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The Relationship Between Virginia Title 1 Spending and Minority Male Graduation Rates: A Longitudinal Study

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THE RELATIONSHIP BETWEEN VIRGINIA TITLE 1 SPENDING AND MINORITY MALE GRADUATION RATES: A LONGITUDINAL STUDY

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ABSTRACT

THE RELATIONSHIP BETWEEN VIRGINIA TITLE 1 SPENDING AND MINORITY MALE GRADUATION RATES: A LONGITUDINAL STUDY

Anastacio B. Marin
Old Dominion University, 2020
Committee Chair: Dr. William Owings

Over the past two decades, education funding in the United States has been redistributed to schools that lack sufficient financial resources to meet the needs of students (Boyle & Lee, 2015). The No Child Left Behind (NCLB) Act of 2001, the reauthorized Elementary and Secondary Education Act (ESEA), was enacted to increase academic accountability and achievement throughout the nation's public-school systems. Nationwide, there is a persistent achievement gap between historically marginalized students and their affluent peers. This gap is evident in the Commonwealth of Virginia when measuring student proficiency on End of Course Assessments (EOCAs). For schools serving a large population of students from impoverished families, Title 1 funding is available to local education agencies (LEAs) to help students meet state academic standards. State's per-pupil instructional expenditures vary widely between affluent and less affluent school divisions. The educational researchers demonstrated a connection between funding and the graduation rates of minority male students (Lhamon et al., 2018; Pan et al., 2003).

There is limited research assessing the impact Title 1 funding has had on high school graduation rates in Virginia from 2008-2019. Prior educational finance studies have measured the relationship between state fiscal effort and high school graduation rates. The purpose of this study is to determine if there is a relationship between the amount of Title 1 and SOQ funds allocated to schools and the graduation rates of minority male students in the state of Virginia

during the aforementioned time frame. This research seeks to examine the significance of Virginia's fiscal effort for education, the proportion of its wealth invested in K-12 public education and its direct impact in determining how much federal and state funding is allocated in order to balance funding inequities through a concept known as *vertical equity,* defined as the treating of unequal's requires appropriate unequal treatment (Owings & Kaplan, 2020). Policymakers and state Department of Education personnel should recognize that students and schools have unique needs that require different levels of funding. In this study, vertical equity relates to Title 1 funding and its direct educational impact on school divisions in Virginia with meeting the educational needs of historically marginalized students. The methodology used within this study includes linear and multiple regression, Pearson Product Moment correlation, and time-lagged correlation design.

According to Maslow's Hierarchy of Needs (1943), many marginalized students do not have the basic resources needed to become self-actualizing learners and adequately function in society. Unfortunately, this has a significant impact on students struggling in school both behaviorally and academically, and the idea of high school graduation starts to fade in those students' mind.

I dedicate this dissertation to memories of my grandfather Dr. John Stahl and my former school son Benjamin Nalley.

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My favorite Bible verse that propelled me through this process, Philippians 4:13!

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CHAPTER 1:

EVOLUTION OF EQUITABLE EDUCATION

> We have one of the highest high school dropout rates of any industrialized nation . . . And dropping out of high school is no longer an option. It's not just quitting on yourself, it's quitting on your country—and this country needs and values the talents of every American.
> (President Barack Obama, State of the Union Speech to the U.S. Congress, Feb. 24, 2009)

Historically, public education has always been important to the American way of life; however, education has not always operated equally or equitably for all students. In 1950, about one-third of the United States population of students graduated from high school, the graduation rate for Black males was 12.6% and 14.7% for Black females, respectively. This equated to about one-third the graduation rate compared to their White counterparts (Snyder et al., 2019). The landmark Supreme Court case *Brown v. Board of Education* (1954) clearly documented inequality in the provision of public education for minority students. Many Americans do not realize that despite this Supreme Court ruling, the U.S. educational system remains one of the most unjust systems in the world, and students consistently receive different learning experiences based on their socioeconomic status (Darling-Hammond, 2001; Morgan & Amerikaner, 2018). Many minority students regularly attend lower quality and segregated schools with fewer resources than their peers (Darling-Hammond, 2001; Morgan & Amerikaner, 2018; Wenglinsky, 1997). Student success is negatively impacted when students do not have adequate resources or high-quality school environments in which to learn.

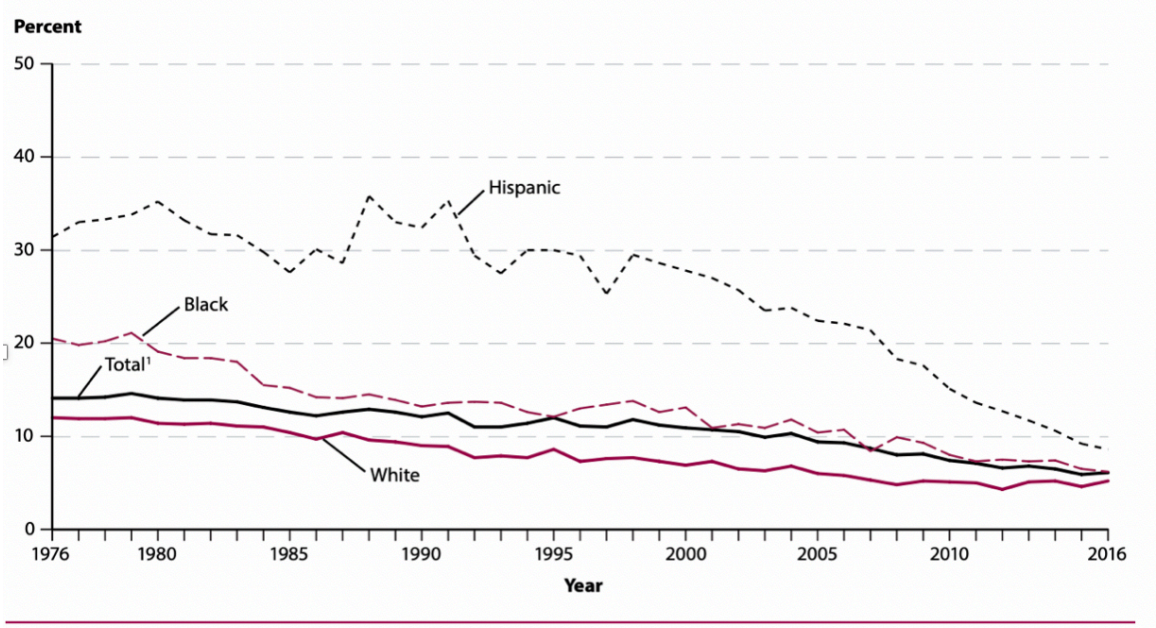
Ultimately, the doctrine of "separate but equal" was unconstitutional, as segregated services were discovered to be inherently unequal. Often, schools were also unequal due to the fact that educational expenditures were lower in these minority schools (Walker, 2000). Unfortunately, more than 60 years later, the question of inequities based on race remain the

same. While Black students have made a double-digit gains since 2011 in their graduation rates, the national graduation gap still remains wide (Stetser & Stillwell, 2014). Black students make up 15.6% of the 2016-17 graduation cohort but also represent 22.5% of non-graduates within the United States. Hispanic students are represented with 23.4 % of the 2016-17 graduation cohort but also comprise 30.4% of non-graduates (Balfanz et al., 2019). High school dropout rates are a chronic concern and students who drop out of high school tend to experience poorer health, greater risk of being unemployed, engaging in delinquency, using or selling drugs, and being frequently incarcerated (Baker, 2001; Stetser & Stillwell, 2014). The negative implications of students dropping out of high school far outweighs, the positive benefits of students completing high school and becoming contributors of society.

Since 2006, the United States has made some gains in decreasing the overall national educational dropout rate by 4.3%, however, the work is not done and minority students are lagging behind in academic achievement and completing high school with a standard diploma (NCES, 2019a). Even though high school dropout rates have declined over the last four decades and students are completing high school at a greater rate than in the 1970s and 1980s. According to Figure 1, Black and Hispanic students continue to drop out of high school at considerably much higher rates than their White peers today. The national dropout rate decreased from 9.7% in 2006 to 5.4% in 2017. Additionally, the Hispanic dropout rate decreased from 21.0 % to 8.2%, American Indian/Alaska Native status dropout rate decreased from 15.1% to 10.1%, Black status dropout rate decreased from 12% to 6.5 percent, and the White status dropout rate decreased from 6.4% to 4.3%. Nevertheless, in 2017 the Hispanic (8.2%) and Black (6.5%) status dropout rates remained higher than the White (4.3%) status dropout rate. (NCES, 2019a)

Figure 1.

Historical Statistics of High School Dropouts (Percentages of high school dropouts among persons 16-24 years old, by race/ethnicity) October 1976-2016.



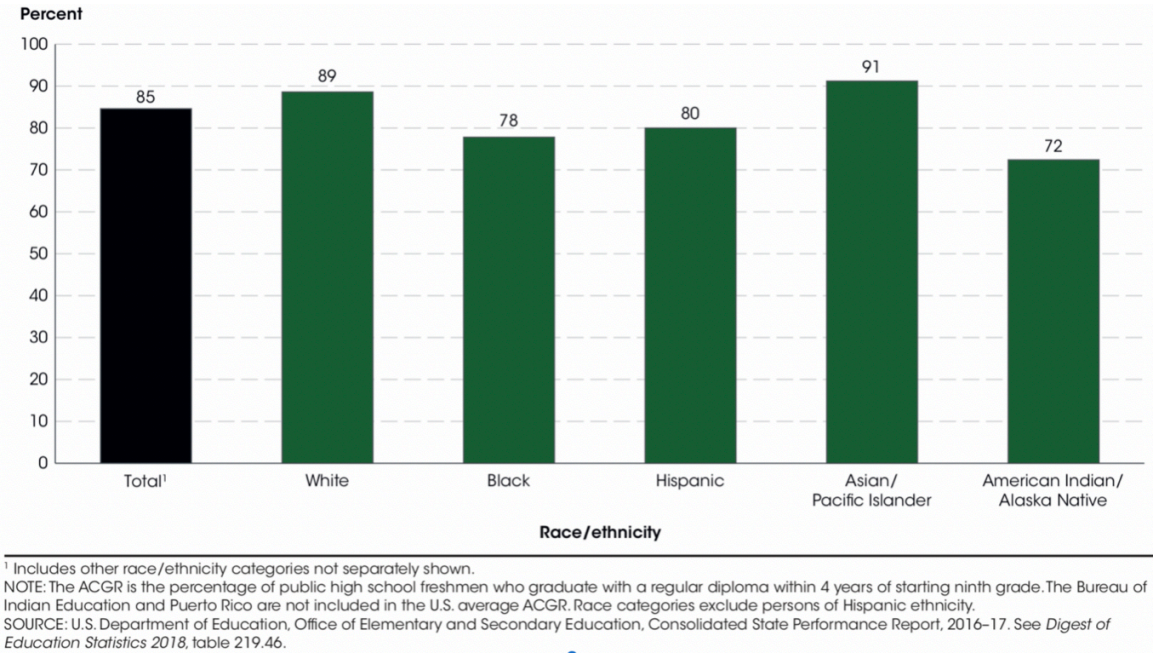
[1] Includes other racial/ethnic groups not separately shown.
NOTE: "Status" dropouts are 16- to 24-year-olds who are not enrolled in school and who have not completed a high school program, regardless of when they left school. People who received an alternative credential such as a GED are counted as high school completers. Race categories exclude persons of Hispanic ethnicity. White and Black exclude persons of Two or more races after 2002. Data are based on sample surveys of the civilian noninstitutionalized population, which excludes persons in the military and persons living in institutions (e.g., prisons or nursing facilities). Because of changes in data collection procedures, data for years 1992 and later may not be comparable with figures for years prior to 1992.
SOURCE: U.S. Department of Commerce, Census Bureau, Current Population Survey (CPS), October, 1976 through 2016. See table 2.2.

Source: https://nces.ed.gov/pubs2019/2019117.pdf

According to Figure 2, minority male academic achievement still lags behind Whites; as it relates to high school graduation rates, they are not graduating at the same rate as their White male counterparts. During the 2016-2017 academic year, the adjusted cohort graduation rate (ACGR) for public high school students capped at 85% the highest it has ever been since the ACGR was first measured in 2010-11 academic year. The graduation rate for White students during the 2016-17 school year rested at 89% Hispanic students at 80%, and Black students graduated at 78% and American Indian/Alaska Native students graduated at the lowest, 72 percent.

Figure 2.

Adjusted cohort graduation rate (ACGR) for public high school students, by race/ethnicity: 2016-17.



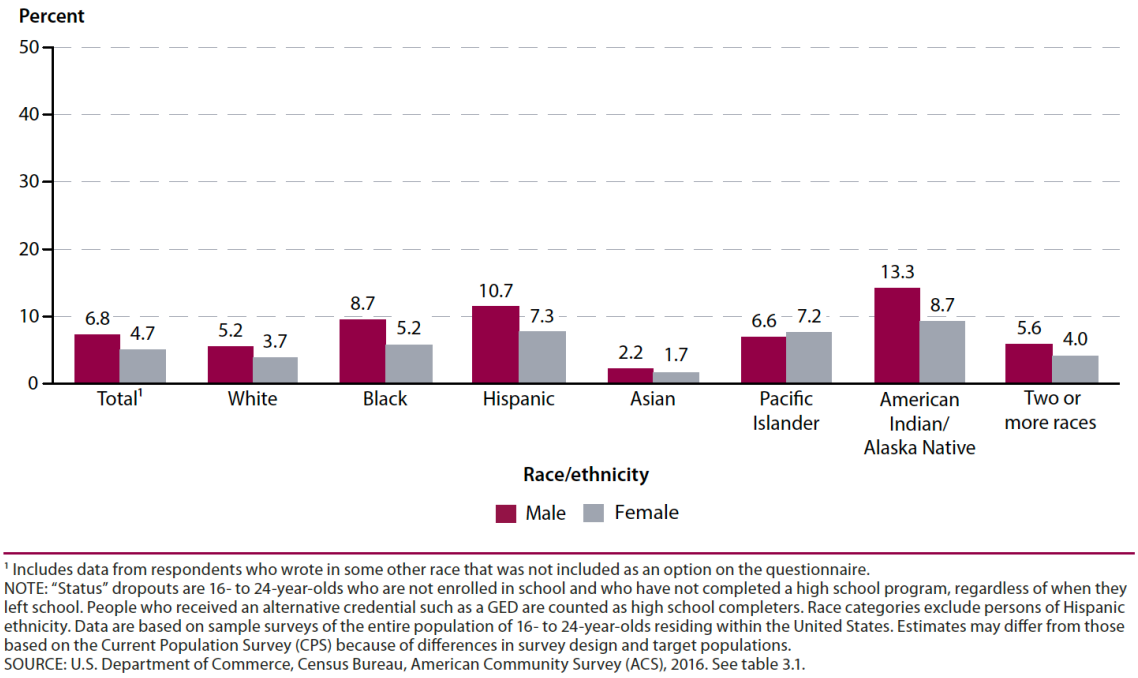
¹ Includes other race/ethnicity categories not separately shown.
NOTE: The ACGR is the percentage of public high school freshmen who graduate with a regular diploma within 4 years of starting ninth grade. The Bureau of Indian Education and Puerto Rico are not included in the U.S. average ACGR. Race categories exclude persons of Hispanic ethnicity.
SOURCE: U.S. Department of Education, Office of Elementary and Secondary Education, Consolidated State Performance Report, 2016–17. See *Digest of Education Statistics 2018*, table 219.46.

Source: https://nces.ed.gov/programs/coe/indicator_coi.asp

The goal of public education is to ensure students are given a chance to excel in life, however, Growe and Montgomery (2003) asserted some students face factors that prevent education from being the great equalizer. Many schools providing services to low-income students receive fewer financial resources, such as retaining high quality teachers and meeting the needs of students both in and out of the classroom (Growe & Montgomery, 2003; Kim et al., 2015; Vega et al., 2015). According to Figure 3, marginalized students especially minority male students are not meeting state graduations requirements at the same rate as White male students and female students. Minority males ages 16-24 years old are dropping out of school at an alarming rate compared to White males students and female gendered students (McFarland et al., 2016).

Figure 3.

Percentage of high school dropouts among persons 16 through 24 years old (status dropout), by race/ethnicity and sex: 2016.



[1] Includes data from respondents who wrote in some other race that was not included as an option on the questionnaire.
NOTE: "Status" dropouts are 16- to 24-year-olds who are not enrolled in school and who have not completed a high school program, regardless of when they left school. People who received an alternative credential such as a GED are counted as high school completers. Race categories exclude persons of Hispanic ethnicity. Data are based on sample surveys of the entire population of 16- to 24-year-olds residing within the United States. Estimates may differ from those based on the Current Population Survey (CPS) because of differences in survey design and target populations.
SOURCE: U.S. Department of Commerce, Census Bureau, American Community Survey (ACS), 2016. See table 3.1.

Source: https://nces.ed.gov/pubs2019/2019117.pdf

Background and Context

Since the mid-1960s there have been federal legislation and court decisions that have emphasized it is the federal government's ethical and legal responsibility to provide all students with a free, equitable, and adequate education. For decades, inequities in education have impacted students of color and until the *Brown vs. Board of Education* Supreme Court case, schools were legally allowed to be segregated and allocation of financial and personnel resources were not equitable. The U.S. Department of Education (USDOE) has worked to bring about social change to our educational system. In 2002, the NCLB Act was introduced as an

educational tool to revamp existing programs developed within the 1965 ESEA Act (Ohnemus, 2002; Owings & Kaplan, 2020; Swanson & Chaplin, 2003). Since 1965, federal policies have had a significant impact on student achievement and meeting the needs of students. However, according to former President George W. Bush, "too many of our neediest children are being left behind" (Ohnemus, 2002, p. 9). The Bush administration introduced the NCLB act as a federal policy with the intention of providing all students with a high-quality education and creating equitable opportunities for disadvantaged students or "at-risk students." The framework of the NCLB Act centers on four key guiding principles: (1) stronger accountability measures, (2) greater flexibility in testing for all states, (3) focusing on school divisions in need of increased federal funding, and (4) increasing the option of parental choice in educating disadvantaged students (Ohnemus, 2002). While these four guiding principles are essential components needed in order to reform education, in 2002 a greater emphasis was placed on improving school accountability measures.

