

ABSTRACT

SCOTT- BRIMLEY, KIMBERLY ROSETTA. Gender Disparities in Reading Achievement in Grades 3-5: A Study of Educator Perceptions Regarding Causation. (Under the direction of Dr. Bonnie C. Fusarelli and Dr. Michael E. Ward).

Males are consistently lagging behind females in reading achievement. Reading achievement in the United States is not as high as one might expect for an industrialized first-world country. This is evident in the results of the Progress in International Reading Literacy Study (PIRLS) and Program for International Student Assessment (PISA) (Loveless, 2015). Male students' reading achievement lags behind that of their female peers. "It's become a fact of American life that girls are better than boys at school. They get better grades. They are suspended less. For every generation since the boomers, women have been more likely than men to earn high school and college diplomas" (Guo, 2015). Given this context, the focus of this research was to examine the reading achievement of students in grades 3-5 to identify any gender disparities.

The study further examined the perspectives of K-5 ELA teachers, instructional coaches, and principals regarding reading instruction; male and female students' attitudes toward reading; and, the relationships of these constructs to gender gaps in reading achievement in a specific school district context. This study was conducted in a rural, low-wealth school district in north central North Carolina. The participants of the study consisted of 18 K-5 ELA teachers and 12 administrators (instructional coaches, principals, assistant principals) who support K-5 ELA.

The findings of the study provided specific information to highlight disparities in reading achievement based on gender. Within the study, suggestions for closing any disparities in reading achievement based on gender were provided. I collected and analyzed archival data for three academic years and also collected survey data to determine if there were evidence of

gender disparities in reading achievement. During the three academic year span, females outperformed males in reading for 2 of the three years studied.

The practitioners in the current study asserted that teacher and school factors had the greatest impact on the literacy achievement of boys. This study further found that participants believed that the incorporation of text and content based on student interest and exposure to daily reading were the subfactors that most impacted boys' reading achievement. In addition, practitioners perceived that policy factors such as state-mandated training and instruction consistent with the science of reading have the least impact on boys' reading achievement and closing K-5 gender gaps in reading. It was evident that participants believed that these factors had some impact, but their perspectives about the significance of these elements were mixed.

The findings of this study suggest that adapting the instruction that males receive can close gender disparities in reading. Teachers and administrators must have the willingness to participate in training, provide small group instruction and direct instruction, adapt lessons to meet the needs of male students, and incorporate text of interest into instruction. Additional implications for practice, and for policy and future research were noted.

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Gender Disparities in Reading Achievement in Grades 3-5: A Study of Educator Perceptions
Regarding Causation

by
Kimberly Rosetta Scott-Brimley

A dissertation submitted to the Graduate Faculty of
North Carolina State University
in partial fulfillment of the
requirements for the degree of
Doctor of Education

Education Administration and Supervision

Raleigh, North Carolina
2024

APPROVED BY:

Dr. Bonnie C. Fusarelli
Committee Co-Chair

Dr. Timothy A. Drake

Dr. Michael E. Ward
Committee Co-Chair

Dr. Henry L. Johnson

DEDICATION

To my parents, Willia and James Scott, who always encouraged me to always try my best at everything I encountered. More importantly, they taught me the real meaning of unconditional love and support. They instilled in me the importance of hard work and never giving up no matter how hard things get. To my sister, Ursula Scott, who always encourages me and provides me with guidance. To my husband, David, who has pushed me when I wanted to give up and was always there to give me a hug when I felt like I couldn't go any further.

Finally, I dedicate this work to my two sons, Kendall and Kendrick, who are my heartbeats. They have been my drive to complete this journey. No matter how hard things got, I knew I had to do it for them.

BIOGRAPHY

Kimberly Scott-Brimley was born to James and Willia Scott. She grew up and was educated in rural Northampton County where she attended elementary and secondary school. Kimberly graduated from Northampton High School-East in 1988. Kimberly has one sister, Ursula Scott. She is married to David Brimley and has two sons—Kendall and Kendrick. Upon graduation from Northampton County High School-East in 1988, Kimberly furthered her education at Elizabeth City State University, where she graduated with a B. S. Ed in Elementary Education (K-6) and a second major in Social Science in 1992.

After graduating, she returned home to teach in Northampton County. Kimberly taught at Rich Square Creecy Elementary School for five and a half years. In January of 1999, she accepted a third grade position in Hertford County. Kimberly remained a third-grade teacher until 2012. She completed her Masters of School Administration at North Carolina State University in May of 2012 and was named as assistant principal in Hertford County. For four years, she served as assistant principal at Ahoskie Elementary School. In 2016, Kimberly accepted a principal position in Northampton County.

Kimberly was elated to be able to come back home and serve in her home county. She remained a principal of Willis Hare Elementary School for four years until she accepted a position as the Warren County Schools Director of Curriculum and Instruction/Title I. In June of 2023, after thirty-one years of service in public education, Kimberly retired from Warren County Schools where she was serving as chief academic officer. Even though Kimberly retired, she plans to continue to be an advocate for education and to serve the children of Northeastern North Carolina.

ACKNOWLEDGMENTS

I am appreciative to everyone who has supported me on this endeavor to receive my Ed.D. I am thankful for my parents, James and Willia Scott, the foundation of our family. They were both hard-working, caring, and strong willed, and taught me the importance of working for what I want and believe in.

I am so grateful for Dr. Michael Ward, committee co-chair, for all of his support during this time. He guided me through the process in a manner that was conducive to my learning style and life's bumps in the road. He was my thought partner and encouraged me not to give up when things got rough. He helped me have a clear understanding of the importance of research in the body of education. His guidance helped me to complete this journey.

Dr. Bonnie Fusarelli believed in my ability to be a doctoral student and afforded me the opportunity to be a part of Cohort 1 of the NELA doctoral program at North Carolina State University. I am also thankful for Dr. Henry Johnson and Dr. Timothy Drake for being apart of my dissertation committee.

Lastly, I would like to acknowledge my friend, Monica Edmonds, who refused to allow me to give up. When things got tough, she would always encourage me to keep going. She was my accountability partner throughout this process. I will forever be grateful to my family for understanding, patience, and encouragement throughout this journey. Momma and Daddy, "I did it!!!"

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CHAPTER 1: INTRODUCTION

Chapter Introduction

Learning how to read and understanding what is read are essential goals for students. To become effective readers, students need the opportunity to spend time practicing. Reading is the foundation upon which all other academic areas are built (The Importance of Reading, 2011). Public schools are challenged by accountability systems to produce high levels of student achievement. Fourth grade reading scores are stagnant nationally and in North Carolina, necessitating that more assistance be given to beginning readers (Barshay, 2018). Literacy development is the foundation for success in reading and writing (Wang, 2012). For children to be successful in the modern world, it is important that they learn to read (Faust & Kandelshine-Waldman, 2001). In this study, I examined the reading achievement level of male and female students in grades K-5 to determine whether there is a disparity between these two subgroups in a low wealth school district in northeastern North Carolina. The study examined the perspectives of teachers regarding reading instruction, male and female student attitudes toward reading, and the relationships of these constructs to gender gaps in achievement.

As a result of concerns about reading performance, reading initiatives have been central in federal education policies and initiatives such as No Child Left Behind (NCLB), NCLB waiver provisions, Reading First, and Every Student Succeeds Act (ESSA). North Carolina implemented the North Carolina's ABC's of Public Education in 1996 and Read to Achieve in 2013. The purpose of both the state and federal policy implementation was to address achievement levels and gaps in multiple academic areas, including reading.

While there is an overall concern from educational stakeholders about the research that addresses the gap between males and females in reading achievement (Loveless, 2015),

researchers have found that males do not share an interest in reading commensurate with that shown by females (Logan, 2009). A male student's attitude is another factor identified by researchers as a possible explanation for this performance gap (Logan, 2009). Some students do not have the same appreciation for reading as others.

Since gender gaps in reading are widely documented, irrespective of whether gender differences in reading achievement are found in the district that is the focus of this study, examined the perspectives of teachers and principals concerning reading instruction and student attitudes and their potential relationship to gender gaps. In the processes of education, it is important to have a clear understanding of male and female students, particularly when gender disparities in educational attainment are observable. While gender in contemporary society is now understood to be multi-faceted, for purposes of this study issues related to gender differences in reading in grades K-5 were explored in the district of interest in north central North Carolina. A review of pertinent information examining differences in academic achievement with a focus on reading was conducted.

Statement of the Problem

Reading achievement in the United States in general is not as high as one might expect for an industrialized, first-world country; male students' reading achievement lags behind that of their female peers. Fourth grade students averaged 216 on a scale from 0-500 on the 2022 National Assessment of Educational Progress (NAEP); the score at which students are considered proficient on this assessment is 238. The 2022 average score was lower than 4th grade scores attained on prior NAP administrations since 2005 (National Center for Education Statistics, 2022). The mean score for male 4th grade students in the 2022 administration of the

NAEP Reading assessment was 214, which was 7 points lower than the average score of 221 for female students (Irwin et al., 2022).

Predictive outcomes can be seen as early as Kindergarten. Students who are not proficient in reading in grade 4 often read poorly in first grade (Antilla, 2013). Students who continuously have reading deficiencies continue to fall behind their peers. Students in first grade who are proficient readers have an average vocabulary of approximately 18,681 words while students who have deficiencies in reading only have an average vocabulary of 9,975 words (Tankersley, 2005). Children who lack letter knowledge, phonological awareness, and the ability to communicate orally are more likely to have difficulty reading (Gammon, 2011).

Third grade reading achievement is an important milestone in the educational success of all students. If children cannot read proficiently by the end of third grade, it has been established that they continuously struggle with reading and academic achievement throughout their academic careers (Marin, 2015). Gender dynamics are also at play. Boys are often not motivated to do things that they perceive have limited significance for them. This causes boys to avoid such tasks (Mead, 2012). Research has shown that students who are not reading proficiently by third grade rarely catch up academically with their grade level peers and are four times as likely to drop out of high school (Annie Casey Foundation, 2011).

By all measures, reading achievement is low in low-wealth North Carolina counties – the area of focus for this study. Many students are not attaining expected growth in reading; in spring of 2021, the North Carolina Department of Public Instruction report that only 45.5% of third through eighth grade demonstrated grade level proficiency in reading. According to the North Carolina Read to Achieve legislative initiative, to ensure fourth grade reading proficiency, extra elements of assistance including summer reading camp and other interventions should be

provided to students who are not reading on grade level by the end of third grade (North Carolina Department of Public Instruction, 2020). If students with the reading retention label show grade level proficiency on the fourth grade reading EOG assessment and pass portfolio requirements by the end of fourth grade, the label is removed (North Carolina Department of Public Instruction, 2020).

The students in the district of interest were provided with intensive remediation during a Read to Achieve summer camp and retested at the end of the camp. Students were also given an alternative assessment during summer camp. If a student fails to meet proficiency there are three options: the student may be retained, promoted to fourth grade with a reading retention label or be qualified for good cause exemption. Students promoted based upon good cause exemptions have shown proficiency on Read to Achieve test given after the end of grade test or by completing a reading portfolio (North Carolina Department of Public Instruction, 2015).

Students with disabilities who are taught under alternate standards or students who have been retained more than once, qualify for a good cause exemption (North Carolina Department of Public Instruction, 2020). During the first thirty days of the subsequent school year, the students in the district of interest who did not attain proficiency receive intense remediation. This instruction occurred during a ninety-minute uninterrupted instructional block. At the end of the thirty days, the students are retested for proficiency. The reading retention label was removed from students who gain proficiency and they are promoted to the next grade. The students who do not meet proficiency continue to receive reading remediation. Non-proficient students also receive instruction in content areas based on fourth grade standards.

Statement of Purpose

Common Core State Standards for reading were implemented broadly in the nation, including North Carolina, where the standards were adapted and referred to as the K-12 Standard Course of Study for reading. These and related standards described rigorous levels of reading achievement. With the implementation of the standards, students were expected to read earlier at an earlier age, causing a developmental disadvantage for boys when it comes to early literacy challenges (Kimmel, 2010). While few states describe their reading curricula as being based on the Common Core, contemporary state guides often reflect these standards.

Boys develop literacy skills at a slower rate than females (Whitmire, 2010). Students are expected to read informational text and material with a higher text complexity than in the past. It is arguable that these more rigorous standards pose greater challenges for males than females. “It’s become a fact of American life that girls are better than boys at school. They get better grades. They are suspended less. For every generation since the boomers, women have been more likely than men to earn high school and college diplomas” (Guo, 2015).

Given the current context, the primary focus of this research was to examine reading achievement of students in grades K-5 in order to identify any gender disparities. Within this study, the following factors were explored:

- reading achievement data over a period of three years,
- correlation of reading achievement to gender,
- underachievement of students in reading.

The study further examined the perspectives of teachers, instructional coaches, and principals regarding reading instruction, male and female student’s attitudes toward reading, and

the relationships of these constructs to gender gaps in achievement in a specific school context. This study was conducted in a rural, low-wealth school district in North Carolina. The findings of the study provided specific information to highlight disparities in reading achievement based on gender. Within the study, suggestions for closing any disparities in reading achievement based on gender was provided. Emphasis was placed on the identification of factors that historically contributed to the underachievement of reading in this region and district.

A mixed methods approach was used in this study. The research design used was causal-comparative. An investigation of the inequalities in reading achievement between male and females in Grades K-5 was also conducted. Archival data on the reading achievement of students in Grades K-5 was used in processing the quantitative elements of the study. These archival data were extracted from North Carolina End of Grade Test scores over a three-year span. The scores for each assessment were placed into categories based upon gender. Information retrieved identified the number of males and females that achieved a score that was at or above grade level in reading. Basic descriptive statistics were reported.

For the qualitative elements of the study, the participants were teachers, instructional coaches, and elementary principals and assistant principals from the low-wealth district of choice in North Carolina. Participants answered a survey that used a Likert scale that I developed. The participants also responded to three constructed response questions. The constructed response items allowed participants an opportunity to provide their perspectives on factors in the reading achievement of males and females. An analysis of constructed response data obtained from teachers, instructional coaches, elementary principals, and assistant principals was used in the qualitative portion of the research. The data from the constructed response items were coded to

identify key themes related to the causation of gender disparities in reading achievement, along with participants' perspectives regarding solutions to such gaps.

Research Questions

To determine if there was a correlation between gender and reading achievement, and to determine the reasons for and solutions to gender disparities, the following research questions were explored in this study:

1. Does reading achievement among grades 3-5 students in a low-wealth school district in North Carolina differ by gender?
2. What are the beliefs of K-5 teachers, principals, assistant principals, and instructional coaches about the factors that impact the reading achievement of boys?
3. How do K-5 teachers, principals, assistant principals, and instructional coaches describe reasons for any gender disparities in reading achievement that may exist?
4. How do K-5 teachers, principals, assistant principals, and instructional coaches describe the impact of teachers' literacy instruction on the achievement of boys?
5. What are the perspectives of teachers, principals, assistant principals, and instructional coaches regarding solutions to gender gaps in reading?

Definitions of Key Terms

The following terms are used in the study. The section also includes terms that are commonly used but have a specific meaning in this study.

Achievement gap - persistent disparity on a number of educational measures between the performance of groups of students (The Glossary of Education Reform, 2013).

Attitude - the predisposition or tendency to react specifically towards an object, situation, or value; usually accompanied by feelings and emotions (Briggs, 1987).

Archival data - any data that are collected prior to the beginning of the research study (University of Virginia, 2012).

Correlation - used to test relationships between quantitative variables or categorical variables; a measure of how things are related. (Statistic How-To, 2019)

Cultural norms - the standards by which persons live (Seick, 2018).

Disparity - a noticeable and usually significant difference or dissimilarity (Merriam-Webster, 2021)

Gender - while gender in contemporary society is now understood to be multi-faceted, in this study, gender is, for purposes of analysis, dichotomous. A child is identified in the archival data as either male or female. Gender also refers to attitudes, feelings, and behaviors that a given culture associates with a person's biological sex(American Psychological Association, 2023).

Gender disparity - not having equality in terms of gender, either in language use, equal participation in educational program or in the form of textbook or curriculum itself (Adhikari et al., 2012).

Growth - growth in this study is a specific dimension of academic achievement. It is defined in this context as “current achievement/current results compared to all prior achievement/prior results with achievement being measured by a quality assessment such as the EOG tests” (SAS EVAAS, 2019).

Implementation - a specified set of planned and intentional activities designed to integrate evidence-based practices into real-world settings (Mitchell, 2011).

Intrinsic motivation - behavior that is driven by internal rewards. In other words, the motivation to engage in a behavior arises from within the individual because it is naturally satisfying to an individual (McRae & Guthrie, 2009).

Instructional reading level - highest level at which a reader is not independent, but has adequate background knowledge for a topic, and can access text quickly and with no or few errors (University of Utah, 2018).

Literacy - a constructive process in which children attain the skills, practices, beliefs, and language necessary for participation in a discourse by observing the interactions and activities in which they take part (Willoughby, 2010).

mCLASS - a trademarked formative assessment tool that combines the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) assessment with the Text Reading and Comprehension (TRC) assessment (Bowles, 2015).

Motivation - factors that activate, direct, and sustain goal directed behavior (Nevid, 2013).

NC Check-In assessments - interim assessments developed by the North Carolina Department of Public Instruction (NCDPI) that are aligned to North Carolina grade level content standards in English/Language Arts (ELA)/reading for grades 4-8 and in math for grades 3-8. The purpose of the NC Check-ins is to provide students, teachers, parents, and stakeholders with immediate in-depth action-data and a reliable estimate of students' current performance on the selected subset of content standards. (North Carolina Department of Public Instruction, 2023)

Phonics - method in which reading is taught by the acquisition of letter-sound correspondences (Sitthikikul, 2014).

Progress monitoring - a process used to assess students' academic performance, to quantify a student rate of improvement or responsiveness to instruction, and to evaluate the effectiveness of instruction (Safer & Fleischman, 2005)

Read to Achieve - part of North Carolina General Assembly's Excellent Public Schools Act. Read to Achieve was designed to ensure that students are reading at or above grade level by the end of the third grade (North Carolina Department of Public Instruction, 2020).

Reading - making meaning from print (Leipzig, 2001).

Reading achievement - present expectations of student performance in relation to a range of text types and text difficulty and in response to a variety of assessment questions intended to elicit different cognitive processes and reading behaviors (McFarland et al., 2017). Reading achievement is operationalized for purposes of this study as reading performance on selected standardized assessments used in the district that is the focus of the study.

Reading comprehension - an interaction between the reader and the text (Bastug, 2014). "The process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (Pardo, 2004).

Reading fluency - made up of at least three key elements: accurate reading of connected text at a conversational rate with appropriate prosody or expression (Hudson, Lane, Pullen, 2005).

Reading proficiency - in this study, proficiency is demonstrating competence in reading based on grade level (Connors-Tadros, 2014).

Science of reading - evidence-based reading instructional practices that address the acquisition of language, phonological and phonemic awareness, phonics and spelling, fluency, vocabulary, oral language, and comprehension (Moore, 2021)

Text complexity - defined by the Common Core State Standards (CCSS) as a three-part model consisting of quantitative and qualitative dimensions as well as reader and task consideration. Quantitative measures include analysis of word frequency and sentence length, which are typically best measured by computer software. Qualitative factors include levels of meaning, structure, language conventionality, clarity, and knowledge demands. Reader and task considerations include students' motivation, knowledge, and background interests, and are best made by the teacher (Shackles, 2012).

Text reading comprehension (TRC) - a running record assessment of reading performance that allows teachers to evaluate a student's foundational skills (Bowles, 2015).

Whole language- method in which students read by sight rather than sound words out (Bergeron, 1990).

Whole word method - method in which learners recognize words as whole units without breaking them down into sounds or letter groups (Reyhner, 2010).

Justification for the Study

This study is significant in that it identified the overall reading achievement of both males and female 3-5 students in a specific district and explored educators' perceptions of reading achievement – specifically any differences in achievement by gender. Students who do not meet proficiency in reading at a specific grade level risk having academic difficulties throughout their academic careers (The Importance of Reading Comprehension, m.d.). Historically, girls have outscored boys on reading assessments (Loveless, 2015; Paton, 2012; Smith & Wilhelm, 2002). I concluded that if this was the case for the students in grades 3-5 in the low-wealth county of interest in North Carolina, the study would also yield information that could assist policymakers and practitioners in the development of specific strategies to improve reading overall, and to

address gender gaps. I identified strategies that are proposed by respondents in the study that may better enable educators to assist boys with their literacy skills. In this dissertation, I present the results of this research and discuss implications of the findings for policymakers and practitioners.

Emphasis was placed on the identification of factors that contribute to any gaps, assuming at that point, that gaps would be validated in the initial examination of archival data. A survey protocol for teachers was implemented, along with the analysis of current and past assessment information. The study provided an analysis of whether reading achievement differs by gender in the district of interest. Results of the study may provide educators in schools with similar demographics with an understanding of what contributes to the differences in achievement levels. With the completion of this study, district policymakers have access to information that can be used to improve reading achievement among students.

