DIFFERENCES IN STANDARDIZED TEST SCORES BETWEEN AFRICAN AMERICAN ELEMENTARY SCHOOL STUDENTS IN MAINSTREAM VERSUS CULTURALLY FAMILIAR SCHOOLS

by

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DISSERTATION

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Abstract

Previous research has suggested that African American children are more equipped to close the achievement gap when enrolled in mainstream schools than in culturally familiar schools. However, this study seeks to determine if there are benefits to attending a culturally familiar school. This study explored test score performance difference of 393 African American children's performance on Iowa 7 and the Act Aspire standardized during first and third grade in a culturally familiar school and mainstream school and whether socioeconomic status (SES) influenced the relationship. The state standardized test scores were obtained from the Little Rock School District's archived data system. The results demonstrated a significant difference in test scores of African American students in first grade on the Iowa 7 and mainstream students having higher test scores than students enrolled in a culturally familiar ($p = .003$). Test scores for third-grade students on the Act Aspire resulted in a significant association, with higher test scores among African American mainstream students ($p < .01$). There was no significant interaction between SES of culturally familiar or mainstream schools for Iowa 7 test scores ($p = .271$) and no statistically significant interaction between SES and school type for Act Aspire test scores ($p = .416$). This research increased our knowledge of how African American children's educational experience might require a cultural understanding. Further research should focus on resource availability for all schools in districts.

Dedication

To my family who have been patient and loving throughout this process.

Acknowledgments

Thanks to Dr. Schmitt who has been supportive throughout the program as my academic advisor. I truly appreciate your guidance. Thanks to Dr. Slifka, Dr. Daniels, and Dr. Schmitt for taking on the role of my committee members for present and future guidance to my dissertation completion. I also appreciate the professors and speakers of residencies who provided valuable information regarding the successful completion of the program.

Table of Contents

List of Tables

CHAPTER 1. INTRODUCTION TO THE STUDY

In recent years, standards of curriculum have been the basis for evaluating student performance in the United States (Linden, 2007). The No Child Left Behind (NCLB) Act of 2001 has led to higher demands by citizens and legislators for improved school performance and higher test scores. However, the NCLB Act was never funded as planned with only 13.3 billion of the 22.75 billion dollars allotted for education reform; therefore, primary schools are faced with significantly limited funding for imperative educational resources such as curriculum re-design and material for test preparation. While NCLB was initially geared toward helping minority children, there continues to be a gap in the test performance of African American children and Caucasian children (Burt, Ortlieb, & Cheek Jr., 2009).

Previously, Bankston III and Caldas (1997) examined the effects of the racial structure of minority students in the US education system on test performance. Additionally, they examined the effectiveness of assimilation or cultivation of distinct features of a minority group such as African American students, performance is enhanced in the classroom. The authors suggest that the education of African American students has usually been the practice of assimilation but, the practice has recently received increased criticism. Bankston III and Caldas (1997) further explain that these critics use the composition of race in schools to examine how it is linked to academic performance using statistics from the exit exams of all students in public high schools in the state of Louisiana. Findings suggest an achievement gap persists despite various controls such as the structure of the family, socioeconomic status, participation in school activities, and whether they were in the majority or the minority enrollment of the schools.

More recently, Diamond and Huguley (2014) examined attitudes toward the achievement of African American students enrolled in integrated or predominantly White school settings. The

researchers examined the degree to which racial differences in achievement-related attitudes and actions (that are identified as academic orientations) play a role in corresponding differences in academic performance. The researchers explained that they include 25,000 student participants who are enrolled in integrated secondary schools in the United States in their study to examine the differences in behavior and achievement-related attitudes. The authors suggest that when controlling for socioeconomic status indicators, African American students exhibit more pro-academic orientation than their white counterparts. Diamond and Huguley (2014) further suggest the schools' racial composition did not significantly influence the dynamics, and that the racial composition of African American students' friend groups indicated a modest but varying effect on academic orientations. The authors explained that racial differences in expressed academic orientations only have negligible consequences for student performance, and therefore do not offer significant promise for explaining or improving African American/White achievement disparities in secondary schools.

African American students enter a mainstream public-school community that is often different from the African American culture of their community. Downer, Goble, Myers, and Pianta (2016) examined the academic performance of minority students who were taught by teachers of the same race. They note that minority children more often than not have a teacher that is not of their race (i.e. minority students usually have a Caucasian teacher). They used a large longitudinal dataset of 701 public schools that included more than 2,900 pre-k students in 11 states to examine the teacher's perception of student adjustment when the teacher is the same race or of a different race and the rate of gain by the student when in the classroom of a teacher of the same race. In the researcher's evaluation of school readiness results of Latino or African American students that were racially matched or mismatched with a teacher, racial match

demonstrated significant associations with direct assessment of academic skills for Latino students. Downer et al. (2016) found African American students' academic and social gains are initially perceived more by teachers of the same race or ethnicity. The racial match of teacher to student was significantly decreased with the Supreme court ruling of desegregation in 1957. However, Cobb (2014) suggests that while the goal of African Americans was equal resources in public school and secondary education the ruling of desegregation also resulted in a significant decrease in African American teachers.

Research has shown benefits resulting from public school integration (i.e. positive outcomes for the racial group by reducing stereotypes, prejudice, and negative attitudes; Piazza, 2017). However, during the early years of school, the required structure of school, and the difference in ethnicity and culture could have a negative effect on the school performance of African American students. Pershey (2011) studied 263 African American student's perceptions of self in the 4th and 6th grades of a school district that has academic challenges. The researchers explain that confidence, school satisfaction, and self-perceptions of ability defines self-perceived competence in school. Results indicated that students in the 4th grade had notable satisfaction with their school but they were less perceptive of themselves as being confident and able. While the students in the 6th grade had more perception of themselves as confident and able, they conveyed lesser school satisfaction and confidence. The authors' overall findings indicated that when students have less school satisfaction, do not perceive themselves as able, or have less confidence, students might be at risk of school disengagement.

African American students' acclimation to a classroom environment in which they are not as familiar with the culture likely hinders their academic performance during first and third grades. Cherry (2019) indicates that a connection to learning is often easier when the student is

predisposed to form an association with the school's culture. However, when the student is not naturally predisposed to an association with the school environment where the culture is significantly different from his or her own, learning can be more arduous. Aronson and Laughter (2016) suggest the progression to desegregation in the 1960s and 1970s produced a need for more innovative methods of teaching a diverse classroom. The authors further explain that the educators and researchers of education have made efforts to implement culturally relevant doctrines of education. However, the authors suggest a review of culturally relevant teaching and curriculum in 2012 indicated that culturally relevant knowledge had been replaced or marginalized by standardized teaching and curriculum. Carnoy and García (2017) suggest that a significant gap remains between the test scores of African Americans and Caucasians, but there has been a notable decline in the achievement gap over the past 15 years. Therefore, despite efforts to improve education for minorities, the achievement gap remains. In a study that examined the effectiveness of text-driven external accountability, Lee (2008) performed a synthesis of cross-state causal-comparative and correlational studies that examined the effects of test-driven external accountability policies on reading and math achievement. The author explains that a meta-analysis of 76 effect-size estimates from the 14 chosen studies indicated a modestly favorable effect on average but no significant effect on the racial achievement gap.

Background of Standardized Testing and Integration

Standardized testing has been used to determine depth of knowledge in the US for at least 50 years. The number of standardized tests students are required to take has increased significantly over time and at grade levels well before college preparedness i.e. K-12 (Fletcher, 2009). With a focus on testing of K-12 students, Hamilton, Stecher, and Yuan (2008) examined reforms to standards in education in the United States from research, historical, and the future of

standards in education. They suggest that while there is no commonly recognized definition of standards-based reforms (SBRs) public school education, SBR in K-12 education has become very prevalent in the United States. They indicate that several of the SBR contains an assessment of achievement, the expectation for students academically, decentralization, alignment of the critical elements of the educational system, accountability, and technical support assistance. The authors indicate that each instance of SBR emphasizes specific components more than others with each case of SBR focused on particular mechanisms at varying degrees. They suggest that the SBR program reflects a convergence of trends in policy and many of the SBR structures are implemented as a result of the NCLB regulations that originated from periods during the 1980s thru the 1990s in federal and state testing and the actions of professional organizations.

Within the same decade of establishing standardized test in the US, public school was enacting integration as a result of Brown vs. Board of Education (Lewis, 2019). Lewis (2019) explains that in Arkansas, a court-mandated Blossom Plan that would begin integration in 1957 with high schools and continue to lower grades over six-years. Cobb (2014) explains while there was violent opposition by Whites against integration, African Americans were as troubled by the need to fight segregation as a method of getting equal education resources between African American and White schools. Cobb (2014) further explains that the legal fight for integration was the result of the failure of many fights over the "separate but equal" law that the National Association for the Advancement of Colored People (NAACP) reversed course to fighting to send African American children to the same school as white children to obtain fairness of resources distribution. He explains that this legal fight known as Brown vs. Board of Education included many in the African American community who were opposed to desegregation. African

American teachers stressed concerns that African American students would not have teachers who based their level of expectations on the students' skin color.

African American teachers were correct in their concerns that there would be fewer minority teachers. Oakley, Stowell, and Logan (2009) explained that while ethnic and/or racial minorities account for one-third of the public-school population, 40% of public schools have no African American teachers, and teachers are employed only 14% of the time of like of similar ethnicities. The authors further suggest most views regarding this issue gives minimal consideration to the influence of the decisions enacted by Brown vs Board of Education. They explain that desegregation policies did not protect the employment of African American Administrators and teachers. The authors indicated that this disproportion affects the majority and minority children as diversity in teacher staff members offers the perspectives of many cultures and is a more accurate representation of the nation. In their study, they found when examining long-term trend effects of desegregation on the employment levels of African American teachers in metropolitan areas from 1970 to 1990 and 1990 to 2000. Additionally, desegregation was partly responsible for a decrease in the teaching force of African American teachers with a more significant reduction of black teachers of the south and the opposite effect on the African American teacher workforce in all other regions.

Oakley et al. (2009) also suggest that past effects of desegregation to African American teachers could have formed an inheritance that is a wide-ranging effect to primary and secondary education that are both unspoken and overt barriers to increasing the diversity of teachers. An example is testing for teachers that favored white teachers i.e. increasing the likelihood of employment, during desegregation and are still widely used as a part qualifying criterion. The authors' findings suggest that the legacy of mandated desegregation may have created larger

established conditions in which African American and other minority teachers remain underrepresented in public schools.

Statement of the Problem

Most children adapt to the structured environment of education in the early years of education, and during this period, they are expected to manage planned developmental domains (Kelly, 2010). Minority children, children of lower socioeconomic status, and children of a different culture are adapting to performing these tasks in addition to adapting to mainstream culture. Kelly (2010) further suggests differences in social class, race, and gender, low-income and African American children's readiness for school falls below the general population. The researcher also explains that the early grades for many minority children and children of lower socioeconomic status Standard English are not the common method of communicating and this difference could lead to an inaccurate response to misunderstood instruction that affects task performance.

Bowman, Comer, and Johns (2018) explain that the African-American community's method of communicating that is defined as "Black English", is often significantly different from the standard English that is taught in the classroom, increasing the likelihood that the students will be viewed as less intelligent. Rickford et al. (2015) define a manner of communicating that is often used by African American youth of low-income families as "African-American Vernacular English" that is exact, engrained in history, and that is significant as an identity indicator as the individual's resource of expression (p. 11817). They suggest that it is comparable to nonstandard and other variations, such as Appalachian and Cockney English (P. 11817). Bowman, Comer, and Johns (2018) explain that African Americans' manner of communicating is one of the results of "intercontinental enslavement" that is African American folk combining

fragments of their native languages and English that formed a patois or dialect that became a standard method of communicating among African Americans. This form of communication continues and is identified as "Black English". The researcher found that African American students are more successful in the classroom when cultural differences are recognized and educators have high expectations for all students. Importantly, when the importance of education is recognized in what is taught and how it is taught.

Burt, Ortlieb, and Cheek Jr. (2009) explained that the population of public-school students is increasingly diverse; yet, 90% of public-school teachers are Caucasian females (p. 35). They further suggest lower expectations by Caucasian teachers resulted in lower achievement by African American students. Some education professionals suggested that the recommended resolution to increasing educational performance among African American students includes cultural training for teachers and employing more African-American teachers. The researchers looked at the cultural differences between teachers and African American fourth grade students to determine if this difference in ethnicity affects their feelings toward reading and positive feeling toward their teacher. The results of their study indicated that the race of the students' teacher did not affect the students' feelings toward reading, positive feeling toward their teacher, or their performance on a state test.

Additionally, Bowman et al. (2018) evaluated the achievement gap of African American students and they suggest teachers' cultural training can benefit from an awareness that the cultural difference in how African American families characteristically provide an environment that promotes wholesome progress and natural growth. However, the expectations of home and community are not the same as the cultural demands of school. The researcher's evaluation suggests there is a disconnect between the African American family's manner of raising their

children, which is typically a healthy environment for growth and development, and the difficulty of adapting to the cultural environment that is required for the child to learn in the classroom. It further suggests that African American children develop skills and knowledge at home that do not meet the demands of the classroom. Their study suggests that while the cultures of home and community do not stop African American children from learning in the classroom, this difference increases the challenges of acclimation to the classroom of mainstream education.

Testing Experience

A study by Knoester and Au (2017) examined the effects of standardized testing as a form of segregating students by race. In this research, school selection and testing that result in significant decisions about students are discussed. The authors suggest that many education scholars find "high-stakes standardized testing" and its mandatory implementations problematic, with issues linked to standardized tests and the social development of segregation that are a part of the public schools in the US. The authors explain that some of the complaints by educators include:

- The tapering of curriculum that is guided by participants of the test a motivation of the schools and educators pressured to place more emphasis on specific students learning who are closer to points of cut-off (students who require special assistance) that decreases the teaching of other students.

- The absence of democratic participation in the decision making of developing the content and what is considered proficiency points within the test and the implied higher sampling error in the creation of short tests.

The authors found that the basic structures of high-stakes testing, along with systems of school choice, acts as instruments used for coding by race that enables segregation and multiple inequalities identified in schools.