The NCLB Act was established to bridge the disconnect between the expectations from the federal department of education and the responsibilities of the state departments of education. Additionally, the NCLB Act intensified the commitment of educational reform nation-wide by implementing a standardized test-based accountability system. The NCLB Act affected virtually every program governed under the ESEA educational programming including Title 1 funding. The original Title 1 of 1965, prioritized educational equity by mandating more resources be granted to local education agencies serving students from low socio-economic backgrounds (Boyle & Lee, 2015). Schools with an enrollment of at least 40% of students from high poverty households are able to utilize Title 1 funding to increase academic achievement for students school-wide (NCES, 2019a).

According to Owings and Kaplan (2020) NCLB "has arguably had the most far-reaching impact on public education in the last 50 years" (p. 48). There are fiscal and societal implications that influence high school dropouts, and this is clear in rising unemployment rates, earned annual income, and tax contribution comparisons of graduates. Additionally, NCLB Act requires that all states establish a comprehensive system of standards and summative assessments within the following subject areas: language arts, math, and science. The federal accountability system of the NCLB Act requires each state to adopt criteria for improving test scores on an annual basis, to meet adequate yearly progress, or AYP (Owings & Kaplan, 2020; Swanson & Chaplin, 2003). Schools that did not meet the academic goals for AYP in the required manner resulted in severe sanctions from the department of education. With the increase of the high stakes accountability, high schools are now required to work to increase graduation rates.

Societal Implications for Increasing Graduation Rates

During the nineteenth century, high schools were seen as a college preparatory institution for a small percentage of society. In the early twentieth century, a workforce-preparation component was added to the school curriculum and high schools were viewed as an institution where adolescents were given the opportunity to move from childhood to adulthood (Balfanz, 2009; Owings & Kaplan, 2020). In the 1980s, and again today, the concept of education has evolved, and the nation has transitioned from an industrial economy to an information economy and students are required to know more information and attain more training to be successful (Balfanz, 2009). High school is no longer viewed as the end point in the public education system, and high schools are now tasked with preparing all their students for postsecondary schooling and training to ultimately become contributing members of society. According to Balfanz (2009), education is viewed as a gateway to economic success and needed for basic survival. Darling-

Hammond (2001) stated that 20 years ago high school dropouts still had a 66% probability of obtaining employment; however, times have drastically changed and dropouts today have a 33% probability at landing a job with less pay. The reality is the effects of dropping out are far worse for students of color than for White students (Darling-Hammond, 2001; Levin et al., 2007b). Furthermore, according the National Center for Educational Statistics, the school dropout rate of students from low socio-economic backgrounds are 500% greater than their peers from affluent families (Peguero et al., 2019).

Education is one of the major contributors to our economy's well-being. Citizens who obtain higher levels of education are likely to earn more money, and therefore contribute more tax dollars, which in turn support government funded programs such as public education (Owings & Kaplan, 2020). When students do not graduate from high school, there are several negative effects on the economy. In their study, McFarland et al. (2016) found that, in 2013 the median income for persons ages 18 through 67 who did not complete high school was approximately $26,000 per year. By comparison, the income of individuals in the same age group who had acquired at least a high school credential was approximately $46,000 per year. Even more alarming, for a person who did have a high school credential, there is approximately a $680,000 cumulative financial loss (McFarland et al., 2016). Additionally, the average high school dropout cost the economy roughly $260,000 over his or her lifetime, as it relates to lower tax contributions. This ultimately causes higher reliance on Medicaid and Medicare, increased rates of incarceration, and greater dependence on welfare (Levin et al., 2007b; McFarland et al., 2016; Owings & Kaplan, 2020; Peguero et al., 2019).

Over one-fifth of each age cohort of Black males in the United States educational system is not a high school graduate (Levin et al., 2007b). If education were truly the equalizer, and

Black males graduated at the same rate as their counterparts, the economy could potentially yield a public savings of approximately $3.98 billion each graduating class (Levin et al., 2007b). These staggering dollar amounts further show the importance of investing in an equitable education for minority male students. As male students of color continue to endure unequal educational outcomes, it is important to understand the ramifications associated with the systemic cycle of high school dropouts. Individuals with limited educational attainment often suffer lifestyles such as inferior employment rankings, lower wages, poor health as a result of no medical insurance, and greater involvement in the criminal justice system (Levin et al., 2007b; Owings & Kaplan, 2020). Lance Lochner and Enrico Moretti, professors of economics at the University of California, Berkeley, estimated that a simple 1% increase in the high school graduation rate would save the United States approximately $2 billion per year in reduced crime costs (Lochner & Moretti, 2004).

Statement of the Research Problem

As a nation, many of our high schools are not adequately preparing students, particularly marginalized students, for college or successful careers after high school (Pinkus, 2009). The realization of minority students not receiving an equitable education dates back to the 1970s, when schools were mandated to desegregate under the *Brown v. Board of Education II* court case (Owings & Kaplan, 2020). As a result, the U.S. Congress passed the Elementary and Secondary Education Act (ESEA) educational policy to ensure all students, regardless of socioeconomic status, would receive a free and appropriate education. This would be the first mention of Title 1 funding which would provide schools supplemental grants to aid school divisions serving low income communities (NCES, 2019b). The No Child Left Behind (NCLB) Act, written into law 2002, was a reauthorization of the ESEA policy. The components of the NCLB Act put emphasis

on raising the standards of state educational performance and accountability, combined with increased flexibility of federal funding at the state and local levels (Swanson & Chaplin, 2003).

Each year, federal educational funding is allocated; however, the reality is billions of dollars are being spent to support the schools yet students are still slipping through the cracks and being left behind, especially minority students (Pan et al., 2003; Slavin, 1999). The problem being addressed in this study relates to minority males not meeting the minimum proficiency level at the same rate as their peers as set forth by ESSA. Limited research has been conducted addressing the performance of Virginia school divisions that receive federal funding under Title 1 and state SOQ funding to mitigate deficits in academic achievement for identified student subgroups. In 2003, for the first time using national statistical data, graduation rates were able to be disaggregated by gender and socio-economic status (Greene & Winters, 2006).

Significance of Study

The purpose of this study is to examine the relationship between Title 1 funding, and SOQ funding in Virginia, and high school graduation rates for minority male students. By simply equating the high school graduation rates of minority males with that of White males, the calculated public savings would yield $3.98 billion for each cohort that graduates (Levin et al., 2007b). The national educational spending totals can be misleading as education costs throughout the United States varies by location and state fiscal effort. Some states operate on low financial resources leaving the neediest school divisions ill prepared to perform well on the state standardized rigorous test (Owings & Kaplan, 2020). The wealthier school divisions typically outperform poorer school divisions by a marginal difference. Historically, poorer school divisions have been large urban school divisions and isolated rural divisions that have high demand for educational resources and more financial support. The American public-school

system has relied heavily on property taxes in the area to generate funds for schools (Owings & Kaplan, 2020). Unfortunately, this systematic way of generating money means areas with high poverty rates and low property values generate less local revenue for education. As a result, with the lack of high-quality education in the poorer divisions, there are higher rates of high school dropouts.

A study by Lochner (2007) revealed a high quality education not only increases potential earnings but also decreases the chances of criminal involvement. A strong educational foundation teaches individuals to be patient and to use their education/learned skills to generate income. Minority males who do not graduate from high school often earn less money than other citizens, face limitations in career opportunities, greater involvement in the criminal justice system, and higher usage of social services than high school or college graduates (Levin et al., 2007b). In the words of Victor Hugo, the famous 19th century writer of *Les Misérables,* the person "who opens a school door, closes a prison." This quote emphasizes that investing in education is more valuable than paying for the operation of a prison facility. The Lochner (2002) study addressed the educational inequities found in the American public-school system. The ruling of *Brown vs. Board of Education Topeka* found it unconstitutional to have "separate but equal" segregated schools; however, when looking at education in the last 50 years many divisions still have "segregated" schools and are still not considered up to par or "equal". The educational system must utilize PK-12 funding to level the playing field. Not adequately educating all students becomes an economic issue, as poor education leads to long term systematic issues (Levin et al., 2007b). Title 1 funding was established to provide aid to poorer school divisions in supporting students who need additional provisions. The researcher seeks to

highlight the impact of the Title 1 money being allocated each year, and analysis if the institution of the Title 1 grants has supported the increase of high school graduate rates for minority males.

When evaluating a state's wealth, it is imperative to understand the fiscal capacity of the financial resources available to fund public services such as education within the state. There is limited research tied to student achievement and division-wide Title 1 and Standards of Quality (SOQ) funding allocations. The goal of this study is to contribute scholarly financial literature by analyzing equitable school funding practices and the impact it has on student achievement through examining Title 1 and SOQ expenditures and its association to minority male high school graduation rates. Ultimately, the intended audience for this study is: Director of Federal Programs, Chief Financial Officers, District and State Superintendents, Directors of Elementary and Secondary Education, and Principals. The results of this study will provide guidance on prioritizing state and federal funding to ensure allocations are being distributed equitably to support all students.

Research Purpose and Questions

This study examines the relationship between Title 1 financial spending in Virginia and high school graduation rates for minority male students during the 2008-2019 time frame. Funding and student achievement are controversial topics in education, as it relates to college, career readiness, ensuring and equipping all students for success.

This study focuses on Title 1 expenditures and Virginia's high school graduation rate, which are two federal indicators of student success. The following research questions were used throughout this study:

1. What were the trend(s) in Title 1 funding in Virginia over 11 years, 2008-2019?

2. What were the trend(s) in high school graduation rates for minority males in Virginia over 11 years, 2008-2019?
3. Is there a relationship among Title 1 funding, SOQ funding, and calculated percentage above RLE and the trends in high school graduation rates for minority males over an extended period of time, 2008-2019, in Virginia?
    a. Is there a relationship following a 5-year time lag in graduation rates?
    b. Is there a relationship following a 10-year time lag in graduation rates?

Overview of the Methodology

The design of this study is correlational, used to examine change over time by utilizing repeated measures, specifically analyzing the relationship between state Title 1 funding efforts and high school graduation rates. This research study utilized existing data sets. A nonexperimental *ex-post facto* correlational design will be used in this study to address the research questions by analyzing existing data spanning 11 years. Additionally, in this study the researcher will seek to understand the financial effort slopes and determine if they are decreasing, flat, or increasing based on quantitative data used. In time-lagged research, the effects of change in fiscal input often are not visible or identifiable until years later. Therefore, the design of this study will allow any lagging effects between variables to be easily identified and studied for positive or negative correlation.

Variables of the study include Title 1 funding, SOQ funding, calculated percentage above required local effort, and Virginia high school minority male graduation rates. Virginia Title 1 effort and SOQ effort were the predictor variables and the Virginia high school minority male graduation rate was the criterion variable. High school graduation data will be used in this study as it is data that must be reported from all states to the U.S. Department of Education since the

establishment of No Child Left Behind as a check and balance measure. This study will utilize a stratified random sampling, to ensure a variety of division populations are included from the different geographical regions in Virginia.

Educational funding is complex, and this study will use multiple regression and Pearson Product Moment Correlation analysis with a 5- and 10-year time lag, using the SPSS statistical software program. The researcher will use a multiple regression model with all school divisions included in this study within Virginia, regardless of location or student population. The quantitative data used in this study were derived from a variety of sources including: (a) the National Center for Education Statistics (NCES) longitudinal data for fiscal years 2008-2019, (b) Common Core of Data (CCD), and (c) Virginia Department of Education (VDOE) longitudinal data for fiscal years 2008-2019. Upon completion of this study, the statistical analysis conducted using the multiple regression calculations will provide data to determine a possible correlation between Title 1 effort, SOQ effort, and high school minority male graduation rates.

Delimitations

While correlational studies tend to be statistically significant in determining an association between variables, these types of studies do not determine causation or provide data leading to a perfect correlation. There are delimitations of the study that may affect the generalizability and interpretation of the quantitative data collected. The researcher included data from localities presented in the Commonwealth of Virginia, specifically related to Title 1 expenditures and high school graduation rates. Over the last two decades, the definition and expectations of high school graduation has changed. Each state has different formulas for how graduation rates are calculated based on the demands given by the Department of Education. However, in this study the adjusted cohort graduation rate (ACGR) formula will be used to

calculate on time graduation rates based on students who have graduated four years after entering their freshman year of high school. Lastly, when utilizing linear and multiple regression analysis, the ANOVA program design requires numerous underlying assumptions to be met for calculated results to be valid.

Overview of the Study

This research study was developed through five chapters. Chapter 1 introduced the complex challenges that many male students of color continue to endure in the American public educational system and the ramification associated with the systemic cycle of high school dropouts. Chapter 1 provided an overview of the study. Chapter 2 reviewed the literature related to the history of educational finance through an equity and social justice lens and its impact on society with completion of a high school education. Chapter 3 explained the methodology and procedures that would be utilized through this study. Chapter 4 communicated an analysis of the data collection process, conducted in a quantitative format based on the research questions. Chapter 5 demonstrated the results of the study and draws conclusions from the study for recommendations for future studies.

Definition of Terms

Actual Local Effort (ALE)- the locality's actual local division expenditures typically exceeding the required local effort funding minimum. All school divisions in Virginia are able to pay above the required local effort as set forth by the General Assembly based on locality wealth (Virginia Department of Education, 2020c).

Adequate Yearly Progress (AYP)-states are responsible for testing students in math and reading in grades 3-8 and at least once in high school. Schools are expected to report the performance of the different subgroups by race and ethnicity, socioeconomic status, disability, and level of English language proficiency (Swanson & Chaplin, 2003).

Adjusted Cohort Graduation Rate (ACGR)-is identified by the cohort of the first-time ninth-graders in a particular school year. The cohort is then adjusted by adding any students who may have transferred in the cohort after ninth grade or transferred out or passed. (NCES, 2019a).

Calculated Percentage Above RLE- Actual local expenditures (ALE) divided by required local effort (RLE).

Economically disadvantaged-is a term used for students that are enrolled in a free or reduced priced lunch. This is a reported demographic under the No Child Left Behind Law.

Finance Adequacy-in funding, this means giving localities sufficient resources to educate all their students to meet the high, rigorous state standards (Owings & Kaplan, 2020).

Fiscal Effort- measures how much a locality, state, or nation spends of its resources in relation to capacity-or its ability to pay (Owings & Kaplan, 2020).

No Child Left Behind (NCLB)- from 2002-2015, NCLB was the main law for K-12 in the United States. This law held schools accountable for how students learned and progressed academically (Ohnemus, 2002).

Required Local Effort- the locality's share of required funding based on the composite index or localities ability-to-pay of the annual operating budget required by the Standards of Quality minus its estimated revenues from the state sales and use tax dedicated to public education (Virginia Department of Education, 2020b).

Standards of Quality- the Constitution of Virginia requires the Board of Education to prescribe standards of quality for the public schools of Virginia, subject to revision only by the General Assembly. These standards are known as the Standards of Quality (SOQ) and determine the funding minimum that must be met by all Virginia public schools and school divisions. Every two years, the General Assembly reviews the SOQ formula for necessary revisions (Virginia Department of Education, 2020a).

Subgroups-typically refers to groups of students who have similar characteristics such as: racial minorities, students with physical and learning disabilities, English-language learners, and socioeconomic status. Schools are required to break down academic results on annual tests by the entire student population and subgroups (Klein, 2015).

Title 1-the section of the law providing federal funding to school divisions to educate disadvantaged children. The Title 1 program was initially created under the Elementary and Secondary Education Act of 1965 and is now part of the No Child Left Behind Act and Every Student Succeeds Act (ESSA) (Klein, 2015).

Vertical Equity-is the understanding that students and schools are different, and unequal's require appropriate unequal treatment (Owings & Kaplan, 2020).

CHAPTER 2:

REVIEW OF RELATED LITERATURE

Chapter Overview

In this chapter, the evolution of federal grant funding will be examined leading up to the establishment of Title 1 funding through the Every Student Succeeds Act (2015). The introduction to this chapter will describe the financial contributions of local, state, and federal government and the impact each funding source has on student achievement. Next, the literature will highlight the history of American education finance as it relates to educational policy, federal and supreme court decisions, and federal legislation that have forever changed the framework of educational funding for public education. Educational finance history will be examined through the literature starting with the landmark Supreme court case *Brown* v. *Board of Education* (1954), dissecting the literature centered on *A Nation at Risk*, and recognizing the platform that the No Child Left Behind Act (2002) gave marginalized students the right to an equitable education. While there is limited litigation related to Title 1 funding and providing services to marginalized students, this literature review will cover the factors and litigations impacting Title 1 funding with regards to appropriation and implementation. The last section of the literature review will unpack the importance of giving disadvantaged students a quality education and understanding the societal investment that is returned when education is prioritized. A review of historical financial decisions through an equity and social justice lens helps to reveal the “tipping points” in public education finance.

Introduction

Over the last 50 years, educational funding has evolved with the everchanging demands of public education system (Lhamon et al., 2018; Owings & Kaplan, 2020). However, change is slow, and many schools are equipped to prepare only a small percentage of students for jobs that require higher levels of education. The students who fit this expectation are tracked at an early age for "gifted" and "advanced" course work (Darling-Hammond, 2001). These academic opportunities are least available to students from racial and ethnic minority groups in the United States, and Darling-Hammond (2001) found the lack of funding has created additional inequalities and widened the student achievement gap. In order to have schools running effectively, there must be funds to support the operations of any school system. Darling-Hammond (2001) sought to understand the impact of the financial contributions and how funding has impacted the field of education and analysis the impact education has had on society over time. Many conservative and libertarian think tanks such as The Hoover Institution at Stanford University and Cato Institute have claimed increased educational spending does not increase student achievement (Hanushek, 1986, 1997). This claim is a misconception, as numerous financial studies have substantiated the positive correlation between school funding and student achievement. The financial literature supports the link between public school spending and student achievement through teacher quality, continuous professional development, reduced class sizes, increasing teacher salaries, and improving school facilities (Owings & Kaplan, 2020; Pan et al., 2003; Verstegen & King, 1998). Okpala (2002) outlined the importance of highlighting public education expenditures but also understood the impact increased funding had on student achievement.

With regards to policy, content, and financial contributions in the public educational system, the involvement of state and federal governments has changed. Over the last sixty years, educational finance has been an important focal point of educational research, litigation, and policy development (Frankenberg et al., 2019). Before the establishment of the U.S. Constitution, education has always been a priority to the American way of life. The tenth amendment to the U.S. Constitution gave each state plenary power over education, which according to Owings and Kaplan (2020), gave each state the responsibility of setting up educational systems and passing laws considered desirable and aligned with state constitutions. Moreover, even though the Constitution made education a state responsibility, the federal government never abandoned its involvement with public schools or left the financing allocation only to the states (Owings & Kaplan, 2020).

