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# Single-Gender Educational Environments Serving African American Males: A Strategy for Closing the Achievement Gap

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# Single-Gender Educational Environments Serving African American Males: A Strategy for Closing the Achievement Gap

## **Abstract**

Student achievement data reveal that a disproportionate number of African American males are failing in school, placed in special-education classes, suspended or expelled from school, or incarcerated. Males of color factor substantially in the analysis of the achievement gap and its impact on economic and social development. The purpose of this quantitative study was to investigate whether single-gender environments had a significant impact on the academic performance of African American males in a public, urban middle school. The application of several theories guided this work: The African American male theory, ecological systems theory, critical race theory, and oppositional culture theory. The Grade 8 New York State Common Core English Language Arts exam was the assessment used to measure performance. An analysis of two specific types of learning environments, coupled with the intrinsic differences within coeducational and single-gender middle school environments were explored. A profile analysis was applied to test whether there was a statistically significant difference in ELA test scores of eighth-grade African American males enrolled in a coeducational class, compared to ELA test scores of eighth-grade African American males enrolled in a single-gender class. The 88 participants received coeducational instruction in Grade 7 and either coeducational or single-gender instruction in grade 8. Findings indicated no significant difference in ELA test scores for middle school African American males in single-gender learning environments, compared to those in coeducational classrooms.

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## **Dedication**

The journey traveled toward the completion of this dissertation has been possible by the grace and mercy of God, my heavenly Father who makes all things possible.

Amen!

This dissertation is dedicated to all those whom I hold near and dear to my heart, beginning with my father, Robert Mackey Fletcher Gailes, aka Papa. My dad was a wonderful man and a marvelous teacher who taught me gymnastics, how to swim, how to drive, and how to be patient. He taught me many things and he also taught others. Unbeknownst to me, until now, it was his influence and guidance that led me toward becoming an educator. Papa was called home to be with our Lord in 1999, and I know that he is smiling down on me and is so very proud of this accomplishment.

My mother, Patricia Gailes, has been an amazing force in my life and a source of strength, most notably, she was my first teacher. Intelligent and kind hearted my mom has guided me along life's journey. I am who I am because of her!

The love of your parents is one thing, but to be blessed with a loving and supportive spouse is a gift bestowed by our Creator. My loving and patient husband, Ronald Green, is such a gift. He is my rock and has journeyed with me providing an abundance of love and support along the way, and I have placed him forever in my “emotional bank account” (Covey, 1989).

My source of pride and inspiration are bestowed upon me by my fabulous, intelligent, and talented daughter, Astere Yemmer. A great mother, Astere has blessed me with three of my four beautiful grandchildren: Azir, who is our first grandson, a young African American male with many obstacles to climb, but he will move mountains in the spirit of Jabez; and Azir is the inspiration for this research. Mekhi, our grandson will be a great basketball star, and our beautiful baby girl, Almaz Chrisette who will conquer the world. A great teacher and educator who has followed in my footsteps, who I am sure will journey toward the dissertation and, a true force to be reckoned with, Astere guided and directed me through the technological requirements for my research, which is the true mark of a “millennium baby.” Our beautiful daughter, Roneisha Green, is a testament of perseverance. She has proven to be an academia, completing her college courses and securing a degree against all odds. She is a wonderful mother to our beautiful grandbaby girl, Rilee who will also conquer the world. Our son, Mr. Tyree Green, who chose a career path in the U.S. Marine Corps., strong and handsome, he has made us so very proud.

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### **Biographical Sketch**

Angela Green is currently the principal at a middle school in New York City. Mrs. Green attended Buffalo State College from 1978 to 1981 and graduated with a Bachelor of Sciences degree in elementary education in 1981. She attended Hunter College from 1989 to 1990 and graduated with a Master of Sciences degree in special education in 1990. In addition, she attended City College from 1998 to 1999 and graduated with a Master of Sciences degree in administration and supervision in 1998. She came to St. John Fisher College in the summer of 2013 and began doctoral studies in the Ed.D. Program in Executive Leadership. Mrs. Green pursued her research in single-gender educational environments serving African American males under the direction of Dr. Frances Wills and Dr. Damary M. Bonilla-Rodriguez in 2015.

## **Abstract**

Student achievement data reveal that a disproportionate number of African American males are failing in school, placed in special-education classes, suspended or expelled from school, or incarcerated. Males of color factor substantially in the analysis of the achievement gap and its impact on economic and social development. The purpose of this quantitative study was to investigate whether single-gender environments had a significant impact on the academic performance of African American males in a public, urban middle school. The application of several theories guided this work: The African American male theory, ecological systems theory, critical race theory, and oppositional culture theory. The Grade 8 New York State Common Core English Language Arts exam was the assessment used to measure performance. An analysis of two specific types of learning environments, coupled with the intrinsic differences within coeducational and single-gender middle school environments were explored. A profile analysis was applied to test whether there was a statistically significant difference in ELA test scores of eighth-grade African American males enrolled in a coeducational class, compared to ELA test scores of eighth-grade African American males enrolled in a single-gender class. The 88 participants received coeducational instruction in Grade 7 and either coeducational or single-gender instruction in grade 8. Findings indicated no significant difference in ELA test scores for middle school African American males in single-gender learning environments, compared to those in coeducational classrooms.

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## **Chapter 1: Introduction**

### **Introduction**

The focus of this research was to examine one approach to successfully educate African American males: using single-gender educational environments as a strategy for closing the achievement gap. Single-gender environments are not a new idea; they have been serving as a model for educating European American boys since the colonial period (Yates, 2011). In the early eighteenth century, schools in the United States were “private” or “religious” single-gender institutions available for the privileged (Coulson, 1999, p. 1). Female and minority students were not afforded equivalent educational opportunities; as a result, educational disparities created an achievement gap between minority students and European American students in the United States (Holzman, 2008; Hubbard & Datnow, 2005; Noguera, 2012).

The abolition of slavery and the emancipation of the Negro created a society that was not equipped to deal with former slaves, particularly African American males. Historically, African Americans were described as “problematic,” and they continue to be considered a problem (James, 2010, p. 168). W. E. B. Du Bois analyzed the efforts to deny African Americans equal access to high quality education and invoked the question of African American males, “How does it feel to be a problem?” (James, 2010, p. 168). Subsequently, Holzman (2008) and Fantuzzo, LeBoeuf, Rouse, and Chen (2012) concurred that African American male students are not offered their fair share of the vital resources needed to be successful in school and in life, because they are perceived to be a

problem in school and in society. For instance, research indicates that African American males are overwhelmingly placed in special education (Piechura-Couture, Heins, & Tichenor, 2013). They also exceed other groups in suspensions and are more likely to drop out of high school and never attend college (Piechura-Couture et al., 2013). Consequently, the achievement gap is greatest among African American males, compared to other subgroups (Dillon, 2009; James, 2010). To further the understanding of ways to address the unsatisfactory experience of the African American male in public schools, this paper analyzes the effectiveness of single-gender classrooms through a comparison of eighth grade standardized test scores. Indisputably, studies on single-gender education yield inconsistent findings; therefore, further research is needed to determine the true impact of single-gender environments on raising academic achievement with the goal of improving opportunities for young men of color (Hubbard & Datnow, 2005; Noguera, 2012).

### **Problem Statement**

“By the year 2050 it is expected that the demographics in the United States will have shifted with a non-white majority” (Roach, 2004, p. 9); therefore, minorities must be prepared for the workforce and ready to compete within the global economy. Ultimately, “failure to educate African-American males will have a major impact on our nation, and consequently, have a negative effect on our country’s economy” (Roach, 2004, p. 9). Therefore, specific and deliberate action is required to improve instructional outcomes for African American males (James, 2010; Roach, 2004). Single-gender environments, as a strategy to educate African American males, have been investigated, but additional research is needed (Noguera, 2012).

**The No Child Left Behind Act of 2001.** A review of national assessment data revealed disparities in instructional outcomes, academic resources, and equity in education among public school students. Accordingly, the educational achievement gap was realized, limiting quality education for certain groups of students. The foundation for educational inequalities were, racism and classism, which led to the No Child Left Behind (NCLB) legislation, signed into law in 2001 by President George W. Bush (NCLB, 2001). This law required the Federal Government to hold schools accountable for educating poor and minority students, students with disabilities (SWDs), and English language learners (ELLs) (NCLB, 2001). The mandates of the NCLB legislation required public school leaders to provide quality instruction to all students, with an emphasis on students who fall within the noted subgroups (Haycock, 2006; NCLB, 2001). These groups of students are the clients of the effort to close the achievement gap.

Ultimately, the educational concerns for African American males were associated with negative statistics and their inability to adapt to educational norms; for instance, in 2012-2013, approximately 59% of African American males graduated from high school throughout the nation (Schott Foundation, 2015). “One in every 10 young African American male high school dropouts is in jail or juvenile detention, compared to one in every 35 young European American male high school graduates” (Dillon, 2009, p. 1). Furthermore, in New York City, less than 30% of African American males graduate with a Regents diploma and “the collective cost to the nation, over the working life of each high school dropout is \$292,000” (Dillon, 2009, p. 1; The Eagle Academy Foundation, 2013).

**The achievement gap.** Accountability measures for academic success were reflected in the results of student performance and progress on standardized tests (NCLB, 2001). These high-stake tests have been analyzed for over 50 years (Rentner & Kober, 2014; Serviss, 2012) and have determined the success or failure among the masses. Reform efforts struggle for answers to narrow, and eventually close, the achievement gap that exists between White students and minorities (Ladson-Billings, 2006) but with no viable solutions. Most classrooms in America are set up traditionally, in the way they were two centuries ago, with single desks, which were often in straight rows. The “cookie cutter” effect is evident in most schools, where one teacher provides instruction to 25 to 30 students at a time, and the chalkboard is the major location in which to model instructional techniques. After Title IX of the Education Amendments of 1972 sanctioned penalties to states that discriminated against students according to race and gender, most classrooms across the country were similar (Title IX, 1972). As an alternative to standard educational practices, McFarland, Benson, and McFarland (2011) explored single-gender environments as a strategy in public schools. Single-gender schools and classrooms are only one of the proposed solutions to closing the achievement gap, and the idea has been adopted in school systems across the country as a prescription for meeting the instructional and social needs of males—regardless of their ethnicity (Yates, 2011).

### **Theoretical Rationale**

Several theories were used to develop a rationale for understanding how students learn, in addition to psychological factors embedded in human development. The African American male student experience can be explained by looking at: the ecological system

theory, the African American male theory (AAMT), critical race theory and, oppositional culture theory.

**Ecological systems theory.** The ecological systems theory is the grand theory from which the newest theory, AAMT, was developed explaining how African American males interact within their environment (Bush & Bush, 2013). Bronfenbrenner, Russian born psychologist and co-founder of the Head Start Program in the United States developed this theory which outlines the way individuals interact within specific factions of their environment (Bronfenbrenner, 1977). He was influenced by the work of Piaget, who identified stages of mental development, cognitive theory, and developmental psychology, which led Bronfenbrenner to rationalize environmental factors of human development and, ultimately establish the ecological systems theory (Oswalt, 2008). The work of Erikson, who developed specific stages of human development, and Vygotsky, who believed learning takes place through environmental interactions, also influenced Bronfenbrenner's work (Fantuzzo et al., 2012).

Bronfenbrenner postulated that five systems indirectly affect humans: microsystem, mesosystem, exosystem, macrosystem, and chronosystem (Bronfenbrenner, 1977; Bronfenbrenner & Ceci, 1994; Bush & Bush, 2013; Danner, 2006; Harvey & Delfabbro, 2004). "Bronfenbrenner contends that factors within the microsystem influence the way a person acts, thinks, and feels, and ultimately the way they function and develop" (Harvey & Delfabbro, 2004, p. 9). Mesosystems connect the environmental relationships between the individuals within the microsystems (Bush & Bush, 2013; Danner, 2006; Harvey & Delfabbro, 2004). Exosystems refer to external forces within the community that influences the individual although they are not directly involved in

the actions or interactions. The macrosystem refers to the grand culture that shapes an individual (Bronfenbrenner, 1997). Specific aspects of one's beliefs and values defined within the macrosystem are based on socioeconomic status, cultural heritage, religion, and life experiences. The final rung on the ecological sphere is the chronosystem. This system affects the development of an individual with respect to all life events (Bronfenbrenner, 1997).