The school district in this study is located in a low-wealth status rural area of Northeastern North Carolina where a high percentage of the schools are labeled as low-performing by the state. Not only are the schools low performing, but subgroups such as males, tend to lag behind others on standardized reading tests. I concluded that if there was evidence to support gender disparity in reading achievement in the district of interest, I could provide readers with educators' perspectives on the reasons for the disparity and solutions to closing the gender gap in reading achievement between boys and girls. In low-wealth, rural areas such as the one in the research, focus is put on the achievement of all students in the district. This research provides practitioners with reading achievement data on males and females instead of focusing on their combined achievement. Combining archival data with qualitative data gives practitioners rich

and varied data that both strengthened the validity of the study and provided new insights into the data on reading achievement.

With the current reading deficiencies in rural districts in North Carolina, this research provides practitioners with data to identify whether gender has an impact on reading achievement in one low-wealth district in rural North Carolina. The research method used in this study combined archival data analysis with qualitative methods. Using this method, practitioners were provided the opportunity to offer perspectives regarding causes and solutions where gender has an impact of reading achievement. Such research should expand the body of knowledge on this important topic.

Organization of the Study

This study is presented over five chapters. In Chapter 1, the problem is introduced, an outline of the purpose of the research is shared, and the rationale for completing the study is identified. Chapter 2 provides a theoretical framework that supports the study and comprehensively addresses literature related to gender and literacy. In Chapter 3, explanation of the methodology used to implement the study and the protocols for processing the data for the study are shared. Results from findings and data analysis are outlined in Chapter 3 and are reported in Chapter 4. To conclude the study, findings that are reported in Chapter 4 are discussed in Chapter 5. Chapter 5 provides a discussion of the results and implications of the study for both policy and practice, and recommendations for future research.

Chapter Summary

Reading is the foundation of success in all other academic areas. Many students in North Carolina are struggling to read proficiently and reading scores have become stagnant. The state has implemented several initiatives to address this concern. Students in grades 3-5 in a district of

interest in north central North Carolina are a part of this group of students who are not achieving (or demonstrating) the necessary growth to be deemed proficient in reading. As a part of this mixed methods study, reading proficiency between males and females was explored.

As the cliché goes, reading is fundamental. In addition to an examination of the gaps that may exist by gender, the study will determine the perspectives of participants about ways to improve reading proficiency based on any gender-specific disparities.

Chapter 1 provided background information regarding the importance of reading, key factors in reading achievement in correlation to gender, and a discussion of the research methodology for this study. In Chapter 2, a discussion of literature about gender disparities in reading achievement is provided.

CHAPTER 2: LITERATURE REVIEW

Chapter Introduction

“The more you read, the more things you will know. The more you learn, the more places you will go” (Suess, 1978). The term reading is defined as making meaning from print (Leipzig, 2001). Reading requires identification of words in print (word recognition), construction of understanding from words (comprehension) and coordination of identifying words and making meaning that is automatic and accurate (fluency) (Leipzig, 2001). Reading is essential for the academic success of both male and female students. Reading is more than just calling words. It involves learning process for decoding and comprehension in sequential order. Skills in reading are built upon each other. In this study, the researcher examined the relationship between reading achievement and gender.

The purpose of this chapter is to examine the body of knowledge relative to the relationship between gender and reading achievement in the elementary grades. The following sections address historical developments relative to male and female student reading achievement in elementary school. This chapter describes the current state of policy and practice with respect to reading development and gender in elementary school. Included in this chapter is a theoretical framework, pertinent research literature, and perspectives of reading experts are reviewed.

Background and Policy/Practice Context

The following paragraphs outline past research regarding the development of reading skills in the early grades and the relationship between reading and gender. The policy context in which the study occurred is then described.

Historical Review of the Development of Reading Pedagogy in the United States

Learning to read is a complex process. Phonics and whole language are two popular methods for teaching reading in the elementary level. There has been an ongoing debate between supporters of phonics and whole language programs (Reyhner, 2010). During the 15th century, phonics instruction began (Brown, 2016). Phonics is a method in which reading is taught by the acquisition of letter-sound correspondences (Sitthikikul,2014). The sounds are blended to form words. Phonics was the only method of teaching reading until the mid-19th century. Whitmire (2010) suggested that male's low reading scores were causally related to poor reading instruction and notes that this is especially the case with phonics-based pedagogy. During the mid-19th century, a form of whole-word methodology was introduced. This method was undergirded by a conviction that emerging readers should be taught to recognize words as whole units without deconstructing them by sounds or by grouping letters together (Hamman,2019).

In the late 1800's, there was a decline in the reading proficiency of students (Fresch, 2003). John Rice conducted a survey of schools in 1897 (Fresch, 2003) . There were 33,000 students across the United States who participated in the assessment. Contrary to the above-mentioned conclusions reached by Whitmire, the researchers found positive results related to phonics-based instruction (2010). Results of the assessment established that student who were taught to read by phonics read better than those who were taught by the whole-word approach (Fresch, 2003).

During the early 1900's methods for teaching reading shifted again. The results of Rice's survey had an impact on reading instruction. Phonics and whole word methods were combined into one methodology of teaching reading (Reyhner,2010). The combination of the two created higher achievement in reading in the United States according to Reyhner (2010). By mid-20th

century, schools began to focus more heavily on the whole word method. The whole word method had changed to the whole language approach (Reyhner, 2010). There was another decline in the reading achievement of students in the United States.

The whole language approach requires students to read by sight rather than sounding words out (Bergeron, 1990). Whole language is a literature-based approach to reading. This method of teaching reading continued until the late 1990's. Throughout this time period, there was a continued decline in reading achievement. Dr. Reid Lyon of the National Institute of Health emphasized to Congress that phonics was crucial to learning to read (Lyon, 2010).

In 2001, No Child Left Behind (NCLB), a reauthorization of the Elementary and Secondary Education Act, was passed by Congress as a part of the Bush administration's education agenda. In past years, focus had been placed on implementing remediation models to address reading deficiencies in older students who had fallen behind academically (Barbash, 2008). As a result of unsuccessful remediation with older students, greater emphasis was placed on early intervention to prevent younger students from falling behind (Barbash, 2008). To ensure that students were reading on grade level by the end of third grade, the Reading First initiative was implemented. Reading First used scientifically based research as the foundation for K-3 reading instruction (United States Department of Education, 2014). The five components of Reading First were: phonemic awareness, phonics, fluency, vocabulary, and comprehension. Reading First mandated that elementary students receive 90 minutes of uninterrupted reading instruction per day (Cartrette, 2006). During the uninterrupted reading instruction, there was a remediation period for students to receive individualized instruction based on data collected from progress monitoring. Reading First was viewed as a controversial initiative due to prescriptive requirements for teachers' delivery of instruction (Barbash, 2008).

Historically, females have had higher achievement in reading than male. Subsequent sections of Chapter 2 provide significant detail on the perspectives of researchers and literacy experts regarding the reasons that girls typically outperform boys. In 1942, Iowa concluded one of the largest studies on gender differences in reading which concluded that boys perform lower in reading comprehension, vocabulary, and basic language skills than girls (Loveless, 2015). Since the first administration of the National Assessment of Educational Progress (NAEP) in 1971, girls have historically outscored boys on the reading portion of the NAEP (Loveless, 2015). Other researchers have concluded that girls generally have better grades than boys regardless of the subject (Voyer & Voyer, 2014).

According to the national reading assessment given by the United States Department of Education, female students continue to have higher reading scores than male students (Paton, 2012). There is a continuous concern about the gaps in achievement between male and females across the country. The effects for boys are long-term. Smith and Wilhelm (2002) found that boys are not as successful as females in other disciplines due to their lack of achievement in reading and writing.

Contemporary Policy Context

Reading achievement across the United States has been a concern for several decades. As a result, the federal government has implemented several initiatives, including No Child Left Behind (NCLB), Every Student Succeeds Act (ESSA), and the Early Literacy Initiative. In 2001, No Child Left Behind (NCLB) was signed into law. NCLB was in effect from 2002-2015. The purpose of NCLB was to provide an equitable learning environment for all students, including those who were disadvantaged (Dennis, 2016). As a part of NCLB, Reading First was authorized. Reading First was a literacy initiative that mandated to teachers “what, how and

when reading was taught in their classroom” (Afflerbach et al., 2008, p. 364). The focus of Reading First was on pedagogy and providing low-income students with researched-based instruction (Dennis, 2016). Throughout the implementation of Reading First, teachers provided students with scripted curricula; however, this did not allow for adaptation to meet individual needs (Dennis, 2016). Reading achievement among low-income students has not accelerated as a result of initiatives such as NCLB and Reading First. The gap between their reading performance and that of their more affluent peers has persisted (Allington, 2013).

In 2015, ESSA was signed into law. As part of ESSA, states were provided funding to address literacy and to support evidenced based interventions developed by educators. ESSA specifically outlined direct approaches to improving literacy achievement and ensuring that all students receive high-quality literacy instruction (Alliance for Excellent Education, 2017). ESSA mandates that teachers participate in continuous professional development in comprehensive literacy instruction (Dennis, 2016).

A 2020 U.S. Department of Education briefing asserted that the Early Literacy Initiative focused on the processes that schools are to implement to guarantee that students are reading at or above grade level proficiency (Kavulic, 2020). Third grade is where children typically transition from learning to read to reading to learn (Iowa Department of Education, 2021). The Iowa Department of Education mandated that their schools follow the Early Literacy Initiative by focusing on identifying reading difficulties in the early grades to ensure they read on grade level by third grade (Iowa Department of Education, 2021).

The 2019 NAEP results revealed that students in the tested grades (4th & 8th) scored lower in reading than in 2017 (NAEP Reading Results, 2019). Fifty states, the District of Columbia, the Department of Defense Education Authority (DODEA), and 27 large urban

centers administered NAEP reading assessments (NAEP Reading Results, 2019). As has been the case historically, females outscored males in reading. The average score for 4th grade males was 217, compared to a mean score of 224 for 4th grade females (The Nation's Report Card, 2019). The average score for 8th grade males was 258 and the average score for 8th grade females was 269. (NAEP Reading Results, 2019). Of the states/jurisdictions that administered the 2019 NAEP, nine states/jurisdiction had a decrease in the scores of 4th grade males and two states/jurisdictions had a decrease in the scores of 4th grade females results. Twelve states/jurisdictions had a decrease in scores of 8th grade males and three states/jurisdictions had a decrease in the scores of 8th grade females as compared to the 2017 NAEP results (NAEP Reading Results, 2019).

In Spring 2020, due to the COVID-19 pandemic, schools were forced to suspend in-person learning. From March 2020 through Fall 2021, the majority of the students in North Carolina received virtual instruction. A study published by Renaissance Learning (2021) revealed that students began school the 2020-2021 school year slightly behind their expected reading performance. According to this study, the COVID-19 pandemic had a small negative impact on reading achievement. Renaissance Learning used data obtained from Star Early Literacy and Star Reading assessments given in all fifty states and the District of Columbia to discern that students scored two scale score points behind their expected performance and three points below baseline in Reading in Fall 2020 as compared to Fall 2019 (Renaissance Learning, 2021). Pandemic closures caused an unprecedented disruption to instruction. This resulted in significant need for intensified reading instruction and higher accountability (Moore, 2021).

In the fall of 2020, a study conducted by Northwest Evaluation Association (NWEA), revealed that student scores had dropped in reading achievement, but not as severely as many

might have expected. NWEA used data from its MAP reading assessments (Kuhfeld et al., 2020). When the results were compared to results in the fall of 2019, student achievement in reading was reasonably consistent in fall of 2020, but students scored 5 to 10 percentile points lower in math (Kuhfeld et al., 2020). These results are likely skewed by the fact that there was a significant drop in assessment participation between 2019 and 2020; most of those who did not participate 2020 “were ethnic/racial minority students, students with lower achievement in fall 2019, and students in schools with higher concentrations of socioeconomically-disadvantaged students” (Kuhfeld et al., 2020, p. 8).

In the spring of 2020, schooling in North Carolina changed dramatically because of the COVID-19 pandemic. Within a matter of days, schools across the state, with few exceptions, were forced to close and transition to virtual learning. Changes occurred without the vast majority teachers having any formal training of how to instruct students virtually. From tests administered in the spring of the 2018-2019 school year to those administered in the spring of the 2020-2021 school year, student performance on North Carolina End of Grade tests in reading and math declined. In grades 3-8, EOG passing rates declined by an average of 12 points in reading across the state of North Carolina (Murphy, 2021). By the end of the 2020-2021 school year, third grade reading proficiency in North Carolina had declined from 57% in 2018-2019 to 45% in 2020-2021 (Murphy, 2021).

The state-level policy environment in which this study occurred is complex. To increase elementary reading achievement in North Carolina and end what legislators and many others referred to as “social promotion,” the North Carolina General Assembly passed legislation in 2012 that required North Carolina Public Schools to develop a program to support third grade reading mastery (Weiss et al., 2018). The proficiency-based promotion legislation, entitled Read

to Achieve (RtA), was implemented in North Carolina's public schools in the 2013- 2014 school year and remained in effect through the time in which this study was being conducted.

Originally, the purpose of Read to Achieve was to provide third grade students extra instruction to ensure that they are reading at or above grade level by the end of the school year (North Carolina Department of Public Instruction, 2015). Under the law, students in third grade who are not reading at grade level receive extra assistance (North Carolina Department of Public Instruction, 2015). Students in grades K-3 receive reading interventions in addition to those already offered in their regular classroom (Weiss et al., 2018). Weiss et al. (2018) assert that Read to Achieve is one of the most influential education policies in place in North Carolina.

Under the legislation, students in third grade who are not reading at grade level during the school year receive extra instruction outside of the normal reading instructional block (North Carolina Department of Public Instruction, 2015). Students are assessed to measure reading proficiency; since the inception of RtA, the state has identified interim/diagnostic assessment tools for this purpose. If students are not demonstrating that they are proficient, they are given intense remediation and portfolio assessments.

At the end of the school year, third graders are assessed using the state's summative test in reading. If students are not proficient on the North Carolina End of Grade (EOG) test for ELA, they are given the opportunity for an EOG retest. Students may also be assessed with an alternate assessment known as RtA test. At the time of this study, alternative progress monitoring tools for this purpose included assessments such as Istation, Iready, mClass Reading, Edmentum, CASE21, Star Reading, Iowa Test of Basic Skills (ITBS), and the Scholastic Inventory (North Carolina State Board of Education, 2020).

The Read to Achieve legislation, as was noted earlier, prescribes summer camp, as was for third graders who are not proficient in reading at the end of the regular term. During summer camp, which many assert is a euphemism for summer school or remediation, third grade reading standards are retaught. Throughout summer instruction, student's progress is monitored with interim/diagnostic assessments. Summer reading instruction look different from one district to another based on structure, staffing, and timing (Weiss et al., 2018). "Students must attend at least 72 hours of reading instruction by teachers with demonstrated positive student outcomes in reading proficiency" (Weis et al., 2018, p. 8). Upon completion of summer instruction, additional supports such as supplemental tutoring and enhanced instruction are provided to students who do not meet grade level proficiency (Weiss et al., 2018). At the end of summer instruction, school administrators make promotion/retention decisions based upon reading achievement levels attained.

Classification of students who attend summer camp, but do not reach grade level proficiency, is made by the school administrator. Initially those students are classified as retained and are placed in classes with one of the following labels: "third-grade accelerated reading class with 90 minutes of reading instruction per day; a hybrid 3rd/4th grade transition class with 90 minutes of reading instruction per day in a 4th grade setting; or 4th grade accelerated reading class with 90 minutes of pull-out reading per day" (Weiss et al., 2018, p. 8).

Even with the push to increase reading proficiency by the end of third grade, with the implementation of Read to Achieve, statistics over the last five years indicate that test scores are not growing and in some grade levels they have declined (Weiss et al., 2018). North Carolina holds schools accountable for reading and other contents under a system based largely on student proficiency rates. Student proficiency rates constitute 80% of the rating, while achievement

growth accounts for only 20% of the calculation of a school's performance level. Grades A-F are assigned.

The context in which my study data were collected included concerns that Read to Achieve was not working as intended. In research conducted by the North Carolina State University Friday Institute for Educational Innovation, evidence showed that the exposure of students to Read to Achieve strategies and policies in the 2013-2014 and 2014-2015 school year produced no significant gains in reading achievement (Kulikowski, 2018). Kulikowski asserted that Read to Achieve allowed local districts to be flexible in how intervention was implemented in fourth grade for the students who did not achieve mastery in third grade (2018). The report also indicated that based on the findings, focus needed to shift to intensive and consistent reading interventions starting prior to third grade (Kulikowski, 2018).

In order to reinvigorate the Read to Achieve initiative, multiple state-level initiatives have been implemented. In 2018, the North Carolina state superintendent introduced Wolfpack WORKS (Ways to Optimize Reading/Writing for Kids Statewide) and Hill Center Literacy Training to address Early Literacy in North Carolina (Bragg, 2018). Wolfpack WORKS was a collaborative effort between the North Carolina Department of Public Instruction and North Carolina State University that focused on assisting first year teachers in Grades K-2 with implementing research-based reading strategies in the classroom. Wolfpack WORKS was funded through Read to Achieve early literacy program (Bragg, 2018). The partnership between the North Carolina Department of Public Instruction (NCDPI) and Wolfpack Works was terminated in June 2021.

Even though initiatives such as Wolfpack Works and Read to Achieve were implemented in the early grades, NCDPI published a "Comprehensive Plan for Reading Achievement," which

revealed that in 2018-2019, six out of ten third grade students scored a level three or above on the End of Grade (EOG) English/Language Arts (ELA) assessment (2020). The plan disclosed that four out of ten third grade students did not meet grade level proficiency as measured on the 2018-2019 ELA EOG assessment, which equates to over 50,000 third graders in North Carolina (North Carolina Department of Public Instruction, 2020).

The most recent amendments to the Read to Achieve program were codified in Senate Bill 387-the Excellent Public Schools Act of 2021. Modifications to the North Carolina Read to Achieve Program were implemented as a result of this legislation to enable students to be reading on grade level by third grade (North Carolina Department of Public Instruction, 2020). According to Anderson and Burk (2021), in early September 2021, statistics confirmed a need for emphasis on reading instruction in North Carolina. This assumption was based on results measured by the 2020-2021 End of Grade Reading assessment, which indicted that only 33.7% of third graders in North Carolina scored at College and Career Ready Levels (Anderson & Burk, 2021). As a part of the Excellent Public Schools Act of 2021, the North Carolina Department of Public Instruction allocated \$12 million of federal pandemic relief funds to afford elementary teachers the opportunity to participate in Language Essentials for Teachers of Reading and Spelling (LETRS) training program (Fofaria, 2021). Under the Excellent Schools Act of 2021, reading instruction was expected to evolve from a “look and say” approach to an approach based on the “Science of Reading” approach (Moore, 2021). According to Moore, the Science of Reading approach is based on phonetic practices associated with reading comprehension (2021).

Theoretical Framework

Two theories undergirded this research. In the attempt to better understand relationships between gender and reading achievement, researchers have offered multiple hypotheses to

account for the stronger literacy skills of girls. Given the age level of the students upon this study, focuses emphasize theories grounded in developmental differences between male and females and in relative motivation between males and females. The first theory asserts that due to developmental differences in males and females, differences in reading achievement are present. The second theory focuses on attitudinal factors for males and females.

Males and females develop mentally and physically at different rates. Eagly and Wood (2013) asserted that the following factors play a role in understanding the link between gender and reading achievement:

- Differential rates of maturation,
- Gender differences in lateralization of brain function,
- Gender differences in variability, and
- Gender-stereotyping of reading and language as feminine traits (p.446)

Developmentally, females tend to mature quicker than males in many areas. The brain is a large component of the development of humans. The left hemisphere of female's brains, which is the language center, typically develops first, while the right brain hemisphere of a male typically develops first (Walsh, 2018). According to Walsh (2018), females have 20% more neurons than males in the Broca area of their brains; the Broca area is where language is produced. The Wenicke's area of the brain is where language is interpreted. Overall, females mature faster; this may be a factor that causes females to attain higher achievement in reading and males to lag. Males may lag behind due to them not developing as fast as females (Reilly et al., 2018).

Logan (2009) argues that gender differences in reading are, in significant part, a result of the attitudes of males and females in relation to reading "Theoretical models of achievement

motivation focus on children's beliefs, values, and goals as primary 'drivers' of their motivation" (Wigfield et al., 2016, p.2). Literacy is a constructive process in which children "attain the skills, practices, beliefs, and language necessary for participation in a discourse by observing the interactions and activities in which others partake" (Willoughby, 2010, p. 4). Gee (2001) asserted that children learn by exposure to the cultural norms around which they were raised. The knowledge that children acquire from their culture is carried over into formal learning when they begin school. Children observe the people in their environment and practice what they see. If children observe others taking an interest in reading, they will typically model what they see.

The attitudinal/motivational dimension of literacy is an important element of a framework that helps to explain gender-based differences in student reading achievement. Emphasis is put on the student as he/she attempts to understand the meaning of the language that is being used (Kucer, 2009). When students experience difficulties comprehending vocabulary or comprehensively understanding the meaning of what they are reading in a text, motivation often ebbs. Frequently, students who have mastered only the "basic" literacy skills in the early grades have difficulties with informational text in the upper grades (Donahue et al., 1999; Fang, 2008; Wilhelm, 1996). As a result of students having difficulties with reading, they often become unmotivated to read as they mature. As they advance, students may fear that they will not comprehend what they are reading or that they will simply not enjoy what they are asked to read. As students get older, the types and levels of reading become more complex. Motivation to read is an essential skill for progress throughout school, whether students select the materials they read or whether the materials are selected for them.

