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AN ANALYSIS OF RACE AND GENDER IN SELECT CHOICE PROGRAMS
WITHIN BREVARD COUNTY PUBLIC SCHOOLS

by

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B. S. Northwestern State University (Louisiana), 1998
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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Education
in the School of Teaching, Learning, and Leadership
in the College of Education and Human Performance
at the University of Central Florida
Orlando, Florida

Summer Term
2014

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ABSTRACT

The focus of this research was to compare the student membership population proportions, by race and gender, of Brevard County Public School students with the actual participation in select choice programs offered to Brevard County public high school students. This study was based on an analysis of the scores of 1,152 eighth-grade students who received a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) mathematics and a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) reading and their participation in high school advanced academic courses. The advanced academic choice programs selected for this study consisted of the four Florida articulated accelerated college credit seeking programs: Advanced Placement (AP), Dual-Enrollment (DE), International Baccalaureate® (IB) Diploma Programme, and the Cambridge Advanced International Certificate of Education (AICE). The proportion comparison consisted of student membership data and eighth-grade FCAT scores from 2007-2008 and the student membership data and high school course load data from the 2008-2009, 2009-2010, 2010-2011, and 2011-2012 academic school years.

Chi-square goodness-of-fit tests were run to analyze the proportions by race and gender of the sample groups and student membership populations. For each respective year involved in this study, there was a statistically significant difference in the race and gender proportions of the samples and the student membership populations.

To my daughters, Charlèsynquette, Cheyenetrise, and Keliyah.
You are the reason I continue to push forward. You are gifted young women and
continue to make intelligent decisions. Together, all things are possible.

ACKNOWLEDGMENTS

“[I am] not saying [I am going to] change the world, but I guarantee that I will spark the brain that will change the world”. ~ Tupac Amaru Shakur

I cannot start the acknowledgement process without first acknowledging the internal motivation I had to stay committed to my goals and believing that my effort and performance would reap real value for me, my family, and the students and community I serve. To state that it is impossible to finish a doctoral program without a support system is improbable; however for me, I know I could not have done it alone. I am eternally grateful to my network of family and friends that encouraged me to stay focused and provided support in many ways throughout the process.

~ To my father, Sam M. Doaks Jr., who instilled confidence in me from childhood; you always knew I could do this; it just took time for me to believe in myself and my abilities.

~ To my mother, Dorothy Lee Doaks, your spiritual presence and cherished memories gave me serenity in moments of doubt. I would not be as strong of a woman had it not been for the role model I found in you.

~ To my eldest daughter, Charlës ynquette Miché-Odeavon Duncan, for continuing to break barriers and stereotypes in your academic career. You are a product of our hard work.

~ To my second-born daughter, Cheyeniétrise Moneé-Olivia Duncan, for your patience and assistance in our home during this doctoral process. I know you will take this experience and learn from it and make it applicable to your life’s journey.

~ To my youngest daughter, Keliyah Ayanna Brothers, for not quite understanding this process but always being cooperative when adjustments in our lives were made.

~To my siblings, Craig, Sherry, Celeste, Brian Keith, Brian Allen, and Sam, “everything I am not made me everything I am” (Johnson, 2009); birth order does matter and I thank you for being you.

~To my employer, for implementing the four-day work week in 2007, allowing me to dedicate more hours toward this doctoral process as well as allowing me to be away from work when needed to focus on my academics.

~ To my good friend, Michael Henry Ford Jr., for coaching me through the stressful times. I kept a text message from you, “I know it is tough but you were meant to succeed; how can anything or anyone stop what is destined to happen”? Thank you for lending your ear to listen and your shoulder to cry on.

~ To my two dear friends and fellow cohort mates, Lucy Haddock and Melanie May, you will never know how much your presence was needed in my life during this process. You helped me to learn so much about the field of education, to respect differences, to always smile, and to never give up.

~ To my mentors, Dr. Charlie Roberts and Dr. Ethel S. Newman, for influencing my choice in pursuing this degree and sharing stories of endurance. Thank you for your consistent and sincere support.

~ To my amazing dissertation chair Dr. Barbara Murray, for your expertise and guidance through this entire process. You are definitely the educator who “tapped me on my shoulder” and I thank you for everything and appreciate you immensely.

~ To my dissertation committee members, Dr. Kenneth Murray, Dr. Lee Baldwin, and Dr. Beth Thedy, for your invaluable recommendations, feedback, and support.

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CHAPTER 1 THE PROBLEM AND ITS CLARIFYING COMPONENTS

Introduction

School choice in public schools is not a new concept. In 1778, Adam Smith proposed that parents were in the best position to make decisions on their child[ren]’s education, and that the state government should give parents the funding to employ suitable teaching staff (Public Broadcasting Service, n.d., Master timeline, para. 1). Additionally, Thomas Paine “proposed in *Rights of Man*, published in 1791, that [school choice should] be given to the working poor, a class which struggled to pay school fees” (Burkard, 2013, para. 1). In 1785, Thomas Jefferson addressed a universal system of education in his *Notes on the State of Virginia*. Jefferson stated that knowledge needed to be “diffuse[d] more generally through the mass of the people” (The Founders’ Constitution, n.d., section 1784, para. 1). Jefferson affirmed that these high performing poor male students “whose parents [were] too poor to give them further education” should be sent to institutes of learning, in efforts to prepare them for productive citizenry (The Founders’ Constitution, n.d., section 1784, para. 1). Although the concept of a universal education system was not school choice, it was instrumental in laying the foundation for concepts such as “separate but equal” regarding public education and public school choice. Jefferson’s contribution to the school choice concept via universal education, as well as Smith’s and Paine’s idea of school choice in public schools, would not manifest until centuries later.

Milton Friedman can be credited with being the modern father of school choice. In a 1955 article about the role of government in education, Friedman proposed supplementing publicly operated schools with privately run but publicly funded schools (Ross & Zeckhauser, 1970). Friedman's theoretical framework stemmed from Adam Smith's Free Market Equilibrium Theory. Investopedia defined a free market as a market economy based on supply and demand with little or no government control. In simple terms, a free market is a summary term for an array of exchanges that take place in society. Each exchange is a voluntary agreement between two parties who trade in the form of goods and services. In reality, this is the extent to which a free market exists since there will always be government intervention in the form of taxes, price controls and restrictions that prevent new competitors from entering a market. (Investopedia, n.d., Free market explained section, para. 1)

As this relates to school choice, schools are the producers of education and parents are the decision-makers in the consumption of education for their children. The concept behind the dichotomy of students being the supply or the demand, or the school being the supply or demand, is the foundation of the competition factor of the school choice theory. Proponents of school choice suggested that the system in place created a government-controlled monopoly on education; that the supply of schools was limited to the geographic boundaries placed on students by local government. Opening the system to school choice would increase the supply of school options to students, and this would create competition. Advocates of school choice believed this competition would force

schools to improve or cease to exist, thereby increasing the quality of education offered to students. Friedman's belief in the choice system was more skewed toward the voucher system; however, the foundation of choice, giving parents the authority to choose where their children received an education, was a derivative of the free market system concept.

The most recent addition to the school choice concept can be found in the No Child Left Behind choice option. The No Child Left Behind Act of 2001 was signed into law by President George W. Bush on January 8, 2002 (United States Department of Education, 2001). The No Child Left Behind Act is a modern manifestation of President Lyndon Johnson's Elementary and Secondary Education Act of 1965 (ESEA) (National Education Association, n.d.). The basis behind this Act was to minimize the achievement gap with accountability and choice so that no student would be left behind academically (No Child Left Behind Act, 2001). Title I of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 6301 et seq.) was amended to read: "The purpose of this title was to ensure that all children have a fair, equal, and significant opportunity to obtain a high-quality education and reach, at a minimum, proficiency on challenging State academic achievement standards and state academic assessments" (United States Department of Education, 2009, Section 1001 Statement of Purpose, para. 1). The No Child Left Behind Act of 2001 required individual school districts to have policies in place that gave parents or guardians of Title I students the opportunity to transfer their children to different schools if their school of attendance was considered low-performing by the State's standards.

The Florida Department of Education's Office of Independent Education & Parental Choice abided by the federal mandates and established programs to assist in giving parents a broader choice in their students' education (Florida Department of Education, n.d.). The Florida statute for school choice reads:

1002.20 K-12 student and parent rights.—Parents of public school students must receive accurate and timely information regarding their child's academic progress and must be informed of ways they can help their child to succeed in school. K-12 students and their parents are afforded numerous statutory rights including, but not limited to, the following:

6) EDUCATIONAL CHOICE.—

(a) Public school choices.—Parents of public school students may seek whatever public school choice options that are applicable and available to students in their school districts. These options may include controlled open enrollment, single-gender programs, lab schools, virtual instruction programs, charter schools, charter technical career centers, magnet schools, alternative schools, special programs, auditory-oral education programs, advanced placement, dual enrollment, International Baccalaureate®, International General Certificate of Secondary Education (pre-AICE), Advanced International Certificate of Education, early admissions, credit by examination or demonstration of competency, the New World School of the Arts, the Florida School for the Deaf and the Blind, and the Florida Virtual School. These options may also include the public school choice options of the Opportunity Scholarship Program and the

McKay Scholarships for Students with Disabilities Program. (Florida Statutes, 2012, Educational Choices section, para. 1)

Within this statute, students were able to attend accelerated programs outside of their zoned school attendance areas. The focus of the present study was to analyze high performing eighth-grade students and their proportionate representation in four of Florida's articulated high school accelerated programs within Brevard County Public Schools: (a) the International Baccalaureate® (IB) program, (b) the Cambridge Advanced International Certificate of Education (AICE) program, (c) the dual enrollment program, and (d) the advanced placement program.

Brevard County Public School's Office of School Choice has presented the following statement on its website:

Brevard County Public Schools recognizes that parents know what [is] best for their children. That [is] why we do [not] restrict a student's educational choices to school zones. Our Choice Schools/Programs, Magnet Schools, and Charter Schools empower parents to decide the best learning environment for their child regardless of where they live in the school district. (Brevard County Public Schools, n.d., Office of School Choice Welcome section, para.1).

Whether the fuel behind school choice is the pure power of parent decision-making or the legislation that is in place mandating choice options, parents and students in Brevard County, Florida have options. The question remains, however, as to who exactly is taking advantage of these options.

Purpose of Study

The purpose of this study was to provide a quantitative analysis of Brevard County Public School's 2012 graduates who as eighth-grade students received a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) mathematics and a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) reading and their participation in high school advanced academic courses. The programs involved in this study were the Advanced Placement (AP) program, the dual-enrollment program, International Baccalaureate® (IB) Diploma Programme, and Cambridge Advanced International Certificate of Education (AICE) program. The academic years involved in this study included the 2008-2009, 2009-2010, 2010-2011 and 2011-2012 school years. The study was conducted to analyze the representation of these 2012 graduates, who as eighth-grade students, received a score of 4 or 5 on the 2008 FCAT mathematics and reading, by race and gender to determine whether the proportions were an accurate representation of the total student enrollment for each year of students' high school careers.

Statement of the Problem

To date, there has been no analysis of race and gender in these select choice programs in Brevard County Public Schools to determine whether the proportions are an accurate representation of the population. In addition, there has been no analysis of race and gender comparing eligible participants and non-participants in these select choice programs within a cohort. It was anticipated that through the data analysis in this study,

strengths or deficiencies, especially in the categories of recruitment and retention, might be identified.

Research Questions and Hypotheses

The researcher formulated the following eight research questions and two hypotheses to guide the study of Brevard County Public School students:

1. To what extent are Asian 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
2. To what extent are Black 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

3. To what extent are Hispanic 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
4. To what extent are American Indian/Alaska Native 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
5. To what extent are multi-racial 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate®

(IB), and/or Cambridge Advanced International Certificate of Education

(AICE) programs during their 9th, 10th, 11th, and 12th grades?

6. To what extent are White 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

H₀ There is no significant difference between the race (Asian, Black, Hispanic, American Indian/Alaska Native, Multi-racial, and White) of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades.

7. To what extent are male 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT

mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

8. To what extent are female 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

H_0 There is no significant difference between the gender of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International

Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades.

Delimitations

The study was delimited to the graduating class of 2012 in Brevard County Public Schools. These students were in the eighth-grade during the school year of 2007-2008 and in high school from 2008-2012. In addition, the study was delimited to students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading in the eighth-grade and subsequently took advanced/accelerated courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades during the school years of 2008-2009, 2009-2010, 2010-2011, and 2011-2012. The researcher delimited participation to include only qualifying eighth-graders in these advanced/accelerated programs who took a total of three or more courses per year in one or more of the four programs identified in this study. The researcher defined non-participants as qualified eighth-graders who did not take a total of three or more courses per year in one or more of the four programs identified in this study.

The study was also delimited to the reporting of the results of the 2008 Florida Comprehensive Assessment Test® (FCAT) scores in mathematics and reading. This study was delimited to the race categories of American Indian/Alaska Native, Asian, Black, Hispanic, White, and Multi-racial. This is not an inclusive list of race options

given to Brevard Public School students. Native Hawaiian/Pacific Islander was an option for students in 2010-2011 and 2011-2012. Another delimitation of this study was in data collection of the courses taken by each student in the four-years of their high school careers. The number of courses in each program was compiled and recorded for each student per year versus the exact course title of each student per year. The delimitations listed here imply that the results of the study were not generalizable outside of this population.

Limitations

The study was limited by the following:

1. Students' demographic information was accurately reported by the student.
2. Students' demographic information was accurately recorded in Brevard County Public School's student data system.
3. Schools differed in demographics beyond race and gender.
4. The data were entered into the school data systems accurately by data clerks.
5. The data were accurately collected and recorded by the researcher.
6. The continuation rate represented the percentage of students who remained in the Brevard County Public School system during the years involved in this study. The data were limited to the information on the school data system.
7. Not all race options available to population were listed.
8. The number of courses taken per year per student, rather than the exact course titles taken by each student per year, was recorded.

9. The courses in the four programs involved in this study provided limited access to freshman. Freshman student could participate in pre-AICE and pre-IB courses, and a limited number of AP courses; however, could not enter the dual enrollment program until after completion of their freshman year. The earliest eligibility for students in the dual enrollment program is the summer after their freshman year, with successful completion of their freshman year.

Definition of Terms

The following terms are defined for the purpose of this study:

Advanced Placement Program. “The College Board's Advanced Placement (AP) Program is a nationwide program consisting of more than 30 college-level courses and exams offered at participating high schools” (Florida Department of Education, n.d., Advanced Placement (AP) Program section, para. 1).

American Indian or Alaska Native. “A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment” (Office of Management and Budget, 1997, Categories and Definitions section, para. 1). For the purpose of this study, American Indian or Alaska Native was referred to as “Indian” to parallel the verbiage used in Brevard County Public Schools data sources.

Asian. “A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China,

India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam” (Office of Management and Budget, 1997, Categories and Definitions section, para. 2).

Black or African American. “A person having origins in any of the black racial groups of Africa; terms such as “Haitian” or “Negro” can be used in addition to “Black or African American” (Office of Management and Budget, 1997, Categories and Definitions section, para. 3).

Cambridge Advanced International Certificate of Education (AICE). For high school students, “the Cambridge Advanced International Certificate of Education (AICE) is an international pre–university curriculum and examination system, which emphasizes the value of broad and balanced study” (Cambridge International Examinations, n.d., Welcome section, para. 1).

Cambridge Pre-AICE (Advanced International Certificate of Education). “For middle schools, [the Cambridge program] offer[s] the Cambridge Checkpoint three–year curricula for three subjects: Mathematics, Science and English with externally written formative and summative assessments” (Cambridge International Examinations, n.d., Welcome section, para. 1).

Continuation rate. From the sample of 1,152 students, the continuation rate represents the percentage of students who remained in the Brevard County Public School system during the years involved in this study.

Dual enrollment. “Dual enrollment is an acceleration program that allows high school students to simultaneously earn credit toward high school completion and a career

certificate, or an associate or baccalaureate degree at a Florida public institution” (Florida Department of Education, n.d., p. 1).

High performing eighth-grade students. These students are defined by the researcher as students who have scored a level 4 or a level 5 on the eighth-grade Florida Comprehensive Assessment Test® (FCAT) in mathematics and/or reading.

High performing high school students. These students are defined by the researcher as students who have scored a level 4 or a level 5 on the eighth-grade Florida Comprehensive Assessment Test® (FCAT) in mathematics and/or reading and have continued their education in Brevard County Public Schools for Grades 9, 10, 11, and 12.

High performing students. These students are defined as students who have scored a level 4 or a level 5 on the Florida Comprehensive Assessment Test® (FCAT) in mathematics and/or reading in their respective grades.

Hispanic or Latino. “A person of Cuban, Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race; the term, “Spanish origin,” can be used in addition to “Hispanic or Latino” (Office of Management and Budget, 1997, Categories and Definitions section, para. 4).

International Baccalaureate® (IB).

An International Baccalaureate® (IB) is an academic program licensed by the International Baccalaureate® Organization (IBO) that, upon successful completion, results in the distribution of a high school degree. The curriculum emphasizes the importance of international awareness and responsible citizenship for students. There are three IB program available: the Diploma Programme for

students who have 2 years of high school to complete; the Middle Years Programme for students 11 to 16 years old; and the Primary Years Programme for students 3 to 12 years old (Glossary of Education, n.d., International Baccalaureate® (IB), para. 1).

Multi-racial or multiracial. “Relating to or including more than one race of people” (Merriam-Webster online, n.d., para. 1).

Native Hawaiian or Other Pacific Islander. “A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands” (Office of Management and Budget, 1997, Categories and Definitions section, para. 5).

Population. The population in this study refers to all students in the Brevard County Public Schools. It is also used to describe a specific group, i.e., parent population, entire population, or general population.

Raw data or source data or primary data. These data are collected from a source, for example, the Florida Department of Education or Brevard County Public schools student databases. However, these data are unprocessed or unanalyzed through statistical testing.

Residual. In Chi-square goodness-of-fit tests, the difference between the observed or actual occurrence and the expected occurrence based upon predetermined proportions is the residual.

School Choice. Parents are given the opportunity to select the school their children will attend (Abdulkadiroğlu & Sönmez, 2003).

Select Choice Programs within Brevard County Public Schools. These select choice programs are: the International Baccalaureate® (IB) Diploma Programme at Cocoa Beach Junior/Senior High School (Grades 7-12); in Cocoa Beach, Florida and Melbourne High School (Grades 9-12) in Melbourne, Florida; the Cambridge Advanced International Certificate of Education (AICE) program at Eau Gallie High School (Grades 9-12); in Melbourne, Florida and Rockledge High School (Grades 9-12) in Rockledge, Florida; advanced placement courses; and the all-district high school dual enrollment program.

Socioeconomic status. Socioeconomic status is “commonly conceptualized as the social standing or class of an individual or group” (American Psychological Association, 2014, Socioeconomic Status section, para. 1). Socioeconomic status within a school system is typically determined by the eligibility of the student to receive a free or reduced-price for lunch. According to the United States Department of Agriculture, “the Department’s guidelines for free meals and milk and reduced price meals [are] obtained by multiplying the year’s Federal income poverty guidelines by 1.30 and 1.85, respectively” (United States Department of Agriculture, 2012, p. 17005).

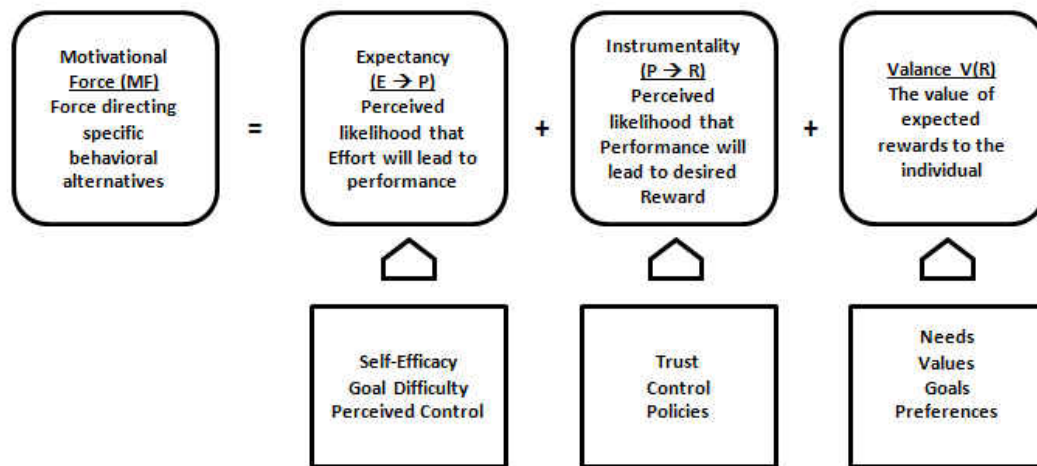
Sub-populations. Sub-populations are sub-sets of the population that are grouped by common characteristics.

True proportions. True proportions are the raw data collected from the Florida Department of Education or Brevard County Public Schools on the entire student population.

White. In this study, White is defined as “a person having origins in any of the original peoples of Europe, the Middle East, or North Africa” (Office of Management and Budget, 1997, Categories and Definitions section, para. 6).

Theoretical Framework

The theoretical framework supporting this research was Vroom’s expectancy theory of behavior (1964). The expectancy theory of behavior explores effort and performance based upon choices and decisions. Figure 1 presents the three factors contained in the theory: expectancy, instrumentality, and valance.



Note. From “Motivation: Expectancy Theory,” by R. W. Scholl, Ph. D., 2002, Expectancy Theory Components, p. 1. Copyright 2002 by Schmidt Labor Research Center. Reproduced with permission. See Appendix A.

Figure 1. Elements of the Expectancy Theory of Motivation

Scholl (2002) defined expectancy as “the belief that one's effort will result in attainment of a desired performance goals. This belief, or perception, is generally based

on an individual's past experience, self-confidence (often termed self-efficacy), and the perceived difficulty of the performance standard or goal” (Expectancy-Probability $E > P$ section, para. 1). For example, students may ask themselves, “If I spend most of tonight studying, will it improve my grade on tomorrow's math exam?” (Scholl, 2002, Expectancy - Probability $E > P$ section, para. 2). “Instrumentality is the belief that if one does meet performance expectations, he or she will receive a greater reward” (Scholl, 2002, Instrumentality - Probability $I > P$ section, para. 1). For example, students may ask themselves, “If I get a better grade on tomorrow's math test, will I get an ‘A’ in math?” (Scholl, 2002, Instrumentality - Probability $I > P$ section, para. 2). Lastly, “valance refers [to] the value [that] the individual personally places on the rewards” (Scholl, 2002, Valance $V(R)$ section, para. 1). For example, students may ask themselves, “How much [do] I really want an ‘A’ in math?” (Scholl, 2002, Valance $V(R)$ section, para. 1).

Lunenburg (2011) described that there is a relationship between effort and performance, and that favorable performance will result in a desirable reward regarding Expectancy theory. This reward will satisfy a need (success), and the desire to satisfy the need is strong enough to make the effort worthwhile. Expectancy theory is typically associated with the management of human capital in a work environment; however, the theory has relevance regarding the motivation of students and their academic career. The expectancy facet of the theory acknowledges that different students have different views regarding self-efficacy, different confidence-levels regarding their capability, and different beliefs in the school system overall, especially the concept of perceived control, or lack thereof. The aspect of instrumentality involves nurturing the perceptions of the

students and their perspective of success. This involves increasing the trust the students have in the school system, and that positive performance will result in positive life applicable rewards. Valence refers to the emotional orientations students hold with respect to outcomes or rewards and the depth of the desire for a student to attain extrinsic rewards, e.g., high grades and acknowledgement of high achievement resulting in advanced placement, advanced diploma, and/or scholarships for the next level of education; or intrinsic rewards, e.g., the feeling of accomplishment and a satisfactory state of being for a job well done. Vroom (1964) suggested that a student's beliefs about expectancy, instrumentality, and valence interact psychologically to create a motivational force such that the student acts in ways that results in success in school and puts forth means of avoiding failure in school.