The divorce of parents, birth of a sibling and world events like the 9/11 tragedy, all have an effect on an individual's growth and development (Bronfenbrenner & Ceci, 1994; Bush & Bush, 2013; Danner, 2006; Harvey & Delfabbro, 2004). In fact, each component of the ecological systems theory affects the growth and development of all human groups, and, therefore, provides a system to describe the unique aspects of the environmental characteristics that impact the development of African American males both in school and in society (Bush & Bush, 2013; Bronfenbrenner & Ceci, 1994).

Harvey and Delfabbro (2004) challenged the tenets of Bronfenbrenner's framework. They agreed that the ecological systems theory is suitable and sensible, and it explains the obvious with regard to individual students being the center of their own ecological system. Nevertheless, they argued that the ecological system is wide-ranging and describes factions of child development that are not specific enough to explain the actual process of how a child develops. Regardless of the controversy, Bronfenbrenner was a child advocate who worked to assist disadvantaged, pre-school, minority children toward achieving academic equality (Oswalt, 2008). His theory shed light on causal factors for youngsters with difficulty in school. Consequently, his theory explains some

of the behaviors exhibited by African American males, as postulated in AAMT (Bush & Bush, 2013; Danner, 2009).

**The African American male theory (AAMT).** AAMT, developed by Bush and Bush (2013), uses the framework from the ecological systems theory to explain human development through the influence of environmental factors. They surmised that African American males needed a theory of their own to explain their plight in society. Refining their theory over the course of 40 years of research, Bush and Bush (2013) developed a theoretical framework to attribute a valid model to explain the causes of inequities experienced and expressed by the African American male as opposed to examining these causes through the lens of his European American oppressor. They argued that scholars in the fields of human psychology, sociology and education often apply the tenets of critical race theory, developed by lawyer and civil rights activist, Derrick Bell, as a primary theory when analyzing situations regarding race, color and ethnicity (Bush & Bush, 2013). They disagreed with the many scholars who use critical race theory (CRT) as the main theory to analyze young men of color. As a result, Bush and Bush (2013) developed AAMT to address the environmental factors and unique experiences of African American males. According to the theory, factors that weakened African American males were: situations related to slavery, which prevented men from protecting their families; dominant matriarchs, or strong women who took charge of the households and families due to absent fathers; insufficient financial resources; and job opportunities that prevented men from supporting their families. In American society prior to the 1960s, African American males were considered less than a man, while male dominance was prevalent among the majority race (Bush & Bush, 2013). In an effort to

reaffirm masculinity among African American males, environmental factors were studied and AAMT was derived. The development of AAMT includes Bronfenbrenner's five components of human development noted in the ecological systems theory: microsystem, mesosystem, exosystem, macrosystem, and chronosystem (Bush & Bush, 2013; Bronfenbrenner & Ceci, 1994; Oswald, 2008). The microsystem is an important aspect of AAMT because the familial relationships that African American males develop may determine school and societal behaviors (Bush & Bush, 2013). Subsequently, single-gender classroom environments and the relationships that males develop within this microsystem, between teachers, school staff, and classmates have an effect on learning outcomes and most notably, test score performance (Bronfenbrenner & Ceci, 1994 (Ladson-Billings, 2006)). Successful males usually emulate the positive role models within their microsystem, which is why there is a push for mentorships, rites of passage programs and other initiatives to encourage positive male relationships for African American males (Bush & Bush, 2013; Harvey & Delfabbro, 2004). Consequently, they may develop unsavory characteristics in school and social circles if exposed to negative individuals, such as, friends or family members who de-value the school experience, or those who participate in mischief or illegal activities. Additionally, males may exhibit negative characteristics if role models are non-existent in their lives (Harvey & Delfabbro, 2004).

The mesosystem connects the environmental relationships between the individuals within the microsystem (Bush & Bush, 2013; Danner, 2006; Harvey & Delfabbro, 2004). Neighborhood influences within the social circles and their relationships with families and staff members at school are examples of how the

mesosystem interacts in the life of an African American male youngster. The exosystem refers to external forces within the community that influence the individual, although they are not directly involved in the actions or interactions. For instance, the relationship between parents and the absence of a father in the home has a significant influence on a male student. The macrosystem refers to other larger external influences, such as aspects of religion. For example, by conforming to religious beliefs and applying lessons from their life experiences, youth may improve their stations in life or take better advantage of job opportunities (Danner, 2006; Harvey & Delfabbro, 2004). Each of these environmental systems affects the lives of young men of color (Bush & Bush, 2013).

**Critical race theory.** CRT was developed as a legal framework to address race, racism, and societal inequities faced by the African American community (Bell, 2004). Its purpose was to develop fair and equitable laws, amend unfair legislation, and transform societal actions and behaviors toward people of color (Bush & Bush, 2013; Fortin, 2012). This effort was to provide power to the powerless, uphold civil rights, address challenges faced by African Americans, change the way racial lines were drawn in America, and develop a system of equality (Bell, 2004; Bush & Bush, 2013; Fortin, 2012). The CRT movement began with scholars and researchers interested in changing emotional attitudes about race, providing an understanding of interpersonal and professional relationships among the masses, and encouraging understanding among the dominant race toward people of color in the context of differing environments (Delgado & Stefancic, 2012).

Bell, professor of law at New York University and founder of CRT, told fictional stories to make a point and introduce thought provoking ideas to convey his argument

about race and racism in the United States (Minow, 2012). Influenced by Frederick Douglass, whose oratory explicitly described the injustices of racism experienced by African Americans, Bell emulated Douglass' style of oratory by expressing irony through story telling as a means to promulgate his argument, instead of only using a legal defense (Minow, 2012). Bell developed CRT in the mid-1970s along with colleagues, Freeman and Delgado, when the civil rights movement of the 1960s became stagnant (Bell, 2004). They realized that laws designed to promote fairness in our society actually perpetrated and reinforced inequities, while preserving the status quo (Hughes, Noblit, & Cleveland, 2013). Laws implemented to help people of color inadvertently resulted in adverse consequences. For instance, Bell argued that the NAACP fought for school integration, which in turn diminished school quality. He explained, in a 1973 publication, that "Racism is a subtle yet powerful institutionalized force" (Fortin, 2012, p. 1). He made it clear that laws created to uphold the rights of citizens were compromised and hypocritical to their design. Ultimately, the purpose of the article was to, "examine the law's role in concretizing racial differences, maintaining racial inequality, and reaffirming the status quo" (Fortin, 2012, p.1).

Although CRT is considered an notable framework to explicate academic and social adjustments for African American males, it is the basis of most studies with regard to this group, whether explicit or implied (Bush & Bush, 2013). Bush and Bush (2013) argued that CRT and the discussion of race should not be the only theory used to frame the academic and social aspects of African American males. Thus, Bush and Bush (2013) suggested that the components of CRT, especially the legal aspects connected to civil rights, fall within the macrosystem of the ecological systems theory, as they emerge

from the larger cultural context that surrounds the African American male experience (Bell, 2004; Bronfenbrenner & Ceci, 1994; Bush & Bush, 2013).

**Oppositional culture theory.** Dr. John Ogbu, Nigerian American theorist, developed the oppositional culture theory that emerged from the field of cultural anthropology (Ogbu, 2004). Oppositional culture theory explains the defiance of African American males, the origin of that defiance, their academic outcomes and behaviors toward school and the general society (Harris, 2013). Ogbu explored the defiance by people of color, toward school and society as a whole (Ogbu, 1981). Accordingly, race and ethnicity affect the way people of color are viewed by members of the majority. People of color are perceived by the majority as having inferior academic ability as compared to their European American counterparts (Harris, 2013; Ladson-Billings, 1998). As a result, inferior opportunities for African Americans are prominent causal factors for defiance toward the dominant culture (Ogbu, 1981). Societal factors have a major impact on minority students and their performance in school (Harris, 2013; Ogbu 1981, 2004). As an example, related to this study, negative and defiant interactions within middle school environments presently exist, and male students resist conformity resulting in poor academic performance and below standard test score results (Ladson-Billings, 1998). Similar to the microsystem of the ecological systems theory, oppositional culture theory is based on the external and societal factors that influence African American males (Bush & Bush, 2013; Harris, 2013).

### **Statement of Purpose**

The purpose of this study is to examine single-gender educational environments in an urban public middle school in New York City as a viable approach for educating

African American males (Goodkind, 2012; Hubbard & Datnow, 2005; McFarland et al., 2011; Pahlke, Hyde, & Allison, 2014). The goal of this research is to determine the validity of a single-gender male learning environment in an urban public middle school by analyzing the high-stakes Grade 8 Common Core State Test that plays a critical role in determining a student's academic success or failure.

### **Research Question**

Researchers who focus on closing the achievement gap for African American males often ask questions of their participants that require perspectives, perceptions, attitudes, and feelings. For instance, Bonnie H. Ennis (2010) wanted students to reflect on math practices by asking them to explain their attitudes and perspectives. Nicole Denise Frazier (2012) and Althea Cogdell Taylor (2005) both researched African American males and asked questions about the perceptions of teachers and students (Frazier, 2012; Taylor, 2005). However, this study focuses on the academic performance of students who have been placed in a single-gender classroom as a way to assess the efficacy of this approach to improving student achievement.

The research question that guided this study was: Will there be a significant difference in English Language Arts (ELA) standardized test scores of eighth grade African American males enrolled in a coeducational middle school class, as compared to the ELA standardized test scores of eighth grade African American males enrolled in a single-gender middle school class?

## **Definition of Terms**

The following definition of terms will help the reader understand unique terms that are found throughout this study.

*Achievement gap* – differences and disparities in the standardized test scores between African American and minority students and European American students in the United States (NCLB, 2001)

*Adequate yearly progress (AYP)* – the numerical value calculated to assess progress on the New York City and New York State public school report card (NCLB, 2001).

*Coeducational* – the integrated education of males and females in the same classes (Gewertz, 2007; Hanmer, 1996)

*English Language Arts* – the course of study that refers to reading, writing, listening, and speaking (New York State Education Department [NYSED], 2013)

*English Language Learners (ELLs)* – also defined as, Limited English Proficient (NCLB, 2001); refers to students who speak a language other than English at home and score below proficient on English assessments when they enter the New York City school system (NYCDOE, 2014)

*Single gender* – exclusively teaching all males and all females in separate academic classes (Gewertz, 2007; Mael, 1998)

*Skewed data* – unclear and subjective research information; information that is biased or distorted due to extenuating factors (Pahlke, Hyde, & Allison, 2014).

*Students with Disabilities (SWDs)* – special-education students, diagnosed through a series of diagnostic tests, and considered to have disabilities and/or highly

specialized needs for specific instructional programs in communities and/or specialized schools (NYCDOE, 2014)

*Afritranstheoretical leadership* – an original term created by the researcher that means an authentic transformational leader who puts African American male students at the forefront of the educational realm in an urban setting.

## **Chapter Summary**

Improving the educational outcomes for African American males is essential for closing the achievement gap in America (NCLB, 2001; Noguera, 2012) and failure of schools and society to address this issue with satisfactory results will only add more individuals to the school-to-prison pipeline. The phenomenon that prisons across the United States are built according to the results of the third- and fourth-grade state exam scores gives credence to the research that seeks to verify a change agent that will successfully educate young men of color (Dillon, 2009; Edelman, 2007; Fryer & Levitt, 2006; Justice Mapping Center, 2011). In this study, the impact of single-gender educational environments was studied as a viable solution to educate males of color.

