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K-8 Standardized Test Scores: How a School's Racial Makeup Impacts Scores

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Abstract
The purpose of this study was to conduct a literature review on academic standardized test scores and the impact the racial makeup of the school district has on scores. The literature review indicated that students in American schools with predominate populations of African American children have consistently scored lower on standardized tests than those in schools with predominate populations of Caucasian children.

The investigators then gathered and analyzed data from two Southwest Georgia schools. The school districts are located within minutes of each other but consist of very different racial makeup. School A is a predominately Caucasian school district and School B a predominately African American school. The data gathered consisted of Georgia standardized test scores in 5 different subjects (Reading, English/Language Arts, Math, Science, and Social Studies) for 3 grades (3, 5, and 8). The results indicated that School A scored higher on all subjects and in all grades, supporting the findings from the literature review. These findings indicate that more research and resources need to go into decreasing this disparity in test scores and overall success rates for predominately African American school districts.

Keywords
Standardized test scores, Racial differences, K-8 Students

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BACKGROUND

It is widely believed that the racial makeup of a school has a direct impact on student's standardized test scores and ultimately their academic success. This study involved an extensive literature review to determine if this belief is supported by previous research. The overall theme found in the literature, as can be seen in this section, supported the belief that African American students attending predominately African American schools produced lower standardized test scores than students attending predominately Caucasian schools.

No Child Left Behind (NCLB), is a congressional Act that supports standards based education and mandates states administer standardized assessments in order to receive federal school funding. Therefore, the foundation of NCLB is state standardized tests. Since its inception in 2001, every school in America has had one primary mission---meet Adequate Yearly Progress (AYP). As such, state-adopted standardized tests are considered high-stakes assessment tools. (Starr, 2014).

Standardized testing plays a decisive role for distributing a plethora of benefits in the educational arena. Standardized tests are used throughout school systems in the United States as a means of accountability for the academic performances of K-12 students. These tests are also used to judge comparative successes and competitiveness in various ways, such as college admission, scholarships, training programs, educational reforms, and placement in specialized programs within K-12 school systems (Connor & Vargyas, 2013).

However, there is an ongoing debate about the purpose and use of standardized testing among stakeholders, teachers, parents, and students. Those who oppose the use of standardized tests claim theses tests are too simple or too biased and do not measure adequately all components of students' academic achievements (Walberg, 2011). These critics argue further that successful teaching will be reduced to a single, narrow measure to provide justifications for making public education private, where due process, labor agreements and unions will not become barriers to the sanctions of management (Henry, 2007). In addition, critics proclaim that standardized tests are fueled with racial and gender biases, girded with socioeconomic issues. In many standardized tests there are substantial scoring differentials among various population groups. Differentials based on race and national origins are well documented and have been the subject of litigation and scholarly legal attention (Connor & Vargyas, 2013). However, those who favor use of standardized tests assert that standardized tests are generally good at measuring students' knowledge, skills, and understandings because they are objective, fair, efficient, and comprehensive (Walberg, 2011).

Another component of the debate questioned the frequency and number of

standardized tests needed to improve students' achievement. And, have standardized tests yielded data-driven decisions for the schools-improvement process? For the past decade, the use of standardized testing has doubled in public schools. In 2005, 11 million exams were added in elementary and middle schools; by 2008, 50 million tests would have been added for K-12 schools. When IQ tests, screening tests, readiness tests, and college-entrance exams are included, 100 million tests would factor into the equation (Henry, 2007). Other researchers posited that test-based accountability remains problematic with regards to the nation'scapacity for global competitiveness.In a report issued in 2010, only six percent of U.S. students were performing at the advanced level in mathematics, a percentage lower than those attained by 30 other countries. In 2011, just 32 percent of 8th graders in the United States were proficient in mathematics, placing the U.S. 32nd when ranked among the participating international jurisdictions (Hanushek, Peterson & Woessmann, 2012).

LITERATURE REVIEW

In the field of education, the "achievement gap" is a disparity in academic performance between groups of students. It is evident and measurable in students' grades, standardized-test scores, course selection, dropout rates, and college-completion rates. The achievement gap is most often used to describe the troubling academic performance differences between African-American and Hispanic students and their white peers; socioeconomics factors between and among these groups are also included in the equation (*Education Week* Editorial Projects, 2011; American Psychological Association {APA} Presidential Task Force Report, 2012; Tavernise, 2012).