Relating expectancy theory to the select choice programs in Brevard County Public Schools, students must have the confidence in their ability to apply to these programs, the ability to nurture the internal drive in maintaining a satisfactory existence in these programs, and the capability to strategically maneuver through the system to completion. Simultaneously, students must have faith in the system in place, reassuring them that the successful participation and completion of these programs will reap successful future endeavors for them as a result of their hard work. Expectancy, instrumentality, and valence all influence students' motivation to participate or not participate in these accelerated programs.

Overview of Methodology

Research Design

A quantitative, ex-post facto, non-experimental research study was designed to test whether there was: (a) a significant difference between the race (American Indian/Alaska Native, Asian, Black, Hispanic, Multi-racial, and White) of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades; and (b) a significant difference between the gender of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades. Statistical tests were conducted using pre-existing, archived data provided by the Brevard County Public Schools student information data system. These

data were entered into the software program, Statistical Package for the Social Sciences (SPSS), for statistical analysis.

Population

The population for each year of the study consisted of the Brevard County Public School student membership that was reported to the Florida Department of Education in October of each school year. From the 2007-2008 student population, a sample of eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading was extracted and analyzed. A high performing eighth-grade student was defined by the researcher as a student who scored a level 4 or a level 5 on the Florida Comprehensive Assessment Test® (FCAT) during the school year of 2007-2008 in the subjects of mathematics and reading. The dependent variable, FCAT scores, was retrieved from pre-existing, archived data provided by Brevard County Public Schools student information data system.

Sample

A sample of high performing eighth-grade students in the school year of 2007-2008 was extracted from the source data of Brevard County Public Schools' general student population based upon the achievement of a level 4 or a level 5 on their eighth-grade mathematics and reading FCAT in the school year of 2007-2008. The researcher recorded the number of courses per year of each high performing eighth-grade student through their senior year. One sample consisted of high performing eighth-grade

students in 2008 who took advanced/accelerated courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and Cambridge Advanced International Certificate of Education (AICE) programs in the school years of 2008-2009, 2009-2010, 2010-2011, and 2011-2012. The advanced/accelerated courses included: advanced placement (AP) courses, dual-enrollment courses, and International Baccalaureate® (IB) Diploma Programme courses at Cocoa Beach Junior/Senior High School (Grades 9-12) in Cocoa Beach, Florida and Melbourne High School (Grades 9-12) in Melbourne, Florida, and Cambridge Advanced International Certificate of Education (AICE) program courses at Eau Gallie High School (Grades 9-12) in Melbourne, Florida and Rockledge High School (Grades 9-12) in Rockledge, Florida. Only high performing students taking a total of three or more courses per year in one or more of the four programs identified in this study were considered in the first sample of students that participated in advanced/accelerated program during their high school career. If less than three courses per year were taken by the high performing eighth-grade student, they were not considered to be a student participating in an advanced/accelerated program for the purposes of this study. The second sample consisted of high performing eighth-grade students who did not take a total of three or more courses per year in one or more of the four programs. For the purpose of this study, these students were identified as not participating in advanced/accelerated programs by the researcher.

Data Collection and Analysis

A query was run on Brevard County Public School's eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading. The student information service database provided data pertaining to these students regarding their race, gender, and all high school courses taken. The researcher de-identified and coded these data after courses were aligned to students. Data were compiled, and statistical tests were conducted.

This study was conducted to analyze the representation of race and gender in these select choice programs in Brevard County Public Schools to determine whether the proportions were an accurate representation of the sample population. A chi-square goodness-of-fit test was a suitable analysis for this portion of the study because it permitted the researcher to test whether the proportions of the subpopulations differed from the proportions of student enrollment per school year. These statistical tests were run using pre-existing, archived data provided by Brevard County Public Schools student data system. The data collected from the Brevard County Public Schools student data system were entered into the software program Statistical Package for the Social Sciences (SPSS) for statistical analysis.

Organization of the Study

The study was organized into five chapters. A brief history of public school choice was included in Chapter 1 along with the purpose of the study, statement of the problem, research questions and hypotheses, delimitation and limitations, definition of

terms, theoretical framework, and an overview of methodology. Chapter 2 presents a review of the literature and related research concerning the history of public school education in America, public school choice, and the Brevard Public School system as it pertains to choice and advanced/accelerated programs. Chapter 3 describes the sample, methodology and analytical approach used to conduct the study. Chapter 4 examines the results of the data analysis to respond to the research questions and the hypotheses. Finally, in Chapter 5 the findings are disclosed and summarized. Implications for policy and practice and recommendations for future research are offered.

CHAPTER 2 REVIEW OF LITERATURE

Introduction

Of all the civil rights for which the world has struggled and fought for 5,000 years, the right to learn is undoubtedly the most fundamental. We must insist upon this to give our children the fairness of a start which will equip them with such an array of facts and such an attitude towards truth that they can have a real chance to judge what the world is and what its greater minds have thought it might be! (Dubois, 1949, pp. 230-231)

The genesis of public education in the United States can be traced to the late 1600s, and the type of student attending public schools has been in constant change from that time to the present. Through lawsuits and legislation, patience and persistence, resistance and acceptance, courageous innovators of public education have fought for the rights of all youth to be educated. Now that barriers to public education such as race, gender, and ability have been for the most part pacified or ratified, the recent discussion is the choice associated with public education. School choice is a benefit that has been given to all students and families only due to the toils revealed in public education history.

Education in America Prior to the 19th Century

In the 17th Century, the foundation of education in America was laid by the New England Puritan settlers through a religious endeavor stressing that everyone had to learn

to read the Bible (Brackemyre, 2012). The responsibility of teaching children how to read and write shifted from the clerics to parents; however, this approach was not working well (Brackemyre, 2012). The birth of the first public school in the United States occurred during this period. The Boston Latin School was founded on April 23, 1635 by the Town of Boston and is the oldest existing school in the United States (Boston Latin School History, n.d.). The Puritan community began applying new laws such as the *Old Deluder Act of 1647*, forcing townships to fund and operate local schools (Brackemyre, 2012). However, these “schools . . . tended to focus on producing an educated elite class and not on educating the entire public. In colonial America, public education was first and foremost a means to educate an elitist class of future political and business leaders. Education for commoners was largely left to families and churches” (Brackemyre, 2012, Public Education in the American Colonies section, para. 1). The first colonial public schools enrolled affluent, white male students (Education News, 2013). White females of wealthy families were able to receive formal private education, but “the education of poor women was typically limited to whatever they [learned] at home” (Education News, 2013, Through the 18th Century section, para. 2). According to the Educational Policy Institute (2011), “Most women received little formal education outside of Dame schools during the 17th and 18th century, and most Native Americans and African Americans did not have access to public education until later in the 19th century, largely due to laws passed in southern states during the early to mid-1800s prohibiting the teaching of slaves to read” (p. 1). Not all Americans believed in the theory of public education solely for wealthy white male students.

Thomas Jefferson (1779)--Act to Establish Public Schools

Thomas Jefferson “argued that democracy required all the citizens of a populace to have sufficient education so that they could be well informed and vote accordingly. Jefferson did not, however, want to infringe on the rights of parents or local communities to educate their children. Instead, he proposed that everyone could be educated in the way they saw fit.” (Brackemyre, 2012, After the Revolutionary War section, para. 2). This concept, though the precursor to the school choice notion, was primarily focused on establishing a universal education system. In his *Notes on the State of Virginia*, Jefferson described his ideas for public education at the elementary level. Jefferson’s crusade was for poor white males, especially those he saw to be intellectually superior and capable of being taught in a school and in turn contributing to a better society. Jefferson argued that a better-educated general population would result in a freer and more fortunate America overall. “Jefferson contended that ‘public happiness... should be rendered by liberal education worthy to receive, and able to guard the sacred deposit of the rights and liberties of their fellow citizens’ (Brackemyre, 2012, After the Revolutionary War section, para. 3). Jefferson’s *Bill for the More General Diffusion of Knowledge* was presented in the House of Delegates in 1778 and 1780 but did not pass (Berkes, 2009). An updated final version was passed into law in 1779 as an *Act to Establish Public Schools* (Berkes, 2009).

Although Jefferson’s quest for universal education was not one of school choice as America knows it today, it does demonstrate the historic contribution to what would eventually develop into public school choice. For poor white males to have a choice to

learn a trade and work, or to attend a public school and become educated, was public school choice in an embryonic stage. Adam Smith and Thomas Paine also discussed universal public education and public school choice in the 18th century. Smith contributed with an economic perspective on the supply and demand of schools and students, whereas Paine's interest paralleled Jefferson's concern about the poor not receiving public education opportunities. In their own way, all three provided perspectives that contributed to the gradual development of public school choice in America.

Adam Smith (1776)--The Wealth of Nations

“Adam Smith (1723-1790) was a Scottish philosopher and economist who is best known as the author of *An Inquiry into the Nature and Causes of the Wealth Of Nations* (1776)” (Adam Smith Institute, n.d., Introduction section, para. 1). He contributed to the field of economics with concepts such as supply and demand, free market equilibrium, and the metaphor of the invisible hand of the public market. What may have presented as a paradox for most educators, i.e., whether a student was a supply or demand, was for Smith a choice in terms of economic theories. Smith stated that:

Were the students upon such charitable foundations left free to choose what [school] they liked best; such liberty might contribute to excite some emulation among different [schools]. A regulation, on the contrary, which prohibited even the independent members of every particular [school] from leaving it, and going to any other, without leave first asked and obtained of that which they meant to

abandon, would tend very much to extinguish that emulation. (Library of Economics and Liberty, 2008, para. 17)

Parents are consumers of educational services for their children's academic careers; therefore, there is a demand to enroll a student in a school. If parents are not pleased with the supply of schools available for their consumable choice, the students and parents will not be pleased. This can lead to possible frustration in the choice of schools resulting in a possible decline in student achievement. In contrast, school systems have a demand for students. If geographically restricted, the supply of students to a school can be limited and not diversified. Applying Smith's free market equilibrium theory to school choice, parents and students would have the choice to go to the school they felt best suited for the student. A happy consumer, in this case the parents and students, would have the potential of yielding positive results, such as in this scenario, thereby increasing student achievement. The schools, according to Smith, that do not appeal to parents and students would perish and better schools would flourish, causing equilibrium between schools and students. In addition, if schools were not limited to the geographic boundaries for student intake, the student body has the potential of enrolling more students and a more diverse student body populace. Smith's economic perspective regarding the concept of school choice would not come to fruition until centuries after he first posed it. However, in the same century as Smith, Paine echoed Smith's concept in his 36th footnote in *The Rights of Man*: "To them, [students], it is education--to those who educate them, [schools], it is a livelihood" (Paine, 1791, footnote 36).

Thomas Paine (1791)--Rights of Man

The students about whom Paine spoke in his book, *The Rights of Man*, were the children of poor families. Paine was born into a poor family and became the voice of the common man. He immigrated to America from London in October 1774 (Kreis, 2013). Like Jefferson, Paine's contribution to school choice came in the form of a universal education system and providing choices for poor families. In *The Rights of Man*, he explained a system of providing an educational system for the poor and how this investment would be beneficial to all of society and generations to come:

By adopting this method, not only the poverty of the parents will be relieved, but ignorance will be banished from the rising generation, and the number of poor will hereafter become less, because their abilities, by the aid of education, will be greater. Many a youth, with good natural genius, who is apprenticed to a mechanical trade, such as a carpenter, joiner, millwright, shipwright, blacksmith, etc., is prevented getting forward the whole of his life from the want of a little common education when a boy. (Paine, 1791, pp. 229-230)

He also alluded to the middle class, indicating that if the middle class was not properly educated, they would recede into a lower class, thus increasing the poor of the nation and potentially increasing the ails of the country:

[T]here will still be a number of families who, though not properly of the class of poor, yet find it difficult to give education to their children; and such children, under such a case, would be in a worse condition than if their parents were

actually poor. A nation under a well-regulated government should permit none to remain uninstructed. (Paine, 1791, p. 232)

Paine's efforts were dedicated to the establishment of universal public education, especially for the poor; however, his concepts relate to school choice in that he wanted educational options, or the option of education, to be given to the poor to allow them to escape poverty.

Paine understood in the 1700s what many educators have continued to endorse over the centuries--it is not elite to be educated; it is essential for communal evolution and economic progression. Paine believed that education should not be a privilege of the wealthy; it should be a right to all of mankind. Through the investment of a proper education given to the lower classes, society as a whole would advance. Educating the white poor of society would continue to evolve in the centuries following Paine; however, a new issue in America plagued education--educating human beings that were not considered citizens of the United States.

19th Century Public Education in America

Before the Civil War, 56 percent of White school-aged children attended public schools, but only 2 percent of minorities were formally educated. In the years following the Civil War, the proportions of minority students increased, and by 1900, over 30 percent of minorities age 5 to 19 were enrolled in school. . .

Minority attendance in public schools increased to over 75 percent of the school-aged minority population by 1950. After segregation was declared

unconstitutional in 1954, minority enrollment continued to increase at a steady rate. By 1980, over 90 percent of minorities attended school, and by 1990, 93 percent of both White children and minority children were enrolled in public education. (Educational Policy Institute, 2011, p. 5)

Equality in enrollment between Whites and minorities in public education was attained 355 years after the first established public school in America. This prolonged disparity was largely due to slavery in America. Before 1865, slaves could not legally attend public schools because they were not considered whole citizens of the United States (United States Constitution Thirteenth Amendment, 1865).

The Civil War, the Emancipation Proclamation and Reconstruction

America's history has been soiled with an evil known as slavery. It is fair to say that throughout the history of the United States, all races have been enslaved: American Indians, Asians, Blacks, Hispanics and Whites; however, according to Becker (1999) "the lucrative nature of the African slave trade led to a transition to an African based institute of slavery" (1619 section, para. 6), and has been well documented in story, text, and law. The first African slave in Colonial North America came in 1619 (A & E Networks, 2009). Some Americans started to realize how cruel, unjust, and inhumane slavery in the United States was, and the Civil War in the United States was fought from 1861 to 1865 to end slavery (Public Broadcasting Service, 2002a). The war was about a "new birth of freedom" and at the end, slavery was abolished (Public Broadcasting Service, 2002a, The War section, para. 7).

The period following the Civil War has been historically referred to as the Reconstruction Period in the United States, and the Thirteenth Amendment, adopted on December 6, 1865, was one of the Reconstruction Amendments to the United States Constitution. It stated that “neither slavery nor involuntary servitude, except as a punishment for a crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction” (United States Constitution, Thirteenth Amendment, 1865, Section 1, para. 1). The Fourteenth Amendment, adopted on July 9, 1868 (Public Broadcasting Service, 2002a), reads as follows:

United States Constitution, Amendment 14, Section 1. All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the law. (Russo, 2004a, p. 994)

In law, not reality, slaves were free. They were free to pursue endeavors, e.g., public education, previously denied to them for 246 years.

“Immediately after the Civil War there were no functioning government-run school systems for blacks” (Forman, 2005, p. 1291). According to Forman (2005), “. . . sheer necessity forced recently freed slave communities to create schools for themselves and their children during Reconstruction” (p. 1290). In response to this need for schools,

“the Freedman’s Bureau, along with a variety of northern benevolent associations, organized schools for recently freed slaves in the state of the former Confederacy” (Forman, 2005, p. 1291). The support from northern White educators and missionaries was vital in this transition period; however, “the white presence sometimes conflicted with the freed people’s desire to sustain schools for themselves and their children” (Forman, 2005, p. 1291). The tenets of “self-help and self-determination” motivated the ex-slaves educational movement. In addition, there were “disputes over who controlled the schools. . . [and] differences of opinions among parents regarding where to educate their children” (Forman, 2005, p. 1294).

“Some blacks continue to prefer the independent black school[s] outside of the government system. . . [and] continued building private schools even after the Freedman’s Bureau opened publically supported schools” (Forman, 2005, p. 1291), while others started to attend the non-independent black schools. “In 1867, the *Freedman’s Record* complained about blacks who continued to send their children to black-run independent schools rather than the Northern-dominated, white-run schools” (Forman, 2005, pp. 1294-1295). There was a divide between ex-slaves and their educational choices. “As a result, the percentage of black children who attended schools actually declined between 1880 and 1900. Nonetheless, the black school-building movement of the Reconstruction era has a significant positive impact on overall black educational attainment. For example, from 1860 to 1880 the southern black illiteracy rate fell from ninety-five percent to seventy percent” (Forman, 2005, p. 1295).

This segment of history has parallels with 21st century public school choice issues. The subjects of parental decision-making based upon historical events in America, the media and other external influences on decision-making, as well as the comfort-level found in the familiarity of surroundings, inclusive of people, situations, and places, are all themes that held true in the late 1800s and have continued to influence present day issues related to school choice.

In summary, the first public school in America was established in the 1600s for wealthy, white males. The first African slaves in Colonial North America came in 1636 (Public Broadcasting Service, 2002a), almost 400 years prior to the present study. President Lincoln's 1863 Emancipation Proclamation effectively ended slavery 227 years after Africans were brought to the Americas and placed into slavery. Hence only 150 years has elapsed between the signing of the Emancipation Proclamation and the present day. Most of the intervening time has been a struggle for equality in all arenas of living, including education. As a nation, America is not far removed from the political, physical and psychological oppression caused by slavery. The current state of race in the U.S. comes as a result of the 227 years of repression of Black Americans and other minority groups combined with another 100 plus years of resistance by individuals as well as state and local governments in legally establishing equality. A lack of trust and a feeling of non-acceptance are two continuing by-products of slavery in America. Though the landmark case of *Plessy v. Ferguson* provided the impetus for establishing pseudo-equality in the United States post-Civil War, it did not soothe the sense of distrust and rejection that minorities experienced in America.

Plessy v. Ferguson I (1896)--“Separate but Equal”

The concept of *separate but equal* “entered the national legal consciousness in the [May 18, 1896 ruling of] *Plessy v. Ferguson*, a case involving discrimination in public railway accommodations” (Russo, 2004a, p. 920). “On June 7, 1892, 30-year-old Homer Plessy was jailed for sitting in the “White” car of the East Louisiana Railroad” (Public Broadcasting Service, 2002b, *Plessy v. Ferguson* 1896 section, para. 1). According to Thomas, Cambron-McCabe, and McCarthy (2009), “a penalty could be imposed against either the individual who attempted to occupy the coach or compartment reserved for a member of another race or the officer of any railroad who failed to make the proper assignment” (p. 146). In 1896, the Supreme Court upheld the racial segregation of passengers in railroad coaches as required by Louisiana law (Thomas et al., 2009, p. 146). Per *Plessy v. Ferguson*, 163 U.S. 537 (1897), “the validity of which [was] involved, all railroad companies (other than street-railroad companies) carry[ing] passengers in that state [were] required to have *separate but equal* accommodations for whites and colored persons” (Section 2, para. 16). It was ruled that there was no violation of either the Thirteenth or Fourteenth Amendments of the United States Constitution, and as long as the facilities were equal, it was constitutional to separate them according to usage by different races.

Speaking for a seven-man majority, Justice Henry Brown wrote: “A statute which implies merely a legal distinction between the white and colored races – has no tendency to destroy the legal quality of the two races. . . [T]he object of the Fourteenth Amendment was undoubtedly to enforce the absolute equality of the

two races before the law, but in the nature of things it could not have been intended to abolish distinctions based upon color, or to enforce social, as distinguished from political equality or a commingling of the two races upon terms unsatisfactory to either.” (Public Broadcasting Service, 2002b, *Plessy v. Ferguson* 1897 section, para. 2)

In the filing of *Plessy v. Ferguson*, 163 U.S. 537 (1897), it was stated that “[t]he distinction between laws interfering with the political equality of the negro and those requiring the separation of the two races in schools, theaters, and railway carriages has been frequently drawn by this court” (Section 2, para. 5). Hence, the court case acknowledged that “*separate but equal*” existed and been ruled in favor of for years.

The concept traces its origins back almost fifty years earlier to a case wherein the Supreme Judicial Court of Massachusetts upheld “*separate but equal*” in denying an African America student the opportunity to attend a school for white children that was closer to her home. (Russo, 2004a, p. 920)

Roberts v. City of Boston--59 Mass. 198, 5Cush.198 (1849)

In the *Roberts v. City of Boston* case of 1849, the parents of the child being discriminated against contended that “segregation inflicted upon minority children a stigma of caste” (Thomas et al., 2009, p. 145). “The *Roberts* case set the stage for 105 years of case law that generally supported the concept of *separate but equal* public school” (Thomas et al., 2009, p. 145). “It might appear from a literal translation of the word *equality* that once a state established an educational system, [that] all students must

be treated in the same manner” (Thomas et al., 2009, p. 143). This was not the case. Additionally, the “Fourteenth Amendment to the United States Constitution state[d] in part that no state shall deny any person within its jurisdiction equal protection of the laws, . . . [and this] applie[d] to subdivisions of states, including school districts” (Thomas et al., 2009, p. 143). However, states and school districts were justified within the established law of the times to provide a dual education system for white students and minorities, separate in location but equal in all other educational opportunities.

20th Century Public Education in America

Gong Lum v. Rice--275 U.S. 78 (1927)

Separate but equal continued in 20th Century Public Education in America both socially and legally. In the *Gong Lum v. Rice--275 U.S. 78 (1927)* case, “[t]he Supreme Court extended ‘*separate but equal*’ to K- 12 education in. . . a dispute from Mississippi whereas it upheld the exclusion of a student of Chinese descent from a public school for white children” (Russo, 2004a, p. 920). “Under the ‘*separate but equal*’ doctrine announced by *Plessy v. Ferguson*, equality of treatment [was] accorded when the races [were] provided substantially equal facilities, even though these facilities [were] separate” (Russo, 2004a, p. 942). The pretense of *separate but equal* education in America resulted in “[w]idespread racial segregation in educational institutes. . . from the colonial period well into the 20th century” (Thomas et al., 2009, p. 144). Segregation many times carries the assumption that the races involved are limited to White and Black;

however, the *Gong Lum v. Rice*--275 U.S. 78 (1927) was one of many examples of racial segregation and the effects on all non-White students.