Educational Funding Allocation – Local, State, and Federal

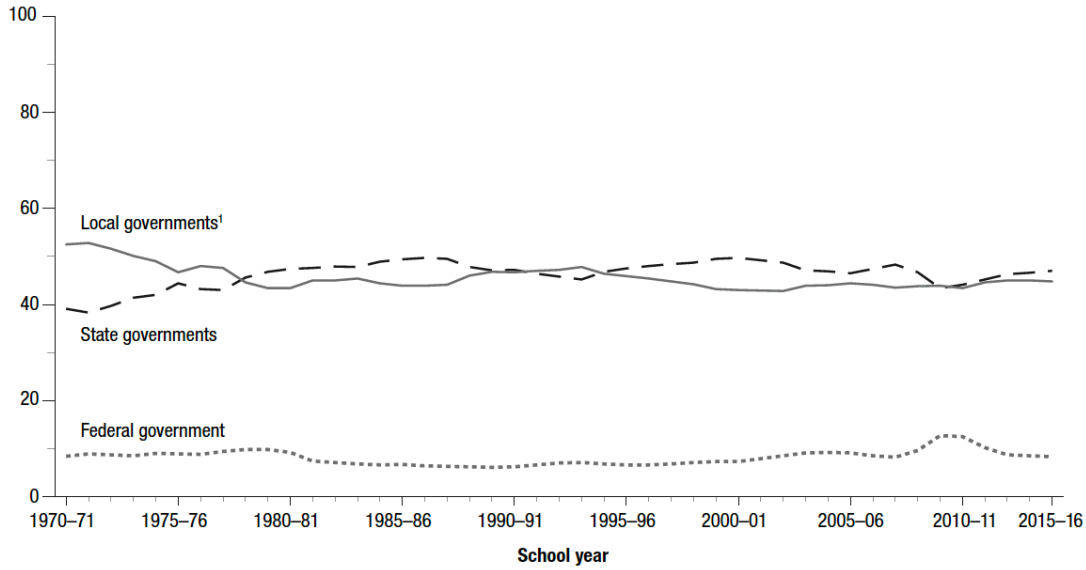
All three levels of government (local, state, and federal) have a role in funding public education. Owings and Kaplan (2020) believe that taxing property to finance education dates back even further than Massachusetts's Ye Olde Deluder Satan Act (1647); it goes back in ancient Greek era. Funding education has always been a priority within the American culture. According to Owings and Kaplan (2020) with the Massachusetts Bay Colony passing the "Ye Old Deluder Satan Act in 1647, taxing property was the precedent for funding schools in the United States. Over time, each level of governance (local, state, and federal government) determine their degree of involvement in educational funding even though this is primarily a state function. In 2016, the total revenue allocated for public elementary and secondary education (between local, state, and federal funds) was approximately 676 billion dollars. According to Figure 4, during the 2016 fiscal year, federal dollars accounted for $55 billion yet,

is only 8.3% of PK-12 public school revenues. Also, in 2016, the states' contribution was $318 billion, which equates to approximately 47% of funding. Moreover, the local government sources provided approximately $303 billion, an additional 45% of public-school funding (Snyder et al., 2019).

After the American Recovery and Reinvestment Act of 2009 federal revenue contribution was significantly higher in the year to follow. In school year 2009-10, the federal contribution hit an all-time high amount of $84 billion, versus the current federal revenues of $54 billion (Owings & Kaplan, 2020). When looking at federal, state, and local funding contributions overtime, Figure 4 revealed the elementary and secondary revenue over a 44-year span of education. The local and state revenues stay consistent in terms of contributions over the years, with the lines crossing in 1978, 1989, 1995, and 2010, primarily when state funding outweighed local funding. As the local and state contributions rose and fell, the federal funding percentage hovered between 7% - 10%. Additionally, the federal money included educational funds from organizations such as the Department of Education (DOE), the Department of Health and Human Services in order to increase Head Start programs, and the Department of Agriculture for the school lunch programs (Owings & Kaplan, 2020). In the grand scheme of public-school funding the federal government contributes the least amount of funding, however, the additional support does help states delegate funds to local school divisions that need financial resources to help their marginalized students.

Figure 4.

Percentage of revenue of public elementary and secondary education by source of funds:1970-2016.



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Revenues and Expenditures for Public Elementary and Secondary Education*, 1970–71 through 1986–87; and Common Core of Data (CCD), "National Public Education Financial Survey," 1987–88 through 2015–16.

Source: https://nces.ed.gov/programs/digest/d18/figures/fig_10.asp?referrer=figures

Many states are free to tax as they wish (e.g., state income tax or state sales tax) as long as the taxation does not conflict with federal law or with the states constitution. Owings and Kaplan (2020) concluded, school divisions "have no inherent capacity to tax unless the state's constitutional language specifically permits such taxing authority" (p. 58). Some school divisions have established legislation that give them the legal authority to levy taxes for school budgets and these school divisions are called "fiscally autonomous." Additionally, states that do not give this same authority to their school divisions are "fiscally dependent" and must wait for the school budget to be approved as part of a city or county budget (Owings & Kaplan, 2020). Many states have established protections in place, so certain items cannot be taxed. Certain states do not have state income tax and others do not have state sales taxes.

History of Educational Finance

Brown v. Board of Education of Topeka (1954)

As the United States began to revamp educational policies, it became clear an overhaul was necessary in the educational system in order to make the general curriculum more accessible to students of color (Shoup & Studer, 2010). Marginalized students continued to suffer from educational inequities. With the landmark Supreme court case *Brown v. Board of Education Topeka (1954)*, it became evident that change was needed and a progressive agenda for achieving excellence and equity would be the tipping point needed to drive change in education. *Brown v. Board of Education Topeka (1954)*, was a unanimous Supreme Court ruling that changed the entire educational system. This landmark case not only ruled that the segregation of schools was unconstitutional, but also addressed the findings of the case *Plessy v. Ferguson* (1896) which originally stated "separate but equal," had no place within education (Shoup & Studer, 2010). Until the *Brown v. Board of Education* case, the law had been mostly silent on issue of race, this case is highlighted because it shifted the legal perspective and made race a suspect classification (Owings & Kaplan, 2020). Furthermore, the *Brown v. Board of Education* Supreme Court case also validated education could be viewed as a distributor of wealth, which in turn made the concept of equality not only a human right and social necessity, but also an economic equalizer (Growe & Montgomery, 2003; Owings & Kaplan, 2020).

According to Shoup and Studer (2010), even though school segregation was found to be unconstitutional in 1954, schools were not automatically integrated. The process of integration and creating equitable opportunities for all students would take time and the courts understood the complexity of the task that lay ahead of school divisions. The court decision, *Brown v. Board of Education* 1955, or Brown II decision was a summons of all attorney generals of each state

practicing segregation were made to unveil their plan to implement desegregation policies "with all deliberate speed" (Shoup & Studer, 2010, p. 56). The Supreme Court in the court ruling acknowledged this profound statement: "education is perhaps the most important function of the state and local government…[and] where the state has undertaken to provide it [education], is a right which must be made available to all on equal terms" (Shoup & Studer, 2010, p. 57). Currently, education inequities and injustices are still occurring and students of color are still not graduating or achieving at the same rate as their peers. If education is the great equalizer, it is important to understand why all students are not achieving educational success at the same rate.

Coleman Report (1966)

When examining educational equality, one of the most enlightening studies conducted in the 20th century was the Coleman Report. The Coleman Report was submitted in response to section 402 of Title 1V of the Civil Rights Act of 1964. It states:

> SEC. 402. The Commissioner shall conduct a survey and make a report to the President and *congress*, within two years of the enactment of this title, concerning the lack of availability of equal educational opportunities for individuals by reason of race, color, religion, or national possessions, and the District of Columbia (Coleman et al., 1966, p. iii).

The Coleman Report uncovered a great deal of the inequities that existed in the American education system. The reality is, more than 50 years later, many of the same questions used in the Coleman Report (1966) are relevant and applicable in the American school system used today. The four questions from the surveys were as follows: 1) To what extent are the racial and ethnic groups segregated from one another in the public schools? 2) Does your school offer equal educational opportunities in terms of good indicators for good educational success? 3) How

much did the student learn as measured by their performance on standardized achievement tests? and 4) What is the relationship between student achievement and the kind of schools students attend? (Coleman et al., 1966). Some of the indicators were tangible such as available science laboratories, quality of textbooks, and access to a stocked library. Other indicators examined were related to curriculum offered academics, vocational training, and administration of aptitude and achievement tests used for tracking students presumed academic abilities (Coleman et al., 1966). The Coleman Report examined the quality of teachers, their teaching experience, salary level, and verbal ability. These are some of the same indicators Owings and Kaplan (2020) revealed in their studies when looking at the correlation between educational funding and overall student achievement. Many critics have argued that the results of the Coleman Report have been misinterpreted, and often the findings of this study are used to show school inputs have little if any effect on student achievement (Coleman et al., 1966)

Elementary and Secondary Education Act (ESEA)

In 1965, under the leadership of President Lyndon B. Johnson, the ESEA Act was signed with the aim focused on providing increased funding to school districts serving students from low socioeconomic backgrounds (NCES, 2019b; Owings & Kaplan, 2020; Thomas & Brady, 2005). The ESEA Act of 1965, contained five different federal aid programs aimed to finance education for specific student populations. The five following federal aid programs included: 1) Title I-supplemental school program grants for children of low-income families, 2) Title II- funding to prepare, recruit, and develop teachers and principals, 3) Title III- funding to support higher education, 4) Title IV- regional education research, training laboratories and 5) Title V- strengthening state departments of education (Owings & Kaplan, 2020). The federal Title 1 financial contributions represent the largest financial supplements of federal finance

contributions within public education. The Title 1 program was founded in order to help marginalized sub groups of students including English language learners, students with migrant parents, students with disabilities, children of Native American heritage, children who have been neglected, and young children who need additional literacy supports in order to reach proficiency on rigorous state assessments by providing funding to support schools struggling to provide high quality education programs and services (NCES, 2019b; Sonnenburg, 2016).

The U.S. Department of Education (USDOE) is responsible for the allocations of Title 1 funds given to local education agencies (LEAs), states, and U.S. territories. All states except for Hawaii and the District of Columbia delegate much of the responsibility and authority for education to the local governing school boards, which is coordinated through the State Department of Education or (SEA). In 1965, the ESEA legislation allocated approximately $1 billion dollars in federal funds which was to be distributed to the public school divisions and private schools within the United States (Thomas & Brady, 2005). The National Education Association strongly disagreed with the process in which federal dollars were disbursed to private schools. The drafters of the ESEA federal act were cognizant of policymakers' discontent in this matter and the following public law amendment was added. The federal government cannot exercise any direction, supervision, or control over the curriculum, program of instruction, administration, personnel, or over the selection of any instructional materials in any educational institution or school system (Public Law 89-10, Section 604) (Thomas & Brady, 2005, p. 52).

The distribution of federal funds to different schools is largely based on student poverty data. Furthermore, ESEA Title 1 services were made readily available to students based on educational need. Thomas and Brady (2005) found that within Congress a debate was developing

after the passage of ESEA. The debate focused on whether Title 1 services should be limited to serve only poor children who are educationally disadvantaged, or should it include all children at risk of failing school, regardless of socio-economic status. In the early stages of Title 1 of ESEA, there were fiscal abuses of federal funds, which were highlighted in the 1969 report, *Title 1 of ESEA: Is it Helping Poor Children?* This report written by Ruby Martin and Phyllis McClure, analyzed audits conducted by the U.S. Department of Health, Education, and Welfare and their research found a significant percentage of Title 1 funds had been misappropriated (Murphy, 1991).

Title 1 funds are allocated at the division level in all states individually. The allocations are based on mathematical formulas that compute the percentage of students eligible for Title 1 services. When the federal funds are received the individual divisions then disburse the funding to the schools with the greatest percentage of students who qualify for Title 1 services. Schools are able to receive Title 1 funding if 40% of the enrolled student population qualify as low-income families (NCES, 2019b). Title 1 funding should only be used for school wide programs created to improve educational programming for all students, specifically those who are struggling and achieving at lower level academically (NCES, 2019b; Sonnenburg, 2016).

Variety of Title 1 Supplement Grants

Basic grants, concentration grants, targeted grants, and the education finance incentive grant are the four different types of grants that exist under the Title 1, Part A law. Title 1 funding allocations are calculated based on formatted mathematical formulas that have rigorous criteria and requirements that must be met by each division to receive funding. Based on the 1965, Title 1 ESEA formula, each state's per pupil expenditure (SPPE) factor is multiplied by the number of students from low-income households to calculate the Title 1 funding allotments (NCES, 2019b).

Title 1 was established to be a supplemental program, which means divisions that qualify can receive 40 additional cents for each SPPE dollar to provide an equitable education for marginalized students.

Basic Grants

In 1974, new grants with new formula criteria were added to the Title 1 program, the first grant program became known as Basic Grants. The Basic Grants branch is the primary vehicle of Title 1 funding; it is the largest branch of Title 1 funding and serves the most divisions. Basic Grants category accounted for approximately $6.4 billion of the Title 1 funding distributed in the 2015 fiscal year which is 45% of $14.3 billion the total Title 1 funding allocated that year (Sonnenburg, 2016). This grant funds divisions when at least 10 percent of the student population is eligible based on low income status calculations and impacts more than 2% of the divisions' school-aged students (5-17 years old) (NCES, 2019b).

Concentration Grants

The Concentration Grant was established during the 1970s in order to provide additional support to divisions with student populations exceeding 6,500 and at least 15 percent of the student population is identified as low-income (NCES, 2019b). Funds allocated in this category accounted for approximately $1.3 billion or 9% of the total Title 1 spending.

Targeted Grants & Education Finance Incentive Grants

Additionally, the IASA Act added the Targeted Grants and Education Finance Incentive Grants (EFIG) to provide direct funds to divisions with large populations and percentages of school-aged children. Unfortunately, Targeted Grants and Education Finance Incentive Grants (EFIG) were not fully funded until the NCLB of 2002 was passed, leaving some school divisions underfunded for at least five to seven years. (NCES, 2019b). The Targeted Grants were

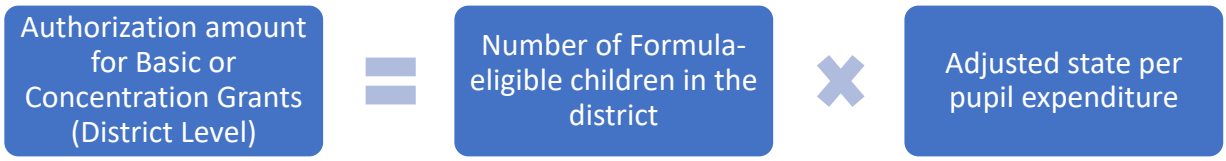
based on the same formula criteria utilized for the Basic Grants and Concentration Grants, except the data received were weighted so that divisions serving a greater population of low-income students would be given greater financial support (Sonnenburg, 2016). The Targeted Grant provides funds to divisions in which the number of eligible children is at least 5% of the division's school-age students (NCES, 2019b). During the 2015 fiscal year, the Targeted Grants accounted for approximately $3.3 billion or 23% of the total Title 1 spending (NCES, 2019b; Sonnenburg, 2016).

The Education Finance Incentive Grant (EFIG) is different from the other Title 1 grants as they are disbursed in two installments: the first allocation is done through the department of education, then the second allocation is disbursed at the division level. The purpose of this grant is to provide supplemental funding to LEAs serving marginalized students. The funding that each state receives varies (NCES, 2019b). EFIG provides funds to divisions based on the number of students at least 10 years old and at least 5% of the divisions school-aged students (NCES, 2019b). These grants accounted for approximately $3.3 billion or 23% of the total Title 1 spending in fiscal year of 2015 (NCES, 2019b; Sonnenburg, 2016).

Formulas for Authorization Amount for Each Title 1 Grant Type

For the Basic and Concentration Grants, the amount of funding given is calculated using the following formula:

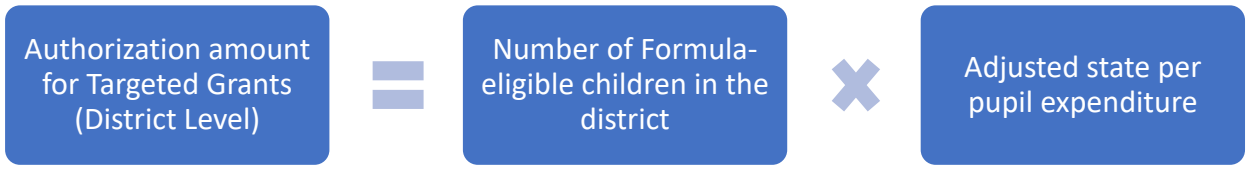
Figure 5. *Basic & Concentration Grants*



Source. Adapted from National Center of Educational Statistics (NCES, 2019b)

For Targeted Grants, the number of formula-eligible children are weighted by the number or percentage of qualifying children. The greater of the two amounts is then given to the school division:

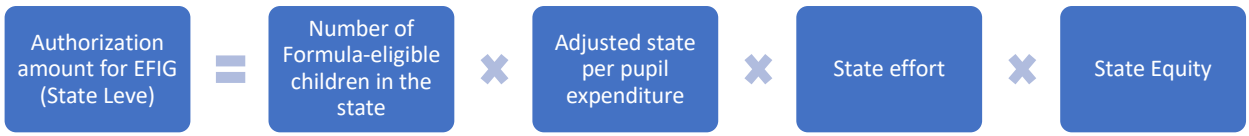
Figure 6. *Targeted Grant*



Source. Adapted from National Center of Educational Statistics (NCES, 2019b)

EFIG allocations are given in two stages: the first allocation is done at the state level, and second allocation is done at the division level. Individual schools receive funds based on the weighted percentage of students. If needed adjustments are a made through the equity and effort weights.

Figure 7. *EFIG Grant*



Source. Adapted from National Center of Educational Statistics (NCES, 2019b)

In 2015, the federal government allocated $14.3 billion dollars for all four Title 1 grants was significantly less than the sum authorized for the four grants totaling $181.7 billion. The grant amounts were reduced in order to reflect the allocations of the money given by the government (NCES, 2019b). Title 1 funding was the first federal education law to mandate annual effectiveness evaluations (Borman & D'Agostino, 1996). During the 1970s, program administrators took on a more active role in monitoring Title 1 programming which then caused localities to be more intentional on implementing and looking for effectiveness of the program.

According to Borman and D'Agostino (1996), in 1979, local divisions used one of the three approved Title 1 Evaluation and Reporting System (TIERS) to report the results of the annual standardized tests administered to Title 1 students. The individual states, then pass on the compiled data to be assessed for the effectiveness of Title 1 programing on a national scale.

