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MINORITY STUDENTS: A QUANTITATIVE STUDY OF SELF-EFFICACY AND THE RELATIONSHIP TO FOURTH GRADE READING ACHIEVEMENT

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MINORITY STUDENTS: A QUANTITATIVE STUDY OF SELF-EFFICACY AND

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by

Tanicia M. Rivera

ABSTRACT

MINORITY STUDENTS: A QUANTITATIVE STUDY OF SELF-EFFICACY AND

THE RELATIONSHIP TO FOURTH GRADE READING ACHIEVEMENT

Tanicia M. Rivera

Education reform continues at a rapid pace in American schools, yet many

minority students continue to struggle with reading achievement. This quantitative study

examines the relationship between self-efficacy and fourth grade reading achievement.

The theoretical framework for this study uses Albert Bandura's Social Cognitive Theory

and Jerome Bruner's Constructivist Theory. This research study asked three questions.

First, what is the relationship between self-efficacy and student reading achievement?

Second, is there a significant relationship between self-concept and socioeconomic status

on student reading achievement? Third, is there a significant relationship between self-

efficacy on student achievement for any of the independent variables of gender,

race/ethnicity, and/or socioeconomic status? The study collected data from the 2013

NAEP fourth grade reading assessment, which used data from 189,400 public schools

and derived from a sample group of 196,000 fourth-grade students. The researcher

employed a Plausible Value Regression to test hypotheses. Findings indicate a significant

relationship between self-efficacy and reading achievement for fourth-grade minority

students. Self-concept, socioeconomic status, gender, and race/ethnicity are variables

associated with this finding. Based on the present study results, it is recommended that

educators develop a cadre of best practices to address minority students' self-efficacy considering the evidence for the impact of student socioeconomic status. This study contributes to social change by providing educators with an understanding of the concept of self-efficacy and its correlation to academic achievement in reading, especially among minority students who are faced with a multitude of challenges in society today.

DEDICATION

This research study is dedicated to the loving memory of my great-grandmother, Lizetta Cox. You instilled the value of education in me at a very young age. Your love instilled a desire in me to always push through adversity. As you look down from heaven, it is my goal to make you proud with every opportunity given to me.

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gratitude to all of my family, friends, sorority sisters, and colleagues at work. There are many other people who sent continuous words of encouragement and supported me, and I wish I could name them all. I extend the most heartfelt thank you and gratitude to each and every one of you.

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CHAPTER 1: INTRODUCTION

Greatness is not measured by what a man or woman accomplishes,
but by the opposition he or she has overcome to reach his goals.

Dorothy Height

Reading, perhaps one of the most complex and abstract among the foundational skills for school success, has become an indicator of the state of education in the United States. A study by the American Action Forum (Holtz-Eakin & Lee, 2019) predicts that by 2029 the United States will face a shortage of nearly a million workers with some college, a certification, or an associate degree and more than 8.5 million workers with a bachelor's degree or higher. They put the price tag on this education gap at $1.2 trillion in lost revenue to American companies.

The demand for educated workers in the 21st century workplace is influenced by dramatic demographic shifts in the American workforce. The Brookings Institute (Frey, 2018) has projected that the United States will be "minority white" by 2045; they characterize young minorities as "the engine of future growth." However, the NAEP (2019) reports that fourth grade average reading scores for minorities are significantly lower than scores for White and Asian student: White (230), Asian (239), Black (204), Hispanic (209), Native American (204). With this in mind, it becomes obvious that much focus should be placed on the reading achievement of minority students. The lagging reading proficiency of minority students in the United States will have lasting economic effects for the country and limiting our ability to compete in the global marketplace.

The Pew Research Center (Lopez et al, 2015) projects that by 2040 immigrants will constitute 31% of the American population, 16% for first-generation immigrants

16% and 15% for second-generation immigrants. Immigrant children whose first language is not English struggle to learn the language while learning how to read. Yet, they will be a critical part of the workforce of the future.

Research has suggested that several factors play a major role in the lower rates of literacy and achievement often experienced by at-risk students including classroom environment, socioeconomic status, and teacher training (Chall & Conard, 1990; Duke, 2000; Snow et al., 1998). The economic and social status of families can often predict the school and reading success of fourth-grade students. The achievement gap between students from low-income environments and their peers from middle-class and wealthy environments has been a persistent problem in American education. The U.S. Census Bureau (Creamer, 2020) reports that poverty in America is the lowest it has been since 1959 (10.9%), including "historically low" rates of poverty for people of Black and Hispanic origin. However, poverty among minorities still outpaces poverty among Whites (Kaiser, 2019): White (9.0%), Black (21.2%), Hispanic (12.2%), Asian/Pacific Islander (9.7%), and Native American 24.2%). Furthermore, 14.1% of immigrant families, compared to 9.8% of non-immigrant families live in poverty (Suro et al, 2014). Thus, in increasing reading proficiency, educators must consider the pervasive influence of poverty in acquiring reading proficiency. The research of Daniel Willingham (2012) summed up the correlation between socioeconomic status and academic achievement:

On average, kids from wealthy families do significantly better than kids from poor families. Household wealth is associated with IQ and school achievement, and that phenomenon is observed to varying degrees throughout the world. With a more fine-grained analysis, we see associations with wealth in more basic

academic skills like reading achievement and math achievement. And the association with wealth is still observed if we examine even more basic cognitive processes such as phonological awareness, or the amount of information the child can keep in working memory" (p. 33).

The 2010 Common Core State Standards (CCSS) have been widely adopted. Reading programs aligned with CCSS standards stress the importance of students learning how to read, write, speak, listen, and use language effectively in various content areas while promoting the skills and concepts essential for college, career readiness, and life beyond. The nation continues to highlight the need reading proficiency because the ability to read is an increasingly indispensable skill given the growing technology and information explosion (Wren, 2002, p.1). Reading is, thus, a critical priority when educating children from low socioeconomic and urban environments. The rise in reading accountability can be viewed as an enormous obstacle or as an opportunity to improve reading practices.

In spite of the recognition that reading is a critical 21st century skill, research from the National Assessment of Educational Progress (NAEP) indicate that in 2019 only 34% of public-school students in fourth and eighth grade performed at or above proficiency in reading; these scores are lower than those in 2017 (Nations Report Card, 2019a). The sense of urgency for achieving reading proficiency by the end of third grade is intensified by education researchers who have shown that students who do not achieve reading proficiency by the end of third grade often have difficulty catching up to their more proficient peers (Dorn & Jones, 2012; Pressley & Allington, 2015). This makes it

unsurprising that the National Center for Education Statistics (2019a) reported that 41.1 million adults (21.0%) in this country are functionally illiterate.

Children who read proficiently by the end of third grade are more likely to graduate from high school and less likely to need remedial courses in college; they are more likely to be economically stable and successful in adulthood. According to Whitehead (2011), "Children must have access to a wide variety of books and these books must be relevant to their culture and community" (p. 1). Furthermore, Stanovich (1986) argues the effect of reading volume on vocabulary growth, combined with the large skill differences in reading volume suggests a "rich-get-richer" situation in education where the phenomenon of cumulative advantage is almost inextricably embedded within the developmental course of reading progress (p. 381). Fiester (2010) advocates that if we don't dramatically get more children on track as proficient readers, the United States will lose a growing and essential proportion of its human capital to poverty, and the price will be paid not only by individual children and families, but by the entire country (p. 7).

This sense of urgency is also reinforced by state testing requirements. For example, in New York State, from grade three through grade eight, students are expected to demonstrate proficiency in both reading and math. Students not meeting grade-level standards based on the English language arts assessment are at risk for repeating a grade and future academic struggles in reading and other academic subject which require reading proficiency.

Past efforts to improve literacy in the United States began with No Child Left Behind (NCLB), Race to the Top (RttT), and Every Student Succeeds Act (ESSA). The

purpose of ESSA, which replaced NCLB and RttT, is to focus on ensuring that all students are prepared for success in college and career. A major provision of ESSA is to advance equity by upholding critical protections for America's disadvantaged and high-need students. However, nearly two decades after passing NCLB, a decade after RttT, and six years after ESSA, public school systems across the country continue to struggle and often fail to meet local, state, and Federal mandates and initiatives to improve student reading achievement. Race and gender have also emerged as factors related to disparity in education. Reading practices affects the lives of children every day; however, state and Federal requirements can serve as a catalyst for ensuring proficiency in reading for all students.

Furthermore, in today's society, the economic and social status of families will oftentimes predict the reading achievement of children in school. The achievement gap between students from low-income environments and their peers from middle-class and wealthy environments has caused persistent problems in American education. According to Buckingham et al. (2013), "The relationship between socio-economic disadvantage and poor reading ability is one of the most enduring problems in education" (p. 429).

Reading and Self-Efficacy

Bandura (1977) argued that learning skills is not enough; individuals must also develop confidence in the skills that they are learning (i.e., self-efficacy). Baker and Wigfield (1999) defined reading efficacy as the belief or expectation that one can be successful at reading (p. 2). For example, self-efficacy will determine whether a child believes they can accomplish a specific task (i.e., a reading task) using previously acquired skills (i.e., scaffolded reading skills) under certain circumstances (i.e., in the

classroom or at home). Students who struggle with reading are at greater risk for academic, social, emotional, and behavioral problems. Yet, self-efficacy, a factor in both academic and lifelong achievement, is often overlooked as educators try to meet the demands of high-stakes testing. Policymakers would be rewarded by building their knowledge about the research findings that demonstrate that self-efficacy beliefs are important determinants of performance.

Reading and Parental Engagement

For many years, the education community has promoted involving parents in their child's education as an essential tool in ensuring academic success. Creating partnerships between schools and families has been a critical, ongoing activity for most teachers and schools. Many teachers struggle to engage parents who themselves lack the basic reading and math skills crucial to helping their children at home. In response, many school districts are requiring schools to offer basic reading and math workshops in efforts to increase parent involvement and provide parents with the necessary resources to help their children succeed.

Parent involvement is a key aspect for ensuring children are supported at home. According to Crosnoe (2012), children learn more when their home and school environments support of each other in stable, regularized ways. Children have more educational problems when these there is direct conflict between home and school, when contradictory messaging is delivered (intentionally or not), and/or these two key environments are disconnected (p. 4). Effective family-school communication and family involvement directly correlate with improved student behavior at school, which itself contributes to improved student achievement. Parents are more engaged at home and in

school when they believe that teachers try to keep them informed, value their contributions, and offer specific suggestions for helping their children learn (Hoover-Dempsey et al., 2002).

When parents are active and collaborative participants in their child's educational experiences, student outcomes are positively impacted. Theorists have suggested that parents with high expectations model and reinforce learning in their children. These parents encourage their children to take on learning challenges and supporting their children's persistence and problem-solving efforts, based on their beliefs that their children are capable of mastering learning tasks (Bandura et al., 2001).