Educational Advocates Between Emancipation and Brown v. Board

The years prior to *Brown v. Board* “were met with a less than enthusiastic response by proponents of segregation” (Russo, 2004b, p. 185); however, the collective and collaborative efforts of the educated Blacks, Black educators, and civic organizations around the turn of the century served as a strong foundation for the events that would lead to the Civil Rights Movement. During slavery, history hid the Black intellectuals in basements and backrooms of plantation houses and limited the sharing of their knowledge to gatherings behind sheds and slave quarters. The end of the 19th century and start of the 20th century saw a rise in visual and vocal Black intellectuals such as Booker T. Washington (1856-1915); William Edward Burghardt DuBois (1868-1963); Zora Neale Hurston (1891-1960); and Ralph Ellison (1914-1994). As DuBois (1903) wrote in his essay, *The Talented Tenth*, “after emancipation came, a new group of educated and gifted leaders” (p. 42) had emerged. These educated leaders stood on the shoulders of other brave Black intellectuals before them, e.g., Alex Crummel (1819-1898) and Frederick Douglas (1818-1895). The time had come in history where a firm push was needed to promote the education of former slaves and their descendants. This task was accepted by the Black intellectuals, Black educators, civic organizations and other support systems of that time period. The Black intellectuals were considered the

educated and gifted leaders, ones that possessed knowledge that would assist other Blacks in the pursuit of education. W.E.B Dubois (1903) wrote:

The Negro race, like all races, is going to be saved by its exceptional men. The problem of education, then, among Negroes must first of all deal with the Talented Tenth; it is the problem of developing the Best of this race that they may guide the Mass. . . . Now the training of men is a difficult and intricate task. Its technique is a matter for educational experts, but its object is for the vision of seers. If we make money the object of man-training, we shall develop money-makers but not necessarily men; if we make technical skill the object of education, we may possess artisans but not, in nature, men. Men we shall have only as we make manhood the object of the work of the schools--intelligence, broad sympathy, knowledge of the world that was and is, and of the relation of men to it. . . [on] this foundation we may build bread winning, skill of hand and quickness of brain, with never a fear lest the child and man mistake the means of living for the object of life. (DuBois, 1903, pp. 33-34)

DuBois did not coin the phrase “the talented tenth.” Henry Lyman Morehouse, a White man, wrote of this ideology seven years before DuBois (Gates, 2013).

In the discussion concerning Negro education we should not forget the talented tenth man. An ordinary education may answer for the nine men of mediocrity; but if this is all we offer the talented tenth man, we make a prodigious mistake. The tenth man, with superior natural endowments, symmetrically trained and highly developed, may become a mightier influence, a greater inspiration to

others than all the other nine, or nine times nine like them. (Morehouse, 1896, p. 182)

Du Bois applied the phrase, the talented tenth, to illustrate the probability that one of 10 black men would become leaders of their race through the means of continued education, writing books, or participating in social change. Unlike Booker T. Washington's promotion of an industrial education, DuBois supported a classic education. "Education and work are the levers to uplift a people. Work alone will not do it unless inspired by the right ideals and guided by intelligence. Education must not simply teach work--it must teach Life" (DuBois, 1903, p. 32). DuBois wrote

Three tasks lay before me; first to show from the past that the Talented Tenth as they have risen among American Negroes have been worthy of leadership; secondly, to show how these men may be educated and developed; and thirdly, to show their relation to the Negro problem. From the very first it has been the educated and intelligent of the Negro people that have led and elevated the mass, and the sole obstacles that nullified and retarded their efforts were slavery and race prejudice. (DuBois, 1903, p. 14)

The educated Blacks, Black educators, and civic organizations were challenged in convincing former slaves to expect that a people can rise from centuries of slavery through the means of formal education. More so, there would be a new responsibility for the educated community to identify and cultivate those individuals who possessed the intellect and leadership skills to ascend from the traditional roles of slaves to scholarly roles in society. Furthermore, the establishment, promotion, and development of self-

efficacy of former slaves and their attitudes and abilities to consume and prosper from a formal education would be a challenge. These tasks that DuBois spoke of correspond to the key elements and assumptions of Vroom's expectancy theory.

Lunenburg (2011) explained the four assumptions of expectancy theory (Vroom, 1964) regarding employees and organizations, noting that expectancy theory was applicable to the motivation of students in terms of their academic careers. According to Lunenburg (2011), "expectancy theory is based on four assumptions" (p. 1); all of which cannot be assumed to be attributes of a former slave and cannot be assumed to be inherent in the generation once removed from slavery. "One assumption is that people [participate] with expectations about their needs, motivations, and past experiences. These influence how individuals react to [participating in an activity]" (Lunenburg, 2011, p. 1). Applying this assumption to the life of a recently freed slave, a realized need for an education, the motivation for an education, and a past educational experience for the most part were non-existent. "A second assumption is that an individual's behavior is a result of conscious choice. That is, people are free to choose those behaviors suggested by their own expectancy calculations" (Lunenburg, 2011, p. 1). It can be assumed that recently freed slaves possessed no sense of choice regarding public education and had no sense of expectancy outside of the 246 years of slavery. Lunenburg's third assumption was that people want different things from their participation in an activity, e.g., good grades, acceptance to a good school, a good job, advancement, and challenge, (Lunenburg, 2011). The overall consensus of newly freed slaves was to exist as normally as the times would allow them; thus, it is likely that the ambition or want of newly freed slaves in

becoming educated took a back-seat to physiological and safety needs. “A fourth assumption is that people will choose among alternatives so as to optimize outcomes for them personally” (Lunenburg, 2011, p. 2). Again, choice was a new concept for recently freed slaves. There was no point of comparing educated to non-educated slaves. The few slaves who were educated during slavery had to mask their capability to avoid penalty; therefore, an education in this point of history was consumed cautiously.

Lunenburg (2011) continued his explanation by stating:

[t]he expectancy theory based on these assumptions has three key elements: expectancy, instrumentality, and valence. A person is motivated to the degree that he or she believes that (a) effort will lead to acceptable performance (expectancy), (b) performance will be rewarded (instrumentality), and (c) the value of the rewards is highly positive (valence) (p. 2).

Motivation in recently freed slaves based upon these three elements may have been cautious; as a people, they did not know what to expect from historical events. It would take patience and persistence from the leaders in education during these times to motivate them and to give the generation that followed an example of expectancy as a result of education.

In her research for her lecture, *Black Educators as Educational Advocates in the Decades Before Brown v. Board of Education*, Walker (2013) used historical records to explore the role of the Black educator and civic organizations such as the National Association for the Advancement of Colored People (NAACP) in education and Black schools during the start of the 20th Century. “Answers to the research questions [in this

study] relied on historical ethnography as a methodological tool to analyze the records of the Georgia Teachers and Education Association (GTEA) and the NAACP” (Walker, 2013, pp. 207-208) and captured Black educators’ behavior through GTEA, interviews, and analysis of other relevant historical documentation and records. According to Walker, the findings of this study revealed three phases that Black educators and the NAACP went through pre-*Brown*: Phase One--Public Congruence and Parallel agendas, 1917-1921; Phase Two--Private Cooperation and Divergent Foci, 1922-1932; and Phase Three--Hidden Collaboration and Invisible Tension, 1933-1954. Spawned from the same social injustices of the time, both the local Black educators and the local and national NAACP fought against the inadequate funding of Black schools and Black teachers and the inequalities of White and non-White education systems. Local Black educational leaders worked with the local and national NAACP to reduce the instances of injustice and inequality for students of color. Nationally, it was recognized that the NAACP was behind the improvement of education systems for children of color and their teachers and that an alliance of Black educators existed at the local level to support the efforts as well. To assist in the improvement of the educational system for students of color, private funding was extended toward the cause; however, with this funding came conflicts in the development of Black schools. Different groups had different perspectives for the direction of Black schools. As in any stalled discussion, these conflicts may have consumed time to work through indifferences. Still, they did not dilute the collaboration between Black educators, local and national organizations, private funding, and community support. Black educators’ collaborative activities provided a more expanded

vision of the educational needs of Black students and utilized a variety of local and national organizations and strategies to accomplish their goals of solving problems in the public education system for students of color (Walker, 2013).

The research suggests that neither the educator nor the NAACP alone likely could have created the *Brown* decision. Rather, the two organizations operated in a form of co-dependency where each needed the other to accomplish their mutual and overlapping agendas [equality in public school education opportunity for students and teachers of color]. (Walker, 2013, p. 216)

Brown v. Board of Education, Topeka (Brown I)

“*Brown v. Board of Education, Topeka (Brown I)* is arguably the Supreme Court’s most important case involving K-12 education” (Russo, 2004a, p. 920). This case was a victory in the battle against the separate but equal clause and had a ruling that separate but equal public schools were unconstitutional. “In the pre-*Brown* South, segregation was based on codified state law and was district-wide” (Russo, 2004a, p. 941). However, “the National Association for the Advancement of Colored People, led in part by its chief counsel and future Supreme Court Justice Thurgood Marshall, challenged racial segregation in K-12 schools” (Russo, 2004a, p. 921). On May 17, 1954, “the Court struck down de jure segregation, based on law, as opposed to de facto segregation, based on facts of the situation, on the grounds that it deprived African American students of the right to equal educational opportunities in violation of the Equal Protection Clause of the Fourteenth Amendment” (Russo, 2004a, p. 920). “De facto, as opposed to de jure,

segregation occurs when, without any governmental action or inaction, a substantial majority of students in a school are the same racial or ethnic minority” (Russo, 2004a, p. 920).

Keyes v. School District No.1, Denver, Colorado (Keyes) – 413 U.S. 189 (1973)

Keyes addressed de facto segregation. *Keyes* was the first case in which the Court ruled that another minority group, Mexican-American students, should be placed in the same category as African American children because both suffered from the effects of segregated schools (Russo, 2004a, p. 925). Both de facto and de jure had been deemed unconstitutional.

*Mendez et al. v. Westminster School District of Orange County
64 F.Supp. 544(S.D. Cal. (1946)*

Mexican-American students actually had victories over the separate but equal clause before *Brown v Board I and II*. In 1945, nine years before the 1954 ruling of *Brown v. Board I*, the Mendez family and four other families filed a class action lawsuit on the behalf of 5,000 Mexican American families in an effort to integrate the school systems in four Orange County (CA) school districts (Robbie, 2002). The plaintiffs in the *Mendez v. Westminster* case argued that the students were segregated in schools based on national origin. This differed from the focus of racial discrimination in the *Plessy v. Ferguson* (1896) case (Robbie, 2002). The defendants argued that non-English-speaking pupils should attend separate schools until they had acquired some proficiency in the English language (Robbie, 2002). However,

In 1946, the judge ruled that the equal protection provision of the Fourteenth Amendment pertained to equal access to education, and that under that provision, segregation based solely on national origin was unconstitutional. . . . The *Mendez* case represented the first successful challenge to the decades-old “*separate but equal*” doctrine in public school education and established an important legal precedent. In 1948, a federal court in Texas ruled that segregated schools for Mexican Americans were unconstitutional; [and] in 1950, a federal court in Arizona followed suit. (Robbie, 2002, Background essay Section, para. 5)

Regarding *Brown v. Board I*, “[t]he court handed down the monumental ruling on May 17, 1954. . . . [w]riting for a unanimous Court, Chief Earl Warren framed the following issue:

Does segregation of children in public schools solely on the basis of race, even though the physical Facilities and other “tangible” factors may be equal, deprive the children of the minority group of equal educational opportunities? The Court answered, “We believe that it does.” The Court added “that in the field of public education the doctrine of ‘*separate but equal*’ has no place. Separate educational facilities are inherently unequal.” (Russo, 2004a, p. 921)

Furthermore, the logic behind the Supreme Court's decision was the dehumanizing effects of segregation:

Segregation of white and colored children in public schools has a detrimental effect upon the colored children. The impact is greater when it has the sanction of the law, for the policy of separating the races is usually interpreted as denoting the

inferiority of the Negro group. A sense of inferiority affects the motivation of a child to learn. Segregation with the sanction of law, therefore, has a tendency to [retard] the educational and mental development of Negro children and to deprive them of some of the benefits they would receive in a racial[ly] integrated school system. (Russo, 2004a, p. 944)

The case ruling of *Brown v. Board of Education, Topeka I* ended the pretense set by *Plessy v. Ferguson* that separate facilities for students of different racial backgrounds guaranteed equal opportunities to education and educational environments. This case assisted in striking down laws mandating racially-segregated educational facilities. A series of Civil Rights Acts followed, ending de jure segregation at large. Regarding education, Title VI of the Civil Rights Act of 1964 [42 U.S.C.A. § 2000d] was established to protect people from discrimination based on race, color or national origin in programs or activities that receive Federal financial assistance (Russo, 2004a, p. 945). Per the United States Department of Education (1964), Title VI stated that “no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance” (United States Department of Education, Title VI and Race, Color and National Origin Discrimination section, para. 1). There was a progressive shift in the laws of the Land in a direction that sought to improve the judicial system for people of color. However, the minds and hearts of the stubborn were steadfast in resistance and sought ways to stall the movement of change in the Nation.

Brown v. Board of Education, Topeka II (Brown II)

Many areas in America met desegregation with much resistance and used astute means of staying within the law and conveying a perception of making desegregation efforts. Some white families were so hostile to integrating that a sense of fatigue grew in blacks and browns over the post *Brown v. Board* integration struggle (Forman, 2005, p. 1,306).

As important as *Brown I* was, and is, it was limited to ending desegregation.

Thus, the Court conducted further oral argument to consider remedies. A year later, in *Brown v. Board of Education, Topeka II (Brown II)*, the Court directed school officials to act ‘with all deliberate speed’ in implementing its mandate to provide equal educational opportunities for all children regardless of race. (Russo, 2004a, p. 921)

This would start the long hard battle on desegregating schools. The case rulings of *Brown v. Board of Education, Topeka I and II* were the catalysts needed to ignite the change of attitude and opportunity regarding education for students of color. The events of the first half of the 20th century would transition into the initiatives of the second half of the century, all starting with the public educational projects and programs of the Civil Rights Movement of the 1960s.

The Civil Rights Movement and Public Education

“Almost eighty years after Reconstruction, the South underwent another racial revolution” (Forman, 2005, p. 1,295). This was the Civil Rights Movement. Part of the

Civil Rights Movement was focused on public education and minority students. The momentum of the 1960s Civil Rights Movement fueled change for students of color. Despite the legal framework laid and established in the rulings of *Plessy v. Ferguson* and *Brown v. Board of Education I and II*, there continued to be inequalities in the educational environments of minority students. As a result, alternative schools were created in the 1960s to assist in improving the state of education for students of color. For example, the “Mississippi Freedom Summer of 1964, [involved] civil rights organizations and volunteer teachers from the North respond[ing] to the inadequacies of the Mississippi education system by establishing freedom schools for black” (Forman, 2005, p. 1,290). The climate of change was elevated during the Civil Rights Movement; people united for common causes. In this case, the fight was for alternative schools and equality in educational environment. The charge was led by influential leadership and instrumental organizations.

Civil rights workers from SNCC (Student Non-Violent Coordinating Committee) and CORE (Congress of Racial Equality) worked with volunteers to set up an alternative summer school system. . . . The idea for freedom schools came from Charlie Cobb, a SNCC worker who believed the summer project would improve educational opportunities for Mississippi black [students]. Cobb portrayed black classrooms in Mississippi as autocratic and intellectually stultifying places that emphasized rote memorization and discouraged critical thinking. (Forman, 2005, pp. 1,296-1,297)

These leaders and organizations had exposed issues in the education systems and formulated a solution in these alternative schools.

Just as blacks during Reconstruction refused to accept the absence of schools, the freedom schools movement refused to accept the inadequacy of schools; by building separate schools and openly repudiating the establishment system, the freedom schools movement laid a foundation for later progressive school choice proposals. (Forman, 2005, p. 1,296)

The frustration in the established public school system for students of color was not confined to the brick and mortar walls of the school buildings; a culture of dissatisfaction and disappointment with the public school system radiated through the communities. This opinion of the public school system affected the generations of parents and grandparents raising students within these times, as well as the generation of students attending school. Although there had been legal intervention in the plight for equality in the public school systems, the blatant reality was that equality in the public education system for students of color was not going to happen without complications. This sense of resistance and non-acceptance, coupled with the inequality and inadequacy of schools for students of color at that time, leave generations reluctant in believing in the public school system.

The South did not geographically confine the educational protest movements of the 1960s. In the North, civil rights workers established a system of boycotts against segregated schools (Forman, 2005). According to Forman,

the northern free schools of the late 1960s and early 1970s. . . were alternative, independent, and privately funded. They were started by progressive educators, including many former public school teachers and some veterans of Freedom Summer, who had come to believe that they could reform public education only by working outside of the system. . . . the community control movement of the late 1960s demanded that ghetto residents have more control over their neighborhood schools. While not a school choice initiative, the community control movement is an important part of the narrative; like some choice proposals, it was premised on the notion that the public system was unwilling or unable to meet the needs of poor and working-class black children. (p. 1290)

Like the alternative schools established during the Mississippi Freedom Summer of 1964, alternative schools in the north were established in churches (Forman, 2005).

These schools, established in cities including Boston, Chicago, New York, and Cleveland, had multiple aims: (1) to raise academic achievement for black children, (2) to dramatize the inadequacy of the existing public schools, and (3) to develop racial pride by teaching subjects that organizers believed the traditional curriculum ignored; these included black history and literature, and the values embodied by the civil rights movement. (p. 1,296)

The Civil Rights Movement changed many people's beliefs and behavior toward the traditional school system. The discussion of inequality and inadequacies were no longer confined to hushed conversations, obedient compliance, and submissive

conformity; nationally civil rights leaders and organizations were fueling individuals to demand a difference both in the classroom and in their communities.

Post-civil rights movement data revealed that the proportion of minority attendance in public schools [had] increased for all minority groups over the decades. In 1977, there were 16 percent Black students, followed by 6 percent Hispanic and 1 percent Asian/Pacific Islander and American Indian/Alaska Native. By 2009, the proportion of Black students has risen to 17 percent, Hispanic to 22 percent, Asian/Pacific Islander to 5 percent, and American Indian/Alaska Native to slightly over 1 percent. (Educational Policy Institute, 2011, p. 5)

These increases were due in part to the landmark cases in desegregation efforts.

Green v. County School Board of New Kent County, VA, 391 U.S. 430

Post-*Brown v. Board I and II* public schools in America faced resistance in desegregating schools. “By 1964, a decade after the first *Brown* decision, less than two percent of formerly segregated school districts had experienced any desegregation” (Florida Advisory Committee to the U. S. Commission on Civil Rights, 2006, p. 2).

Some school districts proposed that segregation was due to the choice of individuals, not government mandate. Therefore it was acceptable and permissible under the law. The Supreme Court ruled against the freedom-of-choice plans in the 1968 *Green v. County School Board* case. The Court ruled that school officials must eliminate the racial identifiers of schools in terms of: “(1) student assignment, (2) faculty assignment, (3)

staff assignment, (4) transportation, (5) extracurricular activities, and (6) facilities” (Florida Advisory Committee to the U. S. Commission on Civil Rights, 2006, p. 3). These six identifiers became known as the Green factors. In addition to the Green factors, the term “unitary status” was introduced as a result of the *Green v. County School Board* case. Unitary status was used by the courts to describe the transition from a segregated system to a desegregated school system, from a “racially dual” system to a unitary system of education (Florida Advisory Committee to the U. S. Commission on Civil Rights, 2006, p. 3). Unitary status was given to a school district if it presented evidence to the court “that all vestiges of segregation for each of the Green factor[s] had been eliminated and were unlikely to be resurrected” (Florida Advisory Committee to the U. S. Commission on Civil Rights, 2006, p. 3). School districts were then monitored for at least three years after the unitary status was granted and was supervised by the courts indefinitely to assure that all measures were in place to remedy all issues of possible and alleged segregation. Rulings like the *Green* case were necessary to infiltrate the superficial plans and measures being established by individuals and school districts that were not willing to accept the change that was occurring in the system. This was the start of many school districts needing to prove a unitary system if allegations of discrimination were brought against them. At the time of the study, there were still many school districts nationwide that had not proven a unitary system and some that were still under Federal Court monitoring involving this matter. According to the United States Department of Justice,

In 2007 there were 70 school districts in Georgia still under court-supervised desegregation plans, 58 in Alabama, 55 in Mississippi, 31 in Louisiana, 17 in Texas, 13 in Tennessee, 12 in Florida, 7 in South Carolina, and 13 other states with at least one or more school district that have yet to fulfill the 1954 court mandate ordering all racially segregated public schools to desegregate. (McNeal, 2009, p. 564)

Desegregation of Public School Districts in Florida

The *Green* case was a significant U.S. Supreme Court decision regarding school desegregation. However, decades later courts and school districts continued to battle issues and litigations over school desegregation. For example, “34 of Florida’s 67 public school districts have been involved in [federal] litigations over school desegregation” (Florida Advisory Committee to the U. S. Commission on Civil Rights, 2006, p. 6). By 2006, according to the Florida Advisory Committee to the U. S. Commission on Civil Rights, 18 of the 34 public school districts that had been involved in litigation had received unitary status; 16 school districts remained under court supervision at the time of the present study, and only four of the 16 were actively pursuing unitary status (p. 6). The 18 Florida school districts that attained unitary status had initiated cases ranging from as early as 1956 to 1970 and earned unitary status in the years ranging from 1970 to as late as 2006 (p. 10). The average number of years from initiating case to unitary status for these 18 school districts was 27 years. Alachua Public School District, the first district to achieve unitary status, had seven years elapse between its initiating case in

1964 and obtaining unitary status in 1971 (p. 10). Of the 34 school districts with desegregation litigations, Alachua attained unitary status in the shortest amount of time. Duval County Public Schools initiated its case in 1960 and received unitary status in 2001, more than 50 years later (p. 10). Seminole County Public Schools had an initiating case in 1970, and 36 years later in 2006, the county achieved unitary status (p. 10). Of the 16 Florida school districts that remained under court jurisdiction in 2014, only four (Bradford, Flagler, Marion, and Orange) were actively pursuing unitary status (p. 30). Of the 16 Florida school districts that were under court jurisdiction, 12 had cases initiated in 1970 (p. 30). Seven of the 16 Florida school districts that were under court jurisdiction have been deemed unitary; however, these seven have entered a permanent injunction, their cases remain open, and they were being monitored by the Department of Justice for continued compliance at the time of the present study (p. 30). Brevard County School District had an initiating case in 1966, and achieved unitary status 12 years later in 1978 (p. 12). Brevard County was the second school district in Florida to achieve unitary status after desegregation litigations were brought against them (p. 10).

The journey to unitary status for Brevard Public Schools started with the 1966 case of *Sylvester Weaver et al. v. Board of Public Instruction of Brevard County, Florida*. According to the court documents, in August of 1971 the district had a unitary system established except for one school: Poinsett Elementary (*Weaver et al. v. Board of Public Instruction of Brevard County, 1972*). According to the court filing, the Brevard Public School System at that time consisted of 67 schools and a racial breakdown of 90% White and 10% Black. Poinsett Elementary, located in the urban area of Cocoa, Florida was

96.97% Black, according to June 1971 figures. The local court required the district to submit a plan of desegregation of Poinsett Elementary by September 15, 1971 (Weaver et al. v. Board of Public Instruction of Brevard County, 1972). The School Board presented a plan for discontinued use of the facility as an elementary school, substituting the usage of space as a special education center. This special education center would consist of a county-wide kindergarten program and a model demonstration school with student attendance from throughout the county, attending this center via bus transportation. The students previously assigned to Poinsett Elementary would be re-assigned to six predominately White elementary schools, all one to six miles from Poinsett Elementary. According to the court filing, this plan, presented on October 14, 1971, was retracted on October 22, 1971, and an opportunity was given to submit an alternative plan. The alternative plan presented on October 29, 1971 to the court involved majority-to-minority transfers of Poinsett Elementary students to the six predominately White schools in the area with guaranteed spaces available to these students and bus transportation for those students living more than two miles from Poinsett Elementary (Weaver et al. v. Board of Public Instruction of Brevard County, 1972). This plan was approved by the District Court on November 11, and the Plaintiffs appealed this plan.