The chapters that follow provide the background information essential to understanding and interpreting the findings and significance of the study. Chapter 2 provides a review of the literature and the historical research and theories that guided the study. Chapter 3 explains the methodology and components that framed the context of the research. Chapter 4 explains the statistical tests used to challenge the hypothesis of the study. Finally, Chapter 5 contains the findings, limitations, and recommendations resulting from the study.

## Chapter 2: Review of the Literature

### Introduction and Purpose

The effort to close the achievement gap has led educators to deploy numerous models with the goal of redesigning the education system in America (James, 2010; Ladson-Billings, 1998; NCLB, 2001; Noguera, 2012; Schott, 2012). Today, with the growing sense of urgency about educating students who are not performing well in coeducational environments, there is a renewed interest in the single-gender school as a prescription for meeting the instructional and social needs of males—regardless of their ethnicity (Davis-Richards & Parker, 2013; Yates, 2011). Thus, the number of single-gender environments in the United States grew in 1998 from one single-sex public school, which was Detroit’s Malcolm X Academy, to “over 300 single-sex public and charter schools and hundreds of other single-sex classrooms in schools that are ostensibly coeducational” (Noguera, 2012, p. 3; Yates, 2011). In particular, these schools were created as an antidote to the disturbing achievement gap that existed between African American male students and all other ethnic subgroups. The purpose of this study was to examine the efficacy of single-gender classrooms in addressing the educational deficits of African American males.

### Topic Analysis

**History.** In the 18th and early 19th century, single-gender environments were the norm; males and females attended segregated institutions, and minorities attended separate and substandard academic establishments until growing disparities and discrimination in schools became evident (Davis-Richards & Parker, 2013; Riordan, 1990). Females and minorities often attended schools that were not equal in resources

and educational outcomes (Davis-Richards & Parker, 2013). Ultimately, civil rights groups and women's rights advocates were instrumental in bringing about change. Two landmark Supreme Court decisions in American history initiated the debate about the legitimacy of single-gender environments: "*Brown v. Board of Education*, in 1954, which ended racial segregation in public schools, and *United States v. Virginia*, in 1996, ending sex discrimination against women in the Virginia Military Institute" (Salomone, 2011, p. 972). In 1965, a presidential executive order was signed into law by President Lyndon B. Johnson with the purpose of preventing employment discrimination based on race, color, and religion. The order led to the implementation of Title IX, which was initiated when women demanded equal treatment within institutions of higher education. The bill was intended to amend two specific aspects of the Civil Rights Act of 1964; Title VII, prohibiting discrimination in the workplace on the basis of race, color, religion, gender, and national origin, and Title VI, prohibiting discrimination within federally funded institutions based on race, color, gender, religion, and national origin. President Johnson's executive order led to Title IX of the Education Amendment Act, prohibiting sex discrimination in education, which had a significant impact on public schooling and required the transformation of single-gender schools to become coeducational (Pollard, 1999; Salomone, 2011; Valentin, 1997). Consequently, school programs that did not adhere to Title IX mandates would lose federal funding. Eventually, single-gender environments in public schools were considered unconstitutional and discriminatory; therefore, Title IX resulted in the elimination of most public, single-gender schools in the United States (Davis-Richards & Parker, 2013; Greig, 2011; Valentin, 1997).

**Legislation.** Years of inferior schooling and poor academic outcomes led to initiatives to restructure the educational system (James, 2010; Ladson-Billings, 1998; Noguera, 2012; Schott, 2012). As a result, the NCLB legislation was enacted in 2001, requiring local school districts throughout the United States to find strategies to meet the needs of all students, with a specific focus on targeted subgroups; English language learners (ELLs), students with disabilities (SWDs), minority students, and disadvantaged youth (NCLB, 2001). The principles of single-gender education were re-introduced as a possible solution for success.

Accordingly, the 2006 amendment to Title IX was the catalyst for the resurgence of single-gender classrooms after they were deemed discriminatory toward women and African Americans in 1977 (McFarland et al., 2011; Meyers, 2008). In fact, the achievement gap that existed for males of any race or color, both domestically and globally, was deemed a serious threat to the economy as most males do not enter the workforce with required academic skills to be successful (Ladson-Billings, 2006; McFarland et al., 2011). Accordingly, the achievement gap was the main thrust for initiating the discussion around re-instituting single-gender classrooms and schools. Additionally, the realization that coeducational environments did not necessarily maintain academic equity (Pollard, 1999) “led to the re-establishment of single-gender environments as the Bush Administration relaxed the Title IX amendment” (Hubbard & Datnow, 2005, p. 115). As a result, researchers McFarland et al. (2011) were instrumental in pushing for the Title IX ruling that single-gender classes were discriminatory to be overturned. In 2006, the U.S. Department of Education allowed schools to develop single-gender classes in order to improve academic outcomes.

**Literature.** Barbarin & Crawford (2006) outlined a study observing teacher practices and determined that minority children in pre-kindergarten classrooms were often severely reprimanded, suspended, or excluded from school for racially motivated reasons. “Schools visited were in local school districts in six states representing each region of the country except the Northwest and New England; most were located in public school buildings” (Barbarin & Crawford, 2006, p. 80). Differential treatment of minority children, most noticeably boys whose behaviors were considered aggressive, disruptive, or unacceptable by the teacher, was observed. Further scrutiny revealed minority students were punished more often, given time out unnecessarily, and were treated poorly by their teachers. According to Fantuzzo et al. (2012), African American children historically enter school with a disadvantage. “They fall behind their peers nearly 0.10 standard deviation further each year from first to third grade and fall one standard deviation further behind each consecutive year” (Fryer & Levitt, 2006, p. 3). “The differences between African American males and European American males were roughly half a standard deviation for both reading and mathematics” (Fantuzzo et al., 2012, p. 560).

Suspension rates “in pre-kindergarten, revealed that boys are 4.5 times more likely than girls to be expelled, and African Americans experience the highest rate of expulsion” (Barbarin & Crawford, 2006, p. 3). Additionally, “African American children were expelled at twice the rate of European American children” (Barbarin & Crawford, 2006, p. 3). African American males account for the greatest percentage of children expelled from school in all grades (Barbarin & Crawford, 2006; Noguera, 2012).

**Standardized tests.** The history of standardized testing began in 1923 with the assessment of writing capabilities, and they eventually became known as tests of literacy. The catalyst for the testing phenomenon began with the influx of immigrants entering the United States during the turn of the 20th century (Serviss, 2012). Its purpose was to regulate the populace, select noteworthy potential citizens, and preserve American culture. The Immigration Act of 1882 allowed for the exclusion of individuals from entering the country based on ethnicity, language, heritage, and political beliefs. At the discretion of immigration officials, the following individuals were also excluded: “convicts, prostitutes, lunatics, idiots, and persons likely to become public charges (Serviss, 2012, p. 211). The term “illiteracy” was added to the exclusionary list, prohibiting those unable to speak English to enter the country. Eventually, the Naturalization Act of 1906 set forth a policy and requisite for individuals to speak English to become naturalized citizens (Serviss, 2012). After much debate, public interest groups affirmed that speaking English was connected to reading English and eventually to “cognitive ability” (p. 211). Thus, the push for immigration control and strict inclusion policies led to the development of the Immigration Restriction League, a group of Harvard professors who led the charge to improve procedures regarding the acceptance of migrants. The Harvard scholars and citizens groups in New York State realized the need to improve living conditions by teaching immigrants about public hygiene, public safety, and literacy, which allowed for satisfactory participation in society. Much less stringent than the present definition, the term literacy in 1906 referred to, “the ability to read words or memorize passages from the U.S. Constitution aloud in English” (Serviss, 2012, p. 212).

***Design of initial literacy tests.*** A large committee of educators from around the state designed the first standardized literacy test. In 1922, the committee attended a conference in New York City to establish specific parameters, set goals, and format the test. Their work was influenced by Princeton University psychologist, Carl Brigham. Brigham was the creator of the intelligent quotient (IQ) test used to assess the mental processes of the military during World War I. This led the committee to develop a test that would merge intelligence, performance, and literacy. Ultimately, the results were literacy assessments that measured reading comprehension and writing ability, which was designed by the committee and came directly from Massachusetts and Connecticut. After the tests were piloted and used with students in grade 4 in New York State schools, they were considered suitable to evaluate immigrants over the age of 16.

***Common core tests.*** Testing procedures have evolved since the 20th century, and not only do they focus on reading comprehension and writing capabilities but also on thinking and reasoning skills (NYSED, 2013). Tests have changed over the years and the thrust is not to assess recitation capabilities; instead, the thrust is for all students to gain knowledge and skills toward college and careers. Consequently, the New York State P-12 Common Core Learning Standards (CCLS) for English Language Arts and Literacy increased the rigor and implemented shifts that focus on “complex reading passages, textual analysis, application of academic language and rigorous, college and career readiness tasks” (NYSED, 2013, p. 3). Consequently, the rationale for an analysis of test scores to assess the effectiveness of single-gender environments is to expand current research, which can inform future practices essential to closing the achievement gap in America.

**Key theories.** Explanations of the specific school behaviors and academic deficits for African American male students are delineated in several connected and systemic theories and related research, including the ecological systems theory, African American male theory, critical race theory, and oppositional culture theory.

***Ecological systems theory.*** The ecological systems theory is the grand theory guiding this study. The theory explains how environmental factors, interpersonal relationships, and social circles influence human behavior (Bronfenbrenner & Ceci, 1994). Bronfenbrenner outlined five interconnected environmental factors to explain the multifaceted components that influence individuals. He argued that, unlike behaviorists, the immediate environment is not the only aspect responsible for human development (Bronfenbrenner, 1999). Subsequently, individuals are examined in the context of each system, as noted in the diagram Figure 2.1.

The center of the circular system represents the individual. Ultimately, everything surrounding the individual influences growth and development. The first rung on the diagram is the microsystem, shaded green, which outlines specific individuals or aspects closest to the individual. Noticeably, numerous microsystems are relevant and directly affect human development, and they impact behaviors. Interactions with family members, relationships in school, friends in the community, medical caregivers, and various neighborhood associations are part of the microsystem. For instance, parents and siblings in the home are one microsystem that influences behaviors. Consequently, broken homes preserve separate microsystems, which also shape characteristics. Children often emulate behaviors of parents or guardians that reside in the home.

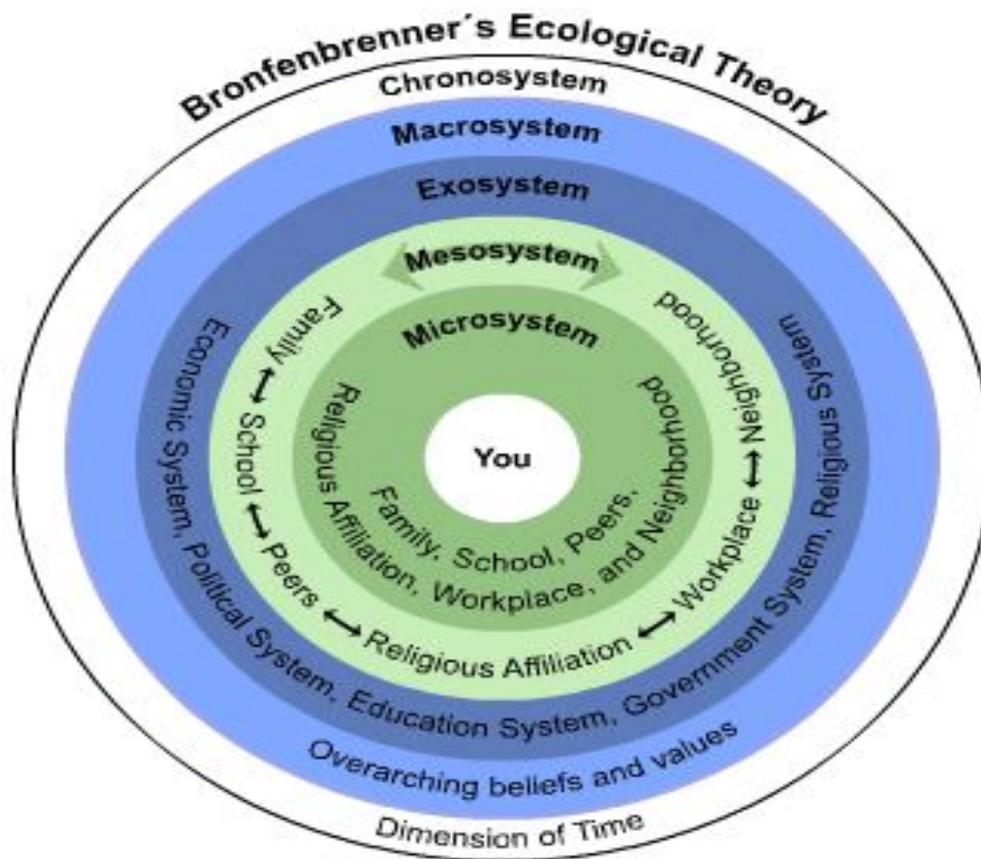


Figure 2.1. Bronfenbrenner's Circle of Theories.

