sources" (Reardon et al., 2012, p. 18) and encompasses a complex set of skills (e.g., phonological, comprehension, analysis) that students acquire most rapidly during the elementary and middle school years (Reardon et al., 2012). To meet minimum requirements on state assessments, student must demonstrate mastery of basic reading skills (Garcia & Cain, 2014).

In Texas, reading skills are demarcated across the three reporting categories of the State of Texas Assessment of Academic Readiness (STAAR) Reading exam in Grade 3. Students must demonstrate basic reading comprehension across genres (i.e., fiction, poetry, drama, literary non-fiction, expository, persuasive) as indicated by determining "the meaning of grade-level academic words in English, utilizing context to define the meaning of unfamiliar words, and comparing and contrasting moral lessons or themes" is evaluated in Reporting Category 1 (Texas Education Agency Student Assessment Division, 2011, para. 3). Students must demonstrate the ability "to comprehend and analyze literary texts (i.e. fiction, poetry, drama, literary nonfiction) for elements such as foreshadowing, character development, sensory detail, and figurative language" in Reporting Category 2 (Texas Education Agency Student Assessment Division, 2011, para. 4). For Reporting Category 3, students must be able "to comprehend and analyze informational texts (i.e. expository, persuasive) by successfully summarizing the main idea and supporting details, analyzing organizational patterns and text features, and

making logical connections between ideas and across texts" (Texas Education Agency Student Assessment Division, 2011, para. 5). As indicated in the previously mentioned average incomes by ethnicity/race, the acquisition of these basic reading comprehension and analysis skills is critical for individual success not only in school but also for future economic status (Stinnett, 2014). Accordingly, questions remain regarding how literate students are and the extent to which inequalities exist by ethnicity/race.

Ethnicity/Race and Literacy

Given the grave consequences of being illiterate and the ongoing study and attention paid to the literacy achievement gap, identifying the root cause of this disparity in achievement could point to solutions for eliminating the discrepancy in performance by ethnicity/race. Some researchers trace parental influence (e.g., income, family size, marital status, educational attainment) or home environment (e.g., number of books available, amount of time spent reading in the home) to the origin of the ethnic/racial literacy achievement gap (Farkas, 2006; Ozturk, Hill, & Yates, 2016). In a study of family educational involvement, Sibley and Dearing (2014) determined that parents of White students were more likely to be involved in their child's education in early elementary schools than immigrant parents of color. Positive associations between family educational involvement and student achievement in reading were evident as early as first grade (Sibley & Dearing, 2014). Additionally, parent expectations played a significant role in students' achievement in reading and math; Asian parents displayed the highest expectations for the children and Hispanic students were at "relatively high risk" for underachievement (Sibley & Dearing, 2014, p. 827). This finding is important in that ample evidence connects parental expectations to children's interest in reading (Hood,

Conlon, & Andrews, 2008; Senechal & Martini, 2012) and children whose parents value reading and who engage frequently in parent-child literacy activities are more likely to have solid early reading skills (Ozturk et al., 2016).

Beyond the home and family context, school quality, and differences in socioeconomic status repeatedly surface as explanations for ethnic/racial gaps in student achievement. Students from higher socioeconomic backgrounds consistently outperform their peers of lower socioeconomic backgrounds, in part due to increased access to stimulating learning materials, higher-quality health care, and more-educated parents who use a more complex vocabulary (Currie, 2005; Quinn & Cooc, 2015; Reardon, 2013; Reardon, Valentino, & Shores, 2012). In a study conducted by Crane, Huang, and Barrat (2011), students who had been enrolled in non-Title schools in all subgroups had higher reading proficiency rates that those students who had been enrolled in Title I schools, indicating once more that even at the aggregate school level, poverty as it pertains to ethnicity/race matters. Regarding school quality, compared with White students, Black and Hispanic students have less access to school resources promoting literacy achievement (Jacob, 2007) and have less qualified and experienced teachers (Ruby, 2006). Additionally, lack of caring relationships between teaching staff and Black and Hispanic students negatively influences student achievement (Robinson, Paccione, & Rodriguez, 2003; Wright, 2015). By 2020, the most diverse portion of the population will attend elementary school, as nearly 30% of students aged 8 or under will live in immigrant families (Hernandez, Takanishi, & Marotz, 2009; Sibley & Dearing, 2014), increasing the need for educators to learn and utilize culturally responsive strategies to

improve the performance of Black and Hispanic students early on in their educational experience (Hawley & Nieto, 2010).

Although researchers have made efforts to control for the aforementioned factors of economic status, parental engagement, and school quality, the gap among ethnic/racial groups remains, as White and Asian students consistently outperform their Black and Hispanic counterparts (Bradley & Corwin, 2002; Lee, 2002). Gaps between Hispanic and White students and Black and White students originate upon matriculation and increase over time (Ang, 2014; Lee, 2002; Reardon & Galindo, 2009). The majority of students in Texas are Hispanic (51.9%, Texas Education Agency, 2016a) and are less likely than White and Asian students to graduate from high school (National Center for Education Statistics, 2015), enroll in postsecondary education, and demonstrate college-readiness in reading or mathematics (Barnes & Slate, 2014). Black students in Texas fare even worse than Hispanic students and are the lowest performing ethnic/racial group on state achievement tests (Alford-Stephens & Slate, 2015) and the least likely to graduate from high school and be college-ready in reading and math (Barnes & Slate, 2014). Along these lines, Wilkins et al. (2012) examined how prepared subgroups of Texas students were for college-level reading; the percentage of students who were very well prepared to read college textbooks was 24 percentage points higher for White students than for Hispanic students and 27 percentage points higher for White students than for Black students. Furthermore, the percentage of Asian students who were very well prepared was highest of all, exceeding the percentage of White students by 5 percentage points (Wilkins et al., 2012).