By March of 1972, the data revealed that only 100 Black students participated in the majority-to-minority transfer plan, leaving the student population at Poinsett Elementary 97% Black and 3% White (Weaver et al. v. Board of Public Instruction of Brevard County, 1972). The court filing continued to outline that the Brevard County School Board forecast the racial composition to remain stagnant at 97% Black and 3%

White for the 1972-1973 school year; the school desegregation plan was not working. The Board proposed that all Poinsett Elementary students be transferred to the predominately white elementary schools, with bussing for students beyond two miles. Majority-to-minority transfers as the sole means of desegregating Poinsett Elementary was not an acceptable plan. The Supreme Court “reversed and remanded to the District Court for further proceedings consistent with the remedy directed in *Cisneros v. Corpus Christi Independent School District*, 467 F.2d 142 (5th Cir. 1972)” (*Weaver et al. v. Board of Public Instruction of Brevard County*, 1972, Section 8, para. 1). These remedies included pairing or clustering of schools, realignment of school zones, relocating portable school rooms, and providing adequate transportation.

The initial case in Brevard County, Florida was filed in 1966. Unitary status was given to the Brevard County Public School in 1978. Brevard was the second school district in Florida to achieve unitary status by the Federal Courts. A total of 50% of school districts in Florida have had desegregation cases initiated. Of those, approximately 50% have not achieved unitary status. These data expose the continued struggle of segregation post-*Brown*, the continued litigation over school desegregation, and the continued effort of schools to put into place satisfactory plans to eliminate segregation in America’s public school systems. The information given in a report of the Florida State Advisory Committee to the U. S. Commission on Civil Rights reveals the amount of time that is required to achieve unitary status; the process is not a simple task. Brevard County Public Schools has continued to be proactive and compliant as a unitary

school district that is nondiscriminatory and provides equal access to educational opportunity to all students.

21st Century Public Education in Brevard County Florida

Brevard Public Schools Implementation Plan and Florida Educational Equity Act of 1984

Brevard County Public Schools has annually developed an implementation plan in compliance with the Florida Educational Equity Act of 1984, Section 1000.05, F. S. (formerly Section 228.2001, F. S.), Florida Statutes, and Chapter 6A-19, Rules 1-10, Florida Administrative Code (2012, 2013 FEEA BPS Implementation Plan). The Florida Educational Equity Act (FEEA) prohibits

. . . discrimination on the basis of race, ethnicity, national origin, gender, disability, or marital status against a student or an employee in the state system of public K-20 education is prohibited. No person in this state shall, on the basis of race, ethnicity, national origin, gender, disability, or marital status, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any public K-20 education program or activity, or in any employment conditions or practices, conducted by a public educational institution that receives or benefits from federal or state financial assistance. (Florida statutes, 2012, Section 2(a), para. 1)

In addition to the federal and state legislative laws and statutes, Brevard County maintains bylaws and policies addressing non-discrimination and access to equal educational opportunities:

The Board declares it to be the policy of this District to provide an equal opportunity for all students, regardless of race, color, creed, disability, religion, gender, ancestry, age, national origin, place of residence within the boundaries of the District, or social or economic background, or any other legally protected characteristics, to learn through the curriculum offered in this District.

Additionally, this District will not discriminate in its employment policies and practices. (Brevard County Bylaws and Policies, Section 2260--

Nondiscrimination and Access to Equal Educational Opportunity section, para. 1)

Other bylaws and policies addressing issues surrounding discrimination include: 2430-- District Sponsored Clubs and Activities; non-discrimination notice; 2260.01--Non-discriminating Grievance Procedure; 5517--Harassment; 1362--Anti-Harassment; and 4362--Harassment and Non-Discrimination Procedures.

Brevard Public Schools Implementation Plans (2011-12/2012-13)

The 2012 and 2013 Brevard Public Schools Implementation Plans outlined student participation in Advanced Placement (AP) courses, dual enrollment (DE) courses, honors courses, and other Level 3 courses. The researchers of the implementation plan presented updates from the previous school year of items covered in the previous implementation plans, modifications to policies, procedures and bylaws, and student

participation in AP courses, dual enrollment (DE) courses, honors courses, and other level 3 courses. These data are broken down into categories accounting for race, gender, courses studied, programs, and schools. The implementation plan has been presented to the School Board of Brevard County for approval on an annual basis. The 2011-2012 annual implementation plan update was approved by the Board on July, 10, 2012 (Brevard County Public Schools, 2012). The 2012-2013 annual implementation plan update was approved by the Board on July, 13, 2013 (Brevard County Public Schools, 2013).

Two of the four choice programs involved in this study, Advanced Placement (AP) and dual enrollment, were directly addressed in the 2011-2012 and 2012-2013 Brevard Public School Implementation Plans. Though the Honors program was also addressed in these plans, it was excluded from programs included in the present study. The researcher observed, but did not record, the number of Honors classes taken by the sample population, noting that many of the students in the sample were involved in the Honors program. The implementation plans also provided data for Other Level 3 courses. All programs within each implementation plan contained sections accounting for student enrollment, methods and strategies from the previous school year, evidence of success, modification to methods and strategies, current year methods and strategies, and current year accountability measures.

Advanced Placement (AP) Program

“The College Board's Advanced Placement (AP) Program is a nationwide program consisting of more than 30 college-level courses and exams offered at participating high schools” (Florida Department of Education, n.d., Advanced placement (AP) section, para. 1). In the Advanced Placement (AP) section of the 2011-2012 FEEA Brevard County Public Schools (BPS) Implementation Plan, the researchers listed 22,223 students as the total enrollment, Grades 9-12, during the school year of 2011-2012 (p. 23). The 2011-2012 and 2012-2013 FEEA BPS Implementation Plan provided a breakdown of White students, White male students, Black students, Black male students, Hispanic students and Hispanic male students, by the number of participants. This information is provided in Table 1.

Table 1

Advanced Placement Grades 9-12: Total Enrollment 2007-2012

Students	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
White (all)	1,947	2,566	2,606	2,732	2,896	3,120
White male	1,007	1,092	1,119	1,219	1,278	1,414
Black (all)	140	207	220	251	273	272
Black male	51	73	72	81	85	103
Hispanic (all)	166	249	235	441	429	490
Hispanic male	74	111	97	187	197	215

In addition to the participant breakdown, a participation percentage of each subpopulation in the study was provided in the 2011-2012 and 2012-2013 reports to illustrate the percentage breakdown of White students, White male students, Black students, Black

male students, Hispanic students and Hispanic male students. This information is provided in Table 2.

Table 2

Advanced Placement Grades 9-12: Student Enrollment by Percentages 2007-2012

Students	Percentages					
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
White (all)	13	15	16	18	20	21
White male	12	13	14	16	16	19
Black (all)	4	6	7	9	9	9
Black male	3	4	4	5	5	7
Hispanic (all)	9	14	13	17	16	18
Hispanic male	8	12	10	14	14	15

The 2011-2012 plan discussed increases in AP student enrollment from 2007-2008 to 2011-2012:

In 2007-2008, 13% of Whites, 4% of Blacks, 9% of Hispanics, 12% of White Males, 3% of Black Males, and 8% of Hispanic Males were enrolled. In 2011-12, 20% of Whites (an increase of 7 percentage points), 9% of Blacks (an increase of 5 percentage points), 16% of Hispanics (an increase of 7 percentage points), 16% of White Males (an increase of 4 percentage points), 5% of Black Males (an increase of 2 percentage points), and 14% of Hispanic Males (an increase of 6 percentage points) were enrolled. (Brevard County Public Schools, 2012, Florida Educational Equity Act, p. 21)

Methods and strategies have been presented in these plans as annual events. In the introductory paragraph to the AP section and in the Evidence of Success section within

the plan, the statistics have been presented as cumulative average enrollment figures from 2007-2008 to 2011-2012. Per the 2011-2012 FEEA BPS Implementation Plan enrollment chart provided in Table 2, under the section for AP student enrollment and based upon the 2010-2011 methods and strategies, from 2010-2011 to 2011-2012: White student enrollment in AP increased 2 percentage points, and White Male students in AP had no change in percentage points. For Black students in AP, there was no change in percentage points, and Black Male students had no change in percentage points. For Hispanic students, there was a decrease of one percentage point. Hispanic Male students had no change in percentage points.

The 2011-2012 Accountability Measures and Timelines section of the 2011-2012 FEEA BPS Implementation Plan listed the following goals:

- Increase the number of Black students in Grades 9-12 enrolling in AP courses by 2 percentage points by the 2012-13 school year.
- Increase the number of Hispanic students in Grades 9-12 enrolling in AP courses by 2 percentage points by the 2012-13 school year.
- Increase the number of Black Male students in Grades 9-12 enrolling in AP courses by 1 percentage point by the 2012-13 school year.
- Increase the number of Hispanic Male students in Grades 9-12 enrolling in AP courses by 1 percentage point by the 2012-13 school year. (p. 24)

The researcher interpreted the following based upon data given in the enrollment section of the 2012-2013 FEEA BPS Implementation Plan:

- Black students in Grades 9-12 enrolling in AP courses saw no increase from 2011-12 to 2012-13; the number of Black students was 273 in 2011-12 and 272 in 2012-13.
- Hispanic students in Grades 9-12 enrolling in AP courses had a 2 percentage point increase from 2011-12 to 2012-13.
- Black Male students in Grades 9-12 enrolling in AP courses had a 2 percentage point increase from 2011-12 to 2012-13.
- Hispanic Male students in Grades 9-12 enrolling in AP courses had a 2 percentage point increase from 2011-12 to 2012-13.

The Methods and Strategies section of the 2011–2012 FEEA BPS Implementation Plan listed methods and strategies from the 2010-11 plan; these methods and strategies influenced the enrollment figures of the 2011-12 school year:

- Plan to increase the number of minority males in AP Programs by looking at model programs such as the use of ReadStep and Spring Board in the middle grades.
- Implement the district's Brevard Effective Strategies for Teaching (B.E.S.T.) model of teacher training using differentiated instruction, student monitoring, and strategies and structures for intervention and enrichment especially for male minority students.
- Continue to identify minority males with GPA's of 2.5 or better and encourage students to enroll in Advanced Placement and other accelerated programs.

- Continue AP Diploma Program at 13 of 16 district high schools. AP Diploma schools must validate increased access and participation in their AP Programs and must show evidence of vertical teaming to prepare their AP students for success in the program.
- Continue to offer AP Professional Development by the College Board within the district giving more AP teachers access to the challenging rigor of advanced placement and the differentiated instruction/strategies that will lead to success in AP for minority male students.
- Continue to assign experienced AP Mentors to new AP teachers targeting differentiated instruction/strategies especially for male minority students.
- Continue to target, enlist, and support minority males using [Advancement Via Individual Determination] AVID strategies at AVID schools.
- Continue to increase the number of students taking AVID classes, targeting and enlisting minority males at AVID schools.
- Continue to increase the number of schools within the district offering AVID classes at AVID schools. (Brevard County Public Schools, 2012, Florida Educational Equity Act, pp. 23-24)

The 2011-2012 plan then listed the *New or Modified Methods and Strategies* to be implemented for the 2011-12 school year that had an influence on the enrollment in 2011-12. The new or modified methods and strategies included:

- School counselors, with the support and monitoring of the district resource teacher for guidance, will identify minority males with GPA's of 2.5 or better

and will encourage all qualified students (and especially minority students) to enroll in Advanced Placement and other accelerated programs.

- School level AVID teachers, with the support and monitoring of the district AVID resource teacher, will target, enlist, and support the Hispanic population, particularly Hispanic males, in an effort to increase the number of students enrolled in AVID courses and in Advanced Placement classes and other accelerated programs.
- School counselors, with the support and monitoring of the resource teacher for college and career readiness, will meet with students and parents to develop a deeper understanding of using PLAN data and the relationship of those test results to participate in Advanced Placement and other accelerated programs.
- School guidance counselors, with the support and monitoring of the resource teacher for college and career readiness, will conduct required individualized Program of Study meetings for all 9th, 10th, and 11th grade students and their parents ensuring Advanced Placement and other accelerated program information is made available to all students especially Hispanic and Hispanic male populations. (Brevard County Public Schools, 2012, Florida Educational Equity Act, p. 24)

The 2012-2013 FEEA BPS Implementation Plan included the four aforementioned points which influenced the enrollment of students in AP courses in 2012-13. This same report listed the methods and strategies to be implemented for 2012-13 to influence the 2013-14 enrollment:

- Secondary Programs representatives will stress the importance of increasing the number of Hispanic and Hispanic male, and Black and Black male participation in the Advanced Placement program to assistant principals during Curriculum Contact meetings by sharing equity plan information.
- The Brevard Public School District will inform all students of the availability of Advanced Placement opportunities in the student instructional handbook.

(Brevard County Public Schools, 2013, Florida Educational Equity Act, p. 27)

The strategies and methods outlined for the three school years were intended for all Brevard County students; however, there was a focus on minority students, specifically minority male students, and on increasing enrollment in the AP program. Stakeholders listed in these strategies and methods included teachers, counselors, and school administrators; however, the ultimate decision to enroll or not enroll in the AP program belongs to the parent and student.

Dual Enrollment Program

“Dual enrollment is an acceleration program that allows high school students to simultaneously earn credit toward high school completion and a career certificate, or an associate or baccalaureate degree at a Florida public institution” (Florida Department of Education, n.d., Dual Enrollment, p. 1). In the dual enrollment (DE) section of the 2011-2012 FEEA BPS Implementation Plan, the researcher listed 22,223 students as the total enrollment, Grades 9-12, during the school year of 2011-2012 (p. 25). The 2011-2012 and 2012-2013 reports provided a disaggregation of White students, White male students,

Black students, Black male students, Hispanic students and Hispanic male students, by the number of participants. This information is provided in Table 3.

Table 3

Dual Enrollment Grades 9-12: Total Enrollment 2007-2012

Students	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
White (all)	1,401	1,494	1,794	1,731	1,912	2,071
White male	456	492	609	563	656	736
Black (all)	163	156	245	211	221	264
Black male	38	39	26	57	56	72
Hispanic (all)	100	149	187	294	286	330
Hispanic male	33	54	78	105	96	110

In addition to the participant breakdown, a participation percentage of each subpopulation in the study was provided in the 2011-2012 and 2012-2013 reports to illustrate the percentage breakdown of White students, White male students, Black students, Black male students, Hispanic students and Hispanic male students. This information is provided in Table 4.

Table 4

Dual Enrollment Grades 9-12: Student Enrollment by Percentages 2007-2012

Students	Percentages					
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
White (all)	8	9	11	12	13	14
White male	5	6	7	7	8	10
Black (all)	5	5	7	7	7	9
Black male	2	2	3	4	3	5
Hispanic (all)	6	8	10	12	11	12
Hispanic male	4	6	8	8	7	8

The 2011-2012 plan discussed increases in DE student enrollment from 2007-2008 to 2011-2012:

In 2007-2008, 8% of Whites, 5% of Blacks, 6% of Hispanics, 5% of White Males, 2% of Black Males, and 4% of Hispanic Males were enrolled. In 2011-12, 13% of Whites (an increase of 5 percentage points), 7% of Blacks (an increase of 2 percentage points), 11% of Hispanics (an increase of 5 percentage points), 8% of White Males (an increase of 3 percentage points), 3% of Black Males (an increase of 1 percentage point), and 7% of Hispanic Males (an increase of 3 percentage points) were enrolled. (Brevard County Public Schools, 2012, Florida Educational Equity Act, p. 25)

Methods and strategies have been presented in these plans as annual events. In the introductory paragraph to the DE section and in the Evidence of Success section within the plan, the statistics are presented as cumulative average enrollment figures from 2007-2008 to 2011-2012. Per the 2011-2012 FEEA BPS Implementation Plan enrollment chart provided in Table 4, from 2010-2011 to 2011-2012: White student enrollment in DE increased one percentage point, and White Male students in DE increased one percentage point; for Black students in DE there was no change in percentage points and Black Male students in DE had a decrease of one percentage point; for Hispanic students in DE there was a decrease of one percentage point and Hispanic Male students in DE had a decrease of one percentage point.

The 2011-2012 Accountability Measures and Timelines section of the 2011-2012 FEEA BPS Implementation Plan stated:

- Increase the number of Black students in Grades 9-12 enrolling in DE courses by 3 percentage points by the 2012-13 school year.
- Increase the number of Hispanic students in Grades 9-12 enrolling in DE courses by 2 percentage points by the 2012-13 school year.
- Increase the number of Black Male students in Grades 9-12 enrolling in DE courses by 2 percentage points by the 2012-13 school year.
- Increase the number of Hispanic Male students in Grades 9-12 enrolling in DE courses by 2 percentage points by the 2012-13 school year.

According to the enrollment section of the 2012-2013 FEEA BPS Implementation Plan:

- Black students in Grades 9-12 enrolling in DE courses had a 2 percentage point increase from 2011-12 to 2012-13;
- Hispanic students in Grades 9-12 enrolling in DE courses had a 1 percentage point increase from 2011-12 to 2012-13;
- Black Male students in Grades 9-12 enrolling in AP courses had a 2 percentage point increase from 2011-12 to 2012-13;
- Hispanic Male students in Grades 9-12 enrolling in AP courses had a 1 percentage point increase from 2011-12 to 2012-13;

The Methods and Strategies section of the 2011-2012 FEEA BPS Implementation Plan listed methods and strategies from the 2010-11 plan; these methods and strategies influenced the enrollment figures of the 2011-12 school year:

- At required Individualized Program of Study meetings for 9th, 10th and 11th grade, dual enrollment program information will be distributed to all Black and Hispanic students and parents.
- Professional development will be offered in September to all secondary guidance counselors, including dual enrollment and Collegiate High School counselors, in order to stress the importance of increasing the number of Black and Hispanic students participating in the dual enrollment program. The classroom application of the recently launched district-wide instructional model Brevard Effective Strategies for Teachers (B.E.S.T.) will give all students the skills to be successful in rigorous classes such as dual enrollment courses. (Brevard County Public Schools, 2012, Florida Educational Equity Act, p. 25)

The 2011-2012 plan then listed the 2011-2012 New or Modified Methods and Strategies to be implemented for the 2011-12 school year and had an influence on the enrollment in 2011-12. The new or modified methods and strategies included:

- The resource teacher for dual enrollment and resource teacher for guidance will provide professional development for all secondary guidance counselors and hold meetings with school dual enrollment contacts and guidance chairs stressing the importance of increasing the number of Black and Hispanic students participating in the dual enrollment program, especially as it relates to the BPS School Improvement Plan.

- School counselors, with the support and monitoring of the district resource teacher for guidance, will identify minority males with GPA's of 3.0 or better and will encourage all qualified students (and especially minority students) to enroll in Dual Enrollment and other accelerated programs.
- Brevard Public Schools and Brevard Community College dual enrollment specialists will annually review dual enrollment demographic information to further develop strategies for increased Black and Hispanic student participation in the dual enrollment program.
- The resource teacher for early college programs along with the resource teachers for K-12 guidance and college and career readiness will support each high school by attending the accelerated programs recruitment night offered in the spring of each school year.
- The director for secondary programs and resource teacher for dual enrollment will stress the importance of increasing the number of Hispanic and Hispanic male, and Black and Black male participation in the dual enrollment program each semester to assistant principals during Curriculum Contact meetings.

(Brevard County Public Schools, 2012, Florida Educational Equity Act, p. 26)

The 2012-2013 FEEA BPS Implementation Plan included the five aforementioned points, which influenced the enrollment of students in AP courses in 2012-13. This same report listed the methods and strategies to be implemented for 2012-13 to influence the 2013-14 enrollment; they included the five points mentioned and added:

- “The director for secondary programs and resource teacher for dual enrollment” were changed to “secondary programs representative” in the fifth point.
- And one additional method/strategy was added for 2013-2013:
 - The Brevard Public School District will inform all students of the availability of Dual Enrollment opportunities in the student instructional handbook. (Brevard County Public Schools, 2013, Florida Educational Equity Act, p. 29)

The strategies and methods outlined for the three school years were intended for all Brevard County students; however, there was a focus on minority students and minority male students and increasing enrollment in the DE program. Stakeholders listed in these strategies and methods included teachers, counselors, and school administrators; however, the ultimate decision to enroll or not enroll in the DE program belongs to the parent and student.

Accelerated Programs Reports (2008-2013)

On an annual basis, Brevard Public School District has produced an Accelerated Programs Report. This report consists of a brief summary of the report, advanced placement (AP) executive summary including strengths, areas of concern, and recommendations, and AP district, school, and subject test results, as well as International Baccalaureate® (IB) and Cambridge Advanced International Certificate of Education (AICE) results.

Advanced Placement (AP)

In 2008-2009, 29 separate AP courses were offered in Brevard County Public high schools. Appendix B lists the 29 AP courses offered in 2008-2009. Strengths listed in the executive summary for the Advanced Programs included increases in participation, increases to the number of exams taken, and increases in test scores, in addition to “a strong policy of open enrollment coupled with appropriate advising and counseling have maintained an appropriate balance between equity and access” (Brevard County Public Schools, 2009a, p. 3). Areas of concern with AP in 2008-2009 included eight courses that had scores below the state average percentage, teacher training, and student and/or faculty recruitment (Brevard County Public Schools, 2009a, p. 3). A total of 14 recommendations were provided for the 2008-2009 Advanced Program focused on teacher and counselor training, student preparation for AP courses, and identification of students for placement in these courses. Three of the 14 recommendations stated that the district would: “provide appropriate advisement and counseling concerning enrollment in an AP course”; “focus on the identification of Black students in order to decrease the equity gap that now exists”; and “evaluate minority enrollments in Level 3 academic courses in Grades 9 and 10 to increase readiness and success” (Brevard County Public Schools, 2009a, p. 4). The report also provided statistics on test results. A total of 3,168 students took AP examinations in 2008-2009, 15% of the total Grade 9-12 student enrollment that year (Brevard County Public Schools, 2009a, p. 8). Of the candidates, 21 students were American Indian/Alaskan, 172 students were Asian, 193 students were Black, 33 students were Chicano/Mexican American, 170 students were Other Hispanic,

78 students were Puerto Rican, 2,326 students were White, 107 students were categorized as Other, and 68 students did not state their race (Brevard County Public Schools, 2009a, p. 14). Female students accounted for 57.2% of the 3,168 candidates and male students accounted for 42.8% (Brevard County Public Schools, 2009a, p. 12). These data are displayed in Table 5 which contains demographic data for Advanced Placement students by race, gender, and grade level for the 2009, 2010, 2011, and 2012 school years.

Table 5

Advanced Placement Enrollment Data for Students by Race, Gender and Grade Level

Students	2008-2009	2009-2010	2010-2011	2011-2012
Total	3,168	3,114	3,345	3,521
Race				
American Indian/Alaskan	21	17	20	15
Asian	172	157	183	204
Black	193	170	218	209
Chicano/Mexican American	33	32	40	41
Other Hispanic	170	164	190	185
Puerto Rican	78	81	90	90
White	2,326	2,271	2,421	2,609
Other	107	133	107	102
Not-Stated	68	89	76	66
Gender				
Female	1,813	1,786	1,911	2,002
Male	1,355	1,328	1,434	1,519
Grade Level				
9th	83	97	188	280
10th	512	560	599	694
11th	1,246	1,191	1,292	1,296
12th	1,210	1,149	1,168	1,196
Not-Stated	117	117	98	55

In 2009-2010, 30 separate AP courses were offered in Brevard County Public high schools. Appendix B lists the 30 AP courses offered in 2009-2010. Strengths listed in the executive summary for the Advanced Programs included increases in participation, increases to the number of exams taken, and increases in test scores. “A strong policy of open enrollment coupled with appropriate advising and counseling have maintained an appropriate balance between equity and access” was listed again in 2009-2010 as a strength (Brevard County Public Schools, 2010, Accelerated Programs Report, p. 3). Areas of concern with AP in 2009-2010 included teacher training and student and/or faculty recruitment (Brevard County Public Schools, 2010, Accelerated Programs Report, p. 3). The same 14 recommendations from 2008-2009 were listed in 2009-2010, and this included Advanced Programs focusing on teacher and counselor training, student preparation for AP courses, and identification of students for placement in these courses. The report continued by providing statistics on test results. A total of 3,114 students, 14.9% of the total Grade 9-12 student enrollment, took AP examinations in 2009-2010 (Brevard County Public Schools, 2010, Accelerated Programs Report, p. 8). As shown in Table 5, of the candidates, 17 students were American Indian/Alaskan, 157 students were Asian, 170 students were Black, 32 students were Chicano/Mexican American, 164 students were Other Hispanic, 81 students were Puerto Rican, 2,271 students were White, 133 students were categorized as Other, and 89 students did not state their race (Brevard County Public Schools, 2010, Accelerated Programs Report, p. 14). There were decreases in all race categories except for Puerto Rican students, students who identified themselves as Other, and the category of Not-Notated. Female students accounted for

57.4% of the 3,168 candidates, a slight increase from the prior year, and male students accounted for 42.6%, a slight decrease from the prior year (Brevard County Public Schools, 2010, Accelerated Programs Report, p. 12).