For several years, researchers have documented persistent gaps in the performance of different groups on the SAT and other standardized tests. Black and Hispanic children score lower than whites on vocabulary, reading and math tests, as well as on tests such as the SAT. This gap appears before kindergarten and persists into adulthood (Jencks & Phillips, 1998; Fryer & Levitt, 2004; *Education Week* Editorial Projects, 2011; APA Presidential Task Force Report, 2012). In addition, despite some academic performance improvements for Black and Hispanic children, disparities continue.

Recently, The National Assessment of Educational Progress (NAEP) results have shown that, over time, Black and Hispanic students have improved their performances in reading and mathematics. In fact, U.S. students in elementary school did seem to be performing considerably better than they were a couple of decades ago. Most notably, the performance of 4th-grade students on math tests rose steeply between the mid-1990s and 2011(Hanushek, Peterson & Woessmann, 2012). But a significant fissure continues to separate Black and

Hispanic students from their white peers. For example, special analyses by the National Center for Education Statistics in 2009 and 2011 showed that Black and Hispanic students lagged behind their white peers by an average of more than 20 test-score points on the NAEP math and reading assessments at 4th and 8th grades, a difference of about two grade levels. These gaps persisted even though the score differentials between black and white students narrowed between 1992 and 2007 in 4th grade math and reading and 8th grade math (NCES, 2009, 2011 as cited by *Education Week* Editorial Projects, 2011).

Several researchers have investigated why this disparity exists. Achievement disparities are most often attributed to socioeconomic factors. Other more subtle factors that can contribute to achievement gaps are peer pressure, student tracking, negative stereotyping, and test bias. For the purpose of this study, the investigators have focused on the relationship between schools' racial/ethnic compositions and achievement discrepancies.

The Supreme Court's landmark decision (*Brown v Board of Education, 1954)* was the first significant confrontation of the racial achievement gap. In that decision, much of the achievement disparities (and future research endeavors) between Black and White students were attributed to segregated schooling. Efforts toward school desegregation that followed *Brown* yielded performance outcomes of ethnic minority children who previously attended racially segregated schools. Achievement gains (test scores) for Black youth were most evident in the early elementary grades, suggesting that attending desegregated schools was beneficial. However, school desegregation research declined dramatically by the 1990s, along with court-ordered desegregation mandates (APA Presidential Task Force Report, 2012).

There were numerous examples in the literature that documented positive achievement gains for ethnic minority youth in racially diverse schools. The research of Vigdor and Ludwig (2008, as cited by APA Presidential Task Force Report, 2012) revealed that the test score gap was almost 50% larger in states with the highest dissimilarity index (greater segregation) compared to those with the lowest levels. In addition, Ready and Silander (2011, as cited by APA Presidential Task Force Report, 2012) examined early achievement as a function of the racial composition of schools in a subsample from the Early Childhood Longitudinal Study (ECLS-K). The multi-ethnic subsample included 9,000 children attending almost 700 schools nationwide, and the analysis covered the first four data waves, including when children were in kindergarten and first grade. After controlling for background characteristics, including SES, and correlated school factors, the authors found that Black and Latino children were gaining fewer literacy skills and fewer math skills when they attended high minority enrollment schools (greater than 70% minority). In other words, these young children were learning at a lower rate than counterparts in more racially

diverse schools. The authors concluded that diversity still matters. (APA Presidential Task Force Report, 2012).

However, K-12 schools are more racially segregated now than they have been in the last 30 years (Orfield & Lee, 2007 as cited by APA Presidential Task Force Report, 2012). Despite the growing racial/ethnic diversity of the K-12 population, the typical White student attends school where almost 80% of the students are White, and the typical African American or Latino student attends school where at least two-thirds of the students are from their own racial/ethnic group (Orfield & Lee, 2007 as cited by APA Presidential Task Force Report, 2012). Moreover, the majority of highly segregated ethnic minority schools are located in urban areas of highly-concentrated poverty, putting them at a greater risk for poor academic outcomes. High minority, low-income schools have fewer resources, fewer credentialed teachers, higher student-teacher ratios, and larger class sizes, are a few of the factors that contribute to the achievement gap. By some estimations, the increases in high minority schools over the past 30 years accounts for as much as a 60% increase in the Black-White mathematics achievement gap (Neill, 2009; Berends & Peñaloza, 2008 as cited by APA Presidential Task Force Report, 2012).