Continuity of parent engagement in a child's learning experiences is a determining factor in student achievement. Parent involvement is the number one predictor of early literacy success and future academic achievement (Burton, 2013, p. 1). Another key to sustained student achievement is the educational level of parents. McQuiggan and Megra (2017) found:

> Parents with higher levels of education have higher rates of involvement in their children's schools. For example, in 2016, more than 87 percent of parents with a bachelor's degree or higher attended a school or class event, compared with 54 percent of parents with less than a high school education. This gap is even wider when it comes to volunteering or serving on a committee: 25 percent of parents who did not graduate from high school volunteered or served on a committee at their child's school, compared with sixty-five percent of parents who completed graduate or professional school (p. 8-9).

Current trends toward involving parents and helping them be active participants of school communities is a persistent problem for policymakers, schools, and teachers. The need for research that explores parent engagement in the context of reading achievement is essential as schools continue to pursue reforms aimed at increasing reading proficiency.

Purpose of the Study

Fourth grade is the transitional stage from elementary school to middle school for many students. It is the stage when students move from "learning to read" to "reading to learn." The purpose of this study is to determine the impact of self-efficacy on reading achievement for fourth grade minority students in an urban environment. A secondary purpose of this study is to examine the relationships between reading, parental involvement, race and ethnicity, gender, and socio-economic status on student achievement. This research examined the relationships among these factors and provides a theoretical framework to examine the significance of these factors. Therefore, this study sought to add to the body of existing research about the relationships between reading self-efficacy and reading achievement. It is important to note that self-efficacy is an important factor in school performance and success across all academic and non-academic subjects as well as throughout a student's entire academic journey.

Methodology of the Study and Research Questions

This study is a non-experimental quantitative that measured fourth-grade student reading achievement using 2013 NAEP reading assessment data as well as reading surveys. The NAEP dataset was chosen because it provides a common way to measure students across the country; this was important as there is no consistent standardized test

given to students. The NAEP dataset allowed this researcher access to many different academic subject areas as well as student demographics for analysis and comparison between states (NCES, 2009).

The researcher developed factors using student, teacher, and parent variables collected from the NAEP 2013 fourth grade reading surveys. Factors included in this study are socio-economic status (SES), race/ethnicity, parent involvement, and gender. Linear regression models determine if a significant relationship exists between factors, the overall sample population, and sub-populations.

Research Questions

This research focused on the relationships between self-efficacy, socio-economic status, gender, race/ethnicity, and student reading proficiency. The study was guided by three research questions and three corresponding hypotheses:

1. Research Question #1. What is the relationship between self-efficacy and student reading achievement?

    H_01. There will be no statistical significance between self-efficacy and student achievement.

2. Research Question #2. Is there a significant relationship between self-concept and socioeconomic status on student reading achievement?

    H_02. There will be no statistical significance between self-concept and socioeconomic status on student reading achievement.

3. Research Question #3. Is there a significant relationship between self-efficacy on student achievement for any of the independent variables: gender, race/ethnicity, and socioeconomic status?

$H_0 3$. There will be no statistical significance between self-efficacy on student achievement for any of the independent variables: race/ethnicity, socioeconomic status, and gender.

Theoretical/Conceptual Framework

In the context of education and children, one might argue that all knowledge is personal, socially constructed, and created due to a person's need to make sense of the world. Cognitive theorists emphasize the impact of our thoughts on our emotions and behaviors. Constructivist theorists work to understand the social construction of knowing. The theoretical framework for this research is grounded in both cognitive and constructivist theory. Specifically, it draws on Albert Bandura's Social Cognitive Theory and Jerome Bruner's Constructivist Theory. Together, these two theories provide a foundation on which to formulate a unique theoretical perspective on how children gain self-efficacy when they learn to read.

Bandura's Self-Efficacy Theory

Bandura's social cognitive theory of self-efficacy addresses the perceived competence one feels with regards to a specific task within a specific domain. Bandura (1977) defines self-efficacy as a belief in one's own capabilities to organize and execute a course of action required to attain a goal. Children are more likely to engage in activities where they have high self-efficacy and less likely to engage in activities where they have low self-efficacy. Self-efficacy is context specific. Students may possess a high level of self-efficacy in reading and demonstrate a low level of self-efficacy in mathematics.

Bandura emphasizes the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. Teachers nurture the development of self-

efficacy by providing a variety of scaffolded experiences, designing instruction so that students gain incremental mastery of tasks (Pintrich & Zusho, 2002).

Bandura theorized that learning is the result of attention-modeling, retention-cognitive organization, motor reproduction-accuracy and feedback of attempts, and motivation-external and internal (Kearsley, 2005). A study with fourth fifth, and six graders in the U.S. found a positive correlation between student's self-efficacy in reading and reading achievement, with self-efficacy increasing with grade level in reading (Waleff, 2010). In other words, with a focus on reading, repeated attempts, good motivation, and positive feedback, students gain reading efficacy.

Bandura (1977) asserts that there are four major sources of efficacy information. The significance of this theoretical framework is even more critical considering Bandura theorized that learning is the result of attention-modeling, retention-cognitive organization, motor reproduction-accuracy and feedback of attempts, and motivation-external and internal (Kearsley, 2005). These concepts are supported in the work of Schunk and Rice (1991) who found that using self-efficacy strategies such as providing students with clear goals for reading tasks and giving feedback on a progress in reading increased reading self-efficacy.

Bruner's Constructivist Theory

Jerome Bruner's Constructivist Theory used theories of cognition to address how learners actively construct meaning and new knowledge based on previous knowledge, beliefs, and experiences (Fox, 2001). Bruner focuses on "the processes of learning and, to use and old-fashioned word, instruction, the teacher's deliberate intervention in the learning process" (Walker, 2014, p. 8). Jerome Bruner defined constructivism as:

An active process in which learners construct new ideas or concepts based upon their current/past knowledge. The learner selects and transforms information, construct hypotheses, and makes decisions, relying on a cognitive structure to do so. Cognitive structure (i.e., schema, mental models) provides meaning and organization to experiences and allows the individual to go beyond the information given. The theoretical reasons for believing that reading volume is a particularly effective way of expanding a child's vocabulary derive from the differences in the statistical distributions of words that have been found between print and oral language (Kearsley, 2005, p. 14).

Bruner was a pioneer in the field of psychology and investigated the motivation for learning, arguing that an interest in the subject matter is the best stimulus for learning. He has been very influential in education theory since the 1960s. Bruner's early works focused intensely on culture and how culture influences the human mind, experiences, and activities. He posited that cognitive processes mediate the relationship between stimulus and response to replicate the same response in a changed environment. Bruner's theory of cognitive growth addresses how learners represent knowledge inactively, ironically, and symbolically. Bruner (1997) stated, "An 'official' educational enterprise presumably cultivates beliefs, skills, and feelings in order to transmit and explicate its sponsoring culture's way of interpreting the natural and social worlds" (p. 15).

In addressing knowledge generation, Bruner (2006) advises, "Let us not judge students simply on what they know, that is the philosophy of the quiz program. Rather, let them be judged on what they can generate from what they know - how well they can leap the barrier from learning to thinking." (p. 30). As such, Bruner did not believe in

external competitive goals such as grades or class rankings. Cognitive structure provides meaning and organization to experiences, allowing the individual to go beyond the information given, to move from being repositories of facts (i.e., learning) to using knowledge to generate new knowledge (i.e., thinking). Bruner (1966) argued that a theory of instruction should address four major aspects of learning:

> (a) A predisposition towards learning, (b) the ways in which a body of knowledge can be structured so that it can be most readily grasped by the learner, (c) the most effective sequences in which to present material, and (d) the nature and pacing of rewards and punishments. Good methods for structuring knowledge should result in simplifying, generating new propositions, and increasing the manipulation of information. (p. 58)

Bruner felt the goal of education should be intellectual development, as opposed to rote memorization of facts. Bruner believed curriculum should foster the development of problem-solving skills through the processes of inquiry and discovery.

Significance of the Study

Children who read proficiently by the end of third grade are more likely to graduate from high school and be economically stable and successful in adulthood. Third grade marks a pivotal developmental juncture when children transition from learning to read, to reading to learn (Annie Casey, 2014; Chall, 1983). Closing the achievement gap is one of the major challenges and top priorities facing educators and policymakers.

Most studies on reading self-efficacy focus on both reading and writing, and both skills and strategies. However, this study focused on a research area that is relatively unexamined: the impact of reading self-efficacy and parent involvement and the

strategies and approaches utilized to motivate and increase students' reading achievement. The present study is designed to examine the impact of self-efficacy and its relationship to reading achievement for fourth-grade minority students in urban environments. This research will assist educators and researchers in addressing curricular and instructional challenges in upper elementary reading programs. It will inform state and school districts about effective policies that guide decision-making around reading programs. And, it will help in the development of new parent programs and improve existing programs designed to enhance reading development at home.

Additionally, teachers spend countless hours working to develop students' reading skills and to encourage students to see the value of becoming a good reader. In spite of these efforts, many students are still lagging behind in the area of reading. It is the hope of this researcher that this research will assist them in helping their students to improve their reading proficiency.

Definition of Terms

In order to promote a common conceptual understanding, the following list provides an operational definition of terms used throughout this research project.

Achievement Gap - When one group of students outperforms another group and the difference in average scores for the two groups is statistically significant (Nations Report Card, 2019b).

Gender – Gender refers to social, cultural, and psychological traits linked to males and females through particular social contexts (Lindsey, 2010, p.4).

Parental Involvement - Parent involvement is defined as having an awareness of and involvement in schoolwork, understanding of the interaction between parenting skills

and student success in schooling, and a commitment to consistent communication with educators about student progress (Pate & Andrews, 2006, p. 1)

Race/Ethnicity - Information used by NCES was obtained from school records and reported in the following six mutually exclusive categories: White, Black, Hispanic, Asian/Pacific Islander, American Indian/Alaska Native, or other/unclassified. These categories comply with the 2009 standards of the U.S. Office of Management and Budget, for collecting and reporting data on race/ethnicity (NCES, 2009).

Reading - "Reading is the process of constructing meaning from written text. It is a complex skill requiring the coordination of a number of interrelated sources of information" (Anderson et al., 1985, p. 6).

Reading Achievement - Level of attainment in any or all reading skills, usually estimated by performance on a test (Araujo, 2013).

Self-Efficacy - A child's belief "that he or she can perform a task at hand and is correlated with achievement-related behaviors, including cognitive processing, achievement performance, motivation, self-worth, and choice of activities" (Seifert, 2004, p. 147).

Self-Concept – An individual's self-concept is, in essence, "what an individual believes he is" (Combs, 1962, p. 62).

Socioeconomic Status (SES) - Identified by the student's eligibility for free/reduced-price school lunch in the National School Lunch Program (NSLP). The NAEP has used NSLP as an indicator of poverty since 1966 (NCES, 2009).