Consistent with theoretical literature and past research students, preliminary archival data from the school district of interest revealed gender disparities in reading achievement. Since the

study focused on grades 3-5, developmental theories of reading achievement and gender disparity were clearly relevant. Through inquiry, questions were posed to participants about the reasons that gaps exist. It was important in this research to assert a theoretical framework that provides plausible explanations for such gender disparities. In this study, school factors that impact reading achievement were explored. It was therefore unwise to employ a theoretical foundation that addresses only developmental differences. In addition to the developmental theory, the impact on reading achievement was explored through the theories of attitudinal/motivational impact, as these are things that schools can clearly influence. These theories influenced both the construction of my research questions and the development of the instrument through which I collected study data.

Pertinent Research and Professional Perspectives

The following sections address the literature related to the reading achievement of males and females, along with that which addresses causation and solutions. These sections first examine extant research documenting gender gaps in reading achievement. Subsequent sections then explore the body of knowledge related to school factors associated with the reading achievement of boys, external factors associated with the reading achievement of boys, and internal factors associated with the reading achievement of boys.

Gender Gaps in Reading Achievement

As students progress through school, the reading expectations shift from an emphasis on learning to read to reading to learn. Reading is a necessary skill for academic success (Kiruru, 2013). Reading skills have a direct effect on a student's success in other academic areas (Terrier, 2020). Students in grades 3-5 are expected to read content presented in every subject. At this level, high expectations are placed on reading comprehension. Comprehension is a crucial

component to ensure academic success. Without comprehension, students cannot gather any information and use it to efficiently function, succeed academically, and enjoy the richness of life (The Importance of Reading Comprehension,n.d.).

In the last several decades, there has been a noticeable disparity between the reading scores of boys and girls (Gurian & Stevens, 2010). Boys consistently perform lower than girls on standardized reading assessments (Loveless, 2015; Paton, 2012; Smith & Wilhelm, 2002). The disparities start early; studies conducted in elementary schools concluded that boys score lower on reading tests than girls (Hochweber & Vieluf, 2016). In a 2001 international study, it was determined that girls performed significantly higher than boys in reading, but boys slightly outperformed girls in math (Gurian, 2001). Cobb-Clark and Moschion (2017) confirmed that third grade boys scored an average of nine points lower in reading and twelve points higher in numeracy as measured by the National Assessment Program-Literacy (NAPLAN) in Australia than girls the same age and grade.

According to Terrier, gender inequalities in reading performance cause gender inequalities in education (2020). In the United States, there is a fifty percent greater likelihood that males will be retained in elementary school as a result of their reading performance (2005). Research suggests that boys lag behind girls on standardized reading tests in all 50 states in the United States. Based upon the NAPLAN results, boys also perform lower in writing, spelling and grammar (Cobb-Clark & Moschion, 2017). In 2010, Brozo indicated that in some states, boys are trailing girls by as much as 10 percent.

Gender disparities in reading achievement are a world-wide phenomenon (Loveless, 2015). A 2012 study conducted by the Boys' Reading Commission revealed that boys' reading achievement is a concern across the United Kingdom (Clark, 2012). In a survey conducted by the

National Literacy Trust, 76% of teachers indicated that boys in their school did not perform as well as girls (Clark, 2012). Based upon the survey, 35% of the girls stated that they spend time reading outside of school every day and only 26% of boys indicated that they did (Clark, 2012). These findings are consistent with those in the Progress in International Reading Literacy Study (PIRLS) and Program for International Student Assessment (PISA) (Loveless, 2015). In 2013, results from the Third Regional Comparative and Explanatory Study in Latin America and the Caribbean revealed that girls in third grade performed better than boys in reading and math (Espinoza, 2020).

In the United States, the National Assessment of Education Progress (NAEP) Reading results in 2017 revealed that only one out of three fourth graders were reading proficiently (McFarland et al., 2018). Females outscored males on both the 4th and 8th grade NAEP Reading assessments (McFarland et al., 2018).

A case study was conducted in Finland to examine the Program for International Study Assessment (PISA) Reading (Torppa et al., 2017). A concern for the differences in reading achievement based on gender was the reason for conducting the study. PISA Reading addressed the following components: reading fluency, task avoidance, mastery orientation, homework-time, leisure reading: books, leisure reading: magazines/newspapers, and leisure reading: comics. Based upon the findings of the case study, reading fluency showed the largest achievement gap based upon gender (Torppa et al., 2017) Girls read more fluently, participated in leisure reading more often, and had better homework behaviors than the boys who were apart of this study.

A 2010 study explored the academic differences between males and females in school (Center on Education Policy, 2010). Researchers wanted to find out if there was a difference in

achievement of males and females in academic subjects. Males scored better in math than females. A higher percentage of females scored at or above proficiency in reading. In some cases, females outscored males in reading by margins that exceeded 10 points (Center on Education Policy, 2010).

Researchers in the Center on Education Policy study explored the disparities in achievement of males and females. To discern these gaps, they used two indicators to discern trends in male-female achievement disparities in reading: (1) the percentage of students scoring at the proficient level on state tests and (2) mean test scores. The disparities were attributed to biological and environmental factors (Center on Education Policy, 2010).

As boys fall behind in reading, there is concern that they will begin to fall behind in other subjects as well. Both educators and physicians believe that reading contributes to the overall growth of students. Reading increase concentration, memory, creativity, and vocabulary. In 2013, Kafka asserted that young readers often become writers, speakers, and thinkers. Boys and girls both need avid reading abilities in order to compete in the world and to be productive citizens. Perie (2005) concluded that language skills are developed slower in boys than in girls.

The Center on Education Policy (CEP) (2009) collected data on boys and girls. The results of the data collected concluded that the reading achievement of boys is one of the most pressing issues facing schools. Jack Jennings, CEP's President, indicated that early reading readiness for boys should be a priority including providing reading skills needed to succeed (Jennings, 2010).

The literature synthesized in this section suggests a response from the literature regarding gender-based differences in reading achievement. This is the initial focus of my study, which queries whether or not there is a relationship between gender and reading achievement in the

school district of interest. The next sections examine the relationships among biological, dispositional, and school factors and the reading achievement of boys.

Biological and Dispositional Factors Associated with the Reading Achievement of Boys

Research has shown that females consistently outperform males in reading (Logan, 2010). Various researchers have theorized about the reasons that such gender disparities exist. Males and females develop at different rates both cognitively and biologically. Girls develop earlier than boys (Klinger, 2009). This may play a major role in boys lagging academically in the elementary grades. Researchers believe that this contributes to the differences in academic achievement (Klinger, 2009).

Males and females tend to use their brains differently (Karges-Bone, 2010). Females use left brain skills more frequently than males. Left brain skills enhance language and verbal interactions. Males use right brain skills which require visual-spatial intelligence. As a result of males dominantly using right brain skills, typically they engage in tasks that do not require verbal interactions. Females use larger sentences, more expensive language, and vocabulary, and are more collaborative (Karges-Bone, 2010). Females have higher confidence in their language abilities than males exhibit.

Neuroscience researchers have concluded that the sequence in which brains of males and females develop is different (Lenroot et al., 2007). The brain matures at different rates of speed in males and females. This affects how they process information and how males and females perform in school (Sax, 2005). Females' brains are more verbally oriented, which makes leaning to read easier for them while male brains are more visually oriented (Lenroot et al., 2007).

Males and females learn in different ways. This has an impact on how they acquire the knowledge needed to learn to read fluently. Males are often spatial learners and females tend to

be more verbal learners (Brown, 2013). Junaid (2015) studied issues of gender differences in reading achievement at the elementary school level. The researcher suggested that intrinsic motivation was one of the key factors in the gender disparity in reading. Intrinsic motivation comes from within the student. This study concluded that students who were intrinsically motivated and read regularly regardless of gender had higher achievement in reading.

Hochweber and Vieluf (2016) concluded that boys are less interested in and engaged in reading than girls. Lower levels of interest in reading offer one explanation for the differences in reading achievement between girls and boys (Torppa et al., 2017). Gurian and Stevens (2005) indicated that boys tend to have higher energy levels and greater interest in physical activity. Neither one of these characteristics are conducive to boys learning in a traditional classroom. Boys do not value reading as much as girls. In a 2002 study conducted by Smith and Wilhelm, boys exemplified the following characteristics:

- Boys value reading as an activity less than girls do.
- Boys have much less interest in leisure reading.
- Significantly more boys than girls say they can't read.
- Boys spend less time reading and express less enthusiasm for reading than girls do.

Whitmire (2010) concluded that the world has become more verbal, but that boys have not. Boys often develop at a slower rate than girls. Sax (2001) asserted that boys' brains are wired differently from those of girls. Schwanenflugel and Flanagan (2018) suggested that being that boys are more physically aggressive and less compliant than girls, reading acquisition is affected. Boys move around more than girls which can impact their (boys) attitudes toward reading (Schwanenflugel & Flanagan, 2018). The gaps in reading achievement tend to persist.

By the time they get to high school, a large percentage of boys have lost interest in reading (Whitmire, 2010).

School Factors Associated with the Reading Achievement of Boys

School-based practices either help or harm a male student's reading engagement and motivation (Junaid, 2015). Gurian and Stevens (2004) stated that "Research on gender and education reveals a disconnect between teaching practice and the needs of male and female brains" (p. 21). Teachers are charged to engage males in instruction that suits their individual needs; such strategies more effectively address the gender disparity in reading achievement. Educational research has shown that teachers who provide high quality reading instruction to boys who are struggling have a positive impact on their outcomes (Brokamp & Houtveen, 2019)

Brown (2013) studied the reading achievement of 179 third through fifth grade male students from two charter schools. To address the gender disparity in reading, the students were placed in single-gendered classrooms and co-education classrooms. They were placed in the two types of classes in order to determine if there would be a significant difference in achievement. At the end of the year, there was not enough difference to assume that males' reading achievement would increase if they were in a single-gender classroom. Educators collaborate about how boys' and girls' literacy skills develop over time as they compare boys' reading habits to girls' reading achievement (Brown, 2013). This study found that when students did not score at the proficient level at their specific grade level increments, it could have a lasting effect on their academic growth. This study is a little different than the others. It has to do less with disparity; rather, it addresses the environments in which boys do better in reading.

Males like to read for a purpose (Scieszka,2003). Children's book author, Jon Scieszka, believes that boys develop slower than girls biologically. He also asserted that often boys

struggle with reading and writing skills during the early years (Scieszka,2003). Scieszka concluded that males' way of learning includes being competitive and action-oriented, which works against them in learning to read. In classrooms where reading proficiency is highly visible, males will make an effort to avoid reading (Smith & Wilhelm, 2002). Smith and Wilhelm found that boys have less interest in reading and take longer to learn to read than girls (2002).

Males are often unable to associate real-life connections with what they read. Most literature read at school tells "stories" instead of being contingent upon useful information. As males approach middle school age, they begin to stop considering themselves as readers. In 2013, Brummit-Yale concluded that gender identification becomes more important during adolescence. To demonstrate their masculinity, some males will abandon reading altogether (Brummit-Yale, 2013). Brummit-Yale asserted that students who do not show interest in reading at school develop a lifelong reluctance towards it (2013).

According to Schwanenflugel and Flanagan (2018), boys feel that learning and liking to read are not masculine. In the elementary grades, teachers tend to require males to read books that are more related to females than males. Since most elementary and English teachers are females, males may tend to view reading as feminine (Schwanenflugel & Flanagan, 2018). Based upon the norms of femininity and masculinity, females are more focused on performing well academically, while males tend to show more opposition in educational achievement (Van Hek et al., 2018). Boys tend to refute their reading capabilities and lose motivation due to reading being stereotyped as a skill in which females are more successful (Rodriguez, 2020).

Teacher Actions and Perspectives that Impact Reading Achievement of Boys

Teacher pedagogy, actions, and perspectives impact the academic achievement of all students. According to Sampat & Sampat (2021), teacher beliefs about students' growth potential

impacts teachers' actions towards the students. Due to social attitudes, the abilities of some students are underestimated by teachers (Sampat & Sampat, 2021). Teacher expectations influence student outcomes. Sampat and Sampat affirmed teacher expectations concerning boys' academic abilities lead to disparities in learning outcomes which contribute to girls outperforming boys in reading (2021).

To fully address gender disparities in reading, one must also examine what constitutes effective literacy instruction. The Center for Student Achievement identified three components to effective literacy instruction:

1. Effective literacy instruction teaches essential reading skills and strategies;
2. Effective literacy instruction uses data-informed differentiated instruction; and
3. Effective literacy instruction provides explicit, systematic instruction and opportunities to practice applying new skills. (Williams, 2019)

Williams further posited that students must be taught foundational skills such as phonemic awareness, phonics, fluency, oral reading, vocabulary words, and comprehension strategies to help them to be able to clearly understand what they are reading (2019). To ensure that students are given the necessary level of literacy instruction they need, assessments should be administered to measure student performance levels. The data extracted from the assessments should then be used to provide the students with data-informed differentiated instruction (Williams, 2019).

Self-efficacy plays an important role in effective literacy instruction once a student has a clear understanding of their individual performance level. Alverman (2002) asserted that "if academic literacy instruction is to be effective it must address issues of self-efficacy and engagement" (p.191). She articulated that students need to be provided with clear learning goals

and feedback on their progress. Providing the students with feedback on their progress can help them to believe that they have the ability to do as well as their grade level peers. Alverman (2002) concluded that student perceptions of how well they are doing as readers and writers affects their motivation to learn.

Guthrie and Wigfield (2000) contended that effective literacy instruction includes student engagement. For students to fully engage, it is necessary that they have interest in what they are learning. By considering students' interests and needs, effective teachers of reading build on elements of both formal literacies such as following a set curricular program and on informal literacies such as a parent practicing the alphabet while driving in a car (Alverman, 2002). Incorporating reading texts that interest students as supplemental materials prompts growth in their conceptual knowledge (Guthrie & Wigfield, 2000). To fully engage students, Guthrie and Wigfield recommended instructional practice that includes viewing videos, providing hands-on experiences, providing opportunities for collaboration with peers, providing opportunity to analyze new vocabulary, and discussing internet searches on topics with peers and teachers to create an environment that is rich in effective literacy instruction (2000).

Allington (2019) wrote about "The Six T's of Effective Elementary Literacy Instruction." In this article he identified six key features of effective literacy instruction:

1. Time: Give students the time to read and write.
2. Texts: Give students opportunities to read lots of interesting texts aligned to their individual reading levels.
3. Teaching: Model what you expect of the students.
4. Talk: Give students the opportunity to collaborate with peers about what they are reading by providing open-ended discussion questions.

5. Tasks: Instead of worksheets, give students writing assignments and small group research projects on texts they are reading.
6. Testing: Give students feedback based upon effort and improvement.

While there is substantial evidence on what constitutes effective teacher practice in literacy instruction, there is likewise considerable evidence about teacher behaviors that impact student attainment in reading, particularly the attainment of male students. For example, stereotyping is often seen in education. Fielder and Bless (2001), defined stereotype as “shared beliefs about personality traits and behaviors of group members.” Hartley and Sutton (2013) examined how stereotyping boys as low achievers in academics impacted their performance. The study investigated the stereotype that girls and boys believed that girls outperformed boys academically. The contrivance of the study showed no impact on girls, but negatively impacted reading, writing, and mathematics performances of boys. Results from the research validated that teachers’ gender stereotypes negatively affect boys’ reading performance. Boys’ reading performance is compromised by gender stereotypes that reinforce that girls are more competent readers (Muntoni, et al., 2021).

Teachers impact student achievement as early as preschool. Children as young as two and three years of age begin to acquire gender stereotypes as revealed by developmental researchers. (Wolter et al., 2015). Teachers’ attitudes towards gender influence the development of children’s reading motivation and skills (Wolter et al., 2015). Teachers who demonstrate traditional gender beliefs such as “reading is for girls” create an environment where boys are less motivated to read. This results in boys being less competent readers. Such teacher perspectives create an environment in which girls put more effort into reading; this typically results in them being more competent readers.

According to Blazar and Kraft (2017), psychologists contend that emotion and personality influence how much a child learns in school. Teachers' interactions with students predict student outcomes (Blazar & Kraft, 2017). Ewing and Taylor (2009) and Hamre and Pianta (2001) asserted that teachers tend to have lower quality relationships with boys than they do with girls. Lower quality relationships between boys and teachers create a higher risk of lower reading achievement among male students (McCormick & O'Connor, 2015). The impacts appear to be reciprocal; students who have a high risk of low reading achievement often feel alienated from their teachers (Caleon & Wui, 2018).

Students who trust their teachers attain higher levels of achievement (Caleon & Wui, 2018). Trust is to rely upon confidence in someone or something (Merriam-Webster, 2021). Bukko et al. (2020) concluded that, without trust between teacher and student, it is difficult to create a nurturing learning environment. Trust is a factor in high quality relationships between teachers and students. Teachers who build trust with their students create an environment that is conducive to learning which increases student outcomes. Elementary and secondary teachers conclude that when trust exists between them and their students, there is an increase in achievement level (Byrk & Schneider, 2004). Students benefit from positive relationships with their teachers; this is especially true of boys. In schools where teacher-student relationships are positive, gender disparities in reading are not as prevalent (Gupta & Sampat, 2021).

Chapter Summary

Schools and teachers play a vital role in the literacy development of students. Schools are being held more accountable for the growth or lack of growth in reading achievement among students. States have implemented ratings of schools based on the performance of students. Teachers and administrators are being evaluated based upon student achievement in standardized

assessments. Standardized assessment results have validated that reading proficiency has become stagnant. There is concern that there is a gap in reading achievement between students based on gender. Research-based reading instruction needs to be addressed in order to close the achievement gaps in performance related to gender. In Chapter 3, a description of the methodology used for this study is described along with the research questions that were answered.

CHAPTER 3: METHODOLOGY

Chapter Introduction

Chapter 3 discusses the design of the research and methodology of this study. This study examined the academic achievement of males and females in reading in a low socio-economic school district in north central North Carolina. Research conducted in 2017 found that female reading achievement in North Carolina was, on average, six points higher than that of males (McFarland, 2017).

Creswell (2013) notes that “effective research methodology depends on several factors, including the research problem, researcher’s experience, reporting audience, whether the researcher wants to specify the type of information to be collected or let it arise from the data being collected, and whether data to be collected is numeric or text” (p. 50). The following sections provide details on the research methodology that was used and the research questions that were investigated, the participants to be included, and how the study will be conducted. Limitations, assumptions, and a summary conclude the chapter.

Research Design

The purpose of this study was to determine if there was a relationship between gender and reading achievement. The study examined the perspectives of teachers and principals regarding reading instruction, male and female student’s attitudes toward reading, and the relationships of these constructs to gender gaps in achievement. The study examined archival reading achievement data of male and female students in grades 3-5. In addition, data were gathered from a survey administered to K-5 English/Language Arts (ELA) teachers and administrators (principals, assistant principals and instructional coaches) who support K-5 ELA. The survey included both Likert-scale items and constructed-response items. Likert-scale and

constructed-response item perspectives were gathered from K-5 reading teachers, instructional coaches, and principals regarding male and female reading achievement. In addition to examining participant perspectives about factors associated with gender gaps in reading, ELA teachers, instructional coaches, and principals provided their perspectives about potential solutions to such gaps.

The study was a mixed-methods case study. The research design used was causal-comparative research. Causal-comparative research is a type of inquiry in which researchers attempt to identify causes for pre-existing differences in groups of individuals (Johnson, 2001). The causal-comparative method allows analysis of differences between groups (Kravitz, n.d.).

The hypothesis of this study was that there is a correlation between gender and achievement. The study was designed to use recent archival data to determine if there is a disparity in performance by gender. The initial study began as a quantitative analysis using North Carolina End of Grade Test score data from the district of interest. The study then turned to an examination of practitioner perspectives regarding the causes of gender disparities in reading achievement and proposed solutions to such disparities. These perspectives were assessed through a researcher-designed survey instrument.

Explanation of the Appropriateness of Research Approach

The mixed methods case study approach enabled me to conduct a study of historical patterns or trends associated with reading achievement of males and females in grades 3-5. The phenomena illustrated through an examination of reading achievement scores and data obtained from surveys of teachers, principals, and instructional coaches.

This design was appropriate for the study based on its examination of cause-and-effect relationship. The use of grades 3-5 EOG Reading data to identify trends allowed an exploration

of any similarities and differences between reading achievement of males and females at different grade levels. After careful analysis of these archival data, possible causes for any gender disparities, as determined through interaction with study participants, were identified. Further research was conducted to determine potential solutions to any identified gaps.