Ultimately, warm and nurturing home environments yield nurturing individuals. On the contrary, violent homes incite violent behaviors. The school environment, a separate and distinct microsystem, may influence behaviors dissimilar from behaviors in the home. For instance, youngsters may be talkative at home but shy or quiet in school, and vice versa. Additionally, neighborhood relationships may stimulate a different set of unique characteristics. Socialization with peers outside, at the neighborhood playground, influence the development of fair play and interpersonal behaviors without adult supervision. The love for sports, or skills on the basketball court, can be honed through relationships on the playground as well. Ultimately, individuals engage within their microsystems, and the results directly affect their behaviors (Bronfenbrenner, 1977).

Interactions within the microsystems lead to the next rung within the circle of development, colored light green, called the mesosystem.

The mesosystem explains the inner-workings of the microsystem, including interactions with caregivers who provide support at home, relationships at school, and extracurricular activities (these interactions can be positive or negative). The mesosystem is formed when two microsystems come together to provide a new occurrence in a child's life. The mesosystem is important but can be complicated, rewarding, and even stressful, when two separate microsystems unite. For example, a parent attending a school field trip includes the microsystems of home and school coming together for the child's benefit. A visit to the doctor's office represents the microsystems of home and community engaging for the benefit of the child's health and well-being. Family members attending a dance recital or basketball game ultimately combine two separate microsystems, home and neighborhood, to engage in a positive event that evokes pride. Interactions within the mesosystems can be rewarding, and the prior examples are positive for the individual as well as for family members. Conversely, mesosystem dynamics can be stressful, especially for young children. Individuals must learn to adapt and cope differently within mesosystems and ultimately decide on appropriate behaviors when two very different microsystems merge. For instance, rules at home may require independence, and a child may have freedom to turn on the television, grab a snack from the refrigerator, and move about the home freely, void of parameters. On the other hand, school regulations may require more disciplined behaviors such as sitting quietly without talking or moving about without permission. Subsequently, school behaviors are often in sharp contrast with the playground microsystem, which has limited rules whereby

running, jumping, loud talking, and physical interactions are encouraged. Interactions within the mesosystem may compel an individual to alter behavioral patterns, contingent upon the experience (Bronfenbrenner, 1977). The microsystem and the mesosystem are directly connected. In contrast, the next rung on the ecological ladder, shaded blue in Figure 2.1, is the exosystem that deals with realms outside of an individual's grasp and with indirect connections.

The exosystem reflects the broader environment and indirectly affects behaviors in an individual's life, which he or she cannot control. For instance, the promotion of a parent at work may allow for greater financial status, yielding positive monetary gains. On the other hand, a parent's promotion may require longer working hours, thus, keeping the parent away from the home for longer hours and causing stress upon a child who misses the absent parent. Ultimately, the loss of a parent's job may ultimately affect the ability to provide basic needs for the family, causing stress and anxiety (Bronfenbrenner, 1977). The indirect but personal factions of the exosystem lead to the culture and beliefs an individual is born into, which is the macrosystem.

The light blue shaded area in Figure 2.1 refers to the macrosystem. This complex ecological system defines the culture and setting in which an individual is born. Socioeconomic status, ethnicity, race, and religious values are included in this system. An individual raised in a household with certain values and a specifically defined culture is influenced by those cultural norms. For instance, an individual who grows up in an affluent household may value what is taught in the home such as a degree in higher education, a promising career, etc. Conversely, one who grows up in a low socioeconomic home has a different set of values. Hard work and long working hours

may be the norm in order to make ends meet; therefore, higher education may be a far reach and might be compromised because of the high cost. Subsequently, an affluent individual may value political perspectives quite differently than the working-class individual. The former may support a political candidate who values big business or privatization of education, whereas the latter may value the candidate who supports improving the workforce with an emphasis on uplifting public schooling. Race and gender are also pertinent factors within the macrosystem (Bronfenbrenner, 1977). Cultural experiences among race and gender affect an individual's understanding and interpretation of the world, which leads to the final rung on the ecological ladder, the chronosystem.

The chronosystem involves historical events in a person's life. This could mean environmental changes such as hurricanes, earthquakes, or natural events. For instance, major events, like the world after an earthquake, has a definite effect on an individual. This may cause a family to be uprooted and eventually relocated, causing stress (Bronfenbrenner, 1977). The behaviors of individuals after policing tactics, like "stop and frisk" (Oswalt, 2008), have a major life-altering effect on an individual who falls victim to these tactics. Divorce of parents or the death of a family member are factions of the chronosystem that affect an individual's life (Bronfenbrenner, 1977). Ultimately, the ecological systems theory was the catalyst for a new theory, the African American male theory, designed specifically to tell the story of African American males through the lens of other African American males who have lived the experience (Bush & Bush, 2012).

*African American male theory (AAMT)*. In order to understand the plight of the African American male in an educational environment, the ecological systems theory, the

grand theory that informed this study, provided the rationale for studying the environmental factors that influence academic achievement. The need to conceptualize African American male behaviors against European American standards were challenged by Bush and Bush (2012). Consequently, the AAMT was developed to: explain the factors that weakened African American males in America and to remove the emasculation males of color in society. Researchers realized that environmental factors also perpetuate academic discourse among African American males in middle schools (Bush & Bush, 2013). Therefore, the AAMT attempts to explain the journey of the African American male through a historical lens that stems from slavery. The theory postulates that unsavory behaviors and opposition to education by African American males in a European society are due to their “castration” by the American majority (Bush & Bush, 2013). Bush and Bush (2012) argued that critical race theory, the most notable theory applied regarding people of color, should not be the single theory used to explain the behaviors of African American males. They postulated that environmental factors were instrumental in shaping actions and reactions. As a result, the five environmental factions of the ecological systems theory, noted in Figure 2.1, were adopted and applied to understand African American males. The authors of this theory argued that, the African American male requires an exclusive theory, coupled with specific aspects of the ecological systems theory. Moreover, the application of CRT is important and must be considered (Bush & Bush 2012).

***Critical race theory.*** The academic discourse of African American males is embedded in their racial composition, and that affects how they are treated in school and society. Closing the achievement gap among African American male students became

critical, yet controversial, leading Bell and colleagues to develop CRT. The theory analyzed racism from a legal perspective, which was derived from cases such as *Brown vs. Department of Education*. The purpose was to improve the lives of minorities in America (Hughes et al., 2013). Proponents of the theory realized that racism exists in America and is a major factor in education (Ladson-Billings, 1998). The theory proposed that legal aspects of race relations were ignored, and racial injustices were prevalent in schools, impacting the education of minority students (Hughes et al., 2013). Therefore, education in America for males of color is directly impacted by CRT and the components of racism. Moreover, oppositional behaviors may fester as males feel dejected by the status quo, leading to defiance; thus, oppositional culture theory can be applied to African American males and their journey in education (Harris, 2013; Ogbu, 1981, 2004).

***Oppositional culture theory.*** This theory focuses on race and the work of Ogbu (1981) is based on the assumption that external social and societal factors have a major impact on minority students and their performance in school (Harris, 2013). Ogbu contended that African American males subconsciously oppose the dominant culture, and in their psyche, academic success is representative of that dominant culture. After studying high school students, Ogbu found that negative interactions within the school environment caused students to resist conformity, resulting in poor academic performance (Harris, 2013; Ogbu, 2004).

## **Analysis/Interpretation of the Research Literature**

A report by the Children's Defense Fund (2009) entitled, *America's Cradle to Prison Pipeline*, reflects this intense concerns about the future incarceration of young men of color. "An African American male born in 2001 has a 1 in 3 chance of going to prison in his lifetime compared to a 1 in 17 chance for a European American male (Children's Defense Fund, 2009, p. 1; Edelman, 2007; The Sentencing Project, 2013). Risks associated with this cradle-to-prison pipeline disproportionately affect African American children (Edelman, 2007; The Sentencing Project, 2013). According to a 2006 report by The Schott Foundation for Public Education (Schott, 2012), "58% of African American males in the United States do not graduate from high school and only a few who finish high school, actually attend college. Of those who enter college, nationally, only 22% finish college" (p. 1). With a few exceptions, these dismal patterns exist in urban, suburban, and rural school districts throughout the United States. Awareness about the failure of pre-k and kindergarten programs for African American males requires a course of action resulting in effective strategies and pedagogy to better protect and educate males throughout their academic career (Noguera, 2012).

**Methodologies.** South Carolina developed a successful implementation of single-gender programs by creating a partnership with the Department of Education, local schools, and parents (Rex & Chadwell, 2009). They outlined the growing momentum for public school choice and conducted a study evaluating single-gender schools and classrooms within the state. Subjects of the study were students in two elementary schools and two middle schools. Results indicated increased proficiency rates on state assessments similar to a study conducted by McFarland et al. (2011) that compared

academic achievement in single-gender classrooms to coeducational environments. Results for single-gender environments convinced the researchers to argue in the affirmative for math scores and negative for reading scores. The scores of male students within the gender-specific classrooms were higher in math achievement than the traditional classroom scores. On the other hand, in gender-specific classrooms, males reading scores were lower than in the traditional coeducational classrooms (McFarland et al., 2011). Teaching strategies, as well as increased attention, may have accounted for improved math scores for the males. Both sets of studies noted decreased disciplinary problems. Subsequently, further research is needed to determine the success of specific strategies within single-gender classrooms and to identify improvement on standardized reading and writing tests (McFarland et al., 2011).

Conversely, a study by Martino, Mills, & Lingard (2005) revealed gender-specific classes do not enhance the educational or social outcomes, nor do they produce better results for male students. They argued that success within single-gender environments was attributed to a combination of factors, including a student's ability, socio-economic level, and the type of school the student attends. Noguera's (2012) findings were similar to that of Martino et al. (2011), and he argued that single-gender environments do not provide better instructional settings for young men of color. Instead, he supported early intervention as the most effective way to close the achievement gap, more so than developing single-sex schools.

Harper and Davis (2012) conducted a study using essays of 304 candidates. The results of the analysis of these essays revealed that despite the challenges and inequities in education, young men of color inherently desired to be educated and successful; thus,

confirming the idea that African American men do care deeply about education. The study both refuted the oppositional culture theory of Ogbu (2004), which contends that minority students are resistant to the dominant culture due to a history of enslavement and victimization, and his study dispelled the idea that African American males are hopeless underachievers.

Yates (2011) revealed that boys learn differently from girls and “intrinsic biological differences between the sexes are evident” (Piechura-Couture et al., 2013, p. 236). Furthermore, research indicates boys are more active and appreciate hands-on projects or competitive learning activities, while girls often choose to sit quietly, read, talk, or work in cooperative groups (Fantuzzo et al., 2012; Frazier, 2012; Greig, 2011; Hanmer, 1996; Holzman, 2008). Current research reveals boys often perform better in math and science, while girls perform better in reading and writing (Doris, O’Neill, & Sweetman, 2013; Fantuzzo et al., 2012; Frazier, 2012; Holzman, 2008). It is also reported that girls are more compliant, sit still in class, and more frequently follow rules, while boys’ behavior is different. They often have difficulty sitting still (Fantuzzo et al., 2012; Greig, 2011). Subsequently, in 2000, the Secretary of Education, Margaret Spellings, announced, “research shows that some students do learn better in single-gender environments” (McFarland et al., 2011, p. 100).