Organization of the Study

Chapter 2 examines in greater detail the research literature for each of the variables in the study. The chapter is organized based on the following topics: (a) theoretical foundation; (b) self-efficacy, domain specific; (c) the development of reading; (d)the achievement gap; (e) socioeconomic status as a variable; (f) gender as a variable; and (g) race/ethnicity as a variable. The chapter concludes with the identification of the gaps in the existing literature and a summary of the literature.

Chapter 3 presents the research and methodology. It address human subjects concerns and ethical considerations. It describes the database used and the population studied. It describes data collection and analysis strategies and techniques.

Chapter 4 presents the findings from this research study. Both factor analysis and hierarchical regression analysis were used. Data is present looking at the variables and their relationships: reading proficiency, race/ethnicity, gender, and socio-economic status.

Chapter 5 summarizes and discusses the results, including exploring the data in this research study in light of prior research. It discusses the limitations of the data. It presents recommendations for future research and practice.

Summary

This study sought to examine and better understand the effects of self-efficacy, parent involvement, and the relationship to reading achievement. While self-efficacy and parent involvement have been productive areas of research, the theoretical linkages between these constructs to the broader area of self-efficacy learning have yet to be fully explored. The results of this study may serve stakeholders in education at the city, state,

and Federal level in identifying systems, structures, and practices that may lead to increases in reading achievement for all students.

CHAPTER 2: REVIEW OF RELATED LITERATURE

Chapter 2 reviews and analyzes the research literature relevant to student self-efficacy and reading achievement. The literature review is organized into four sections: The first section looks at the environmental context of education and learning: (a) Federal education policies, (b) poverty, (c) the Matthew Effect, (d) students and families, (e) access to reading materials, and (f) self-efficacy and poverty. The second section examines self-efficacy: (g) self-concept versus self-efficacy, (h) Bandura's Theory of Self-Efficacy, (i) self-efficacy and children, (j) self-efficacy and domain specificity, and (k) self-efficacy and mastery experiences. The third section examines concepts related to self-efficacy: (l) grit, (m) goal setting, (n) motivation, and (o) creativity. The fourth section examines self-efficacy and learning: (p) self-efficacy and lifelong learning and (q) motivation and reading comprehension.

Functionalists view society as a kind of machine, in which one part articulates with another to produce the dynamic energy required to make society work (Sadovnik, 2016, p. 3). Parental involvement motivates and influences their child's academic progress regardless of societal categorization. Sadovnik (2016) argued that "external factors such as peer groups, community, and family, student background and socioeconomic status had a greater impact on educational achievement" (p. 12).

Unfortunately, most school initiatives and programs are unsuccessful at improving the academic performance of African American and Latino youth. Schools in low socioeconomic areas receive additional educational funding; however, plans to increase reading lack sustainability due to poor pedagogy and educational policy changes.

Before exploring the factors that influence reading achievement, it is important to define reading. According to The NAEP governing board (2019a), reading is an active and complex process (p. 4). It includes three processes: (1) understanding written text, (2) developing and interpreting meaning, and (3) using meaning as appropriate to type of text, purpose, and situation.

Environmental Context for Education and Learning

Federal Legislation

The achievement gap between students from low-income environments and their peers from middle-class and wealthy backgrounds has been a persistent issue in American education. Reading achievement for minority students has significantly contributed to this achievement gap. These gaps related to families' socioeconomic status are present even before children enter school. Federal legislation since *Brown v. Board of Education* has tried to close this gap.

On December 10, 2015, the Every Student Succeeds Act (ESSA) was signed into law by President Barack Obama. This bipartisan measure reauthorized the 50-year-old Elementary and Secondary Education Act (ESEA), which provided Federal funds to improve elementary and secondary education in the nation's public schools. ESEA required states and school districts, as a condition of funding, to take a variety of actions to ensure all children, regardless of race, income, background, or where they lived, received the education they needed to prepare them for success in postsecondary education, careers, and engaged citizenship.

ESSA modified but did not eliminate provisions relating to periodic standardized tests given to students. To ensure that states comply with ESSA, the expectation is that

each state creates a cohesive comprehensive improvement plan. The implementation of ESSA plan is intended to narrow or close the achievement gap. Schools in the United States continue to judge a student's reading ability on standardized tests, like the NAEP, that measure reading skills by having students read and respond to questions in writing on random topics.

The Impact of Poverty

Children raised in poverty do not choose to behave differently because they are poor. However, children in poverty are faced daily with overwhelming challenges that affluent children never have to confront. We know from neuroscience that the brains of children growing up in poverty and exposed to trauma do not develop in the same way. these differences in brain development undermine children's school performance. The result is a widening snowball effect that starts at birth.

Students who enter school with more information mastery and a larger vocabulary find reading easier and more enjoyable. These students read more in school and at home. They enjoy classroom discussions and group activities, making consistent and positive progress in reading achievement.

The Matthew Effect

The Matthew Effect speaks to the impact of accumulated advantage, It could be characterized by the saying "the rich get richer, and the poor get poorer." It has gained popularity in education because learning is cumulative and scaffolded. Children from affluent families arrive at school with advantages that build disproportionately as they progress through school. Children from disadvantaged families arrive in school with a deficit and they rarely catch up, widening the achievement gap.

According to Wexler (2019), "It can be demoralizing for both students and teachers to have achievement measured solely on the basis of general knowledge of random topics. Cunningham and Chen (2014) noted that within educational settings, references to Matthew Effects arise from the empirical evidence suggesting that advantages in early educational experience influence subsequent learning. Children who are afforded an opportunity to engage in education at an early age enjoy reciprocal benefits and advantages in their learning.

Stanovich (2014) described how the cumulative advantage phenomenon of the Matthew Effect relates to children's reading, vocabulary growth, and development . He argued that the greater an individual's reading volume (how much and how frequently one reads), the larger the increase in their rate of vocabulary development and growth of literacy-related skills. The Matthew effect is often used as a metaphor to describe a widening gap between good and poor readers over time (Cunningham & Chen, 2014).

Researchers Walberg and Tsai (1983) published the first academic paper addressing the Matthew Effect in education. They argued that the development of individual differences increased such that children with initially low levels of achievement would show a lower rate of progress in academic learning compared to children with normal or high levels of initial achievement. They examined the factors that limit and constrain the lives and life choices of low-socioeconomic parents. In order for parents to maximize their efforts and have a long-term positive influence on the academic development of their children, parents must create meaningful experiences with their child. Consequently, reading for pleasure has a significant influence on a child's academic performance beyond social or economic background.

Students and Families

It is critical to provide families with resources and guidance to support their child at home academically. Families experience hardships that interrupt and affect how their children perform academically in school. Homelessness and residential instability can be attributed to family and economic problems (Tierney & Ward, 2017). When families experience financial hardships, children often fall behind in school, missing key lessons that provide a continuum of learning strategies and skills necessary to read at grade level.

According to Tierney and Ward (2017), to prevent disruptions in school, homeless students should remain in their home school despite relocating out of the geographic district, allowing students to maintain consistent and cohesive lessons and providing them with the opportunity to develop lasting relationships. When children are relocated from their stable environments, their self-esteem and self-worth may be compromised.

There is a great need for further research on how identities are constructed and how these identities affect a student's attitudes and dispositions toward school, learning, and life in general (Noguera, 2003, p. 454). Furthermore, both schools and families must work collaboratively to create environments where children are encouraged and motivated to practice their reading skills.

Access to Books and Other Reading Materials

Part of the challenge for children in low-income families is that they have limited or no access to reading materials compared to children of middle- and upper-income families (Krashen, 2012; Lindsay, 2010). This does not mean that low-income students

cannot achieve success in school, specifically reading proficiency, but that their environment poses additional challenges to their reading achievement.

According to Whitehead (2011), young readers need plenty of access to books and other types of reading materials so that they can practice recognizing letters and associate letters with their sounds. In part because of their lack of access to reading materials and lower levels of reading proficiency, poor children will often pick materials that provide less information or are easier to read than reading material chosen by more affluent children.

Early literacy and home literacy programs have tried to address this challenge. Unfortunately, the results have often been negative. According to Edwards (1995), some family literacy programs seem to "blame the victim" while others imply that the homes of poor, minority, and immigrant children are "lacking in literacy" (p. 556).

The implications of access to reading materials is critical. Additionally, schools must work to increase diversity and inclusivity by creating equitable learning environments where all children are college and career ready regardless of their socio-economic background. This means not only improving in-school reading programs but finding effective, welcoming ways to support reading at home.

Self-Efficacy and Poverty

Across the United States, children are categorized based on their socio-economic status, race, gender, and gender, impacting placement in a class or a school. From a functional point of view, educational reform is supposed to create structures, programs, and curricula that are technically advanced and rational reformers implicitly base their reform suggestions on functional theories of schooling (Sadovnik, 2016, p. 4).

But states and school districts continue to face challenges of disparity between the highest and lowest performing students in reading. The impact of poverty influences education across all ethnic groups and genders. Impoverished students often exhibit deficits in education as well as physical and mental health. Bandura (1977) found that disadvantaged people may find it easier to create self-efficacy than in the past, but they still experience greater discouragement and resentment in the face of more affluent members of society making more rapid progress, widening the disparity between the groups (p. 26). In order to create more equitable schools, and narrow or close the reading achievement gap, it is important to more fully understand Bandura's concept of self-efficacy.

Self-Efficacy

Over the past 41 years, educational theorists and researchers from various fields of inquiry have used self-efficacy to predict and explain academic achievement. Social learning theory explains human behavior in terms of continuous reciprocal interactions between cognitive, behavioral, and environmental influences. Social learning theory has sometimes been called a bridge between behaviorist and cognitive learning theories because it encompasses attention, memory, and motivation. The theory is related to Vygotsky's Social Development Theory and Lave's Situated Learning, which also emphasize the importance of social learning.

Self-Concept Versus Self-Efficacy

Social cognitive theorists propose that self-concept and self-efficacy act as common mechanisms of personal agency in the sense that both types of self-beliefs help

mediate the influence of other determinants on subsequent behavior; both "contribute in their own way to the quality of human life" (Bandura, 1986, p.410).

Unrau et al. (2018) described self-concept "an individual's collective self-perceptions, whereas self-efficacy is more specific to domains, tasks and beliefs about how an individual will perform on context-specific texts in specified domains" (p. 169). While researchers were conducting the study, they found instruments used to measure self-concept included items that measured self-efficacy (Unrau et al., 2018, p. 174). In other words, self-concept is broader; self-concept encompasses self-efficacy. Self-concept differs from self-efficacy in that self-efficacy is a context-specific assessment of competence to perform a specific task, that is, "an individual's judgment of his or her capabilities to perform given actions" (Schunk & Rice, 1991, p. 207).