A Nation at Risk

In 1980, the election of Ronald Reagan as President marked a significant reduction in federal program funding. President Reagan also wanted to reduce the role of the federal government in policies such as public education (Thomas & Brady, 2005). In 1981, the Education Consolidation and Improvement Act was established and executed (Boyle & Lee, 2015). This act combined 42 different programs into seven that were funded under the block grants formula. Title 1 of ESEA was renamed Chapter 1, however, the original purpose of providing financial resources for disadvantaged students remained intact. Unfortunately, the substantial reductions in federal aid led to fewer eligible students being served (Thomas & Brady, 2005). President Reagan also emphasized the overall poor academic performance throughout the American public-school system. In 1983, the publication *A Nation at Risk* (National Commission on Excellence in Education, 1983) was released, outlining the need for higher academic standards, which would increase student course requirements, incorporate a longer school day, and give more attention to the training and retention of teachers (Owings & Kaplan, 2020; Thomas & Brady, 2005).

The authors of *A Nation at Risk* all shared similar sentiments that the educational foundations of the American culture and society were being erased by a rising tide of mediocrity that has taken root in the fabric of our nation (Balfanz, 2009; National Commission on Excellence in Education, 1983). In terms of global placement and attainment, what seemed

impossible a generation ago has become the norm with the development of technology and scientific advances. According to the report, America was at risk as our global competitors were developing and honing their crafts and skill sets. Some examples of global competition rising included: the Japanese making more efficient automobiles than Americans and establishing subsidies for development and export; the South Koreans built efficient steel mills, and American machine tools that were once prided and seen as top notch, were replaced by German products (National Commission on Excellence in Education, 1983).

To keep the competitive edge in certain world markets, America must remain dedicated to reforming the educational system. Education and learning were indispensable investments required in order to see success in the information/technical age the world is embarking on (National Commission on Excellence in Education, 1983). The common goal of *A Nation at Risk* was that all individuals have access to quality education, regardless of ethnicity or socio-economic status. The ultimate goal is that all children with guidance can obtain secure employment, the skills to manage their own lives, and ultimately not only serve their own interest but be a contributing member to society.

A Nation at Risk report highlighted many indicators needing to be addressed if the nation plans on being competitive in the world market. The following were the top six indicators found in the commission's outline of the current state of education. Many 17-year old's did not possess the higher order critical thinking skills needed to draw inferences from written material compared to their international peers. Second, approximately 13% of 17-year-olds in the United States were considered functionally illiterate or lack the literacy necessary for coping with most jobs and many everyday tasks. Third, for minority youth, the number was higher as 40% in the same age group were illiterate. Fourth, overall gifted students tested well on assessments but

struggled in their school experiences. Fifth, from 1963-1980 the College Board's Scholastic Aptitude Test (SAT) demonstrated a consistent decline with verbal scores dropping by 50 points and the average mathematics scores dropping by 40 points. Last, the military and well known businesses requested that remedial instruction be given for science, reading, and mathematics as students were not well versed in these subjects (National Commission on Excellence in Education, 1983).

Today, above-mentioned indicators should be alarming, as the current world market is showing an increasing demand for highly skills workers. Technology is now incorporated in almost all aspects of American life technology-illiterate citizens may not be able to find work. Scientific development has completely transformed the requirements for many occupations such as: health care, medical science, energy production, food processing, construction, repair, education, military, and operating and industrial equipment. As the demands for jobs change, it is only appropriate that the expectations of schools change to match world market expectations.

Goals 2000: Educate America Act

In 1994, Clinton's administration had *Goals 2000: Educate America Act* passed through Congress. Under this act, the federal government vowed to raise federal funding to any state that dedicated their efforts to develop challenging academic standards by specifying knowledge and skill levels that students should be obtaining in order to demonstrate mastery of content (Thomas & Brady, 2005). Goals 2000 established a federal partnership through a system of grants to states and localities in order to revamp the educational infrastructure. Owings and Kaplan (2020) inform us that $400 million was allocated to reform the educational system by setting high standards, ensuring equitable educational opportunities, and promoting high achievement for all students, especially those who have been challenged with rigorous instruction. Each state would

also have to develop improvement plans in order to receive substantial funding from the federal government for education purposes. If implemented correctly, the following would be national goals to be accomplished by year 2000 (Stedman & Riddle, 1998):

- Increase Pre-K centers and creates environments where all students will start school ready to learn.
- Increase the high school graduation rate to at least 90%.
- Increase student mastery on challenging assessments aligned in certain benchmark years (4^{th}, 8^{th}, and 12^{th} grades).
- Access to quality professional development opportunities.
- Raise scores in the U.S. in math and science to be competitive worldwide.
- Being intentional about raising adult literacy.
- Establishing schools to be drug free, violence free, and free of weapons.
- Every school should embrace/promote parental involvement.

If these goals could be accomplished, significant gains would have been made in increasing student achievement across the nation, which would have a positive impact on the competitive world market.

Improving American's Schools Act (IASA)

In 1994, ESEA was reauthorized with the new initiative, Improving American's Schools Act (IASA). The goal of IASA is to provide support to schools by offering opportunities for students being served to acquire the knowledge and skills necessary to master challenging assessments developed from state content standards (Thomas & Brady, 2005). One of the key elements of the IASA required all school divisions to identify schools not making adequate yearly progress (AYP), and to create formal actions to get those schools back on track.

Furthermore, for states to qualify for Title 1 funding, they were mandated to demonstrate that learning goals, academic expectations, and curricular demands were the same for all students including students eligible for the Title 1 funding (Thomas & Brady, 2005).

No Child Left Behind (2001)

In 2001, Congress passed a new iteration of ESEA, the No Child Left Behind (NCLB) Act, with overwhelming bipartisan support and signed into law in 2002, by President George W. Bush. Under the NCLB Act, states are held accountable for student achievement by testing students in reading and math annually in grades three through eight and once in high school (Klein, 2015). States were required to report their assessment results for the entire student population and for subgroups including English-learners, students in special education, racial minorities, and children for low income families (Klein, 2015; Owings & Kaplan, 2020). Another new requirement of NCLB Act was that Title 1 funding could only be used for educational practices. Title 1 school wide programing was now required to use effective methods and instructional strategies ground in scientifically based research (Ohnemus, 2002). Moreover, school improvement plans would be created by incorporating professional developments and technical assistance in order to support low-performing schools.

Each state was expected to increase statewide testing measurements to the "proficient level." Each state was able to decide what constitutes proficiency. The NCLB Act required states ensure their teachers are "highly qualified," which ultimately meant teachers had obtained state teaching certification in the content being taught (Klein, 2015). During the school year 2002-03 all new teachers hired with federal Title 1 resources had to be classified as highly qualified. Additionally, school paraprofessionals hired with the intention of supporting Title 1 schools needed to have completed at least a two-year college degree or higher. Even distribution of

highly qualified teachers between high poverty and wealthier schools was a focal point under the NCLB law.

A study by Klein (2015) found that in 2010, 38% of schools were failing to make adequate yearly progress, up from 29% in 2006. The Secretary of Education, Arne Duncan, felt it was important to get Congress to rewrite the law, as 82% of the nation's schools were labeled as "failing," schools and low-income students were not performing well academically. Congress was unable to pass the bill, so the Obama administration offered states a reprieve from the NCLB mandates through a series of waivers (Klein, 2015). States that were provided the waivers agreed to set standards that prepared students to be college and career ready. According to Klein (2015), President Obama worked with the USDOE to make adjustments to the initial waiver requirements, by revamping teacher evaluations and ensuring teachers are meeting the expectations set forth by the U.S Department of Education. As a result, the Every Student Succeeds Act (2015) was established in an effort to remedy the challenges and roadblocks associated with the NCLB Act. The next section will discuss the implementation of ESSA and the relevant changes to Title 1 funding.

Every Student Succeeds Act (ESSA) and Title 1 Adjustments

In 2015, the implementation of ESSA was signed into law by President Obama as the latest reauthorization of the 1965 Elementary and Secondary Education Act (ESEA) (U.S. Department of Education, 2015). Passage of ESSA represents an opportunity for the federal government to partner with states and individual divisions in an effort to design equitable educational systems that adequately prepare students for the demand of the 21st century. ESSA contains several new key provisions (new accountability measures, reporting specific data, and

adjustments to Title 1 formulas) that will be discussed throughout this section and their impact on Title 1 funding and implementation.

ESSA's New Accountability Measures

Under ESSA, individual states have greater responsibility for creating and implementing educational accountability systems designed to support all student learners. For accountability measures, ESSA requires states to adopt challenging academic content standards and align them to academic achievement standards in reading, mathematics, and science. According to Skinner and Kuenzi (2015), states are required to align standards to entrance requirements for credit-bearing coursework, and also show growth in connecting student achievement to higher education and state career and technical education opportunities. Academic testing ties into accountability and all states are required to administer reading and math assessments each year grades 3-8 and once in high school. Additionally, states will administer science assessments at least once in grades 3-5, grades 6-9, and grades 10-12 (Skinner & Kuenzi, 2015). Another new key provision centered on permitting states to give a single summative assessments or administer multiple statewide assessments throughout the school year; providing schools with valid, reliable, and transparent data on student academic achievement (Skinner & Kuenzi, 2015). Reporting accurate data on all students is a key component in ESSA requirements. When conducting annual assessments in science and math, each state is required to measure the academic achievement of no less than 95% of all students and 95% of students in each subgroup present in the school (Skinner & Kuenzi, 2015).

Reporting Specific Subgroup Data

When reporting, school data should be inclusive of all student subgroups. Three additional subgroups are monitored under ESSA law but not reported for statewide

accountability measures. These include: homeless students, students in the foster care system, and military-based students (Zinskie & Rea, 2016). ESSA now requires schools to report data beyond test scores, indicators such as school quality which highlight poor student learning conditions and inequities in school systems (Cook-Harvey et al., 2016). ESSA will continue to monitor the subgroups outlined in the NCLB Act – specifically students within the following four subgroups: 1) students with disabilities, 2) economically disadvantaged, 3) limited English language proficiency, and 4) students belonging to a major racial/ethnic group (Zinskie & Rea, 2016). These four subgroups tend to be marginalized and underserved academically and likely requiring additional support and guidance to be successful in school (Cook-Harvey et al., 2016; Zinskie & Rea, 2016). These data are important to accurately assess how disadvantaged students are progressing across the United States and these subgroups are all directedly impacted by Title 1 funding. Moreover, there are additional changes related to Title 1 funding that will be discussed in the next section.

Adjustments to Title 1 Funds

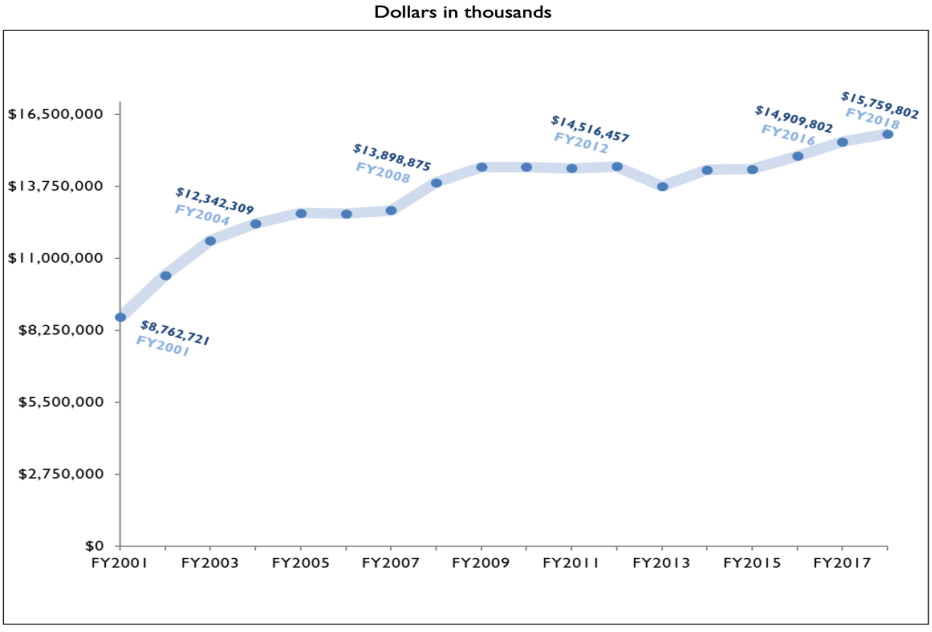
The implementation of ESSA will directly address the prevalent resource gaps found within the public educational system. Within the ESSA law there will be an alteration to reserve 0.7% for the Bureau of Indian Education (BIE) and 0.4% for the outlying areas bringing the reservation total to 1.1% before determining the formulas and funds to be distributed to LEAs (Skinner & Kuenzi, 2015). The four major formulas for Title 1 shall remain the same: Basic Grants, Concentration Grants, Targeted Grants, and Education Finance Incentive Grants (EFIG). Each state and LEA receiving Title 1 funds will be required to ensure that all content teachers and para-professionals working with students in programs funded by Title 1 funds meet appropriate state required licensure and certification. ESSA will allow LEAs to implement public

school choice, however comprehensive support and interventions must be identified. According to Skinner and Kuenzi (2015), the funds used to support public school choice will come directly from Title 1 school improvement funds and direct student services funds.

Title 1 funding has continued to be a financial resource to help schools across the nation to adequately educate marginalized students who deserve a quality education. The implementation of the new ESSA law will require states to focus on equity issues when completing the state application, by reporting per-pupil spending on mandated school report cards, and identifying schools needing additional interventions to see increased student achievement (Cook-Harvey et al., 2016). According to Figure 8, Title 1 funding has increased significantly over the last 17 years.

Figure 8.

ESEA Title 1 Appropriations Levels, FY 2001-2018.



Source: Figure prepared by CRS, based on data available from the U.S. Department of Education, Budget Service.

Notes: Appropriations provided in current (not constant) dollars. The appropriations level for FY2009 does not reflect the additional $10 billion for Title I-A appropriated through the American Recovery and Reinvestment Act (ARRA; P.L. 111-5).

Source: https://fas.org/sgp/crs/misc/R44461.pdfFigure 8 reveals that since the establishment of the NCLB Act (2001) there was a steady increase in Title 1 appropriations through the fiscal year 2005. There was a second incline of increased Title 1 funding from fiscal years 2007-2009. Lastly, there has been a consistent increase of Title 1 funds from fiscal year 2013 through 2018 (Skinner & Kuenzi, 2015).

Evolution of Social Justice within the Educational System

The concept of creating equitable learning environments for all students to thrive and succeed in has been a work in progress for decades. According to Zajda et al. (2006), social justice is defined as "the emergence of a consensus that society is working in a fair way, where individuals are allowed as much freedom as possible given the role they have within society" (p.11). This definition of social justice is not only an accurate depiction of the current treatment of minority students, but also explains why minority students do not have a voice in public education classrooms. Minority students are not having their holistic needs met and as a result this creates what the educational system identifies as a "mismatch" (Deschenes et al., 2001)These students are often labeled as marginalized, underserved, and "unfit" to meet the educational expectations and demands of the standardized educational system. Labeling minority students has not only widened the student achievement gap in those subgroups, but also contributed to epistemic injustice and excludes these students from a quality education by not seeing minority students as credible learners.

Theorists White and Talbert thought that social justice in education should move from a functionalist and vocational oriented perspective of schooling to a model of education where the student and teacher are active and equal participants in the learning process (Zajda et al., 2006). However, social justice in education is not taking place in many schools across the nation. Some

schools have become places where children are demeaned and disempowered; and are not encouraged to be creative in the learning process (Zajda et al., 2006). More importantly, minority students face what is known as epistemic injustices for being the minority and therefore these students are not seen as credible contributors to their education. Murris (2013) stated teachers are also lifelong learners and learning is not a one-way process, however, compared to their minority students, many White middle-class educators see themselves as a superior in terms of class, which, in their minds, makes students not credible or academically sound. When teachers do not give their students a voice or a space to be participants in their own education, the prevailing educational gap only widens (Murris, 2013).

Research by Myran and Sutherland (2018) indicates the process of learning entails the direct and active involvement of the individual by incorporating the following factors into the learning process: listening, manipulating materials, organizing and processing information, self-monitoring of one's learning experiences, and the synthesis and organization of new knowledge learned. Rooted in the scientific methods traditions, many schools operate in a machine-like fashion and students are seen as passive recipients of the machinery of schooling; as machines, schools are not able address the challenges of fostering the required conditions for learning (Myran & Sutherland, 2018). As the times of education have evolved, educational leaders are tasked with making sure all students are receiving an equitable education and that underlying implicit and explicit biases are not preventing students from obtaining an equal education despite the color of their skin. In the field of education, if school leaders are truly serious about preparing leaders conscious of and committed to diminishing the equities within the American school system then the current models of preparation are not up to the task. If current and future education leaders are to truly foster equitable learning environments, then substantive changes in

the educational field will have to occur. The administrative preparation process and professional development will need to be revamped and include courses on social justice and culturally responsive teaching methods (Brown, 2004).

Educating Disadvantaged Students

In 1965, ESEA was originally established to foster equitable opportunities for the nation's disadvantaged students, and federal legislation provided financial resources to the schools in order to ultimately leverage the learning experiences of underprivileged students (Thomas & Brady, 2005). It has been said that education is said to be the "great equalizer," since the main goal of public education is to give students the chance to excel both in the classroom and beyond. Yet, there are numerous factors preventing education from giving all citizens access to a better education and therefore, a better life. There are many schools serving low-income students and the school systems are receiving fewer resources and facing the great challenge of attracting and retaining highly qualified teachers (Darling-Hammond, 2001; Growe & Montgomery, 2003; Owings & Kaplan, 2010). In their study *Alpha & Omega,* Owings and Kaplan (2010) conducted an equity audit at two different high schools within the same division and found that "for every $1.00 per pupil spent at the Alpha high school, just under 40 cents was spent per pupil at the Omega high school" (p.178). Financial disparities not only occur across the nation in the public educational system, they take place within schools located in the same division. When incorporating educational equity within the public-school system, "we should expect schools to increase achievement for all students, regardless of race, income, class and prior achievement" (Growe & Montgomery, 2003, p. 23).