Not only are Hispanic and Black students more likely to enter Kindergarten less skilled in reading than their Asian and White peers (Reardon, 2011; Reardon & Galindo, 2009), they are less likely to pass state exit-level reading assessments (Wright, 2015). Davis-Kean and Jager (2014) analyzed the growth trajectory of students by ethnicity/race as indicated by the 2006 Early Childhood Longitudinal Study-Kindergarten study of 17,565 students. Not only were statistically significant differences ascertained in reading achievement levels among ethnic/racial groups, but discrepancies were evident in student growth in reading achievement into the top trajectory over time enrolled in school (Davis-Kean & Jager, 2014). Black students represented the lowest performing subgroup in Kindergarten and remained the lowest performing subgroup by Grade 5. Black readers in the high trajectory reading group performed more like White students in the low trajectory reading group (Davis-Kean & Jager, 2014). Hispanic students entered school with lower reading performance than White and Asian students but an interesting "catch up group" (p. 202) appeared, revealing a substantial percentage of Hispanic students who increased their reading performance across time and finished in the highest trajectory reading group, mirroring that of their White counterparts (Davis-Kean & Jager, 2014). Consistent with other researchers revealing Asian students as top performers among ethnic/racial subgroups (Lee & Slate, 2014; Wright, 2015), more Asian students were in the high trajectory reading group than any other racial/ethnic group (Davis-Kean & Jager, 2014). Clearly, closing the ethnic/racial achievement gap and thereby ensuring equity for all students is a goal that still looms in the distance.

Statement of the Problem

From its beginning, American public education has held among its core beliefs the notion that the provision of a quality education can overcome society's inequities by providing all people the opportunity to develop and compete in a capitalistic economy (Growe & Montgomery, 2003). As a system hailed as the "great equalizer" and laced with historical landmarks such as the United States Supreme Court ruling Brown vs. Board of Education of Topeka (Colleen & Carlos, 2001, p. 101), a persistent racial/ethnic achievement gap foils this promise of quality education for all students and has inspired frequent commentary and critique. Accordingly, access to a quality education for all students has been declared the "civil rights question of our nation today" (Gonzalez, 2001, p. 2). Literacy, a fundamental life skill foundational to all other learning and future human capital, is no exception to this racial achievement gap (Grimm, 2008; Reardon, Valentino, Kalogrides, Shore, & Greenberg, 2013). Although some researchers (Reardon, 2011; Reardon et al., 2013) purport that the ethnic/racial achievement gap has narrowed considerably over the last several decades, Texas student exit level performance data obtained through the Texas Assessment of Skills and Knowledge indicate that Asian students read with greatest proficiency, followed by White students, Hispanic students, and Black students respectively (Wright, 2015). The focus of this study on differences in reading achievement between ethnic/racial groups will enrich the available literature with large scale quantitative data obtained during students' formative elementary school years in Texas.

Purpose of the Study

The purpose of this article was to examine the extent to which differences were present in student academic achievement in reading as a function of ethnicity/race for Texas elementary school students in Grade 3. Specifically, three years of the State of Texas Assessment of Academic Readiness Reading assessment data were analyzed separately to determine whether differences were present in reading achievement among Asian, White, Hispanic, and Black students. Finally, the extent to which a trend was present across the three years in reading skills by ethnicity/race was ascertained.

Significance of the Study

Researchers (e.g., Eamon, 2002; Kornrich & Furtsenberg, 2013; Lee & Slate, 2014; Saez, 2012) have already produced a large body of evidence regarding the relationship between ethnicity/race and student academic performance. Specifically, much research has been conducted on the disparities in literacy rates as a function of ethnicity/race, particularly its presence in American public schools. Few researchers, however, have focused their attention on the relationship between ethnicity/race and literacy in the formative elementary school years as measured by the recently developed State of Texas Assessment of Academic Readiness. The findings of this study may have practical application for educational leaders such as principals, literacy coaches, and classroom teachers—particularly at the elementary school level in Texas—in ensuring all students become literate regardless of ethnic/racial group. By examining the relationship between the ethnicity/race and the likelihood of the student achieving the basic reading proficiency, educators could ensure the provision of a culturally responsive educational experience and ultimately direct quality early reading interventions to students in a timely

and effective manner. Furthermore, state and district-level policy makers could develop collaborative strategies for closing the ethnic/racial achievement gap in light of the results of this study.

Research Questions

The following overarching research question was addressed in this empirical investigation: What is the difference in the reading performance as a function of ethnicity/race (i.e., Asian, White, Hispanic, and Black) of Texas elementary school students in Grade 3 for the 2012-2013 school year? Specific subquestions under this overarching research question are: (a) What is the difference in understanding across genres of Texas elementary school students in Grade 3 as a function of ethnicity/race?; (b) What is the difference in comprehension and analysis of literary texts of Texas elementary school students in Grade 3 as a function of ethnicity/race?; (c) What is the difference in comprehension and analysis of informative texts of Texas elementary school students in Grade 3 as a function of ethnicity/race?; (d) What is the effect of ethnicity/race on the Level II Final Satisfactory Reading Performance Standard for Grade 3 students?; and (e) What is the extent to which a trend is present in reading skills of Texas elementary school students in Grade 3 as a function of ethnicity/race for the 2012-2013 through the 2014-2015 school years? The first four research questions were repeated for the 2012-2013, 2013-2014, and 2014-2015 school years, whereas, the fourth research question was repeated for each of the three reading objectives and for the Level II Final Satisfactory Reading Performance Standard. Thus, a total of 39 research questions comprised this research investigation.

Method

Research Design

A causal-comparative design was utilized for this article (Johnson, 2001). In this study design, the individual variables had already occurred and extraneous variables were not controlled (Johnson & Christensen, 2012). Archival data were utilized in examining past assessment results for Grade 3. Although the STAAR Reading exam is also administered in Grades 4 and 5, the STAAR Reading exam in Grade 3 is the first summative and standardized assessment that determines student mastery of the Texas Essential Knowledge and Skills as measured across the three Reading Reporting Categories (Texas Education Agency, 2016b). Accordingly, the independent variable in this research article was student ethnicity/race and the four dependent variables were the STAAR Grade 3 Reading scores in the three reading objectives and the Level II Final Satisfactory Reading Performance Standard for the 2012-2013, 2013-2014, and 2014-2015 school years.