Self-efficacy and self-concept are often confused however, the two constructs differ. Self-efficacy is related to act of being able to perform while self-concept focuses more on feelings and being. Another point of view argued by Bandura (1997) focused more on achievement outcomes, indicating "self-efficacy beliefs should be measured in term of particularized judgments of capability that may vary across realms of activity, different levels of task demands within a given activity domain, and under different situational circumstances" (p. 6). Researchers Graham and Weiner (1996) agreed with Bandura and noted the following:

> What cannot be disputed is Bandura's argument that self-efficacy has been a much more consistent predictor of behavior and behavior change than have any of the other closely related expectancy variables. Efficacy beliefs have been related to the acquisition of new skills and to the performance of previously learned shills at a

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level of specificity not found in any of the other motivation conceptions that include an expectancy construct (p. 75).

Bandura's Theory of Self-Efficacy

The theoretical basis of Bandura's self-efficacy theory and all its implications derive from Bandura's 1977 article. In this article, Bandura defined self-efficacy as the strength of expectations individuals maintain about their ability to successfully perform a behavior that will lead to a particular outcome. An individual's level of self- efficacy influences "whether certain (coping) behaviors will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and aversive experiences" (Bandura, 1977, p. 191). Bandura (1997) details the importance of this construct and its influence on human behavior:

> People make causal contributions to their own psychosocial functioning through mechanisms of personal agency. Among the mechanisms of agency, none is more central or pervasive than beliefs of personal efficacy. Unless people believe they can produce desired effects by their actions, they have little incentive to act. Efficacy belief, therefore, is a major basis of action. People guide their lives by their beliefs of personal efficacy (p. 2).

Bandura advanced the notion of observational learning in relation to the performance of diverse skills, strategies, and behaviors. Observational learning through modeling occurs when observers display new patterns of behavior that, prior to exposure to the modeled behaviors, have a zero probability of occurrence even when motivation is high (Bandura, 1969). Bandura's social cognitive theory describes human functioning as

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the product of a dynamic triad of personal, behavioral, and environmental influences (see

Figure 1).

Figure 1

Bandura's Model of Triadic Reciprocality in Self-Efficacy
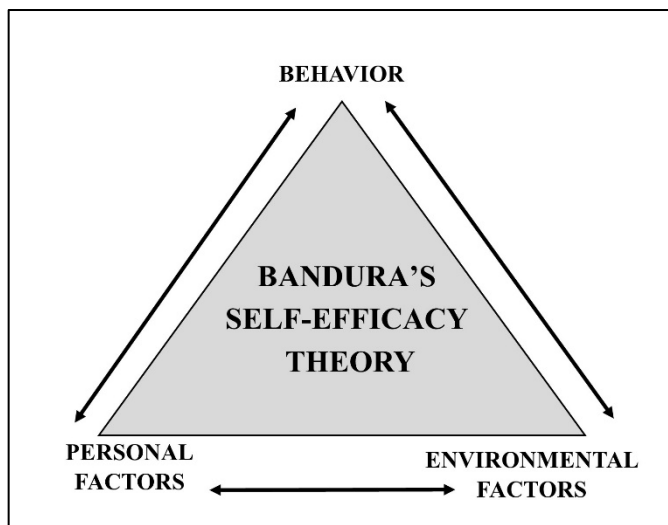
Self-efficacy, the main component of Bandura's social cognitive theory and the

basis for this study, represents the perceived competence that one feels with regard to a

specific task (i.e.., reading) within a specific domain (i.e., a fourth-grade classroom).

According to Bandura (1977), learning certain skills is not enough, individuals must also

develop confidence in the skills that they are learning. Hence, one can be successful in

various skills yet not possess the confidence to effectively utilize the skills. Attitudes,

experience, and the attainment of self-efficacy are closely linked. Research by Bandura

(1986) shows that efficacy perceptions develop from a gradual attainment of skills and

experience over time.

Self-efficacy theory postulates that people acquire information to evaluate

efficacy beliefs from four primary sources: (a) enactive mastery experiences (actual

performances); (b) observation of others (vicarious experiences); (c) forms of persuasion, both verbal and otherwise; and (d) 'physiological and affective states from which people partly judge their capableness, strength, and vulnerability to dysfunction (Bandura, 1997). It is important to note that the four main constructs are not hierarchical and there is a possibility for all four constructs to influence a child's self-efficacy at the same time.

Self-Efficacy and Children

In addition to forming self-efficacy through personal experiences and interaction, children may also develop their self-efficacy through the vicarious experiences of their peers. The way students think, feel, and behave in academic situations is largely influenced by beliefs in their own abilities. Bandura emphasizes that students who develop a strong sense of self-efficacy are well equipped to educate themselves when they have to rely on their own initiative (Bandura, 1986).

During academic tasks, students tend to select activities, tasks, and experiences where they feel competent and confident. For example, with solid reading skills students will eagerly engage in reading activities and become self-regulated learners. As a result, self-efficacy is vital to lifelong learning.

Pajares (1996) reinforces that concept and adds that people with low self-efficacy may believe that things are tougher than they really are, a belief that fosters stress, depression, and a narrow vision on how best to solve a problem. Bandura contends that a student's belief in his or her ability to accomplish various tasks is highly influential on whether she or he will actually accomplish this task or succeed in an individual area. Of all the beliefs that influence human functioning and standing at the very core of the social cognitive theory, self-efficacy beliefs, "people's judgments of their capabilities to

organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391).

Self-Efficacy and Domain Specificity

Self-perceptions, a major aspect of self-efficacy considers the construct to be situation-specific or domain sensitive. Self-efficacy can be applied to different situations and is not a universal concept. For instance, students may possess a high degree of self-efficacy in mathematics and a low degree of self-efficacy in reading; thus, self-efficacy appears to be context and content-specific. Furthermore, Usher et al. (2019) noted that education researchers typically assess students' efficacy beliefs within particular domains of functioning and at varying levels of specificity (p. 879).

High self-efficacy in one domain does not necessarily mean high efficacy in another (Artino, 2012, p. 79). For example, a student may have high self-efficacy in analyzing complex texts and a low self-efficacy in making inferences. Bandura noted:

> Another distinctive feature of social cognitive theory is the central role it assigns to self-regulatory functions. People do not behave just to suit the preferences of others. Much of their behavior is motivated and regulated by internal standards and self-evaluative reactions to their own actions. After personal standards have adopted, discrepancies between a performance and the standard against which it is measured activate evaluative self-reactions, which serve to influence subsequent behavior. An act, therefore, includes among its determinants self-produced influences (Bandura, 1986, p. 20).

Self-Efficacy and Mastery Experiences

Judged to be the most influential gauge of self-efficacy, performance accomplishments are especially important because they are based on personal mastery experiences. Furthermore, people do not rely solely on their own mastery experiences to develop self-efficacy. Human learning occurs in a social environment. Individuals are also influenced by seeing others perform particular activities. People learn new actions observing others perform them, not necessarily at the time of learning. By observing others, people acquire knowledge, rules, skills, strategies, beliefs, and attitudes.

Research from Kurbanoglu (2003) found that individuals form their self-efficacy beliefs by interpreting information primarily from their previous experience (p. 637). Perceived importance or usefulness of learning; individual actions reflect their value preferences.

Concepts Related to Self-Efficacy

Self-Efficacy and Grit

Duckworth et al. (2007) have argued that traits like grit "might be essential to success no matter what the domain" (p. 1087). Usher et al. (2019) studied grit, self-efficacy, and the relationship to academic success. The study was conducted across four urban middle schools. They found that self-efficacy's relationship to academic outcomes had minimal evidence to support the concept of grit. They found students who demonstrated determination and endurance often did not perform better academically. However, the study also found that students who performed better showed a greater level of motivation. Findings from the study indicated that teachers should place greater emphasis on developing student self-efficacy rather than grit. The study supported

Bandura's theory that belief in one's academic efficacy is a reliable predictor of how well one will perform.

Self-Efficacy and Motivation

A study by Pajares (1996) found that self-efficacy and other expectancy beliefs have in common the sense of one's perceived capability; they differ in that self-efficacy is defined in terms of an individual's perceived capabilities to attain designated types of performances and achieve specific results (p. 546). Individuals will be motivated to engage in tasks when they value the outcome expected; they will be less predisposed to perform tasks whose outcomes they do not value (Pajares, 1996, p. 558). As Kurbanoglu (2003) noted, self-efficacy beliefs provide the foundation for human motivation, well-being, and personal accomplishment.

Self-Efficacy and Creativity

It has been noted by Sternberg (2003) that when building self-efficacy, all students have the capacity to be creators and to experience the joy associated with making something new, if they have a strong base for creativity. In order for children to grow academically, we must help children believe in their own ability to be creative and successful. Teaching for creativity requires teachers not only to support and encourage creativity but also to role-model it (Sternberg, 2003, p. 1).

According to Plucker (2016), "Creativity is defined as a product or idea that is novel and useful within a specific social context" (p. 5). Creating welcoming environments can address how children think creatively to attempt or complete reading tasks that build their self-efficacy. Research by Omdal and Graefe (2016) stated, "By making an effort to gain more understanding of creativity, creating a favorable climate

for students' creative expressions, and looking for opportunities to think harder inside the box for those spaces where creative thinking can be inserted, teachers communicate the value of creativity and how it can be part of everyday living" (p. 216). Furthermore, Amabile (1983) found that creativity is the degree to which outstandingly creative individuals feel influenced by social and environmental factors (p. 357).

Self-Efficacy and Learning

Children require time to try out and experience the new learning, Learning occurs vicariously through models, listening to others, engaging with print materials, and setting study goals. The relationship between self-efficacy and goal setting is reciprocal: goal setting helps to grow self-efficacy, while increased self-efficacy will impact and improve the quality of later goals.

The use of visual symbols to summarize cognitive processing such as organizing key charts and tables to help children master key ideas. Additionally, creating spaces for ample social interactions in and outside of the classroom is important as children take time to process information. Reading for pleasure also bears more influence on a child's academic performance than their social or economic background. Schunk and Pajares (2009) pointed out that self-efficacy has a "powerful influence on individuals' motivation, achievement, and self-regulation" (p. 35).

Student and Teacher Self-Efficacy

Furthermore, in a study examining the relationship between teacher self-efficacy, student self-efficacy, and student ability, Corkett et al. (2011) found that participants in the study based self-efficacy on their perceived reading and writing abilities, rather than on their actual abilities. This suggests that younger students may not establish self-

efficacy for reading and writing based on their actual performance and teachers can influence performance. These results suggest that teachers' perceptions were not correlated with a student's actual ability. Consequently, Corkett et al. (2011) concluded that teachers' perceptions of the students' self-efficacy for reading correlated with the student writing abilities. Verbal persuasion from teachers, peers, and parents can also have an effect in increasing or decreasing self-efficacy. Students who have low self-efficacy in reading and writing often rely on teacher feedback to determine their abilities (Schunk, 2003).