Further investigation by Growe and Montgomery (2003) suggests that disadvantaged children often start kindergarten with significantly lower cognitive skills than their advanced

counterparts, leaving these students to have to play catch up most of their elementary years. Decades of social research show that a plethora of schools remain segregated by income and race and tend to have extreme unequal educational opportunities afforded to students of different racial, ethnic, and economic backgrounds (Frankenberg et al., 2019; Lhamon et al., 2018). Desegregating schools has come with challenges of course, but research has also shown positive benefits. Students of color who attend integrated schools tend to develop a higher level of critical thinking skills, have higher graduation rates, more prominent educational and career goals, and greater earning in the workforce and overall better health outcomes (Frankenberg et al., 2019). A study conducted by Arrington (1981) showed no decline in achievement level of White students after the desegregation of schools, but there was an increase in academic achievement for students of color with growth lasting through high school for minority students.

There has been a shift in diversity as it relates to the enrollment population of students within the United States. Sixty-Five years after *Brown v. Board of Education*, public schools' enrollment within the nation no longer has a majority racial group. White students are still the largest racial group in our national schools with approximately 23.9 million White students, however, it is notable to mention that White students no longer carry the title for majority of public-school students (Frankenberg et al., 2019). This is due to the impact of birth rates and immigration changes; the Latino share of enrollment has grown rapidly. More than half of the students of color in the United States identify as Latino with the sum of approximately 13 million students (Frankenberg et al., 2019). Black students account for the third largest racial group with approximately 7.5 million, followed by Asian students, multi-racial students, and then American Indian students.

Disadvantaged students also seem to suffer greatly in school and contribute to the disparity in high school dropout rates across different racial or linguistic groups. In their study, Kim et al. (2015) found the need to "pay special attention to the immigrant groups, particularly English language learners (ELL), who tended to show higher dropout rates than non-ELL students" (p. 337). There are significant factors that affect students from graduating high schools and according to Hammond et al. (2007), these wide variety of factors are in four areas or domains: individual, family, school, and community. Many studies have linked leaving school early to a variety of individual factors that put children at great risk (Kim et al., 2015). These factors include unalterable background characteristics such as race/ethnicity, gender, immigration status, and having limited cognitive abilities or an identified disability (Hammond et al., 2007). Other individual factors such as early adult responsibilities including teen parenting, having a job to support the family, or having to care for younger siblings also affect on time graduation.

A student's family background or home experiences have a significant influence over educational outcomes. The most consistent factor found to impact student dropouts has been socioeconomic status (SES). Students coming from non-English speaking homes and single-parent households are more prone to dropping out of school (Hammond et al., 2007). Family dynamics may negatively impact student academic growth such as high household stress, families with high mobility, divorce, and parents' beliefs about education. The school structure can affect the academic and graduation achievement of a student. One difference that most school systems face is the difference between public school and private school structures. According to Hammond et al. (2007), studies have found that Catholic and other private schools historically have a fewer student dropouts compared to public schools. Other school factors that

impact student dropout rates include discipline practices, previous school experiences, student body performance, and school resources (Gleason & Dynarski, 1998; Hammond et al., 2007). Lastly, the community domain and factors such as location of the school and the type of school play a key role in student success.

Dropout rates are consistently higher in urban than suburban or rural schools (Lehr et al., 2004). Additionally, dropout rates are also higher in impoverished communities with higher proportions of minorities. Community conditions also affect the likelihood that students will drop out, higher dropout rates are found with communities with high amounts of instability and mobility (Hammond et al., 2007). As a nation, it is expected that all students perform and obtain the same results; however, the entire system is not set up equitably. Accountability cannot be a one-size-fits-all approach, and in a system with inequitable inputs, it is unfair to expect schools serving disadvantaged students to perform at the same level as school with endless resources (Darling-Hammond, 2001).

Legal Framework for Public Education Funding

Education Finance Litigation

Education litigation related to school finance dates to the 1800s, when taxing property became a normal established means for appropriately funding public education in the United States. The Supreme Court defined "equal protection" of the state taxation issues with Justice Jackson stating in *Bell's Gap Railroad Co v. Pennsylvania (1890):*

Equal protection does not require identity of treatment. It only requires

> that classification rest on real and not feigned differences, that the distinction have some relevance to the purpose for which the classification is made, and the different treatment be not so disparate, relative to the difference in classification, as to be wholly arbitrary. [1]

This preceding Supreme Court case ruling required states to have credible rationale for spending collected tax dollars differently for diverse groups of people ("Rational Classification Problems in Financing State and Local Government," 1967). For example, if a state were to spend monies differently for school divisions serving affluent families compared to a high poverty school division, the state would be required to show the rationale behind why the funding different.

Furthermore, another landmark Supreme Court case, *Brown v. Board of Education* (1954), led to an educational structural shift, requiring all schools to be desegregate. The *Brown* Supreme Court case involved state constitutions and statutes from other cases including: South Carolina (*Briggs v Elliott*, 1952), Delaware (*Gebhart v. Belton*, 1952), Virginia (*Davis v. County School Board of Prince Edward County*, 1952), and Washington D.C. (*Bolling v. Sharpe,* 1952) (Young et al., 2015). The Supreme Court ruled in favor of the equal protection clause included in the Fourteenth Amendment and found separate but equal in public education unconstitutional. However, all schools did not desegregate and in 1955 in *Brown v. Board of Education II* the courts directed local school officials to implement desegregation of school "with all deliberate speed" (Young et al., 2015, p. 337).

A decade later a majority of the public educational system was still segregated, however; the Civil Right Act of 1964, put into motion ground-breaking language related to race and discrimination under the Equal Protection law. The Equal Protection clause would now take on a different accountability measure as it would now link to federal funding, which would change

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[1] *Bell's Gap Railroad Co. v. Pennsylvania,* 134 U.S. 232 10 S. Ct. 533 (1890).

the financial infrastructure of education. In their bylaws (1965), Congress wrote that education was a constitutionally protected right for all citizens and an equitable education should be provided for all (Owings & Kaplan, 2020). The Supreme Court ruled that it was unreasonable to classify people on the basis of their ownership of property, occupation level, or home site; it held that a state could not base educational quality on a state or local taxing system where a locality's wealth could determine the educational level.[2]

As a result of the aforementioned Supreme Court cases, there were two court cases in which the plaintiffs litigated under the Fourteenth Amendment Equal Protection clause and educational spending: *McInnis v. Shapiro* (1968) in Illinois and *Burruss v. Wilkerson* (1969) in Virginia.[3]

McInnis v. Shapiro (1968)

This case was brought to the federal court by a group of students who alleged that numerous Illinois statutes related to the financing of education in the state violated the Equal Protection clause of the Fourteenth Amendment. Specifically, this case challenged the fiscal equity of how the state dispersed funding to different localities, with wide variation in per pupil expenditures from one division to another. States would now play a large role in educational funding, and the courts pointed out that the equal dollar expenditures were not the "exclusive yardstick of a child's educational needs" (Chin, 1976, p. 775). The plaintiffs contended that the students held a federal constitutional right to a "financing system which apportions public funds according to the educational needs of the students, satisfies the Fourteenth Amendment" (Chin, 1976, p. 774). The plaintiffs also could not define a court-requested reasonable standard to assess

[2] *Griffin v. Illinois* 351 U.S. 12, 76 S. Ct. 585 (1956); *Baker v. Carr*, 369 U.S. 186, 82 S. Ct. 691 (1962).
[3] *McInnis v. Shapiro,* 293 F. Supp. 327 (N.D. I11 1968) affirmed sub nom; *Burruss v. Wilkerson,* 310 F. Supp. 572 (W.D. VA 1969). Affirmed 397 U.S. 44, 90 S. Ct. 812 (1970).

and measure student educational needs. Regardless of the claim brought before the court, the federal court stated "no discoverable and manageable standards by which a court can determine when the Constitution is satisfied and when it is violated." [4] The court found that the state's permitting local decision making was aligned and valid to state statutes.

Burruss v. Wilkerson (1969)

Similar to *McInnis v. Shapiro (1968), Burrus v. Wilkerson (1970)* also argued the need for the state to take more ownership in providing appropriate funding for students in Virginia. This case focused on the disparities among the localities. The plaintiffs and residents of Bath County, Virginia brought before the court an argument seeking "declaratory judgement" based on the Virginia Basic State School Aid Fund Act, under which state funds are apportioned to the local school divisions, is unconstitutional under the equal protection clause of the Fourteenth Amendment and Section 120 of the Virginia Constitution.[5] According to Owings and Kaplan (2020), both of these cases contended that education spending was based on local wealth and not on educational need. It is important to note, the U.S. Supreme Court affirmed both cases without offering an explanation or official statement. The lack of explanation led to more litigations in other states seeking to find answers.

Serrano v. Priest (1971)

Two years after *Burruss v. Wilkerson (1969)*, a California Supreme Court case challenged the California school funding formula in the *Serrano v. Priest* (1971) case, with several financial factors contributing to this court case. [6] The California Supreme court (a) ruled education was a fundamental right, (b) determined that the California funding model did not equalize funding

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[4] *McInnis v. Shapiro* (1968).
[5] *Burruss v. Wilkerson,* 310 F. Supp. 572 (W.D. VA 1969).
[6] *Serrano v. Priest,* 5 Cal. 3d 584, 96 Cal. Rptr 601, 487 P.2d 1241(1971), appeal after remand, 18 Cal. 3d. 728, 135 Cal.Rptr. 345, 557 P.2d. 929 (1976), cert. denied, 432 U.S. 907 97 S. Ct. 2951 (1977).

amongst the localities, and (c) determined that the state funding model generated combined state and local funds and caused large disparities based on wealth among the localities (Owings & Kaplan, 2020). The *Brown* Supreme Court case changed the legal perspective by making race a suspect classification. When the court ruled that the California funding model was disproportionate and gave more money to the wealthier divisions and less money to the poorer divisions, the system discriminated against people with lower property values. The California funding model was found to be unconstitutional under the Equal Protection clause and state constitutional law.

San Antonio Independent School District v. Rodriguez (1973)

Soon after the *Serrano v. Priest (1971)* case, several parents sued the San Antonio Independent School district over the issue of their children not attending quality schools. The plaintiffs argued that the Texas funding method violated the equal protection clause of the Fourteenth Amendment. The Texas school systems are funded primarily through property taxes which meant some schools were operating with fewer resources. The federal court panel ruled that education is a state function and the quality of education a student receives should not be determined by the locality's wealth. When appealed, The U.S. Supreme Court ruled in *San Antonio Independent School District v. Rodriguez* (1973), Justice Lewis Powell wrote "education could not be considered a fundamental right as has been assumed from the Brown v. Board of Education case because education was not among the rights guaranteed by the federal constitution."[7] Owings and Kaplan (2020) asserted that this ruling affected school finance reform as a federal landmark decision. All funding litigation cases regarding equity would now be

[7] *San Antonio Independent School District v. Rodriguez,* 411 U.S. 1, 93 S. Ct. 1278 rehearing denied, 411 U.S. 959, 93 S. Ct. 1919 (1973).

handled by state courts and state equal protection provisions moving forward. After this case, educational finance litigations shifted to state equity and adequacy in school funding.

Abbott v. Burke (1985)

The New Jersey Supreme Court case *Abbott v. Burke* started in 1985, but the litigation process spanned over three decades and still continues today. In this case, it was found that the state funding provided to poor children coming from low-wealth, New Jersey communities (called Abbott districts) inadequately provided the resources necessary to meet state constitutional standards. This case went through 20 court decisions to increase state aid to the 28 Abbott districts by increasing per pupil expenditures to the same level of funding as the affluent districts within New Jersey.[8] Owings and Kaplan (2020) reported the Supreme Court required that New Jersey provide funding for programs such as full day kindergarten, preschool for 3-4 year old's, after-school and summer-school programs, and facility improvements. The New Jersey Supreme court declared the state had officially fulfilled its constitutional duty with the 2008, passing of New Jersey School Funding Reform Act (NJSFRA). In 2011, Governor Chris Christie took office and he reduced school funding below the federally calculated funding levels. The court ordered in Abbott XXI (2011), that Governor Christie restore funding to the 32 poor urban "Abbott districts" to the amounts calculated by the funding formulas. This case represents another example of inadequate school funding.

Rose v. The Council of Better Education

In this next court case, the main premise centered on the idea of schools providing an efficient system of learning. Five years after the *Abbott v. Burke (1985)* case,

[8] *Abbott v. Burke*, 100 N.J. 269, 495, A. 2d 376 (1985).

Rose v. The Council of Better Education was brought before the Supreme Court of Kentucky. Many states use specific intentional language within their constitution which frames how the state treats and views the function of education. Typically, there are adjectives that exist within the constitution education clauses that suggest the creators intentions and how the courts may respond to legal matters. Moreover, some states refer to education as a "system" and other states use words such as "effective" and "uniform". For example, the state of Kentucky uses the word "efficient" in their constitution. In the Kentucky Supreme Court, the case of *Rose v. The Council for Better Education* (1989), Chief Justice Roberts F. Stephens proclaimed the General Assembly had fallen short of its responsibility to provide for an "efficient system of common schools."[9] Alexander and Alexander (2012) inform us that Justice Stephens addressed the need for a uniform system for public schools with equal facilities without monetary discrimination amongst the different districts. This monumental case marked one of the first cases where adequate school funding was addressed, and the concept of equity drove the focus of the decision.

Educational Funding Practices and Student Achievement

Focused on Equity

Owings and Kaplan (2020) contended that if our educational system operated with *equality*, all would receive the same treatment. However, equality should not be confused with equity. Equity as defined by Owings and Kaplan (2020) involves giving people the treatment they need as opposed to treating all individuals the same, which defines equality. When equitable funding practices are followed, schools are given the means to bring all students to a high achievement level by meeting the necessary learning needs of each student. In education, school

[9] *Rose v. Council for Better Education, Inc.*, 790 S. W. 2d 186 (1989).

leaders should be concerned with meeting the needs of students and ensuring that all students receive appropriate access to school resources.

When examining financial equity as it relates to public education resources, there are two different types: horizontal and vertical equity. Owings and Kaplan (2020) define horizontal equity as "students who are alike should receive equal shares of funding" (p. 164). Educators who utilize the horizontal equity methodology believe that every student should receive the same level of funding and there is no need to provide additional funding for inequities. Vertical equity, however, is different in that it "recognizes that students and schools are different, and that treating unequals requires appropriate unequal treatment" (Owings & Kaplan, 2020, p. 164). For example, a general education student and a special needs student are both expected to pass required benchmarks and state end of course testing. When looking through the vertical equity lens, educators understand that students need different levels of support which will require different levels of financial resources. For vertical equity to be effective, there should be standard factors identified in order to allocate financial resources differently and appropriately. According to Owings and Kaplan (2020), factors for school divisions to consider include: the percentage of students eligible for free and reduced-price lunch, percentage of English language learners, and percentage of special education students receiving services.

In 2019, the total revenues allocated for public elementary and secondary education (between local, state, and federal funds) was approximately $647 billion with school districts spending an average of $12,920 on each student throughout the United States. However, the per pupil expenditures drastically vary from district to district. There are equity issues centered on money spent on per pupil expenditures (PPE) across the United States. For example, according to National Education Association (2019), Virginia PPE was $12,269 and New York ranking

number one in per pupil expenditures, spent $24,565 per student. The public education system is funded from a combination of local, state, and federal dollars (Corman et al., 2018; Lhamon et al., 2018). The revenue from the local government is typically generated from local property taxes, which means the funding provided for public education is largely tied to property values and the wealth of the community. This funding model contributes to the school funding inequities between high and low poverty divisions. Today, many schools still operate under the separate but equal laws that were abolished decades ago; segregated Black and Latino schools are segregated by poverty, as well as race. Historically, these marginalized students come from low-income households and are students of color leading to double segregation for these students (Frankenberg et al., 2019; Orfield et al., 2012). The public education system is responsible to provide equitable educational experiences for all students regardless of race, socio-economic status, or academic abilities.

Funding through an Adequacy lens

Many states bear the obligation to provide public education for their students, and funding inequity lawsuits have caused states to implement "state funding reforms" to increase funding in divisions serving the most disadvantaged students. Furthermore, even with reforms in place, there are still alarming funding inequities in which the highest poverty-stricken divisions receive an average of $1,200 less per pupil than the lower poverty divisions, and divisions serving the largest numbers of students of color receive about $2,000 less per pupil than divisions who serve the fewest students of color (Lhamon et al., 2018; Morgan & Amerikaner, 2018). True adequacy in educational funding means giving localities sufficient resources to educate all of their students to a high level of rigor. Allan Odden and Larry Picus (2008), affirm in their research the following operational definition of *fiscal adequacy:*

> to identify how much each division/school requires to teach students with special needs such as the learning disabled, students from high poverty and thus educationally deficient backgrounds, and students without English proficiency—to the same high and rigorous achievement and standards.

Public Schools that receive Title 1 funding are required by law to provide comparable educational services as non-Title 1 schools. Consequently, poorer schools often have ill prepared, lower paid teachers, fewer higher-level academic course offerings, run down facilities, and inadequate access to school materials and academic resources (Lhamon et al., 2018). Schools serving the most disadvantaged students often require higher levels of funding in order to overcome the financial challenges required to serve the needs of disadvantaged students, specifically students with disabilities, and English language learners. Odden and Picus (2008) assert in their research, if schools are unlikely to receive large increase in educational funding in the future, then school divisions need to find methods to use the resources they are given in ways that are fiscally responsible and aligns to best practices, leading to improved student learning. True financial adequacy will require school leaders to manage school finance and the continuous school improvement plan together, with the common vision of using additional aid to enhance educational outcomes (Clune, 1994).

Standards of Quality Funding Practices in Virginia

School divisions in Virginia are funded through three forms of income federal, state, and local division dollars. Majority of the combined budget is supported by state and local funding. However, it is the responsibility of the General Assembly to determine how much support school divisions must receive in order to provide high-quality education as directed by the Constitution of Virginia (Duncombe & Cassidy, 2016). The formula that Virginia utilizes to support school

divisions is called the Standards of Quality or (SOQ). The SOQ funding formula was designed to ensure that all Virginia Schools receive the minimum level of state-mandated funding for instructional services and number of support positions funded per 1,000 students. According to (Lou et al., 2018; Owings & Kaplan, 2020) the current SOQ funding formula underestimates the true financial costs of providing a high quality education within each locality.

Standards of Quality funding is primarily provided through the following accounts, in a per-pupil formula: Basic Aid, Special Education, Career and Technical Education, Prevention, Intervention, Remediation, Gifted Education, English as a Second Language, Fringe Benefits for funded instructional positions, Sales Tax (1.125% for public education), Textbooks, Early Reading Intervention, and SOL Algebra Readiness (Virginia Department of Education, 2013). There are seven standards of learning that govern the mandated funding of Standards of Quality (Virginia Department of Education, 2020a):

1. Instructional programs supporting the Standards of Learning and other educational objectives.
2. Instructional, administrative, and support personnel.
3. Accreditation, other standards, assessments, and releases from state regulations
4. Student achievement and graduation requirements
5. Quality of classroom instruction and educational leadership
6. Planning and public involvement.