In 2010-2011, 30 separate AP courses were offered in Brevard County Public high schools. The entire list of courses is provided in Appendix B. Strengths listed in the executive summary for the Advanced Programs included increases in participation, increases to the number of examinations taken, and increases in test scores. “A strong policy of open enrollment coupled with appropriate advising and counseling have maintained an appropriate balance between equity and access” was listed again this year as a strength (Brevard County Public Schools, 2011, Accelerated Programs Report, p. 3). Areas of concern with AP in 2010-2011 included teacher training and student and/or faculty recruitment (Brevard County Public Schools, 2011, Accelerated Programs Report, p. 3). The same 14 recommendations from 2008-2009 and 2009-2010 were listed in 2010-2011. This included Advanced Programs focusing on teacher and counselor training, student preparation for AP courses, and the identification of students for placement in these courses. The report also provided statistics on test results. A total of 3,345 students took AP examinations in 2010-2011, an increase in candidates from the previous year. As shown in Table 5, of the candidates, 20 students were American Indian/Alaskan, 183 students were Asian, 218 students were Black, 40 students were Chicano/Mexican American, 190 students were Other Hispanic, 90 students were Puerto Rican, 2,421 students were White, 107 students were categorized as Other, and 76 students did not state their race (Brevard County Public Schools, 2011, Accelerated

Programs Report, p. 14). There were increases in all race categories except for students who identified themselves as Other, and the category of Not-Notated. Female students accounted for 57.1% of the 3,345 candidates, a slight decrease from the prior year, and male students accounted for 42.9%, a slight increase from the prior year (Brevard County Public Schools, 2011, Accelerated Programs Report, p. 12).

In 2011-2012, 31 separate AP courses were offered in Brevard County Public high schools. A complete listing of courses is contained in Appendix B. Strengths listed in the executive summary for the Advanced Programs included increases in participation, increases to the number of exams taken, and increases in test scores. “A strong policy of open enrollment coupled with appropriate advising and counseling have maintained an appropriate balance between equity and access” was listed once again as a strength (Brevard County Public Schools, 2012, Accelerated Programs Report, p. 3). Areas of concern with AP in 2011-2012 included teacher training and student and/or faculty recruitment (Brevard County Public Schools, 2012, Accelerated Programs Report, p. 3). An additional area of concern was added for 2011-2012: “Minority participation and performance continues to be a concern. The number of exams taken by Black students has increased from last year; however, their performance remains low in comparison to other ethnic groups” (Brevard County Public Schools, 2012, Accelerated Programs Report, p. 3). Of the 14 recommendations offered in 2011-2012, 13 were repeated from 2008-2009, 2009-2010, and 2010-2011. The recommendation that was not presented in 2011-2012 was: “Evaluate minority enrollment in Level 3 academic courses in Grades 9 and 10 to increase AP readiness and success” (Brevard County Public Schools, 2012,

Accelerated Programs Report, p. 4). In addition, the verbiage was slightly altered to two recommendations, i.e., a change from “provide teacher in-service” to “require teacher in-service” and from “implement” strategies to “encourage articulation among middle schools and high schools in developing” strategies (Brevard County Public Schools, 2012, Accelerated Programs Report, p. 4). The report also provided statistics on test results. A total of 3,521 students took AP examinations in 2011-2012, an increase in candidates from the previous year. Of the candidates, 15 students were American Indian/Alaskan, 204 students were Asian, 209 students were Black, 41 students were Chicano/Mexican American, 185 students were Other Hispanic, 90 students were Puerto Rican, 2,609 students were White, 102 students were categorized as Other, and 66 students did not state their race (Brevard County Public Schools, 2012, Accelerated Programs Report, p. 14). There were increases in Asian students, Chicano/Mexican students, and White; all other categories saw decreases. Female students accounted for 56.9% of the 3,521 candidates, a decrease from the prior year, and male students accounted for 43.1%, an increase from the prior year (Brevard County Public Schools, 2012, Accelerated Programs Report, p. 12).

International Baccalaureate® (IB)

Cocoa Beach High School and Melbourne High School offered the International Baccalaureate® (IB) during the school years of 2008-2012. According to the 2008-2009 Advanced Programs Report, Cocoa Beach High School offered 21 IB test subjects. There were 46 IB diploma candidates at Cocoa Beach High in 2008-2009, with 39 IB

diplomas issued. In 2008-2009, Melbourne High School offered five IB test subjects. No diplomas were issued at Melbourne High in 2008-2009.

According to the 2009-2010 Advanced Programs Report, Cocoa Beach High School offered 18 IB test subjects. This was a decrease in subject areas offered. However, there were 54 IB diploma candidates at Cocoa Beach High in 2009-2010, with 40 IB diplomas issued, an increase from the prior year. According to the Accelerated Programs Report from 2009-2010, Melbourne High School offered 12 IB test subjects. This was an increase in subject areas offered, in addition to establishing candidates and issuance of IB diplomas at Melbourne High School. There were 47 IB diploma candidates at Melbourne High School in 2009-2010, with 23 IB diplomas issued. The 2010-2011 Accelerated Report recorded Cocoa Beach High School offering 19 IB test subjects, an increase of one subject area. Yet there were increases in both candidates and diplomas, i.e., 65 IB diploma candidates at Cocoa Beach High School in 2010-2011, with 55 IB diplomas issued.

In the 2010-2011 Accelerated Programs Report, Melbourne High School saw an increase to 14 IB test subjects being offered. However there was a decrease in candidates and diplomas; there were 31 IB diploma candidates at Melbourne High School in 2010-2011, with 19 IB diplomas issued.

Finally, in the 2011-2012 Accelerated Programs Report, Cocoa Beach High School offered 18 IB test subjects, a decrease of one subject area. Though there was a decrease in candidates, there was an increase in diplomas. In 2011-2012, there were 63 IB diploma candidates at Cocoa Beach High School, and 53 IB diplomas were issued. In

2011-2012, Melbourne High School saw a decrease of subjects offered; only 12 IB test subjects were offered. There was, however, an increase in candidates and diplomas.

There were 41 IB diploma candidates at Melbourne High School in 2011-2012, and 31 IB diplomas were issued.

The Brevard County Public Schools' Accelerated Programs Report did not provide a data detailing test scores by race or gender for the students participating in the IB program from 2008-2012. In addition, this report did not give strengths, areas of improvement, or recommendations for the students participating in the IB program from 2008-2012.

Cambridge Advanced International Certificate of Education (AICE) Program

Rockledge High School and Eau Gallie High School offered the *AICE Program* during the 2008-2009 school year. According to the 2008-2009 Advanced Programs Report, Rockledge High School offered 12 AICE test subjects. There were 66 AICE diploma candidates at Rockledge High School in 2008-2009, with 39 AICE diplomas issued. In 2008-2009, Eau Gallie High School offered 15 AICE test subjects. There were 19 AICE diploma candidates at Eau Gallie High School in 2008-2009, and 14 AICE diplomas were issued.

According to the 2009-2010 Advanced Programs Report, Rockledge High School offered 16 AICE test subjects. This was an increase from the previous year. There were 73 AICE diploma candidates at Rockledge High in 2009-2010, and 41 AICE diplomas were issued. This was an increase in candidates and diplomas issued from the prior year.

In 2009-2010, Eau Gallie High School offered 13 AICE test subjects, a decrease in test subjects from the prior year. There were 28 AICE diploma candidates at Eau Gallie High School in 2009-2010, and 19 AICE diplomas were issued. This was an increase in both candidates and diplomas from the prior year.

According to the 2010-2011 Advanced Programs Report, Rockledge High School offered 14 AICE test subjects, fewer than had been offered in the previous year. There were 72 AICE diploma candidates at Rockledge High School in 2010-2011, and 59 AICE diplomas were issued. Though candidates decreased, the number of diplomas issued increased from the prior year. In 2010-2011, Eau Gallie High School offered 12 AICE test subjects, fewer than had been offered in the prior year. There were 27 AICE diploma candidates at Eau Gallie High School in 2010-2011, and 20 AICE diplomas were issued. This represented a decrease in candidates and an increase in diplomas issued.

In the 2011-2012 Advanced Programs Report, a district disaggregation was provided for AICE tests offered, and Heritage High School was added as a site offering AICE courses, testing, and diplomas. Rockledge High School offered 14 AICE test subjects. There were 78 AICE diploma candidates at Rockledge High in 2011-2012, and 64 AICE diplomas were issued. This was an increase in both candidates and diplomas issued from the prior year. In 2011-2012, Eau Gallie High School offered 12 AICE test subjects, had 41 AICE diploma candidates at Eau Gallie High School, and awarded 29 diplomas. This was an increase in both candidates and diplomas issued from the prior year. Heritage High School offered 10 AICE test subjects, had 13 AICE diploma candidates, and awarded no AICE diplomas.

The Brevard County Public Schools' Accelerated Programs Report did not provide a test score data by race and gender for students participating in the AICE program from 2008-2012. In addition, this report did not give strengths, areas of improvement, or recommendations for the students participating in the AICE program from 2008-2012.

Summary

The equality in political, industrial and social life which modern men must have in order to live, is not to be confounded with sameness. On the contrary, in our case, it is rather insistence upon the right of diversity; - upon the right of a human being to be a man even if he does not wear the same cut of vest, the same curl of hair or the same color of skin. Human equality does not even entail, as it is sometimes said, absolute equality of opportunity; for certainly the natural inequalities of inherent genius and varying gift make this a dubious phrase. But there is more and more clearly recognized minimum of opportunity and maximum of freedom to be, to move and to think, which the modern world denies to no being which it recognizes as a real man. (University of North Carolina at Chapel Hill, n.d.)

Wolpert-Gawron (2013) discussed a teacher's qualitative action research on race, proportionate participation, and perception regarding advanced/accelerated course offered at her school in an article focused on Honors classes. The student population at the teacher's school was approximately 49% Hispanic and 49% Asian; however, honors classes reflected 98% Asian and 2% Hispanics (Wolpert-Gawron, 2013, The Imbalance

section, para. 1). This disproportionate representation, or gap, has been an issue in many districts nationwide. The teacher in Wolpert-Gawron's scenario inquired of her students as to why they believed this disproportionate representation existed. Her findings were that perception, more than ability, steered participation in advanced programs and that "misperception by the students or families that certain tracks are for certain kinds of students" was a theme in the responses from her students (Wolpert-Gawron, 2013, The Imbalance section, para. 5). High achieving Hispanics did not apply for honors classes; however, low achieving Asians did apply for honors classes. For the most part, both groups' actions were not based on ability or guidance but by perception of expectation, fueled by the students, their families, and the culture in and around the school. Schools nationwide are creating more and more opportunities for all students to have the choice to participate in accelerated/advanced programs offered within their school system. However the challenge for districts is to reverse counterproductive perceptions of preconceived educational tracks for students based upon race, gender or socioeconomic status, and to nurture students so they may maximize the freedom to be, to move and to think, to choice. Many years have elapsed since the first public school was established in 1635; however, have enough years elapsed to extinguish the effects of segregation? Researchers will continue to monitor the efforts to minimize the racial, gender, and socioeconomic status gaps in accelerated and advance course participation.

CHAPTER 3 METHODOLOGY

Introduction

“At its most basic and uncontroversial, school choice is a reform movement focused on affording parents the right to choose which school their child attends” (Choice. 2004, para. 1). Parents and students in Brevard County have had options regarding public education. Choice programs in Brevard County Florida “empower parents to decide the best learning environment for their child regardless of where they live in the school district” (Brevard Public Schools, n.d., Office of Choice Welcome section, para. 1). This intra-district option of school choice in the Brevard County Public School system provides the opportunity for high school students to attend schools that offer Florida’s articulated acceleration programs leading to transferrable college credit. The Brevard County Public School’s Office of School Choice maintains that “School Choice is more than a philosophy--it [is] the programs and tools of a 21st century education that prepares students for success in a rapidly-changing and complex world” (Brevard Public Schools, n.d., Office of Choice Welcome section, para. 2).

Purpose of Study

The purpose of this study was to provide a quantitative analysis of Brevard County Public School’s 2012 graduates who as eighth-grade students received a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) mathematics and a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) reading and

their participation in high school advanced academic courses. The high school advanced academic courses involved in this study included Advanced Placement (AP) courses, dual-enrollment courses, International Baccalaureate® (IB) Diploma Programme courses, and Cambridge Advanced International Certificate of Education (AICE) program courses during the 2008-2009, 2009-2010, 2010-2011, and 2011-2012 school years. In the study, the representation of these 2012 graduates who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and reading was investigated by race and gender to determine whether the proportions were an accurate representation of the population.

Study Approval

The researcher sought formal approval for this study through the Brevard County Public School's Office of Accountability, Testing, and Evaluation. The School Board of Brevard County Application to Conduct Research Assurances (Appendix C) was submitted with the signature of the research advisor, Dr. Barbara A. Murray. In addition, approval was sought and granted through the University of Central Florida's Institutional Review Board under IRB number SBE-13-09582 (Appendix D).

Research Questions and Hypotheses

The study was guided by the following research questions and hypotheses:

1. To what extent are Asian 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT

mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

2. To what extent are Black 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
3. To what extent are Hispanic 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

4. To what extent are American Indian/Alaska Native 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
5. To what extent are Multi-racial 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
6. To what extent are White 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge

Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

H₀ There is no significant difference between the race (Asian, Black, Hispanic, American Indian/Alaska Native, Multi-racial, and White) of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades.

7. To what extent are male 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
8. To what extent are female 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT

mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

H₀ There is no significant difference between the gender of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades.

Profile of Brevard County Public Schools

According to Sable, Plotts, and Mitchell (2010), Brevard County Public Schools was one of the top 10 largest districts in Florida (p. A-4), and one of the top 50 largest districts nationally (p. A-4). According to Brevard County School Board's Operational Audit Report 2013-135, during the 2011-12 fiscal year, the District operated 86 schools:

58 elementary schools, 12 middle schools, four combined junior-senior high schools, and 12 high schools (State of Florida Auditor General, 2013, p. 1).

Population

The population for the study consisted of all students in Brevard County Public Schools, as recorded on the October student membership count, during the school years of 2007-2008, 2008-2009, 2009-2010, 2010-2011, and 2011-2012. From the 2007-2008 population, a sample of eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading was extracted, and their scores were analyzed. A high performing eighth-grade student was defined by the researcher as a student who scored a level 4 or a level 5 on the Florida Comprehensive Assessment Test® (FCAT) during the school year of 2007-2008 in the subjects of mathematics and reading. The dependent variable, the FCAT scores, was retrieved from pre-existing, archived data provided by Brevard County Public Schools student information data system.

Sample

A sample of high performing eighth-grade students in the school year of 2007-2008 was extracted from the source data of Brevard County Public Schools' general student population based upon the achievement of a level 4 or a level 5 on their eighth-grade mathematics and reading FCAT in the school year of 2007-2008. The researcher recorded the number of courses per year of all of the high performing eighth-grade

students through their senior year. One sample consisted of high performing eighth-grade students in 2008 who took advanced/accelerated courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and Cambridge Advanced International Certificate of Education (AICE) programs during the school years 2008-2009, 2009-2010, 2010-2011, and 2011-2012. Only high performing students taking a total of three or more courses per year in one or more of the four programs identified in this study were considered in the first sample of students participating in advanced/accelerated program during their high school career. If fewer than three courses per year were taken by the high performing eighth-grade students, they were not considered to be a student participating in an advanced/accelerated program for the purposes of this study. The second sample consisted of high performing eighth-grade students who did not take a total of three or more courses per year in one or more of the four programs, thereby being identified as “not participating” by the researcher.

Instrumentation

A high performing 2012 graduate was defined by the researcher as a student who scored a level 4 or a level 5 in mathematics and reading on the 2008 Florida Comprehensive Assessment Test® (FCAT) and took advanced/accelerated courses in 9th, 10th, 11th, and 12th grades. The dependent variable of FCAT scores were retrieved from pre-existing archived data provided by the Brevard County Public Schools student data system.

The FCAT began in 1998 as part of Florida's overall plan to increase student achievement by implementing higher standards. When in full implementation, the FCAT was administered to students in Grades 3-11 and consisted of criterion-referenced assessments in mathematics, reading, science, and writing, which measured student progress toward meeting the Sunshine State Standards (SSS) benchmarks. (Florida Department of Education, n.d., The Florida Comprehensive Assessment Test section, para. 1).

According to the Florida Department of Education (2004) “the [FCAT] test [met] all professional standards of psychometric quality traditionally associated with standardized achievement tests. Two constructs that are generally used to indicate the quality of a standardized test are reliability and validity” (p. 24); “reliability ... essentially means that the test provides consistent measurement of an examinee’s knowledge” (p. 24) and “validity refers to the extent to which the test measures the characteristic it is supposed to measure” (p. 26). Evidence of both reliability and validity was provided by the Florida Department of Education and supported the claim that the FCAT was technically sound and met or exceeded the professional standards for standardized achievement tests. The researcher deemed the FCAT a valid and reliable standardized achievement test to use as a dependent variable in this study.

Data Collection

Data were collected directly from the Brevard County Public Schools’ student information database in Viera, Florida. Two reports were generated by Brevard Public

Schools at the request of the researcher. The first report consisted of 241 pages, accounting for 2,275 eighth-grade students who received a 4 or 5 on the 2008 mathematics FCAT. The second report consisted of 153 pages, accounting for 1,394 eighth-grade students who received a 4 or 5 on the 2008 reading FCAT. The researcher cross-referenced the two reports and identified those students' names that appeared on both reports. Those students' names appearing on both reports were de-identified and assigned a number from 0001 to 1152.

Once students were identified and coded, the researcher composed a Microsoft Excel spreadsheet, consisting of columns labeled: Student, the assigned numeric code of 0001-1152 occupied the cells in this column; race; gender; 2008 reading score; 2008 mathematics score; local un-weighted grade point average; local weighted grade point average; middle school code; high school code; and highest grade level completed (in Brevard Public Schools). Data for the 1,152 students were collected and recorded on the Microsoft Excel Spreadsheet. The race, gender, 2008 reading score, 2008 mathematics score, local un-weighted grade point average, local weighted grade point average, middle school code, high school code, and highest grade level completed of these identified students were obtained through the Brevard County Public School student information data system.

Additionally, the researcher recorded the number of courses taken by the identified students in their 9th, 10th, 11th, and 12th grades on the same Microsoft Excel spreadsheet. The additional columns per grade-level were labeled: AP Courses; Pre-IB Courses; Pre-AICE Courses; AICE Courses; IB Courses; Dual Enrollment Courses; and

Total Advanced Courses. Course information on these high performing students was obtained through the Brevard County Public School student information data system.

Accelerated/advanced courses were recorded for each student for all years of attendance in Brevard County Public high schools. The courses were totaled for each student for each year of attendance in a Brevard County Public high school; and students with three or more courses per year, in one or more of the four identified programs in this study were separated and labeled as participants. Students with fewer than three courses per year in the four identified programs in this study were separated and labeled as non-participants. For all four years, these two sub-populations were sorted by race and gender. Tables were created for each school year: 2007-2008, 2008-2009, 2009-2010, 2010-2011, and 2011-2012, and for each of the two sub-populations (participants and non-participants). These tables display the number of students by race and gender, as well as the percentages of each sub-category based on the total 1,152 student sample. Statistical tests were conducted using this pre-existing, archived data provided by the Brevard County Public School student information database system. These data were placed into the software program Statistical Package for the Social Sciences (SPSS) for statistical analysis.

Data Analysis

This study was conducted to analyze the representation of race and gender in selected choice programs in Brevard County Public Schools to determine whether the proportions were an accurate representation of the population. The researcher collected

race and gender data on the population of Brevard County Public School students in the school years of 2007-2008, 2008-2009, 2009-2010, 2010-2011, and 2011-2012 for the purposes of proportion comparison. The population demographic information was obtained from the archived Data Publications and Reports in the Education Information & Accountability Services section on the Florida Department of Education's website. The researcher recorded the total number and percentage of Brevard County Public School students by race and by gender per year for the respective school years being analyzed. These figures were collected on the student population to compare the percentage proportions of the population to the sub-populations in the same respective year.

A chi-square goodness-of-fit test was a suitable analysis for this portion of the study because it permitted the researcher to test whether the proportions of the subpopulations differed from the true proportions of the general population. These statistical tests were run using pre-existing, archived data provided by Brevard County Public Schools student data system. The data collected from the Brevard County Public Schools student data system were entered into the software program Statistical Package for the Social Sciences (SPSS) for statistical analysis.

Summary

Chapter 3 has described the methods and procedures used to conduct this quantitative study. Included was an introduction, an explanation of the selection of participants, the instrumentation of the FCAT as a tool in measuring high performance,

and the procedures used in data collection and analysis. The introduction included the purpose of the study, study approval, and the research questions and hypotheses. The section on the selection of participants included a profile of Brevard County Public Schools, and an explanation of the population and sub-populations involved in this study. The validity and reliability of the FCAT were discussed as part of the instrumentation, and the data collection and analysis procedures were detailed. The methodology was intended to provide a quantitative analysis of high performing students and their participation in select choice programs in Brevard County Public Schools.

CHAPTER 4 DATA ANALYSIS

Introduction

The problem posed in this study was to determine if student membership proportions, by race and gender, were parallel to the eighth-grade students who received a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) mathematics and a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) reading. In addition, this study sought to determine if this sample of eighth-grade students was proportionally congruent, by race and gender, to the student membership in the respective year of comparison regarding participation in the advanced academic choice programs selected for this study. For the purpose of this study, students taking a total of three or more courses per year in one or more of the four programs identified in this study were considered to be participants in advanced/accelerated programs during their high school careers. Eighth-grade students who did not take a total of three or more courses per year in one or more of the four programs during their high school career were identified as not participating by the researcher.

Chi-square goodness-of-fit tests were run to analyze the proportions by race and gender of the sample groups and student membership populations. A chi-square goodness-of-fit test was a suitable analysis for this portion of the study, because it permitted the researcher to test whether the proportions of the subpopulations differed from the true proportions of the general population.