Research Questions

The following research questions were used to guide the investigation in determining if there is a correlation between gender and reading achievement:

Table 3.1

Research Questions and Methodology

Research Questions	Data Source	Analysis Technique
1. Does reading achievement among grades 3-5 students in a low-wealth school district in North Carolina differ by gender?	North Carolina Department of Public Instruction EOG scores	Descriptive Statistics
2. What are the beliefs of K-5 teachers, principals, assistant principals, and instructional coaches about the factors that impact the reading achievement of boys?	Participant surveys, Likert and constructed response items	Descriptive Statistics
3. How do K-5 teachers, principals, assistant principals, and instructional coaches describe reasons for any gender disparities in reading achievement that may exist?	Participant surveys, Likert and constructed response items	Theme Analysis
4. How do K-5 teachers, principals, assistant principals, and instructional coaches describe the impact of teachers' literacy instruction on the achievement of boys?	Participant surveys, Likert and constructed response items	Theme Analysis
5. What are the perspectives of teachers, principals, assistant principals, and instructional coaches regarding solutions to gender gaps in reading?	Participant surveys, Likert and constructed response items	Theme Analysis

Study Participants

This study focused on the reading achievement of males and females in grades 3-5 in a school located in north central North Carolina. I selected a low-wealth rural district in north central North Carolina for the study due to its low-performing status in reading achievement as measured by the North Carolina End of Grade (EOG) reading assessment. Study participants included English Language Arts (ELA) teachers, principals, and instructional coaches of schools with grades K-5 who had completed year one of LETRS (Language Essentials for Teachers of Reading and Spelling), state-mandated professional development and was currently working on year two at the time of the study. This group of participants provided insights into any gender-based differences in reading achievement that existed, causes of any differences that were identified, and insights into how these differences are impacted by teachers' literacy instruction, and how such differences might be addressed.

Archival data retrieved from the 2021-2022 EOG ELA assessment in the district of choice revealed that 75.8% third, fourth, and fifth graders were not proficient in reading achievement. ELA teachers have a more direct impact on student performance in reading than any other factor (Teachers Matter, 2012). Teachers are estimated to have two to three times the impact on student performance in reading than is produced by any other school factor (Teachers Matter, 2012).

Participants were comprised of two groups of district personnel: K-5 ELA teachers who taught who taught ELA during the 2018-2019, 2020-2021, and 2021-2022 school years and administrators (principals, assistant principals and instructional coaches who support K-5 ELA) who support K-5 ELA teachers. Participants completed a survey. The survey was comprised of selected-response items that employed a Likert scale. Three constructed -response items were

included in the survey. The anonymity of survey participants was strictly maintained during this study. The survey questions were administered using the web-based program, Qualtrics.

First, I sent a request to the district Director of Testing and Accountability requesting accessibility to archival EOG data from 2018-2019, 2020-2021, 2021-2022 school years. Once accessibility was provided, I reviewed the archival EOG reading data from 2018-2019, 2020-2021, and 2021-2022 school years to determine if there were gender discrepancies in the reading achievement of third-fifth graders in the district of interest.

The examination of archival data was followed by completion of a survey of 18 ELA teachers and 12 administrators (principals, assistant principals, and instructional coaches) using Qualtrics. A research representative was used to send the survey out to the participants requesting their participation in the survey. Upon the close of the survey, I used Qualtrics to create a report of the responses that were entered by the participants. I reviewed the report and analyzed the means for each group, identifying the commonalities and differences among the responses given by the two groups. Next, I calculated descriptive statistics for participants responses to survey items that were organized in the following subscales: Developmental, Attitudinal, School, Teacher, and State Policy Factors to identify the degree to which the participants believed that factors impacted gender disparities in reading achievement. I concluded with an analysis of themes in the responses of participants to three constructed-response items.

Variables

Research Question 1 read as follows: “Does reading achievement among students in grades 3-5 in a low-wealth in North Carolina differ by gender?”. The dependent variable in this research question is reading achievement and the independent variable is gender. Reading

achievement is a complex variable that was operationalized through data from North Carolina End of Grade reading assessment scores. Gender was operationalized as a dichotomous variable (male, female). There are only two gender options available in the North Carolina assessment programs.

There are three variables in Research Question 2 “What are the beliefs of K-5 teachers, principals, assistant principals, and instructional coaches about the factors that impact the reading achievement of boys?” The first variable is teacher beliefs about the factors that impact the reading achievement of boys. The second variable is principal/assistant principal/instructional coach beliefs about instructional practices. These variables were operationalized through quantitative data from subscales in a researcher-developed survey that included items formatted with a Likert scale Appendix A.

Research Question 3 read follows: “How do K-5 teachers, principals, assistant principals, and instructional coaches describe reasons for any gender disparities in reading achievement that may exist? The construct in this research question is teachers’, principals’, and instructional coaches’ perceptions of reasons for any gender disparities in reading achievement. This variable was operationalized through qualitative data derived from related constructed-response item, which read as follows: “Do you think there are gender disparities in reading achievement? If you answered yes, describe what you feel are reasons for any gender disparities in reading achievement that may exist.” The participants’ descriptions of reasons for gender disparities were also examined through survey items in Research Question 2.

In Research Question 4, “How do K-5 teachers, principals, assistant principals, and instructional coaches describe the impact of teachers' literacy instruction on the achievement of boys?” the construct is participants’ perceptions of the impact of teachers’ literacy instruction on

the achievement of boys. This variable was operationalized through qualitative data attained from the constructed-response item that read as follows: “Describe thoughts you have about the relationship between a male student’s reading achievement and type of instruction he receives.”

Research Question 5 reads as follows: “What are the perspectives of teachers, instructional coaches and principals regarding solutions to gender gaps in reading?” The first variable in research question 5 is the perspectives of teachers regarding solutions to gender gaps in reading. The second variable is the perspectives of principals/assistant principals/instructional coaches regarding solutions to gender gaps in reading. These variables were operationalized through qualitative data derived from related the constructed-response item that read as follows: “What are some researched based instructional strategies that could help reduce gender gaps in reading achievement?”

Instrumentation

A mixed methods approach to the research helped to give a logical view of the phenomena of gender disparities in reading achievement in a selected school district in rural North Carolina. There were multiple means of data collection. The first was archival data. Archival data are extracted from historical documents (Mohr & Ventresca, 2002). In this study, archival data were extracted from the North Carolina End-of-Grade state reading assessments. The second means of data collection was a researcher-developed survey that included items formatted with a Likert scale; it is in Appendix A. An informed consent form provided potential survey participants with information about the research study so that they could decide if they were willing to participate; it is in Appendix B. The third means of data collection were three constructed response questions that were at the end of the survey.

North Carolina Assessments

Comparisons of reading achievement by gender among students in grades 3-5 in this low-wealth rural North Carolina school district were addressed by extracting data from the district's North Carolina End of Grade reading assessment archives. These assessments have been validated by the North Carolina Department of Public Instruction for the uses to which they are applied in gauging the reading progress of North Carolina public school students. Using these data, I compared achievement scores based upon gender.

Survey Instrument

Teachers' perceptions about why gender gaps may exist were measured using the survey (Appendix A). The survey addressed factors that impact the achievement of boys in reading. Participants' perspectives about these factors were gauged in survey items that were organized in the following subscales: Developmental, Attitudinal, School, Teacher, and State Policy Factors. The selected-response survey items data were used to answer Research Question 2. At the beginning of the survey participants were asked to give their role in the district: K-5 ELA teacher or administrator who supports K-5 ELA (principal, assistant principal, or instructional coach). Participants responded to the survey items using a 4-point Likert-type scale that included response options as follows: 1- disagree, 2- somewhat disagree, 3-somewhat agree, and 4- agree. At the end of the survey, participants had the opportunity to respond to three constructed-response questions focused on their beliefs about boys' reading achievement.

The survey was reviewed by a panel of experts that included a former state superintendent and three experts in developing research protocols. I adjusted the protocols based upon the feedback provided by these individuals.

Procedures

Once my study was approved by the Institutional Review Board of North Carolina State University, I sent a letter to the superintendent of the North Central North Carolina school district in which the study was conducted. In this letter, which is found in Appendix C, I requested written permission from the district superintendent to conduct the study. I shared with the superintendent the purpose of the study and described measures that would be taken to safeguard the confidentiality of the district and participant identities.

After receiving approval from the superintendent to conduct the study, I examined archival data from the 2018-2019, 2020-2021, and 2021-2022 administration of the North Carolina End of Grade reading assessment for grades 3-5; this exam was not administered in the spring of 2020 because of the COVID-19 pandemic. The data were obtained from the testing and accountability department of the selected district. The purpose of examining archival data from the source named above was to determine whether there was a correlation between gender and reading achievement among students in grades 3-5 in the selected school district in north central North Carolina.

As a part of acquiring approval from the superintendent to conduct the study, I asked permission to reach out to the human resources director to obtain email addresses of K-5 ELA teachers and K-5 administrators who support ELA (principals, assistant principals and instructional coaches). After receiving permission and obtaining email addresses from human resources for all prospective K-5 ELA teachers, instructional coaches, principal, and assistant principal participants, I gave the information to the person who served as my research representative. My designated research representative sent an email (Appendix D) to prospective participants explaining the nature and purpose of my research, commitments about

confidentiality, and the right of the participants to decline to participate in the study. The email contained a link to view a copy of the informed consent information document (Appendix B) and the link to the survey, which was the instrument used to gather data from K-5 ELA teachers and administrators who support K-5 ELA.

I determined that knowing the role of the participant in the district of choice would be beneficial in order to compare the perceptions from two different groups. The survey began with an item that the participants had to answer prior to responding to the balance of the survey. That item read as follows: Please select your role in the district to ensure that the person completing the survey meets the criteria of being a K-5 ELA teacher or an Administrator (principal, assistant principal, or instructional coach) who supports K-5 ELA. If respondents did not meet the criteria, they were thanked for their response and exited from the survey. If they clicked the link that indicated that they were a K-5 ELA teacher or an administrator who supports K-5 ELA, they were transferred to the Qualtrics survey portal. Upon entering the Qualtrics survey portal, the participants received informed consent information. At the conclusion of the informed consent information, participants saw two statements: one that read, “by clicking this link, I consent to participate,” and another that read, “by clicking this link, I assert that I do not wish to participate.” Clicking the latter link exited the participant from the survey portal. If a participant chose to participate, that link took her/him to the survey items. Participants then completed a 21-item survey about their perceptions regarding reasons that gender gaps exist in reading, and about instructional practice and potential strategies and solutions to address gender gaps in reading. The time required for completing the survey was approximately 20 minutes. Participants had the option to elect not answer any questions that they did not feel comfortable with and stop the survey at any time. There were not any elements on the survey instrument in which

participants were asked to provide personally identifiable information, nor were the participants identified in the results of this research.

All data from the surveys remained on my personal computer, which was password-protected. The identities of the principals, assistant principals, instructional coaches and teachers who participated in the surveys remain confidential.

Data Analysis

A mixed methods approach was used for analyzing data from this study. Analyses were conducted with three sets of data (data from archival sources, Likert-scale survey items, and constructed-response survey items) to determine if there was evidence of gender disparity in reading achievement, and if so, to determine the participants' perceptions of factors that impact the achievement of boys. The items also sought participants' recommendations for solutions to gender gaps in reading. The following paragraphs in this section provide details about these analytical processes.

Archival data from North Carolina End of Grade reading assessment were analyzed to determine whether there is a correlation between reading achievement and gender in grades 3-5. In this research, the problem was gender-based differences in reading achievement. I determined whether there was a disparity between male and female reading achievement that is evident in assessment data. Reading scores in grades 3-5 were analyzed from 2018-2019, 2020-2021, and 2021-2022 based upon gender. There was a break in the data; 2019-2020 assessments were not administered due to school closures caused by COVID-19. The scores for the district and state were therefore analyzed for the 2018-2019, 2020-2021, and 2021-2022 school years. The district and state data were analyzed to see if there were any observable differences between the

proficiency rates and to compare gaps in reading achievement at the district level with those at the state level.

Surveys were conducted to give insights into the perceptions of teachers, principals, assistant principals, and instructional coaches regarding the gender disparity in reading achievement. I reported basic descriptive statistics for these data. These results included frequencies and means. I compared the means for the teacher and administrator/coach subgroups; I also compared various item and subscale means.

To gain deeper insights into the archival and survey data analyses, I employed three constructed-response items as part of the survey. I analyzed the data from the responses while looking for themes. These themes were examined to ascertain perspectives about disparities in reading achievement, perceptions of the causes of any identified gender disparities in reading achievement, and perceptions of how disparities in reading achievement could be corrected in the district of choice.

Subjectivity Statement

I started my educational career in 1992 as an elementary teacher I have served North Carolina in low-wealth districts as a teacher, mentor teacher, assistant principal, principal, and a director of curriculum and instruction, with responsibilities for oversight of Title I federal programs, Chief Academic Officer, and at the time of this study a retired educator. In each role in which I have served, I have focused on reading achievement. My goal has been and continues to be to remove any barriers that keep all students from reading on grade level. My greatest challenge has been in low wealth schools in which students struggle with reading achievement due to the lack of foundational skills, motivation, and parental involvement.

My experiences have taught me that in order to ensure that reading achievement improves, all students must be given the proper reading instruction and support to meet individual needs. Ensuring such learning opportunities has been the driving force of my work. As a qualitative researcher, I acknowledge that being a mother of two males creates a personal bias for me. I have observed situations in which expectations are not as high for males as for females. Both males and females can learn to read and read to learn if the proper processes and supports are in place. I used the data collected from the research to determine if there was a disparity in reading achievement based on gender, to discern the impact of teacher practice upon such gaps, and to identify solutions to bridging such gaps.

My beliefs about disparities in reading achievement did not influence this research since I triangulated and analyzed data from various sources to reveal any trends. When analyzing the data, I kept any pre-existing assumptions at bay. To ensure that I was faithful in this process, I used a journal to record my reflections and I routinely monitored my entries. To improve the validity of my findings, I implemented a protocol to that includes multiple data sources, including archival student assessment data, participant surveys, and constructed-response items from three types of practitioners.

Chapter Summary

In this mixed-methods study, I collected and examined archival and survey data to determine if there was a gender disparity in reading achievement in a low-wealth school district in north central North Carolina. I further examined the responses of practitioners to assess their perspectives on the causes of and potential solutions for such gaps. This chapter identified the protocols and procedures that were used to collect information from the data sources. To answer research questions, I selected a mixed-methods study for this research, as the study relied on

archival results from reading performance tests, and the perspectives of participants as disclosed through survey responses. The qualitative research relied on the responses to constructed-response items in the surveys.

CHAPTER 4: FINDINGS

Chapter Introduction

Chapter 4 describes the results from my study of gender disparities in reading achievement in grades K-5 in a rural, low-wealth school district in North Carolina. The purpose of this study was to examine reading achievement of students in grades K-5 to identify any gender disparities. The study further examined the perspectives of teachers, instructional coaches, and principals regarding reading instruction, attitudes of male and female students toward reading, and the relationships of these constructs to gender gaps in achievement in a specific school context. This study also provided suggestions for closing gender disparities in reading achievement. Chapter 4 includes a summary of the methods used to conduct the research, participant demographics, and the results related to each of the study's research questions.

Summary of Methods

I executed the study through a mixed methods approach in order to answer the research questions. Research Questions 1 and 2 were addressed through quantitative results. The answers to Research Questions 3-5 were derived from qualitative analyses.

1. Does reading achievement among K-5 students in a low-wealth school district in North Carolina differ by gender?
2. What are the beliefs of K-5 teachers, principals, assistant principals, and instructional coaches about the factors that impact the reading achievement of boys?
3. How do K-5 teachers, principals, assistant principals, and instructional coaches describe reasons for any gender disparities in reading achievement that may exist?
4. How do K-5 teachers, principals, assistant principals, and instructional coaches describe the impact of teachers' literacy instruction on boys?

5. What are the perspectives of teachers, principals, assistant principals, and instructional coaches regarding solutions to gender gaps in reading?

To answer the research questions, I examined archival data on reading achievement in the district to discern whether gaps existed by gender. I also created and distributed a survey to study participants. The survey was administered to K-5 teachers, principals, assistant principals, and instructional coaches who support K-5 English/Language Arts (ELA) instruction. The survey began with one demographic question to identify the role of the individual completing the survey. The next section of the survey was comprised of 21 selected-response items divided into subscales that related to five categories of factors that the literature indicates impact reading achievement: developmental, attitudinal, school, teacher, and state factors. There were four to five items included in each categorical subscale. Using a Likert scale, participants rated their perspectives and experiences with respect to gender disparities in reading achievement in grades K-5 and reading instruction. A five-point numerical scale was used to rate each statement. The following meanings were associated with the ratings: Disagree-1; Somewhat disagree-2; Somewhat agree-3; and Agree-4.

The final section of the survey instrument included three constructed response items that allowed respondents to:

1. identify and validate if there are gender disparities in reading achievement;
2. describe thoughts they have about the relationship between male's reading achievement and the type of instruction they receive, and
3. identify research based instructional strategies that could help decrease gender disparities in K-5 reading achievement.

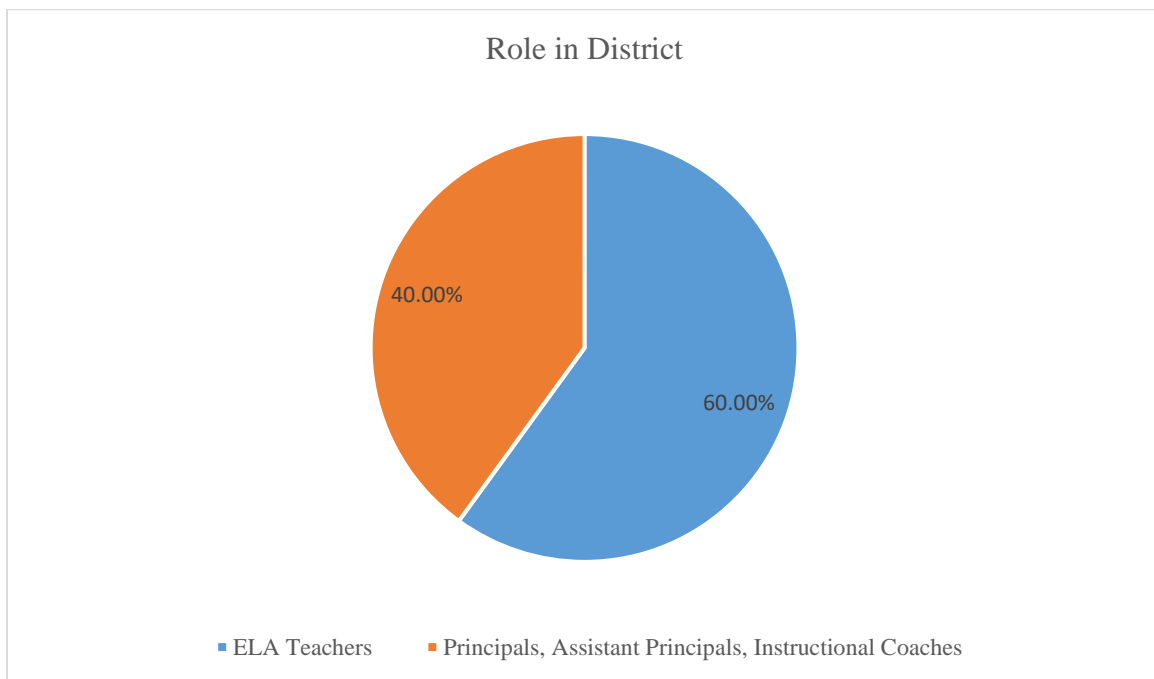
Using archival reading data and the responses to the selected-response items on the survey completed by K-5 teachers, principals, assistant principals, and instructional coaches who support K-5 ELA, I completed an analysis of quantitative data. I then conducted an analysis of qualitative data from participant responses to the constructive response items within the survey instrument.

Participant Demographics

The survey collected demographic information about each participant's role in the district. The purpose of collecting this information was to gain insight into the professional assignment of the respondent. Approximately 50 K-5 teachers, principals, assistant principals and instructional coaches across the district received an invitation to participate in the survey. There was a total of 30 respondents which was 60% of the total that were invited to participate. My research representative in the district sent my survey to 37 teachers. Eighteen of these individuals participated. The response rate for this group was 49%. My representative also sent the survey to 13 administrators (principals, assistant principals, and instructional coaches). Twelve of these individuals participated. The response rate for this group was 92%. Of the 30 who responded overall, 18 (60%) identified as K-5 ELA teachers, and 12 (40%) identified as principals, assistant principals, or instructional coaches who support K-5 ELA. These statistics are depicted in Figure 4.1.

Figure 4.1

Participants' Responses Regarding their Role in the District



Research Questions

In this section, I identify and explain each research question for my study. The data source for each question is identified. For each of these queries, I then describe the results, which are further illustrated by tables, charts and graphs.

Research Question 1

Research Question 1, which was quantitative in nature, read as follows: Does reading achievement among K-5 students in a high poverty district differ by gender? To address this question, I reviewed archival End of Grade Test data for grades 3-5 in the pre-COVID school year of 2018- 2019 and in the two post-COVID school years of 2020-21 and 2021-22. The statistics that I employed were descriptive in nature; no inferential statistics were calculated. Therefore, differences were suggestive rather than statistically significant.

I reviewed the overall grade level proficiency rates by gender over these three academic years in the selected district. I calculated the difference between the combined percentage of males and females in grades 3-5 who scored proficient over the three years. As is evident in Figure 4.2 during the three academic year span, females outperformed males in reading for 2 of the three years studied. During the 2018-2019 academic year, the rate of proficiency among females (48.11%) was 2.67 percentage points higher than that for males (45.44%). However, during the 2020-21 school year, males had a proficiency rate of 20.43%, which was 3.24 percentage points higher than the 17.19% rate for females. Females' rate of proficiency (27.22%) in 2021-22 was 6.10 percentage points higher than the rate of proficiency for males (21.12%).