Professor Gloria Ladson-Billings {the 2005–2006 President of AERA, pedagogical theorist and teacher educator faculty of the University of Wisconsin–Madison School of Education, and researcher at the Wisconsin Center for Education}uses the term “education debt” to explain the lack of adequate educational opportunity for African-American students accumulating since slavery and segregation. She thinks that focusing on this inequality is far more meaningful than the commonly used “achievement gap,” which only refers to unequal test results. The debt includes the school-based debt in resources. This means holding government accountable for providing adequate and equitable resources for all children. As long as such a system’s debt remains in place, the pipeline to college and good jobs for low-income and minority-group youths will remain narrow, but the pipelines to prison and unemployment will remain wide (Neill, 2009).

PURPOSE

The purpose of this study was to conduct a literature review on academic standardized test scores and the impact the racial makeup of the school district has on overall scores. The investigators then looked at 2 neighboring schools in Southwest Georgia that have very different racial makeup to determine if the results from the literature review were supported by the CRCT (standardized tests in GA) results from these 2 schools. The researchers gathered data on CRCT scores for grades 3, 5, and 8 at two Southwest Georgia school districts located within 10miles of each other. The two schools are in neighboring counties with very different racial makeups of the student population. School A (predominately African American) has a student ethnic makeup of 89% African American, 8% Caucasian, and 3% other. School B (predominately Caucasian) has a student ethnic makeup of 72% Caucasian, 19& African American, and 9% other (www.lee.k12.ga.us.). We collected 2013 CRCT scores from grades 3, 5, and 8 from these two school districts to determine if the student racial makeup had an impact on CRCT scores in the following subjects; Reading, English/Language Arts, Math, Science, and Social Studies.

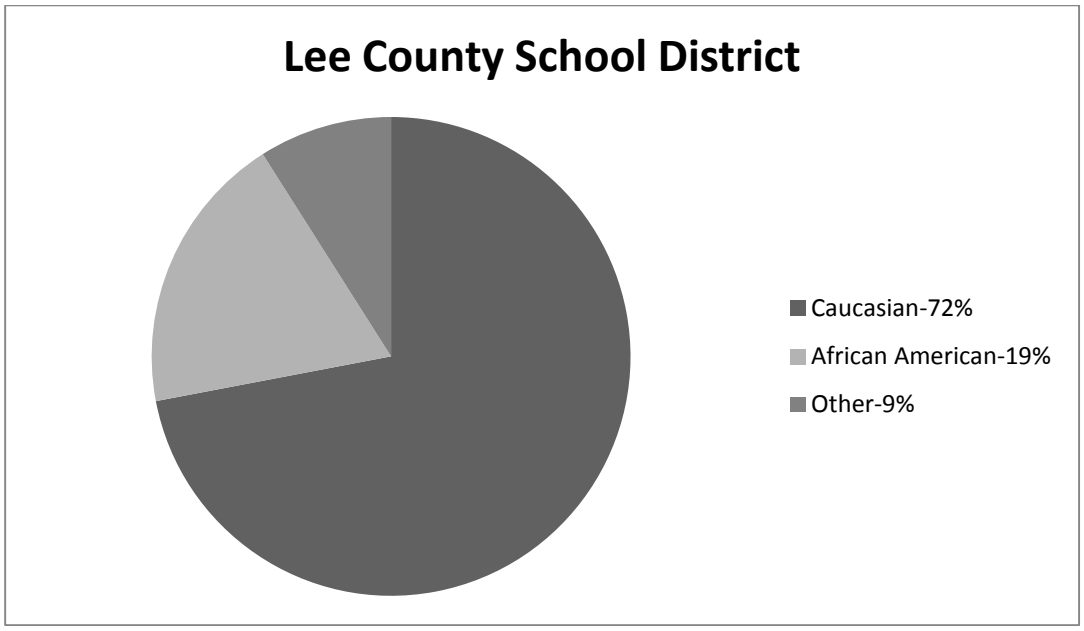
METHODS

Participants

There were no specific/identified participants tested or observed in this study. The overall CRCT scores for 3 grades (grades 3, 5, and 8) from two Southwest Georgia school districts were collected and analyzed to gather data for this study. The data was obtained from public information available from the Georgia Department of Education. Therefore, IRB permission was not needed to complete this study. All CRCT scores were collected from the Georgia Department of Education website, (Georgia Department of Education [GADOE], 2014).