Descriptive Statistics

Population

The population for this study consisted of the student membership in Brevard County Public Schools in the respective year analyzed. According to the Florida Department of Education (2008a), Brevard County Public Schools' student membership as of October 2007 was 74,364 students. This student membership figure was recorded in the 2007-2008 School Accountability Report from information collected in Survey 2 Data gathered during the week of October 8-12, 2007 (Florida Department of Education, 2008b). The student membership for Brevard County Public Schools as of October 2008 was 73,076 students (Florida Department of Education, 2009a). This student membership figure was recorded in the 2008-2009 School Accountability Report from information collected in Survey 2 Data gathered during the week of October 13-17, 2008 (Florida Department of Education, 2009b). Brevard County Public Schools' student membership as of October 2009 was 72,402 students (Florida Department of Education, 2010a). This student membership figure was recorded in the 2009-2010 School Accountability Report from information collected in Survey 2 Data gathered during the week of October 12-16, 2009 (Florida Department of Education, 2010b). The researcher cross referenced data from the Florida Department of Education's website with that of the National Center for Education Statistics. According to the National Center for Education Statistics (2010), Brevard County Public Schools reported a student membership of 72,412 in October 2010. The reason for the 10 student differential between data on the

Florida Department of Education's website and the National Center for Education Statistics' website is unknown. However, for the purpose of this study, the researcher used 72,402 students as the student membership in October 2009. According to the Florida Department of Education (2011a), Brevard County Public Schools' student membership as of October 2010 was 71,866 students. This student membership figure was recorded in the 2010-2011 School Accountability Report from information collected in Survey 2 Data gathered during the week of October 11-15, 2010 (Florida Department of Education, 2011b). Finally, the Brevard County Public Schools' student membership as of October 2011 was 71,786 students (Florida Department of Education, 2012a). This student membership figure was recorded in the 2011-2012 School Accountability Report from information collected in Survey 2 Data gathered during the week of October 10-14, 2011 (Florida Department of Education, 2012b). Table 8 provides student membership figures of the population and a percentage breakdown of race and gender for each year of this study. Race and gender data in Table 6 was retrieved from the School Accountability Reports for the respective years analyzed.

Table 6

School District Student Enrollment and Percentages by Race and Gender 2007-2012

Descriptors	2007-08	2008-09	2009-10	2010-11	2011-12
Total Student Enrollment	74,364	73,076	72,412	71,866	71,786
Race					
Asian	2.1%	2.1%	2.2%	1.9%	2.0%
Black	14.7%	14.6%	14.9%	14.1%	14.2%
Hispanic	8.1%	8.4%	8.7%	12.4%	12.6%
American Indian	0.3%	0.3%	0.3%	0.2%	0.2%
Multi-racial	5.2%	5.6%	5.6%	6.8%	6.8%
Native Hawaiian/ Pacific Islander	-	-	-	-	0.1%
White	69.7%	69.1%	68.4%	64.4%	64.1%
Gender					
Females	48.4%	48.6%	48.7%	48.6%	48.5%
Males	51.6%	51.4%	51.3%	51.4%	51.5%

Stability Rate

According to the Florida Department of Education (2010c, p. 1), the “stability rate is the percentage of students from the October membership count who are still present in the second semester (February count)”. In Florida, the stability rate indicator replaced the mobility rate indicator as of the 2001-2002 school year. Brevard County Public Schools maintained a high stability rate during the five-years involved in this study. In 2007-2008, Brevard County Public Schools had a stability rate of 93.4% (Florida Department of Education, 2008c). This rate increased in the 2008-2009 school year to 96.9% (Florida Department of Education, 2009c). The 2009-2010 school year had a slight increase to 97% in the stability rate (Florida Department of Education, 2010c). There was no change in stability rate for Brevard County Public Schools in the 2010-

2011 school year; the rate remained at 97% (Florida Department of Education, 2011c). The stability rate for the final year of the study, 2011-2012, was 97.1% for Brevard County Public Schools (Florida Department of Education, 2012c). The student membership of Brevard County Public Schools was stable during the five years analyzed in this study.

Sample

A sample of high performing eighth-grade students in the school year of 2007-2008 was extracted from the source data of Brevard County Public Schools' general student population based upon the achievement of a level 4 or a level 5 on eighth-grade mathematics and reading FCATs in the school year of 2007-2008. The researcher recorded the number of courses per year of the high performing eighth-grade students through their senior year. The first sample consisted of high performing eighth-grade students in 2008 who took advanced/accelerated courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and Cambridge Advanced International Certificate of Education (AICE) programs in the school years of 2008-2009, 2009-2010, 2010-2011, and 2011-2012. Only high performing students taking a total of three or more courses per year in one or more of the four programs identified in this study were considered in the first sample of students, termed participants, in advanced/accelerated programs during their high school career. The second sample consisted of high performing eighth-grade students who did not take a total of three or

more courses per year in one or more of the four programs. For the purpose of this study, these students were identified as Non-participants by the researcher.

There were 1,152 students identified as high performing eighth-grade students in the school year of 2007-2008 based upon the achievement of a level 4 or a level 5 on their eighth-grade mathematics and reading FCAT in the school year of 2007-2008.

Table 7 displays data for the sample by race and by gender, providing numbers and percentages of students in the sample and in the population for 2007-2008.

Table 7

Sample by Race and Gender: 2008 Eighth-grade Students Scoring 4 and 5 on Mathematics and Reading FCAT

Descriptor	Student Sample		Student Population	
	N	Percentage	N	Percentage
Total	1,152	100.00%	74,364	100.00%
Race				
Asian	31	2.69%	1,533	2.06%
Black	47	4.08%	10,902	14.66%
Hispanic	65	5.64%	6,044	8.13%
Indian	1	0.09%	237	0.32%
Multi-racial	48	4.17%	3,831	5.15%
White	960	83.33%	51,817	69.68%
Gender				
Female	630	54.69%	35,992	48.40%
Male	522	45.31%	38,372	51.60%

Note. FCAT = Florida Comprehensive Assessment Test.

Only high performing students who took a total of three or more courses per year in one or more of the four programs were considered participating in an advanced or accelerated program during their high school career. Of the 1,152 students in the sample, there were 181 students (15.72%) who participated in 2008-2009, 278 students (24.14%) who participated in 2009-2010, 539 students (46.79%) who participated in 2010-2011, and 699 students (60.68%) who participated in 2011-2012. Table 8 displays data for the sample by race and by gender, providing numbers of students in the sample who participated in the four choice programs for the study years.

Table 8

Participant Sample by Race and Gender for Study Years

Descriptor	2008-09	2009-10	2010-11	2011-12
Total	181	278	539	699
Race				
Asian	8	11	24	24
Black	8	18	28	28
Hispanic	11	21	36	43
Indian	0	0	0	0
Multi-Racial	12	13	22	29
White	142	215	429	575
Gender				
Female	108	179	332	424
Male	73	99	207	275

The second sample consisted of high performing eighth-grade students who did not take a total of three or more courses per year in one or more of the four programs. For the purposes of the study, the researcher identified these students as Non-participants

in advanced or accelerated programs during their high school career. From the sample of 1,152 students, 971 (84.29%) did not participate in the four choice programs identified in this study during the 2008-2009 school year. A total of 874 students (75.87%) did not participate in the four choice programs identified in this study during the 2009-2010 school year. During the 2010-2011 school year, 613 students (53.21%) did not participate in the four choice programs identified in this study, and in 2011-2012, 453 students (39.32%) did not participate. Table 9 displays data for the sample by race and by gender, providing numbers of students in the sample who did not participate in the four choice programs for the study years.

Table 9

Non-participant Sample by Race and Gender for Study Years

Descriptor	2008-09	2009-10	2010-11	2011-12
Total	971	874	613	453
Race				
Asian	23	20	7	7
Black	39	29	19	19
Hispanic	54	44	29	22
Indian	1	1	1	1
Multi-Racial	36	35	26	19
White	818	745	531	385
Gender				
Female	522	451	298	206
Male	449	423	315	247

Program Participation

The researcher also sought to analyze the participation or lack of participation of students in Florida's four college credit seeking articulated accelerated programs from the class of 2012 students who as eighth-graders received a score of 4 or 5 on the 2008 FCAT mathematics and reading portions of the test. The four Florida articulated accelerated programs are the Advanced Placement program, the International Baccalaureate® program consisting of Pre-IB courses and IB courses, the Advanced International Certificate of Education (AICE) program consisting of Pre-AICE course and AICE courses, and the dual enrollment program. Appendix E provides a comparison of Florida's articulated accelerated programs as provided by the Florida Department of Education (2013). The eighth-grade students who scored a 4 or 5 on the 2008 FCAT mathematics and reading portions of the test and took a total of three or more courses per year in one or more of the four programs identified in this study were considered as participating in advanced/accelerated program during their high school careers. Data collection identified the number of courses taken in each of the programs by the 1,152 students in the sample.

Advanced Placement Courses. From the sample consisting of 1,152 students, 18 students took 22 AP courses their freshman year. Many of these freshman students averaged one course each ($M=1.16$, $SD=.688$). A total of 329 students took 397 AP courses their sophomore year. Many of these sophomore students averaged one course each as well ($M=1.21$, $SD=.442$). During their junior year, the sample had 589 students taking 1,217 AP courses. The average number of AP courses taken in their junior year

were two courses ($M=2.07$, $SD=.964$). Lastly, 540 students in the sample took 1,200 AP courses their senior year. Although the average was two AP classes for the senior participants, the span was widened indicating less density around the average ($M=2.22$, $SD=1.195$).

Pre-IB Courses. From the sample consisting of 1,152 students, 120 students took 414 Pre-IB courses their freshman year, many averaging three Pre-IB classes ($M=3.45$, $SD=.765$). During their sophomore year, 95 students took 270 Pre-IB courses, averaging about three Pre-IB classes in their course load for this year as well ($M=2.84$, $SD=.468$). During their junior year, 47 students each took one Pre-IB course; and in their senior year 45 students took one Pre-IB course each.

IB Courses. From the sample consisting of 1,152 students, no students took IB courses in their freshman year. A total of 61 students took 113 IB courses their sophomore year, many averaging about two IB courses ($M=1.85$, $SD=.402$). During their junior year, 80 students took 350 IB courses, many averaging four IB courses in their course load ($M=4.38$, $SD=.802$). Lastly, 79 students took 426 IB courses their senior year, with five courses being an average for these students ($M=5.39$, $SD=.854$).

Pre-AICE Courses. From the sample consisting of 1,152 students, 67 students took 230 Pre-AICE courses their freshman year. Many of these freshman students averaged three Pre-AICE courses ($M=3.43$, $SD=.821$). A total of 71 students took 167 Pre-AICE courses their sophomore year, many averaging two Pre-AICE courses ($M=2.35$, $SD=.776$). In their junior year, 34 students took 42 Pre-AICE courses, many

averaging one Pre-AICE course ($M=1.24$, $SD=.431$). Lastly, nine students took only one Pre-AICE course each their senior year.

AICE Course. From the sample consisting of 1,152 students, no students took AICE courses their freshman year. A total of 15 students took 16 AICE courses, or about one course each, their sophomore year ($M=1.07$, $SD=.258$). During the junior year, 87 students took 212 AICE courses, averaging two courses each; however, the standard deviation indicated that there was less density around the average ($M=2.44$, $SD=1.273$). Lastly, 79 students took 207 AICE courses their senior year, averaging almost three courses with less density around the average ($M=2.62$, $SD=1.294$).

Dual Enrollment (DE) Courses. From the sample consisting of 1,152 students, 36 students took 54 DE courses their freshman year, averaging almost two dual enrollment courses ($M=1.50$, $SD=.507$). In their sophomore year, 234 students took 957 DE courses, or averaged about four dual enrollment courses each ($M=4.09$, $SD=2.205$). A total of 343 students took 1,623 DE courses their junior year, averaging almost five dual enrollment courses each. However, the span was widened, indicating less density around the average ($M=4.73$, $SD=2.677$). Lastly, 470 students took 2,807 DE courses ($M=5.97$, $SD=3.156$) their senior year or an average of six dual enrollment courses with less density around the mean.

Attrition and Continuation Rates

Of the 1,152 students in the sample, two students (.17%) took the 2008 mathematics and reading FCAT and scored a 4 or a 5 on both; however, no information

was available in the Brevard County Public School student database on these two students' academic careers in the system before or after the 2008 FCAT. Upon further research, these two students entered the Brevard Public School District during the weeks of the 2008 FCAT and exited the school system shortly after taking the 2008 FCAT. Of the 1,150 students remaining in the sample, 34 students (2.95%) discontinued their academic career in the system after eighth-grade and 1,116 students (96.88%) continued their education in the Brevard County Public School District. In 2008-2009, 45 students (3.91%) discontinued their academic career in the system after ninth grade and 1,071 students (92.97%) continued their education in the system. In 2009-2010, 42 students (3.65%) discontinued their academic career in the system after 10th grade, and 1,029 students (89.32%) continued their education in the system. In 2010-2011, 28 students (2.43%) discontinued their academic career in the Brevard County Schools after 11th grade and 1,001 students (86.89%) continued their education in the system. The sample of 1,152 students had an attrition rate of 13.11% and a continuation rate of 86.89%.

Quantitative Analysis

The problem statement for this study is summarized by the question “To what extent are the gender and race of the 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate®

(IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?” The findings of the student are reported for each of the specific research questions and hypotheses which guided the study.

Research Question 1

To what extent are Asian 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

To answer this research question, it was necessary to establish a point of equilibrium, between the Asian population proportion and sample to determine a probable number of students who would participate in three or more courses in one or more of the four programs in this study for each of the study years: 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12. This expected number of Asian students was then compared to the actual number of Asian students who received a score of 4 or 5 on the FCAT in both mathematics and reading. This enabled a determination of whether the actual number of participants was more or less than expected. The probable and actual numbers of Asian participants and the difference between the two are displayed in Table 10 for each of the study years.

Table 10

Asian Students' Probable, Actual, and Difference in Participation

Study Year	Student Participants		
	Probable	Actual	Difference
2007-08	24	31	+7
2008-09	4	8	+4
2009-10	6	11	+5
2010-11	10	24	+14
2011-12	14	24	+10

Research Question 2

To what extent are Black 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

To answer this research question, it was necessary to establish a point of equilibrium, between the Black population proportion and sample to determine a probable number of students who would participate in three or more courses in one or more of the four programs in this study for each of the study years: 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12. This expected number of Black students was then compared to the actual number of Black students who received a score of 4 or 5 on the FCAT in both mathematics and reading. This enabled a determination of whether the actual number of participants was more or less than expected. The probable and actual numbers of Black participants and the difference between the two are displayed in Table 11 for each of the study years.

Table 11

Black Students' Probable, Actual, and Difference in Participation

Study Year	Student Participants		
	Probable	Actual	Difference
2007-08	169	47	-122
2008-09	27	8	-19
2009-10	42	18	-24
2010-11	76	28	-48
2011-12	100	28	-72

Research Question 3

To what extent are Hispanic 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

To answer this research question, it was necessary to establish a point of equilibrium, between the Hispanic population proportion and sample to determine a probable number of students who would participate in three or more courses in one or more of the four programs in this study for each of the study years: 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12. This expected number of Hispanic students was then compared to the actual number of Hispanic students who received a score of 4 or 5 on the FCAT in both mathematics and reading. This enabled a determination of whether the actual number of participants was more or less than expected. The probable and actual numbers of Hispanic participants and the difference between the two are displayed in Table 12 for each of the study years.

Table 12

Hispanic Students' Probable, Actual, and Difference in Participation

Study Year	Student Participants		
	Probable	Actual	Difference
2007-08	94	65	-29
2008-09	15	11	-4
2009-10	24	21	-3
2010-11	67	36	-31
2011-12	88	43	-45

Research Question 4

To what extent are American Indian/Alaska Native 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

Based upon the percentage of American Indian students in the 2007-2008 student membership of Brevard County Public Schools, the point of equilibrium between the population proportion and sample was approximately four students. The actual number of American Indian students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading was one student. Therefore there was a deficit of approximately three American Indian students who scored a 4 or 5 on the 2008 FCAT mathematics and scored a 4 or 5 on the 2008 FCAT reading in comparison to the proportion of the population. The one American Indian student in the sample did not participate in three or more courses offered in the four choice programs involved in this study during their freshman, sophomore, junior or senior years.

Research Question 5

To what extent are Multi-racial 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

To answer this research question, it was necessary to establish a point of equilibrium, between the Multi-racial population proportion and sample to determine a probable number of students who would participate in three or more courses in one or more of the four programs in this study for each of the study years: 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12. This expected number of Multi-racial students was then compared to the actual number of Multi-racial students who received a score of 4 or 5 on the FCAT in both mathematics and reading. This enabled a determination of whether the actual number of participants was more or less than expected. The probable and actual numbers of Multi-racial participants and the difference between the two are displayed in Table 13 for each of the study years.

Table 13

Multi-racial Students' Probable, Actual, and Difference in Participation

Study Year	Student Participants		
	Probable	Actual	Difference
2007-08	59	48	-11
2008-09	10	12	+2
2009-10	16	13	-3
2010-11	37	22	-15
2011-12	48	29	-19

Research Question 6

To what extent are White 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

To answer this research question, it was necessary to establish a point of equilibrium, between the White population proportion and sample to determine a probable number of students who would participate in three or more courses in one or more of the four programs in this study for each of the study years: 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12. This expected number of White students was then compared to the actual number of White students who received a score of 4 or 5 on the FCAT in both mathematics and reading. This enabled a determination of whether the actual number of participants was more or less than expected. The probable and actual numbers of White participants and the difference between the two are displayed in Table 14 for each of the study years.

Table 14

White Students' Probable, Actual, and Difference in Participation

Study Year	Student Participants		
	Probable	Actual	Difference
2007-08	803	960	+157
2008-09	125	142	+17
2009-10	191	215	+24
2010-11	328	429	+81
2011-12	449	575	+126

H₀₁ (Encompassing Questions 1-6)

H₀ There is no significant difference between the race (Asian, Black, Hispanic, American Indian/Alaska Native, Multi-racial, and White) of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades.

The researcher rejected the null hypothesis; there is a significant difference between the race (Asian, Black, Hispanic, American Indian/Alaska Native, Multi-racial, and White) of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades. At a .05 significance level, the racial composition of eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading was significantly different from the racial composition of the 2007-2008 student membership of Brevard County Public Schools, $X^2(5, N=1152) = 133.898, p=.000$. At a .05 significance level, the racial composition of the eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and took a total of three or more courses during the 2008-2009 school year in one or more of the four programs identified in this study was significantly different from the racial composition

of the 2008-2009 student membership of Brevard County Public Schools, $X^2(4, N=181) = 21.174, p=.000$. At a .05 significance level, the racial composition of the eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and took a total of three or more courses during the 2009-2010 school year in one or more of the four programs identified in this study was significantly different from the racial composition of the 2009-2010 student membership proportions, $X^2(4, N=278) = 20.978, p=.000$. At a .05 significance level, the racial composition of the eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and took a total of three or more courses during the 2010-2011 school year in one or more of the four programs identified in this study was significantly different from the racial composition of the 2010-2011 student membership proportions, $X^2(4, N=539) = 86.612, p=.000$. At a .05 significance level, the racial composition of the eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and took a total of three or more courses during the 2011-2012 school year in one or more of the four programs identified in this study was significantly different from the racial composition of the 2011-2012 student membership proportions, $X^2(4, N=699) = 136.464, p=.000$.

Table 15 provides a side-by-side comparison of the residual figures per year per race of the students who participated in the four select choice programs involved in this study. Residual figures are the differential between the number of students expected to participate based upon population proportions of the respective year and the actual

number of students who participated in the respective year. A positive residual figure indicated more students participated than forecasted through population proportions. A negative residual figure indicated that there were less students who participated than forecasted through population proportions. The complete results of the individual Chi Square analyses for each of the racial subgroups for each of the study years is contained in Appendix F.

Table 15

Chi Square Residuals by Study Year and Participants' Race

Race	2007-08	2008-09	2009-10	2010-11	2011-12
Asian	7.3	4.2	4.8	13.5	-2.0
Black	-121.9	-18.5	-23.5	-48.2	-45.3
Hispanic	-28.7	-4.2	-3.1	-31.1	-35.2
Indian	-2.7	0	0	0	-0.1
Multi-racial	-11.3	1.9	-2.5	-14.8	-12.0
White	157.3	16.6	24.4	80.6	94.6
Asymp. Sig. (p)	0.000	0.000	0.000	0.000	0.000
Reject/Accept H ₀	Reject	Reject	Reject	Reject	Reject

Note. Asymptotic Significance (2-sided) as the p value

Research Question 7

To what extent are male 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

To answer this research question, it was necessary to establish a point of equilibrium, between the male student population proportion and sample to determine a probable number of male students who would participate in three or more courses in one or more of the four programs in this study for each of the study years: 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12. This expected number of male students was then compared to the actual number of male students who received a score of 4 or 5 on the FCAT in both mathematics and reading. This enabled a determination of whether the actual number of participants was more or less than expected. The probable and actual numbers of male participants and the difference between the two are displayed in Table 16 for each of the study years.

Table 16

Male Students' Probable, Actual, and Difference in Participation

Study Year	Student Participants		
	Probable	Actual	Difference
2007-08	594	522	-72
2008-09	93	73	-20
2009-10	143	99	-44
2010-11	277	207	-70
2011-12	360	275	-85

Research Question 8

To what extent are female 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate®

(IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

To answer this research question, it was necessary to establish a point of equilibrium, between the female student population proportion and sample to determine a probable number of female students who would participate in three or more courses in one or more of the four programs in this study for each of the study years: 2007-08, 2008-09, 2009-10, 2010-11, and 2011-12. This expected number of female students was then compared to the actual number of female students who received a score of 4 or 5 on the FCAT in both mathematics and reading. This enabled a determination of whether the actual number of participants was more or less than expected. The probable and actual numbers of female participants and the difference between the two are displayed in Table 17 for each of the study years.

Table 17

Female Students' Probable, Actual, and Difference in Participation

Study Year	Student Participants		
	Probable	Actual	Difference
2007-08	558	630	+72
2008-09	88	108	+20
2009-10	135	179	+44
2010-11	262	332	+70
2011-12	339	424	+85

H₀₂ (Encompassing Research Questions 7 and 8)

There is no significant difference between the gender of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades.

The researcher rejected the null hypothesis; there was a significant difference between the gender of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades. At a .05 significance level, the gender composition of eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading was significantly different from the gender composition of the 2007-2008 student membership of Brevard County Public Schools, $X^2(1, N=1152) = 18.235, p=.000$. At a .05 significance level, the gender composition of the eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and took a total of three or more courses during the 2008-2009 school year in one or more of the four programs identified in this study was significantly different from the gender composition of the 2008-2009 student membership of Brevard County Public Schools, $X^2(1, N=181)$

= 8.877, $p=.003$. At a .05 significance level, the gender composition of the eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and took a total of three or more courses during the 2009-2010 school year in one or more of the four programs identified in this study was significantly different from the gender composition of the 2009-2010 student membership proportions, $X^2 (1, N=278) = 27.423, p=.000$. At a .05 significance level, the gender composition of the eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and took a total of three or more courses during the 2010-2011 school year in one or more of the four programs identified in this study was significantly different from the gender composition of the 2010-2011 student membership proportions, $X^2 (1, N=539) = 36.440, p=.000$. At a .05 significance level, the gender composition of the eighth-grade students who received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and took a total of three or more courses during the 2011-2012 school year in one or more of the four programs identified in this study was significantly different from the gender composition of the 2011-2012 student membership proportions, $X^2 (1, N=699) = 41.367, p=.000$. Table 18 provides a side-by-side comparison of the residual figures by gender per year for students who participated in the four select choice programs involved in this study. Residual figures were the differential between the number of students expected to participate based upon population proportions of the respective year and the actual number of students who participated in the respective year. A positive residual figure indicated more students participated than forecast through population proportions.