Figure 4.2 also shows that there was a substantial decline from 2018-2019 to 2020-2021 in combined levels of proficiency for both male and female. This span was the time period in which the primary impacts of the COVID pandemic were experienced. In addition to the fact that both male and female grade level proficiency rates declined overall during the 2020-2021 school year, females experienced the greatest loss. There was a 30.92 percentage point disparity in the proficiency rate for females from 2018-2019 to the 2020-2021 academic school year. During the same academic years, males declined 25.01 percentage points. However, females rebounded more than males in year 2021-22. Based upon the data shown in Figure 4.2, between 2020-2021 and 2021-2022, the overall proficiency rate for females increased by 10.03 percentage points, while the rate for males increased by less than one percentage point (0.69). Again, the grade level proficiency percentage of females exceeded the percentage of males two out of the three years, and the gap for the most recent of these data points was the largest of the three years.

Figure 4.2

Overall Grade 3-5 Proficiency by Gender over Three Academic Years

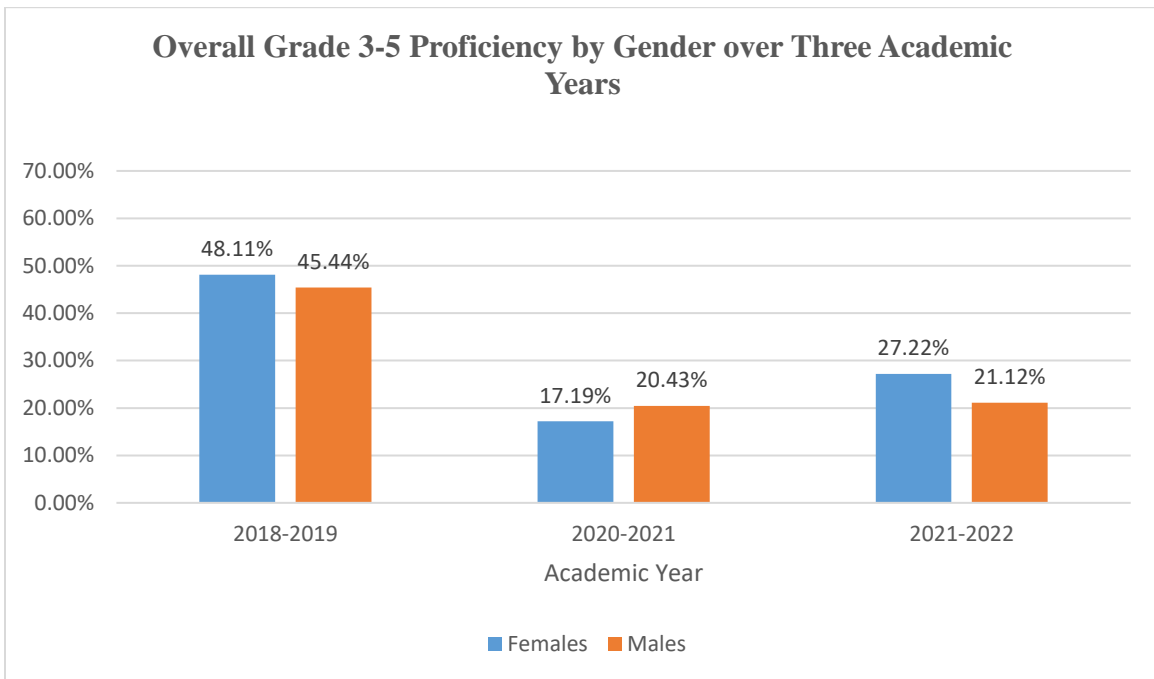


Figure 4.3 shows the grade-by-grade percent of females districtwide who achieved grade level proficiency in reading in grades 3-5 on the North Carolina End of Grade reading assessment during the three-year period. Districtwide results revealed that the third grade females' reading proficiency rate decreased by 23.10% from 2018-2019 to 2020-2021, then increased by 7.7% from 2020-2021 to 2021-2022. Fourth grade females experienced a 29.4% decrease between 2018-2019 and 2020-2021 and an 8.3% increase between 2020-2021 and 2021-22. Fifth grade showed a 41.2% decrease from 2018-2019 and 2020-2021 and a 15.2% increase in 2021-2022. Female reading proficiency declined in all grade levels from 2018-2019 and 2020-2021 with fifth grade females having the largest decline of 41.2%. Between 2020-2021 and 2021-2022, there was a noticeable increase in female proficiency rate across all grades. Third grade females acquired a 7.7% increase, fourth grade females experienced a 6.6% increase,

and the proficiency rate for fifth grade females grew by 15.2%. Based upon the data in Figure 4.4, third grade female proficiency increased more than fourth grade in 2021-2022. Fifth grade females exemplified the largest overall increase in that year.

Figure 4.3

District Grade Level Reading Proficiency Rates for Females over Three Academic Years

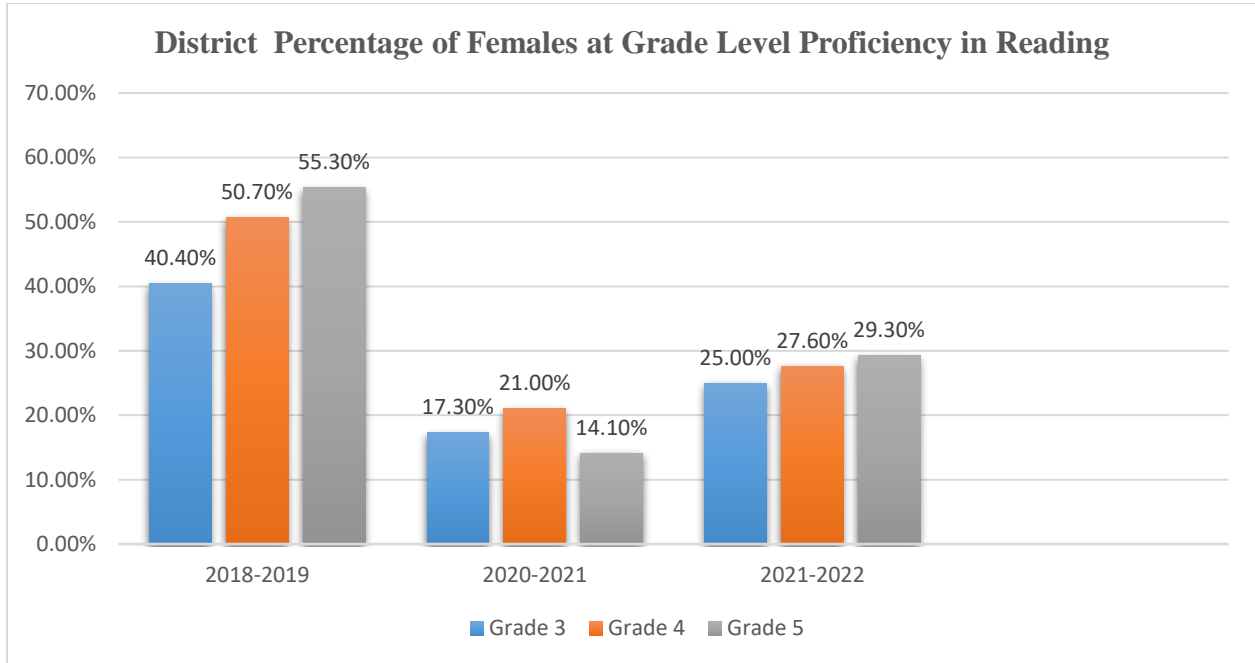
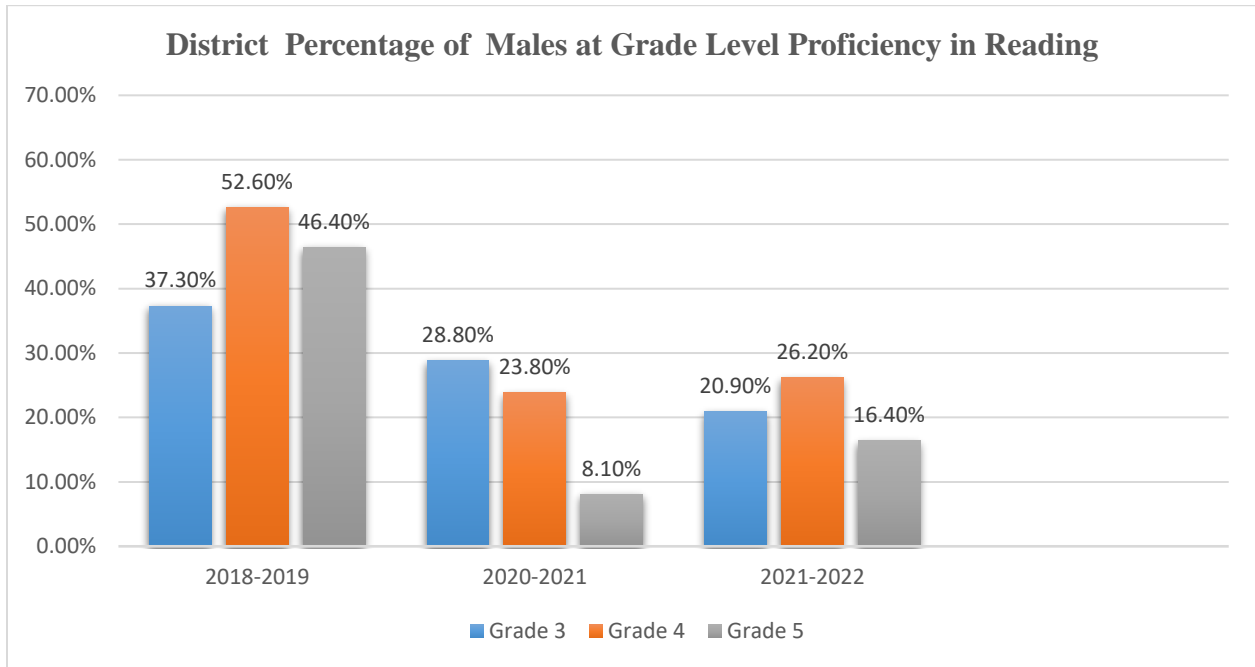


Figure 4.5 shows the percent of males districtwide who achieved grade level proficiency in reading in grades 3-5 as measured by the North Carolina End of Grade reading assessment during the three-year period. Districtwide results revealed that third grade males' proficiency rates decreased 8.5% from 2018-2019 to 2020-2021 and decreased by another 7.9% between 2020-2021 and 2021-2022. Fourth grade males experienced a 28.8% decrease between 2018-2019 and 2020-2021 and a 2.4% increase between 2020-2021 and 2021-22. Fifth grade showed a 38.3% decrease from 2018-2019 and 2020-2021 and an 8.3% increase between 2020-2021 and 2021-2022.

Figure 4.4

District Grade Level Reading Proficiency Rates for Males over Three Academic Years



To provide some context for the district level data and gender gaps, I also secured statewide reading proficiency rates for females and males for the same three-year period. State-level rates of proficiency were uniformly higher than the rates in the district of interest. State level figures also revealed consistent gender gaps in reading achievement, with females performing higher. Figure 4.5 shows the percent of females statewide who achieved grade level proficiency in grades 3-5 as measured by the North Carolina End of Grade reading assessment during the three-year period. Statewide results revealed that third grade females' proficiency rates from 2018-2019 to 2020-2021 decreased by 12.6% and increased by 0.9% from 2020-2021 and 2021-2022. Fourth grade females experienced a 12.7% decrease between 2018-2019 and 2020-2021 and a 6.0% increase between 2020-2021 and 2021-22. Fifth grade females showed a 13.9% decrease from 2018-2019 and 2021-2022 and a 3.0% increase between 2020-2021 and 2021-2022.

Figure 4.5

Statewide Grade Level Reading Proficiency Rates for Females over Three Academic Years

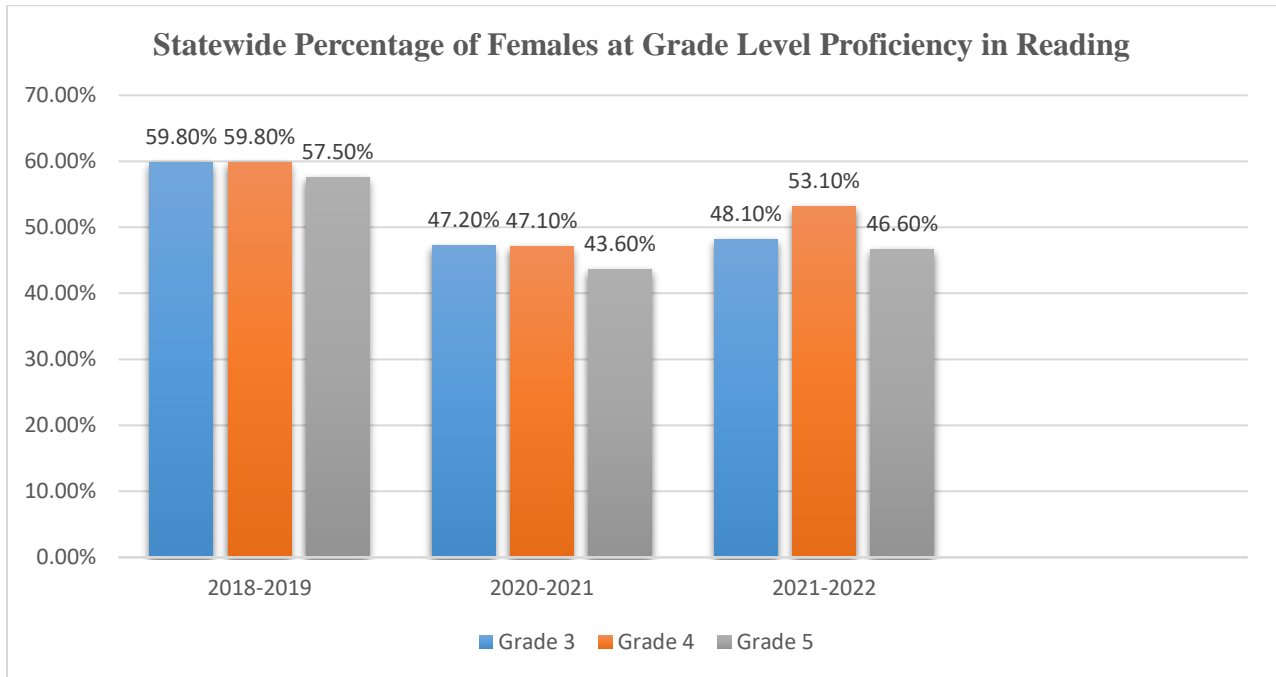
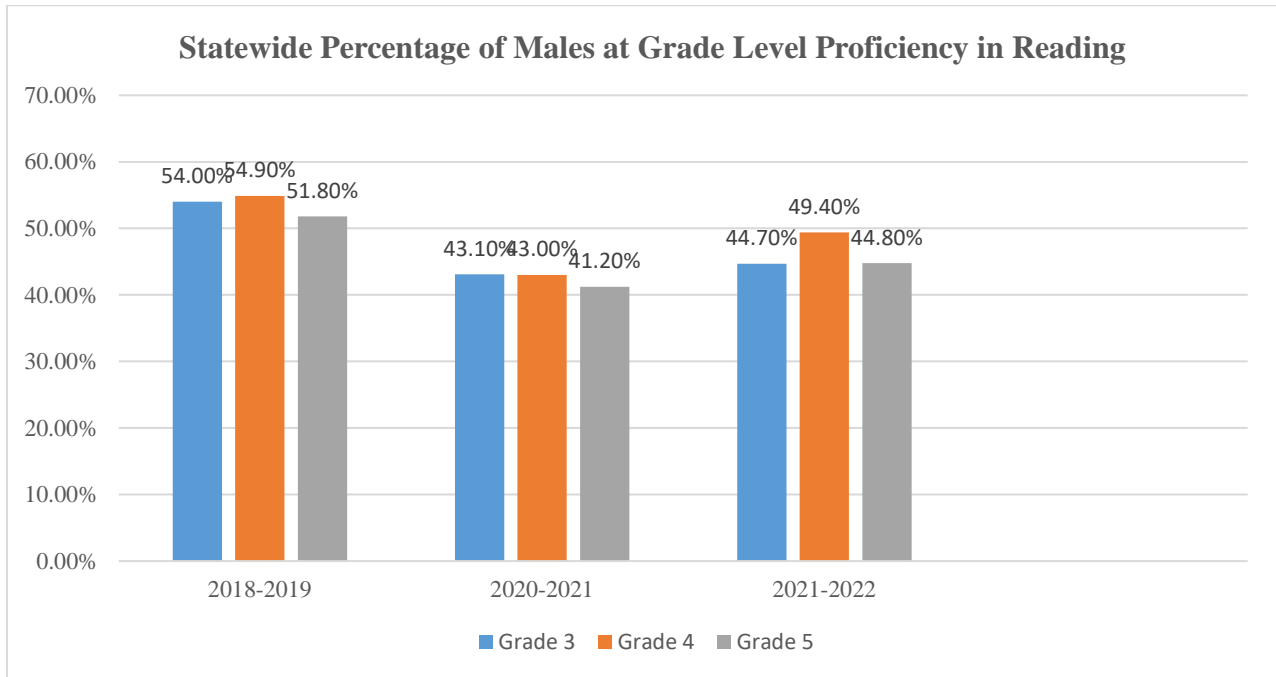


Figure 4.6 shows the percent of males who showed grade level proficiency in grades 3-5 as measured by the North Carolina End of Grade reading assessment statewide. Statewide, third grade male proficiency rates decreased by 10.9% between 2018-2019 and 2020-2021 and increased by 1.6% between 2020-2021 and 2021-2022. The rate of proficiency for fourth grade males decreased by 11.9% between 2018-2019 and 2020-2021 and increased by 6.4% between 2020-2021 and 2021-2022. The fifth grade proficiency rate for males decreased by 10.6% between 2018-2019 and 2020-2021 and increased by 3.6% between 2020-2021 and 2021-2022.

Figure 4.6

State Grade Level Reading Proficiency Rates for Males over Three Academic Years



Overall, there was a decline in proficiency for both males and females between the academic year 2018-2019 and 2020-2021 for grades 3-5 both statewide and the research district. Between 2020-2021 and 2021-2022 academic year, females' proficiency rates in grades 3-5 increased at both the state and research district. Males increased in grades 3-5 statewide and 3-4 in the research district between 2020-2021 and 2021-2022. There was a decline in proficiency districtwide in grade between the 2020-2021 and 2021-2022 academic year.

In summary, the data through which I answered this question were descriptive and not subjected to means testing. Therefore, the differences that were discerned were suggestive rather than statistically significant. With this caveat in mind, the answer to the question of whether reading achievement among K-5 students in a low-wealth school district in North Carolina differs by gender strongly appeared to be yes. In the three academic years of data that were analyzed, females outperformed males in two of the three years, with the exception of the year

following the pandemic. State data even more uniformly reflected the gender gap in reading. Boys uniformly trailed girls in rates of proficiency. As a result of these findings, I concluded that there is evidence of gender disparity in reading achievement in the research district.

Research Question 2

Research Question 2, which was also quantitative in nature, read as follows: What are the beliefs of K-5 teachers, principals, assistant principals, and instructional coaches about the factors that impact the reading achievement of boys? Participants were asked to respond to the statements in the selected-response portion of the survey based upon their beliefs and experiences. The Likert scale rating options for these items, along with the related point values, were as follows: Disagree-1; Somewhat disagree-2, Somewhat agree-3, and Agree-4. As was the case in Research Question 1, the statistics that I employed were descriptive in nature; no inferential statistics were calculated. Therefore, differences were suggestive rather than statistically significant.

I calculated the total scale mean rating of grades K-5 ELA teachers and assistant principals, principals, and instructional coaches, as well as subscale means for the five categories of factors that the literature indicates impact reading achievement: developmental, attitudinal, school, teacher, and state factors. Also, the mean of each of the individual elements in each category was calculated based upon the responses given by these participants. In addition, I calculated the difference between the mean ratings of the two groups: grades K-5 ELA teachers and assistant principals, principals, and instructional coaches. The various calculations allowed me the opportunity to discern the degree to which the two groups felt that specific factors impact the reading achievement of boys. This also gave me the opportunity to compare the perspectives of the two. Table 4.1 provides these results.

The total-group full-scale mean rating for factors that impact the reading achievement of boys was 3.0. This mean suggests that the participants somewhat agreed that the aggregated factors impacted the reading achievement of boys. The total-group subscale means for the categories of factors that impact the literacy achievement for boys were as follows: developmental factors (m= 2.88), attitudinal factors (m=2.80), school factors (m=3.22), teacher factors (m=3.37), and state policy factors (m=2.68). Teacher factors were rated as the most impactful and state policy factors were rated as the least impactful.

The individual factors receiving the highest mean ratings were as follows:

- Teacher's incorporation of reading texts based upon student interest increases student engagement (m=3.67),
- Boys who are exposed to reading in their daily environment are more likely to perform better academically than those who have less exposure. (m=3.67)
- Teacher feedback on reading progress given to boys helps them believe they can read as well as girls (m=3.53)
- Reading instruction based on phonetic awareness increases boys' chances of reaching grade level proficiency in reading (m=3.53)

These mean ratings indicated that participants largely agreed that these factors impacted the reading achievement of boys.