Participants and Instrumentation

Archival data from the Texas Education Agency Public Education Information Management System were obtained and analyzed in this multiyear statewide analysis of academic performance of the state-mandated reading assessments in Grade 3. The STAAR Reading test measures student mastery of three reporting categories. Reporting Category 1 is a measure of a student's ability to understand and analyze a variety of texts across reading genres and contains six multiple choice items (Texas Education Agency Student Assessment Division, 2011, p. 2). Reporting Category 2 is a measure of a student's ability to understand and analyze literary texts and contains 18 multiple choice

items (Texas Education Agency Student Assessment Division, 2011, p. 3). Reporting Category 3 is a measure of a student's ability to understand and analyze informational texts and contains 16 multiple choice items (Texas Education Agency Student Assessment Division, 2011, p. 4).

Readiness Standards and Supporting Standards that assess grade level content as defined by the Texas Essential Knowledge and Skills are assessed within each reporting category (TEKS). Readiness Standards vary for each grade level but are characterized by being "essential for success" in the current grade level and "important for preparedness" for the next grade level by addressing significant content and concepts (Texas Education Agency STAAR Performance Standards, 2013, p. 26). Supporting Standards are those "more narrowly defined" content and concepts that are introduced in the current grade level and prepare students for the next grade level but are not critical to master in the current grade level (Texas Education Agency Student Performance Standards, 2013, p. 26). Additionally, students are expected to demonstrate "a flexible range of metacognitive reading skills in both assigned and independent reading to understand an author's message… as they become self-directed, critical readers" by being assessed in their mastery of Figure 19, a TEKS process standard, across the three Reporting Categories (Texas Education Agency Student Assessment Division, 2011, p. 4). Readers are directed to the Texas Education Agency website for information regarding the score validity and score reliability of the STAAR assessment of grade level TEKS.

Results

Prior to conducting any inferential statistical procedures, the underlying assumptions of the multivariate analysis of variance (MANOVA) procedure were

checked. Specifically examined were data normality, Box's Test of Equality of Covariance and the Levene's Test of Equality of Error Variances. Although the majority of these assumptions were not met, the robustness of a MANOVA procedure made it appropriate to use on the data in this study (Field, 2009).

Results of statistical analyses by student ethnicity/race will be described by Reading Reporting Category. As mentioned previously, the STAAR Reading Reporting Categories are as follows: (a) Reporting Category 1: understanding and analysis across genres; (b) Reporting Category 2: understanding and analysis of literary texts; and (c) Reporting Category 3: understanding and analysis of informational texts. Results will be presented in chronological order beginning with the 2012-2013 school year and concluding with the 2014-2015 school year.

Overall Results for the Three School Years

With respect to the 2012-2013 school year, the MANOVA revealed a statistically significant overall difference, Wilks' $\Lambda = .92$, $p < .001$, partial $\eta^2 = .03$, in reading performance as a function of ethnicity/race. Using Cohen's (1988) criteria, the effect size was small. Concerning the 2013-2014 school year, the MANOVA revealed a statistically significant difference, Wilks' $\Lambda = .91$, $p < .001$, partial $\eta^2 = .03$, in overall reading performance as a function of ethnicity/race. Using Cohen's (1988) criteria, the effect size was small. Regarding the 2014-2015 school year, the MANOVA revealed a statistically significant difference, Wilks' $\Lambda = .93$, $p < .001$, partial $\eta^2 = .02$, in overall reading performance as a function of ethnicity/race. Using Cohen's (1988) criteria, the effect size was small. Statistically significant differences were revealed in all three school years in the overall reading skills for the four groups of students (i.e., Asian, White, Hispanic, and

Black). The effect sizes for all three school years were reflective of a small degree of practical meaningfulness.

Results for Reading Reporting Category 1: Understanding and Analysis Across Genres

For each of the three school years, univariate follow-up analysis of variance (ANOVA) procedures yielded statistically significant differences in student performance on the STAAR Reading Reporting Category 1. For the 2012-2013 school year, a statistically significant difference was revealed, $F(3, 368373) = 1326.88$, $p < .001$, partial $\eta^2 = .07$, moderate effect size. For the 2013-2014 school year, a statistically significant difference was yielded, $F(3, 375174) = 2443.24$, $p < .001$, partial $\eta^2 = .07$, moderate effect size. Finally, for the 2014-2015 school year, a statistically significant difference was revealed, $F(3, 384780) = 660.83$, $p < .001$, partial $\eta^2 = .04$, small effect size. Effect sizes were moderate for the first two school years and small for the third school year on the STAAR Reading Reporting Category 1.

To determine which pairs of student groups differed from each other in their Reading Reporting Category performance, Scheffe' post hoc procedures were conducted. These post hoc procedures revealed that statistically significant differences were present by ethnicity/race for all three school years for the Reporting Category 1. Of the six questions on the assessment contained in the Reporting Category 1, Asian students outperformed White students, White students outperformed Hispanic students, and Black students were the lowest performing ethnic/racial group. Readers are referred to Table 4.1 for the descriptive statistics for Reading Reporting Category 1 scores by ethnicity/race for each of the three school years.

Insert Table 4.1 about here

Results for Reading Reporting Category 2: Understanding and Analysis of Literary

Texts

For each of the three school years, univariate follow-up ANOVA procedures

yielded statistically significant differences in student performance on the STAAR

Reading Reporting Category 2. Statistically significant differences were revealed for the

2012-2013 school year, $F(3, 368373) = 798.77$, $p < .001$, partial $\eta^2 = .06$, moderate effect

size; for the 2013-2014 school year, $F(3, 375174) = 1410.79$, $p < .001$, partial $\eta^2 = .07$,

moderate effect size; and for the 2014-2015 school year, $F(3, 384780) = 290.83$, $p < .001$,

partial $\eta^2 = .05$, moderate effect size. Effect sizes were moderate for all three school

years on the STAAR Reading Reporting Category 2.