Purpose of the Study

The purpose of this study is to determine whether there is a difference in the standardized test score performance of African American students in the first and third grade that is in the minority or majority enrollment in their school and whether socioeconomic status is associated with test performance. The SES of the subjects is determined by their participation in the free meals programs in the six schools. Household size and income eligibility for the free lunch program begin with a household size of one and a maximum income of $23,107. The maximum income eligibility increases $8,177 with each additional household member (Benefits.Gov, n.d.). This study will determine if test scores are higher among African American students who attend a school that have an African American enrollment of 60% or if test scores are greater at schools with African American student enrollment at or below 23%. As Christ and Wang (2008) suggest, African American students new to the school environment may have more challenges than their Caucasian peers adapting to the structured requirements of school. They further explain that African American children' must adapt to a cultural environment as well as the procedural practices of a new academic mainstream community to achieve academic success. This research will examine the test performance of African American students in the first and third grades when they attend a school that has a majority African American student enrollment compared with those attending a school in which African American students account for a minimal amount of the student population.

Rationale

Previous research has evaluated the academic performance of African American students during middle childhood and adolescence in a mainstream independent school and in independent schools where African American students are the majority of the school population. However, there is minimal research that evaluates the academic performance of African American students in public schools during early childhood to determine if there are benefits in attending a school that has African American enrollment of 60% or greater. This research will examine African American students in first and third grades in schools in which they are less than 25% of the student population and in schools where they are at least 60% of the student population, to determine academic achievement on the Iowa 7 and the Act Aspire state tests.

Research Questions and Hypotheses

This dissertation research investigated whether the state standardized test score performance of African American students in the first and third grade is higher, following the social learning theory by Leon Festinger. The social comparison theory by Leon Festinger indicates various negative or positive effects that can result from comparing oneself to peers, i.e., self-image, balance, and learning that is the interest of this paper (Oppenheimer, 2015). The achievement gap between White students and African American students has persisted over the past 50 years (Olszewsk-Kubilius et al., 2004). Further research is needed to examine African American students' performance within culturally familiar schools and in mainstream schools in first grade is one of the questions of this study.

Recent research indicates African American students' acclimation to a classroom environment in which they are not as familiar with the culture likely hinders their academic

performance during first and third grades. Cherry (2019) indicates that a connection to learning is often more comfortable when the student is predisposed to form an association with the school's culture. However, when the student is not naturally predisposed to an association with the school environment where the culture is significantly different from his or her own, learning can be more arduous. There is significant stress or anxiety experienced by all children beginning to get acclimated to the structured environment of the classroom. However, with African American children, there is the additional stress and anxiety of understanding and being understood in a different cultural environment.

While standardized testing is an accepted method of checking students' progression toward expected knowledge, unfamiliarity with the classroom environment in first grade can have a negative effect on test score performance on the Iowa 7. The Iowa 7 standardized test was the test scores utilized by the school district to evaluated first-grade student's knowledge during the 2016-2017 school year and used in this study. The Iowa 7 standardized test is administered to K-12 grade levels. The test subjects for first grade are reading, language, vocabulary, word analysis, listening, mathematics, computation, science, and social studies. Because there is minimal research that exams the effects of cultural familiarity on test performance among African American students, African American students' test scores from a culturally familiar school and mainstream school population were compared to determine if African American students in the culturally familiar school would have higher grades. To effectively address this question, four primary research questions with corresponding hypotheses were used to guide the study.

RQ1

Is there a difference in test scores on the Iowa 7 state standard assessment between African American first grade students enrolled in culturally familiar schools where they are 60% or more of the student population and African American first grade students enrolled in mainstream schools where they are less than 25% of the student population?

- H_11_a**:** African American first grade students enrolled in culturally familiar schools where they are 60% or more of the student population will have higher test scores on the Iowa 7 state standard assessment than African American first grade students enrolled in mainstream schools where they are less than 25% of the student population.

- H_02a**:** African American first grade students enrolled in culturally familiar schools where they are 60% or more of the student population will not have higher test scores on the Iowa 7 state standard assessment than African American first grade students enrolled in mainstream schools where they are less than 25% of the student population.

RQ2

Is there a difference in test scores on the Act Aspire state standard assessment between African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population and AA third-grade students enrolled in mainstream schools where they are less than 25% of the student population?

- H_12a**:** African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population will have higher test scores on the Act Aspire state standard assessment than African American third grade students enrolled in mainstream schools where they are less than 25% of the student population.

- $H_0$2a**:** African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population will not have higher test scores on the Act Aspire state standard assessment than African American third grade students enrolled in mainstream schools where they are less than 25% of the student population.

RQ3

Does African American first grade students' socioeconomic status that is determined by their participation in the free or reduced meals' programs influence test scores on the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population?

- $H_1$3a**:** The socioeconomic status of African American first grade students will influence test scores on the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

- $H_0$3a**:** The socioeconomic status of African American first grade students will not influence test scores on the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

RQ4

Does African American third grade students' socioeconomic status that is determined by their participation in the free or reduced meals' programs influence test scores on the Act Aspire

state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population?

- $H_1 4a$**:** The socioeconomic status of third-grade students will influence test scores on the Act Aspire state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

- $H_0 4a$**:** The socioeconomic status of third-grade students will not influence test scores on the Act Aspire state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

Nature of the Study

This research examined test performance of African American students who were among the minority population in the school and African American students' test scores who were among the majority population in the school. In Arrington, Hall, and Stevenson's (2003) study of middle childhood students in independent schools, they suggest that promoting black students' linking to the school community and their emotional health is crucial to their academic success. The study that evaluated middle childhood and older age African American students further indicates that cultural familiarity is essential to minority student's academic achievement. As cultural familiarity can increase identity confidence and encourage in educational achievement efforts of minority students. African American students in the first and third-grade test scores

from the Iowa 7 Assessment Test (Arkansas Department of Education, n.d.) (administered to first graders) and the ACT Aspire Assessment (ACT Aspire, 2014) (administered to third graders) provided by Arkansas Department of Education, will be compared. Test scores of African American students from six elementary schools in the Little Rock School District were utilized. The difference in performance was examined by comparing the test scores from two groups of African American students enrolled in both the first and third grade who were enrolled in a school in which there were more African American students; 1) group in mainstream school (African American students are less 23% of student enrollment), and 2) culturally familiar (African American students are more than 60% of the student population).

Significance of the Study

Olszewsk-Kubilius, Lee, Ngoi, and Ngoi (2004) indicate that the topic of the achievement gap among nonminority and minority for over 50 years. They explain that while the difference in performance did narrow to some extent in the later years of the 1980s, the similarities in achievement have slowed. Berry and Candis (2013) suggest that the persistent achievement gap between African American and White students mainly, in early grades might be partly due to a cultural gap. They further indicate that historically, education in the United States has placed significant focus on assimilation, and considering that the average classroom teacher is not of African American descent, these differences in culture and community might lead to a cultural gap that affects learning among African American students during early years in the classroom.

They define a cultural gap in the context of education often includes a difference in the customs, traditions, and values of the student and his/her ability to adapt to the traditional

educational environment. This study will examine the effects of being an African American

student in a school where their enrollment is less than 25% or as much as 60% to evaluate if test

performance is linked to difficulty assimilating to the mainstream education and difference in the

cultural environment. Insights from this study will provoke thought regarding the enrollment of

minority students in early grades of school.

Definition of Terms

Cultural Familiar: while the definitions of culture have had various definitions with a change in

definition over the last 25 years and it continues to evolve today (Freimuth, 2008). Freimuth

(2008) explains that according to Zieghan (2001), the simplest definition of culture embodies the

shared beliefs, values, and practices of a given group of people.

Mainstream School: Saville-Troike (1978) explains that mainstream culture is a school system

that serves primarily to prepare middle-class children to participate in their own culture. The

author further explains that children who come into the system from other cultures, including the

lower social classes, are typically considered 'disadvantaged' or 'deficient' to the point that their

own cultural experiences differ from the mainstream, middle class 'norms.'

Black English: Sidnell (2002) describes African American Vernacular English as of the

language variety formerly known as Black English Vernacular or Vernacular Black English

among sociolinguists, which is commonly called Ebonics outside the academic community.

CHAPTER 2. LITERATURE REVIEW

In America, students spend close to 200 days in school each year, and during this time, the student is expected to perform and respond, be and live a specific way (Berry & Candis, 2013). For African American students, this manner of living and being in the classroom is most times not culturally familiar. While all races have a cultural identity, White students are less likely to have to adapt to other cultural identities in an American classroom. African American Children's confidence and comprehension increase when they feel they are culturally respected and understood by their teacher (Aronson & Laughter, 2016). Cultural identity in the classroom and culturally responsive teachers may lead to positive educational outcomes for African American students (Aronson & Laughter, 2016). A study that evaluates methods of educating students of diverse upbringings on a larger scale determined that because cultural experiences and cultural identity affects how a student views the world, effective methods of teaching in practice might be different from the theory of effective instruction/teaching (Berry & Candis, 2013). A persistent achievement gap between African American and White students particularly, in early grades might be partly due to a cultural gap. Historically, education in the United States has placed a significant focus on assimilation and the average classroom teacher is not of African American descent, and these differences in culture and community might lead to a cultural gap that affects learning among African American students during early years in the classroom (Berry & Candis, 2013).

Theoretical Orientation for the Study

Studies on the achievement gap among nonminority and minority students go back to the 1960s (Olszewsk-Kubilius, Lee, Ngoi, & Ngoi, 2004). The authors further indicate that while the difference in performance did narrow to some extent in the later years of the 1980s, the

similarities in achievement have slowed. A cultural gap in the context of education often includes a gap in the customs, traditions, and values of the student and his/her ability to adapt to the traditional educational environment. Research by Candis and Berry (2013) reviews the achievement gap and the possibility of a cultural gap, suggest that while White Americans do have to consider racial identity, their identities and practices have been utilized as a "model for all other Americans" (p. 45). In a study by Miao, Li, Yang, and Guo, (2018), academic success is researched from the connection between the students' view of personal academia, social adaption, and social comparison. They found an association between social adaption, opinion comparison, and the mediation of academic self-concept based on the theory of social comparison (p 1.). The social comparison theory by Leon Festinger can result in various negative or positive effects that might include self-image, balance, and learning that is the interest of this paper (Oppenheimer, 2015).

Dijkstra, Kuyper, van der Werf, Buunk, and van der Zee (2008) view the social comparison theory as students learning behaviors from observing others. They further describe the approach as people, including children judge and measure themselves against others who are in a similar social position as them. In their article that looks at other research on the topic of social comparison progressions among students, they review the framework of the theory regarding direction, dimensions, consequences, and motives. The researchers explain that dimensions involve the students' performance on tests, grades, classroom tasks, and receiving feedback. They suggest that direction refers to whether the student utilizes the social comparison theory to compare his/her performance to others whose achievements are higher, lower, or lateral. The researchers indicate that a great deal of the time students compared their work to students who performed similarly. Consequences are the manner of reactions to positive/negative

actions by the student (i.e. a retraction of privileges that others in the group might receive). Motives relate to evaluation, enhancement, and improvement of self has mainly been researched with adult subjects, and there is persuasive evidence of the difference in social comparison motives between older and younger children, but there is also evidence that students in preschool have the ability to themselves to other students in the class. The study indicated that students would prefer to compare their achievements upward, with classmates whose achievements are better "and resemble themselves" regarding similar and dissimilar qualities (p.828). And, that comparisons upward result in the students having better performance and also evoking negative effects and lesser self-concept in the classroom (Dijkstra et al., 2008). The social comparison theory is effective in understanding African American students' performance in the early years of grade school.

When considering this theory, AA students might perform better in a classroom where most of their classmates are of the same culture. This research topic was selected based on Arrington et al. (2003) that looks at the effect of black students' relationship with their school community and the impact it has on their emotional health and academic success. The literature in this study will show relevance to African American students' academic performance on a standardized test and the possible effects of socioeconomic status on achievement. Investigating this topic provides insight into the differences in cultural environments of training that best serve minority children. While there is minimal research that focuses on minority student performance in schools in which they are the majority there is evidence of positive performance in schools where there is increased cultural familiarity and adequate resources. An example is the state of Mississippi that has continually had poor school performance (D – F ratings) in districts that are majority African American Students however the school district of Clinton Mississippi has

succeeded in excelling against the odds (Mannie, 2017). Mannie (2017) explains that in a district that is about 53 percent black and 39 percent white, children share the same resources, teachers, and the same well-stocked classrooms and school buildings, regardless of their race or economic status.

Standardized Test and Identity Defined

Standard testing is a method of evaluating individuals in a manner in which all test takers are required to respond to the same or a collection of similar questions, in the same way, and are scored by a consistent and standard method (The Glossary of Education Reform, 2015). Standardized tests are usually multiple-choice, but they might also include short answer questions, true or false questions, or a combination of both. The term standardized refers to an assessment or tests that are given to big groups of pupils (Education Reform, 2015).

Identity is defined as "visible and invisible" parts of the individual's personality that impact "self-construct" (Berry & Candis, 2013). Some of the domains of identity include, skin color, ethnicity, nationality, sexual orientation, gender, and intellectual and physical ability. Cultural identity is defined in the Berry and Candis (2013) article as "One's understanding of the multilayered, interdependent, and nonsynchronous interaction of social status, language, race, ethnicity, values, and behaviors that permeate and influence nearly all aspects of our lives" (p. 3).

African American Education Experience

In research that examined the impact of being a minority student Arrington, Hall, and Stevenson (2003) suggest that African American students experience higher academic success when there is evidence that the student is emotionally healthy and the student feels that they are securely connected to their school community. The aforementioned researchers and other studies

suggest that cultural familiarity is important to minority student's academic achievement (p. 2).

Cultural familiarity can increase identity confidence and encourage academic achievement

efforts (Arrington et al., 2003). Children's confidence and comprehension increase when they

feel they are culturally respected and understood by their teacher (Aronson & Laughter, 2016).

Research suggests a link between culturally responsive teachers and cultural identity in the

classroom may lead to positive educational outcomes for African American students (Aronson &

Laughter, 2016). Initiatives such as the No Child Left Behind Act (NCLB) of the year 2000 was

an increase in efforts to improve education for minority students, however, the gap between the

reading test scores of African American and White students remains (Burt et al., 2009). Dee and

Jacob (2010) explain that supporters and critics, in their various approaches to understanding the

effectiveness of NCLB's, share a noteworthy issue.

Primarily because NCLB applies to all public school students, researchers do not have a

suitable comparison group and so have been unable to distinguish the law's effects from the

numerous other influences at work over the past eight years. Burt et al. (2009) researched

whether the attitudes and interest in the reading scores of African American students were

affected by the race of the teacher. The pupils were surveyed regarding their feelings of the

teachers' fairness, treatment, motivation, understanding, empathy/assistance to the student, and

management of the classroom (p. 35). The study found the African American fourth grade

students' perceptions were "mostly positive" about reading and their "teacher and their

performance" on the state test (p. 35).