Self-Efficacy and Reading Comprehension

Self-efficacy may be conceived as a personal belief about what an individual is capable of learning or doing by means of organizing and carrying out actions that lead to a successful outcome (Unrau et al., 2018, p. 168). The study used Bandura's triadic model whereby interventions were used to modify a person's reading self-efficacy beliefs, which can play a role in influencing behaviors in the form of increasing reading engagement and the classroom environment. During the study, operational definitions measuring self-efficacy were presented as challenges.

Specifically, Schunk and Pajares (2009) stated, "Decontextualized or theoretical self-efficacy assessments that lack consistency with the criterion task distort the influence of self-efficacy" (p. 50). The results of the study found a substantial correlation between reading self-efficacy and reading comprehension. Researchers suggest that higher levels of self-efficacy are influenced and supported by higher levels of reading comprehension. As noted in previous research findings, self-efficacy has a rich and well-established

theoretical foundation as a motivational construct and engine for engagement (Bandura, 1997; Schunk & Pajares, 2004).

A study by Boakye revealed that there is a relationship between reading self-efficacy and reading proficiency. Boakye (2015) stated, "Reading self-efficacy could be defined as the beliefs students have in their ability to read successfully" (p. 2). Using a mixed-methods study with South African University students, Boakye's main focus was on student self-efficacy and the relationship to reading proficiency, given that many if not all students come from poor social and economic backgrounds. The study also sought to improve reading curricula by including self-efficacy as a main component. In addition to a self-efficacy survey focusing on interest, motivation, and attitude, Boakye administered the Test of Academic Literacy Levels (TALL) to determine students' reading proficiency and assess students' risk of failure. Boakye claimed that educational background, reading experience, and socioeconomic status influence reading proficiency.

Additionally, a study by Unrau et al. (2018) advanced the notion that self-efficacy has a direct impact on reading achievement. The researchers sought to review studies that analyzed the impact of interventions on reading self-efficacy and provide contextual information about the design and implementation of interventions that have an impact on educational outcomes. Control and comparison groups consisted of kindergarten through college students in 30 published and unpublished studies analyzing data that would identify a relationship between reading self-efficacy and reading comprehension.

Motivation and Reading Comprehension

Motivation is regarded as a driving force in children's reading development (Solheim, 2011, p. 3). Hasley (2014) found that many teachers continue to express

concern for issues such as student motivation to read, attitudes toward reading, and value of reading. Teachers have tools and resources used to assess reading levels and abilities. Knowing a child's reading level and choosing the appropriate reading materials for that level can set children up for reading success.

Solheim (2011) examined whether motivation predicts reading comprehension results in multiple choice and constructed response formats. This study had two purposes: first, to examine the format used to assess comprehension; and second to explore if motivation influences student performance on assessments. The study looked at 217 fifth grade students across 12 classrooms at five Norwegian public schools. Both boys and girls were studied from predominantly middle-class backgrounds. The classrooms served as the arena for reading comprehension tests administered by both the classroom teacher, researcher, and a research assistant. The study revealed that students with low self-efficacy experienced more difficulty in completing multiple choice reading questions when compared to constructed responses. However, the statistical data found a positive relationship for reading self-efficacy, revealing that students who believed themselves capable of performing well on multiple choice tasks were more likely to perform well. Solheim (2011) noted that students with low self-efficacy seem to avoid challenging reading tasks, and by doing so they miss out on opportunities to improve their reading comprehension (p. 21).

Self-Efficacy and Lifelong Learning

Finally, a study by Kurbanoglu (2003) advances the notion that self-efficacy beliefs are correlated with lifelong learning. Kurbanoglu explored students' perceived self-efficacy in information and computer literacy. The study surveyed 179 randomly

selected undergraduate students. Kurbanoglu found students needed opportunities to practice different experiences to achieve success. Talented people may suffer from self-doubt about the capabilities they possess; on the other hand, despite possessing only a modest repertoire of skills, other people may be confident about what they can accomplish (Kurbanoglu, 2003, p. 642). The findings of this study suggested that effective approaches and techniques can be developed to have a positive impact on a student's level of self-efficacy in relation to knowledge and skills.

CHAPTER 3: METHODS AND PROCEDURES

The purpose of this chapter is to introduce the research methodology for this quantitative study. The study looks at the relationships between self-efficacy and reading achievement for minority elementary school students in an urban environment.

This investigation analyzes data from the 2013 National Assessment of Education Progress (NAEP) Fourth-Grade Reading Assessment. The study specifically looked at four predictors of reading achievement: ethnicity/race, gender, socioeconomic status, and independent variables for motivational factors. The researcher extrapolated self-reported, teacher, parent, and student questionnaires from the 2013 NAEP Fourth-Grade Reading Assessment to serve as the independent variables for the motivational factors.

This chapter discusses the following topics: (a) research design, (b) research questions and hypotheses, (c) research ethics, (d) a thorough description of the NAEP and the NAEP Reading Assessment, (e) a description of NAEP test administration and data collection procedures, (f) a discussion of NAEP reliability and validity, and (g) a description of the data analysis done by this researcher.

Research Design

Creswell (2003) is frequently cited for arguing that "a quantitative approach is appropriate when a researcher seeks to understand relationships between variables." According to Goertzen (2017), "findings generated from quantitative research uncover behaviors and trends" (p. 12). This methodology allowed for a statistical analysis of the data. Another aspect of quantitative research is the importance of counting and measuring. Goertzen (2017), provided information on the main advantages of quantitative research (p.13). These advantages include the following:

- Findings can be generalized to a specific population.

- Data sets are large, and findings are representative of a population.

- Documentation regarding the research framework and methods can be shared and replicated.

- Standardized approaches permit the study to be replicated over time.

The purpose of this study was to examine the self-efficacy and the relationship to reading achievement; this supported the choice of a quantitative approach.

Furthermore, Goertzen (2017) noted that, "Quantitative research methods are concerned with collecting and analyzing data that is structured and can be represented numerically" (p. 12). Therefore, a quantitative methodology using survey research was selected as the most appropriate research design for the study. This choice was also informed by Pang and Kamil (2004) who discovered that policymakers have become focused on experimental quantitative research to guide their policies governing the formulation and implementation of instruction (p. 101). Given that this researcher sought to influence policy, a quantitative survey research design was most aligned with her research goals.

Research Questions and Hypotheses

This non-experimental quantitative research study analyzes the 2013 NAEP Fourth-Grade Reading Assessment's restricted reading data set to explore the relationship between self-efficacy and reading achievement. To determine the impact on reading achievement, factors were created for socioeconomic status (SES), home resources, reading self-efficacy, and reading self-concept.

This research focused on the relationships between self-efficacy, socio-economic status, gender, race/ethnicity, and student reading proficiency. The study was guided by three research questions and three corresponding hypotheses:

4. Research Question #1. What is the relationship between self-efficacy and student reading achievement?

    $H_0$1. There will be no statistical significance between self-efficacy and student achievement.

5. Research Question #2. Is there a significant relationship between self-concept and socioeconomic status on student reading achievement?

    $H_0$2. There will be no statistical significance between self-concept and socioeconomic status on student reading achievement.

6. Research Question #3. Is there a significant relationship between self-efficacy on student achievement for any of the independent variables: gender, race/ethnicity, and socioeconomic status?

    $H_0$3. There will be no statistical significance between self-efficacy on student achievement for any of the independent variables: race/ethnicity, socioeconomic status, and gender.

Protection of Human Subjects

The researcher adhered to specific guidelines set forth by the Internal Review Board (IRB) at St. John's University and NCES. The researcher participated in the National Institutes of Health Research Ethics Training Curriculum, passing the online test and submitting the required curriculum evaluations (see Appendix A). All research projects proposed by students are submitted to the St. John's University IRB to ensure

protection for the rights and welfare of participants involved in the study. This researcher

met the IRB requirements and received approval to conduct this study (see Appendix B).

The researcher ensured all ethical protocols were followed and remained a top priority

throughout the study. Additionally, the researcher signed an affidavit of disclosure in

order to have access to the restricted data set required for the study. Furthermore, St.

John's University complied with all NCES requirements concerning licensing for the

restricted data set.

Overview of NAEP

The NAEP has been called the "Nation's Report Card. The NAEP is the only

assessment that measures what U.S. students know and can do in various subjects across

the nation, with data accessible at the state level as well as for some urban districts. The

intent of NAEP is measure achievement data in arts, civics, economics, geography,

technology and engineering literacy, reading, mathematics, and science.

The NAEP national Governing Board, created by Congress in 1988, sets policy

for NAEP and is responsible for the development of the reading framework as well as the

test specifications that serve as a guide and blueprint for assessments. The Board is an

independent, bipartisan group appointed by the Secretary of Education and include

governors, state legislators, local and state school officials, educators, business

representatives, and members of the general public (NCES, 2009). It is the responsibility

of the Board to develop a framework for all NAEP assessments. The framework defines

the scope of the domain to be measured by delineating the knowledge and skills to be

tested at each grade, the format of the NAEP assessment, and the achievement levels

(NCES, 2019b).

The NAEP Reading Assessment

The NAEP 2013 reading assessment measures national, state, regional, and subgroup reading assessment data. The 1992-2007 NAEP reading framework was revised to measure student reading abilities and behaviors more accurately (see Table 1, below). The assessment measures reading comprehension by asking students to read passages written in English and to answer questions about what they have read The assessment measures a student's reading ability in comprehension of literary and informational texts. The literary texts consist of fiction, poetry, and literary nonfiction; the informational texts consist of exposition, procedural texts and documents, and argumentative and persuasive texts. Vocabulary is explicitly assessed within the context of the passage and assesses not only comprehension but the word meaning as intended by the author of the passage. Assessment questions for both literary and informational texts measure one of the three cognitive targets: locate and recall, integrate and interpret, and critique and evaluate.

Achievement levels on the NAEP reading assessment are performance standards describing what a student should know and be able to do. Levels consist of basic, proficient, and advanced. Levels at or above the proficient indicate stable academic performance and competency with challenging subject matter in reading. The development of questions and tasks based on the reading frameworks are spearheaded by NAEP contractors.

Table 1

NAEP Comparison of Reading Framework Similarities and Differences (1992–2007 and 2009–2013)

	1992–2007		2009–2013	
Content	Content of assessment: literary, informational, document	Contexts for reading: literary experience, information, perform task	Literary text: fiction, literary nonfiction, poetry	Informational text: exposition argumentation and persuasive text, procedural text, documents
Cognitive Processes	Stances/aspects of reading: · Forming general understanding. · Developing interpretation. · Making reader/text connections · Examining content and structure.		Cognitive targets distinguished by text type • Locate/recall • Integrate/interpret • Critique/evaluate	
Vocabulary	Vocabulary as a *target* of item development, with no information reported on students' use of vocabulary knowledge in comprehending what they read.		Systematic approach to vocabulary assessment with potential for a vocabulary sub score.	
Poetry	Poetry included as stimulus material at grades 8 and 12.		Poetry included as stimulus material at all grades.	
Passage Source	Use of intact, authentic stimulus material.		Use of authentic stimulus material plus some flexibility in excerpting stimulus material.	
Passage Length	Grade 4: 250–800		Grade 4: 200–800	
Passage Selection	Expert judgment as criterion for passage selection.		Expert judgment and use of at least two research-based readability formulas for passage selection.	
Item Type	Multiple-choice and constructed-response items included at all grades.		Multiple-choice and constructed-response items included at all grades.	