I also was interested in the items that received the lowest ratings from participants. The factors that received the lowest mean ratings were as follows:

- Instruction consistent with the science of reading will have a positive impact on closing gender related achievement gaps in reading (m=2.60)

- Males actively engage in activities that do not require them to use verbal interactions (m=2.50),
- Boys lose motivation in reading due to girls performing at a higher level of proficiency (m=2.40) and
- Recent state-mandated training such as LETRS will impact boys' reading achievement and close gender gaps in K-5 reading achievement (m=2.30)

These mean ratings largely suggested mixed perspectives about the impact of these factors on the reading achievement of boys.

Next, I broke the responses down by subgroups: K-5 ELA teachers and administrators (principals, assistant principals, and instructional coaches) in order to gauge differences in group perspectives about the factors that impact the reading achievement of boys. I separated the factors identified by each group by the four with the highest impact and the four with the lowest impact as indicated by the mean score.

When broken down by subgroups, K-5 ELA teachers indicated that the following factors had the highest impact on the reading achievement of males:

- Boys who are exposed to reading in their daily environment are more likely to perform better academically than those who have less exposure. (m=4.00)
- Teachers' incorporation of reading texts based upon student interest increases student engagement. (m=3.67)
- Teacher feedback on reading progress given to boys helps boys believe they have the ability to read as well as girls. (m=3.56)
- Reading instruction based on phonetic awareness increases boys' chances of reaching grade level proficiency in reading. (m=3.50)

These mean ratings suggested consistent agreement on the part of teachers regarding the impact of these factors on the reading achievement of boys.

The factors that teachers identified as having the lowest impact on boys' reading achievement were:

- Males actively engage in activities that do not require them to use verbal interactions/ (m=2.61)
- Instruction consistent with the science of reading will have a positive impact on closing gender-related achievement gaps in reading. (m= 2.56)
- Boys lose motivation in reading due to girls' performing at a higher level of proficiency. (m=2.50)
- Recent state-mandated teacher training such as LETRS will impact boys' reading achievement and close gender gaps in K-5 reading achievement. (m=2.33)

These mean ratings largely suggested overall mixed perspectives on the part of the teacher participants about the impact of these factors on the reading achievement of boys.

Administrators, who included principals, assistant principals and instructional coaches, rated the factors below as having the greatest impact on the reading achievement of males

- Teachers' incorporation of reading texts based upon student interest increases student engagement. (m=3.67)
- Boys who are exposed to reading in their daily environment are more likely to perform better academically than those who have less exposure. (m=3.58)
- Reading instruction based on phonetic awareness increases boys' chances of reaching grade level proficiency in reading. (m=3.58)

- Teacher expectations of boys’ academic ability influence boys’ learning outcomes. (m=3.25)

These mean ratings suggested consistent agreement on the part of principals, assistant principals, and instructional coaches regarding the impact of these factors on boys’ reading achievement.

Administrators rated these factors lowest for their impact on boys’ reading achievement:

- Implementation of summer reading camp has increased boys’ reading proficiency and closed gender gaps. (m=2.58)
- Males actively engage in activities that do not require them to use verbal interactions. (m=2.33)
- Recent state-mandated teacher training such as LETRS will impact boys’ reading achievement and close gender gaps in K-5 reading achievement. (m=2.25)
- Boys lose motivation in reading due to girls’ performing at a higher level of proficiency. (m=2.25)

These mean ratings largely suggested overall mixed perspectives on the part of the administrator participants about the impact of these factors on the reading achievement of boys. Table 4.1 illustrates the means that are described in the preceding paragraphs.

Table 4.1

Overall Results for Factors That May Cause Gender Disparities in Reading Achievement

Developmental Factors	Teacher Mean (n=18)	Admin Mean (n=12)	Total Group Mean	Difference Subgroup Means
1. Boys mature slower than girls.	2.78	2.67	2.73	0.11
2. Girls and boys learn differently.	3.28	3.17	3.23	0.11
3. Differences in the rate of brain development between boys and girls affect the rate in which they learn to read.	3.12	3.00	3.07	0.12
4. Males actively engage in activities that do not require them to use verbal interactions	2.61	2.33	2.50	0.28
Subscale Mean	2.94	2.79	2.88	0.15

Table 4.1 (continued)

Attitudinal Factors				
5. Boys do not value reading as much as girls.	2.72	2.83	2.77	-0.11
6. Boys lose motivation in reading due to girls' performing at a higher level of proficiency.	2.50	2.25	2.40	0.25
7. Boys are less motivated than girls to read on their own.	2.83	3.00	2.90	-0.17
8. Boys prefer kinetic activities to activities that involve reading.	3.22	3.00	3.13	0.22
Subscale Mean	2.82	2.77	2.80	0.05
School Factors				
9. Boys in my school struggle with reading fluently more than girls.	2.89	3.08	2.97	-0.19
10. Some reading instructional strategies work better for boys than girls.	3.00	2.83	2.93	0.17
11. Boys who are exposed to reading in their daily environment are more likely to perform better academically than those who have less exposure.	4.00	3.58	3.67	0.42
12. Reading instruction based on phonetic awareness increases boys' chances of reaching grade level proficiency in reading.	3.50	3.58	3.53	-0.08
13. Boys benefit from prescriptive instruction delivery.	3.00	3.00	3.00	0.00
Subscale Mean	3.22	3.22	3.22	0.00
Teacher Factors				
14. Teacher expectations of boys' academic ability influence boys' learning outcomes.	3.22	3.25	3.23	-0.03
15. Teacher feedback on reading progress given to boys helps boys believe they have the ability to read as well as girls.	3.56	3.50	3.53	0.06
16. Teachers' incorporation of reading texts based upon student interest increases student engagement.	3.67	3.67	3.67	0.00
17. Teachers create an environment in which girls put more effort into reading.	3.06	3.00	3.03	0.06
Subscale Mean	3.38	3.35	3.37	0.02
State Policy Factors				
18. Recent state-mandated teacher training such as LETRS will impact boys' reading achievement and close gender gaps in K-5 reading achievement.	2.33	2.25	2.30	0.08
19. Implementation of summer reading camp has increased boys' reading proficiency and closed gender gaps.	3.06	2.58	2.86	0.47
20. The threat of retention in third grade based on reading achievement has improved overall reading proficiency among boys.	3.05	2.83	2.97	0.22
21. Instruction consistent with the science of reading will have a positive impact on closing gender-related achievement gaps in reading.	2.56	2.67	2.60	-0.11
Subscale Mean	2.75	2.58	2.68	0.17
Total Mean	3.05	2.96	3.00	0.09

Note: Bold font indicates the aggregated means for the subscales.

Based upon the ratings as indicated by both K-5 administrators and K-5 ELA teachers, the two subgroups were most in agreement in their ratings of the impact of the following factors upon the reading achievement of boys. The groups agreed that teachers' incorporation of reading texts based upon student interest increases student engagement. They likewise agreed that boys who are exposed to reading in their daily environment are more likely to perform better academically than those who have less exposure has a high impact on boys reading achievement. The perspectives of both groups were mixed regarding the notion that recent state-mandated teacher training such as LETRS would impact boys' reading achievement and close gender gaps in K-5 reading achievement.

Both groups appeared to have similar perceptions about factors that impact the reading achievement of boys in grades K-5. Data in the difference column of Table 4.1 revealed that the means of the subfactors as indicated by teachers and administrators (principals, assistant principals and instructional coaches) were, in most instances, closely related. The factors with the highest differences as rated by K-5 administrators and ELA teachers were:

- Implementation of summer reading camp has increased boys' reading proficiency and closed gender gaps (0.47). Teachers were more positive about the impact of this factor on the reading achievement of boys. Administrators' perspectives were largely mixed regarding this factor.
- Boys who are exposed to reading in their daily environment are more likely to perform better academically than those who have less exposure (0.44). While this was a more substantial difference in rating than almost all others, the mean ratings for both groups indicated agreement about the impact of this factor on the reading achievement of boys.

- Males actively engage in activities that do not require them to use verbal interactions (0.28). This was a factor about which the perspectives of both groups were largely mixed.

In light of the controversy that surrounded the implementation of a proficiency-based promotion standard for third graders, it also seems useful to point out the difference in mean ratings for the impact of the threat of retention in third grade based on reading achievement. Teachers somewhat agreed that this factor impacted the reading achievement of boys; their mean rating for this factor was 3.05. The mean rating for administrators was 2.83.

In summary, the data through which I answered these questions were descriptive and not subjected to means testing. Therefore, the differences that were discerned were suggestive rather than statistically significant. With this caveat in mind, the answer to the research question about the beliefs of K-5 teachers, principals, assistant principal and instructional coaches about the factors that impact the reaching achievement of boys was revealed in Table 4.1. K-5 teachers, principals, assistant principals, and instructional coaches' believed that teacher factors and school factors have the greatest impact on literacy achievement of boys. More specifically, the incorporation of text based on student interest and exposure to daily reading were factors that particularly increase boys' reading performance. Policy factors such as state-mandated training were rated as having the least impact on hoys' reading achievement and closing gender gaps.

Research Question 3

Research Question 3 reads as follows: "How do K-5 teachers, principals, assistant principals, and instructional coaches describe reasons for any gender disparities in reading achievement that may exist?" Participants were asked to share their perceptions through a constructed response survey question to first identify if they felt there were gender disparities in

reading achievement. This survey item read as follows: Do you think there are gender disparities in reading achievement? If you answered yes, describe what you feel are reasons for any gender disparities in reading achievement that may exist?

I first analyzed the responses to the yes/no portion of the related survey item, which read “Do you think there are gender disparities in reading achievement?” Out of the thirty participants in this survey, a total of eighteen responded; this group of participants was comprised of eight K-5 ELA teachers and ten K-5 principals, assistant principals or instructional coaches. Based upon the eighteen responses overall, 11% of the participants felt that gender disparities are not present in reading achievement of K-5 students, 53% felt that gender disparities are present, and 36% did not respond to the constructed response item. When breaking the responses down by subgroup, data revealed that 20% of K-5 ELA teachers felt that there were gender disparities in reading achievement in K-5 while 33.3% of principals, assistant principals and instructional coaches who support K-5 ELA agreed. Principals, assistant principals and instructional coaches’ responses were 13.3% higher in favor of gender playing a role in reading achievement than K-5 ELA teachers. Participants were also asked to identify reasons that they believed there are gender disparities in K-5 reading achievement. The responses of participants are provided in Table 4.2.

Table 4.2

Participant Responses for Reasons Cited for Gender Disparities in Reading Achievement

Teacher Responses
1. Yes. I feel the reasons for any gender disparities in reading achievement that may exist is due to early intervention. Girls tend to get help with reading earlier than boys. Many times, boys are not given the academic help that they need because they act out instead of asking for help.
2. Yes, I think girls can analyze and focus a little bit more on readings. Girls enjoy and have different perceptions of reading competence.
3. Yes, because boys are not used to reading some stories rather than girls.
4. Yes, some of the boys are lazy reading long passages or stories.

Table 4.2 (continued)

5. Yes because my record shows boys are slower than girls.
6. Yes, I think that boys usually like math more and girls enjoy reading more. This is not always the case though.
7. No, I think exposure and interest play a vital role in boys and girls.
8. No

Administrator/Coach Responses

1. Yes, Often some teachers are not skilled with working male students (in particular black male students), this leads to the males students being suspended from school. Many of our male students face suspension or expulsion than female students, this leads to lost instructional time for male students. Also the teachers often have low expectations for males students, this leads to the male students not being successful in the classroom. The resources or materials used in the classroom is not engaging to the male students, this leads to the male students not being focus on the learning objective or standards.
 2. Yes, there are gender disparities. I think that boys are more motivated when they are given the task of reading something that they like. If it is more interesting to them, they are more likely to read it.
 3. Some males lack motivation and the interest in reading achievement.
 4. Yes I do feel that there are some gender disparities in reading achievement. Finding material that would be interesting to the male students.
 5. It is my belief that boys and girls at times have shown disparities at times. However, over the years I have experienced that students have instructional preferences and background knowledge or lack thereof that influence the way they internalize learning.
 6. Yes, many times boys are stereotyped as being behind in reading comprehension and phonics skills because many times boys need more interactive learning engagement than boys.
 7. Yes. Girls "mature faster" and perform at higher rates of achievement not because of actual differences in brain development between girls and boys, but because girls are, from birth, held to higher standards and expectations. The "boys will be boys" mentality lowers standards for boys, while girls are consistently parented and educated to harsher, higher standards. Physically, boys and girls are far more alike than they are different. The way we parent, educate, and treat boys and girls creates the differences in achievement that we witness - not nature.
 8. Yes; culturally reading is not consistently encouraged among minorities
 9. I do believe there are gender disparities in reading achievement. I think that boys were conditioned to the thought that girls can read better then them based on what they have seen earlier in school and thus they carry it out until high school.
 10. I feel that the gender disparities exist in regards to self confidence in boys in terms of achievement and success.
-

The most common theme was lack of motivation of boys in reading. The overarching theme among teachers was one that suggested that girls tend to receive early intervention in reading, which aids in their achievement levels. One teacher wrote that misconduct among boys thwarts their access to early intervention in reading: “they act out instead of asking for help.”

The teacher subgroup opined that girls can focus more on reading certain passages, while boys are not motivated to read information that is not of their interest. The overarching theme for principals/instructional coaches was that low expectations and standards impact gender disparities in reading achievement, specifically as it relates to the lower achievement for boys. One response stated, “They are not expected to read as well as girls, so they do not perform as well.” Wrote one, “The ‘boys will be boys’ mentality lowers standards for boys, while girls are consistently parented and educated to harsher, higher standards.” Both teachers and administrators (principals, assistant principals, and instructional coaches) felt that lack of motivation and interest in specific reading material had an impact on gender disparities.

Both teachers and administrators’ responses also revealed the theme of male stereotype. A teacher stated, “Some boys are lazy reading long passages or stories.” Another teacher expressed, “Boys are not use to reading some stories.” One shared, “I think boys usually like math more and girls enjoy reading more.” Administrators asserted, “Boys are stereotyped as being behind in reading comprehension and phonics skills.”

One administrator, in a response to a subsequent constructed-response item, wrote, “Reading is developmental, and some research indicates that boys may struggle a bit more than girls.” This group also asserted that teachers lack necessary strategies to work with boys; this impacts their performance.

In summary, this research question sought an answer to the question about participants' perspectives about the reasons for gender disparities in reading achievement. Themes from the constructed responses revolved heavily around lack of motivation, lack of early intervention for boys, male stereotypes, and the lack of necessary strategies among teachers to adequately instruct males. Finally, it is worthy of mention that two teachers did not believe that there were gender gaps in reading.

Research Question 4

Research Question 4 reads as follows: "How do K-5 teachers, principals, assistant principals, and instructional coaches describe the impact of teachers' literacy instruction of boys?" Participants were asked to identify their perceptions of how teachers' literacy instruction impacts boys through answering a constructive response survey question, "Describe any thoughts you have about the relationship between a male student's reading achievement, and the type of instruction he is given." Out of the thirty participants in this survey, twenty-five responded to this prompt; this included eleven administrators (principals, assistant principals and instructional coaches) and fourteen grades K-5 ELA teachers. Participant responses are in Table 4.3.

Table 4.3

Perceptions of Teachers and Administrators Concerning Impact of Literacy Instruction on Boys

Teacher Responses

1. I believe that male students learn better when they are in smaller groups.
2. I think that the type of instruction a male student has in reading affects their achievement. We should relate it more to their interest.
3. Instruction makes a difference. I believe that if males are taught through interest they will do better in reading.
4. The type of instruction has a major impact on reading achievement of male students. If the instructional practice is not engaging or individualized for the student more likely the male student would not be successful.
5. All male students have its own individual differences also.

Table 4.3 (continued)

6. Male students are usually given whole group and small group instruction. They are taught different strategies. They are usually taught the same way as girls, so there is no difference in the way the boys and girls are taught.
7. I have males in my class who are reading at 100% accuracy and comprehension but also have some at the whole other end of the spectrum.
8. It can improve students' reading comprehension. It teaches students how to ask questions about their reading, a cognitive strategy skilled readers use.
9. Depending on the male students but reading for boys are effective when being imposed along with some physical activities.
10. Reading achievement for boys is different because boys are less attentive than girls and no focus.
11. Males need step by step instructions.
12. Male students want to read stories with colorful pictures that catches their attention to read more.
13. It is more on the boys to do much engaging way of instruction [*sic*].
14. Boys are not easily caught up as girls are.

Administrator/Coach Responses

1. I believe that boys need a more loving, nurturing environment to help them with academics.
 2. I believe that male students learn better when they are in smaller groups.
 3. Males need more direct instruction in order for them to achieve in reading.
 4. Our male students need a teacher that will encourage them to be the best.
 5. Find interesting materials and be willing to make learning fun.
 6. I believe that male students may respond differently to certain activities and interest. Reading is developmental and some research indicates that boys may struggle a bit more than girls.
 7. I believe that boys struggle with the same things that girls struggle with. Instruction is the key to increase achievement.
 8. I believe that most males need hands-on experiences for instruction to really grasp the concept.
 9. Literacy instruction should be based on science. Boys' and girls' brains are not different enough to explain the differences in achievement between the groups. There are a variety of strategies that would improve instruction for boys that would also assist struggling girl readers because they're good strategies for all children.
 10. I believe that the expectation has to be set high; and communicated clearly.
 11. I believe a male student's reading achievement is based on teacher's direct reading instruction.
-

The three themes identified were interest, direct instruction, and small group instruction. Participants shared that when boys were interested in what they read, they performed better than when they were asked to read something that was not of interest to them. One teacher responded, “I think that the type of instruction a male student has in reading affects their achievement. We should relate it more to their interest.” Administrators responded, “Find interesting materials and [be] willing to make learning fun” and “I believe that male students may respond differently to certain activities and interest.”

Both direct and small group literacy instruction were cited by participants as being impactful to boys’ reading achievement. One teacher noted, “I believe that male students learn better when they are in smaller groups.” Another said, “Male students are usually given whole group and small group instruction.” One administrator shared, “I believe that male students learn better when they are in smaller groups.” Another wrote, “Males need more direct instruction in order for them to achieve in reading.” Yet another wrote, “I believe a male student’s reading achievement is based on teacher’s direct reading instruction.” Both groups also asserted that boys do better with engaging tasks; such activities are more likely to impact their achievement.

In summary, this research question sought participants’ perspectives on the impact of teachers’ literacy instruction on boys. There was a clear consensus that teachers’ literacy instruction impacts boys’ reading achievement. Themes that addressed this consensus included the need for teachers to ensure that they incorporate strategies that intentionally and effectively meet the needs of boys when planning lessons. Participants noted in their responses such strategies as small group instruction, engagement, focus on interests, and direct instruction have a positive impact on boys’ achievement.

Research Question 5

Research Question 5 reads as follows: “What are the perspectives of teachers, principals, assistant principals, and instructional coaches regarding solutions to gender gaps in reading?” Figure 4.3, which was cited previously, displays the responses which also enabled me to answer Research Question 5. The responses of interest in this case were those that answered the constructed-response survey question, “Describe any thoughts you have about the relationship between a male student's reading achievement, and they type of instruction he is given.” Twenty-five participants responded to the question, fourteen of whom were teachers and eleven of whom were administrators.

Within the responses to the constructed-response items, several solutions were cited by participants. The overarching theme for both groups revolved around the nature of instruction afforded to boys. A key dimension of this theme addressed the level of appeal of reading resources to male students. One teacher stated, “I think the type of instruction a male student has in reading affects their achievement. We should relate it more to their interest.” Another teacher expressed, “Instruction makes a difference. I believe that if males are taught through interest they will do better in reading.” Yet another said, “The type of instruction has a major impact on reading achievement of male students. If the instructional practice is not engaging or individualized for the student, more likely the male student would not be successful.”

Said one administrator, “Instruction is the key to increase achievement.” Another administrator wrote, “I believe that most males need hands-on experiences for instruction to really grasp the concept” Still another noted that, “Our male students need a teacher that will encourage them to be the best,” Two administrators addressed the importance of finding materials and activities that are likely to capture the interest of boys. Wrote one, “Find

interesting materials and [be] willing to make learning fun.” Another said, “I believe that male students may respond differently to certain activities and interests.”

In summary, this research question explored participants’ perspectives regarding solutions to gender gaps in reading. Key recommendations revolved around instructional delivery, hands-on experiences, teacher expectations, and implementation of materials based on interest. Such strategies, according to the participants, will improve boys’ reading achievement and decrease gender disparities in reading.

Chapter Summary

Qualitative and quantitative analyses indicated that there is evidence of gender disparities in reading achievement in the grades K-5. Based upon findings, gender disparities are observed during the early years. Participants asserted that girls receive early interventions while boys are sometimes left behind because they begin to act out instead of asking for help. Survey results also indicated that teacher and school factors have the highest impact in reading achievement of boys. Both teachers’ and administrators’ mean rating for the statement, “Teachers’ incorporation of reading texts based upon student interest increases student engagement,” was 3.67. This was one of the factors that was rated highest for impact on boys’ reading achievement. To bridge the current gender disparity, the analysis of participant responses suggested that teachers incorporate the reading of texts based upon student interest, have students participate in whole group and small group instruction, incorporate hands-on activities, and implement high expectations to improve the overall reading achievement of boys.