The General Assembly has provided accompanying compliance regulations that must be followed for each standard. Each year all divisions are to report whether they met the compliance regulations or explain why the compliance regulations were not met annually (Virginia Department of Education, 2020a). Virginia has established a funding metric called a “composite

index" for each school division. The composite index is utilized throughout the state of Virginia and it "determines a school division's ability to pay education cost fundamental to the commonwealth's Standards of Quality (SOQ)" (Virginia Department of Education, 2020b, p. 1). The Composite Index is comprised of three indicators of the locality's ability-to-pay:

- True value of real property (weighted 50 percent)
- Adjusted gross income (weighted 40 percent)
- Taxable retail sales (weighted 10 percent)

According to Virginia Department of Education (2020b), each division's composite index is adjusted to maintain an overall statewide local share of 45 percent and an overall state share of 55 percent. One of the measures used to produce the composite index is determined by the Average Daily Membership (ADM) which equates to the number of students enrolled in a division's student population. The General Assembly meets every two-years to determine the composite index for each locality which then sets the floor level of education services and SOQ funding responsibilities.

Owings and Kaplan (2020) asserts the composite index ranges from 0 to 1.0 and has a functional range that is capped at 80%. For example, poorer school divisions tend to have a lower composite index number. School divisions with greater wealth, will have a higher composite index number representing higher fiscal capacity which equates to less state funding. It has been determined by the General Assembly that every school division in Virginia is required to pay some level of funding towards the required floor level of education.

Factors Impacting Minority Male High School Graduation

In education a myriad of factors exists that negatively impacts minority male students from succeeding in high school and graduating. This section will discuss factors that widens the

achievement gap that is so prevalent amongst male students of color and will help to illuminate the challenges that marginalized students face. The factors that prevent minority males from seeing success in high school the most include poverty, disciplinary practices, chronic absenteeism, and retention of quality teachers.

Poverty

Poverty is one factor that negatively affects a vast number of marginalized students. Many minority students lack the basic necessities that are often taken for granted and the absence of these basic needs creates educational barriers for these students. According to the 2020 federal poverty guidelines, a family of four is considered "poor" when their annual income is below $26,100 (U.S. Department of Health and Human Services, 2020). In 2018, approximately 11.9 million American students live in poverty equating to about 1 in 6 children. More than 5 million students live in extreme poverty (less than 9 dollars a day per person), with nearly 70% of these students being students of color (Children's Defense Fund, 2020). There is a positive correlation between family wealth and student academic achievement (Gardner et al., 2014). Low-income students typically attend schools that receive less funding and are not adequately resourced compared to well-funded school found in wealthy neighborhoods (Gorski, 2013). Less resources ultimately equates to students falling further behind academically and not receiving a high-quality education (Darling-Hammond, 2001; Gorski, 2013)

Disciplinary Practices

As educators we all have implicit and explicit assumptions and biases, which lead to disproportional discipline processes and over-representation of minority students, specifically black males, in special education programming. Gardner et al. (2014) asserts the disproportional representation of minority males within special education could be due to educators

misinterpreting culturally based behavior differences. Some teachers can be punitive in nature, and have deficit thinking which can translate to low expectations/biases toward minority male students (Ford et al., 2002). The discipline disparities among Black, Hispanic, and Native American students are steadily rising in the United States. Additionally, research has shown that discipline is often linked to poorer academic performance and negatively impacts student engagement (Rocque, 2010). The U.S. Department of Education Office for Civil Rights (2014) stated, "Black students are suspended and expelled at a rate three times greater than white students. On average, 5% of white students are suspended, compared to 16% of black students" (p. 1). Hostile school environments and exclusionary discipline policies deny students of color and students with disabilities equal opportunities to be successful and ultimately contribute to the school-to-prison pipeline (Children's Defense Fund, 2020). Additional warning signs are poor grades in credit bearing classes and behaviors resulting in in-school or out-of-school suspensions (Ginsburg et al., 2014).

Chronic Absenteeism

Chronic absenteeism is defined as missing 10% of the school year (18 days) including both excused and unexcused absences. Students chronically absent from school often have lower levels of school readiness when entering kindergarten and are less likely to read at grade level in the third grade (Lara et al., 2018). Moreover, poor attendance is a contributing factor to the achievement gap negatively impacting students struggling with poverty and students of color. Ginsburg et al. (2014) claim the highest rates of chronic absenteeism often occur at the pre-k/kindergarten level and with high school students. Across the United States, more than 6 million students were chronically absent from school in the 2013-2014 school year, representing 14% of all students (Lara et al., 2018). Chronic absenteeism broken down by race is as follows: Black

(17%), Hispanic (14%), White (12%), and Asian (7%). The Native American and Pacific Islander subgroups had the highest chronic absenteeism percentages at 22% an 21% respectively. English language learners (ELL) were less likely to be chronically absent and students with disabilities (SWD) were 50% more likely than non-SWD to be chronically absent (Lara et al., 2018). High absenteeism in middle and high school is an early warning sign that a student may potentially drop out of school.

Retaining Quality Teachers

High quality teachers are needed in order for students to achieve high levels of rigorous learning. There are a variety of reasons why teachers are leaving their jobs and the entire educational field all together. According to Ingersoll and May (2011), high-poverty schools lose approximately 20% of their teaching force each academic year, and this attrition rate is significantly higher than for affluent schools. Unfortunately, when presented with the opportunity to leave high-poverty schools with limited resources to obtain a job at a low-poverty school most teachers take it. This leaves high-poverty schools struggling to employ fully certified and experienced teachers (Almy & Theokas, 2010; Darling-Hammond, 2001). As a result, a vast number of inexperienced 1st year teachers are assigned to low-income, high poverty schools which leads to high teacher turnover and sliding student achievement (Almy & Theokas, 2010). Additionally, it is important that all students have the opportunity to have a Black male teacher as a role model, especially minority male students (Scott, 2016). According to the U.S. Department of Education statistics, black male teachers only account for 2% of the nation's public school teaching population (Scott, 2016).

Many male students coming from low-income family backgrounds have a higher chance of coming from a single parent household. These households are led by single mothers

disproportionately coming from racial/ethnic minority groups (50% Black, more than 30% Hispanic, and about 12% White) compared to married families (Garfinkel & Zilanawala, 2015). Minority males need guidance and direction, and educators, especially minority male teachers, can help to bridge the gap. Positive student-teacher relationships can ultimately enhance the classroom learning environment and boost student motivation (Koca, 2016; Vega et al., 2015). Teachers can cultivate student motivation by creating a supportive and caring classroom environment that facilitates student-centered learning and high levels of engagement (Fenzel & O'Brennan, 2007).

Studies Centered on Minority Males and High School Graduation Rates

Despite decades of research on the achievement gap between White students and students of color, this gap persists. Far too often, African American males have been referred to as an "endangered species" and labeled as less intelligent, inherently culturally deprived, and lacking ability and motivation (Corbett et al., 2002). Unfortunately, these stereotypes have negatively impacted African American male students at every level of school. Tami Foy (2010) sought to identify pervasive factors negatively impacting African-American males at the high school level. Foy (2010) determined a major reason for the widening of the achievement gap between African American male and White male students correlated with inequities between teacher quality and educational spending. Furthermore, Foy (2010) also asserted in her work that if the African-American male student continues to perform poorly in school, the likelihood of attending college dwindles, contributes to increased unemployment, and inability to provide for his family. There is significant research focused on how poorly African American males are performing in school. Unfortunately, not enough studies seek to examine why over 50% of African American males drop out of school each year in the United States (Brisport, 2019; Foy, 2010).

Sanders (2015) asserted in her study there are several major factors that negatively impact academic achievement and graduation for minority graduation rates. Some of the factors mentioned in Sanders (2015) study included: poor academic performance and excessive absences in school specifically starting in elementary school, the impact of grade retention, the rigor of high-stakes testing, family and social relationships related to finishing high school, and high poverty. Additionally, a vast number of students from non-English speaking backgrounds, large rates of students coming from childhood poverty and lower participation in quality preschools means that many students especially students of color start school at a considerable disadvantage (Sanders, 2015). Hispanic male students outnumber their peers in school dropout data, and like Black males, Hispanic males have a great deal of barriers to overcome in order to succeed in high school (Clayton-Molina, 2015). For Hispanic student dropouts, the language barrier was noted as being a major contributing factor for why students felt disengaged from the learning environment (Brisport, 2019).

The transition to high school for students is another contributing factor affecting many minority students nationwide. According to Sanders (2015), when students enter the ninth grade they are either on track or off track and this is a critical year for mapping out students' remaining high school trajectory. Students of color who are not performing well when entering high school are often tracked and placed in remedial courses. Students typically fail ninth grade more than any other high school grade, and a large percentage of students who are retained subsequently drop out of school (Herlihy, 2007).

An additional study by Brisport (2019) seeks to bring awareness to negative interactions between teachers and parents of high school students as they transition into high school. Parents can play an influential role in the academic success of their child at the elementary and middle school

grade levels. However, as the child enters high school, according to Brisport (2019) the parent-child relationship starts to decline as the student seeks autonomy in their education. For students of color the lack of parental support is magnified especially in African American and Hispanic communities. Brisport (2019) suggests a strong, positive, and close relationship between teachers and parents of high school aged students centered on school-related matters builds a climate of trust and is beneficial not only for the parent but more importantly for the student. Lastly, it is important to note not all African American and Hispanic male students are low-performing or dropping out of school; the question remains how those students are showing resilience and perseverance despite the obstacles and barriers facing them.

Graduation Rates and Human Capital Investment

High school graduation rates will be utilized as an indicator of overall student achievement throughout this study. Education, if seen as an investment, can have a positive influence on human capital (Lee & Burkam, 2003). Owings and Kaplan (2020) define *human capital* as "the skills, knowledge and experience the individual (or populace) has that increase his/her productive capacities – and brings clear benefits to the individual, the economy, and society at large" (p. 82). Poor educational practices lead to vast public and social costs such as lower income, declining tax revenue, higher costs of programs such as health care, the incarceration system, and welfare assistance (Levin et al., 2007a). As such, the efforts to improve educational outcome for at-risk populations is viewed as a public investment cost.

Education is a major contributor to the overall economy's financial health, as it increases employability (Appendix D). For example, individuals with lower education levels are more likely to be unemployed than those with higher educational attainment. According to the U.S. Bureau of Labor Statistics (2018), the unemployment rate in 2018 for individuals who earned

less than a high school diploma was 5.6 % versus 2.2% for individuals with a bachelor's degree. Unfortunately, the unemployment rate for a high school dropout is three times higher than that of a college graduate. Moreover, the median weekly earnings of a college graduate are 2.25 times greater than that of a high school dropout (Owings & Kaplan, 2020). Education increases the quality of life for individuals and for society at large. According to Owings and Kaplan (2020), examples of these improved quality of life factors include:

- Voting frequency
- Health Insurance Coverage
- Volunteerism
- Charitable Contributions
- Leisure Activity Participation
- Cultural Activity Participation
- Childbirth in Marriage vs Out of Wedlock
- Prenatal Care
- Incarceration Rates
- Crime Victimization rates

This current study adds to the financial literature by analyzing equitable school funding practices and the impact it has on student achievement through examining the Title 1 and SOQ expenditures and minority male high school graduation rates. When evaluating a state's wealth, it is imperative to understand the *fiscal capacity* or the financial resources available to fund public services within the state. It is equally important to assess how much of the state's capacity is used to fund education, known as *fiscal effort.*

Owings has expanded this work by studying state fiscal effort in relation to student achievement outcomes through several studies, including doctoral studies by Cedo (2014), Ellison (2015), Johnson (2014), and Soderholom (2019). These studies used a similar type of analysis using the fiscal effort ratio where *E* is fiscal effort, *R* is the revenue allocated for educational expenditures through each state's per-pupil expenditures, and TB is the tax based used as a measure of state wealth, the Gross State Product (GSP) on a per capita basis. Additionally, Title 1 funding will be measured as an indicator to strengthen the triangulation along with SOQ funding to assess how each city or county school division in Virginia allocates money towards education. Examining the impact of Title 1 funding, state, and local expenditures on graduation rates data spanning 11 years, provides a greater comprehensive picture of the relationship among Title 1, SOQ funding, and graduation rates over time.

The longitudinal graduation range of 2008-2019 was selected as result of the 2004-2005, Virginia on-time graduation initiative, prompted by the 2005, National Governors Association (NGA) task force report (Virginia Department of Education, 2006). The NGA task force recommended that each state adopt a graduation formula to accurately account for on-time graduation. According to Virginia Department of Education (2006), the General Assembly approved the House Bill requiring the Virginia Department of Education to report new cohort graduation rates at the end of the 2008 academic school year as graduation data are published and disaggregated by student subgroups and state educational mandates. Therefore, the graduation rates used in this study started in 2008, as this would be the first cohort of Virginia recorded on-time graduates.

This study aims to discover how much each locality spends above the Standards of Quality (SOQs) and federal Title 1 allocations and determine whether this excess spending has

an impact on minority male high school graduation rates. The primary goal of this study is to provide additional data/findings to contribute to the empirical research on the correlation between school funding and the national common indicator of high school graduation rates. Graduation rates analyzed over time will determine if there is a significant correlation between increases and decreases of state fiscal effort. The study examined data over an 11-year period of time.

CHAPTER 3:

METHODOLOGY

Chapter Overview

The purpose of this chapter is to present the methodology for this study and to examine, over time, the relationship between localities' fiscal effort and minority male graduation rates. The research conducted in this study followed a quantitative, non-experimental ex post facto approach. Furthermore, this study aims to discover how much SOQ funding each locality receives, funding above the required local effort, and federal Title 1 allocations and determine whether this excess spending has an impact on minority male high school graduation rates. In this chapter, the study's purpose and guiding research questions will be analyzed. This study will highlight the variables impacting high school graduation for minority male students and identify a positive or negative correlation. Chapter 3 will be divided into numerous sections including a description of the sample population, variables, the research study design, data collection, data analysis, and limitations. This longitudinal study identified how Title 1 allocations impacted minority male academic achievement and affect student outcomes overall. Lastly, examining high school graduation rates is an indicator of how public funding and policies are affecting the public education system and society at large.

Sample

The population used in this study consisted of 30 school divisions that represent the different geographical regions throughout the state of Virginia. This study will utilize a stratified random sampling, to ensure a variety of division populations (suburban, rural, and urban) were included from the different geographical regions in Virginia. The selected sample will be examined by analyzing data related to Title 1 funding, SOQ funding, and money in excess each

division is spending compared to high school graduation rates over an 11-year period. One of the requirements of NCLB and now ESSA is that all states are expected to work towards the national goal of attaining a 90% graduation rate for all students (Association for Supervision and Curriculum Development, 2015; Balfanz et al., 2019). Many school divisions across the nation are still working towards obtaining this national goal for marginalized students.

Variables

The primary independent variable in this study is Title 1 funding, calculated from 2008-2019 for the 30 school divisions identified within the 8 regions of Virginia. Time was the second independent variable used in this study. This factor was extremely important as this study is a longitudinal analysis of 11 years of relevant and current data. The dependent variable used in this study was minority male high school graduation rates. When developing this study, the hypothesis was that increased fiscal effort and Title 1 funding over a period of time would have positive associations with increased high school graduation rates and naturally a decrease in fiscal effort over time would have a negative impact on high school graduation rates.

Independent Variables: Fiscal Effort and Time

When determining the financial wealth of a locality or state, "capacity" refers to the ability of a locality, state, or nation to pay for public services (Owings & Kaplan, 2020). For the purposes of this study, fiscal effort in the state of Virginia will be examined. According to Owings and Kaplan (2020), fiscal effort "measures how much a locality, state or nation spends of its resources in relation to capacity-or its ability to pay" (p. 145). Furthermore, it is important to note that different school divisions and states have distinctive levels of fiscal capacity and dedicate different levels of fiscal effort to fund educational programing. For example, poor school divisions that typically have a "lower capacity" could potentially spend a greater portion

of their wealth on funding education which turns out to be a "high effort." Conversely, affluent school divisions with "high capacity" may spend less than they are capable of, yielding a "low effort" support to fund their schools (Owings & Kaplan, 2020, p. 145). There are many factors that impact fiscal effort and how it effects public education. The public's interest and attitude towards education can sway their mindsets on funding public educational services. Hanushek (1997) found additional variations in the operation of state school systems coming from court rulings and interpretations of state policies, specifically as they relate to school finance.

Dependent Variable: High School Graduation Rate

The high school graduation rate is a common indicator and measurement of student success that varies from state to state and school to school. Minority male high school graduation rate is the criterion variable utilized in this study. There has been a significant push from policy makers and influential advocates to put a great deal of emphasis on students graduating from high school. High school is not only a prerequisite for college bound students, it is also a great indicator for economic success (Greene & Winters, 2002). In the early 2000s, many studies on graduation rates revealed that even states with high overall graduation rates also performed poorly when breaking down the racial subgroups. For instance, "Nebraska which ranked fifth among the states in overall graduation rate with 84% in 1999-2000, ranked 24th among the 31 states reporting enough information…graduating African-American students with 53%" (Greene & Winters, 2002, p. 8). When analyzing graduation data it is imperative to utilize categories to measure student success for all student populations.

This study utilized the National Center of Education Statistics graduation calculation method, known as the adjusted cohort graduation rate (ACGR), calculated by identifying the "cohort" of first time ninth graders in a selected school year. The cohort is adjusted by adding

any students who transferred into cohort after ninth grade and subtracting any students who transferred out of the cohort (NCES, 2019a). The ACGR is the percentage of students in the summed adjusted cohort who graduated within four years with a traditional high school diploma.

Research Design Study

The quantitative analysis conducted in this study used an ex-post facto longitudinal design, by examining existing data on state fiscal effort from 2008-2019 academic years. Additionally, graduation rate data, Title 1 funding allocations, and SOQ funding for each selected division from those years were examined. Due to the focus of this study, the quantitative method design for the investigation of a measurable relationship was deemed most appropriate. Creswell (2014) reports that longitudinal designs examining many variables over time tend to give the researcher an explanation of the relationship between dependent and independent variables found in the study. Descriptive and inferential analysis was conducted using SPSS to answer research questions one and two in identifying the trend(s) in Title 1 effort, SOQ effort, and state high school minority male graduation rates over time. This study utilized ACGR data reported by NCES and VDOE in order to maintain on time graduation calculations. The primary outcome for this study is to uncover if varying levels of Title 1 funding, SOQ funding, or local funding in excess to the required local effort had a significant impact on Virginia's high school graduation rates for minority males.