African American Students: Mainstream Education

Many African American children need to adapt to procedural practices of a new academic mainstream community doubles the challenges of academic success (Christ & Wang, 2008). Most African American children enter mainstream education communicating and socializing from an African American cultural perspective that is viewed as an appropriate and effective manner within their community. However, the African American student's manner of communicating is significantly different from standard English that is taught in the classroom, increasing the likelihood that the students will be viewed as less intelligent (Bowman, Comer, & Johns, 2018). Rickford et al. (2015) describe this manner of communicating as "African-American Vernacular English" which is methodical, engrained in history, and significant as an identity indicator and the individual's resource of expression (p. 11817).

It is similar to nonstandard and other variations, such as Appalachian and Cockney English (P. 11817). African Americans' manner of communicating is one of the results of "intercontinental enslavement" that is African American folk combining fragments of their native languages and English that formed a patois or language that became a common method of communicating among African Americans. This form of communication continues and it is identified as "Black English" (Bowman, Comer, & Johns, 2018).

Burt, Ortlieb, and Cheek Jr. (2009) explained that the population of public-school students is increasingly diverse; yet, 90% of public-school teachers are Caucasian females (p. 35). The study looked at the cultural differences between teachers and students to determine if this difference affects minority student success. Lower expectations by White teachers resulted in lower achievement by African American students. Some suggested that the recommended resolution to increasing educational achievement among African American students includes

cultural training for teachers and employing more African-American teachers (Burt et al., 2009). Teachers' cultural training can benefit from an awareness that African American families characteristically provide an environment that promotes wholesome progress and natural growth however, the expectations of home and community are not the same as the demands of school (Bowman et al., 2018).

The study suggests there is a disconnect between African American families that are typically providing a healthy environment for growth and development and the difficulty the children have with learning in the classroom. It further suggests that African American children develop skills and knowledge at home that do not meet the demands of the classroom. While the cultures of home and community do not stop African American children from learning in the classroom, this difference increases the challenges of acclimation to the classroom of mainstream education (Bowman et al., 2018).

The study by Knoester and Au (2017) examined the effects of standardized testing as a form of segregating students by race. Their research further explains their findings as they discuss school selection and testing that results in significant decisions about students as they suggest the fundamental structures of high-stakes testing, along with present school choice systems, works as devices indicating race and leads to segregation and many other disparities identified in schools. Many education scholars find "high-stakes standardized testing" and its mandatory implementations problematic (Knoester & Au, 2017). The article places a focus on the issues linked to standardized tests and the social development of segregation that are a part of the public schools in the US.

In their study of issues regarding standardized tests, Knoester and Au (2017) explain criticisms of educators' that include:

- The tapering of curriculum that is guided by participants of the test.

- A motivation of the schools and educators to place more emphases on specific students learning who are closer to points of cut-off (students who require special assistance) that decrease the teaching of other students,

- The absence of democratic participation in the decision making of developing the content and what is considered proficiency points within the test.

- And, the implied higher sampling error in the creation of short tests.

The authors also suggest educators can be instrumental in helping to close the achievement gap by utilizing continuing professional development and preservice preparation that informs them "that most African American children are not underdeveloped or developmentally delayed" (Bowman et al., 2018, ¶27). Training that prepares educators with an understanding of the way child development and academic learning are inseparably connected are effective methods of enabling learning for students of diverse backgrounds (Bowman et al., 2018).

Cultural Development

Culture is identified as that which a group uses to acclimatize to the environment they live in and it is a significant indication of how parents communicate with their children (Bowman et al., 2018). Parents all over the world form various approaches to raise their children based on environmental challenges, many of the strategies are likely to be misread by someone who is not familiar with the environment and history of the community (Bowman et al., 2018). African American's mixing of their native tongue with English (Black English) was a strategy utilized to communicate. However, Black English has resulted in misjudgment or unfair

treatment by others who view the adaptive language as poor or broken English (Bowman et al., 2018).

The authors further suggest that Black English might be mistaken by individuals who are not knowledgeable of the linguistics and culture of African Americans as low intelligence instead of a unique manner of communicating that is as multifaceted as Standard English. Mainstream Americans often perceive African American's instinct and perception of danger results in methods of teaching their children as a lack of intelligence. African American children are seen as disengaged, limited in oral response, or disparaged as passive. However, these methods of interacting or communicating with others are behaviors that have taught their children to navigate possible hostilities toward them to maintain safety. Even though these strategies tend not to be advantageous in the school environment, they have lingered because they keep children emotionally safe in the segregated society in which most of them live, according to Bowman et al. (2018).

Currently, the minimal awareness and positive regard for African American culture produce a social gap between African American and Caucasian Americans that restricts effective change. Educators who have an understanding and appreciation of African American student's knowledge from home can utilize cultural uniqueness as a basis to methods of increasing thinking of viewing it as an impediment. Such as, innovative creations in music (led to jazz and rap), significant athletic abilities, and a language interest by African Americans that have led to the creative use of words (i.e. slang) (Bowman et al., 2018). The article further suggests African American students can benefit from teaching that helps them connect the dots of similarity in several concepts and rules in the classroom with what they already have substantial knowledge (Bowman et al., 2018). An example of connecting the dots would be, teaching methods that

demonstrate how math, science, or history have a role in topics of interest such as music or physical sports. The authors conclude that African American students have the same social and academic ability as other pupils with effective methods of communicating in relatable ways in the classroom.

<div align="center">**African American Students and Standard Testing**</div>

African American students' performance on state standardized tests such as the Iowa 7 assessment and the ACT Aspirer is likely to be higher in an educational environment in which interaction is culturally familiar (ACT Aspire, 2014; Arkansas Department of Education, 2016). Research regarding methods of closing the achievement gap between the test scores of African American students and their Caucasian counterparts has been the focus of the education field (Burt, Ortlieb, & Cheek Jr., 2009). However, limited research has examined the effects of cultural familiarity on test performance among African American students and if socioeconomic status also affects academic performance. Dijkstra et al. (2008) suggest that while there has been minimal research that examines the extent of the outcome as a result of social comparison, their review indicates that children perform better in the classroom by comparing themselves to students who have a better score and making an effort to improve performance that might also lead to an adverse effect and low academic self-concept. Wasserberg (2014) examined how the effects of diagnostic testing environments might lead to stereotype threat effects for African American children at an urban elementary school. The outcomes of the study suggested that administering a reading exam as a diagnostic of abilities negatively delayed the performance of African American students cognizant of racial stereotypes but no negative effect on the performance of the African American children who were not aware of the racial stereotypes (Wasserberg, 2014).

In research that looked at the differences of African American and Caucasian students' performance on the Wechsler Intelligence Scale for Children (WISC-R), a sample of 120 children was used (Vance, Hankins, & McGee, 1979). There were four individual samples of 30 students with White males matched with African American males and the same pairing is done with African American and Caucasian females. The researchers discuss the puzzling issues psychologists experience in the testing of various cultures on the topic of intelligence. They further exclaim that examiners often struggle with interpreting the WISC-R scores of children they view as children of economic and socially disadvantaged surroundings. The study also examines the lack of support for the use of intelligence tests with minority students, the issues of rapport, a lack of item analysis, effects of expectancy, and the effects of the "examiner's race" (Vance et al., 1979). The study found that the combined scores of African American male and female participants had higher performance scores on the WISC-R verbal scale than the performance of the white participants and the ratings between females on the subtest.

Research by Wasserberg (2017) examined high-achieving African American students' perspectives on standardized testing and stereotypes. The study utilizes the theory based on the stereotype threat theory as a basis to evaluate African American elementary students at an urban school on experiences and perceptions in the school that applied "a test-centered curriculum" (Wasserberg, 2017, ¶2). Information from thirty hours of observing classrooms supplemented, statistics from the interviews of six focus groups that included four African American students. The study found that the types of feelings experienced by the African American students of a high achiever status included: a narrow perception of education as test preparation, the experience of anxiety as a result of the state test, significant concerns based on the views of White people, and stereotypes refusal and acceptance (Wasserberg, 2017).

A recent study evaluated other methods of identifying African American students in primary grades that are gifted but were not identified through a standardized test (Zhbanova, Rule, & Stichter, 2015). The study's participants included eight students, three African Americans, and five Whites that were viewed as gifted or were potentially gifted in the first and second grades. The eight students were from a classroom of varied ages and abilities in Iowa. They were all assigned to a 12-week enrichment program to develop leadership through curriculum material making and peer teaching, according to Zhbanova et al. (2015). The study's finding suggests that both students learning leadership skills, and the students who were taught to tutor them showed better academic performance than before the curriculum included leadership training and peer tutoring.

African American and other minority students are not often referred to as gifted and gifted programs for them continue to be a challenging issue because of theories such as deficit thinking theory that suggests these students are not as capable as a result of genetics or lower socioeconomic status. There is also the theory of "Involuntary Minority Group Theory" that differs from "Voluntary Minority Group Theory" in that this group made their way to America with the hope of improving their lives with increased economic opportunities. Zhbanova et al. (2015) explained that Involuntary minority groups, for example, include captured slaves who were not seeking to assimilate and whose descendants still carry secondary resistance attitudes of anger, resentment, and resistance to traditional American values, traditions, and culture. An increased cultural knowledge before doing the study resulted in identifying two of the three African American students as gifted. The study's results also found that great strides were made by African Americans that were not identified as gifted students (Zhbanova et al., 2015).

State Standardized Tests

Hamilton, Stecher, and Yuan (2008) looked at reforms to standards in education in the United States from research, historical, and the future of standards in education. While there is no commonly recognized definition of standards-based reforms (SBR), SBR has become very prevalent in the United States (Hamilton et al., 2008). Many of the SBR include assessment of achievement, the expectation for students academically, decentralization, alignment of the key elements of the educational system, accountability, and technical support assistance (Hamilton et al., 2008). Each instance of SBR emphasizes certain components more than others with each case of SBR focused on specific mechanisms at varying degrees. The SBR program reflects a convergence of trends in policy such as increasing focus on utilizing tests to identify growth and accountability of each school coupled with the belief that reform of schools has an increased likelihood of effectiveness when each part of the education system is created to work together toward the same goals (Hamilton et al., 2008).

Several of the SBR structures were implemented as a result of the NCLB regulations that originated from periods during the 1980s thru the 1990s in federal and state testing and the actions of professional organizations i.e., the National Council of Teachers of Mathematics (Hamilton et al., 2008). One of the first directions in which the authors encourage consideration is the expansion of accountability beyond the traditional model that has been prevalent in current policy debates as well as allowing students and parents to express their views in discussions regarding outcomes that are valued. In concluding their findings for future directions of standards-based reforms in education the researcher suggested continued efforts to distribute new information to all individuals who are responsible for decisions and enhanced knowledge resources are important parts of forming SBR structures of first-rate learning and teaching.

In a study that focused on support for and against the legislation of the NCLB, the researcher examined whether the NCLB act and the policies that were being developed in this Act enhanced the performance of students in the United States, particularly in rural and inner-city regions (Linden, 2007). The researcher found the act continues to result in vigorous debate with many legislatures and parents supporting it as well as parents, teachers, and lawmakers who feel it needs improvements. In 2006 the National Assessment of Education Progress released a report card that indicated that the nation's test scores have gradually improved for last the 30 years. From the 1990s to the present day, there has been a movement in public school education that has caused a continual change. Before the NCLB Act, several groups and professionals in education formed organizations to create education standards, the first organization was the New Standards Project. The standards were developed for grades of kindergarten through 12 with several subject ranges of performance and content standards, tailored for each grade. The student must perform up to or better than the norm to achieve the Performance Standard, while Content Standards were formed in a somewhat fundamental manner nationally with each state creating their specifics (Linden, 2007).

Iowa 7 Assessment-First Grade

The Iowa Assessment is a standardized test battery of achievement (Arkansas Department of Education, 2016). An assessment administered to designated groups of students in specified conditions and directions that are selected as representative of students nationally defines a norm-referenced, standardized test (Arkansas Department of Education, 2016). The student's test scores are compared to the performance of the group selected as the "representative group," that resulted from the norms gained from the scores of the standardization procedures (Arkansas Department of Education, 2016). Therefore, these methods are inadequate for

comparing the performance of particular groups in a specific grade to the norms of the same grade. The Iowa 7 Assessments have a long history of assessing and monitoring growth and college readiness, according to Welch, Dunbar, and Rickels (2016). Their research looks at the student's performance and growth over two school years in significant content areas and college readiness. The researchers evaluated the test scores of an estimated 230,000 participants on their performance on the test in Mathematics, Reading, Science, Social Studies, and Written Expression (Welch et al., 2016). The results were obtained using the gain score to calculate the changes in the students' or groups' performance from the first year to the next year. By subtracting the pupils' score from the earlier year of his/her most recent year and using the average of all students, a change in performance was identified. The study found similar results for both schools in the skills of Mathematics, Reading, Social Studies, and Science. It indicated that there were improvements in each grade level and subject with positive mean differences.

The Iowa 7 assessment is used to test first grade students in the skills of vocabulary, reading, language, mathematics, and computation. A general description of each of the skills are as follows:

- The content of vocabulary is a written and pictorial stimulus that requires a response in writing.

- The reading skills are evaluated with reading tasks that tell stories with pictures or sentences that must be completed by filling in the blanks with the appropriate words.

- Language performance is evaluated with four parts that include punctuation, capitalization, spelling, and the skills needed in writing.

- Mathematics testing includes two parts that measure ability and understanding of concepts in numbers and operations.

- Computation testing evaluates the student's ability to add and subtract.

Norms are used as a tool to compare the achievement of individual students with the norm scores of the national group. The weeks in April and May are the five weeks designated for spring norms. The Iowa Assessments scores are reported using the norms of Spring, 2011, "which are interpolated to the week that included April 1, 2011" (Arkansas Department of Education, 2016, p 3).

ACT Aspire Summative: Third Grade

The Act Aspire is a longitudinal test structure that assesses the progress of the third through the tenth grades. The achievement tests design measure is a vertically scaled battery that includes Reading, English, Science, and Math (Act Aspire, 20014). The Act Aspire instrument is developed to measure the readiness and progress on the road to college. The students' progress is linked by their "scale scores" to career and college data system on the Act National Career Readiness Certificate and the Act College Readiness assessment program (Act Aspire, 20014). The Act benchmarks for readiness were based on empirical data that offer information regarding the students are reaching the achievement levels in particular subjects at the proper times.

To improve understanding Act uses the same terms utilized in most readiness standards in other states, both of their career and college readiness. However, Act Aspirer's reporting groups are different in the categories of technology, science, mathematics, and engineering. Reporting groups include:

- Math that is explained and justified and the reading that includes a progression of understanding complex text and an indicator of the level of career readiness.