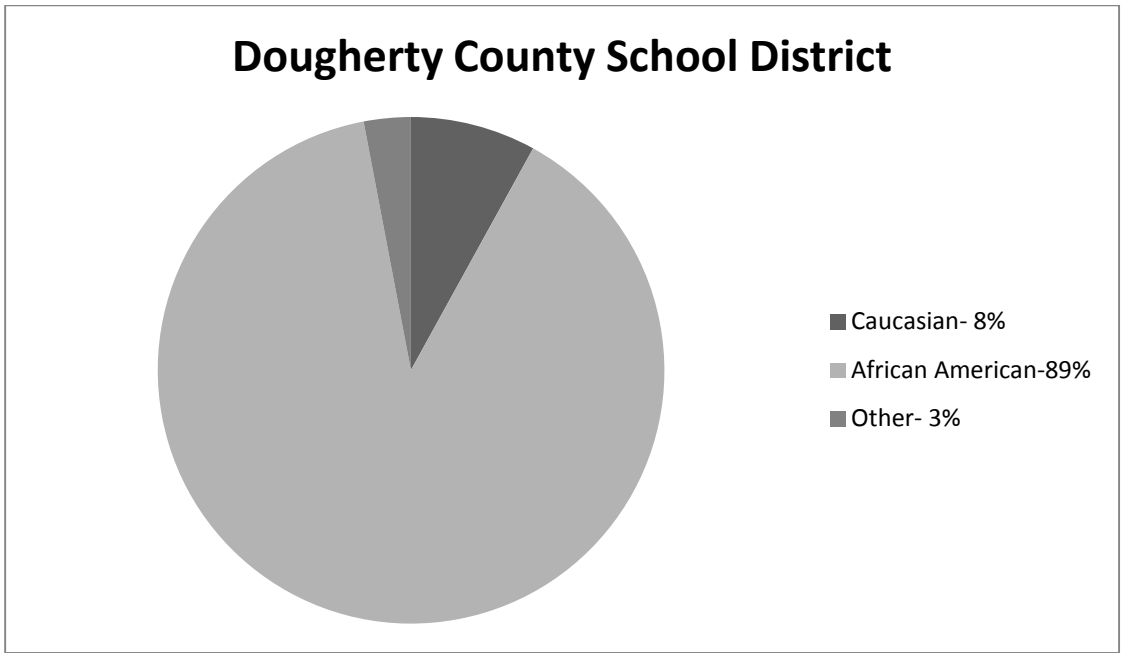
School A- Predominately Caucasian

The Lee County School System is located in Leesburg, GA. The system governs 10 schools (1 high school, 1 9th grade, 2 middle schools, 3 elementary schools, 1 primary school, 1 Transitional Learning Center and 1 Pre-K school) (Lee County Schools, 2014). For the 2012-2013 school year, 6,324 students were enrolled on the Lee County School System. Of these, 41.41% were eligible for free or reduced meals (GADOE, 2014). Of these, 72% of the students were Caucasian, 19% were African American, and 9 % other. (Lee County Schools, 2014).



School B- Predominately African American

The Dougherty County School System is located in Albany, GA. The system is accredited by the Southern Association of Colleges and Schools (SACS) and the Georgia Accrediting Commission (GAC). It administrates 23 schools (14 elementary, 5 middle and 4 high schools) 5 learning centers - Pre-Kindergarten, Albany Early College, Gifted Education L.I.F.E. Lab, South Georgia Regional Achievement Center and Oak Tree Psychoeducational Center. For the 2012-2013 school year, 15,676 students were enrolled in the Dougherty County School System. Of these, 89% were African-American, 8% Caucasian and 3% were other; 82% of students are eligible for free or reduced meals. (Dougherty County Schools, 2014).



MATERIALS

The only materials needed for this study were internet access to compile the CRCT scores and Excel statistical tools to analyze the scores collected. All data was collected from the Georgia Department of Education (public domain) and inputted into Excel in order to observe and analyze.

The Criterion Referenced Test (CRCT) is a state-required assessment, as amended by the A+ Education Reform Act of 2000. Implemented in spring 2000, the CRCT is designed to measure how well students acquire the skills and knowledge described in the state mandated content standards (Georgia Performance Standards, GPS and Common Core Standards, CCGPS) in reading, English/language arts, mathematics, science and social studies. Specifically, all students in grades one through eight take the CRCT in the content areas of reading, English/language arts, and mathematics. Students in grades three through eight are also assessed in science and social studies. The assessments yield information on academic achievement at the student, class, school, system, and state levels. This information is used to diagnose individual student strengths and weaknesses as related to the instruction of the state standards, and to gauge the quality of education throughout Georgia GADOE, 2014).