Scheffe' post hoc procedures revealed that statistically significant differences

were present by ethnicity/race for all three school years for the Reading Reporting

Category 2. Of the 18 questions on the assessment contained in Reporting Category 2,

Asian students performed the best, followed by White students, followed by Hispanic

students, and Black students, who were the lowest performing group by ethnicity/race.

Delineated in Table 4.2 are the descriptive statistics for the STAAR Reading Reporting

Category 2 scores by ethnicity/race for each of the three school years.

Insert Table 4.2 about here

Results for Reading Reporting Category 3: Understanding and Analysis of

Informational Texts

With respect to each of the three school years, univariate follow-up ANOVA procedures yielded statistically significant differences in student performance on the STAAR Reading Reporting Category 3. Statistically significant differences were revealed for the 2012-2013 school year, $F(3, 368737) = 547.37$, $p < .001$, partial $\eta^2 = .07$, moderate effect size; for the 2013-2014 school year, $F(3, 375174) = 365.23$, $p < .001$, partial $\eta^2 = .07$, moderate effect size; and for the 2014-2015 school year, $F(3, 384780) = 385.02$, $p < .001$, partial $\eta^2 = .06$, moderate effect size. Effect sizes were moderate for all three school years on the STAAR Reading Reporting Category 3.

Scheffe' post hoc procedures revealed that statistically significant differences were present by ethnicity/race for all three school years for Reporting Category 3. Of the 16 questions on the assessment contained in Reporting Category 3, as evident in the previous reporting category results, once more, Asian students performed the best, followed by White students, followed by Hispanic students, and the lowest performing group, Black students. Readers are referred to Table 4.3 for the descriptive statistics for the' STAAR Grade 3 Reading scores for Reporting Category 3 and ethnicity/race for each of the three school years.

Insert Table 4.3 about here

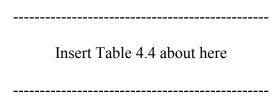**Overall Results for the Level II Final Satisfactory Performance Standard**

Because the raw scores for each Reading Reporting Category were statistically significantly different by ethnicity/race, the percentage of students who met the Level II Final Satisfactory Performance Standard was analyzed to gauge progress in closing achievement gaps by subgroup. That is, differences in raw scores by reporting category do not translate necessarily to differences in students meeting the performance standard in reading. Rather, public schools in Texas are held accountable not for student raw score performance but rather on the extent to which their students meet the performance standard.

To determine whether a difference was present in the Level II Final Satisfactory Performance Standard as measured by the Grade 3 STAAR Reading test by ethnicity/race, Pearson chi-square procedures were conducted. This statistical procedure was the optimal statistical procedure to use because frequency data were present for the Level II Final Satisfactory Performance Standard and for ethnicity/race. As such, chi-squares are the preferred statistical procedure when both variables are categorical (Field, 2013). In addition, with the large sample size, the available sample size per cell was more than five. Therefore, the assumptions for utilizing a chi-square were met.

Concerning the Level II Final Satisfactory Performance Standard by student ethnicity/race, results for all three school years were statistically significant. For the 2012-2013 school year, the result, $\chi^2(3) = 21,112.60$, $p < .001$, yielded an effect size, Cramer's V, that was small, .24 (Cohen, 1988). For the 2013-2014 school year, the result was also statistically significant, $\chi^2(3) = 25,284.13$, $p < .001$. The effect size for this finding, Cramer's V, was small, .26 (Cohen, 1988). Similarly, for the 2014-2015 school

year, the result was also statistically significant, $\chi^2(3) = 20{,}979.03$, $p < .001$. The effect size for this finding, Cramer's V, was small, .24 (Cohen, 1988). Effect sizes for these analyses were small for all three school years.

As revealed in Table 4.4, for all three school years, Asian students were the highest performing subgroup to meet the Level II Final Satisfactory Performance Standard in all three school years. White students were the second highest performing subgroup in meeting this standard, followed by Hispanic and then Black students for all three school years. The achievement gap widened each year between Asian and Black students spanning 34.2% in 2012-2013, 37% in 2013-2014, and 39% in 2014-2015. The performance gap between White and Hispanic students was consistent each year at 22.6% in 2012-2013, 24.9% in 2013-2014, and 20.8% in 2014-2015. Black students were the lowest performing group and were the least likely to meet the Level II Final Satisfactory Performance Standard all three school years. Less than 30% of Black students met this standard in all three school years in contrast to over 60% of Asian students who met this standard all three school years. Table 4.4 contains the descriptive statistics for these analyses.

Insert Table 4.4 about here

Discussion

The extent to which differences were present in the reading performance of Texas elementary school students by ethnicity/race was examined in this investigation. Three years of statewide data on the three Grade 3 STAAR Reading Reporting Categories were

analyzed for four different student groups: Asian, White, Hispanic, and Black. In all three school years, statistically significant results were present. Following these statistical analyses, the presence of trends for the three reading performance reporting categories by ethnicity/race was determined. Results will be summarized in the next section.

Reading Reporting Category 1: Understanding and Analysis Across Genres

Reading Reporting Category 1 contained six questions on the Grade 3 STAAR Reading assessment during each of the 2012-2013 through 2014-2015 school years. Asian students scored 1.04 to 1.17 points higher on the Reading Reporting Category 1 than Black students and 0.98 to 1.04 points higher than the Hispanic students during the 2012-2013 through the 2014-2015 school years. For all three school years examined, Asian students were the highest performing student group in Reading Reporting Category 1.

Reading Reporting Category 2: Understanding and Analysis of Literary Texts

Reading Reporting Category 2 contained 18 questions on the STAAR Grade 3 Reading assessment during each of the 2012-2013 through 2014-2015 school years. White students scored higher on Reading Reporting Category 2 than Hispanic students during the 2012-2013 through the 2014-2015 school years. Asian students were the highest performing students in this category, whereas Black students performed the poorest in this category.