Note: Adapted from (National Assessment Governing Board, 2012, p. 4).

NAEP Procedures for Test Administration and Data Collection

Data were gathered from the 2013 NAEP Reading Assessment for fourth grade students. Schools received reading booklets that included a school booklet serial number and a booklet number for each student. All public schools receiving Title 1 funds were mandated to participate in the biennial state reading assessment. Test assurance of assessment materials and quality control measures were in place to ensure accuracy of the data and results. To maximize student participation and guarantee inclusion for all students, testing accommodations are granted with supporting documentation when needed. Field staff were assigned before, during, and after the assessment to ensure all legal and state requirements were met and to minimize the risk of incomplete or inaccurate data being returned.

The reading assessment is administered in paper and pencil format and requires students to read grade appropriate passages and answer questions based on the readings. Fifty percent of the passages are literary, and fifty percent are informational/. To approximate what students are reading in and out of school, passage lengths reflect typical daily reading encounters. The number of words per reading assessment range from 200 to 800 words.

NAEP calculates a student's "five plausible values" rather than a student's individual reading assessment score. The NAEP (NCES, 2020) describes plausible values as "proficiency estimates for an individual NAEP respondent, drawn at random from a conditional distribution of potential scale scores for all students in the sample who have similar characteristics and identical patterns of item responses." Each respondent is assigned a plausible value.

Reliability and Validity

The NAEP has been gathering student achievement data since 1969. The NAEP assessments have been deemed both reliable and valid by scholarly researchers (Edley & Koenig, 2017). Furthermore, NAEP has released the following statement about the validity, reliability, and professional standards for their assessments (NCES, 2012):

The assessment and item specification shall produce an assessment that is valid, reliable, and based on relevant widely accepted professional standards. The specifications shall also be consistent with Governing Board policies regarding NAEP design, such as groupings of items, test administration conditions, and accommodations for students with disabilities and English language learners. The specifications shall be reviewed by technical experts involved in the process, prior to submission to the Governing Board.

Population and Sample

Standardized testing has become an alternative for states to evaluate school and student performance. The 2013 NAEP Reading Assessment is a restricted data set compiled from a nationally representative sample (see Table 2, below). The study assessed schools and students in all 50 states, the District of Columbia, and schools provided internationally to children of parents who work for the United States Department of Defense.

To ensure the equalizing of the sample units to represent the portion of the sample population, NAEP uses weights intended to correct unequal probabilities of selection due to sample design. NAEP assigns each sampled student a weight that accommodates the sampling design and reflects adjustments for nonparticipation. When data from sample

surveys are reported, the standard error is calculated for each estimate and the standard

errors for all estimated totals, means, medians, or percentages are reported in the NAEP

reference tables (NCES, 2019a).

Table 2

Target Population and Sample Size: 2013 NAEP Grade 4 Reading Assessment (NCES, 2019a)

Category	Sample Size	Target Population
Public Schools	189,400	3,578,000
Private Schools	3,200	308,000
Total	196,000	3,896,000

Analysis of Data

This non-experimental meta-analysis analyzed archived statistical data from

NAEP reading assessment participants. Meta-analysis is a quantitative method for

exploring and summarizing the results of studies (Pang & Kamil, 2004). In 2013, NAEP

replaced its manual process of quality control to an automated system for capturing data

and a comprehensive examination of the response data. Bronfenbrenner (1977) proposed

that one way to make research more ecologically valid was to use computers to collect a

great deal of data about the conditions surrounding the research context.

Selection of NAEP Variables

The researcher reviewed the NAEP reading assessment response variables and

selected student response variables that were aligned with student reading achievement

and measures of self-efficacy. Additionally, three variables were selected as the

independent variables: gender, race/ethnicity, and socioeconomic status. Finally, the

researcher selected variables that were aligned with reading achievement, home

resources, and reading self-concept and efficacy. Table 3, below, indicates the list of variables selected for the study.

Statistical Analysis

Statistical Package for the Social Sciences (SPSS) was used to analyze and manage the 2013 NAEP reading assessment data and the create statistical models. In addition to using SPSS to analyze the data, the researcher utilized the American Institute for Research (AIR) AM Beta for analyzing intricate data samples and large data samples such as NAEP. The AM Beta's primary focus is to estimate regression models. AIR ensures that AM is a free resource readily available to researchers.

All variables were extracted from the 2013 NAEP Reading assessment restricted use data files utilizing NAEPEX software provided as part of the NAEP Data Toolkit. After receiving the scores, the researcher entered the data into an Excel spreadsheet and copied the information to the SPSS statistical software version 0.06.04. Reliability of the data was calculated using Cronbach's alpha for all factors. Upon completion of these steps, the researcher proceeded to import the data set into the AM Beta statistical software. For each research question, data from the schools was entered into SPSS and variables were added to identify groups.

Background variables from the reading assessment and school data were synthesized into factors. The researcher conducted a factor analysis using a principal component extraction method and a varimax rotation. Correlation coefficients using Pearson's *r* were utilized to determine the strength of the relationship between self-efficacy and reading achievement.

Table 3

List of NAEP Variables Selected for the Study

NAEP Item #	Research Factor	NAEP Student Survey Statement
B013801	SES	Books in home
B017101	SES	Computers in home
B0267A1	SES	Access to the Internet
B0267B1	SES	Clothes dryer just for your family
B0267C1	SES	Dishwasher
B0267D1	SES	More than one bathroom
B0267E1	SES	Your own bedroom
B018101	SES	Days absent from school last month
B001151	RSE	Pages read in school and for homework per day
B017451	RSC	Talk about studies at home
R831001	RSE	Read for fun on own
B018201	SES	Language other than English spoken in home
R836601	RSE	Difficulty of this reading test
R847001	RSE	Read a book you choose yourself
R836701	RSE	Effort on this reading test
R836801	RSC	Importance of success on this reading test
R846101	RSC	Reading is a favorite subject
R831101	RSC	Talk with friends about what you read
T097204	PD	Prof dev-instructional methods for reading
T097205	PD	Prof dev-methods for assessing in reading
T097201	PD	Prof dev-how students learn reading
T097203	PD	Prof dev-curricular materials in reading

Table 3, continued

NAEP Item #	Research Factor	NAEP Student Survey Statement
T097202	PD	Prof dev-content standards in reading
T097206	PD	Prof dev-prep students for district/state assessments
T097207	PD	Prof dev-teaching reading students w/diverse backgrounds
T126010	TE	Grad major/minor ELL
T126005	TE	Grad major/minor reading, language arts, literacy education
T126008	TE	Grad major/minor education (elementary/early childhood)
T122125	PD	Prof dev-individual/collaborative research: Yes arts
T122128	PD	Prof dev-independent reading on regular basis: Yes arts
T122113	PD	Prof dev-mentor/peer observation/coaching: Yes arts
T122110	PD	Prof dev-observation visit to other school: Yes arts
T122119	PD	Prof dev-regular schedule discussion/study group: Yes arts
T122122	PD	Prof dev-teacher collaborative or network: Yes arts
T122104	PD	Prof dev-workshop or training session: Yes arts
T118802	TE	Undergrad major/minor English-language learning
T126005	TE	Undergrad major/minor reading language arts, literacy education
T077312	TE	Undergrad major/minor education w/elementary
T125801	TE	Hold valid regular/standard teaching certificate
T105501	TE	Role in teaching reading/language arts

CHAPTER 4: RESULTS

Chapter 4 presents the data from the statistical analysis of the 2013 Fourth Grade NAEP Reading Assessment. The chapter addresses the research questions and hypotheses. The researcher used NAEP assessment variables and constructed factors to analyze the data. These variables and factors are reported through factor analysis, plausible values, and t-tests in response to the three research questions presented. Plausible Value Regression was used to test the hypotheses. The results presented in this chapter provide quantitative data on current trends that suggest best practices to increase reading achievement for minority students in urban environments. These are discussed in Chapter 5. The following three research questions guided this study:

1. What is the relationship between self-efficacy and student achievement?

2. What is the relationship between self-concept and socioeconomic status on student reading achievement?

3. Is there a significant relationship between self-efficacy on student achievement for any of the independent variables: gender, race/ethnicity, and socioeconomic status?

Factor Analysis

To determine the underlying relationships between the selected NAEP variables, the researcher conducted exploratory factor analysis using principal component extraction method with varimax rotation for three variables: (1) self-efficacy, (2) self-concept, and (3) socioeconomic status. Four criteria were used to select the factor components: (1) an eigen values greater than 1; (2) factor loadings over .3000; (3) factor loadings that loaded to only one factor; ad (4) items fit the underlying theories. Principal

Component Analysis (PCA) was used to create factors that allowed the researcher to observe relationships and common trends among the factors.

Self-Efficacy and Home Resources

Regression analyses were conducted to determine if a relationship existed among the factors. To comprise the factor for self-efficacy, the researcher loaded 14 variables from the NAEP dataset into SPSS: (1) reading is a favorite subject, (2) read for fun on own, (3) talk with friends about what you read, (4) make presentations to class about something read, (5) read aloud, (6) read articles/stories from magazines or newspapers, (7) read a book you chose yourself, (8) read silently, and (9) books in home. This group had positive factor loadings ranging from .629 to .757. The other five variables belonged aligned with home resources; these factors loadings ranged from .437 to .794. (See Table 4, below.)

Socio-Economic Status and Home Resources

The researcher conducted a factor analysis (see Table 5, below) using six of the previous variables and adding the variable "computer in home" to the PCA; these factors related to socioeconomic status. Factor loadings for this analysis ranging from .441 to .878. The variables dishwasher, clothes dryer just your family, more than one bedroom, and access to the internet revealed factor loadings that ranged from .441 to .796. Although more than one bedroom is associated with socioeconomic status, the factor score was .441. Books and computers in the home were closely related to home resources; these factor loadings were the highest at .806 and .878, respectively.