- The English Language Arts section of the tests evaluates the student's understanding and abilities as they relate to language, writing, and reading that are

possible in examining the students' "…scores on the ACT Aspire Reading, English, and Writing assessments, respectively" (ACT Aspire, 2014).

- The Science tests measure methods and understanding relative to content in science (ACT Aspire, 2014).

Socioeconomic Status

In their focus on "the African American Achievement Gap" Bowman, Comer, and Johns (2018) examined the effects the achievement gap has on the economy as they extrapolate: Researchers have found that the persistence of the educational achievement gap imposes on the United States the economic equivalent of a permanent national recession (¶1). In research that focuses on literacy as a higher predictor of cognitive functioning than the amount of education, particularly among African American students, SES is also evaluated as a possible effect (Dotson, Kitner-Triolo, Evans, & Zonderman, 2009, p. 2). Dotson et al. (2009) evaluated the unique effect "…of education and reading scores on a range of cognitive tests in low and high SES African Americans and Whites" (p. 2). Their study indicated literacy was a strong predictor of scores on most measures of cognition in the low SES Whites and each of the African American groups. Although there was no strong link between cognition measures and education But, reading scores and education was a predictor of performance on several intellectual "measures in high SES Whites" (Dotson et al., 2009, p. 2).

These findings suggest that cognitive functioning is better identified by reading ability than education years and support the views that low SES and minorities are affected by the probability of literacy and the amount of education on thought and reasoning (Dotson et al., 2009). In contrast, the Economic Policy Institute paper by Carnoy and García (2017) found an increase in test score averages over the past 15 years, a continued closing of the achievement

gaps in Hispanic American White and African American - White American children, and Asian American children's performances in reading and math is surpassing that of White students. While this is a strong indication of positive trends in education, "English language learners (ELL)" dropping significantly behind Whites in reading and mathematics performance i.e., Asian and Hispanic students (Carnoy & García, 2017).

Bridging the Gap

A bulk of research has assessed African American student's underperformance in the classroom and how African American students' academic achievement improved as a result of federal and state standards such as the NCLB Act of the year 2000. However, the NCLB Act efforts to enhance educational outcomes of achievement for minority students continue to reflect a gap in the test scores of White and African American students (Burt et al., 2009). Many professionals in education support methods that are followed by organizations such as the National Council of Teachers of Mathematics that include a focus on students and parents' ability to express their views in discussions and the expansion of accountability that extends beyond the models that have been the practice of recent debates (Hamilton et al., 2008). This study will consider the effectiveness of the policies and standards adopted in education such as the federal and state initiatives of the 1980s thru the 1990s and the more recent NCLB Act (Burt et al., 2009; Hamilton et al., 2008). While these policies and standards suggest an increased focus on the accountability of schools and teachers on a federal and state level, there is a minimal emphasis on the cultural familiarity that might enhance the educational outcomes of African American students and is are the basis for this hypothesis (Aronson & Laughter, 2016). However, there is a gap in identifying how African American children's confidence and

comprehension is enhanced with a cultural familiarity that includes and feeling that their culture is not foreign to their teachers (Aronson & Laughter, 2016).

This study will test research that indicates a link between cultural identity in the classroom and positive educational achievement (Aronson & Laughter, 2016). The policies and standards in education that are described in the articles by Aronson and Laughter (2016); Arrington, Hall, and Stevenson (2003); and Bowman, Comer, and Johns (2018) will be utilized to examine whether African American students in the early years of education have better scores on standardized tests when the classrooms are majority African American students than a school where they are the minority.

Conceptual Hypotheses

The conceptual hypotheses of the study suggest that cultural familiarity is vital to student's academic achievement as cultural familiarity can increase identity confidence and encourage educational achievement efforts (Arrington et al., 2003). This research compared the test performance of African American students who are among the minority population in the school and African American students' test scores when they among the majority population in the school. The Iowa seven 7 assessment standardized test scores of first-grade students and Act Aspire test scores of students in the third-grade who are a part of the majority population or minority population in the school the students attend.

Summary

Most of the identified literature captured the potential implications that children's confidence and comprehension increase when they feel they are culturally respected and understood by their teacher (Aronson & Laughter, 2016). And, that culturally responsive teachers and culturally relevant instruction in the classroom led to positive educational outcomes

for African American students in the first and third-grade test scores (Aronson & Laughter, 2016). The next chapter of this study explored the methodology used to carry out this study.

Overall, the review of the literature for this research study focused on support, evidence, alternate approaches, and verification of the effectiveness of a culturally familiar classroom environment. Previous literature has overlooked the possibility of a relationship between African American students' test scores, culture, and the achievement gap effect in the classroom during early grades. Therefore, this study examined participants' test scores in the first and third grade in a culturally familiar environment versus a mainstream cultural environment.

CHAPTER 3. RESEARCH METHODOLOGY

Introduction

This study was an exploration of the relationship between the test scores of African American elementary school students' test performance and enrollment in mainstream schools or culturally familiar schools. Chapter three includes the hypotheses and research questions. Also provided are the specifics of the research design includes the sample, population, recruitment of participants, settings, and the details of the sample design. The details of the measures that were used in the study are explained that includes a description of the levels of reliability and validity of the Iowa 7 and the Act Aspire (ACT Aspire. 2014; Arkansas Department of Education, 2016). The concluding section of methodology explains the methods of data collection, ethical consideration, protection and storage of data, expected findings, and the study's limitations.

Purpose of the Study

This study examined the relationship between African American student's school performance during the early grades when they are enrolled in a school in which they are the majority of student enrollment is majority African American or White students. While the achievement gap continues to be a concern in the education profession this study investigated whether increased cultural familiarity through race or culture during early grades resulted in higher test scores on standardized tests. Most of the previous research has evaluated the academic performance of African American students during middle childhood and adolescence in a mainstream independent school and in independent schools where African American students are the majority of the school population (Arrington, Hall, & Stevenson, 2003).

However, there is a need for research that evaluates the academic performance of African

American students enrolled in culturally familiar and mainstream schools during early childhood.

Research Questions and Hypotheses

This research evaluated African American first and third-grade students' test score

performance on state standardized tests when attending a mainstream school or a school where

the student enrollment is majority African-American. The social comparison theory is utilized

for this study. This study also examined the impact of socioeconomic status on Iowa 7 and the

Act Aspire state test performance. Recent studies have primarily focused on the effects of the

school performance of older African American students (4th- 8th grades) who attend a mainstream

school or culturally familiar school. However, the four questions of this research study with

corresponding hypotheses regarding African American students in early grades of elementary (1st

and 3rd grades) school were used to guide this study.

Research Questions

RQ1

Is there a difference in test scores on the Iowa 7 state standard assessment between

African American first grade students enrolled in culturally familiar schools where they are 60%

or more of the student population and African American first grade students enrolled in

mainstream schools where they are less than 25% of the student population?

- H_11_a**:** African American first grade students enrolled in a culturally familiar school where

  they are 60% or more of the student population will have higher test scores on the Iowa 7

  state standard assessment than African American first grade students enrolled in

  mainstream schools where they are less than 25% of the student population.

- $H_0$2a**:** African American first grade students enrolled in a culturally familiar school where they are 60% or more of the student population will not have higher test scores on the Iowa 7 state standard assessment than African American first grade students enrolled in mainstream schools where they are less than 25% of the student population.

RQ2

Is there a difference in test scores on the Act Aspire state standard assessment between African American third-grade students enrolled in culturally familiar schools where they are 60% or more of the student population and AA third-grade students enrolled in mainstream schools where they are less than 25% of the student population?

- $H_1$2a**:** African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population will have higher test scores on the Act Aspire state standard assessment than African American third grade students enrolled in mainstream schools where they are less than 25% of the student population.

- $H_0$2a**:** African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population will not have higher test scores on the Act Aspire state standard assessment than African American third grade students enrolled in mainstream schools where they are less than 25% of the student population.

RQ3

Does African American first grade students' socioeconomic status that is determined by their participation in the free or reduced meals' programs influence test scores on the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where

they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population?

- H_13a**:** The socioeconomic status of African American first grade students will influence test scores on the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

- H_03a**:** The socioeconomic status of African American first grade students will not influence test scores on the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

RQ4

Does African American third grade students' socioeconomic status that is determined by their participation in the free or reduced meals' programs influence test scores on the Act Aspire state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population?

- H_14a**:** The socioeconomic status of third-grade students will influence test scores on the Act Aspire state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they

are enrolled in mainstream schools where they are less than 25% of the student population.

- H_04a: The socioeconomic status of third-grade students will not influence test scores on the Act Aspire state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

Sample Design

The research design is described in the following sections that include specifics of the participants, recruitment, methods, and the procedures that guided the analysis of the data. The necessary sample size for a suitable power is also described.

Participants and Sampling

Participant Recruitment

Archival data were used in this study. Permission to utilize the data were from the Keiser University Institutional Review Board (IRB) and a Data Sharing Agreement with the Arkansas Department of Education's Office of Information Technology. Participants' archived test scores and geographic data were obtained via online access provided by the Arkansas Department of Education's Office of Information Technology. African American female and male students 6-10 years of age attending school in either of the six schools and who had taken the Iowa 7 test in the 2016-17 school year or the Act Aspire test during the 2017-2018 school year, were eligible to participate in the study. The sampling group was students in the first and third grades enrolled in schools in the Little Rock School District ($N = 393$; females = 198, males = 195). The six

elementary schools test score data used was from Brady, Don Roberts, Forest Park, Gibbs, Jefferson, and Terry Elementary schools of the Little Rock School District.

Sample

The necessary sample size to detect the hypothesized effects in the primary analyses was determined using G*Power (Faul, Erdfelder, Lang, & Buchner, 2007). The default effect size for G*Power, *Cohen's d*= 0.5 was used since previous research has not utilized the same set of dependent variables (DVs) used in this study. Utilizing an alpha level set at 0.05, a total sample size of 102 (52 in each group) was necessary to achieve 80% power for RQ1 and RQ2. For RQ3 and RQ4, utilizing an alpha level set at 0.05, a total sample size of 269 was necessary to achieve 80.0% power. The researcher aimed for the larger sample size required by analyses ($N = 269$) and extract data from at least 20% more than required (total $N = 323$).

Test scores from Iowa 7 and the Act Aspire were obtained from the six sample schools that were used by the Pulaski County School District and all public school districts in Arkansas. The analysis included a sample of all archival test scores and an indication of whether participants were free lunch recipients, of African American descent, in first grade during the 2016-2017 fiscal year, and in third grade during the 2017-2018 fiscal year.

Measures

The following information was used to evaluate the research questions: test scores, age, race, gender, grade level, free lunch participation, and school registration to distinguish where the participant is in the majority or minority student population. The six schools that were evaluated during the 2016-2017 and 2017-2018 school years were Brady Elementary (80.1% African American enrollment, school year), Don Roberts Elementary (23% African American enrollment), Forest Park Elementary (15.5% African American enrollment), Gibbs Elementary

(62.6% African American enrollment), Jefferson Elementary (21.1% African American

enrollment), and Terry Elementary (67.7% African American enrollment).

Iowa7

According to the *Research and Development Guide* of Dunbar and Welch (2015), the

Iowa 7 assessment measures students' progress in learning three times each year from

kindergarten through 12th grade (levels are 5/6 kindergarten through 17/18 12th grade) i.e.

kindergarten students' skills are measured in the Fall, Midyear with the Iowa 5/6 and in the

Spring the Iowa 7 assessment is administered. The Iowa 7 assessment is used in Arkansas to test

first grade students in the skills of vocabulary, reading, language, mathematics, and computation.

Normative scores are used as a tool to compare the achievement of individual students with the

norm scores of the national group. The weeks in April and May are the five weeks designated for

spring norms. The Arkansas Comprehensive Testing, Assessment, and Accountability Program

(ACTAAP): Report Interpretation Guide for the Iowa assessment reports a Spring

Developmental averages in ***Process Skills*** for Vocabulary (Use context to determine

meaning), Explicit meaning (recognize stated information 19, 25, 29, Understand stated

information 12-17, 22, 32), Implicit Meaning (Discern traits, feelings, or motives 6, 7, 27, 30,

Conclude or make inferences 5, 10, 18, 21, 24, 26, 28, Make predictions 31), Key Ideas includes

(Connect or extend ideas 20, 34, 35, Identify central ideas and their support 1-4, 8, 9, 11,

Synthesize or summarize information 23, 33).

Content skills for Spelling (consonants 3,6.10, Suffixes 11, Vowel/Consonant

Combinations 2,8, Vowels 1 ,4, 5,7, 9), Capitalization (Dates/holidays 16, Names/titles 15, Place

names, Writing conventions 12-14), Punctuation (Comma 19, End Punctuation 17, 18, 20, 21),

Written Expression (Modifiers, Nouns, Pronouns, Verbs 22, 24, 28, 30, 31, 33 for first grade (or

approximately 6-year-old) children. The PALS Spring benchmark for kindergartners is 24 lowercase letters and 20 letter sounds.

The Iowa Assessments scores are reported using the norms of Spring, 2011, "which are interpolated to the week that included April 1, 2011" (Arkansas Department of Education, 2016, p 3). In their explanations of identifying validity, Dunbar and Welch (2015) suggest that the purpose of the test was an indication of varying specifics in its creation. The authors further explain that a test that is created to determine if performance standards have been accomplished by the student according to the local district is not likely to have significant validity for quantifying changes in a progression toward individually identified goals. And, testing developed to focus on accountability questions is unlikely to be an effective method of stimulating differential instruction and creative teaching.

Dunbar and Welch (2015) explain that procedures followed to create and revise test materials and interpretive information start the foundation for test validity. The authors state that content quality is, therefore, the main argument for test validity. The authors further suggest that the Iowa assessments are developed with the main practice that students are presented materials of notable value so that time spent testing also offers assessment and instruction. An example is the passages for the reading test are chosen they offer good comprehensive questioning as well as providing an interesting reading for the student. In addition, scientific reasoning can be assessed through the students' showing their understanding of novel situations. The authors explain that the learning experience along with the Iowa assessment ability to measure comprehension is evidence of its validity.

Dunbar and Welch (2015) indicate that the validity of the Iowa assessment is supported because its assessment framework is an extension of the educational aim. The authors explain

that the framework describes the complete road map of the content of the test and relies on

various resources to obtain and maintain content validity, including:

- Curriculum surveys

- State, professional, and international standards

- Scholarly research

- National Assessment of Educational Progress (NAEP) framework and test specifications

- Assessment data

- Feedback from educators, students, and parents

In their explanation of the development of the Iowa Assessments' Dunbar and Welch (2015)

suggest the final forms includes an iterative and comprehensive process regarding the content of

the framework leads to the item development and design, the wide-ranging review process, and

trial and test administrations.