Reading Reporting Category 3: Comprehension and Analysis of Informational Texts

Reading Reporting Category 3 contained 16 questions on the STAAR Grade 3 Reading assessment during each of the 2012-2013 through 2014-2015 school years. White students scored higher on Reading Reporting Category 3 than Black students during the 2012-2013 through the 2014-2015 school years. Once again, Asian students performed the highest in this category, followed by White, Hispanic, and Black students respectively.

Overall Results for the Level II Final Satisfactory Performance Standard

Consistent with other research studies regarding the ethnic/racial achievement gap (e.g., Alford-Stevens & Slate, 2015; Reardon, 2011; Reardon & Galindo, 2009), Texas Black and Hispanic students did not perform as well as their Asian and White peers. At the first opportunity for student reading skills to be measured by the State of Texas Assessment of Academic Readiness in Grade 3, statistically significant performance gaps by ethnicity/race occurred. Asian and White students statistically significantly outperformed Hispanic and Black students. Adequate performance on the Level II Final Satisfactory Performance Standard was the most likely for Asian students and the least likely for Black students for all three school years.

Connection with Existing Literature

Commensurate with other researchers (e.g., Grimm, 2008; Reardon et al., 2013), the disparity in performance of students by ethnicity/race was revealed by the large sample size represented in this study of over 394,604 students. Once again, achievement gaps in literacy as a result of ethnicity/race were revealed in this statewide, multiyear

investigation. These achievement gaps are meaningful and reflect the need for attention

by educators because gaps in achievement were already present at the first opportunity

for standardized assessment by the state in third grade. These gaps in achievement are

cause for concern because Asian and White students have historically (e.g., Grimm,

2008; Reardon et al., 2013) been more skilled readers than Hispanic and Black students.

As literacy is a foundation life skill, it is critical that all students be proficient readers;

furthermore, as literacy correlates to income, equity in reading proficiency has

implications beyond education to society at large (U.S. Bureau of Labor Statistics, 2013).

Implications for Policy and Practice

The literacy gap by ethnicity/race clearly remains an area in need of concerted

effort by practitioners and policymakers alike. Hispanic and Black students continue to

be statistically significantly outperformed by Asian and White students on the Grade 3

STAAR Reading assessment on all three Reporting Categories. Moreover, the overall

percentage of Hispanic and Black students who met the Level II Final Satisfactory

Performance Standard for the 2012-2013 through the 2014-2015 school years was

substantially lower than the percentages of Asian and White students who met this

standard. These gaps in performance not only contradict the historic "great equalizer"

claim of education but also poses challenges for school districts in Texas operating under

the current state accountability system. In this system, the lowest performing student

ethnic/racial subgroups for each school and district in the previous school year are closely

monitored and their performance weighted heavily in the accountability indexes for

student progress and closing achievement gaps. These indexes are published annually on

the school and district local report card, as well as reported in various media at the local,

state, and federal level. Subsequently, progress monitoring of students combined with effective, research-based interventions must be systematically employed to ensure high levels of performance for all students, regardless of race/ethnicity.

Suggestions for Future Research

Due to the recent development and problems in the implementation of the State of Texas Assessment of Academic Readiness assessment, limited longitudinal data are available for analysis. As such, research is recommended to examine the uniformity of the performance gap over time as measured by this standardized assessment. Researchers should examine data at other grade levels to determine the degree to which performance gaps changes as students are promoted in the system. Moreover, analyses are encouraged at the high school level where other assessments occur (i.e., End-of-Course exams). The study of student performance in other states where state-mandated assessments occur could also contribute meaningfully to this body of research. Other questions that could be explored in future research related to the performance of students in Texas include: (a) What differences exist in student Level III Advanced Performance for STAAR Reading and other STAAR-tested subjects (e.g., writing and science) by ethnicity/race?; (b) What differences exist in student performance in Reading in other grades (i.e., Grades 4 through 8 and high school End of Course exams)?; and (c) Which early interventions in schools effectively narrow the economic achievement gap between students in poverty and students with more affluent family incomes? Quantitative and qualitative research to address these questions could provide meaningful data to inform the practice of educational leaders and policymakers.

Conclusion

The purpose of this research study was to determine the extent to which differences were present in the reading performance of Texas elementary school students as a function of ethnicity/race. After obtaining and analyzing three school years of Texas statewide data, statistically significant differences were revealed in reading performance by ethnicity/race. In each school year between 2012-2013 and 2014-2015, Asian students performed the best, followed by White, Hispanic, and Black students, respectively. Consistent with previous researchers (e.g., Grimm, 2008; Reardon et al., 2013), the same trend of performance by ethnicity/race was evident in the raw scores for each reporting category as well as the overall percentage of meeting the Level II Final Satisfactory Performance Standard.

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Table 4.1

Descriptive Statistics for the STAAR Grade 3 Reporting Category 1 Scores by

Ethnicity/Race for the 2012-2013, 2013-2014, and 2014-2015 School Years

Reporting Category 1	*n*	*M*	*SD*
2012-2013			
Asian	14,307	4.84	1.41
White	110,395	4.65	1.45
Hispanic	197,425	3.81	1.61
Black	46,260	3.75	1.66
2013-2014			
Asian	14,653	4.97	1.38
White	110,988	4.81	1.39
Hispanic	202,089	3.93	1.62
Black	47,448	3.80	1.66
2014-2015			
Asian	15,320	4.69	1.47
White	111,365	4.43	1.53
Hispanic	208,666	3.78	1.62
Black	49,433	3.65	1.71

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Table 4.2

Descriptive Statistics for the STAAR Grade 3 Reporting Category 2 Scores by

Ethnicity/Race for the 2012-2013, 2013-2014, and 2014-2015 School Years

Reporting Category 2	*n*	*M*	*SD*
2012-2013			
Asian	14,307	12.96	3.57
White	110,385	12.47	3.44
Hispanic	197,425	10.75	3.77
Black	46,260	10.30	3.81
2013-2014			
Asian	14,653	13.70	3.43
White	110,988	13.17	3.45
Hispanic	202,089	11.16	3.80
Black	47,448	10.83	3.88
2014-2015			
Asian	15,320	13.29	3.83
White	111,365	12.24	3.86
Hispanic	208,666	10.56	3.98
Black	49,433	10.00	4.03