Table 4

Factor Analysis – Self-Efficacy and Home Resources

	Component	
	1	2
Reading is a favorite subject	.757	
Read for fun on own	.724	
Talk with friends about what you read	.714	.121
Make presentation to class about something read	.698	.266
Read aloud	.654	.205
Read articles/stories from magazines or newspapers	.649	.199
Read a book you chose yourself	.643	
Read silently	.636	
Books in home	.629	-.195
Dishwasher		.794
Clothes dryer just for your family		.761
More than one bathroom		.737
Access to the internet	.126	.616
Your own bedroom		.437

Note: Extraction Method: Principal Component Analysis
Note: Rotation Method: Varimax with Kaiser Normalization, convergence in 3 iterations

Table 5

Factor Analysis – SES and Home Resources

	Component	
	1	2
Dishwasher	.796	
Clothes dryer just your family	.762	
More than one bedroom	.743	
Access to the internet	.626	.221
Your own bedroom	.441	.122
Books in home	-.159	.878
Computer in home	.367	.806

Note: Extraction Method: Principal Component Analysis
Note: Rotation Method: Varimax with Kaiser Normalization, convergence in 3 iterations

Self-Efficacy and Self-Concept

The seventeen variables included high factor loadings for self-efficacy and self-concept ranged from .553 to .903 (see Table 6, below). Two distinct groups emerged from the variables.

The first eleven variables were associated with reading self-efficacy, with factor loadings ranging from .381 to .850: (1) effort on this reading test, (2) difficulty of this reading test, (3) importance of success on this reading test, (4) talk about characters, (5) explain story in own words, (6) write about what you read, (7) class discussion about something class has read, (8) work in groups to talk about something read, (9) read aloud, (10) read silently, and (11) read a book you chose yourself. Upon further review, it was observed that the first five variables in the rotated component matrix were clearly related to self-efficacy with high factor loadings ranging from .724 to .850.

The six remaining variables created a second distinct group and were strongly related to self-concept: (1) read for fun on own, (2) reading is a favorite subject, (3) talk with friends about what you read, (4) do reading at after school or tutoring program, (5) make presentation to class about something read, and (6) read articles/stories from magazines or newspapers. These variables had factor loadings ranging from .381 to .850.

Teacher Best Practices

Fourteen variables (Table 7, below) were extracted using PCA generating a single factor, teacher best practices. Best education practices include a wide range of individual activities, policies, and programmatic approaches to achieve positive changes in student attitudes or academic behaviors (Educational Opportunity Association, 2015).

Six factors produced strong factor loadings, ranging from .708 to .737: (1) make a presentation to class about something (2) read, (3) explain a story in your own words, (4) do reading at after school or tutoring program, (5) talk about characters, and (6) read aloud. The remaining eight factors displayed positive factor loadings, ranging from .619 to .699: (1) write about what you read, (2) reading is a favorite subject, (3) talk with friends about what you read, (4) read articles/stories from magazines or newspapers,(5) read for fun on own, (6) class discussion about something class has read, (7) work in groups to talk about something read, (8) read a book you chose yourself, and (9) read silently.

Table 6

Factor Analysis – Self-Efficacy and Self Concept

	Component	
	1	2
Effort on this reading test	.850	-.190
Difficulty of this reading test	.836	-.144
Importance of success on this reading test	.759	
Talk about characters	.732	
Explain story in own words	.724	
Write about what you read	.571	.175
Class discussion about something class has read	.565	.103
Work in groups to talk about something read	.551	.117
Read aloud	.515	.257
Read silently	.398	.278
Read a book you chose yourself	.381	.294
Read for fun on own	-.185	.903
Reading is a favorite subject	-.131	.894
Talk with friends about what you need		.765
Do reading at after-school or tutoring	-.183	.618
Make presentation to class about something read	.245	.561
Read articles/stories from magazines or newspapers	.169	.553

Note: Extraction Method: Principal Component Analysis
Note: Rotation Method: Varimax with Kaiser Normalization, convergence in 3 iterations

Table 7

Factor Analysis – Teacher Best Practices

	Component	
	1	2
Make presentation to class about something read	.737	
Explain story in own words	.727	-.301
Do reading at after-school or tutoring program	.716	.262
Talk about characters	.715	-.285
Read aloud	.708	-.126
Write about what you read	.699	-.302
Reading is a favorite subject	.681	.485
Talk with friends about what you read	.677	-.326
Read articles/stories from magazines or newspapers	.661	.124
Read for fun on own	.640	-.496
Class discussion about something class has read	.629	-.353
Work in groups to talk about something read	.628	-.339
Read a book you chose yourself	.621	
Read silently	.619	

Note: Extraction Method: Principal Component Analysis, 2 components extracted

Teacher Education and Professional Development

The next PCA produced six factors (see Table 8, below). Factor nine contained 22 variables with factor loading that exceeded .30, ranging from .810 to .868. After further review, it was observed that the first six variables in the rotated component matrix were aligned to reading professional development with strong factor loadings ranging from .755 to .868. These factors demonstrate a clear indication that the variables within the factor are strongly related to each other (1) professional development related to methods for reading, (2) assessing in reading, (3) how students learn reading, (4) content standards in reading, (5) prep students for district/state assessments, and(6) teaching reading students with diverse backgrounds.

Undergraduate major or minor in English language learning, language arts, and literacy education (Component 4) revealed two positive factor loadings, .638 and .665. Component 5 refers to certification, and Component 6 the role in teaching reading/language arts.

Table 8

Factor Analysis – Teacher Education and Professional Development

	Component					
	1	2	3	4	5	6
PD: instructional methods for reading	.868		.163			
PD: methods for assessing in reading	.859		.180			
PD: how students learn reading	.822		.147			
PD: curricular materials in reading	821		175			
PD: content standards in reading	.810		.180			
PD: prep students for assessments	.774		.188			
Prof dev-teaching diverse students	.755		.156			
Grad major/minor ELL		.908	-.117	-.280		
Grad maj/min reading, lang. arts, lit. ed		.862	-.113	-.350		
Grad maj/min ed. (elem./early childhood)		.810	-.118	-.433		
PD: ind./collaborative research: Yes arts	-.270		.510	-.107	.180	-.417
PD: ind. reading on regular basis: Yes arts	-.294	.103	.499	-.121	.255	-.244
PD: mentor/peer obs./coaching: Yes arts	-.305		.495		-.448	.355
PD: obs. visit to other school: Yes arts	-.294		.482		-.448	.376
PD: reg. sched. Disc./study group: Yes arts	-.333		.471		.119	
PD: teacher coll. or network: Yes arts	-.317		.430	-.110		-.272
PD: workshop or training session: Yes arts	-.326	.108	.359		.231	.190
UG maj/min English-language learning	.116	.580		.665		
UG maj/min reading, lang., literacy ed.		.569		.638		
UG major/minor education w/elementary		.344		.532	.164	
Hold valid reg/standard teaching certificate		.129	.128		.504	.380
Role in teaching reading/language arts					.438	.502

Note: Extraction Method: Principal Component Analysis, 6 components extracted

Hierarchical Regression Analyses

The researcher utilized the AM Statistical Software program from the American Institute for Research (AIR) to analyze the plausible values. The software reports the F-statistic and its corresponding *p*-value for the regression model, including the significance of the contribution of each variable to the regression equations reported as *z*-scores. The

program allowed the researcher to analyze complex samples from the large-scale assessment survey data. The Root Mean Square Deviation (RSME) was used to measure the differences between values; the RSME allowed the units of measure to be the same as the dependent variables.

In order to determine a student's socioeconomic status, the researcher used the NAEP variable National Lunch Program Eligibility. The study included 170,020 observations after the researcher conducted the elimination of missing values.

The researcher utilized a hierarchical regression process using four dependent plausible reading values scores to determine which factors and variables were significant predicators of student reading achievement as measured by the mean scores of the 2013 NAEP fourth grade assessment. The four research-generated independent factors include: (F1) socioeconomic status, (F2) limited English proficiency, (F3) self-concept, and (F4) gender.

Research Question 1

Research Question 1 asked, "What is the relationship between self-efficacy and student achievement?" An investigation of the variables self-efficacy and student achievement revealed they were predictors of fourth grade reading achievement, showing a statistically significant relationship. Table 9 shows the multiple regression analyses that explored the not post-stratified data using all ten Plausible NAEP reading values for the dependent variable self-efficacy.

Table 9

Plausible Value Regression – Step Two

Parameter Name	Estimate	Standard Error	z Score	p > [z]
Constant	222.075	1.89	117.474	0.000
(F1) Socioeconomic Status	-15.822	0.264	-59.971	0.000
(F2) Home Resources	5.589	0.359	15.568	0.000
(F3) Self-efficacy	-5.592	0.291	-19.243	0.000
(F4) Self-concept	4.407	0.401	10.997	0.000
(F5) Reading Professional Development	-0.302	0.242	-1.245	0.213
(F6) Graduate Education	-0.658	0.226	-2.919	0.004
(F7) Undergraduate Education	-0.102	0.248	-0.41	0.682
(F8) Teacher Professional Education	-0.375	0.276	-1.357	0.175
(F9) Teacher Best Practices	1.033	0.25	4.134	0.000
(F10) Teacher Qualifications	-0.491	0.245	-2.003	0.045
Root Mean Square Error	33.571			

Note: $p < .0$
Note: $F(10,115) = 513,522$, $R^2 = 0.219$, $= 0.22$
Note: Dependent Variable: Plausible NAEP reading value #01 (literary)

Research Question 2

Research Question 2 asked, "What is the relationship between self-concept and socioeconomic on student reading achievement?" An investigation of the between self-concept and socioeconomic revealed they were predictors of fourth grade reading achievement, showing a statistically significant relationship. Table 10 shows the plausible value regression.

Table 10

Plausible Value Regression – Step One

Parameter Name	Estimate	Standard Error	z Score	p > [z]
Constant	184.980	1.100	168.202	0.000
(FI) Socioeconomic Status	-15.492	0.184	-84.033	0.000
(F2) Does student have limited English proficiency	10.098	0.336	30.069	0.000
(F3) Self-Concept	2.375	0.179	13.269	0.000
(F4) Gender	6.829	0.276	24.758	0.000
Mean Square Error	1086.660			

Note: P < 0
Note: F(4, 121)=2403.66, R^2=0.244,=0.24
Note: Dependent Variable: Plausible NAEP reading value #05 (literary)

The assessment data had 117,450 observations after the elimination of values. For a = 0.05, the overall test for the model was determined to be significant $(F(4, 121) = 2403.66, p < .0001)$. Moreover, based on the R^2 value of .187, the variable self-concept and socioeconomic status in this model predicted 24% of the variance in the reading results. The researcher observed the unstandardized coefficients for the variable SES (-15.492) occurred because of the direction of the coding. Nevertheless, the negative unstandardized coefficient demonstrates that lower SES point to lower predicted reading achievement.

Research Question 3

Research Question 3 asked, "Is there a significant relationship between self-efficacy on student achievement for any of the independent variables: gender, race/ethnicity, and socioeconomic status?" The relationship between self-efficacy and the

independent variables gender, race/ethnicity, and socioeconomic status are evident in the plausible value regressions displayed in Table 9, above. It is important to note that a factor analysis was conducted for minority students were predictors of fourth-grade reading achievement, and was statistically significant.

Data analysis showed that both independent variables self-concept (2.375) and gender (6.829) contributed to the represented model at $p < 000$. The positive unstandardized coefficient for the variable gender (6.829) indicated that girls were predicted to achieve higher reading scores on the fourth grade NAEP reading assessment, an unexpected result.