  In their description of the reliability of the Iowa 7, Dunbar and Welch (2015) explain that

there is, of course, no way to know just how much a given student's achievement may have been

under or overestimated from a single administration of a test. The authors indicate that one can

make rational approximations of the amount of achievement specific to students of a certain

reference group that was mismeasured. Additionally, the author's estimated two-thirds of

participants were "correct" or accurate to within one standard error of measurement (SEM) of the

observed score. The authors state that with 95% of the students the scores are accurate within

two standard errors and for 99% the scores were accurate to within three standard error values.

  Dunbar and Welch (2015) explain that two methods of estimating reliability were used to

attain the statistical summaries provided in the guide. One method used Kuder-Richardson

formula 20 (K-R 20) to get internal-consistency estimates. The authors further explained that

data from the complete national comparison sample were used to get the reliability coefficients. The authors explain that the testing occurrences included the Form E of the Iowa Assessment and Form A of the Iowa Test of Basic Skills/ Iowa Test of Educational Development (ITBS/ITED) was estimated from fall 2010 equating of those forms. And, test-retest reliability was estimated data from the 2011-2012 comparability study or Form E paper-based and computer-based modes. The authors state that the concurrent validity coefficients are presented in the form of correlations between scores on the Iowa Assessments Form E and the scores on Cognitive Abilities (CogAT) Form 7 and scores on the Iowa Tests of Basic Skills (ITBS) and Iowa Tests of Educational Development (ITED) Form A.

Dunbar and Welch (2015) explain that except for the mathematics tests the highest correlations resulted from the CogAT score or the Verbal Battery score. The authors further explained that the lowest correlations usually involved tests in Iowa Assessments (suggesting a lesser overlap between achievement and the cognitive skills measured) and the CogAT Form 7 Nonverbal Battery. The authors found that while there was a significant relationship in each of the cases, the correlations are not so high that they suggest that the achievement and ability measure a lack of discriminant validity. With average correlations the Iowa Assessments Levels 5/6-17/18 complete composite and CogAT Form 7 are 0.77 for the verbal battery, the quantitative battery was 0.71, the nonverbal battery was 0.64, and 0.80 for the CogAT Form 7 composite. In the part of the National Comparison Study that describes the results between the Iowa Assessment Form E and the ITBS/ITED Form A correlations the authors explain that with the mathematics and English language arts, the concurrent validity coefficients are usually around the .75 to .85 range except for the first and second grades that were slightly lower. The authors further extrapolate that the students who took alternate forms of the Iowa Assessments

were rank-ordered in a quite similar way. The authors' results for the comparison of the Iowa

Assessments 7 Form E and the ITBS/ITED Form A correlations found a concurrent validity

coefficient for grade one was N = 1,738, in reading (R) = .86, language (L) = .77, vocabulary (V)

= .83, word analysis (WA) = .72, listening (L) = .68, mathematics (M) = .79, computation(MC)

= .70., science (SC) = .60, and social studies (SS) = .63.

In their explanation of obtaining the reliability of the Iowa Assessments Dunbar and

Welch (2015) extrapolate that while test reliability can be measured by various methods, the

Iowa 7 measures test reliability with two indices. The two indices the authors indicate are the

reliability coefficient and standard error of measures. Dunbar and Welch (2015) explain that the

reliability coefficient of cautiously developed tests is usually between 0.60 and 0.95 and when

the coefficient is nearer to the upper limit, the greater the freedom of the scores from an issue

that might have a temporary effect that could obscure true differences in achievement and the

performance of the student. However, Dunbar and Welch (2015) suggest that this handy form of

referencing of the reliability coefficients is deceptively simple i.e., if a value of 0.75 might

represent high or low or satisfactory or unsatisfactory is difficult to conclude. The authors further

suggest that while a judgment can be made regarding a coefficient when it has been compared to

assessments that are equally practical and equally valid, the reliability coefficient is hardly ever

free of ambiguity. But the authors explain that the reliability coefficient can be useful in the

comparison of alternative approaches to assessment in understanding the relative stability of the

resulting scores.

Dunbar and Welch (2015) indicated that the standard errors of measurement (SEM) that

is the second method of describing test reliability are the index that represents a measure of the

net effect of each of the factors leading to inconsistency in student performance and to

inconsistency in interpreting the performance. The authors explain that the SEM is an index of the typical variability and range of the scores observed for the scores observed irrespective of their achievement level. The authors explain that the SEM expresses the degree of precision in placing the student at a point on the score scale used for reporting test results. The authors also explained that the conditional SEM (CSEM) results in similar data, but rather than gauging the typical range, it results in a range that is tailored to a particular level of achievement. The authors describe statistical findings for K-12 grade levels; however, this study is focused on grade one that is the Iowa 7 assessment outcomes. The authors' results for grade one test subjects of the Iowa 7 assessment outcomes states a Reliability Coefficients (K-R 20) in reading (R) = .904 , language (L) = .808, vocabulary (V) = .884, word analysis (WA) = .794, listening (L) = .750, mathematics (M) = .867, computation (MC) = .829., science (SC) = .630, and social studies (SS) = .679.

Table 1 shows details of the Iowa 7 Assessment that is designated for the 1st-grade students. The table includes the test subjects, the time allowed for each assessment, and the number of questions included in each test subject.

Table 1

Iowa 7 Assessment for 1st-grade students

Test	Approximate Time (minutes)	Number of Questions Level 7
Vocabulary	15 minutes	26
Word Analysis	32 minutes	32
Reading (Part 1 and 2)	45 minutes	35

Listening	25 minutes	27
Language	25 minutes	34
Mathematics (Parts 1 and 2)	50 minutes	41
Computation	25 minutes	25
Social Studies	25 minutes	29
Science	25 minutes	29
Totals -- Complete	4 hours 10 minutes	278
Totals --- Core	3 hours 20 minutes	220

Plucker, Callahan, and Tomchin (1996) examined the intelligence of diverse and low-income student's on performance-based tests and student achievement. They evaluated the psychometric properties of several alternative assessments founded on Grader's multiple intelligences theory. A total of 1,813 children in kindergarten and first grade were tested using the Multiple Intelligence Technique that includes 13 performance-based tasks, teacher ratings, and observational checklists that parallel to four of the multiple intelligences. The researchers also administered the Iowa Test of Basic Skills with gender, ethics, SES, and differences in schools measured. The results found reliability that indicated the subscales were internally consistent and that factor analysis confirmed that there were linguistic and logical/mathematical subscales. However, they were unable to identify spatial and interpersonal subscales. Their study also found somewhat higher ratings among Asian American students but no gender differences.

Act Aspire

The Act Aspire is a standardized test that assesses the progress in skills and knowledge increase during the third through the tenth grades. The test measure method is a vertical scaled battery that includes Reading, English, Science, and Math (Act Aspire, 2014). The Act Aspire

was created to gauge the degree of readiness and progress toward college. Student progress is connected by their "scale scores" to career and college data systems on the Act National Career Readiness Certificate and the Act College Readiness assessment program (Act Aspire, 2014). The Act benchmarks for readiness were based on empirical data that offer information regarding whether the students are reaching the achievement levels in particular subjects at the proper times.

In a review of the description and standards of the Act Aspire Assessment Renaissance, Learning (2016) explains that it is an assessment program that contains a vertically scaled battery of achievement test designed to measure the child's growth in a longitudinal assessment system for third grade to around grade 10th in reading, English, mathematics, writing, and science. The Act Aspirer's aim to measure achievement and progression toward career and college readiness empirical and performance data that define requisite constructs is used in content areas of reading, English, mathematics, science, and writing. The authors further explain that every three years the Act National Curriculum Survey study of kindergarten through postsecondary teachers, along with entry-level and workforce-training course instructors selected from a pool of well qualified currently practicing US educators. ᴛᴏ obtain the most recent knowledge and skills students will need to show readiness to begin employment and post-secondary coursework. The writers suggest that Act collects data regarding what instructors are teaching in classrooms from elementary through high school. A theory of action (TOA) approach was used to form the Act Aspire in which a combination of academic research (content validity) with empirical data (predictivity validity). Table 2 shows the time allotted for each test subject for third-grade

students from ACT Aspire (2015) and benchmark pass to fail scores that were described by

Edwards (2018).

Table 2

Details of Act Aspire for Third Grade

Test Names	Time (minutes)	Low Score	High Score	Benchmark
English	30	400	435	413
Writing	30	408	440	428
Reading	60	400	429	415
Math	55	400	434	413
Science	55	400	433	418
Total test time	230			

The Iowa 7 test and the ACT Aspire testing is administered to African American students

attending schools where African American student enrollment is more than 60% and in schools

where African American students are less than 23% of student enrollment. The rationale for

measuring the dependent variable of the sub-group rather than individuals because the question

is do the culturally familiar students have higher mean scores than students of a similar

demographic group in a mainstream school.

Allen's (2019) study of whether the implementation of the ACT Aspire Periodic

Assessments affects the academic growth of students, through measures by the ACT Aspire

Summative Assessments. The author explains that the ACT Aspire Periodic Assessments contain

classroom and interim assessments that can be taken at any time during the school year. The

author informs that the Periodic Assessments are specific to grade level and include four interim

test forms and 10 classroom test forms for all of the subject areas of math, English, science, and reading. The author's description of the tests informs that they are multiple-choice, fixed-format, and computer-based and that the Classroom tests are administered to third through eighth grades and the interim tests are administered to third through 10th grades. The author further informs that while the Interim tests are untimed and the teacher allows 45 minutes or less, the Classroom tests usually take 10 to 15 minutes and that the Interim tests should be viewed as a condensed version of the Summative test (with the same use of reporting categories and coverage of the knowledge and skills).

Allen (2019) explains that the content of Interim tests is not sequenced within the subject and grade level. The author explains that by comparison the Classroom test is mapped to no more than two content subjects that can be administered in conjunction with lessons or instructional units. In his evaluation, Allen (2019) further explains that both the Classroom and Interim assessments offer immediate reporting to some or all of the groups that include teachers (or other user-defined groups), schools, districts, parents, and students. The author suggests the assessments also include an item response analysis that is included in both assessments.

Allen (2019) examined the effects of the Aspire Interim implementation using a DiD analysis. The researcher informed that each of the schools that participated in the study had to have administered the Aspire Summative Assessments no less than three consecutive years and provided included two consecutive yearly student growth measures. The researcher explained that the DiD was used to calculate the difference in academic improvement with the schools that adopted Aspire Interim Assessment and the schools that were the comparison to estimate the effect of implementing the Aspire Interim. With adoption, there were 1.3 student growth percentile units, which is comparable to moving from the 50th percentile of school growth to the

56th percentile of school growth. The author further explains that the impact of the adoption was strongest in English +2.9 growth percentile units, followed by science with +1.4 growth percentile units, and math with +1.1 growth percentile units. While the researcher found inconsistent effects of the adoption of reading in all grade levels, there was usually a higher positive effect in lower grade levels. The author's evaluation of whether the adoption of the ACT Aspire Periodic Assessments affects the academic growth of students, through measures by the ACT Aspire Summative Assessments found advances in academic growth across grade levels and subject areas.

Data Collection Protocol

Data were collected from the 2016-17 school year for first grade and the 2017-2018 school year for third grade from the Arkansas Office of Information Technology Data Warehouse and Reporting from the Arkansas Department of Education. The data included African American students' test scores, age to help determine whether participants were in the first or third grade, race and sex of participants to obtain African American students, free-lunch application that determined the specific economic status, and school registration to distinguish schools where the participants were in the majority/minority of student enrollment. Deidentified test score data were used as agreed on in the signed Data Sharing Agreement.

Data Collection, Storage, and Protection Procedures

Deidentified data were obtained through a Data Sharing Agreement application that was signed by the researcher and the Department of Education with an understanding of the research risk, benefits, alternatives, confidentiality, questions regarding the research, and compensation for participation. A request for approval from the Keiser Institutional Review Board to conduct the study was submitted to enable the collection of data. Beneficence was used to make every

effort to ensure research methods offer respect for participants and to protect the privacy of the individual and secure the data collected by storing it in a secure computer file that was accessed by password. The informed consent by participants did not apply to the study because the data were de-identified and archival.

Internal and External Validity

The internal and external validity of this research design was examined for strengths and flaws. A strength of the design was the consideration and maintenance of the anonymity of research participants, therefore creating expectantly honest and accurate responses. The research participants were allowed to openly answer the presented questions in their classroom settings without fear or judgment. The Arkansas Department of Education (ADE) was assured that the participants' results would not be shared and that study results would not be sent to ADE or participants in a group email, which will further preserve anonymity. These factors will contribute to honest and accurate responses to survey questions by participants.

A factor concerning external validity of the participants was the fact that they all reside in the state of Arkansas. While there are many public schools in the United State, African American students in the first and third grades have similar school schedules, classroom environments, and curriculum. Also, while the participants were under the consenting age, adherence to the ADE data sharing guidelines ensure an ethical process regarding the participant's anonymity.

Data Analysis

Data analytic procedures include the preparation of collected data for analysis. This section discusses the procedures used for organizing raw data, preparation for data for analyses, managing, and performing statistical analyses. The study was quantitative utilizing a non-

experimental correlational research design. In this study, the IVs were nominal; DVs 1 and 2
were ratio. Variable were as follows:

- DV1: Iowa 7 state standard assessment test scores

- DV2: Act aspire standard assessment test scores with gender as a covariate

- IV1: Mainstream schools or culturally familiar school

- IV2: SES (free lunch participant) in mainstream schools or culturally familiar school

In this study, the grade level, race, SES, and students in mainstream or culturally familiar
school populations were obtained, as it was necessary to determine the presence and significance
of a relationship between test scores of African American students enrolled in mainstream or
culturally familiar school, and if socio-economic status effects test score performance.

African American students in the first and third grades were assessed utilizing test
scores from the Iowa 7 Assessment Test (administered to first graders) and the ACT Aspire
Assessment (administered to third graders) that were provided by the Arkansas Department of
Education. Six schools in the Little Rock School District was utilized to evaluate test scores
from African American students with identical testing and scoring methods. The African
American students were assigned to two groups that include:

1) African American students enrolled in culturally familiar schools where they are 60% or
   more of the student population.

2) African American students enrolled in mainstream schools where they are less than 25%
   of the student population

The participants are AA children enrolled in an elementary school in the same county and school
district. The participants were enrolled in a school in which they are the majority race in the
school's population or enrolled in a school where they were the minority population enrolled in

the school. These must be AA students in the first grade and the third grade in the six schools being evaluated.