### **Chapter Summary**

Racial inequalities in America must be addressed to improve low academic achievement among minority students, especially African American males who are consistently losing ground academically (Barbarin & Crawford, 2006; Schott, 2012). The research uncovered many salient points on this subject that attribute to the crisis. First,

ineffective schools in minority areas are contributing factors to the poor educational outcomes for African American males (McFarland et al., 2011). Secondly, “studies from the early 1990s conclude that there is an over-representation of males and minorities in special education” (Piechura-Couture et al., 2013, p. 235). Furthermore, circumstances contributing to failure include teacher quality and the varying expectations of minority students as compared to non-minority students, inadequate resources, and financial inequities in urban schools (Hubbard & Datnow, 2005). Social and emotional issues, environmental factors, and poor parenting, all of which limit and impede achievement, must also be noted (Roach, 2004). With the goal of contributing to the research that has examined the efficacy of the single-gender learning environment as a strategy for combating the consequences of academic failure of African American males, this study has focused on the academic performance of students who have been taught in a single-gender classroom. Consequently, this study examined the single-gender educational environment as a model that may be promising as an effective strategy for closing the achievement gap and addressing educational and social inequities that influence the success of African American males.

## **Chapter 3: Research Design Methodology**

### **Introduction**

After a comprehensive review of the research, there is consensus on the growing sense of urgency to effectively educate African American males (James, 2010; Roach, 2004). This critical national problem is a focus of this research. African American males, in all grades, account for the greatest percentage of students suspended or expelled from school (Barbarin & Crawford, 2006; Noguera, 2012), and they are at risk of going to prison rather than attending college (Children's Defense Fund, 2009; Prager, 2011; Schott, 2006). Moreover, they are the center of discussion concerning the achievement gap in the United States. Longitudinal test data reveal this educational deficit to be significant and expanding with respect to African American males from low-income families (McFarland et al., 2011; Prager, 2011).

Test scores are the most prominent indicator used by schools to measure academic success. As outlined in NCLB, public schools in America are held accountable for student performance, and they are evaluated through the analysis of standardized test results. Jencks and Phillips (1998) argued that test scores are, in fact, the sole factor for determining the achievement gap that is sometimes judged to be unfair to specific subgroups due to biased and questionable test questions or procedures. Ultimately, despite allegations of inequity, test scores are the driving force that determines the assessment of student and school performance. Definitively, student achievement is evaluated according to standardized test scores. In New York City, only 13% of eighth-

grade African American male students scored at or above grade level on the 2013 Grade 8 New York State English Language Arts (ELA) Test (NYSED, 2013). This disturbing statistic reveals the need for improved instructional outcomes and different instructional solutions for this group (Davis-Richards & Parker, 2013; James, 2010; Noguera, 2012; Piechura-Couture et al., 2013). A concept adopted by many school systems across the nation is to establish single-gender schools and classrooms in their districts. While this approach is a proposed solution toward closing the achievement gap, there is presently no clear proof that this concept improves instructional outcomes (Davis-Richards & Parker, 2013; Noguera, 2012; Yates, 2011). There are limited studies that focus on standardized ELA test scores for African American male middle school students, as a predictor for success in single-gender classrooms (Noguera, 2012; Piechura-Couture et al., 2013). For instance, Yates (2011) conducted a study on the perceptions of elementary and secondary male students receiving instruction in single-gender classrooms. Results of the perception analysis indicated that elementary school males favored single-gender environments, while secondary school males preferred coeducational classrooms. Further, Piechura-Couture et al. (2013) examined the overrepresentation of males and minorities that were referred to special education classes. Consequently, they conducted a study to discern the perceptions of male students, parents, and teachers regarding the impact of single-gender environments on male students. The researchers surveyed constituents from elementary, middle, and high schools throughout the state of South Carolina. Subsequently, they discovered evidence that single-gender environments should be explored to reduce the number of males and minorities in special education. Alternatively, in a study by Else-Quest and Peterca (2015), which was conducted with

boys and girls in 11<sup>th</sup> grade who were attending single-gender and coeducational high schools within one specific urban district, the results differed. Standardized test scores in English, math, and science tests, and students' attitudes toward school work were measured. Results revealed that girls in single-gender environments performed slightly better on standardized tests than girls in coeducational environments. In contrast, boys in single-gender schools performed worse on state tests than those in coeducational schools. Moreover, attitudes toward school work were mixed. Both male and female students in single-gender classrooms were slightly unfavorable toward reading and preferred math and science. Additionally, students in single-gender schools performed slightly less favorably in self-concept and expectations of success in English than their coeducational counterparts. The intention of this study was to explore single-gender instructional environments as a plausible solution toward closing the achievement gap by focusing solely on New York State ELA Grade 8 standardized test results.

**ELA grade 8 standardized tests.** Justification for using standardized testing emanates from state requirements, expecting student proficiency in the new Common Core Learning Standards and, compelling all public school students to become college and career ready. In 2012 New York State redesigned standardized tests to align with the CCLS, and evaluate students in Grades 3-12 on rigorous tasks (NYSED, 2013). These high stakes exams are heavily weighted and are a major component for promotional criteria among students in grade 8. Success or failure on these exams affect graduation from middle school to high school, therefore, they are profoundly relevant for academic success. Schools are held accountable for student proficiency on these high stakes tests.

Subsequently, test scores determine if schools meet their instructional targets or, Annual Yearly Progress (AYP).

A quantitative research approach was used to compare ELA test results of eighth-grade African American males in coeducational classes to the ELA test results of their counterparts in single-gender classrooms. A correlational analysis was the justification for employing a quantitative methodology (Creswell, 2013). Archival data from the grade 8 Common Core ELA Test were used to evaluate reading proficiency (Creswell, 2013), a key factor in determining the extent of the achievement gap as outlined in NCLB (2001).

The research question that guided this study was:

Will there be a significant difference in ELA standardized test scores of eighth-grade African American males enrolled in a coeducational middle school class, as compared to the ELA standardized test scores of eighth-grade African American males enrolled in a single-gender middle school class?

Null Hypothesis  $H1_0$ : There is no significant difference in ELA standardized test scores of eighth-grade African American males enrolled in a coeducational middle school class, compared to the ELA standardized test scores of eighth-grade African American males enrolled in a single-gender middle school class.

Analysis of the factors that result in the achievement gap may be obtained through statistical analysis of assessment measures. Results from the correlational analysis of standardized test scores provided insight toward elucidating educational experiences that might better prepare African American male students for college, careers, and life.

## **Research Context**

The context for this study was an urban public middle school serving Grades 6-8, located in a large school district in one of the five boroughs of New York City. Located in an area characterized by high poverty, surrounded by two low-income housing projects and multi-dwelling buildings, students faced educational and social-emotional challenges (Levenson, 1936). The area was notorious for drug activity during the 1980s, and ultimately, the parents and grandparents of many students were victims of the crack epidemic (Sautter, 1992). In 2006, district re-zoning efforts required a small percentage of enrollments from more affluent districts; this provided the promise of improved test scores and a chance to change the school culture.

There were 589 students enrolled at this middle school, mostly from low-income families. Approximately 5% of the students lived in homeless shelters, 5% were in foster care, and 13% were being raised by grandparents or relatives other than their biological parents. The percentage of students receiving a free lunch was 93%, which qualified the school for Title I funding. The school demographics describe a population comprising 89.76% Black or African American, 9.44% Hispanic or Latino, and .80% Asian or Pacific Islanders. SWDs represented 37% of the population, and 15% were English ELLs. Thus, less than 50% of the population were identified as general-education students. The school is considered a “Priority School” because of low standardized test scores. Test scores in ELA increased in 2012 from 10% scoring at or above grade level to 12% scoring at or above grade level in 2013, which is an increase of 2% of all students scoring at or above grade level. Math scores increased from 12% to 13% during the same years, which represents a 1% increase for all students scoring at or above grade level.

During the 2011 school year, the school's suspension index was 1.5, causing this school to be placed on the "persistently dangerous" list. Suspension rates decreased in 2013, and the State Education Department was petitioned to remove the school from the persistently dangerous list. The numerous challenges that exist in this middle school make it difficult to attract highly qualified teachers. This site was selected for the study because it is one of the few public middle schools with single-gender classrooms within a coeducational environment. Furthermore, students in this vicinity have historically struggled socially, emotionally, and academically; the school represents a microcosm of society that reflects the national achievement gap crisis in America.

### **Research Participants**

According to Creswell (2013), the most authentic research participants are those purposefully selected who have "lived the experience" (p. 155) and who are noted in the research problem statement—and who can enlighten the researcher with information toward understanding the problem (Creswell, 2013). Participants for this study were purposefully selected African American male students in Grades 7 and 8. The study sample consisted of 88 seventh- and eighth-grade students. All were enrolled in a coeducational seventh-grade class. While in eighth grade, half of the seventh-grade cohort were enrolled in a coeducational eighth-grade class, and the other half were enrolled in a single-gender eighth-grade class. The reason for this purposeful selection was to gather information and data about students who have experienced both coeducational and single-gender educational environments. ELA test scores gathered from the 2012 and 2013 school years provided comparison data to determine student growth scores and outcomes while in both types of learning environments.

## **Instruments Used in Data Collection**

The New York State Testing and Accountability Reporting Tool supplied archival data from the Grade 8 Common Core ELA Test. The test measured student progress according to grade level standards in ELA. Consequently, reading standards for informational text and reading standards for literature were assessed as the most critical elements of literacy skills leading to academic success and college and career preparedness.

**Grade 8 Common Core ELA tests.** In an effort to improve college and career preparedness for students in public schools, Grades 3-12, the Board of Regents in New York State adopted the Common Core State Standards (CCSS) (NYSED, 2013) in ELA and Mathematics, in 2010. After careful analysis of student learning outcomes and the inability of most public school students to read complex text and think critically, the NYS Board of Regents revised various components of the CCSS in 2011. Consequently, they developed the Common Core Learning Standards (CCLS), which were specifically for New York State schools. The new CCLS signaled a shift in pedagogy, instruction, and assessment (NYSED, 2013). Additionally, the CCLS required increased levels of text complexity, with the expectation that students should be able to read and comprehend informational text at a greater percentage than they should reading literature. The new Grades 3-8 Common Core ELA and Mathematics Tests were developed and administered in 2013 to assess student mastery of the CCLS (NYSED, 2013). The test consisted of 63 multiple choice questions and 8 extended response questions. Table 3.1 depicts the types of questions asked on the common core tests and their complexity.

Table 3.1

*Types of Questions Asked on the CCLS Tests and Their Complexity*

2013 Grade 8 Common Core English Language Arts Test Design					
	Day 1	Day 2		Day 3	
	Book 1	Book 2	Book 3	Book 4	Total
Passages	6	3	2	3	14
Multiple-Choice Questions	42	21			63
Short-Response Questions			3	5	8
Extended-Response Questions			1	1	2
		Total Number of Literary Passages			3-8
		Total Number of Informational Passages			6-11

*Note.* From “New York State Testing Program Educator Guide to the 2013 Grade 8 Common Core English Language Arts Test,” 2013. Copyright 2013 by the New York State Education Department.

**Scoring.** Students were scored using the number correct (NC) method or the raw score. Ultimately, the raw score was converted to a scale score by means of a conversion table and translated into performance indicators. Therefore, students were given a scale score ranging from 100-417, which equates to the corresponding performance level ranging from 1-4. Table 3.2 depicts the scale score ranges associated with the

corresponding performance levels. Performance levels determine the level of proficiency of skill mastery as follows:

***NYS level 1.*** Students performing at this level are well below proficient in standards for their grade. They demonstrate limited knowledge, skills, and practices embodied by the New York State P-12 Common Core Learning Standards for English Language Arts/Literacy that are considered insufficient for the expectations at this grade.