Table 4.3

Descriptive Statistics for the STAAR Grade 3 Reporting Category 3 Scores by

Ethnicity/Race for the 2012-2013, 2013-2014, and 2014-2015 School Years

Reporting Category 3	*n*	*M*	*SD*
2012-2013			
Asian	14,307	11.88	3.27
White	110,385	11.44	3.12
Hispanic	197,425	9.68	3.36
Black	46,260	9.29	3.40
2013-2014			
Asian	14,653	11.63	3.18
White	110,988	10.97	3.35
Hispanic	202,089	9.27	3.42
Black	47,448	8.55	3.56
2014-2015			
Asian	15,320	12.22	3.28
White	111,365	11.51	3.32
Hispanic	208,666	9.89	3.46
Black	49,433	9.38	3.56

Table 4.4

Frequencies and Percentages for the Grade 3 STAAR Reading Level II Satisfactory

Performance Standard by Ethnicity/Race for the 2012-2013, 2013-2014, and 2014-2015

School Years

School Year	Met Standard		Did Not Meet Standard	
	n	%	*n*	%
2012-2013				
Asian	8,858	61.4	5,567	38.6
White	59,901	53.8	51,489	46.2
Hispanic	62,267	31.2	137,367	68.8
Black	12,777	27.3	33,974	72.7
2013-2014				
Asian	9,689	65.6	5,085	43.4
White	64,484	57.6	47,555	42.4
Hispanic	66,808	32.7	137,508	67.3
Black	13,798	28.6	34,394	71.4
2014-2015				
Asian	9.829	64.8	5,348	35.2
White	56,762	51.5	53,469	48.5
Hispanic	63,167	30.7	142,902	69.3
Black	12,546	25.8	36,026	74.2

CHAPTER V

DISCUSSION

Given the moral imperative to ensure equality in all realms of society and the importance placed on high levels of learning for all students, regardless of economic status, gender, or ethnicity/race, as stated by the No Child Left Behind Act (2002) and measured by the State of Texas annually, persistent achievement gaps with regard to literacy are particularly unfortunate. The extent to which gaps remain present was further illustrated by this longitudinal investigation. As literacy and basic reading comprehension and analysis skills are foundational for individual success not only in school but also for future economic success (Stinnett, 2014), it is paramount that continued efforts be made to close the achievement gap for all students in reading.

In this chapter, results across all three studies are synthesized. In reviewing the results of each study, the influence of degree of economic status, gender, and ethnicity/race on student literacy was statistically significant in all cases. Furthermore, the consistency of these results with existing literature indicates the need for further research, which also is articulated in this chapter.

Discussion of Results by Economic Status

Revealed in Table 5.1 are the results of the statistical analyses for Texas elementary school students by their economic status for the 2012-2013 through the 2014-2015 school years. Statistically significant differences in the Grade 3 STAAR Reading scores by degree of economic disadvantage were revealed through the analyses. For each of the three school years, effect sizes were either small or moderate. Clearly evident was that reading performance was negatively affected as a result of degree of economic

disadvantage. A stair-step effect (Carpenter et al., 2006) was present in that the greater

the degree of economic disadvantage, the lower the scores were for each of the three

Reporting Categories as well as the poorer overall performance of students meeting the

Level II Final Satisfactory Performance Standard.

Table 5.1

Summary of Reading Performance Results for the Grade 3 STAAR Reading Test as a

Function of Degree of Economic Disadvantage for the 2012-2013 Through the 2014-

2015 School Years

STAAR Reading Category	Statistically Significant	Effect Size	Lowest Performing Group
2012-2013			
Reporting Category 1	Yes	Moderate	Extremely Poor
Reporting Category 2	Yes	Moderate	Extremely Poor
Reporting Category 3	Yes	Moderate	Extremely Poor
2013-2014			
Reporting Category 1	Yes	Small	Extremely Poor
Reporting Category 2	Yes	Moderate	Extremely Poor
Reporting Category 3	Yes	Moderate	Extremely Poor
2014-2015			
Reporting Category 1	Yes	Small	Extremely Poor
Reporting Category 2	Yes	Moderate	Extremely Poor
Reporting Category 3	Yes	Moderate	Extremely Poor

Discussion of Results by Gender

Results of the statistical analyses for Texas elementary school boys and girls are

presented in Table 5.2 for the 2012-2013 through the 2014-2015 school years. All of the

analyses revealed statistically significant differences in the Grade 3 STAAR Reading

scores by gender. For each of the three school years, effect sizes were trivial. Boys

scored lower than girls for each of the three Reporting Categories for each of the three

school years.

Table 5.2

Summary of Reading Performance Results for the Grade 3 STAAR Reading Test as a

Function of Gender for the 2012-2013 Through the 2014-2015 School Years

STAAR Reading Category	Statistically Significant	Effect Size	Lowest Performing Group
2012-2013			
Reporting Category 1	Yes	Trivial	Boys
Reporting Category 2	Yes	Trivial	Boys
Reporting Category 3	Yes	Trivial	Boys
2013-2014			
Reporting Category 1	Yes	Trivial	Boys
Reporting Category 2	Yes	Trivial	Boys
Reporting Category 3	Yes	Trivial	Boys
2014-2015			
Reporting Category 1	Yes	Trivial	Boys
Reporting Category 2	Yes	Trivial	Boys
Reporting Category 3	Yes	Trivial	Boys

Discussion of Results by Ethnicity/Race

The results of the statistical analyses for Texas elementary school students by ethnicity/race for the 2012-2013 through the 2014-2015 school years are delineated in Table 5.3. All of the analyses revealed statistically significant differences in the Grade 3 STAAR Reading scores by ethnicity/race. For each of the three school years, effect sizes were small or moderate. A stair-step effect (Carpenter et al., 2006) was present in that Black and Hispanic students scored lower than White and Asian students for each Reporting Category across each of the three school years, as well the percentage of students meeting the Level II Final Satisfactory Performance Standard. Furthermore, Black students scored lower than White, Asian, and Hispanic students for each Reporting Category for each of the three school years.