Other Notable Findings: Teacher Best Practices

Also noted was the statistically significant relationship of the factor teacher best practices. Socioeconomic status is closely linked to home resources, which has a statistically significant relationship with reading achievement.

Another plausible value regression analysis was employed using the second level of the hierarchical regression process, which added eight variables to the level one regression model: (1) resources, (2) self-efficacy,(3) reading professional development, (4) graduate education, (5) undergraduate education, (6) teacher professional education, (7) teacher best practices, and (8) teacher qualifications. These variables were added to further predict the reading achievement.

Four variables were significant predictors of student reading achievement in this calculation: (1) socioeconomic status, (2) resources, (3) self-efficacy and self-concept, and (4) teacher qualifications. In this step of the plausible value regression model, 22% of

the variance was explained by the variables explored (R^2=0.219). The test for the model

was determined to be significant ($F(10,115) = 513,522$, $p < .000$).

CHAPTER 5: DISCUSSION

This chapter provides a synopsis of the findings from the data analysis: (a) implications of findings, (b) relationship to prior research, (c) limitations of the study, (d) recommendation for future research, and (e) recommendations for future practice. The researcher's purpose in this study was to analyze the results of the 2013 NAEP Fourth Grade Mathematics Assessment to determine if factors self-efficacy, self-concept, socioeconomic status, gender, and race/ethnicity influence reading achievement for minority student in fourth grade in urban environments.

This study has significant implications on the national level as educational decision-making is influenced by the ESSA. One critical component of ESSA includes advancing equity for the nation's most disadvantaged and high-need students as well as ensuring families are well informed about academic standards and assessments.

Summary and Key Findings of the Study

The current study was exploratory, given that researchers have not yet thoroughly established the relationships between self-efficacy and reading achievement. In this quantitative study, the researcher examined how self-efficacy is linked to reading achievement for fourth-grade minority students in urban environments. The outcome of this study in the context of existing research on the relationship between self-efficacy and reading achievement reinforces the need for more work to be done in preparing students to be proficient readers.

The research design used a hierarchical regression process with 10 dependent plausible variables from composite values in the 2013 NAEP reading assessment to determine which factors were significant predictors and indicators of minority students'

reading achievement in fourth grade. Overall, this study's findings strongly support the hypothesis that there is a relationship between self-efficacy and reading achievement for fourth-grade minority students. The study results also show a statistically significant relationship between self-efficacy, self-concept, socioeconomic status, home resources, teacher best practices, and reading achievement. This research adds to existing body of research in bringing deeper understandings of how self-efficacy, self-concept, and socioeconomic status impact reading outcomes.

After analyzing the reading achievement data related to socioeconomic status, race/ethnicity, and gender, the researcher identified many predictors of achievement among these subpopulations. There were statistically significant correlations between self-efficacy, home resources, socioeconomic status, teacher best practices, and self-concept. This study also revealed variance between self-efficacy and socioeconomic status, home resources, self-concept, and teacher best practices. The data from this study clearly indicate that self-efficacy has a significant impact on reading achievement. Additionally, effective teacher best practices can positively influence a child's reading performance. Based on the analysis of the data, the following six conclusions are supported by the findings of this study:

1. Students with a high level of self-efficacy have greater achievement levels in reading.

2. Students with high self-concept and high socioeconomic status show greater achievement levels in reading.

3. Higher socio-economic status was a significant predictor of reading achievement for minority students.

4. Teacher best practices influenced the overall reading achievement of minority students.

5. Home resources were a significant predictor of reading achievement.

6. Students with low socioeconomic status typically have limited home resources.

Relationship of This Research to Prior Research

Lee and Johnson-Reid (2015) conducted a study, correlated with Bandura's Self-Efficacy Theory (1997), on how self-efficacy impacts the reading achievement of 833 at-risk elementary students; they found academic self-efficacy had a positive impact on academic achievement in the domain of reading ability.

Kurbanoglu (2003) presented a strong argument that individuals form their self-efficacy beliefs by interpreting information from previous experiences. This notion is directly related to Bandura's (1986) concepts of personal factors, environmental factors, and behavior playing a role in human functioning. Kurbanoglu (2003) found that self-efficacy had a positive correlation with student information literacy and computer mastery. The combination of student information literacy skills and self-efficacy influence reading practices and promote opportunities for effectively using reading skills.

Several studies have shown a relationship between reading self-efficacy and reading achievement. Solheim (2011) studied 517 fifth graders in Norwegian public schools to determine if self-efficacy predicted reading comprehension. This study found a positive relationship for reading self-efficacy. Usher (2019) studied grit and self-efficacy, validating Bandura's Self-Efficacy Theory but finding no correlation to grit. However, this study found a relationship to motivation, supporting the notion that teachers should focus more on developing students' self-efficacy, which is a component of motivation.

It is interesting to note that Walberg and Tsai (1983) reported the Matthew Effect in their study; children with a low level of achievement also demonstrated lower academic progress rates than their counterparts. The data showed that there is a direct alignment between socioeconomic status and reading achievement.

Krashen (2012) advanced the notion that low-income families had fewer books, or even no books, in their home compared to families with higher incomes. Willingham (2012) directly correlates socioeconomic status and academic achievement, including reading skills. More recent research continues to find a negative relationship between absence of books in the home and achievement, particularly as family socioeconomic status declines (Krashen, 2012).

Limitations of the Study

While the current research study found a statistically significant relationship between self-efficacy and reading achievement, several notable limitations must be acknowledged. First, the restricted data set did not provide any background information, guidance, or evidence as to the relationships between the reading assessment and student actions, feelings, and thoughts.

Second, this study was constrained by the limitations of variables available for analysis on the NAEP reading assessments. Additional variables such as non-instructional data that can inform reading should be added to the NAEP in the future. Suggested variables include early schooling, attendance, and physical and mental health services would increase opportunities for researchers.

Finally, at the time of the data retrieval, more recent NAEP reading assessment data was not available. Current data will predictably align with updated and relevant

reading practices and research. Therefore, the study's findings are important given the need to ensure students are equipped with the self-efficacy skills, strategies, and techniques necessary to succeed in middle school, high school, and beyond (Jackson & Andrews, 2003).

Implications for Future Practice

This study's results have several implications for future practice in increasing the reading achievement for minority students in urban environments who are not meeting grade-level standards. The relationship between self-efficacy and reading achievement was incontrovertible. Thus, schools should proactively seek out strategies and techniques to improve student self-efficacy, especially for minority students from low-SES families. Classroom teachers would be wise to focus more on efforts to improve a child's reading self-efficacy and to increase positive child relations.

Second, teacher best practices were clearly shown to influence reading achievement. The implications here include developing a systemwide approach to ongoing district and school-level professional development in strategic reading, content pedagogy, assessment, and high-quality, rigorous teaching. Families and educators must hold policymakers accountable for developing a coherent reading system for transforming our lowest-performing schools where the majority of school districts serve minority students.

Additional implications for future practice include analyzing student reading achievement in the context of student self-efficacy. This would help policymakers and educators better understand and identify strengths and weaknesses in student performance; this in turn would help educators to make better informed decisions about

the changes in education reform. For example, teachers are apt to be more interested in useful educational implications, sensible intervention strategies, and practical ways to alter self-efficacy beliefs that are inaccurate and debilitating to children (Pajares, 1996, p. 568).

Implications for Future Research

Educators must stay abreast of research methodologies and pedagogical practices related to reaching achievement in order to advance minority achievement in reading. Significant disparities in reading proficiency exist between White and minority children in fourth and eighth grades; test scores for minority students were lower in 2019 compared to 2017, an alarming trend in the wrong direction (NCES, 2019b). Policymakers must stay abreast of these kinds of trends as they make decisions that influence reading best practices, especially for low socioeconomic, disenfranchised, and/or vulnerable populations who are difficult to reach. There are lasting implications such as perpetual poverty for minority students if this reading achievement gap continues. Increased research addressing the impact of socioeconomic status ,specifically home resources, is essential.

Equally important is research exploring the psychological factors that affect students' perceived self-efficacy in reading. Such research will contribute to districts and schools developing quality teacher professional development resulting in positive academic outcomes.

Additionally, more research is needed to understand and address the relationships between self-efficacy, parent involvement, and reading achievement in education. Parental involvement has a major impact on child reading outcomes. When parents are

actively involved in their child's education, they have a greater understanding of the instructional and behavioral expectations; this gives them the power to better meet their child's needs. Schools that focus on building a trusting and respectful relationship with families and community can increase overall involvement, especially among non-English speaking parents.

Conclusion

The United States Department of Education has helped improve equality in education with the adoption of ESSA; however, many children are still not benefiting from education laws. Education policies address some of the underlying roots of achievement disparities but they often ignore interactions between race, ethnicity, and socioeconomic factors (Paschall et al., 2018, p. 1).

Educators and researchers should investigate what strategies and techniques maximize self-efficacy, focusing on minority students to increase reading achievement levels. As researchers and policymakers should continue to investigate the indicators that increase minority student self-efficacy and the reading achievement trajectory. Furthermore, it is critical to consider teacher best practices in reading and attendance. It is this researchers' hope that through educational reform, the self-efficacy and reading needs of minority students are addressed creating a more equitable system where all students have the skills to thrive in middle school, high school, and beyond.

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RESEARCH ETHICS TRAINING CURRICULUM

January 20, 2020

APPENDIX B: St. John's IRB Approval

IRB-FY2020-393 - Initial: Initial - Exempt - St. John's

irbstjohns@stjohns.edu <irbstjohns@stjohns.edu>
Wed 4/15/2020 11:32 AM

To: campbelj@stjohns.edu <campbelj@stjohns.edu>; Tanicia M. Rivera <tanicia.rivera16@my.stjohns.edu>

ST. JOHN'S UNIVERSITY

Federal Wide Assurance: FWA00009066

Apr 15, 2020 11:32 AM EDT

PI: Tanicia Rivera
CO-PI: James Campbell
Dept: Ed Admin & Instruc Leadership

Re: Initial - IRB-FY2020-393 Making It! A Quantitative Study of Self-Efficacy, Chronic Absenteeism, and the Relationship to Reading Achievement of Urban African American and Hispanic Fourth Grade Students

Dear Tanicia Rivera:

The St John's University Institutional Review Board has rendered the decision below for Making It! A Quantitative Study of Self-Efficacy, Chronic Absenteeism, and the Relationship to Reading Achievement of Urban African American and Hispanic Fourth Grade Students.

Decision: Exempt

PLEASE NOTE: If you have collected any data prior to this approval date, the data must be discarded.

Selected Category:

Sincerely,

Raymond DiGiuseppe, PhD, ABPP
Chair, Institutional Review Board
Professor of Psychology

Marie Nitopi, Ed.D.
IRB Coordinator

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