Organizing Raw Data

Duplicate data were stored on a password-protected flash drive and remained in a locked location known only to the researcher. The data were de-identified and obtained through a Data Sharing Application that was signed by the researcher and the Department of Education with an understanding of the research risk, benefits, alternatives, confidentiality, questions regarding the research, and compensation for participation (Arkansas Department of Education; Cone & Foster, 2006). Assessment scores were reviewed for completeness; those that were incomplete were discarded from the dataset. Each assessment score result was assigned a user identification code, and responses were assigned a numerical value for data entry into SPSS (SPSS, 2015) statistical software. Each response value was then recorded in SPSS (SPSS, 2015), and reviewed for accuracy. Outlier values were reviewed against the original survey submissions for data input errors.

Statistical Analysis

After data were reviewed for accuracy and completeness, quantitative statistical analyses were performed on the numerical data. Data were checked to ensure all assumptions were met for independent samples t-tests and factorial ANOVAs. Descriptive statistics were utilized to determine the data distribution, means, and standard deviations. Care was given to screening for outliers and missing values in the analysis. Statistical analyses were used to controls for gender differences between the 1st-grade students in each school and the 3rd-grade students in each school.

Primary Data Analyses

For RQ1, an independent samples t-test was used to determine if there was a difference in mean test scores on the Iowa 7 between African American first grade students enrolled in culturally familiar schools where they are 60% or more of the student population and African American first grade students enrolled in mainstream schools where they are less than 25% of the student population. For RQ2, an independent samples t-test was used to determine if there was a difference in mean test scores on the Act Aspire 7 between African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population and African American third-grade students enrolled in mainstream schools where they are less than 25% of the student population.

For RQ3, a two-way factorial ANOVA with the factors of SES (low SES, non-low SES) and school enrollment (mainstream, culturally familiar) was used to compare performance on the Iowa 7 state test between the four groups. SES and school enrollment served as the independent variable and Iowa 7 state test between four groups. SES and school enrollment served as the independent variable and Iowa 7 state test score served as the dependent variable. If a significant SES school enrollment effect is observed, follow-up analyses of the simple main effects will be conducted.

For RQ4, a two-way factorial ANOVA with the factors of SES (low SES, non-low SES) and school enrollment (mainstream, culturally familiar) was used to compare performance on the Iowa 7 state test between the four groups. SES and school enrollment served as the independent variable and Act Aspire state test between four groups. SES and school enrollment served as the independent variable and Act Aspire state test score served as the dependent variable. Statistical significance was initially determined using an alpha level of .05. Exploratory analyses were

conducted to determine if test scores differ among students enrolled in mainstream and culturally familiar school and socioeconomic status.

Expected Findings

There were four findings expected based on the literature review. Concerning RQ1, a significant difference was expected with higher test scores among African American first grade students test scores on the Iowa 7 state standard assessment when they were enrolled in a culturally familiar school where they were 60% or more of the student population and African American first grade students enrolled in mainstream schools where they were less than 25% of the student population. For RQ2, a significant difference was expected with higher test scores among African American third grade students test scores on the Act Aspire 7 state standard assessment when they were enrolled in a culturally familiar school where they were 60% or more of the student population and African American first grade students enrolled in mainstream schools where they were less than 25% of the student population. For RQ3, a significant difference between the socioeconomic status of African American first grade students test scores on the Iowa 7 state standard assessment with highest test scores expected in students with a low SES in culturally familiar schools than Low SES students in mainstream or African American students of High SES in culturally familiar or mainstream schools. For RQ4, a significant difference was expected between the socioeconomic status of African American third grade students test scores on the Act Aspire state standard assessment with higher test scores expected when they are Low SES in culturally familiar schools than Low SES students in mainstream or African American students of High SES in culturally familiar or mainstream schools.

Ethical Considerations

This research was conducted by using archival data from the Arkansas Department of Education (ADE) Information Technology Center. The main investigator requested approval to do this study from the IRB at Keiser University. The ADE also approved a data-sharing agreement to access a password secured site to retrieve data for research use for one year. While there was geographical information, personal information was not included in this research (i.e. no participant's names were used in the research). All records that are relevant to this study were identified by a case number. Students within the public-school system include challenges regarding the privacy of student records and research of children under 16 years of age. This study used archival data that is de-identified, so, consent was obtained with the signing of a "Data Sharing Agreement between the Department of Education and the researcher and adherence to the APA ethical code guidelines in "Section 8: Research and Publication" (American Psychological Association, 2017, p.10). Because consent could not be requested for de-identified data, this was a situation where consent could be waived within ethical standards. Although there was no participant contact, ethical guidelines regarding participant protection and privacy of participant information were followed according to the ethical guidelines of archival data.

CHAPTER 4.

DATA ANALYSIS AND RESULTS

This study explored the relationship between test score performance of African American students attending a culturally familiar versus a mainstream school during early grades and if SES affected test score performance. Previous research has shown that an achievement gap between Caucasian and African American students persist and one of the primary issues can be a difference in culture. Altugan (2015) suggests the cultural experiences of learners are important because ethnic, racial, linguistic, social, religious, or economic differences can cause cultural disconnection leading to the corruption of motivation to learn. Altugan (2015) explains that while it is inevitable that education will bring changes to learners; however, the student's cultural identity plays a significant part in the transmission of such values. Altugan (2015) further suggests that available research supports a positive correlation between learning at school and cultural identity, as the method puts a focus on approaches that utilize the students' cultural and cultural background.

Research Questions and Hypotheses

Further research should be pursued to examine African American students' performance when enrolled in a culturally familiar school or mainstream schools during *third grade* is the second question in this study. As research suggests, an unfamiliarity with classroom culture can negatively impact academic performance. Learning is likely to be more comfortable when the student is predisposed to associate with the school's culture (Cherry (2019). There is significant stress or anxiety experienced by all children beginning to get acclimated to the structured environment of the classroom. However, with African American children, there is the additional stress and anxiety of understanding and being understood in a different cultural environment.

While standardized testing is an accepted method of checking students' progression toward expected knowledge, unfamiliarity with the classroom environment in third grade can have a negative effect on test score performance on the Act Aspire. The Act Aspire standardized test was the test scores utilized by the school district to evaluated third-grade student's knowledge during the 2017-2018 school year and utilized in this study. The Act Aspire is a longitudinal test structure that assesses the third through the tenth grades. The Act Aspire achievement tests measure is a vertically scaled battery that includes Reading, English, Science, and Math (Act Aspire, 20014).

The Act Aspire instrument is developed to measure the readiness and progress on the road to college. African American third grade students' test scores from a culturally familiar school and mainstream school population were compared to determine if African American students in the culturally familiar school would have higher grades. To effectively address this question, research questions with corresponding hypotheses were used to guide the study.

RQ1

Is there a difference in test scores on the Iowa 7 state standard assessment between African American first grade students enrolled in culturally familiar schools where they are 60% or more of the student population and African American first grade students enrolled in mainstream schools where they are less than 25% of the student population?

- H_11_a: African American first grade students enrolled in culturally familiar schools where they are 60% or more of the student population will have higher test scores on the Iowa 7 state standard assessment than African American first grade students enrolled in mainstream schools where they are less than 25% of the student population.

- $H_0$2a: African American first grade students enrolled in culturally familiar schools where they are 60% or more of the student population will not have higher test scores on the Iowa 7 state standard assessment than African American first grade students enrolled in mainstream schools where they are less than 25% of the student population.

RQ2

Is there a difference in test scores on the Act Aspire state standard assessment between African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population and AA third-grade students enrolled in mainstream schools where they are less than 25% of the student population?

- $H_1$2a: African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population will have higher test scores on the Act Aspire state standard assessment than African American third grade students enrolled in mainstream schools where they are less than 25% of the student population.

- $H_0$2a: African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population will not have higher test scores on the Act Aspire state standard assessment than African American third grade students enrolled in mainstream schools where they are less than 25% of the student population.

RQ3

Does African American first grade students' socioeconomic status that is determined by their participation in the free or reduced meals' programs influence test scores on the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population?

- $H_1$3a**:** The socioeconomic status of African American first grade students will influence test scores on the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

- $H_0$3a**:** The socioeconomic status of African American first grade students will not influence test scores on the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

RQ4

Does African American third grade students' socioeconomic status that is determined by their participation in the free or reduced meals' programs influence test scores on the Act Aspire state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population?

- $H_1$4a**:** The socioeconomic status of third-grade students will influence test scores on the Act Aspire state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population.

- $H_0$4a**:** The socioeconomic status of third-grade students will not influence test scores on the Act Aspire state standard assessment when these students are enrolled in culturally

familiar schools where they are 60% or more of the student population than when they
are enrolled in mainstream schools where they are less than 25% of the student
population.

Description of the Sample

The Faul et al. (2007) G*Power statistical power analysis was conducted to determine
that 269 participants were needed for this study. To account for oversampling, subject dropout,
and missing data, data from 393 participants were derived from archival data. IRB and the
Arkansas Department of Education approval were granted to conduct the study through archive
test scores: the Iowa 7 for 1st grade (2016-2017) and the Act Aspire for 3rd grade (2018-2018).
To control for participant anonymity and confidentiality, de-identified data were provided by the
Arkansas Department of Education. Participants were recruited through the Arkansas
Department of Education's Office of Information Technology (ADEOIT).

Next, all data from ADEOIT were downloaded in the form of an Excel spreadsheet and
then exported to SPSS, which is saved on a flash drive and will be secured according to the
policies of Keiser University and ADEOIT. Table 3 shows demographic characteristics and
school total of 164 participants in first grade that were assessed with the Iowa 7 state
standardized test. Table 4 shows demographic characteristics and school total of 177 participants
in third grade that were assessed with Act Aspire state standardized test.

Table 3

First-grader Demographic Characteristics

	Majority AA School	Mainstream School	Total
n	130	34	164
Female students	68	21	89
Male students	62	13	75
Free/Reduced lunch	108	23	131

Table 4

Third-grader Demographic Characteristics

	Majority AA School	Mainstream School	Total
n	110	67	177
Female students	51	30	81
Male students	59	37	96
Free/Reduced lunch	89	42	131

Data Cleaning and Assumptions

Prior to preliminary data analyses, the raw data were examined to ensure correct coding and responses. Coding for the question of whether the participant received Free/Reduced lunch or Non-Free/Reduced with total participants for each category displayed above in Tables 3 and 4, and codes are: 1 = yes for participation in the program and 0 = no participation; Gender is coded as 1 = female or 2 = male; enrollment in a Majority African American or Mainstream school is

coded as 1= Majority African American (First Grade N = 129; Third Grade N =110) and 2= Mainstream school (First Grade N = 34; Third Grade N = 67). The study included 393 participants. Data were examined for data input errors, outliers, and missingness. To screen for missing data, individual scores for each DV was examined. To check for outliers, data were screened to determine if participants had scores above or below 3 SD from the group mean. Lastly, parametric tests were used for all statistical analyses, to analyze group means distribution.

One participant's test performance information was removed due to missing test score data. Therefore, the final sample size for the analyses was 392. After the data cleaning process was complete, test scores of mainstream and majority African American student enrollment schools that include the effects of SES and gender were examined by computing an independent samples t-test, a two-way ANCOVA, and a two-way ANOVA. Descriptive statistics were also conducted to describe analysis significance. Statistical significance for all analyses was determined using an alpha level of .05.

Details of Analysis and Results

This dissertation research was an investigation of whether the standardized state test score performance of African American students in the first and third grades are higher when they are enrolled in a culturally familiar school or a mainstream school, based on the social comparison theory by Leon Festinger. The social comparison theory by Leon Festinger suggests several negative or positive effects can result from comparing oneself to peers, i.e., self-image, balance, and learning that is the interest of this paper (Oppenheimer, 2015).

The third and fourth questions studied whether the test score performance of African American students in the first and third grades are higher when they enrolled in a culturally familiar school or a mainstream school and the effect of socio-economic status (SES). This

research examined African American students' test score performance when enrolled in a culturally familiar school or mainstream schools during the *first and third grade* of a high or low SES.

The African American students are identified in a low SES or high SES based on whether they participate in a free or reduced lunch program. Test scores performance on the Iowa 7 of the first-grade student of high SES and low SES in mainstream and culturally familiar school. Third-grade students enrolled in the mainstream, and culturally familiar school test scores on the Act Aspire were also examined based on SES. To effectively address this question of SES effects, two primary research questions with corresponding hypotheses were used to guide these questions in the study.

RQ1

Is there a difference in test scores on the Iowa 7 state standard assessment between African American first grade students enrolled in culturally familiar schools where they are 60% or more of the student population and African American first grade students enrolled in mainstream schools where they are less than 25% of the student population?

An independent-samples t-test was conducted to compare Iowa 7 state standardized test scores of African American first grade students enrolled in culturally familiar schools where they are 60% or more of the student population and African American first grade students enrolled in mainstream schools where they are less than 25% of the student population. Results revealed a significant difference in the test scores for the Majority enrollment of African American students in first grade (M= 145.71, SD= 10.97) and the test scores for Mainstream enrollment of African American students in first grade (M= 152.18, SD= 10.81); $t(161)$= -3.06, $p = 0.003$. The null hypothesis was rejected and accordingly the alternative hypothesis that states there is a

difference in the performance of African Americans between school types were accepted. It was found that African American first grade students in the mainstream have higher test scores than African American first grade students in majority schools.

RQ2

 Is there a difference in test scores on the Act Aspire state standard assessment between African American third grade students enrolled in culturally familiar schools where they are 60% or more of the student population and AA third-grade students enrolled in mainstream schools where they are less than 25% of the student population?

 A one-way between-subjects ANCOVA was conducted to compare the effect of third-grade students enrolled in culturally familiar schools where they are 60% or more of the student population and African American third-grade students enrolled in mainstream schools where they are less than 25% of enrollment with gender as a covariate. After controlling for gender, results revealed a significant difference in Act Aspire test scores between the groups. Results revealed a significant difference in the test scores for Majority enrollment of African American students in third grade majority African American enrollment (M= 412.36, SD= 4.38) and the test scores for Mainstream enrollment of African American students in first grade(M= 415.28, SD= 4.99) ; $F(1, 174) = 17.44$, p < .001, partial η^2 = .09. African American students in third grade did not have higher test scores in schools where African American student enrollment is 60% or more of the student population. When controlling for gender, we failed to reject the null hypothesis.

RQ3

 Does African American first grade students' socioeconomic status that is determined by their participation in the free or reduced meals' programs lead to higher or lower test scores on

the Iowa 7 state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population?