Table 5.3

Summary of Reading Performance Results for the Grade 3 STAAR Reading Test as a

Function of Ethnicity/Race for the 2012-2013 Through the 2014-2015 School Years

STAAR Reading Category	Statistically Significant	Effect Size	Lowest Performing Group
2012-2013			
Reporting Category 1	Yes	Moderate	Black
Reporting Category 2	Yes	Moderate	Black
Reporting Category 3	Yes	Small	Black
2013-2014			
Reporting Category 1	Yes	Moderate	Black
Reporting Category 2	Yes	Moderate	Black
Reporting Category 3	Yes	Moderate	Black
2014-2015			
Reporting Category 1	Yes	Moderate	Black
Reporting Category 2	Yes	Moderate	Black
Reporting Category 3	Yes	Moderate	Black

Connection with Existing Literature

Revealed once more in this study, literacy and proficient reading performance

varied as a function of degree of economic status, gender, and ethnicity/race. Results in

each study were consistent with previously conducted research on the literacy

achievement gap. Students who were not economically disadvantaged, girls, and Asian

or White students far outperformed students who were poor, boys, and Hispanic or Black

students all three school years. This pattern of performance was consistent whether

measuring Reporting Category performance or the overall performance of students

meeting the Level II Final Satisfactory Performance Standard.

Regarding the effect of poverty on student performance, Eamon (2002) and Saez

(2012) along with other researchers, have illustrated the adverse influence of economic

status on literacy evident immediately upon entry in the public school system.

Overwhelmingly, a stair-step effect (Carpenter et al., 2006) was present in that the greater the degree of economic status the lower the performance of the students on the Grade 3 STAAR Reading assessment. Results were consistent across all three school years, for each Reporting Category and for the overall percentage of students meeting the Level II Final Satisfactory Performance Standard.

Gender continues to be a factor in reading performance. Girls continue to outperform boys. Girls tend to enter school with better literacy skills (Below, Skinner, Fearrington, & Sorrell, 2010; Taylor, 2004) and continue to outperform boys in Grade 12 (Cohen, White, & Cohen, 2012). Girls outperformed boys in every Reporting Category and in the total percentage of students meeting the Level II Final Satisfactory Performance Standard. Moreover, results were consistent across all three years examined.

Commensurate with other researchers (e.g., Grimm, 2008; Reardon et al., 2013), the disparity in performance of students by ethnicity/race was revealed once more by this study. Black and Hispanic students entered school with reading skills that were behind their Asian and White peers, and the gaps widened as they progressed through the system. In this study, Black students scored lower on the Grade 3 STAAR Reading assessment than Asian, White, and Hispanic students. Similarly, Hispanic students scored lower on the Grade 3 STAAR Reading assessment than their Asian and White peers. Results regarding Black and Hispanic student performance were consistent across all three school years and for each Reporting Category. Asian students outperformed all other ethnic/racial groups all three years analyzed.

Implications for Policy and Practice

Clearly, economic disadvantage has a negative influence on literacy and reading performance on standardized assessments, as demonstrated by this longitudinal investigation in which STAAR Reading scores were analyzed. Despite concerted efforts for decades at the local, state, and federal level to address and close this gaps, the gaps sadly persist. This disparity in performance indicates the need for further collaborative efforts on behalf of policymakers and educators to close the achievement gap.

As students in poverty demonstrate poorer reading skills immediately upon entry into school, federally funded programs such as Head Start and full-day Pre-Kindergarten are essential to providing foundational early literacy skills and preventing the widening of the achievement gap (Kornrich & Furtsenberg, 2013). Additionally, high poverty schools have a higher concentration of inexperienced teachers (Haycock & Crawford, 2008), who may not be as skilled in teaching reading and thereby further contribute to literacy gap. Teachers of all experience levels could benefit from the support of a Literacy Coach on staff to provide additional modeling and support of research-based best practices. School districts should also regularly provide quality professional development on literacy practices, as solid reading skills are foundational to success in all other academic subjects and life beyond graduation. Subsequently, educators and policymakers should work collaboratively to ensure additional resources and targeted interventions are allocated to students of poverty—and even more so to those students qualifying for free lunch—so that foundational skills are established during the elementary school years prior to moving on to secondary and higher education.

Commensurate with other researchers (e.g., Ayers, 1909; Davenport et al., 2002; Klecker, 2006; Cohen et al., 2012), the disparity in performance of students by gender was revealed by the large sample size represented in this study of over 394,604 students. Revealed in a study of this scale once more is the inequality in overall reading performance as a result of gender. Although the gap is relatively small, these results indicate the need for attention by educators because a gap in achievement was already present at the first opportunity for standardized assessment by the state in third grade. This gap in achievement is cause for concern because boys have historically (e.g., Ayers, 1909; Cohen et al., 2012; Davenport et al., 2002; Klecker, 2006) been less skilled readers than girls. As literacy is a foundation life skill, it is critical that all students be proficient readers.

Local school districts in conjunction with state and federal agencies and resources should ensure that educational leaders provide professional development to address this achievement gap between boys and girls. At the elementary level where many teachers hold certifications in Reading and operate at a heightened awareness of their role in teaching this fundamental life skill, continued focus on closing all literacy achievement gaps should be emphasized. At the secondary level (Grades 6-12) where teachers are not required to hold a reading certification and additional reading supports such as full-time Reading Specialists are not commonplace (Wright & Slate, 2016), the Response to Intervention process must ensure careful monitoring of student performance and systematic efforts to close achievement gaps, including those evident by gender.