CHAPTER 5: DISCUSSION

Chapter Introduction

Chapter 5 provides a discussion of the current study's findings as explored in Chapter 4. Within Chapter 5, the study's conclusions are discussed, along with implications of the findings. The chapter also includes the study's limitations and recommendations for future research.

Purpose of Study

The purpose of this study was to examine the reading achievement of students in grades 3-5 to identify any gender disparities. This part of the study involved basic descriptive analysis of archival reading assessment data. This study also explore the perspectives of teachers, instructional coaches, and principals regarding factors that impact the reading achievement of boys, including the nature of reading instruction, male and female students' attitudes toward reading, and the relationships of these constructs to gender gaps in achievement in a specific school context. My goal was also to discern if there were gender disparities in reading achievement in grades 3-5, examine reasons for these gaps, and provide suggestions for closing disparities in reading achievement based on gender in the rural district where the study occurred.

Reading achievement in the United States in general is not as high as one might expect for an industrialized, first-world country. Male students' reading achievement generally lags that of their female peers. The 2022 results of the National Assessment of Education Progress indicated that fourth grade students averaged a score of 216; a score of 238 is considered proficient (Irwin et al., 2022). Fourth grade males averaged 214 and females averaged 221 (Irwin et al., 2022).

Reading achievement is low in high-poverty North Carolina counties – such a locale was the area of focus for this study. Many students in this district were not attaining expected growth in

reading; in the spring of 2021, the North Carolina Department of Public Instruction reported that only 45.5% of third through eighth graders demonstrated grade level proficiency in reading statewide. In the spring of 2022, in the low-wealth, rural district of choice for this study, only 27% of females in grades 3-5 and 21.12% of males in grades 3-5 demonstrated grade level proficiency.

The current study focused on archival data from the North Carolina End of Grade reading assessment in grades 3-5 and the perceptions of K-5 ELA teachers and administrators (principals, assistant principals, and instructional coaches). I developed a survey composed of selected-response and constructed-response items to explore their perceptions regarding gender disparities in reaching achievement in elementary grades. These responses enabled me to determine if there was evidence of gender disparity in reading achievement and to identify possible causes of and solutions to such disparities in the research district.

Originally, I had planned to have participants complete the selected response survey as described above, followed by interviews with some of the survey participants to gain further insights into their perceptions concerning causes and solutions relative to gender gaps in reading. However, after several attempts, I was unable to gather the number of participant responses needed to complete my research. It was necessary for me to modify the qualitative elements of my research study by adding constructed-response items to the end of the survey instead of conducting interviews as I had planned. Participants identified themselves as a K-5 ELA teacher or administrator (principal, assistant principal, or instructional coach) at the beginning of the survey. This information afforded me the opportunity to compare the responses from both groups in order to identify response themes and to assess similarities or differences in the perceptions of these two groups.

Summary of Findings

This study was conducted with a sample of K-5 ELA teachers and administrators (principals, assistant principals, and instructional coaches) in a low-wealth rural school district in north central North Carolina. Analysis was conducted to produce findings from the selected response and constructed-response items of the survey. To explore the perceptions of the K-5 ELA teachers and administrators/instructional coaches, I analyzed their responses to a survey that I created. The survey included 21 Likert-scale items, organized into 5 thematic subscales. I concluded the survey with three constructed-response items. When designing the instrument, I ensured that the responses would enable me to answer the research questions, which are provided below:

- RQ1. Does reading achievement among grades 3-5 students in a low-wealth school district in North Carolina differ by gender?
- RQ2. What are the beliefs of K-5 teachers, principals, assistant principals, and instructional coaches about the factors that impact the reading achievement of boys?
- RQ3. How do K-5 teachers, principals, assistant principals, and instructional coaches describe reasons for any gender disparities in reading achievement that may exist?
- RQ4. How do K-5 teachers, principals, assistant principals, and instructional coaches describe the impact of teachers' literacy instruction on the achievement of boys?
- RQ5. What are the perspectives of teachers, principals, assistant principals, and instructional coaches regarding solutions to gender gaps in reading?

I collected and analyzed archival and survey data to determine if there was evidence of gender disparities in reading achievement in a low-wealth school district in north central North

Carolina. I reviewed archival reading data over three academic years to verify if there were any noticeable differences between male and female proficiency rates as measured by the North Carolina End of Grade reading assessment. I further examined the practitioners' survey responses to assess their perspectives on the causes of and potential solutions to such gender disparities. In examining the practitioners' survey responses, I reviewed the mean scores for each subgroup and compared their responses on the items that were rated using a Likert scale. I also examined the responses from constructed-response items in order to identify themes.

Summary and Discussion of Quantitative Findings

The first analyses that I performed were the basic quantitative statistics related to the demographic profile of the study participants. My research representative in the district sent my survey to 37 teachers. Eighteen of these individuals participated. The response rate for this group was 49%. My representative also sent the survey to 13 administrators (principals, assistant principals, and instructional coaches). Twelve of these individuals participated. The response rate for this group was 92%. The final study participants were comprised of thirty K-5 ELA teachers and administrators (principals, assistant principals, instructional coaches) who support K-5 ELA. Of the thirty participants, 18 (60%) were K-5 ELA teachers and 12 (40%) were administrators.

Research Questions 1 and 2 addressed additional quantitative elements of the study. Research Question 1, which was quantitative in nature, read as follows: Does reading achievement among K-5 students in a high poverty district differ by gender? The data through which I answered these questions were descriptive and not subjected to means testing. Therefore, the differences that were discerned were suggestive rather than statistically significant.

To address Research Question 1, I reviewed archival End of Grade Test data for grades 3-5 in the pre-COVID school year of 2018- 2019 and in the two post-COVID school years of

2020-21 and 2021-22. After analyzing EOG data from the three academic years, I found that that there was a decline in in the district of interest in the proficiency for both males and females between the academic year 2018-2019 and 2020-2021 for grades 3-5. Between 2020-2021 and 2021-2022 academic year, females' proficiency rates in grades 3-5 increased. Males increased in grades 3-4 between 2020-2021 and 2021-2022. There was a decline in proficiency districtwide in grade between the 2020-2021 and 2021-2022 academic year. In the three academic years of data that were analyzed, females outperformed males in two of the three years, with the exception being the year following the pandemic. Based on my professional knowledge of the district where the study occurred, I speculate that one explanation for this break in the pattern of male performance might be the result of a higher number of male students who returned to face-to-face instruction as schools reopened during the pandemic. As a result of these findings and the above noted speculation about the more rapid post-pandemic return of boys to school, I concluded that reading achievement among K-5 students in a high poverty district differed by gender, and that the predominant pattern was one in which females outperformed males.

Overall, I found in the research district that girls outperformed boys in reading achievement in grades 3-5 as measured by the North Carolina End of Grade assessment over two out of the three academic years, 2018-2019 (year prior to pandemic), 2020-2021 (year immediately following pandemic), and 2021-2022 (second year following the pandemic). During the academic year prior to the pandemic, females scored 2.67 percentage points higher than males whereas the year immediately after the pandemic, males outperformed females by 3.24 percentage points. After the pandemic in the research district, most males elected to come back in the building for instruction, but a large percentage of the females elected to remain virtual. It is my assumption that contributed to the males scoring higher than females during the

2020-2021 academic year. During the 2021-2022 academic year, females scored 6.1 percentage points higher than males.

The findings of my research are consistent with previous research. Based upon results from the NAEP assessment, girls have historically outscored boys on the reading portion of the assessment (Loveless, 2015). In 2016, Hochweber and Vieluf concluded that boys score lower on reading tests than girls. Evidence of a gender disparity in reading is prevalent in other countries as well. Cobb-Clark and Moschion (2017) confirmed that third grade boys in Australia scored an average of nine points lower in reading as compared with girls who were the same age and grade-level; proficiency in this case was measured by the National Assessment Program-Literacy (NAPLAN). Gender disparity in reading achievement appears to be a consistent problem world-wide.

Research Question 2, which was also quantitative in nature, read as follows: What are the beliefs of K-5 teachers, principals, assistant principals, and instructional coaches about the factors that impact the reading achievement of boys? The previously-describe survey instrument provided data to answer Research Question 2. The survey was divided into five subscales: developmental factors, attitudinal factors, school factors, teacher factors, and state policy factors. Each subscale consisted of four to five thematically related Likert-scale items that allowed participants to rate the factors. The ratings were assigned a corresponding number to indicate the level of agreement with the statement in each item as follows: Disagree-1; Somewhat disagree-2; Somewhat agree-3; and Agree-4.

Research Question 2 addressed the magnitude to which participants identified specific factors that impact boys' reading achievement. The data through which I answered these questions were descriptive and not subjected to means testing. Therefore, the differences that

were discerned were suggestive rather than statistically significant. Among the factor subscales, K-5 teachers and administrators (principals, assistant principals, and instructional coaches) believed that teacher factors ($m= 3.37$) and school factors ($m=3.22$) had the greatest impact on the literacy achievement of boys. These findings are consistent with previous literature that describes teacher and school factors as the most influential in undergirding student success (Dean et al., 2012; Rivers & Sanders, 2002).

Participants rated the incorporation of text and content based on student interest and exposure to daily reading as the subfactors that most impacted boys' reading achievement. Participants perceived that policy factors (subscale mean=2.68) such as state-mandated training in LETRS (item mean=2.30) and instruction consistent with the science of reading (item mean=2.60) have the least impact on boys' reading achievement and closing K-5 gender gaps in reading. It was evident that participants believed that these factors had some impact, but the responses were mixed about the significance of these elements.

There was a consensus among both subgroups that teacher and school factors had the greatest impact on reading achievement. Gurian and Stevens (2015) concluded that, "Research on gender education reveals a disconnect between teaching practice and the needs of male and female brains." It has been shown by previous research that teachers who provide high quality instruction to boys who are struggling have a positive impact on their outcomes (Brokamp & Houtveen, 2019). Gupta and Sampat affirmed that teacher expectations concerning boys' academic abilities are related to disparities in learning outcomes and contribute to girls outperforming boys in reading (2021).

While Logan (2009) argued that gender differences in reading are in significant part, a result of the attitudes of males and females in relation to reading, the subscale of attitudinal

factors was rated by study participants as a somewhat influential domain ($m=2.80$) in terms of impact on gender disparities in reading achievement. The data from participants' responses to the survey also indicated that that they believed somewhat that developmental factors had in impact on the reading achievement of boys ($m=2.88$). These findings are generally consistent with those of some previous researchers, even though participants sometimes rated items that they have control over higher than those that they do not control. Klinger concluded that due to males' and females' brains developing at different rates, boys tend to lag behind girls academically (Klinger, 2009). Lenroot et al. (2007) found that females' brains are more verbally oriented, which makes learning to read easier for them; male brains, these authors asserted, are more visually oriented.

Summary and Discussion of Qualitative Findings

Research Questions 3, 4, and 5 were qualitative in nature. These questions were addressed using three constructed response items at the conclusion of the survey. The questions explored the participants' perceptions of causes of and solutions to gender disparities in reading achievement. Participants were asked to address whether they felt there were gender disparities in reading achievement in grades K-5 and, if so, to identify the reasons that such gaps exist and suggest what can be done to alleviate them. They were also asked to describe how teachers' instruction impact reading achievement of males and provide solutions to gaps in reading achievement between males and females.

Research Question 3 read, "How do K-5 teachers, principals, assistant principals, and instructional coaches describe reasons for any gender disparities in reading achievement that may exist?" Participants were asked to answer a two-fold constructed response survey question that asked them if they thought there were gender disparities in reading achievement and. If they answered yes, they were asked to describe reasons for disparities in reading achievement. Of the

thirty participants in this survey, a total of eighteen responded to this two-fold constructed response survey question. Respondents were comprised of eight K-5 ELA teachers and ten K-5 principals, assistant principals, or instructional coaches.

Based upon the total of 30 participants, 11% of the respondents felt that gender disparities are not present in the reading achievement of K-5 students and 53% felt that gender disparities are present. The remaining 36% did not reply to this survey item. Based on these responses, and on the quantitative data described previously, I concluded that gender disparities were indeed present in reading achievement the research district, and further, that boys routinely trailed girls in reading performance. I based my conclusion on the data that 53% of the participants felt there was evidence of gender disparities in reading achievement within their district. The findings of my study directly confirmed what other researchers have found in reference to gender disparities in reading achievement. In a survey conducted by the National Literacy Trust, 76% of teachers indicated that boys in their schools did not perform as well in reading as girls (Clark, 2012).

The most common theme among teachers regarding reasons for gender disparities in reading achievement was the lack of motivation of boys in reading. Administrators noted that low expectations and standards for boys create lower achievement in reading. In a research study conducted in 2015, Wolter et.al, asserted that teachers' attitudes towards gender influence the development of children's reading motivation and skills; this helps to affirm the administrator's notion that low expectations and standards for boys created lower achievement in reading. Hartley and Sutton (2013) validated that teachers' gender stereotypes negatively affect boys' reading performance.

It was interesting to note that, while respondents were clear about instructional factors being the most significant in the rating of selected-response survey items, and also in the constructed items, they added more attitudinal and behavioral concerns to the latter responses. One participant shared that, “Some of the boys are lazy reading long passages or stories.” Another observed, “Many times, boys are not given the academic help that they need because they act out instead of asking for help.”

Research Question 4 read, “How do K-5 teachers, principals, assistant principals, and instructional coaches describe the impact of teachers’ literacy instruction of boys?” Participants were asked to describe the impact of teachers’ literacy instruction for boys. Participants identified their perceptions of how teachers’ literacy instruction impacts boys through answering a constructed-response survey question, “Describe any thoughts you have about the relationship between a male student's reading achievement, and the type of instruction he is given.” Regarding the relationship between male students’ reading achievement and the type of instruction that is given, participants reported that incorporation of reading text based on boys’ interests, direct instruction, and small group instruction were the likeliest instructional strategies to have a positive impact on reading achievement of male students. In order to address gender disparities in reading achievement, teachers must engage males in instruction based on their needs. Thus, overall, each subgroup expressed that the type of instruction has a major impact on reading achievement. Research conducted by Guthrie and Wigfield recommended the utilization of viewing videos, providing hands-on experiences, providing opportunities for collaboration with peers, providing opportunity to analyze new vocabulary, and discussing internet searches on topics with peers to fully engage students in effective literacy instruction (2000).

Research Question 5 read, “What are the perspectives of teachers, principals, assistant principals, and instructional coaches regarding solutions to gender gaps in reading?” Research Question 5 addressed participants’ thoughts regarding solutions to gender gaps in reading achievement. Responses from participants produced an overarching theme of “instruction.” Participants indicated that the type of instruction males receive impacts their reading achievement. They specified that instructional delivery, hands-on experiences, and incorporation of interest-based texts have a direct effect on boys’ reading achievement.

Guthrie and Wigfield (2002) contended that incorporating reading texts that interest students as supplemental materials prompted growth in their conceptual knowledge (2002). The participant’s responses referenced instructional delivery as a solution to close the gender disparities in reading achievement. Allington (2019) identified six key features of effective literacy instruction: (1) give students the time to read and write; (2) give students opportunities to read lots of interesting texts aligned to their individual reading levels; (3) model what is expected of the students; (4) give students the opportunity to collaborate with peers about what they are reading by providing open-ended discussion questions; (5) instead of worksheets, give students writing assignments, and small group research projects on texts they are reading; and (6) give students feedback based upon effort and improvement.

Practitioners cited motivational and attitudinal factors as having some impact on gender disparities in reading achievement. The findings of Junaid (2015) revealed that students who were intrinsically motivated and read regularly had higher achievement in reading. Smith and Wilhelm asserted that boys do not value reading as much as girls (2002). These conclusions are consistent with the perceptions of participants in my study and they align with my theoretical framework. These factors are integrally related to teacher and instructional factors.

My findings confirm previous studies discussing gender disparities in reading achievement; I sought to identify the perspectives of practitioners regarding gender disparities in reading achievement and solutions to address them. After analyzing the results from archival and survey data, I concluded that participants believed that the males from the district in my study were performing lower than girls in reading as a result of the type of instruction in which they were receiving. Consistent with the findings in *Closing the Literacy Gap* (2017), there appeared to be a disconnect between teaching practice and the needs of boys.

Reflections on the Theoretical Framework

The current study was centered around theories grounded in developmental differences between males and females and attitudinal factors of males and females. Walsh (2018) stated that females have 20% more neurons than males in the Broca area of their brains; the Broca area is where language is produced. Researchers have also asserted that overall, females mature faster; this may be a factor that causes females to attain higher achievement in reading and males to lag (Reilly et al., 2018). Literacy is a constructive process in which children “attain the skills, practices, beliefs, and language necessary for participation in a discourse by observing the interactions and activities in which others partake” (Willoughby, 2010, p. 4).

The theoretical framework informed the development and refinement of my research protocols. Using these theories, I developed the research questions and created the survey instrument for this study. In the creation of my survey, I divided items into five subscales with 4-5 items under each subscale that coincided with the topic of the subscale. The subscales enabled me to be able to collect specific responses in order to supply more perceptual data on gender disparities in reading achievement which aided in my study. The subscales were: developmental factors, attitudinal factors, school factors, teacher factors, and state policy factors.

Consistent with the theories in my framework, I found that the attitudinal/motivational domains of literacy were perceived as somewhat important factors that impact the reading achievement of boys. The theoretical framework helped to explain gender-based differences in student reading achievement. After implementation of the study and analysis of the results, I concluded that the presumptions in these theories provided a foundation for creating a study protocol that enabled principals, assistant principals, teachers and instructional coaches to share their perceptions on gender disparities in reading achievement. After analyzing the responses participants gave to the constructed response items, I compared the themes to those in previous research.

After implementing the study and analyzing the results, I concluded that the existing theoretical framework provided a structure for creating a study protocol that enabled participants to share their perceptions. My findings indicated that attitudinal and motivational factors were somewhat impactful, the means corresponded to a rating that equates to somewhat agree on my scale. Teacher and school factors were more significantly related to the performance of males. However, attitude and motivation play an important part in the reading achievement of males. Logan (2009) argues that gender differences in reading are, in significant part, a result of the attitudes of males and females in relation to reading “Theoretical models of achievement motivation focus on children’s beliefs, values, and goals as primary ‘drivers’ of their motivation” (Wigfield et al., 2016, p.2). Based upon my findings and that of prior researchers and theorists, I conclude that my theoretical framework provided a useful foundation for my study. My findings did not suggest the need for amendment or refinement in these theories.

Discussion of Delimitations and Limitations

My original proposed methodology was to conduct the research in a low-wealth, rural district in northeastern North Carolina. I planned at least 10-15 interviews with teachers, instructional coaches, and principals and to utilize a survey. I anticipated having at least 30 teachers with three years or more of experience teaching K-5 ELA to complete the survey. When I first sent my request to conduct my research in the original district of choice, I received approval from the superintendent. However, I received only three responses once the survey was sent out. Several follow-up attempts were made, but the response was still minimal. This was during the time in which teachers were navigating returning to school after closures due to COVID-19. This was an environment in which some students were still electing virtual learning venues.

As a result of the lack of respondents from the first district, I elected to move my research to another district with similar demographics: low-wealth and rural. Once the research was approved, I discovered that, due to my previous association with the district, I would need to have a research representative to communicate with the potential participants due to my affiliation with the district. Due to time restraints and the previous lack of interest in interview participation, I decided to eliminate the interview questions and instead included three constructed-response items at the end of the survey to address the data requirements for the study. Once approval was afforded by the superintendent of the district, my research representative sent an email correspondence to potential participants soliciting their participation. After multiple follow-ups, there were 30 respondents. These participants included K-5 ELA teachers, principals, assistant principals, and instructional coaches that responded, the final three subgroups were combined as an administrator subgroup for purposes of analysis.

The archival data set was relatively small due to the number of student reading achievement scores in grades 3-5 in the district during the three academic years that were analyzed. The smaller the sample size the greater the statistical volatility; that may explain the anomaly of boys outperforming girls by a small margin in the first year following the pandemic. The district data largely confirmed what the larger state sample demonstrated, which was that girls outperform boys in reading.

Of the 30 participants, 18 identified as teachers and 12 identified as administrators. If I had received responses from more teachers, I would have had a more comprehensive set of perspectives upon which to base conclusions and discussion of gender disparities in reading. I would likely have had a richer data set for determining specific causes of gender disparities in reading and specific recommendations for solutions to such gaps. Due to the small sample size of this study, the results may not allow me to generalize conclusions to educators in other regions. As my analysis unfolded, it became clear that one's family influence impacts their reading proficiency. The results may lead future researchers to propose similar questions with larger groups of participants with similar demographics.

Implications of the Study for Policy and Practice

The current study found that K-5 males perform lower than females in reading achievement. To close the achievement gap between males and females in reading achievement, consideration should be given to the type of instruction that creates strong results for males. More importantly, teachers should be given opportunities to participate in training and be exposed to resources that enable them to expand their strategies for meeting the instructional needs of males.

Implications for Policy

All students have the right to receive an equitable education based on their individual needs. The term “all” includes males. All teachers and students need access to high-quality, research-based educational training, resources, and opportunities regardless of whether they live in rural, city, suburban, or urban areas of North Carolina. The North Carolina Department of Public Instruction provides funding for Reading Camps as a result of the Read to Achieve mandate, which is “to ensure that every student can read at or above grade level by the end of third grade and continue to progress in reading proficiency so that he or she can read, comprehend, integrate, and apply complex texts needed for secondary education and career success” (North Carolina Department of Public Instruction, 2023, p.12).