A negative residual figure indicated that there were less students who participated than forecast through population proportions. The complete results of the individual Chi Square analyses for male students and female students for each of the study years is contained in Appendix F.

Table 18

Chi Square Residuals by Study Year and Participants' Gender

Gender	2007-08	2008-09	2009-10	2010-11	2011-12
Female	72.4	20	43.6	70	85
Male	-72.4	-20	-43.6	-70	-85
Asymp. Sig. (p)	0.000	0.003	0.000	0.000	0.000
Reject/Accept H ₀	Reject	Reject	Reject	Reject	Reject

Note. Asymptotic Significance (2-sided) as the p value

CHAPTER 5 SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Introduction

This chapter presents a brief summary of the findings from this study, implications for policy and practice, and recommendations for future studies. The findings from this study, as well as items in the review of literature and other studies on the topic of race and gender in advanced and accelerated programs support the concept of disproportionate representation of Black students, Hispanic students, and male students in advanced and accelerated programs. In addition to the summary of findings from this study, the researcher discusses a need to analyze the income gap as it relates to student participation in advanced or accelerated programs. Cross tabulations of race, gender, and socioeconomic status of students for proportion comparisons in advanced and accelerated programs can assist school leaders in strategizing methods to increase participation of underrepresented groups. Brevard County Public Schools has a solid foundation of methods and strategies that have been contributing to sustaining and increasing the participation in advanced and accelerated programs of targeted groups. However, Brevard County Public Schools should consider upgrading and establishing uniformity in data collection, management and tracking of demographic data to assist in improved recruiting methods, retention analysis, and any future quantitative studies that will contribute to increased participation in the four programs involved in this study.

Purpose and Problem of the Study

The purpose of this study was to provide a quantitative analysis of Brevard County Public School's 2012 graduates who as eighth-grade students received a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) mathematics and a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) reading and their participation in high school advanced academic courses. The study analyzed the representation of these 2012 graduates who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and reading by race and gender to determine whether the proportions were an accurate representation of the total student enrollment for each year of their high school career.

The problem posed in this study was to determine if student membership proportions, by race and gender, were parallel to the eighth-grade students who received a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) mathematics and a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) reading. In addition, this study sought to determine if this sample of eighth-grade students were proportionally congruent, by race and gender, to the student membership in the respective year of comparison regarding participation in the advanced academic choice programs selected for this study.

Research Questions and Hypotheses

1. To what extent are Asian 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT

mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

2. To what extent are Black 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
3. To what extent are Hispanic 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

4. To what extent are American Indian/Alaska Native 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
5. To what extent are Multi-racial 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
6. To what extent are White 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge

Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

H₀ There is no significant difference between the race (Asian, Black, Hispanic, American Indian/Alaska Native, Multi-racial, and White) of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades.

7. To what extent are male 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?
8. To what extent are female 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT

mathematics and a score of 4 or 5 on the 2008 FCAT reading, proportionately represented in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades?

H₀ There is no significant difference between the gender of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades.

Summary of the Findings

Chi-squared goodness-of fit tests were used in the analysis of data that led to rejecting the hypotheses that there were no statistical differences in the proportions of student memberships and the samples regarding race overall and both genders for the years analyzed. Each research question identified the individual independent variables of race and gender by the sub-categories reported to the Florida Department of Education. The researcher deemed it necessary to list the six individual race categories and the two gender categories in the research questions to analyze, report, and acknowledge the proportions that were met or exceeded, as well as to highlight the individual race categories and gender category deficits. Both data that surpassed proportion predictions and data that indicated shortages in proportion predictions can assist choice program leaders and administrators in aligning their recruitment and retention strategies appropriately. Continuous data analysis by individual race and gender will also assist in comparing methods and strategies that are effective and those that are ineffective from year to year.

Implications for Policy and Practice

The researcher collected data on the four programs involved in this study from the school district offices in Viera, Florida. Reports were run, and data were provided through the Office of Accountability and Testing. Physical reports were compiled by the researcher, and these data were cross referenced with student records on Brevard County Public Schools' AS400 system. Information was also retrieved from public records

available on the Florida Department of Education's website. The researcher dedicated over 100 hours to data collection and compiling all necessary information to produce a primary database that housed information that was examined and entered into SPSS for statistical analysis. This method of data collection was antiquated, time-consuming, and increased the risk of error in recording. For future research conducted with Brevard County Public School student data similar to this study, a K-12 data management and tracking system would be of assistance in completing a more accurate and timely collection of information needed to conduct quantitative research.

The four choice programs involved in this study are considered to have school-level autonomy to interpret and administer the programs outside of the mandatory directive and requirements established by the governing bodies over the respective programs. The school district provides support personnel, in addition to compiling data for required annual reports. To assist in data collection for future research and reporting, it would be beneficial for all stakeholders involved in the decision-making and policies of the four college credit-seeking choice programs involved in this study to devise a uniform system of data collection and tracking. The researcher submitted an initial request for student demographic data, in particular race, gender, and socioeconomic status, on the application, acceptance, enrollment and completion of the four programs involved in this study spanning the five years involved in this study. This information was unavailable at the district-level. At the school-level, and eventually at the district-level, demographic information is typically collected through school registration material. The researcher declined cross-referencing registration demographic information with students' school-

level application, acceptance, enrollment and completion of the four programs involved in this study due to the magnitude of time required to compile such a database. For future data collection of demographics addressed in reports and plans, such as race and gender, a uniform system of information collection is needed. The option for parents and students to provide race and gender information should be provided on the application to choice programs. This would assist in tracking and compiling data needed to run comparisons of information in reports such as the Brevard County Accelerated Programs Reports and the Florida Educational Equity Act/Brevard County School Improvement Plans, as well as providing needed data for quantitative research concerning proportion comparisons. There were no analyses of race and gender for the AICE and IB programs in the Brevard County Accelerated Programs Reports.

From Gándara and Bail's (2001) review and evaluation of early postsecondary education intervention programs, it was recorded that "programs that appeared most effective had the following elements in common" (p. viii):

- Providing a key person who monitors and guides the student over a long period of time – a "mentor", program director, faculty member, or guidance counselor.
- Providing high-quality instruction through access to the most challenging courses offered by the school ("untracking"), through special coursework that supports and augments the regular curriculum to better address the learning needs of the students.

- Making long-term investments in students rather than short-term interventions. The longer students were in the program, the more likely they were reported to benefit from it.
- Paying attention to the cultural backgrounds of students. Many programs reported having greater success with one group of students than another; it is likely that background and expertise of the staff and directors helped them to make cultural connections with students.
- Providing a peer group that supports students' academic aspirations as well as giving them social and emotional support. (Gándara & Bail, 2001, p. viii)

The researcher reviewed the elements presented on the Brevard County Public Schools' Office of School Choice website, the 2009, 2010, 2012, and 2013 Brevard County Public Schools Accelerated Programs Reports, the 2009, 2012, and 2013 Florida Educational Equity Act/Brevard County Public Schools Implementation Plans and concluded that the element pertaining to the assignment of key persons and high-quality instruction were satisfied. Going forward, choice program leaders and administrators can continue to provide key support persons for these programs, as well as continue to support high-quality instruction; however, methods and strategies can also focus on long-term investing, in particular, identifying and supporting potential candidates earlier in their academic careers, as well as providing more cultural diversification and peer mentoring. These areas may assist in improving the participation rates in the choice programs involved in this study.

Long Term Investments in Students

“Important college admissions decisions now start as early as middle school. Successful college admissions heavily depend on academic planning, as the primary admissions criteria heavily stress college [preparatory] classes’ GPA, standardized test [scores], and course rigor” (Shi, 2014, p. 25). The decision-making for college credit academic career-pathing actually starts as early as middle school. Students with the potential to succeed in an academic track that will lead them to the four college credit-seeking programs involved in this study would need to be identified well before middle school. Giving parents and families the chance to research, process, and understand choice options years before decisions need to be made, versus the semester or two in middle school or high school, may assist in increasing participation in these programs.

Brevard County Public Schools offer an array of choice programs to their students. Appendix G provides a complete listing of the choice programs that will be offered to students in 2014-2015. Parents and students can apply for admission to an elementary millennium school: Freedom 7 Elementary School of International Studies, Stevenson Elementary School of the Arts, and West Melbourne Elementary School for Science; a choice Junior/Senior High School, Edgewood Junior/Senior High School and West Shore Junior/Senior High School; an International Baccalaureate Middle Years Programme, Cocoa Beach Junior/Senior High School; and Pre-AICE middle school programs at Jackson Middle School, Johnson Middle School and Kennedy Middle School. These elementary, middle school, and high school options are available to all Brevard County Public School students. However, the decision making involved in

researching these programs and actually applying to them needs to take place before middle school. Thus, identifying students, sharing knowledge of these programs with parents and allowing enough time for academic planning is needed in the years prior to middle school. Choice program leaders and administrators could consider choice academic career-pathing as early as the third-grade FCAT.

Early Identification (Recruitment)

Although there are tools that assist in identifying students who have potential to succeed in advanced and accelerated courses, such as ReadStep, Spring Board, and AP Potential®, these instruments are traditionally used in middle school. Decisions on college credit academic career paths are made in middle school; however, introducing the concept of college credit academic career paths should be accomplished earlier than this. Elementary schools should consider devising a preliminary identification system of potential students who may be successful in a college credit academic career path by setting criteria for an introductory phase at the elementary school-level. Whether identification starts with a teacher recommendation, grade point average, student success in prerequisite coursework, selected and participated in the Gifted program, scores on aptitude tests, scores on State tests, or any other criterion set, or combination of the aforementioned criteria, elementary schools can initiate a system of data collection and tracking of these students with college credit academic career potential. Guidance counselors at the elementary and middle school-levels can work together to bridge these identified elementary school students with the complete college credit-seeking program,

starting in middle-school, that will equip the student with the “college [preparatory] classes’ GPA, standardized test [scores], and course rigor” for successful maneuvering and completion of the college credit-seeking programs and ease in transitioning to college (Shi, 2014, p. 25).

Early Encouragement

Identifying students with the potential for successful participation in a college credit academic career path in the fourth-grade or earlier by providing information to families and students on the programs available to the student within the district can nourish and motivate interest in both accelerated academic courses and in the students themselves.

If the most important people and groups in the child’s world conceive him [or her] as not worthwhile, it is almost impossible for him [or her] to value himself [or herself] highly. The evidence indicates that these self-images are pretty well formed before children enter school. This is one of the reasons why people believe that these early years are crucial in personality development. The child’s self-concept is considered to be an important determinant of his [or her] social interaction and personality adjustment. The self-concept is also important to achievement, because it affects the child’s level of aspiration and self-expectation. (Jersild, Telford, & Sawrey, 1975, p. 172)

Informing students and their families that they have college potential early in their academic careers has potential to ignite interest that will motivate students and their

families to seek accelerated and advanced coursework in preparation for college. Researchers have shown that higher education reaps communal evolution and economic progression. The proactive decision to start this process early is an important individual decision as well as an essential investment to society. Elementary schools can start by providing the prospectus for the long-term investment in a college credit academic career path as well as planting the seed of encouragement needed amidst a meaningful and pivotal time in the student's development.

Continuous Support (Retention)

From the sample of 2012 graduates of Brevard County Public Schools, who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading, participation in one or more of the four accelerated/advanced programs in this study remained constant or increased every year in all race and gender categories except American Indian, which had no participation. This progress is reflected in Table 19.

The results of the analysis conducted for the present study were not generalizable outside of this sample. Further study in the area of retention with quantitative analysis is needed to fully understand the position on retention in these four accelerated/advance programs. A data management and tracking system can assist in future quantitative analysis of retention data.

Table 19

Student Participation in Accelerated/Advanced Programs by Race and Gender for Study Years

Students	2007-08	2008-09	2009-10	2010-11	2011-12
Total	1,152	181	278	539	699
Race					
Asian	31	8	11	24	24
Black	47	8	18	28	28
Hispanic	65	11	21	36	43
Indian	1	0	0	0	0
Multi-Racial	48	12	13	22	29
White	960	142	215	429	575
Gender					
Female	630	108	179	332	424
Male	522	73	99	207	275

An observation by the researcher during the data collection phase revealed a pattern of student placement in one or more of the four programs involved in this study within clusters by last name in alpha order within the middle schools and high schools. An assumption by the researcher was that guidance counselors were assigned by last name, alpha order, and that future data collected in the same manner as this study can reveal a pattern of guidance counselors with a higher student placement rate and retention rate within the four programs involved in this study. Schools can use these data to create learning communities of counselors who can assist one another in better understanding how to encourage students to enroll and complete the four programs involved in this study.

Cultural Diversity and Peer Support

Several approaches within the Methods and Strategies section of the Brevard County Public Schools Florida Educational Equity Act Schools Implementation Plans (2009b, 2012c, and 2013b) mention using Advancement Via Individual Determination (AVID) planning, courses, and resources to assist in increasing underrepresented participants such as Black males and Hispanic males.

AVID is a non-profit, proven college readiness system that closes the achievement gap; the AVID College Readiness System transforms a school's academic culture to increase the number of students who enroll in four-year colleges and succeed in higher education and training. (Advanced Via Individual Determination, 2014, p. 1)

According to a news release on February 21, 2014, AVID centers in Los Angeles and San Diego and an African American male fraternity have formed a regional alliance with school districts in the area to provide tutoring and mentoring for schools within the region (Advanced Via Individual Determination, 2014). Congruence, cooperation, and collaboration in public educational endeavors between school districts and civic organizations have echoed Walker's (2013) research on *Black Educators as Educational Advocates in the Decades Before Brown v. Board of Education*. Revisiting Vroom's expectancy theory of motivation, increased community encouragement about college participation and increased exposure to college students and college alumni potentially can increase the expectancy, instrumentality, and valance of middle school and high school students and lead to an increased interest to apply, enroll, and complete the four

programs involved in this study. Discussing, planning, and forming alliances between school leaders and civic organization leaders within Brevard County can potentially tap into community resources that can assist in addressing the need for more cultural diversity and peer support to the underrepresented students in the four choice programs involved in this study.

Recommendation for Future Studies

This study was delimited to race and gender proportion comparisons. The researcher was unable to gain access to the socioeconomic classification of the students involved in this study. Therefore the question remains as to whether there is a significant difference between the socioeconomic status (SES) of 2012 graduates of Brevard County Public Schools who as eighth-grade students received a score of 4 or 5 on the 2008 FCAT mathematics and a score of 4 or 5 on the 2008 FCAT reading and their proportionate representation in advanced or accelerated Language Arts, mathematics, science, social studies or other advanced courses in the Advanced Placement (AP), dual-enrollment, International Baccalaureate® (IB), and/or Cambridge Advanced International Certificate of Education (AICE) programs during their 9th, 10th, 11th, and 12th grades. Future research could compare the proportions of Brevard County Public Schools' student membership by socioeconomic status as reported to the Florida Department of Education for the respective years involved and the pre-existing socioeconomic data of the students involved in this study. However, access to the raw student data is needed for this comparison. The raw data collected from this research was housed in the Accountability

and Testing department of Brevard County Public Schools in Viera, Florida. Limitations were not established by the researcher and Brevard County Public Schools as to how long the raw data would be available for future analysis.

Over 200 years ago, Thomas Jefferson and Thomas Paine contested inequalities regarding access and opportunity to quality public education for students of low socioeconomic families. In the 21st century, students from low socioeconomic environments have the choice to enroll in advanced and accelerated programs; however, socioeconomic factors often continue to hinder the decision-making process of low income families regarding choice schools and programs. Researchers have shown that there may be a correlation between the student achievement gap and the income gap, and that in some subsequent generation these two concepts may become a “chicken and egg” scenario, i.e., which came first, the lack of income or the lack of quality education? According to the American Psychological Association (Education & Socioeconomic Status section, para. 1), “an examination of SES as a gradient or continuous variable reveals inequalities in access to and distribution of resources. SES is relevant to all realms of behavioral and social science, including research, practice, education, and advocacy. . . . Low-income students with high academic potential miss or do not consider. . . opportunities because of socioeconomic disadvantages” (Shi, 2014, p. 25). The possible lack of education of family members making academic decisions for students, lack of income, and lack of dialog between low-income families and schools may inhibit low-income, high performing students from participating in choice programs. For example, Brevard County Public Schools imposed a choice program application fee

of \$30 per student starting the academic school year of 2013-2014. In the same year, choice program corridor bussing was discontinued due to budget issues. Low income families may interpret fees, even if waivers are offered, and discontinued bussing as barriers to participation in choice programs because of their limited expendable net income and lack of means and time to transport children to and from school. “Policy should aim to remove the barriers. . . for students who desire to participate” (Shi, 2014, p. 25). Socioeconomic proportion comparison between student membership populations and choice program participation is recommended for the graduating class of 2012 sample, as well as samples of students before and after the implementation of choice application fees and cancellation of corridor choice bussing in Brevard County.

Future studies could consider cross tabulation analysis of race, gender, and socioeconomic status of student population proportions and participation in select choice programs. In addition, future studies can analyze and cross tabulate race, gender, and socioeconomic status of qualified students that did not participate in select choice programs. Cross tabulations of race and gender could contribute to the data reported in the Florida Educational Equity Act/Brevard Public Schools Implementation Plan (SIP). The Brevard County Public Schools’ SIP report has specifically targeted improving participation of Black male students and Hispanic male students in advanced and accelerated programs mentioned in this study.

This study was delimited to the students in the class of 2012, who as eighth-grade students scored a 4 or 5 on the mathematics portion of the 2008 FCAT and scored a 4 or 5 on the reading portion of the 2008 FCAT. Future research could replicate this study by

comparing the annual student membership proportions to a different cohort of eighth-grade students. In addition, other dependent variables can be used instead of the FCAT scores; for example, the enrollment of seventh-grade and eighth-grade students in Algebra 1. The other studies can then be compared for similarities and differences in results and data can be used to assist choice program leaders and administrators adjust policy and practice appropriately.

Finally, this research was a quantitative, ex-post facto, non-experimental study that focused on answering how many students, by race and gender in a defined cohort, participated in the four programs involved in this study. Qualitative ex-post facto studies in the form of interviews and surveys can be conducted to inquire why students did or did not participate in these programs. This qualitative research can be conducted on the cohort involved in this study, or can be conducted on other students identified in similar future studies.

Summary

The problem posed in this study was to determine if student membership proportions, by race and gender, were parallel to the eighth-grade students who received a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) mathematics and a score of 4 or 5 on the 2008 Florida Comprehensive Assessment Test (FCAT) reading. In addition, the researcher sought to determine if this sample of eighth-grade students was proportionally congruent, by race and gender, to the student membership in the respective year of comparison regarding participation in the advanced

academic choice programs selected for this study. Chi square goodness-of-fit tests resulted in the conclusion that there were statistically significant differences in race and gender proportions between the student member population and samples for every year involved in this study.

Future studies could focus on incorporating socioeconomic status analysis in proportion comparisons, in addition to performing cross tabulations of race, gender, and socioeconomic status of students for proportion comparisons. In addition, future studies can seek to inquire why students do or do not participate in these choice programs. Brevard County Public schools would be well advised to continue to assign dedicated staff to assist in increasing the participation of underrepresented students in the four programs involved in this study as well as continuing to offer these courses and programs to Brevard County high school students. Additional, Brevard County Public Schools should consider upgrading and establishing uniformity in data collection, management and tracking of demographic data to assist in retrieving and analyzing quantitative data for decision-making and policy that will contribute to increased participation in the four programs involved in this study. Lastly, consideration could be given to forming alliances with community and civic organizations to increase cultural diversity and peer-support for those students who are underrepresented in the four choice programs involved in this study.

APPENDIX A
PERMISSION TO REPRODUCE FIGURE 1

Re: Permission to reproduce

Richard W. Scholl <rscholl@uri.edu>

Mon 4/14/2014 12:03 PM

To: S M Doaks <synthia.doaks@knights.ucf.edu>;

Dear Ms. Doaks,

You have my permission to use Expectancy Theory Components (http://www.uri.edu/research/lrc/scholl/webnotes/Motivation_Expectancy.htm). **This is the only permission that you will need. Thank you for asking.**

I wish you the best with your research.

*Cheers,
Rick Scholl*

Richard W. Scholl, Ph.D.
Director, [Schmidt Labor Research Center](#)
Professor of Organizational Behavior
University of Rhode Island
401-874-4347
[SLRC Blog- News and Announcements](#)
<http://www.uri.edu/research/lrc/scholl>

On 4/13/2014 12:56 PM, S M Doaks wrote:

Good Afternoon,

My name is Synthia Doaks and I am a doctoral student in the Executive Educational Leadership Ed. D. program at the University of Central Florida. My dissertation is titled AN ANALYSIS OF RACE AND GENDER IN SELECT CHOICE PROGRAMS WITHIN BREVARD COUNTY PUBLIC SCHOOLS. The theoretical framework supporting this research was Vroom's expectancy theory of behavior. My editor has advised me to seek permission to use your figure titled Expectancy Theory Components given on the website http://www.uri.edu/research/lrc/scholl/webnotes/Motivation_Expectancy.htm.

Your information will only be used for the purpose of illustration in my dissertation. Please provide written approval of the use of this figure in my dissertation.

Re: Permission to reproduce - S M Doaks

Page 2 of 2

As far as rights, do you know if I will need to seek permission from a Board of Directors at the Research Center and/or The University of Rhode Island?

Thank you in advance for your time in reading this e-mail and supplying written approval for the use of your figure in my dissertation.

Many Thanks.