The literacy gap by ethnicity/race clearly remains an area in need of concerted efforts by practitioners and policymakers alike. Hispanic and Black students continue to

be outperformed by Asian and White students on the Grade 3 STAAR Reading

assessment on all three Reporting Categories and in the overall percentage of students

meeting the Level II Final Satisfactory Performance Standard for the 2012-2013 through

the 2014-2015 school years. This gap in performance not only contradicts the historic

"great equalizer" claim of education but also poses challenges for school districts in

Texas operating under the current state accountability system. In this system, the lowest

performing student ethnic/racial subgroups for each school and district in the previous

school year are closely monitored, and their performance weighted heavily in the

accountability indexes for student progress and closing achievement gaps. These indexes

are published annually on the school and district local report card, as well as reported in

various media at the local, state, and federal level. Subsequently, progress monitoring of

students combined with effective, research-based interventions must be systematically

employed to ensure high levels of performance for all students, regardless of

ethnicity/race.

Recommendations for Future Research

Revealed in this study once more were disparities in performance of students by

economic status, gender, and ethnicity/race. These results further indicate the need for

targeted intervention and remediation as soon as students enter school (Hagans & Good,

2013). As evidenced in the results from this multiyear investigation, gaps in achievement

were already present at the first opportunity for standardized assessment by the state in

third grade. These gaps in achievement are cause for concern because should it continue

as students are promoted through the school system, the gaps in literacy may ultimately

result in lower high school completion rates, inequitable access to college admissions, and inability to compete well for high-earning jobs (Lee & Slate, 2014).

Due to the recent development and implementation of the State of Texas Assessment of Academic Readiness program and therefore the limited longitudinal data available for analysis, research is recommended in the future to examine the uniformity of the performance gap over time as measured by this standardized assessment. Additionally, researchers should analyze other grade level data at the elementary level to determine whether or not the gap closes as students are promoted in the system, as well as extend the examination to students in high school who must meet the passing standard in order to graduate. The study of student performance in other states where state-mandated assessments occur could also contribute meaningfully to this body of research. Other areas that could be explored in future research related to the performance of students in Texas include differences in student Level III Advanced Performance for STAAR Reading, STAAR Math, and other STAAR-tested subjects (e.g., writing and science); differences in student performance in Reading in other grades (i.e., Grades 4 through 8 and high school End of Course exams); and early interventions in schools that effectively narrow the literacy achievement gap. Further quantitative, qualitative, and mixed-methods research to address these questions could provide meaningful data to inform the practice of educational leaders and policymakers.

Conclusion

The purpose of this journal-ready dissertation was to examine the extent to which degree of economic status, gender, and ethnicity/race affected the reading performance of Texas elementary school students. After obtaining and analyzing three school years of

Texas statewide data, statistically significant differences were revealed between the reading performance of students who were Not Poor, Moderately Poor, and Extremely Poor, between boys and girls, and among different ethnic/racial groups. In each school year between 2012-2013 and 2014-2015, the average Grade 3 STAAR Reading scores were lower for students the greater the degree of poverty, lower for boys than for girls, and lower for Black and Hispanic students compared to Asian and White students.

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APPENDIX

Sam Houston
S T A T E   U N I V E R S I T Y
A Member of The Texas State University System

DATE: June 24, 2016

TO: Jenny McGown [Faculty Sponsor: Dr. John Slate]

FROM: Sam Houston State University (SHSU) IRB

PROJECT TITLE: *Differences in Reading Performance of Texas Elementary School Students as a Function of Economic Status, Gender, and Race/Ethnicity: A Texas Statewide Study [T/D]*

PROTOCOL #:   2016-06-24743

SUBMISSION TYPE: INITIAL REVIEW

ACTION: DETERMINATION OF EXEMPT STATUS

DECISION DATE: June 24, 2016

REVIEW CATEGORY: Category 4—research involving existing, publicly available data usually has little, if any, associated risk, particularly if subject identifiers are removed from the data or specimens.

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. Please include your project title and protocol number in all correspondence with this committee.

Sincerely,

Donna Desforges
IRB Chair, PHSC
PHSC-IRB

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Sam Houston State University IRB's records

VITA

Jenny A. M. McGown

EDUCATIONAL HISTORY

Doctorate of Education - Educational Leadership (December, 2016)
Sam Houston State University, Huntsville, Texas
Dissertation: Differences in Reading Performance of Texas Elementary School Students
as a Function of Economic Status, Gender, and Ethnicity/Race: A Multiyear Statewide
Study

Master of Education in Administration, EC-12, May 2007
Sam Houston State University, Huntsville, Texas

Bachelor of Arts in English, English, December 2002
Texas A&M University, College Station, Texas

PROFESSIONAL EXPERIENCE

Associate Superintendent of Teaching & Learning, Klein ISD, July 2016-present
Executive Director of Student Performance, Klein ISD, June 2015-July 2016
Principal, Zwink Elementary School, Klein ISD, January 2012-June 2015
Principal, Ehrhardt Elementary School, Klein ISD, August 2010-December 2012
Associate/Assistant Principal, Klein ISD, May 2007-August 2010
Teacher, Klein Collins High School, Klein ISD, August 2003-May 2007
Teacher, Tashkent, Uzbekistan, January 2003-July 2003

RECOGNITIONS
Harvard University Graduate School of Education Leadership Institute, "Leadership: An
Evolving Vision", July 2016
Principal of Model Professional Learning Community School, 2016
Principal of National School of Character, 2015
NSBA's "20 to Watch" Educator Finalist, 2015
AAUW Outstanding Woman in Education Finalist, 2014
Recipient of American Association of University Women grants, 2012, 2014, 2015
HEB Excellence in Education Award Nominee, 2012-2015
Teacher of the Month, Harris County Education Foundation, March 2007
National Young Educator of the Year Nominee, 2006
Outstanding Teacher, Klein Education Foundation, 2006-2009
National Honor Roll of American Teachers, 2004-2006
Disney Teacher of the Year Nominee, 2005-2006
Who's Who Among American Educators, 2005-2007
Teacher of the Year, Klein Collins High School, 2004-2005