***NYS level 2.*** Students performing at this level are below proficient in standards for their grade. They demonstrate knowledge, skills, and practices embodied by the New York State P-12 Common Core Learning Standards for English Language Arts/Literacy that are considered partial but insufficient for the expectations at this grade.

***NYS level 3.*** Students performing at this level are proficient in standards for their grade. They demonstrate knowledge, skills, and practices embodied by the New York State P-12 Common Core Learning Standards for English Language Arts/Literacy that are considered sufficient for the expectations at this grade (NYSED, 2013).

***NYS level 4.*** Students performing at this level excel in standards for their grade. They demonstrate knowledge, skills, and practices embodied by the New York State P-12 Common Core Learning Standards for English Language Arts/Literacy that are considered more than sufficient for the expectations at this grade.

**Reliability.** According to Wells and Wollack (2003), test reliability refers to the consistency of scores students would receive on alternate forms of the same test. It is the degree to which an assessment tool produces stable and consistent results. Consequently, various forms of reliability exist in most assessments. The reliability of the ELA standardized test has not been publicly available because the test is a proprietary

instrument managed by the school district. As such, given that it has been approved for use in the school district by NYSED, it is assumed to meet minimum test-retest reliability standards and inter-item reliability norms.

Table 3.2

*Scale Score Ranges Associated with Each Performance Level*

Grade	NYS Level 1	NYS Level 2	NYS Level 3	NYS Level 4
3	148-290	291-319	320-357	358-423
4	139-286	287-319	320-342	343-412
5	116-288	289-319	320-345	346-425
6	112-282	283-319	320-337	338-412
7	103-286	287-317	318-346	347-413
8	100-283	284-315	316-342	343-417

*Note.* From “New York State Testing Program Educator Guide to the 2013 Grade 8 Common Core English Language Arts Test,” 2013. Copyright 2013 by the New York State Education Department.

**Validity.** Test validity refers to assessments that measure what they are designed to measure (Patten, 2007). Various sources are used to determine test relevance, and remains a continuous process of verification and gathering evidence from content of the material and tabulated outcomes from the actual test scores (NYSED, 2012).

Alternatively, and according to psychologist Diane Ravitch (2015), the Common Core State tests are not scientifically valid or reliable due to the non-transparent grading practices. Ravitch stated, “The assessments are not verifiable, because they are not permitted to be subject to independent scientific evaluation. Their validity cannot be proven nor disproven. Under the guise of “test security” companies use copyright laws so extreme they prevent true scientific evaluation of the validity of these tests, by scientists

with expertise in the fields of Education, Psychology, and related fields” (p. 1).

Nevertheless, for the purpose of this study, the test will be considered a necessary means of assessment due to the impact it has on the academic careers of the subjects of this study.

**Statistical data.** To identify individual student performance growth, the ELA standardized exam scores were placed in a spreadsheet, retrieved from an archival database, and gathered over the course of two years. Two scores for each student were compared, both seventh- and eighth-grade ELA scores, and the skew and kurtosis statistics were used to determine the type of distribution run, using the Statistical Program for Social Science (SPSS).

The archival test data were analyzed using SPSS. Interval ratio test score data, which were the dependent variables, were collected from 58 students who received instruction in a coeducational seventh-grade class, and they had been moved to a single-gender eighth-grade class the following school year. Subsequently, single-gender and coeducational classrooms served as the independent variables for this study.

Screening for the skew and kurtosis revealed the formation of a normal distribution requiring the need to run a parametric statistical test. Consequently, a profile analysis test was run to determine whether the difference between the means was statistically significant, so a data spreadsheet was used to chart all of the test score data. Scores from the 2012-13 and 2013-14 school years for each participant were compared for performance levels. It was necessary to screen for skew and kurtosis to determine the distribution of scores. On a bell curve of scores, skew is defined as,

The symmetrical measure of a distribution of numbers on a bell curve of scores. A “negative skew” is characterized by the display of most data at the high end of the scale. Conversely, a “positive skew” reveals most data at the low end of the scale. Kurtosis is defined as a measure of how sharp the point is in the distribution. A perfectly normal distribution has a kurtosis statistic of 0. If the distribution has a very sharp point, it is called “leptokurtic.” If the distribution is unusually flat, it is considered “platykurtic.” Normal kurtosis would be less than 4 or  $-4$ . (Townsend, 2014, p. 2)

### **Data Analysis**

The ELA standardized test scores were analyzed using the profile analysis to test for statistical significance and to determine the differences between the means. The ELA scores were the sole standardized test analyzed, since they provided information about reading and writing ability, which are challenging skills and usually not mastered by the population of students attending this public school.

A profile analysis was used to test if the groups had different profiles on a set of measures. This is the multivariate approach to repeated measures where there are two dependent variables that are measured on the same scale. The “between subjects” factor for the test was the type of learning environment, while the “within subjects” factors were the ELA test administrations given across years. Measures of effect for the profile analysis included parallelism of the profiles between group differences on the collected set of dependent variables and flatness of the profile.

## **Summary**

The description of the methodology applied to this quantitative study began with a review of the problem statement, outlining the troubling academic outcomes for African American males and the national attention gained by this group (Children's Defense Fund, 2009; NEA, 2011). The research question that guided the study sought to address the national dilemma about how to best educate African American males, with single-gender learning environments as a possible solution. Subsequently, the high-stakes ELA tests yield scores that determine the way students are judged, teachers are evaluated, and school administrators are held accountable. With this in mind, the ELA test scores were used to determine instructional outcomes for African American males from an urban middle school in two different types of learning environments. A comparative analysis of the ELA test scores from eighth-grade student participants was conducted to evaluate assessment results of students receiving instruction in a single-gender environment, compared to those receiving instruction in a coeducational learning environment.

## Chapter 4: Results

### Introduction

This study was undertaken in order to test the efficacy of one strategy—the single-gender classroom environment—that has been implemented with the goal of impacting student achievement. The achievement gap in the United States is centered on African American males and their failure to perform at or above grade level on standardized achievement tests (Dillon, 2009; Fryer & Levitt, 2006; Gewertz, 2007); Indeed, only 13% of eighth-grade African American male students in NYC scored at or above grade level on the 2013 Grade 8 Common Core New York State Exam in ELA (NYSED, 2013). Furthermore, African American males make up 9% of the entire public school population in the United States; however, close to 80% are in special education programs, and 20% are classified as mentally retarded (NEA, 2011; Schott, 2010). These damaging statistics require the need for a different approach to educating African American males (Yates, 2011). Therefore, the objective of this quantitative study was to analyze ELA Common Core State Exam scores of African American eighth-grade males to determine if there was a relationship between student scores and their participation in single-gender learning environments. A profile analysis of the ELA test scores is presented in this chapter to address the research question and offer results that provide information about single-gender instruction in an urban New York City public middle school.

## **Research Question**

Inferential statistics were used to draw conclusions from the sample tested. The Statistical Package for the Social Sciences (SPSS) was used to code and tabulate scores collected from archival data and provide summarized values, where applicable, including the mean, central tendency, variance, and standard deviation.

Profile analysis was used to evaluate the following research question:

Will there be a significant difference in ELA standardized test scores of eighth-grade African American males enrolled in a coeducational class, as compared to the ELA standardized test scores of eighth-grade African American males enrolled in a single-gender class?

Null Hypothesis H1<sub>0</sub>: There is no significant difference in ELA standardized test scores of eighth-grade African American males enrolled in a coeducational middle school class, as compared to the ELA standardized test scores of eighth-grade African American males enrolled in a single-gender middle school class.

## **Data Analysis and Findings**

Prior to analyzing the research question, data screening was undertaken to ensure that the variables of interest met appropriate statistical assumptions. Thus, the following analysis was applied using an analytic strategy that first evaluated the variables for missing data, univariate outliers, normality, linearity, homogeneity of variance, and homogeneity of variance-covariance matrices. Finally, profile analysis was run to determine if any relationships existed between the variables of interest. An investigation was finalized for missing data, univariate outliers, normality, linearity, homogeneity of

variance, and homogeneity of variance-covariance matrices, which assured validity and exactitude.

**Demographics.** Data were collected from a sample of 88 African American male students in Grades 7 and 8. Students were randomly selected and received instruction in two distinct classroom environments, coeducational and single-gender. All participants received instruction in a general-education setting.

The research question was evaluated using a profile analysis to determine if any significant differences in the ELA test scores existed between students enrolled in single-gender middle school classes, compared to students enrolled in coeducational middle school classes. The dependent variable was participants' seventh- and eighth-grade ELA test scores. The independent variable was the type of learning environment that the students attended. That is, participants were placed into two groups depending on whether they were enrolled in a coeducational class during seventh and eighth grades or whether they were enrolled in a coeducational class during seventh grade and a single-gender class during the eighth grade.

**Data cleaning.** Data were collected from a sample of 88 African American male students. Before the assumptions were assessed, the data were screened for missing data and univariate outliers. Missing data were investigated using frequency counts, and 10 cases were found and were removed from the analysis. The data were screened for univariate outliers by transforming raw scores to z-scores and comparing z-scores to a critical value of  $\pm 3.29$ ,  $p < .001$  (Tabachnick & Fidell, 2007). Z-scores that exceed this critical value are more than three standard deviations away from the mean and thus represent outliers. The distributions were evaluated, and no cases with univariate outliers

were found. Thus, 88 responses from the participants were received, and 78 were evaluated by the profile analysis for the research question ( $N = 78$ ). Descriptive statistics of participants' seventh- and eighth-grade ELA test scores are displayed in Table 4.1 by class type (coeducational, single gender).

Table 4.1

*Descriptive Statistics of Participants' Seventh- and Eighth-Grade ELA Test Scores by Class Types*

ELA Test Score	<i>n</i>	Min	Max	Mean	Std. Deviation	Skewness	Kurtosis
<b>Coeducational</b>							
7 <sup>th</sup> Grade	51	1.870	3.810	2.470	0.535	0.604	-0.780
8 <sup>th</sup> Grade	51	1.520	3.860	2.213	0.569	1.383	1.309
<b>Single Gender</b>							
7 <sup>th</sup> Grade	27	1.680	3.720	2.343	0.491	0.762	0.593
8 <sup>th</sup> Grade	27	1.540	2.770	2.005	0.303	1.628	2.290

*Note.* Total  $N = 78$

**Normality.** Before the research question was analyzed, basic parametric assumptions were assessed. That is, for the dependent variable (seventh- and eighth-grade ELA test scores) assumptions of normality, homogeneity of variance, and homogeneity of variance-covariance matrices were tested. To test if the distributions were normally distributed, the skew and kurtosis coefficients were divided by the skew/kurtosis standard errors, resulting in z-skew/z-kurtosis coefficients. This technique was recommended by Tabachnick and Fidell (2007). Specifically, z-skew/z-kurtosis coefficients exceeding the critical range between  $-3.29$  and  $+3.29$  ( $p < .001$ ) may indicate

non-normality. Thus, based on the evaluation of the z-skew/z-kurtosis coefficients, two distributions exceeded the critical range (coeducational eighth-grade ELA scores  $skewness = 1.383$ ,  $z-skew = 4.153$ , and single-gender eighth-grade scores  $skew = 1.628$ ,  $z-skew = 3.634$ ). The remaining two distributions (coeducational seventh-grade ELA scores) did not exceed the critical range and were considered normally distributed. For the significantly skewed distributions, the scores were transformed using a square root transformation, and they were found to still be significantly skewed. Therefore, the original (non-transformed) scores were used in the profile analysis, and the violation of normality was considered a limitation of the study. Skewness and kurtosis statistics of participants' seventh- and eighth-grade ELA test scores are displayed in Table 4.2 by class type (coeducational, single gender). When using profile analysis it's robust against these limitations. It doesn't affect the outcome.