A two-way factorial ANOVA was conducted to compare the effect of low SES and non-low SES and enrollment in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the first-grade student population on Iowa 7 test scores. The two-way factorial ANOVA results revealed there was not a significant interaction between SES and majority or mainstream schools for Iowa 7 test scores $F(1, 159) = 1.21$, $p = 0.271$, partial $\eta^2 = 4.32$. There was no significant main effect observed for SES $F(1, 159) = .293$, $p = .589$. However, a main effect for mainstream or majority school $F(1, 159) = 4.23$, $p = .039$, partial $\eta2 = .58$ was observed.

Students in Mainstream schools had higher scores ($M=152.18$, $SD=10.81$) than students in the majority AA schools ($M=145.71$, $SD=10.973$). Based on the above analysis, we failed to reject the null hypothesis for school type because there was a difference between school types. Because there was no significant effect of SES or interaction between school type and SES, we failed to reject the null hypothesis regarding differences in SES.

Table 5 details the descriptive statistics of African American students in first-grade test scores mean and standard deviation on the Iowa 7 state standardized assessment based on their enrollment in a mainstream or a majority African American school and if test score performance is affected by SES among the groups.

Table 5

The Effect of SES on First Graders Test Scores in Majority and Mainstream School

School type	Free/Reduced	Mean	Std. Deviation	N
Majority AA	High SES	148.95	12.03	22
	Low SES	145.05	10.68	107
Mainstream	High SES	151.27	10.05	11
	Low SES	152.18	11.34	23
Total	High SES	149.73	11.30	33
	Low SES	146.38	11.14	130

RQ4

Does African American third grade students' socioeconomic status that is determined by their participation in the free or reduced meals' programs lead to higher or lower test scores on the Act Aspire state standard assessment when these students are enrolled in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the student population?

A two-way factorial ANCOVA conducted to compare the effect of low SES and non-low SES and enrollment in culturally familiar schools where they are 60% or more of the student population than when they are enrolled in mainstream schools where they are less than 25% of the third-grade student population on Act Aspire test scores, controlling for gender. There was not a statistically significant interaction between SES and school type for Act Aspire test scores $F(1, 173) = 13.95$, $p = .416$, partial $\eta^2 = .037$. However, a main effect for school type (mainstream or majority) of African American student enrollment in third grade was observed; ($M = 416.75$, $SD = 4.71$) and the SES (higher SES in mainstream school); $F(1, 173) = 12.98$, $p = < .001$ and SES $F(1, 173) = 4.40$, $p = .037$, partial $\eta^2 = .01$.

Table 6 details the descriptive statistics of African American students in third-grade test scores mean and standard deviation on the Act Aspire state standardized assessment based on their enrollment in a mainstream or a major African American school and if SES makes a difference in test scores among the groups.

Table 6

The Effect of SES on Third Graders Test Performance in Majority and Mainstream School

School type	Free/Reduce	Mean	Std. Deviation	N
Majority AA	High SES	413.20	4.86	21
	Low SES	412.17	4.27	89
Mainstream	High SES	416.75	4.71	25
	Low SES	414.41	5.00	42
Total	High SES	415.13	5.05	46
	Low SES	412.89	4.61	131

The two-way ANCOVA was conducted that included the covariate of gender. For school type, when controlling for gender, we failed to reject the null hypothesis as there was no significant interaction. The alternative hypothesis is accepted that states African American students in mainstream schools have higher test scores than African American students in majority schools. For SES type, when controlling for gender, we failed to reject the null hypothesis and we must accept the alternative hypothesis that states high SES students have higher test scores than low SES students.

CHAPTER 5: DISCUSSION

Most of the previous research regarding the achievement gap between African American and Caucasian students and mainstream or culturally familiar school attendance has evaluated

the academic performance of African American students during middle childhood and adolescence in a mainstream school and in independent schools where African American students are most of the school population. However, there is minimal research that evaluates the academic performance of African American students attending a mainstream or majority African American school during early childhood to determine if there are benefits to attending a school that is majority African American enrollment or African American enrollment in mainstream schools and if low or high SES has an effect on test score performance.

The Social Comparison Theory is effective in understanding African American students' performance in the early years of grade school. When considering this theory, it was hypothesized that African American students might perform better in a classroom where most of their classmates are of the same culture. However, the theory suggests various negative or positive effects can occur that might include self-image, balancing self-ability to someone with less ability or superior ability, and learning that is the interest of this paper (Oppenheimer, 2015). The Miao et al. (2018) study of academic success examined the connection between the students' view of personal academia, social adaption, and social comparison. Their research indicates a connection between social adaption, opinion comparison, and the mediation of academic self-concept based on the theory of social comparison (p 1.). These results are relevant to African American students' efforts to adapt and academically achieve in a social environment that is unfamiliar i.e. social cues that are quite culturally different from their African American Culture. While the results of this study did not show an indication of higher performance in culturally familiar schools the dept of a culturally enhanced classroom environment was not available for this study.

Summary and Discussion

Primary Analyses

The Iowa 7 and Act Aspire tests are the parametric state standard test batteries of achievement for first grade and third grade respectively used to measure achievement. The Iowa 7 was used as an outcome variable for RQ1 and RQ3 and the Act Aspire was used as an outcome variable for RQ2 and RQ4. The goal was to determine if there was a difference in African American students' test scores when they attended a school that is majority African American enrollment or a mainstream school in which African American enrollment is less than 25%. The study also examined whether SES moderated the possible relationship between school enrollment and academic achievement.

First, an analysis was conducted to determine if there was a significant difference in the test scores of African American students in Mainstream and Majority schools in first grade. The Iowa 7 standardized test score analysis for first-grade students showed a significant effect of school type with mainstream schools having higher test scores. An independent samples t-test was used to determine if there was a significant effect of the Iowa 7 test scores on African American first-grade students enrolled in mainstream schools where they are 25% or less of the student population. The results were in the opposite direction of the expected outcome as the analysis indicates a significant difference in test scores and we failed to reject the null hypothesis and we must accept the alternative hypothesis that states African American first grade students in

the mainstream have higher test scores than African American first grade students in majority schools.

And, in third-grade gender was also controlled for among African American students in an analysis performed to determine if there was a significant difference in test scores between the groups. The Act Aspire standardized test scores for third-grade students was conducted using a one-way between-subjects ANCOVA to compare the effect of third-grade students enrolled in culturally familiar or a mainstream school also showed a significant effect with higher test scores mainstream schools. It was determined that there was a difference in the test scores of majority and minority schools.   The results for third grade were also in the opposite direction of the expected outcome as the analysis indicated a significant difference in test scores and we failed to reject the null hypothesis and we must accept the alternative hypothesis that states African American third grade students in the mainstream have higher test scores than African American third grade students in majority schools.

The test scores of the two groups were analyzed: Group 1 consisted of African American students in first grade (Iowa 7 state standardized test) and third grade (Act Aspire state standardized test) enrolled in a school where they are 60% or more of the student population and Group 2 consisted of African American first and third-grade students enrolled in mainstream schools where they are less than 25% of the student population. A significant difference was found in the mean on both the Iowa 7 and Act Aspire test scores and between Groups 1 and 2 with mainstream students having higher test score results.

The results of a two-way ANOVA performed for first-grade Iowa 7 test scores indicated that while there was a significant difference in test scores between mainstream and majority schools there was no significant interaction between SES and majority African American or

mainstream school enrollment. And, for third grade Act Aspire test scores between mainstream and majority schools while there was a significant difference in test scores between mainstream and majority schools, we failed to reject the null as there was no significant interaction between SES and majority African American or mainstream school enrollment.

Discussion of Findings

In considering the results that were opposite of expected findings utilizing the Independent Samples t-test there was a significant difference with first-grade students' Iowa 7 test scores. However, research shows that cultural familiarity often promotes an increase in identity confidence and inspires academic achievement efforts (Arrington et al., 2003). In using the one-way between-subjects ANCOVA with the third grade Act Aspire test scores between mainstream and majority African American student enrollment. While the findings are consistent with research in older children, there is minimal research that looks at early grades.

In a case study by Kimmons (2012) that looks at effective schools for African American children, the author suggests that the students must be members of a community of practice, which normalizes achievement. Kimmons (2012) states that a focus on methods that improve school for African American children was Theresa Perry's (2010) *Theory of Practice for African American School Achievement* was the framework for the research. The author informs that there two main characteristics of the theory of practice that increase educational success for African American students. The researcher explains that: First minority students need to be members of a community of practice, which normalizes achievement. Second, the schools must offer a wide range of support that allows students to learn, practice, and receive reinforcement concerning the behaviors and practices that are necessary for one to be an achiever. The researcher conducted a case study of an elementary school that showed evidence of successfully educating African

American children through academic achievement test data. The author indicates that data was obtained through surveys, interviews, and documentation with SPSS used to examine quantitative data and interviews, and documentation was analyzed using a method of "cut and repeated" sorting to identify themes related to Perry's theory and framework. The author explains that the study was operationalized in an effort of guiding other schools serving African American children.

In utilizing the two-way factorial ANCOVA we failed to reject the null hypothesis as African American third grade students had slightly higher test scores when enrolled in a mainstream school. The two-way factorial ANOVA was conducted to compare the effect of low SES and non-low SES and the test scores of African American first grade students enrolled in a culturally familiar or mainstream school. The results indicated that while there was a significant difference in test scores between mainstream and majority schools there was no significant interaction between SES and majority African American or mainstream school enrollment. This is consistent with prior research regarding low SES and achievement of African American students in the classroom (Dotson et al., 2009; Kelly, 2010; Kim & Zambelina, 2015; Turner et al.,1992). Findings are not consistent with existing research as there was no significant correlation between SES test scores. A recent study that is discussed by Freedberg (2019) suggests that although racial and ethnic segregation in the nation's schools is strongly correlated with gaps in academic achievement, the income level of students' families in a school instead of an ethnic or racial makeup accounting for those gaps.

A two-way ANCOVA was conducted to compare the effect of low SES and non-low SES and the test scores of African American third grade students enrolled in a culturally familiar or mainstream school. While there was a difference in test scores between mainstream and majority

schools, there was no significant correlation between SES and majority African American or mainstream school enrollment. There was not a statistically significant correlation between SES and school type for Act Aspire test scores $F(1, 173) = 13.95$, p = 4.16, partial η2 = .037. However, a main effect for school type (mainstream or majority) of African American student enrollment in third grade was observed; (M= 416.75, SD= 4.71) and the SES (higher SES in mainstream school); F(1, 173) = 12.98, p = < .001 and SES F(1, 173) = 4.40, p =.037, partial η2 = .01. The results or higher SES and higher test scores found for the third-grade participants do reflect what studies have shown to improve the achievement gap. While there is research that shows positive effects for the integration of schools and poorer performance among poverty level students, research also shows minority students with high performance in districts where there is a majority of minority and low SES student population. Freedberg (2019) discusses researchers such as Reardon and colleagues whose study suggests that the more the school system is segregated, the larger the average achievement gap and that the gaps increase faster during the K-8 grades in segregated schools than in less segregated ones. The author further explains studies such as this study usually focus on averages on a national level and this method tends to overlook students and schools that are "beating the odds," or the fact that there are many African American and Hispanic students who perform far above average and are outstanding.

On the other hand, there are more than 20 states in the US that perform in the top 10% of state standards that are in a culturally familiar school with the school having over 60% of students eligible for free or reduced lunch. Anderson (2004) explains that while many schools struggle with minority achievement, it is a fact that schools nationwide have consistently demonstrated high achievement and scored at the top of their state test. The author suggests that effective methods of excellence include a mix of good teaching, an aligned curriculum, and high

expectations. Anderson (2004) states: Given the foundation, start in elementary school, and elementary school, and elementary school, and elementary schools make up the majority of the school systems, I have focused on elementary schools within this text.

Anderson (2004) shows 20 states in the US and Puerto Rico that have as much as 75% minority students performing in the top 10% of the state, but the authors highlight the city of Boston and Houston. The author explains that Houston is a district with 210,000 students and 300 schools. With only 10% of the student population White, 32% are African American, and 55% Hispanic, and over 75% of the students eligible for free or reduced lunch, the Texas Assessment of Academic skills appraised 66 of the schools as exemplary in performance. Anderson (2004) further explains that the performance improvements began with Houston involving the community, identifying the current performance, and categorizing goals in improving. And, the separated parts of the data were provided to the school and the community, and scores were posted in schools, and committees were organized around the problems of achievement. With priorities and resources changed to support the school's achievement goals and Houston designed a decentralized committee that reevaluated the budget and identified funds in the general operating budget to move to the schools to support achievement goals. The decentralized group includes community members, principles, and central office staff that supported a model that allocated student needs-based resources. The author explained that through shared decision making, nonTitle I funded programs were examined and decentralized according to what programs had few grains, resulting in $5,000,000 that were reallocated to schools.

Anderson (2004) explains that Houston also employed a system of "Clarifying Learning to Enhance Achievement Results (CLEAR)" to ensure understanding what should be taught and

assessed and that it was aligned with the district's curriculum. The CLEAR project also included providing laptops to teachers as well as teaching resources and access to the curriculum resources at all times. Each area's district superintendent began close monitoring of the schools with formal assessments by district supervisors quarterly. Frequent reporting and an external scoring system were used to provide district data throughout the year to improve teaching methods. The author explains that Boston Public Schools have also demonstrated consistent improvement through careful planning and a diligent focus on student achievement. Boston Public Schools demographics include 15% Caucasian students, 47% African American students, and 30% Hispanic students with 74% of the student population qualifying for free or reduced lunch. The author extrapolates that Boston began by focusing on rewriting the curriculum of its reform model. Boston then developed a citywide plan in which the district standards was framed based on the national standards. Benchmarks were identified to ensure continuous assessment and monitoring at all schools and state standards determined what students should demonstrate at the end of benchmark grades. The author explains that the Boston Public School System identified in explicit detail students' expected abilities with an emphasis on core reading and writing skills that should be accomplished at each grade level. Teachers created assessments continuously through the Boston Public Schools, and discussion across the school district ensured teachers' ability to identify scoring guides that supported their assessments with graduation portfolios a requirement to ensure students' products demonstrated mastery of the objective.