*Synthia M. Doaks
(321) 368-6251
synthia.doaks@knights.ucf.edu*

APPENDIX B
LIST OF AP, IB, AND AICE COURSES BY SCHOOL YEAR

AP Districtwide			
2009	2010	2011	2012
Courses Offered	Courses Offered	Courses Offered	Courses Offered
In 15 Public High Schools	In 15 Public High Schools	In 15 Public High Schools	In 15 Public High Schools
Biology	Biology	Art History	Art History
Calculus AB	Calculus AB	Biology	Biology
Calculus BC	Calculus BC	Calculus AB	Calculus AB
Chemistry	Chemistry	Calculus BC	Calculus BC
Computer Science A	Computer Science A	Chemistry	Chemistry
Economics Macro	Economics Macro	Computer Science A	Computer Science A
Economics Micro	Economics Micro	Economics Macro	Economics Macro
English Language	English Language	Economics Micro	Economics Micro
English Literature	English Literature	English Language	English Language
Environmental Science	Environmental Science	English Literature	English Literature
European History	European History	Environmental Science	Environmental Science
French Language	French Language	European History	European History
German Language	German Language	French Language	French Language
Gov't & Politics: Com	Gov't & Politics: Com	German Language	German Language
Gov't & Politics: US	Gov't & Politics: US	Gov't & Politics: Com	Gov't & Politics: Com
Human Geography	Human Geography	Gov't & Politics: US	Gov't & Politics: US
Music Theory	Latin: Vergil	Human Geography	Human Geography
Physics B	Music Theory	Music Theory	Latin: Vergil
Physics C: Elec & Mag	Physics B	Physics B	Music Theory
Physics C: Mechanics	Physics C: Elec & Mag	Physics C: Elec & Mag	Physics B
Psychology	Physics C: Mechanics	Physics C: Mechanics	Physics C: Elec & Mag
Spanish Language	Psychology	Psychology	Physics C: Mechanics
Spanish Literature	Spanish Language	Spanish Language	Psychology
Statistics	Spanish Literature	Spanish Literature	Spanish Language
Studio Art: Drawing	Statistics	Statistics	Spanish Literature
Studio Art: 2D	Studio Art: Drawing	Studio Art: Drawing	Statistics
Studio Art: 3D	Studio Art: 2D	Studio Art: 2D	Studio Art: Drawing
US History	Studio Art: 3D	Studio Art: 3D	Studio Art: 2D
World History	US History	US History	Studio Art: 3D
	World History	World History	US History
			World History

Int'l Baccalaureate			
Cocoa Beach	Cocoa Beach	Cocoa Beach	Cocoa Beach
2009	2010	2011	2011
Courses Offered	Courses Offered	Courses Offered	Courses Offered
Biology SL	Chemistry HL	Biology SL	Biology SL
Chemistry HL	Chemistry SL	Chemistry HL	Chemistry HL
Chemistry SL	English A1 HL	Chemistry SL	Chemistry SL
Economics HL	Env & Soc SL	Economics HL	English A1 HL
Economics SL	French B HL	English A1 HL	Env & Soc SL
English A1 HL	French B SL	Env & Soc SL	French B HL
French B HL	Hist. Europe/ME HL	French B HL	French B SL
French B SL	Math Studies SL	French B SL	History HL
Hist. Americas HL	Mathematics HL	Hist. Europe/ME HL	Math Studies SL
Math Studies SL	Mathematics SL	Math Studies SL	Mathematics HL
Mathematics HL	Music Group SL	Mathematics HL	Mathematics SL
Mathematics SL	Music Solo SL	Mathematics SL	Music SL
Music Gr. Perf. SL	Psychology HL	Music Solo SL	Psychology HL
Music So. Perf. SL	Psychology SL	Psychology HL	Psychology SL
Physics SL	Spanish B HL	Psychology SL	Spanish B HL
Psychology HL	Spanish B SL	Spanish B HL	Spanish B SL
Psychology SL	Theater HL	Spanish B SL	Theater HL
Spanish B HL	Theater SL	Theater HL	Theater SL
Spanish B SL		Theater SL	
Theater HL			
Theater SL			

Melbourne 2009	Melbourne 2010	Melbourne 2011	Melbourne 2012
Courses Offered	Courses Offered	Courses Offered	Courses Offered
Biology SL	Biology SL	Biology SL	Biology SL
French B SL	Biology HL	Biology HL	Biology HL
Mathematics SL	English HL	English HL	English HL
Psychology SL	French B SL	French B SL	French B SL
Spanish B SL	History HL	History HL	History HL
	Math Studies SL	Math Studies SL	Math Studies SL
	Math SL	Math SL	Math SL
	Math HL	Math HL	Math HL
	Music SL	Music SL	Music SL
	Music HL	Music HL	Psychology HL
	Psychology SL	Psychology SL	Psychology SL
	Spanish B SL	Spanish B SL	Spanish B SL
		Theater HL	
		Theater SL	

AICE Rockledge High 2009	Rockledge High 2010	Rockledge High 2011	Rockledge High 2012
Courses Offered	Courses Offered	Courses Offered	Courses Offered
Biology	Biology	Biology	Biology
Business Studies	Chemistry	Business Studies	Business Studies
English Language	Env Management	English Language	Chemistry
English Literature	Eng Language	English Literature	English Language
European History	Eng Literature	European History	English Literature (A Level)
General Paper	Business Studies	General Paper	Env Management
Mathematics	European History	Marine Science	European History
Physics	General Paper	Mathematics	General Paper
Psychology	Mathematics	Music	Mathematics
Spanish Language	French Language	Physics	Physics
Thinking Skills	Spanish Language	Psychology	Psychology
US History	Spanish Literature	Spanish Language	Spanish Language
	Thinking Skills	Thinking Skills	Thinking Skills (A Level)
	US History	US History	US History
	Physics		
	Psychology		

Eau Gallie High 2009	Eau Gallie High 2010	Eau Gallie High 2011	Eau Gallie High 2012
Courses Offered	Courses Offered	Courses Offered	Courses Offered
Biology	Art & Design	Chemistry	Art & Design
Chemistry	Biology	English Language	Biology (A Level)
Economics	Economics	English Literature	English Language
English Language	English Language	Environmental	English Literature
English Literature	English Literature	General Paper	Environmental Mgmt
Environmental Science	Environmental	Latin	European History
European History AS	European History	Marine Science	General Paper
French	General Paper	Mathematics	Mathematics
General Paper	Mathematics	Psychology	Marine Science (A Level)
History A	Marine Science	Spanish Language	Psychology
Mathematics	Spanish Language	Thinking Skills	Spanish Language
Psychology	Psychology	US History	Thinking Skills (A Level)
Spanish Language	Thinking Skills		
Thinking Skills			
US History AS			
		Heritage High 2011	Heritage High 2011
		Courses Offered	Courses Offered
		Biology	Biology
		Economics	Economics
		English Language	English Language
		General Paper	General Paper
		Mathematics	Literature in English
			Mathematics (A Level)
			Mathematics (AS Level)
			Physics
			Psychology
			Thinking Skills

APPENDIX C
SCHOOL DISTRICT RESEARCH APPROVAL

School Board of Brevard County
2700 Judge Fran Jamieson Way Viera, FL 32940-6699
Dr. Brian Binggeli, Superintendent



October 18, 2013

Dear Ms. Doaks,

Thank you for your application to conduct research in the Brevard Public Schools. This letter is official verification that your application has been accepted and approved through the Office of Accountability, Testing, & Evaluation. If there is any necessary communication with schools, please be certain the first point of contact is the principal. Upon the completion of your research, submit your findings to our office. If I can be of further assistance, do not hesitate to contact our office. You can also reach me by email at hickey.victoria@brevardschools.org.

Sincerely,

Vickie B. Hickey

Vickie B. Hickey, Resource Teacher
Office of Accountability, Testing, and Evaluation

Office of Accountability, Testing & Evaluation
Phone: (321) 633-1000 FAX: (321) 633-3465

APPENDIX D
THE UNIVERSITY OF CENTRAL FLORIDA
INSTITUTIONAL REVIEW BOARD APPROVAL



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

From : **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To : **Synthia M. Doaks**

Date : **September 06, 2013**

Dear Researcher:

On 9/6/2013, the IRB determined that the following proposed activity is not human research as defined by DHHS regulations at 45 CFR 46 or FDA regulations at 21 CFR 50/56:

Type of Review: Not Human Research Determination
Project Title: AN ANALYSIS OF RACE, GENDER, AND
SOCIOECONOMIC STATUS IN SELECT CHOICE
PROGRAMS WITHIN BREVARD COUNTY PUBLIC
SCHOOLS
Investigator: Cynthia M. Doaks
IRB ID: SBE-13-09582
Funding Agency:
Grant Title:
Research ID: N/A

University of Central Florida IRB review and approval is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are to be made and there are questions about whether these activities are research involving human subjects, please contact the IRB office to discuss the proposed changes.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 09/06/2013 01:58:23 PM EDT

A handwritten signature in cursive script that reads "Joanne Muratori".

IRB Coordinator

APPENDIX E
PERMISSION TO REPRODUCE THE FLORIDA DEPARTMENT OF EDUCATION
COMPARISON OF FLORIDA'S ARTICULATED ACCELERATION PROGRAMS
TABLE

From: Bouck, Matthew <Matthew.Bouck@fldoe.org>
Sent: Thursday, May 22, 2014 6:33 PM
To: synthia.doaks@knights.ucf.edu
Subject: Permission to Reproduce/Replicate

Ms. Doaks,

Your message to the Department of Education was forwarded to the Office of Articulation for comment. My office maintains that form and houses it on the department website. Do you have a specific format through which permission is granted? Otherwise, if an email communication is acceptable, you have permission to use the document "Comparison of Florida's Articulated Acceleration Programs" in your dissertation.

Best of luck in completing your dissertation.

Matthew Bouck
Director, Office of Articulation
Florida Department of Education
(850) 245-9544

APPENDIX F
COMPARISON OF FLORIDA'S ARTICULATED ACCELERATION PROGRAMS

COMPARISON OF FLORIDA'S ARTICULATED ACCELERATION PROGRAMS

	Dual Enrollment	Advanced Placement	International Baccalaureate	Advanced International Certificate of Education
Statutory Eligibility Requirements	<ul style="list-style-type: none"> 3.0 GPA for college credit courses 2.0 GPA for vocational courses Pass appropriate sections of college placement test 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> None
Local Eligibility Requirements	<ul style="list-style-type: none"> Colleges can specify additional criteria in Dual Enrollment Articulation Agreement (DEAA) 	<ul style="list-style-type: none"> Districts set criteria 	<ul style="list-style-type: none"> Districts set criteria 	<ul style="list-style-type: none"> Districts set criteria
Level of Instruction	<ul style="list-style-type: none"> College level Grade earned is part of permanent college transcript 	<ul style="list-style-type: none"> Advanced high school level Only eligible for college credit if student passes AP Exam 	<ul style="list-style-type: none"> Advanced high school level Only eligible for college credit if student passes IB Exam 	<ul style="list-style-type: none"> Advanced high school level Only eligible for college credit if student passes AICE Exam
Instructor Qualifications	<ul style="list-style-type: none"> SACS criteria for college/university faculty – master's with 18 graduate credit hours in subject field 	<ul style="list-style-type: none"> Public school teacher education requirements Non-mandatory training by College Board 	<ul style="list-style-type: none"> Public school teacher education requirements Mandatory training by IB Organization 	<ul style="list-style-type: none"> Public school teacher education requirements Mandatory training by University of Cambridge International Examinations
Program Availability	<ul style="list-style-type: none"> All public schools in the 67 school districts Private schools with articulation agreements Home school students 	<ul style="list-style-type: none"> Offered in 61 school districts Available to all schools via Florida Virtual School Home school students 	<ul style="list-style-type: none"> Offered in 30 school districts 58 participating schools 	<ul style="list-style-type: none"> Offered in 16 school districts 26 participating schools
Courses Available	<ul style="list-style-type: none"> Any college-level academic or career course unless excluded in local DEAA No prep courses/physical education 	<ul style="list-style-type: none"> Courses offered as a part of the AP curriculum and testing program 	<ul style="list-style-type: none"> Courses offered as a part of the IB curriculum and testing program 	<ul style="list-style-type: none"> Courses offered as a part of the AICE curriculum and testing program
Exit Requirement for HS Credit	<ul style="list-style-type: none"> Passing grade in course 	<ul style="list-style-type: none"> Passing grade in course 	<ul style="list-style-type: none"> Passing grade in course 	<ul style="list-style-type: none"> Passing grade in course
Exit Requirement for Postsecondary Credit	<ul style="list-style-type: none"> Passing grade in course "C" or better in Gordon Rule courses 	<ul style="list-style-type: none"> Pass standardized AP Exam 	<ul style="list-style-type: none"> Pass standardized IB Exam 	<ul style="list-style-type: none"> Pass standardized AICE Exam
Transferability of Postsecondary Credit	<ul style="list-style-type: none"> All FL public postsecondary institutions required by Statewide Course Numbering System to accept credit if offering equivalent course 	<ul style="list-style-type: none"> All FL public postsecondary institutions required to accept credit as specified in Credit-by-Exam equivalencies posted at fldoe.org/articulation 	<ul style="list-style-type: none"> All FL public postsecondary institutions required to accept credit as specified in Credit-by-Exam equivalencies posted at fldoe.org/articulation 	<ul style="list-style-type: none"> All FL public postsecondary institutions required to accept credit as specified in Credit-by-Exam equivalencies posted at fldoe.org/articulation

% Enrolled Earning Postsecondary Credit (2007)*	<ul style="list-style-type: none"> 94% in 2009-2010 	<ul style="list-style-type: none"> 41% in 2009-2010 	<ul style="list-style-type: none"> 81% in 2009-2010 	<ul style="list-style-type: none"> 59% in 2009-2010
HS Quality Points Awarded	<ul style="list-style-type: none"> Beginning with students entering grade 9 in 2006-07, must be weighted same as AP, IB, AICE 	<ul style="list-style-type: none"> Beginning with students entering grade 9 in 2006-07, must be weighted same as DE, IB, AICE 	<ul style="list-style-type: none"> Beginning with students entering grade 9 in 2006-07, must be weighted same as AP, DE, AICE 	<ul style="list-style-type: none"> Beginning with students entering grade 9 in 2006-07, must be weighted same as AP, DE, AICE
Bright Futures Quality Points Awarded	<ul style="list-style-type: none"> .5 QP 	<ul style="list-style-type: none"> .5 QP 	<ul style="list-style-type: none"> .5 QP 	<ul style="list-style-type: none"> .5 QP
University Admission Quality Points Awarded	<ul style="list-style-type: none"> 1 QP (for courses that meet core SUS admissions requirements) 	<ul style="list-style-type: none"> 1 QP (even if test is not taken or passed) 	<ul style="list-style-type: none"> 1 QP (even if test is not taken or passed) 	<ul style="list-style-type: none"> 1 QP (even if test is not taken or passed)
Cost to Student	<ul style="list-style-type: none"> Public school student – tuition and books provided Non-public school student – must pay for books unless specified otherwise in IAA Home school student – must pay for books unless specified otherwise in IAA 	<ul style="list-style-type: none"> Books provided Public school student – exempt from paying AP Exam administration fee Non-public school student – must pay fee Home school student – must pay fee 	<ul style="list-style-type: none"> Books provided Public school student – exempt from paying IB Exam administration fee Non-public school student – must pay fee Home school student – must pay fee 	<ul style="list-style-type: none"> Books provided Public school student – exempt from paying AICE Exam administration fee Non-public school student – must pay fee Home school student – must pay fee
Student Funding for School Districts	<ul style="list-style-type: none"> Per FTE basis through FEFP 	<ul style="list-style-type: none"> Per FTE basis through FEFP 	<ul style="list-style-type: none"> Per FTE basis through FEFP 	<ul style="list-style-type: none"> Per FTE basis through FEFP
Student Funding for Community Colleges	<ul style="list-style-type: none"> Per FTE basis through CCPF 	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> Not applicable
School District Financial Incentives	<ul style="list-style-type: none"> No additional incentives beyond base FTE 	<ul style="list-style-type: none"> .16 FTE bonus for each student passing an AP Exam 	<ul style="list-style-type: none"> .16 FTE bonus for each student passing IB Exam .3 FTE bonus for each student earning an IB diploma 	<ul style="list-style-type: none"> .16 FTE bonus for each student passing AICE Exam .3 FTE bonus for each student earning an AICE diploma
Teacher Financial Incentives	<ul style="list-style-type: none"> No incentives 	<ul style="list-style-type: none"> \$50 bonus for each student scoring 3 or higher on an AP Exam \$500 bonus for at least one student from a D or F school who scores 3 or higher on AP Exam \$2,000 cap for any teacher in a given year 	<ul style="list-style-type: none"> \$50 bonus for each student scoring 4 or higher on an IB Exam \$500 bonus for at least one student from a D or F school who scores 4 or higher on an IB Exam \$2,000 cap for any teacher in a given year 	<ul style="list-style-type: none"> \$50 bonus for each student scoring E or higher on an AICE Exam \$500 bonus for at least one student from a D or F school who scores E or higher on an AICE Exam \$2,000 cap for any teacher in a given year
Community College Financial Incentives	<ul style="list-style-type: none"> No additional incentives 	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> Not applicable 	<ul style="list-style-type: none"> Not applicable

Sources: S. 1007.271, FS – Dual Enrollment Programs; 1007.27, FS – Articulated Acceleration Mechanisms; S. 1011.62(1)(n), F.S. – Funds for Operation of Schools; Florida Community College System Student Data Base; OPPAGA Report No. 06-25; Board of Governors Regulation 6.006

Compiled by the Florida Department of Education.

February 2013

APPENDIX G
PRELIMINARY CHI SQUARE OUTPUT OF SUBGROUPS
BY RACE AND GENDER FOR THE STUDY YEARS

PRELIMINARY CHI SQUARE OUTPUT FOR STUDY YEARS

2007-08 (ALL)

Race	Observed N	Expected N	Residual
Asian	31	23.7	7.3
Black	47	168.9	-121.9
Hispanic	65	93.7	-28.7
Indian	1	3.7	-2.7
Multi-Racial	48	59.3	-11.3
White	960	802.7	157.3
<u>Total</u>	1152		
Gender			
Male	630	557.6	72.4
Female	522	594.4	-72.4
<u>Total</u>	1152		

2008-09 (PARTICIPANTS)

Race	Observed N	Expected N	Residual
Asian	8	3.8	4.2
Black	8	26.5	-18.5
Hispanic	11	15.2	-4.2
Indian	0	0	0
Multi-Racial	12	10.1	1.9
White	142	125.4	16.6
<u>Total</u>	181		
Gender			
Male	108	88	20
Female	73	93	-20
<u>Total</u>	181		

2009-10 (PARTICIPANTS)

Race	Observed N	Expected N	Residual
Asian	11.00	6.20	4.80
Black	18.00	41.50	-23.50
Hispanic	21.00	24.10	-3.10
Indian	0.00	0.00	0.00
Multi-Racial	13.00	15.50	-2.50
White	215.00	190.60	24.40
<u>Total</u>	278.00		
Gender			
Male	179.00	135.40	43.60
Female	99.00	142.60	-43.60
<u>Total</u>	278.00		

2010-11 (PARTICIPANTS)

Race	Observed N	Expected N	Residual
Asian	24.00	10.50	13.50
Black	28.00	76.20	-48.20
Hispanic	36.00	67.10	-31.10
Indian	0.00	0.00	0.00
Multi-Racial	22.00	36.80	-14.80
White	429.00	348.40	80.60
Total	539.00		
Gender			
Male	332.00	262.00	70.00
Female	207.00	277.00	-70.00
<u>Total</u>	539.00		

2011-12 (PARTICIPANTS)

Race	Observed N	Expected N	Residual
Asian	24.00	13.90	10.10
Black	28.00	99.50	-71.50
Hispanic	43.00	88.40	-45.40
Indian	0.00	0.00	0.00
Multi-Racial	29.00	48.00	-19.00
White	575.00	449.20	125.80
Total	699.00		
Gender			
Male	424.00	339.00	85.00
Female	275.00	360.00	-85.00
<u>Total</u>	699.00		

APPENDIX H
DISTRICT CHOICE PROGRAMS BY SCHOOL

District Choice Program List by School

High School District Choice Programs (2014-2015)	Astronaut	Bayside	Cocoa	Cocoa Beach Jr/Sr	Eau Gallie	Edgewood Jr/Sr	Heritage	Melbourne	Merritt Island	Palm Bay	Rockledge	Satellite	Space Coast Jr/Sr	Titusville	West Shore Jr/Sr	Viera
International Programs																
AICE (Cambridge) Diploma Program					\$		\$				\$					
IB Diploma Program				\$	\$		\$				\$					
Career Academy Themes																
Business & Finance	\$							\$								\$
Digital Arts & Media																
Engineering		\$							\$				\$			
Fine Arts					\$				\$			\$				
Health Science																
Hospitality & Tourism									\$		\$					
Law											\$					
Teaching Professions													\$			
Technology													\$			
Environmental Water Technology							\$									
Wellness/Sports Science/Medicine			\$		\$		\$									
Career & Technical Education																
A/C Refrigeration & Heating			\$								\$		\$			
Accounting Applications			\$								\$					
Administrative Office Specialist							\$		\$			\$	\$			
Applied Engineering Technology	\$							\$								
Applied Robotics																
Architectural Drafting																
Automation & Production Technology																
Automotive Collision Repair/Refinish			\$				\$				\$					
Automotive Service Technology					\$		\$		\$		\$			\$		
Building Construction Technologies	\$							\$								
Communications Technology		\$										\$				
Criminal Justice																
Culinary Arts		\$	\$					\$							\$	
Dental Aide																\$
Digital Design		\$			\$			\$	\$		\$			\$		
Digital Media/Multimedia Design																
Early Childhood Education					\$				\$			\$				\$
Family & Consumer Sc. Semester Course																
Fashion Design Technology Services								\$						\$		
Food Science Technology																
Game/Simulation/Animation Visual Design																
Geospatial/Geographic Info. Systems																
Health & Wellness			\$		\$											
Interior Design Services							\$									\$
International Business																
Marine Service Technology					\$											
Marketing									\$			\$				
Mechanical Drafting		\$														
Medical Administrative Specialist							\$									
Nursing Assistant/Patient Care Assisting		\$					\$	\$			\$			\$		
Technical Design (Drafting)	\$		\$		\$		\$	\$	\$			\$		\$		
Technology Support Services			\$				\$	\$				\$		\$		
Television Production		\$	\$					\$					\$	\$		\$
Web Development			\$		\$			\$	\$				\$	\$		\$
Choice School or Other Program																
District Choice School						\$									\$	
Magnet School																
AP Pirates Academy																
JROTC	G	G	G	G	G		G	G	G	G	G	G	G	G		G
Dual Enrollment																
Dual Enrollment																
Early Childhood Education (CCC)																
Patient Care Assisting (PSAV)																
		Choice Program open <u>only</u> to students zoned for this school. An annual/new application is required. There is no application fee.														
	G	Government program open to <u>all</u> students. There is no application fee. Contact the school for information.														
		Choice Program open to <u>all</u> students. An annual/new/renewal application is required. There is no application fee.														
		Choice Program within a Magnet School open to <u>all</u> students. Must complete Magnet School Application annually. There is no application fee.														
	\$	Choice Program open to <u>all</u> students. An annual new/renewal application is required. An application fee of \$30 applies to all students not zoned for the school.														

A high school may offer additional school-based choice programs for their zoned students that are different than the district choice programs listed above. Check a school's website or contact the school for additional information.

Middle School District Choice Programs (2014-2015)	Central	Cocoa	Cocoa Beach Jr/Sr	DeLaura	Edgewood Jr/Sr	Hoover	Jackson	Jefferson	Johnson	Kennedy	Madison	McNair	Southwest	Space Coast Jr/Sr	Stone	West Shore Jr/Sr	
Academic Programs																	
AICE (Cambridge) Diploma Program							\$		\$	\$							
IB Middle Years Program			\$														
Career & Technical Education Labs																	
Clothing/Interior												Δ				Δ	
Family & Consumer Multi-Purpose																	
Foods & Nutrition													Δ			Δ	
Keyboarding/Computer Applications/CCC													Δ			Δ	
Television Production																	
Choice School or Other Program																	
District Choice School					\$												\$
Magnet School												Δ				Δ	
Science & Technology Program																Δ	
\$	Choice Program open <u>only</u> to students zoned for this school. An annual new/renewal application is required. There is no application fee.																
Δ	Choice Program within a Magnet School open to <u>all</u> students. Must complete Magnet School Application annually. There is no application fee.																
\$	Choice Program open to <u>all</u> students. An annual new/renewal application is required. An application fee of \$30 applies to all students not zoned for the school.																

A middle school may offer additional school-based choice programs for their zoned students that are different than the district choice programs listed above. Check a school's website or contact the school for additional information.

Elementary School District Choice Programs (2014-2015)	Cambridge	Endeavour	Freedom 7	Golfview	Stevenson	West Melbourne
District Choice School			\$		\$	\$
Magnet School	Δ	Δ		Δ		
Δ	Choice Program within a Magnet School open to <u>all</u> students. Must complete Magnet School Application annually. There is no application fee.					
\$	Choice Program open to <u>all</u> students. An annual new/renewal application is required. An application fee of \$30 applies to all students not zoned for the school.					

The district will have 55 elementary schools in 2014-2015. Please check your zoned school for additional information on school-based programs they may offer.

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