Table 4.2

*Skewness and Kurtosis Statistics of Participants' Seventh- and Eighth-Grade ELA Test Scores by Class Types*

ELA Test Score	<i>n</i>	Skewness	Skew Std. Error	z-skew	Kurtosis	Kurtosis Std. Error	z-kurtosis
Coeducational							
7 <sup>th</sup> Grade	51	0.604	0.333	1.814	-0.780	0.656	-1.189
8 <sup>th</sup> Grade	51	1.383	0.333	4.153	1.309	0.656	1.995
Single Gender							
7 <sup>th</sup> Grade	27	0.762	0.448	1.701	0.593	0.872	0.680
8 <sup>th</sup> Grade	27	1.628	0.448	3.634	2.290	0.872	2.626

Note. Total *N* = 78

**Homogeneity of variance.** Levene's Test of Equality of Error Variance (1960) was run to determine if the error variances of the dependent variable (seventh- and eighth-grade ELA test scores) were equal across levels of the independent variable (coeducational, single gender). Results indicated that the distribution of eighth-grade ELA test scores did violate the assumption of homogeneity of variance ( $p = .001$ ). Although these results suggested that the error variances were not equally distributed across levels of the independent variable, there were no non-parametric alternative tests for the profile analysis. Therefore, the violation of the assumption of homogeneity of variance was considered a limitation to the study. Displayed in Table 4.3 is a summary of the Levene's test conducted for the research question.

Table 4.3

*Summary of Levene's Test Conducted for the Research Question*

Dependent Variable	F	df1	df2	Sig. ( $p$ )
7 <sup>th</sup> Grade	0.763	1	76	.385
8 <sup>th</sup> Grade	11.300	1	76	.001

*Note.* Total  $N = 78$

**Homogeneity of variance-covariance matrices.** To examine the assumption of homogeneity of variance-covariance matrices, Box's M tests were run. These tests were run to determine if the variance-covariances of the dependent variable (seventh- and eighth-grade ELA test scores) were equal across levels of the independent variable (coeducational, single gender). For the Box's M tests, the critical value for determining whether the assumption of homogeneity of variance-covariance matrices was violated is  $p < .001$ . Results from the tests found that the distributions were equal across

independent variable groups, *Box's M* = 13.442,  $F(3, 74752.546) = 4.334, p = .005$ .

These results suggest that the assumption of homogeneity of variance-covariance matrices was met.

### Results of the Research Question

Using SPSS 22.1, the research question was evaluated using a profile analysis to determine if any significant differences in seventh- and eighth-grade ELA test scores existed between students enrolled in single-gender middle school classes, compared to students enrolled in coeducational middle school classes. Results from the profile analysis multivariate test indicated that the students' profiles from seventh grade to eighth grade did not significantly deviate from parallelism, *Wilk's Lambda* = 0.989,  $F(1, 76) = 0.833, p = .364, \text{partial-eta squared} = .011$ ; meaning, the change (decrease) in ELA scores from seventh grade to eighth grade was not significantly different for students in the male coeducational middle school environment ( $\Delta M_{\text{eighth grade-7th grade}} = -0.257$ ) compared to male students in the single-gender middle school environment ( $\Delta M_{\text{eighth grade-7th grade}} = -0.338$ ). See Figure 4.1 for a means plot of seventh- and eighth-grade ELA scores for each group. A model summary of the multivariate test for the research question is displayed in Table 4.4.

Table 4.4

#### *Model Summary of Test Multivariate Test Conducted for the Research Question*

Effect	Wilks' Lambda	F	Hypothesis df	Error df	Sig. ( <i>p</i> )	Partial Eta Squared
Class Type	0.627	45.241	1	76	<.001	.373
Class Type * Grade Level	0.989	0.833	1	76	.364	.011

*Note.* Dependent variables = ELA test score; Total *N* = 78

Figure 4.1 displays the means plot derived from the profile analysis. As evidenced by the means plot, both group's ELA scores trend downward from seventh grade to eighth grade. The coeducation group decreased by .257 ( $\Delta M = .257$ ) points while the single-gender group scores decreased by .338 ( $\Delta M = .338$ ). Although the profiles are different, that is, single-gender scores decreased from seventh to eighth grade to a greater extent than the coeducational group, but the difference was not significant.

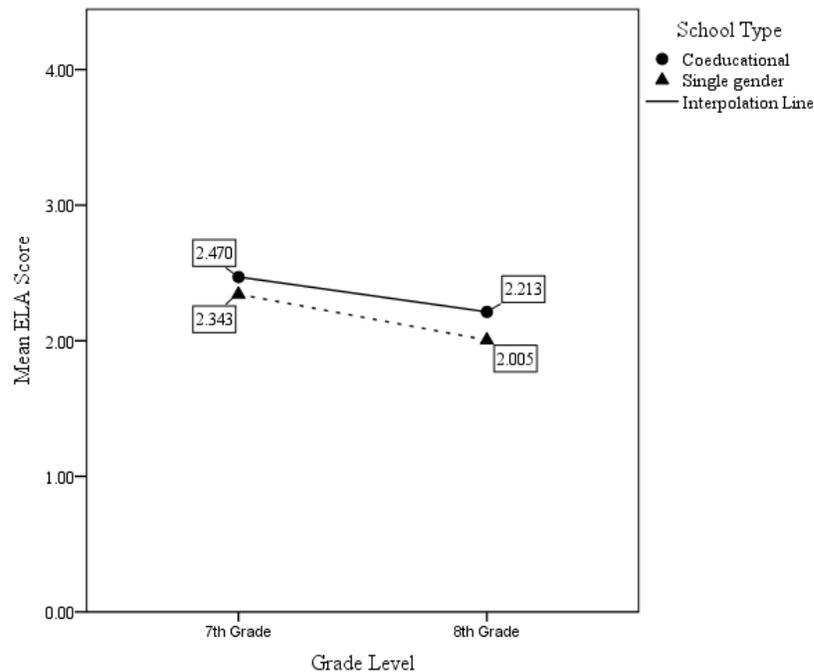


Figure 4.1. Profile Analysis.

Results from the profile analysis test of between-subjects effects indicated that no significant differences in students' overall ELA scores existed between the coeducational classroom group and the single-gender classroom group,  $F(1, 76) = 2.232, p = .139, \eta^2 = .029$ . That is, the overall ELA mean score for students in the coeducational environment ( $M = 2.342$ ) was not significantly higher compared to students in the single-gender environment ( $M = 2.174$ ). The summary details for the test of between-subject effects are displayed in Table 4.5.

Table 4.5

*Summary of Test of Between-Subjects Effects Conducted for the Research Question*

Source	Type III Sum of Squares	df	Mean Square	F	Sig. ( <i>p</i> )	Partial Eta Squared ( $\eta^2$ )
Intercept	719.873	1	719.873	1612.804	<.001	.995
Class Type	0.996	1	0.996	2.232	.139	.029
Error	33.923	76	0.446			

Note. Total  $N = 78$

Results from the profile analysis test of within-subjects effects indicated there was no significant difference in the overall ELA mean scores between students' seventh-grade test scores and their eighth-grade scores,  $F(1, 76) = 0.833$ ,  $p = .364$ , *partial eta-squared* = .011. That is, the average of all students' (from both class types) seventh-grade ELA scores ( $M = 2.406$ ) was not significantly higher than all students' eighth-grade ELA scores ( $M = 2.109$ ). The summary details for the test of within-subject effects are displayed in Table 4.6.

Table 4.6

*Summary of Test of Within-Subjects' Effects Conducted for the Research Question*

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Factor 1	3.123	1	3.123	45.241	<.001	.373
Grade Level	0.058	1	0.058	0.833	.364	.011
Error	5.247	76	0.069			

Note.  $N = 78$

## Summary

The achievement gap in the United States is centered on African American males and their failure to perform academically (Dillon, 2009; Fryer & Levitt, 2006; Gewertz, 2007). This dilemma is at the forefront of discussion in educational arenas throughout the country—with no prescription or solution (Noguera, 2012). In order to test one posited solution to the achievement gap, the single-gender learning environment, this study compared ELA test scores of students who had been moved to a single-gender learning environment in eighth grade to determine whether there was a significant difference between their scores and those of their peers who had remained in a coeducational classroom. The statistical analysis outlined in this study was used to compare academic growth between two specific types of instructional environments, using the grade 8 New York State Common Core Standardized ELA exam scores, which are required for public school students.

The New York State standardized ELA exam scores were used to draw conclusions about the progress of African American males taught in a single-gender or coeducational classroom at a middle school in New York City. The sample consisted of 88 students who attended coeducational seventh-grade classrooms, and subsequently attended either a coeducational or single-gender classroom in grade 8. The classroom environment was the independent variable used to evaluate progress or lack thereof.

The research question was analyzed and evaluated using a profile analysis. SPSS 22.1 was the tool used to code and chart the ELA State Exam test scores over time. Results of the profile analysis were found to be non-significant. Test score data from the students enrolled in coeducational seventh-grade classes in either coeducational or single-

gender classes in the eighth grade revealed no significant difference over time between the groups. Consequently, coeducational and single-gender class environments were not found to affect ELA state exam scores.

The final chapter of this study, Chapter 5, provides insight into the implication of the findings from the quantitative data. Limitations of the study are presented to explain the variables that may have affected the study's strengths and generalization to the population. Finally, recommendations for future studies are discussed.

## **Chapter 5: Discussion**

### **Introduction**

Resulting from the numerous unarmed African American males who have been tortured, brutalized, or killed by police with no accountability for these atrocities, social conditions within our nation resonate with the outcry that, “Black Lives Matter” (Schott, 2015). The lack of concern for the lives of black males is reflected in school systems across America as the achievement gap continues to widen (Schott, 2015).

Discussions about solutions for improvement are at the forefront of national conversations, yet there are no valid prescriptions toward adaptations and measures to ensure the success of African American males in middle schools (Noguera, 2012). Consequently, one strategy has been single-gender environments, which have been on the rise, as all male learning academies designed specifically for African American males have increased in number (Noguera, 2012; Yates, 2011). This study examined the effectiveness of the single-gender environments by comparing the academic results of students who were taught in coeducational and single-gender classrooms.

New York City is noted as one of the poorest performing districts in the United States with a large African American male student enrollment of more than 40,000 students; regrettably, only 28% graduate from high school (Schott, 2013). Moreover, during the 2012-13 school year, the national graduation rate was 59% for African American males compared to 80% for their White counterparts, a noticeable decrease from 2009, reporting 61% for African American males and 80% for White males. The

education gap has widened and continues to be a national conversation with stagnant results (Schott, 2013). Graduation rates are dictated by outcomes of test results and weigh heavily on student's academic careers. As a matter of fact, evaluative measures of cognitive ability in America have been deeply rooted in test results and assessment outcomes by which success is measured; thus, the testing phenomenon puts those who do not test well at greater risk of becoming frustrated, losing motivation, and eventually, dropping out of school. On the other hand, mounting testing accountability pressures are responsible for the systematic cheating crisis that exists in America and around the world that frequently victimizes African American males (Amrein-Beardsley, Berliner, & Rideau, 2010; Dorff, 2013; Richmond, 2013). A widely used measure of student success is the standardized literacy test administered in eighth grade prior to entering high school, and therefore, it is a critical barometer of the likelihood of academic achievement (Serviss, 2012). In consideration of the significance of literacy standards as a predictor of academic success the New York State Grade 8 Common Core ELA Test is the measure that was used to examine outcomes of African American middle school male students who experienced co-educational and single-gender classrooms to determine whether the single-gender strategy influenced their academic achievement (NYSED, 2013; Rentner, & Kober, 2014). This chapter addresses the implications and limitations of the study's findings as well as recommendations and conclusions for this study, which focused on the following research question:

Will there be a significant difference in ELA standardized test scores of eighth-grade African American males enrolled in a coeducational class, as compared to the ELA

standardized test scores of eighth-grade African American males enrolled in a single-gender class?