Data Collection

The data used in this study are pre-existing and available to the general public. The graduation rate data were accessed via the Virginia Department of Education online database using the following website: http://www.doe.virginia.gov/statistics_reports/graduation_completion/cohort_reports/index.shtml. The cohort graduation build-a-table function

was used to extrapolate the minority male graduation rates from each of the 30 school divisions selected in this study. When assessing minority male graduation rates, there were three subgroups that were specifically being analyzed throughout this study Black male students, Hispanic Male students, and American Indian male students. This study included Virginia graduation data collected from school years 2008-2019.

When computing fiscal effort, there is a simple equation or ratio. Owings and Kaplan (2020) present fiscal effort in the following formula: $E=R/TB$ where E is fiscal effort, R stands for the revenue allocated for education, which is broken down into per pupil expenditures, and TB stands for the tax base or measure of wealth (per capita income, per capita property value, and per capita gross state or domestic products). The equation for effort is in the following format: $E=R/TB$. Individual states, through their own state constitutions, handle supplying public schools' resources to support their daily operations. Additionally, Title 1 funding allocations are based on individual school need. In 2015-16, more than 55,906 public schools across the country received Title 1 funds to provide additional academic support and valuable learning opportunities for their low-achieving students (U.S. Department of Education, 2018). The Virginia Title 1 funding allocation reports were found on the National Center of Education Statistics (NCES) website. The per pupil expenditure data used in this study were found on the VDOE website within the Superintendent's Annual Reports: http://www.doe.virginia.gov/statistics_reports/supts_annual_report/index.shtml. Lastly, a database of calculated state fiscal effort and state per pupil expenditures compiled by Owings and Kaplan was used in this study.

Limitations of Data Collection Process

School divisions often update their websites and in the process of updating, prior years' financial budgets are removed and inaccessible to the public. To compile research data with

validity two different websites were used to fill in the missing data. The first website used was www.archive.org; this website is an internet archive tool that is a non-profit library of millions of free books, software, music, and longitudinal data from websites. Many school divisions had five years of financial reports available to the public starting at the current year available on their website. The use of www.archive.org allowed the researcher to go back in time and view the division websites as previously developed and allowed the researcher to extrapolate missing financial data needed for this study.

Another website used was the city or county government websites where the school division was located. The archived comprehensive annual financial reports were found under the finance tab within the website which commonly went back to 2008. The limitations faced in the data collection process stemmed from both the topic selected and the division level financial reports that are reported to the Virginia Department of Education. Throughout the data collection process, it was discovered that large metropolitan school divisions (e.g. Arlington, Chesterfield, Loudoun, Prince William County, and Virginia Beach) had well-kept financial streamlined processes and their financial records were laid out in a manner that was simple to follow. Smaller school divisions (e.g. Bland, Roanoke, Louisa, Colonial Heights, and Cumberland) did not have as well-kept records and the financial reports were difficult to follow and comprehend.

Data Analysis

The analysis process started by calculating the fiscal effort for the Virginia school divisions selected for this study for the years 2008 through 2019 using the following formula: $E=R/TB$. Beginning with 2008 and concluding with 2019, average percent change was calculated as the mean of the difference of division fiscal effort from each prior year. The results were then analyzed by division ranking and largest margins of change over the selected years. Next, an

analysis of the relationship among Title 1 funding, SOQ, and graduation rates were analyzed. The mean difference of each variable was ranked and analyzed for validity and consistency.

The data listed above will be used to answer the first research question: 1) What are the trends in Title 1 funding in Virginia over 11 years ranging from years 2008-2019? Patterns of the data will be assessed and slopes of the data (flat, decreasing or increasing) identified. The second research question for this study is as follows: 2) What were the trends in high school graduation rates for minority males in Virginia over 11 years, 2008-2019? For this question, the graduation rates in Virginia were assessed for data trends for high school completion of minority males over time especially for Black, Hispanic, and American Indian males. The last research question of this study: 3) Is there a relationship among Title 1 funding, SOQ funding, and calculated percentage above RLE and the trends in high school graduation rates for minority males over an extended period of time, 2008-2019, in Virginia? The data used in this question were analyzed using a five-year and ten-year time lagged correlation. The chosen model of data analysis gives the researcher an opportunity to study potential correlations amongst variables that have experienced delay. The time lag analysis will highlight both positive and negative correlations among high school graduation rates in Virginia, Title 1 funding effort, and SOQ fiscal effort. When assessing production function models, fiscal inputs and student achievement outputs often cannot be measured at the same time.

The dependent variable of high school graduation rates in this study will be represented by the variable "G" and the independent variables Title 1 effort and SOQ effort are also represented in this equation. The following variables will be measured over the five-year intervals ranging from five and 10 years using the following formula:

$$G_{x,SOQ} = f(SOQ_{x-n})$$

$$G_{x,\text{Title 1}} = f(\text{Title1}_{x\text{-}n})$$

$$G_{x,\text{ALE}} = f(\text{ALE}_{x\text{-}n})$$

In this equation, the "x" represents the academic year, "n" represents the number of years in the time lag analyzed for graduation rates, "G_x" represents the graduation rate of the year being analyzed (dependent variable). An example of this equation is as follows: $G_{2019} = f(SOQ_{2019\text{-}5}) = f(SOQ_{2014})$. The graduation rate of 2019 is being correlated to 2014 SOQ funding and analyzed for a 5-year time lag of significance. The same process was repeated to the ten-year time lag for each independent variable. Prior educational funding studies have utilized time lag analysis to understand how variables change over time (Doyle, 2020; Ellison, 2015; Johnson, 2014). This method of statistical testing would highlight changes in graduation rates, by revealing data points that show significant positive or negative correlations. When analyzing the time lag periods of Title 1 effort, and SOQ effort the amount of increased or decreased graduation rates may be correlated to the increase and decrease of Title 1 of SOQ funding allocations.

Summary

In Chapter 3, the methodology utilized a non-experimental, ex post facto longitudinal design, providing the researcher with data needed to effectively answer the study's research questions and analyze the impact of division Title 1 effort on Virginia's minority male high school graduation rates. The time lagged methodology provided educators and educational policymakers with statistically sound data to support educational funding as it relates to enhancing student achievement. Based on the review of the literature, there could be a positive relationship between high school graduation rates and Title 1 funding in support of Virginia's high poverty schools. Furthermore, the research conducted over eleven years may provide insight into the effect of Title 1 allocations on high school graduation rates. In this study, the research

will span an 11-year time frame and the sample size will stretch across the state of Virginia which may allow some generalizations about the correlations between Title 1 funding and minority male high school graduation rates. The longitudinal data collected from this study will add to the current financial educational literature.

CHAPTER 4:

RESULTS

The purpose of this study was to examine the relationship between federal, state, and local funding and its financial impact on minority male graduation from high school on time. The researcher examined the relationship that Title 1 effort, SOQ effort, calculated percentage above required local effort has on high school graduation rates of minority males over an 11-year period from 2008-2019. The results of the data analysis for this quantitative study will be explained throughout this chapter.

Chapter Overview

In this chapter, the results of the research are presented in a narrative format and include tables and charts as evidence of the findings. The results of chapter 4 are divided into three main sections: (a) population and descriptive findings, (b) testing of assumptions, and (c) inferential analysis. SPSS v.26.0 was primarily used to produce descriptive findings and inferential analysis for the research questions. All inferential analyses were tested at the 95% level of significance.

Correlation and regression analyses were used to examine all research questions included in this study. It is important to note that correlation research does not prove that one variable cause another to change (Creswell, 2014). Moreover, this type of research does not explain the *why* behind the relationship. However, it does indicate that a relationship exists. The following research questions guided this study:

1. What were the trend(s) in Title 1 funding in Virginia over 11 years, 2008-2019?
2. What were the trend(s) in high school graduation rates for minority males in Virginia over 11 years, 2008-2019?

3. Is there a relationship among Title 1 funding, SOQ funding, and calculated percent above RLE and the trends in high school graduation rates for minority males over an extended period of time, 2008-2019, in Virginia?
    a. Is there a relationship following a 5-year time lag in graduation rates?
    b. Is there a relationship following a 10-year time lag in graduation rates?

Population and Descriptive Findings

The population of this study included 30 different school divisions (N=30) making up the eight different geographical regions throughout the state of Virginia. The financial data records used were compiled from two primary public databases, the National Center for Education Statistics and the Virginia Department of Education. The researcher collected data and information from 2008-2019 to support the goals of this study. Public information for each variable was not available for all school divisions. For example, descriptive and demographic information were not collected for each school division in this study. This study examined the relationship that Title 1 effort, SOQ effort, and calculated percentage above required local effort have on high school graduation rates of minority males. The following variables were produced for each locality selected: (a) the minimum, mean, and standard deviation calculated for the total minority graduation rate, (b) Title 1 funding, (c) standards of quality funding, and (d) calculated percentage above require local effort. Data indicated a high standard deviation for Title 1 funding and standards of quality funding; which suggest a wide span of values for these two variables. Table 1 represents the summary of the descriptive statistical data for the 30-division sample.

Table 1:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Standard deviation
Minority Male Grad Rate	338	53.33%	100.00%	80.34%	9.458%
Calculated % Above RLE	300	2.15%	220.26%	90.073%	41.361%
Title 1	360	$143,711	$32,382,363	$2,596,422	$4,324,062
Standards of Quality (SOQ)	360	$4,284,614	$475,681,115	$85,056,247	$99,743,017
Valid N (listwise)	282				

Assumptions

The researcher inspected all data sets to ensure they satisfied the assumptions of the analyses: (a) lack of missing data, (b) absence of outliers, (c) normality, (d) linearity, and (e) homoscedasticity. The data related to Title 1, standards of quality funding, and calculated above required local effort funding for all 30 school divisions were publicly available. Some data related to high school graduation rates for minority males were missing. For school divisions who had missing graduation data, the value of "9999" was inserted in the discrete missing variable tab within SPSS. There were some instances where missing records were excluded from the analysis that required the school division to have a full dataset. The researcher created scatterplots for each research question to determine if there was a linear relationship present or to identify any outliers. Additionally, the data were examined for residuals to assess if there were any significant outliers and account for a normal distribution. The following actions met all of

the assumption tests and confirmed that Pearson's Product Moment correlation and multiple regression analysis were both appropriate for this study.

Inferential Analysis

The descriptive and inferential analysis provided supports each research question along with supplementary statistical data.

Research Question 1

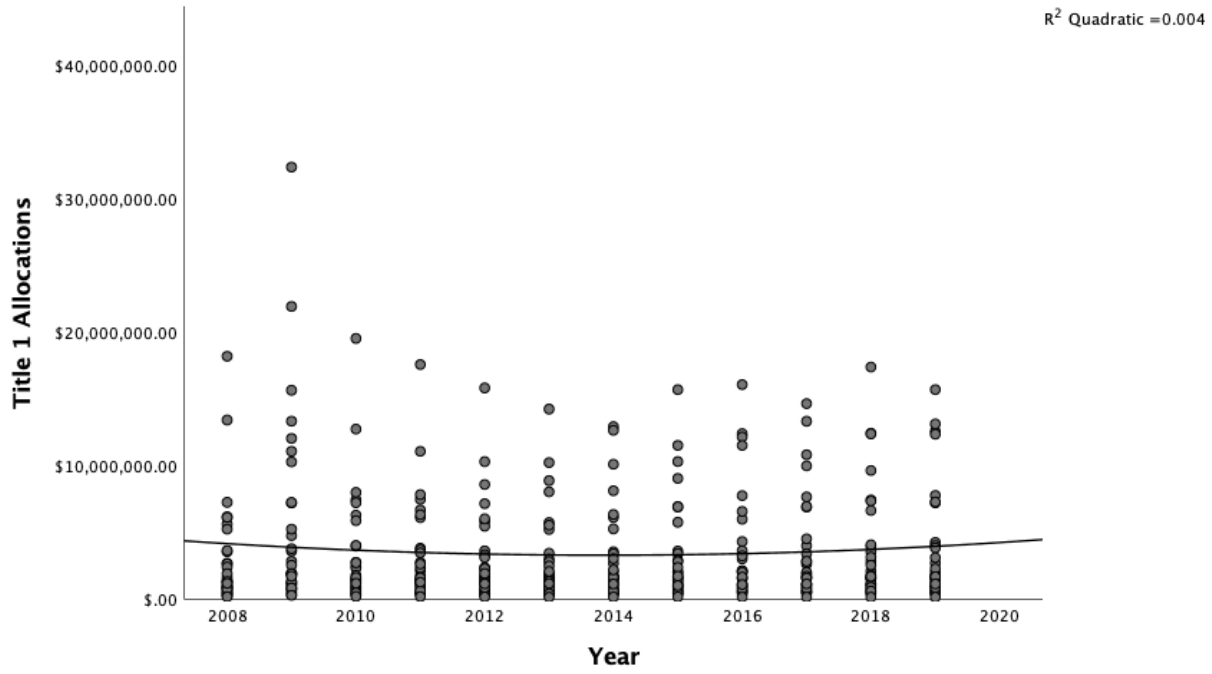
The first research question of this study included: What were the trend(s) in Title 1 funding in Virginia over 11 years, 2008-2019? A linear regression analysis was conducted with the SPSS software. The researcher created a scatterplot of Title 1 allocations over an 11-year timeframe. Visual inspection of the scatterplot indicated an association may exist between the variables. The assumptions tests related to linear regression were conducted through the preliminary analysis. Diagnostics were conducted to determine if the data fit the parameters for the regression test. When Title 1 effort was observed using a quadratic model, the best fit was near zero (R^2=.004), indicating the researcher should consider that the dependent variable (Title 1) and independent variable (year) are not correlated. Moreover, the increases and decreases in the Title 1 effort during 2008-2019 period for the selected sample group were minimal.

The researcher used the quadratic model and cubic model to further examine the data. An R squared change test was conducted and revealed that either model was the appropriate fit for the examination of the Title 1 effort over time. The conducted analysis revealed that visually and descriptively, most of the school divisions received between 0 to $4 million Title 1 dollars, during the years 2008-2019. As a result, the mean dollar amounts do not change significantly. However, for school divisions receiving Title 1 allocations between $4 million to $10 million the data indicated a slight increase of funding. For school divisions receiving between $10 million to

$20 million that data indicated a subtle decrease followed by funding leveling off. Figure 9 is the scatterplot and fit line for the trend in Title 1 for the 2008-2019 selected school divisions.

Figure 9.

Scatterplot of Title 1 Effort Trends for Sample Localities from (2008-2019)

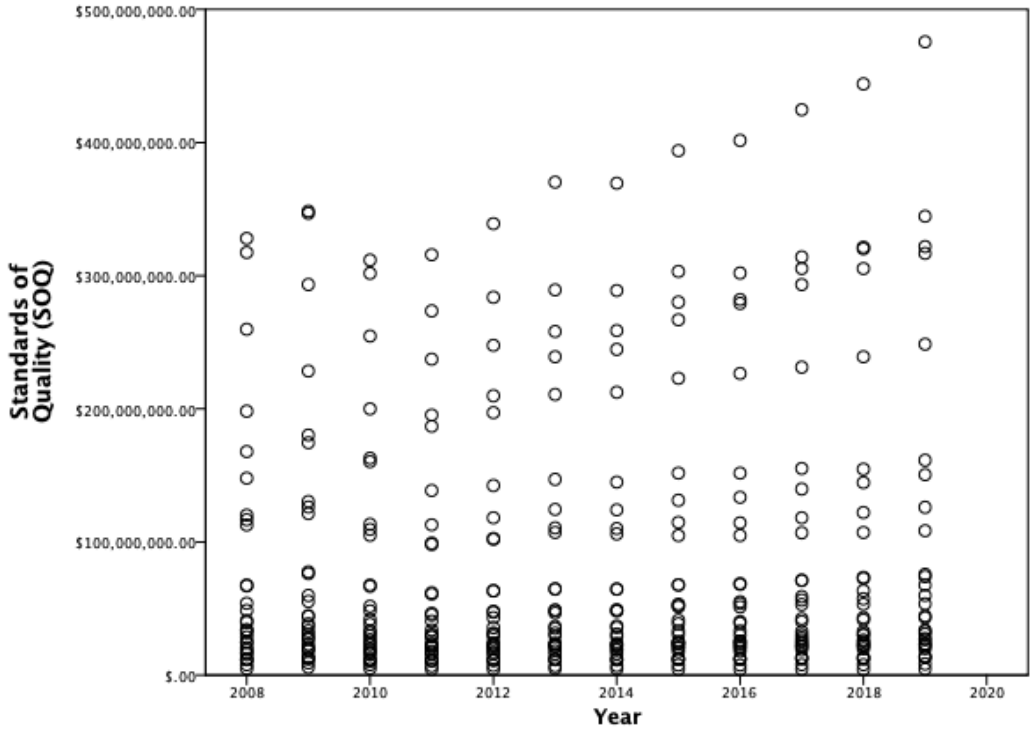


The data revealed the mean represented in this scatterplot can be deceiving, which suggests that the data set would need to be transformed. The researcher performed a log transformation and the data set yielded the same results.

The trends of the other independent variables represented in this study and Title 1 were also examined during the same period. The assumption tests related to repeated measures were calculated to make sure no statistical violations were present with the data. Figure 10 is the scatterplot for the trend of standards of quality funding for the 2008-2019 the selected school divisions.

Figure 10.

Scatterplot of SOQ Effort Trends for Sample Localities from (2008-2019)



As seen in Title 1 funding in scatterplot Figure 9, there were several school divisions that received between 0 – $100 million in SOQ funding each school year. Therefore, it was difficult to see a flat, increasing, or decreasing trend in funding for the school divisions in that range in terms of district level funding.