PROCEDURES

CRCT scores from 2013 were collected for both school districts (School A and School B) for grades 3, 5, and 8. CRCT scores are available to the public from the Georgia Department of Education Website (http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/CRCT-Statewide-Scores.aspx). We recorded each grade and each district's scores in reading, English/language arts, math, science, and social studies. The following scores were recorded; mean score, percent that did not meet the standard, percent that meets the standard, the percent that exceeded the standard, and the combined percent that met/exceeded the standard.

Data Analysis

CRCT mean scores were collected for 5 subjects (Reading, English/Language Arts, Math, Science, and Social Studies) in 3 grades (grades 3, 5, and 8) in both school districts. Each grade was compared on each subject area to determine if there was a significant difference between the schools mean CRCT scores.

RESULTS

The Georgia CRCT scores are scored for each subject area and broken down into 3 categories; did not meet the standard (a score below 800), meets the standard (a score between 800 and 849), and exceeds the standard (a score of 850 or more). As can be seen by tables I-III the scores are reported in 4 categories. A 4th category is included that combines the percentage of students that meet and exceed the standards, which gives a total percentage of those that "passed".

1. Did not meet standards
2. Meet standards
3. Exceeds standards
4. Meet/exceed standards

Table I- 3rd Grade CRCT Scores

				Dougherty County			
	N	Score	SD	% not meet	% meet	% exceed	% met/exceed
Reading	1,194	828.98	30.49	15.8	56.2	28	84.2
Eng/LA	1,194	825.07	29.65	19.3	59.2	21.4	80.7
Math	1,197	825.55	43.42	27	45.3	27.7	73
Science	1,213	812.92	33.75	33.7	51.1	15.2	66.3
SocialSt	1,213	817.96	28.97	27	58.5	14.5	73

				Lee County			
	N	Score	SD	% not met	% meet	% exceed	% met/exceed
Reading	452	852.33	30.06	3.3	37.2	59.5	96.7
Eng/LA	452	841.64	46.9	5.5	50.4	44	94.5
Math	452	854.62	27.55	10.8	32.7	56.4	89.2
Science	455	838.73	35.84	14.1	44.4	41.5	85.9
SocialSt	455	834.25	32.28	12.1	56.7	31.2	87.9

Table II- 5th Grade CRCT Scores

				Dougherty County			
	N	Score	SD	% not meet	%meet	% exceed	% met/exceed
Reading	1,132	825.34	25.7	14	67.3	18.6	86
Eng/LA	1,130	832.43	26.09	8.5	66.5	25	91.5
Math	1,127	831.68	30.61	12.5	58	29.5	87.5
Science	1,155	823.55	39.27	24.5	50.6	24.8	75.5
Social St	1,155	816.81	26.41	25.7	62.9	11.4	74.3

				Lee County			
	N	Score	SD	% not meet	% meet	% exceed	% met/exceed
Reading	449	842.04	25.47	3.8	58.8	37.4	96.2
Eng/LA	446	845.12	28.95	3.6	54.5	41.9	96.4
Math	443	858.36	38.66	2.7	37.7	59.6	97.3
Science	461	839.7	46.25	16.7	43	40.3	83.3
SocialSt	458	830.7	28.64	14.8	58.1	27.1	85.2

Table III- 8th Grade CRCT Scores

				Dougherty	County		
	N	Score	SD	% not meet	% meet	% exceed	% met/exceed
Reading	1,078	833.36	23.88	4.9	64.8	30.2	95.1
Eng/LA	1,077	835.05	26.63	6.9	62.9	30.3	93.1
Math	1,079	822.05	33.1	21.1	61.5	17.3	78.9
Science	1,099	813.21	29.3	33.6	55.1	11.3	66.4
SocialSt	1,096	817.26	36.07	32.2	48	19.8	67.8
				Lee	County		
	N	Score	SD	% not meet	% meet	% exceed	% met/exceed
Reading	480	843.6	23.45	1	51.9	47.1	99
Eng/LA	479	844.58	27.42	3.8	52.4	43.8	96.2
Math	476	828.61	35.69	15.3	59.9	24.8	84.7
Science	487	823.73	30.03	18.5	63.2	18.3	81.5
SocialSt	485	835.1	34.86	12.8	51.5	35.7	87.2