Senate Bill 387, also known as the Excellent Public Schools Act of 2021, was enacted to modify the implementation of the state’s Read to Achieve program; the goal of the Act is to ensure that students statewide attain reading proficiency by third grade (Fofaria, 2021). Through the Act, teachers and administrators working with children in Pre-K through 5 were mandated to participate in science of reading training. The science of reading is a body of research that details evidence-based reading instruction practices that address the acquisition of language, phonological awareness, phonemic awareness, word identification, spelling, word knowledge, and comprehension (Fofaria, 2021). To ensure that all educators and administrators in North Carolina receive training based on the science of reading, the state provided funding for districts to implement LETRS (Language Essentials for Teacher of Reading and Spelling), a two-year program used for the training of teachers and administrators on what the research says about reading instruction and classroom practices (Fofaria, 2022).

In addition to the science of reading training, districts must also ensure that goals are set, followed, and monitored to address the needs of male students. Funding sources such as Title I are used to provide daytime tutors, instructional resources, and additional training for teachers. The following are policy recommendations for addressing gender disparities in reading achievement:

- Require professional development programming to train K-5 teachers to ensure that factors that impact the literacy achievement of boys are understood. As is noted by Dennis (2016), ESSA mandates that teachers participate in continuous professional development in comprehensive literacy instruction.
- Require professional development programming to train K-5 teachers on how to effectively provide small group instruction that is aligned with the science of reading.
- Require professional development programming to train K-5 teachers on brain development and its impact on learning to read. Based on research conducted by Lenroot et al. (2007), females' brains are more verbally oriented, which makes leaning to read easier for them; male brains are more visually oriented.
- Require colleges and universities to include coursework in the science of reading in teacher preparation programs.
- Require colleges and universities to include coursework in brain development as a part of teacher preparation programs.

Implications for Practice

In an effort to reduce gender disparities in reading achievement in grades K-5 and boost the achievement of boys, it is important that instruction is aligned to the needs of male students. Data analysis is imperative when planning reading instruction, but more specifically, when

planning for males. Multiple data sets such as learning style inventories, benchmark results, end of grade assessment scores, and observation data should be utilized to make informed instructional decisions. Teachers should provide males adapted instruction based on their needs. Administrators should ensure that attention is given to males based on data and not based on assumptions and gender stereotypes.

I recommend that elementary school practitioners share effective reading strategies and instructional resources that focus on the K-5 male student. School administrators need training on what instruction should look like for males in grades K-5. Teachers and administrators should work together to design an instructional framework focused on improving male reading achievement. I make the following recommendations for improving gender disparities in reading achievement in grades K-5 based on the responses communicated by the participants of this study:

- Utilize funds to provide males with reading texts that are based on their interests. Sources such as federal Title I funds and state rural and low-wealth supplemental funds can be used to purchase supplemental interest-based texts. Kafka (2013) noted the importance of “providing materials that affirm each child’s interests and identity; boys should be able to feel that their sense of masculinity and personality is enriched by reading, not threatened by it” (para. 9). Such measure can be taken to help boys of various backgrounds develop reading skills that will encourage future learning and success.
- Create a nurturing environment. As noted by Bukko et al. (2021), without trust between teacher and student, it is difficult to create a nurturing learning environment. Students benefit from positive relationships with their teachers; this is especially true

of boys. In schools where teacher-student relationships are positive, gender disparities in reading are not as prevalent (Gupta & Sampat, 2021).

- Implement and monitor teacher use of differentiated instruction based on boys' literacy instruction needs. Establish a classroom walk-through protocol for administrators and instructional coaches that checks for the components of differentiated instruction that are particularly attuned to the needs of male students.
- As was encouraged by participants in this study, implement and monitor teacher utilization of small group instruction. Selected participant quotes are instructive: "I believe that male students learn better when they are in smaller groups" and "I believe that male students learn better when they are in smaller groups".
- Implement brain development awareness techniques during male reading instruction. Incorporate a checklist of activities in reading instruction that are aligned with brain development and monitor teacher utilization of these techniques. Sax (2005) noted that the brain matures at different rates of speed in males and females; this affects how they process information and how males and females perform in school.
- Provide early intervention for males who are struggling. As noted by Barbash (2008), as a result of unsuccessful remediation with older students, greater emphasis was placed on early intervention to prevent younger students from falling behind. One of the current study participants stated, "I feel the reason for any gender disparities in reading achievement that may exist is due to early intervention. Girls tend to get help with reading earlier than boys. Many times, boys are not given the academic help that they need because they act out instead of asking for help." Use assessment data, exit

tickets, and anecdotal notes to provide immediate support for males who exhibit difficulties during reading instruction.

- Incorporate engaging, hands-on, and kinetic instructional activities. Provide opportunities for students to talk about and create models about their learning. As is noted by Gurian and Stevens (2005), boys are particularly responsive to physical activity.
- Employ reading texts that are of interest to male students. Provide various types of literature in the classroom for students to read. As noted by Kafka (2013), providing children with reading material other than traditional books can offer the same opportunities to build reading skills. Such resources include comic books, newspapers, baseball cards, magazines, computer programs, written song lyrics, and recipes.
- Provide male students step-by-step instructions. Use chunking, which is a process of breaking long information into small “chunks” of content, when giving instructions.
- Set high expectations and expect high achievement among males. Meet with each male student to set individual goals and expectations.
- Provide opportunities for males to feel successful. Smith and Wilhelm (2002) found that boys are not as successful as females in other disciplines due to their lack of achievement in reading and writing. Allow space for males to work at their individual levels while encouraging them to keep striving to improve.

Recommendations for Future Research

My study protocol and findings should be enlightening to policymakers and practitioners. They should also be of use to future researchers. Future researchers could conduct this study in

districts with different demographics in North Carolina to make the findings more generalizable. Regrettably, I was not able to acquire a large enough sample size to expansively generalize the findings of my research; however, the findings confirmed gender disparities in grade K-5 reading achievement and generated practitioner insights into the cause of and solutions to gender gaps in reading.

In order to increase the response rate, I would add a place in the protocol for meeting with administrators and instructional coaches to explain the purpose of the research prior to soliciting participation. By explicitly explaining the purpose of the research, administrators and instructional coaches could be available to answer any questions that may arise from participants or encourage them to participate in the study.

Interviews should be conducted by future researchers to provide participants with opportunities to expound upon gender disparities in K-5. Some of the participants in this study opted not to answer the constructed-response items or just answer with one word responses with no elaboration. If a future researcher conducted interviews with the teachers, principals, assistant principals and instructional coaches regarding gender disparities, they would be able to ask more probing questions in order to get richer and more specific information from the participants concerning the causes of gender disparities, male underachievement, as well as possible solutions. Interviews would provide participants who provided abbreviated responses the opportunity to describe their perspectives verbally and expansively.

Prior research conducted by Hart & Risley (1995), documented that profound influences of family has an impact on reading proficiency. Based upon the research and the insistence of teachers and administrators of my research, future researchers should add a subsection in their survey instrument that includes rating the influences of family factors on the literacy of males.

K-5 males were the subject of this study, but a study of males in other grades could provide insights into whether gender disparities are evident at the middle school level. This topic may be expanded to examine the reading achievement of middle school males (Grades 6-8), in order to examine whether gender disparities in reading achievement exist at that grade span. It is possible that gender disparities in reading achievement are not as visible at middle school as they are in elementary school. It may be that gender disparities in reading are evident in middle school, but different solutions are more prevalent for improvement. It would also be good for future researchers to examine whether the solutions identified for grades K-5 are different from the ones identified for grades 6-8.

Chapter Summary

Males are consistently lagging behind females in reading achievement. Reading achievement in the United States is not as high as one might expect for an industrialized first-world country; male students' reading achievement lags behind that of their female peers. "It's become a fact of American life that girls are better than boys at school. They get better grades. They are suspended less. For every generation since the boomers, women have been more likely than men to earn high school and college diplomas" (Guo, 2015). Given this context, the focus of this research was to examine the reading achievement of students in grades 3-5 to identify any gender disparities.

The study further examined the perspectives of K-5 ELA teachers, instructional coaches, and principals regarding reading instruction; male and female students' attitudes toward reading; and, the relationships of these constructs to gender gaps in reading achievement in a specific school district context. This study was conducted in a rural, low-wealth school district in north

central North Carolina. The participants of the study consisted of 18 K-5 ELA teachers and 12 administrators (instructional coaches, principals, assistant principals) who support K-5 ELA.

The findings of the study provided specific information to highlight disparities in reading achievement based on gender. Within the study, suggestions for closing any disparities in reading achievement based on gender were provided. I collected and analyzed archival data for three academic years and also collected survey data to determine if there were evidence of gender disparities in reading achievement. During the three academic year span, females outperformed males in reading for 2 of the three years studied.

The practitioners in the current study asserted that teacher and school factors had the greatest impact on the literacy achievement of boys. This study further found that participants believed that the incorporation of text and content based on student interest and exposure to daily reading were the subfactors that most impacted boys' reading achievement. In addition, practitioners perceived that policy factors such as state-mandated training and instruction consistent with the science of reading have the least impact on boys' reading achievement and closing K-5 gender gaps in reading. It was evident that participants believed that these factors had some impact, but their perspectives about the significance of these elements were mixed.

The findings of this study suggest that adapting the instruction that males receive can close gender disparities in reading. Teachers and administrators must have the willingness to participate in training, provide small group instruction and direct instruction, adapt lessons to meet the needs of male students, and incorporate text of interest into instruction. Additional implications for practice, and for policy and future research were noted.

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APPENDICES

Appendix A



Survey of Participants Perspectives on Gender Disparities in Reading Achievement

Title of Study: Gender Disparities in Reading Achievement in Grades 3-5: A Study of Educator Perceptions Regarding Causation

Principal Investigator: Kimberly R. Scott at krscott4@ncsu.edu or 252-301-0828

Faculty Points of Contact: Dr. Bonnie Fusareli at 919-631-2026 or bcjohns2@ncsu.edu and Dr. Mike Ward at 919-710-7317 or meward@ncsu.edu

Please only access this page when you are in a private location, such as your home, on your personal device with a private internet connection and your internet browser in private/incognito mode to ensure that your responses remain confidential.

Participant Survey

Directions: Please select your role in the district.

- K-5 ELA teacher
- Instructional coach
- Elementary principal/assistant principals

Directions: Please select the response that best represents your perspectives and experiences with respect to reading instruction and student achievement in grades K-5.

1-Disagree 2-Somewhat Disagree 3- Somewhat Agree 4-Agree

	1- Disagree	2- Somewhat Disagree	3 Somewhat Agree	4- Agree
DEVELOPMENTAL FACTORS				
Boys mature slower than girls.				
Girls and boys learn differently.				
Differences in the rate of brain development between boys and girls affect the rate in which they learn to read.				
Males actively engage in activities that do not require them to use verbal interactions				
ATTITUDINAL FACTORS				
Boys do not value reading as much as girls.				
Boys lose motivation in reading due to girls' performing at a higher level of proficiency.				
Boys are less motivated than girls to read on their own.				
Boys prefer kinetic activities to activities that involve reading.				

SCHOOL FACTORS				
Boys in my school struggle with reading fluently more than girls.				
Some reading instructional strategies work better for boys than girls.				
Boys who are exposed to reading in their daily environment are more likely to perform better academically than those who have less exposure.				
Reading instruction based on phonetic awareness increases boys' chances of reaching grade level proficiency in reading.				
Boys benefit from prescriptive instruction delivery.				
TEACHER FACTORS				
Teacher expectations of boys' academic ability influence boys' learning outcomes.				
Teacher feedback on reading progress given to boys helps boys believe they have the ability to read as well as girls.				
Teachers' incorporation of reading texts based upon student interest increases student engagement.				
Teachers create an environment in which girls put more effort into reading.				
STATE POLICY FACTORS				
Recent state-mandated teacher training such as LETRS will impact boys' reading achievement and close gender gaps in K-4 reading achievement.				
Implementation of summer reading camp has increased boys' reading proficiency and closed gender gaps.				
The threat of retention in third grade based on reading achievement has improved overall reading proficiency among boys.				
Instruction consistent with the science of reading will have a positive impact on closing gender-related achievement gaps in reading.				

Please answer the following open-ended questions. Please speak from your professional perspective and experience. If you refer to an individual, do not use a name, but rather a role (e.g., student, teacher, administrator, parent).

1. Do you think there are gender disparities in reading achievement? If you answered yes, describe what you feel are reasons for any gender disparities in reading achievement that may exist.

2. Describe any thoughts you have about the relationship between a male student's reading achievement and the type of instruction he is given.
3. What are some researched based instructional strategies that could help reduce gender gaps in reading achievement?

Appendix B

NC STATE UNIVERSITY

Informed Consent (Survey)

Title of Study: Gender Disparities in Reading Achievement in Grades 3-5: A Study of Educator Perceptions Regarding Causation

Principal Investigator: Kimberly R. Scott at krscott4@ncsu.edu or 252-301-0828

Faculty Points of Contact: Dr. Bonnie Fusareli at 919-631-2026 or bcjohns2@ncsu.edu and Dr. Mike Ward at 919-710-7317 or meward@ncsu.edu

What are some general things you should know about research studies?

You are invited to take part in a research study. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate, and to stop participating at any time without penalty. The purpose of this research study is to assist principals, teachers, and instructional coaches by increasing the understanding of disparities in reading achievement and suggestions for closing gaps in achievement as a result of gender. We will do this through a survey.

You are not guaranteed any personal benefits from being in this study. Research studies also may pose risks to those who participate. You may want to participate in this research because you will help others to understand gender disparities in reading achievement. You may not want to participate in this research because you might be de-identified due to the information you share.

Specific details about the research in which you are invited to participate are contained below. If you do not understand something in this form, please ask the researcher for clarification or more information. A copy of this consent form will be provided to you. If, at any time, you have questions about your participation in this research, do not hesitate to contact the researcher(s) named above or the NC State IRB office. The IRB office's contact information is listed in the *What if you have questions about your rights as a research participant?* section of this form.

What is the purpose of this study?

The purpose of the study is to assist principals, teachers, and instructional coaches by increasing the understanding of disparities in reading achievement and suggestions for closing gaps in achievement as a result of gender.

Am I eligible to be a participant in this study?

There will be approximately 10-15 participants in this study.

In order to be a participant in this study, you must agree to be in the study and be a reading teacher in a K-5 school in the district of choice.

You cannot participate in this study if you do not meet the inclusion criteria.

What will happen if you take part in the study?

If you agree to participate in this study, you will be asked to take an online survey that will ask you to reflect on your experience as a teacher and disparities in reading achievement. The questions will be multiple choice and should take you about 15 minutes to complete. The total amount of time that you will be participating in this survey is 15 minutes.

Risks and benefits

There are minimal risks associated with participation in this research. The risks to you as a result of this research are related to participants' employment. I am mitigating this risk as much as possible by removing direct identifiers from the data prior to publication in such a manner that your name and the name of your school or district will not be on the data I publish.

There are no direct benefits to your participation in the research. The indirect benefits are that your participation in this study will contribute to an understanding gender disparity in reading achievement

Right to withdraw your participation

You can stop participating in this study at any time for any reason. In order to stop your participation, please contact the researcher, Kimberly R. Scott at krscott4@ncsu.edu or 252-301-0828 or you can contact my faculty advisors, Dr. Bonnie Fusareli at 919-631-2026 or bcjohns2@ncsu.edu and Dr. Mike Ward at 919-710-7317 or meward@ncsu.edu. If you choose to withdraw your consent and to stop participating in this research, you can expect that the researcher will redact your information from their data set, securely destroy your data, and prevent future uses of your data for research purposes wherever possible. This is possible in some, but not all, cases.

Confidentiality, personal privacy, and data management

Trust is the foundation of the participant/researcher relationship. Much of that principle of trust is tied to keeping your information private and in the manner that we have described to you in this form. The information that you share with me will be held in confidence to the fullest extent allowed by law. Protecting your privacy as related to this research is of utmost importance to me. There are very rare circumstances related to confidentiality where I may have to share information about you. Your information collected in this research study could be reviewed by representatives of the University, research sponsors, or government agencies (for example, the FDA) for purposes such as quality control or safety. In other cases, I must share instances in which imminent harm could come to you or others.

How we manage, protect, and share your data are the principal ways that I protect your personal privacy. Data generated about you in this study will be re-identifiable.

Re-identifiable. Re-identifiable data is information that I can use to identify you indirectly because of my access to information, role, skills, combination of information, and/or use of technology. This may also mean that in published reports others could identify you from what is reported, for example, if a story you tell us is very specific. If your data is re-identifiable, I will report it in such a way that you are not directly identified in reports. Based on how we need to share the data, I cannot remove details from the report that would protect your identity from ever being figured out. This means that others may be able to re-identify from the information reported from this research.

Future use of your research data

To help maximize the benefits of your participation in this project, destruction of master lists of names, emails, audio recordings, and transcripts will take place at the end of the study. Your re-identifiable information will not be kept for future research purposes by this or other researchers.

What if you have questions about this study?

If you have questions at any time about the study itself or the procedures implemented in this study, you may contact the researcher, Kimberly R. Scott, at krscott4@ncsu.edu or 252-301-0828 or you can contact my faculty advisors, Dr. Bonnie Fusareli at 919-631-2026 or bcjohns2@ncsu.edu and Dr. Mike Ward at 919-710-7317 or meward@ncsu.edu.

What if you have questions about your rights as a research participant?

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact the NC State IRB (Institutional Review Board) Office. An IRB office helps participants if they have any issues regarding research activities. You can contact the NC State IRB Office via email at irb-director@ncsu.edu or via phone at (919) 515-8754.

Consent To Participate

By completing this consent form, I am affirming that I have read and understand the above information. All of the questions that I had about this research have been answered. I have chosen to participate in this study with the understanding that I may stop participating at any time without penalty or loss of benefits to which I am otherwise entitled. I am aware that I may revoke my consent at any time.

Participant's name: _____

Participant's email: _____

Appendix C

NC STATE UNIVERSITY

Letter to Superintendent

Title of Study: Gender Disparities in Reading Achievement in Grades 3-5: A Study of Educator Perceptions Regarding Causation

Principal Investigator: Kimberly R. Scott at krscott4@ncsu.edu or 252-301-0828

Faculty Points of Contact: Dr. Bonnie Fusareli at 919-631-2026 or bcjohns2@ncsu.edu and Dr. Mike Ward at 919-710-7317 or meward@ncsu.edu

Date:

Dear Superintendent:

My name is Kimberly Scott. I am currently enrolled at North Carolina State University in the Educational Administration and Supervision doctoral program. I am conducting a research study entitled, "*Gender Disparities in Reading Achievement in Grades 3-5: A Study of Educator Perceptions Regarding Causation*". My goal is to study through the lens of principals, teachers, and instructional coaches, how gender affects reading achievement. This study will gather data using a survey. Student reading scores for your district will be included in this study.

The purpose of this letter is to request permission to distribute online surveys and reach out to potential participants in your school district. With your approval, I will send the survey electronically. Survey responses will always remain anonymous. Research findings will not include identifying factors of teachers, principals, instructional coaches, schools, or district.

Please feel free to contact me if you have any questions or concerns at (252) 301-0828 or krscott4@ncsu.edu. This study has been approved by the Institutional Review Board of North Carolina State University. My dissertation co-chairs are Dr. Bonnie Fusarelli and Dr. Mike Ward. They can be contacted at bcjohns2@ncsu.edu and meward@ncsu.edu.

If you agree to my request, please sign and return the form on the next page of this document. The signed form can be emailed to me at krscott4@ncsu.edu or mailed to 4876 Hwy 258 N, Rich Square, NC 27869.

Thank you so much for your assistance.

Sincerely,

Kimberly R. Scott

Consent Form

By signing and returning this form, I give Kimberly R. Scott, a doctoral candidate at North Carolina State University, permission to conduct a research study in the _____ County Public School District. I acknowledge that Kimberly R. Scott may send an electronic survey during the months of _____ to _____.

Approved by:

Signature:

Date:

Appendix D: Email Invitation

NC STATE UNIVERSITY

Title of Study: Gender Disparities in Reading Achievement in Grades 3-5: A Study of Educator Perceptions Regarding Causation

Principal Investigator: Kimberly R. Scott at krscott4@ncsu.edu or 252-301-0828

Faculty Points of Contact: Dr. Bonnie Fusareli at 919-631-2026 or bcjohns2@ncsu.edu and Dr. Mike Ward at 919-710-7317 or meward@ncsu.edu

Greetings,

This email is an invitation for you to participate in a study to explore gender disparities in grade 3-5 reading achievement. If you are in agreement, you are to click the link below and follow the directions. Your participation in this study is voluntary.

If you elect to participate, please respond to this email and indicate you desire to do so. The consent document is linked below for your review. This document provides more in-depth details about the study. You will be asked to indicate your consent when you access the link to the survey.

Your input will help inform research on gender disparities in grade 3-5 reading achievement. Thank you in advance for your assistance in this matter.

Sincerely,

Kimberly Scott

[Click link to consent document]

[Click link to the survey]