The overall test score data for cultural familiar school are N= 185, M= 148.25, S= 10.609 and mainstream schools N = 258, M = 161.22 , S = 11.487. Overall test score data for the for first grade on the IOWA **7** N = 443, M = 155.64, S= 13.324 and for third grade on the ACT Aspire N

= 431, *M*= 418.37, *S*= 6.276. Numerous possible explanations might account for why the lower test scores in schools that are majority African American students were found. Anderson (2004) discusses commonalities among school districts that are continually successful with higher populations of minority students with a larger percentage of the students eligible for free or reduced lunch while maintaining performance in the top 10% of state standards. The author extrapolates that research conducted by Douglas Reeves outlines the five characteristics that 90/90/90 schools share. Anderson (2004) suggests that according to Reeves, although 90% of the students are free or reduced lunch eligible, 90% of the students are an ethnic minority, and 90% are achieving in the top 10% of the district and state standards, these schools have common characteristics. The common characteristics of the schools include a focus on achievement, a clear curriculum, recurrent testing, and opportunities for students to show improvements, a focus on writing in all areas, and external scoring of student work.

Second, there is the stress or anxiety experienced by all children beginning to get acclimated to the structured environment of the classroom. With African American children there is the additional stress and anxiety of understanding and being understood in a different cultural environment. In an article that looks at the inadvertent cost of high-stakes testing Cizek, (2001) discusses critiques made regarding high-stakes testing. The author explains that Smith and Rottenberg (1991) published in *Educational Measurement: Issues and Practice* identified six effects or consequences of high-stakes testing that include 1) less time available for normal instruction; 2) abandonment of teaching material not covered by tests; 3) a press to methods of teaching and assessment (frequently lower-order) in the classroom that reflects those implied by tests; 4) limits on the test takers instructional chances; 5) objectionable effects on teacher morale;

and 6) burden of a cruel and unusual punishment on students—younger students in particular—because of the length, difficulty, small print, time constraints, and individualistic nature of tests.

Cizek, (2001) explains that practical complaints about high-stakes testing such as the frustration experienced by a great teacher causes extreme anxiety in some of the brightest students, tapers the curriculum, and causes anxiety in younger students to the point of nausea and tears. Turner, Beidel, Hughes, and Turner (1992) studied the occurrence of test anxiety 168 African American students in third thru sixth grade in a somewhat lower socioeconomic and urban school district. The researchers also examined the relationship of test anxiety to non-test-related fears, academic achievement, and self-concept. They suggest that the overall prevalence of test anxiety was 41% and that the academic achievement for test-anxious students was significantly lower than for the non-test-anxious students.

Turner et al. (1992) further explained that test-anxious students viewed themselves as less socially and cognitively competent, expressed fewer positive feelings of overall self-worth, and these students reported significantly more non-test-related fears. Turner et al. (1992) suggest that the data indicates test anxiety among African American school children in a lower socioeconomic and urban school district is not significantly different from African American students in school districts of dissimilar profiles.

A third explanation is likely that with African American children there is also the difference of a new culture that must be learned. As discussed earlier, Cherry (2019) suggests that a connection to learning is often easier when the student is predisposed to form an association with the school's culture. And, while mainstream African American students had higher scores in mainstream schools, with schools that are majority African American students, a

mismatch in culture may be prevalent if the teacher has minimal knowledge of the students' cultural background.

In their study to determine the effects of teacher-child racial/ethnic match within early grades (beginning with pre-kindergarten) and minority children adjustment during this time, Downer et al. (2016) suggest that there is some indication that teacher-child racial-ethnic match is linked to teachers' differential perceptions of the social and academic behaviors of children in their classrooms. Nearly 30 years ago, Alexander, Entwisle, and Thompson (1987) suggested that teachers from backgrounds that differ from those of their students will more often than not place increased importance on "misleading cues" (style of dress, language use) and perceive these as fundamental weaknesses than those teachers for which these cues are familiar is suggested by Downer et al. (2016) (p.28).

Children's confidence and comprehension increase when they feel they are culturally respected and understood by their teacher (Aronson & Laughter, 2016). Research suggests a link between culturally responsive teachers and cultural identity in the classroom may lead to positive educational outcomes for African American students (Aronson & Laughter, 2016). Aronson and Laughter (2016) suggest that while educators and researchers of education have made efforts to implement culturally relevant doctrines of education a review of culturally relevant teaching and curriculum in 2012 is needed to improve education outcomes for African American students. But the authors indicated that curriculum and standardized teaching have replaced or marginalized culturally relevant study in the classroom.

While the test score results of this study do not reflect the theory that cultural familiarity can improve test score performance and that low SES students in a culturally familiar school

would have higher test score performance, there are more than 20 low SES states in the US that perform in the top 10% of state standards.

Implication of Results

There was no significant correlation for first or third-grade test scores and SES status and test performance outcomes in minority and mainstream school status. However, a correlation effect for African American students in third grade with higher test scores in mainstream schools. These results are somewhat consistent with past research for older students (i.e. the third grade), but there has been little research regarding earlier grades such as first grade. This finding may imply two things regarding SES and younger African American students. One may be a cultural issue, in their study that looks at the racial match of minority students and teachers. Dower et al.'s (2016) focus on SES suggests that as racial and ethnic demographic trends increase diversity in language is important because of its constant association with family income. The authors indicate that income becomes a key influence when considering the impact of ethnicity and race on school readiness. The researchers further suggest that young racial/ethnic minority children are four times more likely than Caucasians to have lower SES.

A second implication may be the effect of taking a test that is not culturally familiar in dialect and vocabulary. In their study that examines the effects of standardized testing on minority students Green and Griffore (1980) discuss content factors that might result from bias. The authors suggest that the fundamental issue in a conversation of content bias is the degree that specific test items can be more germane to one group of children (i.e. middle SES) than to another such as low SES. The authors explain four prevalent issues that may affect cultural test bias (1) who writes the test items, (2) which specific groups are used to validate the test items, (3) the extent of difference in dialect between the lower SES student and the middle SES student,

and (4) the inclusion of some test items that are considered by many authorities to be difficult but immaterial to the purported objective of the testing (p. 241).

Green et al. (1980) suggest that customarily, standardized achievement test items have developed by white middle-class creators. The cultural differences lead to bias as a result of the differences in lower SES students' style of reasoning, thinking, and values and expectations (i.e. a high frequency of inappropriate vocabulary words in a reading test). The second issue of content bias is the items "tryout" that takes place during test standardization that is the process of observing a sample group to determine if the standardized achievement test items are inappropriate. The authors explain that Green researched to determine the effects of one tryout group over another group would lead to a biased achievement test. The authors explain that when a test contains a substantial number of items that would not have been selected if a different tryout group had been chosen, then most tests are biased for most children. But, by this standard, most standardized tests are more biased against minority children than against white middle-class children, which can cause minority children to answer significantly more inappropriate questions. The authors suggest that this issue should be addressed by the publishers.

Green et al. (1980) suggest that the third source of possible content invalidity is bias due to dialect or language differences between the majority and minority students. They explain that many researchers have studied test performance and dialect differences and determined language differences to be a cause of bias. They further explain that while this source of bias is evident in varying areas of academic performance, it primarily exists in early elementary reading and reading readiness exams. The researcher found that 46% of errors made by a sample group of African American fourth grade students was due to dialect differences, using the Gray's Oral Reading Test when the test was scored according to the regular key. Based on a single test that

purports to confirm that most minority students are less ready to begin formal reading instruction and the likelihood of being placed in a slow group.

Green et al. (1980) suggest the fourth bias is irrelevant items that result in invalidity and increased difficulty, particularly for lower SES children. The authors further suggest that two types of items create bias by presenting lower SES students with items of irrelevant difficulty in numerous reading comprehension test. One is items that can be answered without having read the passage, by utilizing "middle-class common knowledge". The second is those items that extend past the reading passage with a question that the student must both read the passage and must also understand the knowledge that is commonly only known among the middle-class students.

Discussion of Conclusion

This study has several important implications for research regarding American students' test performance in culturally familiar and mainstream schools during early grades. Specifically, the study advances the existing literature on the achievement gap between African American and Caucasian students in K-12 grades and the importance of cultural awareness in teaching (ACT Aspire, 2014; Arkansas Department of Education, n.d.; Aronson & Laughter, 2016; Bankston III & Caldas, 1997; Bowman et al., 2018; Burt et al., 2009; Carnoy & García, 2017; Cherry, 2019; Christ & Wang, 2008; Diamond & Huguley, 2014; Dotson et al., 2009; Downer et al., 2016; Kelly, 2010; Knoester & Au, 2017; Linden, 2007; Oakley et al., 2009; Pershey, 2011; Piazza, 2017; Rickford et al., 2015). Secondly, these findings expand on research related to the effects of a culturally familiar classroom environment and standardized test performance as it relates to minority students (Arkansas Department of Education, 2016; Berry & Candis, 2013; Christ & Wang, 2008; Green et al., 1980; Knoester & Au, 2017; Zhbanova et al., 2015). Research has

been quite limited and restrictive with sample populations regarding cultural familiarity effect for African American children in the classroom as several things must be considered in enhancing this classroom environment. Such as, standardized testing that is developed and "tried out" based on only one group, the challenge of minority children having to adapt and compete in an unfamiliar culture, and these students' unfamiliarity with mainstream instruction at risk of being categorized a less intelligent (Bowman et al., 2018; Green et al., 1980; Plucker et al., 1996; Rickford et al., 2015; Vance et al., 1979; Wasserberg, 2017).

The conceptual hypotheses of the study suggest that being in a classroom that brings cultural familiarity is beneficial to student's academic achievement as cultural familiarity can increase identity confidence and encourage educational achievement efforts (Arrington et al., 2003). The findings also indicate the importance of the developers of standardized tests understanding diversity and awareness among the teachers of minority students. And, while the results of the analyses of test scores of African American students did not result in higher test scores among students in schools that are majority African American students, previous research indicates that cultural familiarity in standardized test and the classroom has a positive effect on minority students (Cobb, 2014; Downer et al., 2016; & Green et al., 1980).

Limitations

There are some limitations of this study that should be considered when understanding the results. While the study did utilize an experimental research design; a causal relationship between test score performance in a culturally familiar school and test scores in a mainstream school could not be fully examined. Correlational research can measure an association between variables without control by the researcher of either variable (McCombes, 2019). Correlational research can also provide information that leads to more detailed research, and guide evidence-

based practices. Secondly, the study utilized participants' standardized test scores, which were gathered from archival data from the Arkansas Department of Education (ADE) Information Technology Center. This manner of obtaining data has some limitations that include: the degree of cultural familiarity in schools that were majority African American students as it applies to same-race teacher and professional staff. A recent study by Cherry (2019) explains that when the student is not naturally predisposed to a connection to the school environment in which the culture is significantly different from his or her own, learning can be more difficult. The author further explains that an association to learning is often easier when the student is predisposed to form the association to the school's culture.

A third limitation is the ability to identify school resource availability in each of the six schools. While all of the schools are in the same school districts there is a marked SES difference in the school locations. Strict access to participants during testing adds to limitations that are a result of research policies and procedures regarding participants in public schools and research regulation based on age. So, there is minimal opportunity to study differences in classroom environments when standardized tests are being administered or differences in resources that may be available among the schools. Standardized testing is often considered high-stakes testing because the results indicate definite negative or positive categories for the test taker. A high-stakes test can cause significant frustration or anxiety to both teachers and students (Cizek, 2001).

Future research should include the effect of cultural association on differences in classroom environments and the degree to which cultural association is included in the school and classroom environments when the same standardized tests are being administered throughout a district. The level of school resources should be evaluated to identify those schools that are

being administered the same standardized test but have significantly different or less and how this difference in resources could affect cognition and school performance. Garcia and Weiss (2017) evaluated methods of improving the performance gap with a focus on low-SES among kindergarten students suggesting that extensive unmet needs and untapped talents among these children. One of the major findings of the researchers in 2010 was an SES-based gap in reading and math among kindergartners that was unchanged from the generation of 1998 and 2010. They explain that the only unadjusted cognitive skills between students in high SES and low SES exceptions were improvements in reading skills. that increased in the top quintile. The authors further explain that gap in reading skills increased by about a 10th of a standard deviation. As discussed earlier increased focus on educational programs during early grades can assist in closing the achievement gap. Gains accomplished in earlier grades can be consistent throughout academic years when the school district can provide things like comprehensive academic, and meaningful engagement of parents and community (cultural) (Garcia &Weiss, 2017).

Recommendations for Future Research

Future research is needed to expand the scope of a causal relationship between test score performance in a culturally familiar school and test scores in a mainstream school with a focus on the level of culture and community involvement. As previously mentioned, this study's results were based on test scores of first and third-grade students. Future research should examine African American students' performance within culturally familiar schools and in mainstream schools from pre-K-3rd grade with a focus on level cultural association within each school type. Further research is needed to understand what methods of teaching motivates African American children to want to learn. As discussed earlier, African American students' academic and social gains are initially perceived more by teachers of the same race or ethnicity.

With that in mind, researchers should examine the effects of a teaching and administrative staff that is diverse with instruction by both same-race teachers and teachers of another race.

Future researchers can compare school districts in the US that have successfully moved to significantly improve school performance among low SES and minority students. An example is education from a "whole-child" method that is also known as a holistic approach (Garcia & Weiss, 2017). Additional research on this subject matter may also be focused on additional factors such as school and classroom resources during testing and standardized test development. Examples of resources include quality of structure, classroom size, and quality of instruction provided by the school. As mentioned earlier, standardized test items might be developed with middle-class majority culture as a test group. Kim and Zambelina (2015) suggest that standardized tests aim to measure intelligence and general knowledge, however, they normed based on the knowledge and values of the majority groups, which results in bias against minority groups, including gender, race community status, and people who speak a different language, socioeconomic status, and culture. The authors further explain that while alternative assessments are viewed as more culturally fair, these are still not completely fair. The researcher suggests that creativity is as significant as intelligence, and creativity assessments normed on individual cultures. Future research should evaluate the effects of including creativity assessments to standard testing and alternative testing to create an assurance of fairness and lessen concerns of bias.

Conclusion

Most research has evaluated the academic performance of African American students during middle childhood and adolescence in a mainstream independent school and in independent schools where African American students are the majority of the school population

(Arrington et al., 2003; Bankston III & Caldas,1997; Pershey, 2011). However, there is minimal research that evaluates the academic performance of African American students in public schools during early childhood to determine if there are benefits in attending a school that has African American enrollment of 60% or greater. These studies and others provided a foundation for the current research, which served to expand the research focusing on how mainstream and cultural familiarity can influence the education experience for African American students during the early grades. The nature of this research allowed for an increase in knowledge of how African American children's educational experience might require a cultural understanding and methods that differ from traditional approaches to instruction.

While the results did reveal a significant difference in the test scores for Majority enrollment of African American students in first and third grade and the test scores for Mainstream enrollment of African American students in first and third grade. The test scores revealed better performance in mainstream schools by African American students. There was also a significant difference with High SES in mainstream schools having a higher test score performance. This suggests that the school environment and community location play a role in student classroom achievement and test scores.

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