The null hypothesis  $H_{10}$  was that there would be no significant difference in ELA standardized test scores of eighth-grade African American males enrolled in a coeducational middle school class, as compared to the ELA standardized test scores of eighth-grade African American males enrolled in a single-gender middle school class. In fact, the study found that there was no significant difference in results on the ELA eighth-grade test for African-American males instructed in a single-gender classroom environment.

As an educator for more than 30 years in the NYC public school system, the researcher witnessed the unsavory behaviors and explicit frustration of African American males in traditional classrooms. On the other hand, academic success was prevalent in classrooms when non-traditional engagement and hands-on activities were available for males. As a school administrator in 2005, the researcher came across a news article that explained the school-to-prison pipeline. This enlightened and stimulated concern and, most importantly, the desire to search and research effective solutions to improve the academic outcomes of African American males in middle schools.

### **Implications of Findings**

This quantitative study was guided by a profile analysis test, otherwise known as a multivariate or mixed repeated measures or mixed ANOVA. The test compared the dependent variables—test scores—between the two separate groups over two years' time.

The profile analysis conducted in this study began with participants but after cleaning the data for incompleteness, 78 subjects were tested. The results suggested an

insignificant difference in test score growth, deeming the change in scores among students in single-gender classes virtually parallel to students in coeducational classrooms. Findings revealed that varied profiles for test scores of the students attending the single-gender class decreased from seventh to eighth grade considerably, compared to the coeducational group; however, the difference was not substantial. As a result of the statistical findings, the guided research question supports the null hypothesis, confirming that no significant difference in learning results emerged from the study.

Presently, limited research exists offering valid evidence on the effects of single-gender educational environments (Hubbard & Datnow, 2005; McFarland et al., 2011; Noguera, 2012). Results from this study substantiate discussions from researchers and educators, such as Else-Quest & Peterca (2015) and Noguera (2012), who contend that single-gender settings are not significantly superior to coeducational settings when educating African American males. Conversely, research by Piechura et al (2013) and Yates (2011) support the ideals of single-gender environments for males of color, even though they are not significantly superior. According to the literature review, reading scores for males were lower than in the traditional coeducational classrooms (McFarland et al., 2011).

### **Limitations**

**Bias.** Investigators often have predispositions about their research. Consequently, studies usually contain bias from the researcher, which lends itself to interpretation and prejudice toward a particular hypothesis (Tabachnick & Fidell, 2007). Supporting research and public opinion led the researcher to believe that single-gender classrooms were beneficial for instructing African American males in middle schools

successfully. Although the results reveal the contrary, bias is considered a limitation to this study.

**Participants of the study.** The premise of this qualitative research was limited to a small sample size of 78 middle school male participants in an urban school district. Additionally, only one school was the focus of the study. Since the sample size was limited, the results were therefore limited. A larger sample size may have provided a better distribution of scores and would have yielded different results. Consequently, this research only touched a small amount of participants.

**Tests.** This study was limited to an investigation that solely relied on standardized test scores as indicators of success in a single-gender classroom, which was a limitation to the study. Testing represents simply one form of assessment and, although tests are heavily weighted as indicators of success, they limit the realm of knowledge for African American males who may exhibit characteristics of oppositional defiance toward school life, especially toward test-taking procedures (Ogbu, 1981, 2004). The profile analysis was the latest technique known to analyze the data; nonetheless, there may have been a better statistical test (Tabachnick, & Fidell, 2007). Ultimately, knowledge of various statistical tests are considered a limitation. Ultimately, more robust use of varied statistical tests may have contributed further to the validity of the results.

**Reliability.** Test reliability for the research participants was a factor that may have skewed the results. For instance, according to Wells and Wollack (2003), “random measurement of error” (p. 2) is reflective in scores that affect a true diagnosis. Accordingly, “three specific factors cause measurement errors, (a) examinee-specific factors such as motivation, concentration, fatigue, boredom, momentary lapses of

memory, carelessness in marking the answers, and luck in guessing, (b) test-specific factors such as the specific set of questions selected for a test, ambiguous or tricky items, and poor directions, and (c) scoring—specific factors such as non-uniform scoring guidelines, carelessness and counting or computational errors” (p. 2). Often, students fall victim to multiple choice tests that require pencil marks. As a result, smears on the test grid can invalidate answers, or students misalign their answer choices, causing a page of incorrect answers. Furthermore, a small sample of participants’ scores contributed to the study; therefore, limiting a broad and global perspective that would reflect the large public school system of the study’s context.

**Pedagogy.** Beyond test results, teacher effectiveness is a component that was not measured during this study, making teacher pedagogy a limitation of the study. Those teachers who have the ability to understand the social situations and subsequently adapt various learning styles and implement strategies, specifically to meet the needs of African American males, would be most successful (Bell, 2010, Kafele, 2013). Moreover, academic engagement should be closely examined to understand the nature of teacher-student interactions. To this end, teacher pedagogy and teacher support for students’ academic engagement have been identified as significant factors influencing student success. However, outcomes and recommendations from this study may impact further reform efforts in public schools toward closing the achievement gap (McFarland et al., 2011; Noguera, 2012).

### **Recommendations**

The objective of this study was to determine the effectiveness of single-gender male learning environments, using test score data as a measure for success. The study

took place in one middle school in NYC with 78 participants. Future studies would provide more actionable evidence with the use of a larger sample size and more variables in the analysis.

**Recommendations for future studies.** A broad statistical analysis using a large sample of participants may have strengthened this study and increased the statistical power, possibly leading to a different finding. Therefore, it is recommended that a quantitative study be conducted comparing standardized Common Core test scores in ELA, as well as Mathematics, but on a larger scale, and comparing test results of students enrolled in an all-male school compared to students enrolled in a coeducational school. The educational community may benefit from this type of study and utilize the results for prescriptions and reform measures.

An additional recommendation for future studies is to compare single-gender and coeducational classes for African American males in an urban middle school, focusing on Grades 6 and 7, to determine if the grade or level of students is a significant factor for effectiveness and improved learning outcomes.

Although research literature and findings from this study reveal no significant learning outcomes present in single-gender classrooms compared to coeducational classrooms, educators would benefit from a qualitative analysis revealing the perspectives of stakeholders involved in teaching and learning in single-gender environments. A study that requests the participation of teachers, parents, and students in order to document their thoughts, feelings, and experiences about single-gender instruction would be the goal.

**Recommendations for school districts.** Hiring policies and practices at the district level must include a process to identify and hire talented school leaders who are both transformational and authentic. They must exhibit characteristics of genuine caring, the ability to develop realistic academic goals for African American male adolescents, and provide social and emotional support beyond the school day to improve instructional outcomes.

Leadership efforts must be creative and innovative possessing the ability to think outside the box, in order to improve test scores and help males develop into productive members of society. As a result, Afritransthetic leaders, (transformational and authentic leadership combined) is recommended for changes in urban schools to be actualized.

**Recommendations for curriculum reform.** Reform efforts led to a new trend in schooling and educators began developing all-male academies to address the specific needs of African American males. This was done after schools were allowed autonomy from the stringent Title IX legislation (Noguera, 2012; Salomone, 2011; Yates, 2011). Organizations, such as the Eagle Academy, developed all-male middle and high schools in every borough of New York City (Eagle Academy, 2013) to provide learning environments exclusively for African American males to address their social and emotional needs. Unfortunately, these initiatives were developed void of a specific curriculum to address the academic needs of males in middle schools. Therefore, it is recommended that a curriculum be designed specifically to meet the needs of African American males. Curriculum components should be aimed at the exclusive learning styles of African American males, including hands-on activities and skills designed to stimulate the active nature of males.

The “attribution theory” may also be advantageous, indicating student’s elucidation of their personal academic triumphs and failures, which would ultimately influence personal motivation in males; therefore, it is recommended that males engage in extensive guided curriculum activities and workshops, such as Overcoming Obstacles® (CEF, 2012) and guidance sessions using Restorative Justice Circles (BARJ, 2013).

**Recommendations for program requirements.** The study utilized the ecological systems theory of Bronfenbrenner (1977) to provide a theoretical framework for understanding the development of children and, specifically in this instance, African-American eighth-grade males. Bronfenbrenner posited that three specific ecological systems must be addressed in order to educate the whole child successfully: the microsystem and the mesosystem. A further recommendation, based on this study, is to use an effective learning atmosphere. Primarily, the microsystem of the school must engage students with improved resources and effective instructional strategies and techniques that are necessary for improved outcomes (Kafele, 2009; Noguera, 2012). In other words, learning environments, focusing on specific learning styles and differentiated instruction have been proven beneficial in well-developed classrooms that provide a connection to the males’ African American culture. Unfortunately, a standardized approach is non-existent and positive results have not been consistent or clear (Pahlke et al., 2014), but it is needed. Academic intervention services for males are needed, provided that they are specific to the students’ individual needs and that they address deficits driven by student’s individual data.

Another recommendation is the application of specific components of action research. In most cases, students are evaluated based on test scores, and teachers evaluate them accordingly. Input from students about their personal learning is often non-existent. Students need to be included in the round-table discussion about their academic progress (Stringer 2014). Students need to have a voice and a platform to explain how standardized tests affect them. Most importantly, the microsystem of the family unit must not be ignored. Students benefit from a nurturing and supportive home environment. Subsequently, it is recommended that the home and school community employ action research practices requiring collaborative discussions between teachers and parents, while allowing students to become an integral part of the conversation, to discuss their learning and reveal their feelings, attitudes, and metacognition (Stringer, 2014). The third microsystem is the community at large. Due to the depressed economic status of this study's participants, social service resources would be deemed beneficial, assuring that academics are not working in isolation but, instead, the education of each child is a community effort. Males would benefit from mentorships and positive role models who are dedicated to providing additional academic services beyond the classroom and beyond the school day, coupled with emotional support from other males who can model the way toward successful school experiences and healthy growth and development.

## **Conclusion**

The participants of this quantitative research were not meeting the rigorous ELA standards, according to results on the Common Core Grade 8 ELA Tests. They are part of the national statistics depicting the failure rate of African American males in public

schools. The literature consistently reports that, African American males are in danger of being unfairly placed in special education classes, failing in school, being suspended or expelled from school, dropping out of school, and actualizing the cradle-to-prison pipeline (Fantuzzo et al, 2012 ; Fryer & Levitt, 2006; Piechura-Couture et al., 2013). From as early as pre-school, African American males are judged more harshly than any subgroup—often due to aggressive or active behaviors that are identical to the behaviors of White males or those of any other race (Barbarin & Crawford 2006; Piechura-Couture et al., 2013).

The rationale for this study was to find an alternative solution to educating African American males in a large urban area. This topic has gained national attention and often dominates the dialogue at educational conferences, inspires commissioned papers and legislation such as *A Nation at Risk* (Gardner, 1983) and the No Child Left Behind Act (NCLB, 2001) and encourages research efforts toward viable prescriptions. Investigators grappled with ideals to improve learning outcomes of the research participants and the single-gender learning environment is one specific strategy that educators believe to be beneficial to the cause. The number of all-male academies increased, while still respecting the tenets of Title IX and the implications for gender discrimination in single-sex schools.

The high-stakes Common Core Grade 8 ELA exam was the instrument used to evaluate the effectiveness of student learning in a homogenous environment, and its results were the stimulus for promotional decisions, including the plight of the educational career of African American males in public middle schools. Moreover, the statistical profile analysis was used to determine significant differences between test

scores of students from coeducational classes and single-gender classes. Subsequently, results indicated no significant difference in students' overall ELA scores.

The conclusion of the study confirms what many educators and researchers have found: that single-gender learning environments are not a significant factor for successfully educating African American males (Else-Quest & Peterca, 2015; Noguera, 2012). Therefore, it is recommended that future research in this area focus on identifying effective instructional strategies, developing positive and supportive learning environments, and studying the perceptions and beliefs of students to ascertain student understanding of the barriers to their success as well as the attributes they identify as influencing their academic achievement.

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