Based on the data compiled for these 2 schools, the results indicated that School A (predominately Caucasian) had a higher average score for all grades analyzed (3, 5, and 8) and on all subjects (reading, English/language arts, math, science, and social studies than School B (predominately African American). For example, looking at the mean scores and the percentage of students that didn't meet the standard in Science; School A had an average score of 838.73 and 14.1% didn't meet the standard in grade 3. Whereas for the same grade and subject, School B's average score was 812.92 and 33.7% did not meet the standard. When you look at the overall average for the state of Georgia (831.11 and 21.6% did meet the standard), it supports the research that African American students tend to score lower on standardized test scores. The same overall results were seen in grade 5 for Science (School A; 839.7, 16.7% did not meet the standard; School B; 823.55 and 24.5% did not meet the standard). Again, the same results were seen in Science in grade 8 (School A; 823.73, 18.5% did not meet the standard; School B, 813.21, 33.6% did not meet the standard). The results complied for these 2 schools and shown in Tables I, II, and III support the literature review conducted for this study. The data in these tables indicate that predominately African American schools tend to score lower on state standardized test scores. For further comparison, we have included the CRCT average scores for the entire state of Georgia in Table 4.

Table IV - Georgia Average CRCT Scores

		3rd	**Grade**	**Georgia**	**Average**		
	N	Score	SD	% not meet	% meet	% exceed	% met/exceed
Reading	124,829	846.5	33.43	7.9	40.7	51.4	92.1
Eng/LA	125,090	835.67	31.54	11.9	53.3	34.8	88.1
Math	125,495	841.51	52.05	21.5	34.8	43.7	78.5
Science	127,921	831.11	39.7	21.6	43.6	34.7	78.4
Social St	127,501	832.52	34.53	16.6	52.6	30.8	83.4

		5th	Grade	Georgia	Average		
	N	Score	SD	% not meet	% meet	% exceed	% met/exceed
Reading	123,897	837.56	27.59	7.1	57.5	35.4	92.9
Eng/LA	123,718	841.61	28.98	5.8	54.2	40	94.2
Math	122,886	845.45	40.24	10.5	42.5	47	89.5
Science	127,889	835.95	46.08	20.4	40.4	39.1	79.6
Social St	127,499	827.04	31.93	19.5	55.8	24.7	80.5

		8th	Grade	Georgia	Average		
	N	Score	SD	% not meet	% meet	% exceed	% met/exceed
Reading	123,330	842.08	26.16	3.2	51.6	45.2	96.8
Eng/LA	123,252	843.02	30.26	5.7	52.3	42.1	94.3
Math	122,487	833.8	40.45	17	51.6	31.4	83
Science	126,094	822.66	34.53	26	52	27	74
Social St	125,666	830.29	39.96	22.1	44.4	33.5	77.9

For additional information on interpreting the scores for the Georgia CRCT, please go to the following website to access this information. http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Documents/CRCT%20Score%20Interpretation%20Guide%202013.pdf

DISCUSSION

The results show a significant difference in CRCT scores in all subjects and all grades between these two ethnically different school districts. Previous research indicates that students in predominately African American schools consistently score lower on standardized tests. This study backed up our findings from the extensive literature review we conducted that indicated students in predominately African American school districts had lower test scores and academic achievement. This research was conducted at 2 schools located in the same urban area, showing that schools with different racial makeup but from the same demographic region have a significantly different score on academic standardized tests. In addition, both schools were compared to the overall average of scores for Georgia in grades 3,5, and 8. These comparisons showed that School B (predominately African American) consistently scored lower than not only school A, but also the overall average for the stage of Georgia.

These results strongly support previous research that the investigators found while conducting a literature review. The question that stems from these findings and the results of the literature search, are what can be done to eliminate this racial disparity that is seen in academic standardized test scores. This is not the first time this question has been presented but it does need to be addressed at not only a local level, but state and national as well. The literature review from this study along with the results from the CRCT scores indicate a strong need for future research along with resources to address this disparity and give all school-age kids the same education and tools to succeed both academically and personally.

IMPLICATIONS FOR PROFESSION

The findings from this study support previous research and indicate a need for more structure in academics at predominately African American public schools and racially diverse public schools. It is widely known that students from lower socioeconomic backgrounds do not perform as well on standardized testing and therefore have a higher academic dropout/failure rate. In order to combat these academic disparities, educational professionals need to understand the why? And implement supplemental educational programming to assist predominately African American School Systems in securing additional resources in order to increase their standardized test scores.

LIMITATIONS

These results are specific to the two school districts in Southwest Georgia. One school district is predominately African American and one predominately Caucasian. However, different states have different school curriculum and testing and therefore these results are specific to these school districts in this one area of the country.

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