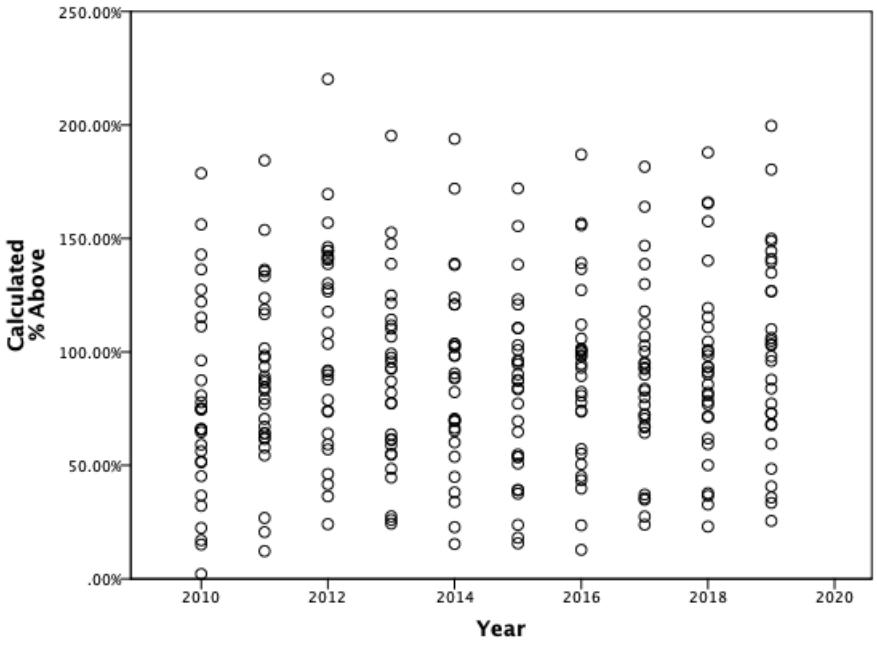
From 2008-2011, the analysis for school divisions receiving $100 million – $200 million dollars in funding presented a sharp decrease. From 2011- 2013, there was a slight increase in funding. In 2014, there was a slight decrease in funding that quickly increased in 2015 through 2019, maintain slight increase. During the three years from 2008-2011, the analysis for school divisions receiving $200 million – $300 million dollars in funding decrease. From 2011 to 2019 there is a consistent increase in funding. From 2008-2011, the analysis for school divisions

receiving $300 million – $400 million dollars in funding indicated a sharp decrease. However, from 2011- 2019, there was a sharp increase in SOQ funding stretching through $500 million dollars in funding.

The last variable being examined in research question 1 was the calculated percentage above for the selected school divisions during the 2008-2019 timeframe. Figure 11 revealed the calculated percentage above required local effort that school divisions were able to pay or fiscal effort.

Figure 11.

Scatterplot of Calculated Percentage Above Trends for Sample Localities from (2008-2019)



The analysis in this scatterplot revealed most of the school divisions were able to pay between 50% - 150% above the local required effort set forth in 2010, by the Virginia General Assembly. Only a small percentage of school divisions could exert fiscal effort that surpassed the 150% percentage quartile above the required local effort minimum of each school division requirement in Virginia.

Research Question 2

The second research question that guided this study included: What were the trend(s) in high school graduation rates for minority males in Virginia over 11 years, 2008-2019? SPSS software used conduct a linear regression analysis to determine the trends in high school minority male graduation rates from 2008-2019 throughout the eight regions in Virginia.

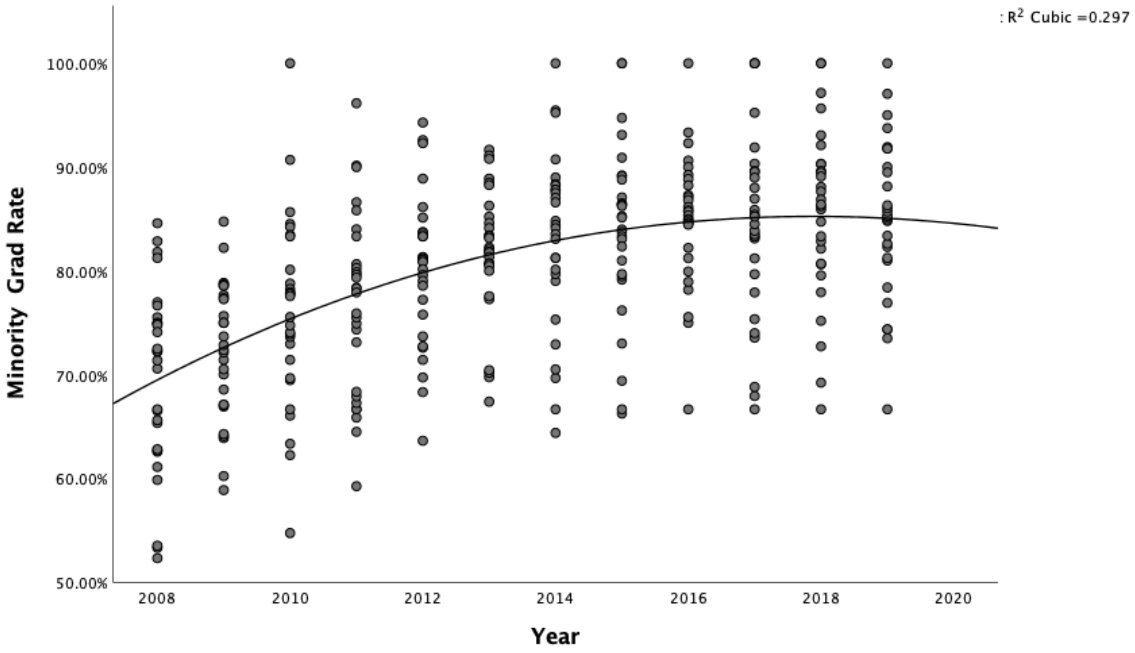
The researcher ran the linear regression seven assumption tests beginning with the test of linearity. A scatterplot of total minority male graduation rate against a 11-year timeframe was plotted. Visual inspection of the scatterplot indicated a linear relationship existed between the variables. There was homoscedasticity as assessed by visual inspection of a scatterplot of standardized residuals versus standardized predicted values. The residuals were normally distributed after assessing the probability plot graph. In 2010, there was one outlier of a total minority graduation rate of 100 percent. Due to misrepresentation of the data the outlier graduation rate was removed.

The researcher was able to estimate of the minority male graduation rate over time with a linear regression model. The equation predicting minority male graduation rates for this time period was: total minority graduation rate = -2745.74 + (1.404*year). During the years observed in this study, the prediction equation revealed an average annual increase in minority male graduation rates of 1.404 percent, 95% confidence interval for B [1.151,1.656] increase in

minority male graduation rates over time. This linear regression model estimated the average minority male graduation rates as 73.5% and 88.9% for 2008 and 2019, respectively. For example, the linear prediction equation for the average graduation rate for minority males in 2008: (-2745.74 + (1.404*2008) equated to 73.5%. The total minority male graduation rates increased by 15.44% over the 11-year time frame 2008-2019. These average graduation rate increases were determined based on the divisions sampled in this study throughout the state of Virginia. The linear regression established that graduation rates for minority males increased overtime during the time series ranging from 2008-2019 statistically significantly predicting graduation rates for minority males $F(1, 336) = 119.98$, $p < .001$. The $p < .001$ value indicates there is a statistically significant linear relationship between the variables. The model summary table was used to examine the proportion of variance. According to Cohen (1992), the time series analysis accounted for 26.3% of the variation in minority male graduation rates with an adjusted $R^2 = 26.1\%$, a large size effect. Figure 12 depicts the 2008-2019 scatterplot and fit line for the trend in total minority male graduation rates for the selected school divisions.

Figure 12.

Scatterplot of Total Minority Male Graduation Rates Trends for Sample Localities from (2008-2019)



Based on the data analysis conducted for research question 2, the cubic model was the best fit for this data set. The cubic fit line was used as it represented the line of best fit and probability of variance between minority graduation rates over time. From 2008-2016, the data set for total minority male graduation rates revealed a consistent increase each academic year. In 2017, the graduation rates maintained between 83% - 85%, yet, in 2019, there was a slight decrease.

Research Question 3

The third research question that guided this study was as follows: Is there a relationship among Title 1, SOQ funding, and calculated percent above RLE and the trends in high school graduation rates for minority males over an extended period of time, 2008-2019, in Virginia?

a. Is there a relationship following a 5-year time lag in graduation rates?

b. Is there a relationship following a 10-year time lag in graduation rates?

The researcher assessed the associations among the dependent variable, total minority male graduation rates against the independent variables, Title 1, SOQ, and the calculated percentage above required local effort for each school division included in the stratified random sample population. A scatterplot of total minority male graduation rate compared to Title 1 funding was plotted. Visual inspection of the scatterplot indicated an inverse relationship existed between the two variables. There was homoscedasticity as assessed by visual inspection of a scatterplot of standardized residuals versus standardized predicted values. The residuals were normally distributed after assessing the normal probability plot graph. Additionally, scatterplots were created for both total minority male graduation rates compared to SOQ and calculated percentage above, respectively. Both scatterplots depicted a slight positive association across the scatterplots. To further examine the relationship between the dependent and independent variables a Pearson's Product-Moment Correlation was conducted.

Time-Lag Analysis

The sub questions of research question 3 investigated the concept of time-lag. The time-lag analysis was utilized to compare Virginia's fiscal effort (SOQ) and federal fiscal effort (Title 1) during a specific time frame (2010-2019 or 2008-2019, respectively) and its delayed impact to minority male graduation rates over time as the dependent variable of this study. It is important

to note, fiscal effort and graduation rates of minority males do not happen concurrently. Hence, the implementation of a time-lag analysis was appropriate to examine the effects of fiscal effort on minority male graduation rates over time. Fullan (2010) asserts organizational change can take up to five to seven years to show signs of impact. When assessing the impact of fiscal effort, this notion is even more prevalent. The results of the Pearson correlation revealed an inverse, weak, statistically significant relationship between Title 1 effort and minority male graduation rates.

This negative correlation was significant for the concurrent year of Title 1 funding and graduation rate as well as for up to a 6-year time lag of graduation rate to Title 1 funding. Moreover, there was a positive, weak, but statistically significant relationship found between minority male graduation rates and standards of quality standardized to both the required local effort and calculated percentage above RLE. The data showed a significant positive correlation between minority male graduation rates and SOQ standardized to RLE and calculated % above RLE for the concurrent year and up to a seven year time lag (Table 2).

Table 2:

Pearson R Correlation Table Time Lag Analysis of Variables Influencing Minority Male Graduation Rates.

Time Lag (in years)	**Title 1**		**SOQ Standardized to RLE**		**SOQ Standardized to Calculated % Above RLE**	
	Pearson Correlation	Sig. (2-tailed)	Pearson Correlation	Sig. (2-tailed)	Pearson Correlation	Sig. (2-tailed)
1	-.173**	0.002	.215**	<.001	.189**	0.002
2	-.171**	0.003	.210**	0.001	.191**	0.003
3	-.167**	0.006	.199**	0.004	.205**	0.003
4	-.164*	0.011	.202**	0.006	.208**	0.005
5	-.161*	0.020	.194**	0.017	.211**	0.009
6	-.159*	0.033	.209*	0.022	.249**	0.006

7	-.153	0.061	.210*	0.046	.224*	0.034

**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

Table 3 depicted the results of linear regression analysis conducted for all 30 school divisions to further determine which divisions had a positive or negative slope for high school graduation rates for minority male students (Black, Hispanic, and American Indian) when correlated to Title 1, SOQ, and calculated percentage above RLE.

Table 3:

Linear Regression Analysis of the Change of Minority Grad Rates associated with SOQ and Calculated % Above RLE

Division	**SOQ Slope‡**	**SOQ R^2**	**Calculated % Above Slope**	**Calculated % Above R^2**
Appomattox	11.29%*	0.3276	1.2149	0.5475
Arlington	3.95%	0.3769	-0.0426	0.0155
Bristol	-0.45%	0.0000	0.4772	0.3717
Chesterfield	2.85%	0.0294	0.0485	0.0103
Colonial Heights	6.60%	0.0026	-0.2150	0.1116
Culpeper	1.16%	0.0053	-0.0573	0.0082
Cumberland	-8.18%	0.2143	-0.1954	0.1449
Danville	1.28%	0.0044	-0.0120	0.0090
Dinwiddie	-3.82%	0.0057	0.1355	0.3047
Gloucester	-16.94%	0.1796	0.1980	0.0994
Halifax	-13.26%	0.2984	-0.1144	0.1753
Hampton	-8.19%*	0.4031	-0.0612	0.0470
Harrisonburg	8.39%	0.1798	-0.2182	0.2219
Henrico	13.93%	0.2713	0.1160	0.3434
King George	13.73%	0.2746	0.1575	0.3226
Loudoun	0.08%	0.0005	-0.0758	0.2947
Louisa	20.22%	0.2652	-0.0869	0.1089
Lynchburg	2.01%	0.0069	0.1877	0.2929
Norfolk	-14.72%	0.1113	-0.0771	0.0868
Pittsylvania	3.42%	0.0399	-0.0794	0.0378
Prince William	7.29%	0.5647	0.1560	0.4680
Pulaski	-4.07%	0.0019	0.0990	0.0075

Roanoke	5.49%	0.0502	0.0430	0.0067
Rockingham	-1.74%	0.0099	0.2506	0.5690
Spotsylvania	-4.09%	0.0056	0.0093	0.0053
Stafford	21.68%	0.3743	-0.0491	0.1063
Suffolk	1.15%	0.0105	-0.0358	0.0269
Virginia Beach	2.76%	0.0147	0.2162	0.2138

‡ Change in graduation rate per 10 million dollars SOQ funding received, except where indicated by (*per million dollars)

Based on the results of Table 3, of the 30 school divisions, 18 had a positive slope associated with SOQ over a 11-year period. The school divisions, Appomattox, Stafford and Louisa have the highest positive slopes at 11.29% per million dollars SOQ funding, and 21.68% and 20.22% per 10 million dollars SOQ funding, respectively. Additionally, 10 school divisions depicted a negative slope with SOQ over an 11-year period with Hampton, Gloucester, and Norfolk having the highest negative slopes at -8.19% per million dollars SOQ funding, and -16.94% and -14.72% per 10 million dollars SOQ funding, respectively. Further analysis revealed that seven school divisions had a positive slope of increasing minority male graduation rates when associated with SOQ funding and calculated percentage above required local effort. Norfolk, Hampton, Halifax, and Cumberland had the opposite trend; the graduation rates were negatively correlated with SOQ funding and calculated percentage above required local effort. The researcher excluded Bland and Carroll school divisions from this study, as their student population did not have consistent representation of minority male graduation data.

Multiple Regression Analysis

Further data analysis was warranted to determine the relationship and variability among Title 1, standards of quality, and calculated percentage above RLE to minority male graduates. The multiple regression analysis was the appropriate test given the need to discover the relationship. Utilizing the SPSS software, a multiple regression analysis was conducted with Title 1 and SOQ serving as the predictor variables and minority male high school graduation rates as the criterion variable. After examining the data set, Table 4 showed the probability of the *F* statistic (13.076) for the overall regression relationship was < 0.001 or equal to a 0.05 level of significance. Therefore, the null hypothesis of no relationship between the set of the predictor variables and criterion variables was rejected. There was a statistically significant relationship between the set of predictor variables and criterion variable. Based on the high number of residuals, the predictor was weak. When examining the data closely the predictor was weak based on the high number of residuals. As a result, the variance in minority graduation rates cannot be explained by SOQ or Title 1 effort. Additionally, Table 4 showed the strength of the relationship in the *R* value (.574), which indicated a strong positive correlation. It is important to note statistical significance versus practical significance when assessing quantitative statistical research. Statistical significance test whether findings were by random chance. Practical significance looks at the usefulness of the data and the implications the data has for the utility of a practitioner in the field (Kirk, 1996). This study revealed both statistical and practical significance for local, state, and federal funding efforts and their implications on minority male graduation rates.

Table 4:

Multiple Regression Analysis Results

ANOVA[a]									
Model	Sum of Squares	*df*	Mean Square	*F*	Sig.	*R*	*R Square*	Adjusted *R Square*	Standard error of Estimate
Regression	2015.566	3	671.855	13.706	.000[b]	.574[a]	.329	.304	7.16801%
Residual	4110.433	80	51.380						
Total	6125.999	83							

a. Dependent Variable: Total Minority Male Graduation Rate
b. Predictors: (Constant), Title 1, SOQ, Calculated % Above RLE

Table 5 revealed the relationship of the individual predictor variables compared to the criterion variable (minority male graduation). The individual predictors Title 1 and SOQ revealed a statistically significant relationship with total minority male graduation rates. This relationship is evident by the *B* coefficient being less than or equal to the 0.05 level of significance. Table 5 provides information related to understanding the relationship between the variables included in this study.

Table 5:

Relationship between Independent Variables and Dependent Variables

	B	Standard Error	Beta	*T*	Sig.	*Tolerance*	*VIF*
(Constant)	96.940	7.586		12.779	.000		
Title 1	-15.656	1.776	-.812	-6.380	.000	.380	3.032
SOQ	10.953	1.26	.602	4.302	.000	.310	3.223
Calculated % Above	.001	.012	.003	1.187	.963	.889	1.124

a. Dependent Variable: Total Minority Graduation Rates

The analysis produced a coefficient determinant $R^2 = 0.223$, revealing that 22.3% of the variability in total minority graduation rates can be explained by the independent variables: Title 1, standards of quality, required local effort, and calculated percentage above RLE. The regression coefficients indicate that Title 1 demonstrated a negative association ($B = -15.656$, $p < 0.05$), which represents an inverse relationship with minority male graduation rates. The identified relationship was considered weak. For the standards of quality effort, SOQ demonstrated a positive association ($B = 10.953$, $p < 0.05$) representing a positive relationship with minority male graduation rates. Both Title 1 and SOQ effort are statistically significant in predicting the total minority male graduation rates.

Summary

The chapter commenced with a description of the stratified sample population selected for this quantitative study. Following the population and descriptive findings section, the assumptions test results were presented and explained. Next, the researcher conducted an inferential analysis for each research question and present the results through scatterplots, charts, and tables.

For the second research question, a scatterplot was created to address the 2008-2019 trend(s) of Title 1 funding. The data revealed that the mean representation in the scatterplot was possibly deceiving and that Title 1 funding remained consistent from 2008-2019 with no major increases or decreases in funding from year to year.

Another scatterplot was created to provide data from the second research question related to the trend(s) of the 2008-2019 high school graduation rates for minority males in Virginia. The scatterplot showed a steady increase in graduation rates for minority males ranging from 69% - 83% for the 11-years examined.

For the third research question, three individual scatterplots were created to compare total minority male graduation rates to Title 1 funding, SOQ funding, and the calculated percentage above RLE. When SOQ and calculated percentage above RLE were compared to total minority male graduation rates, both scatterplots depicted a small significant positive relationship with total minority male graduation rates. The researcher completed a linear regression analysis to assess the slope of each school division's minority male graduation rates with SOQ and calculated percentage above RLE, as the Pearson Correlation analysis revealed a positive correlation trend.

Minority male graduation rates were negatively correlated to Title 1 funding. This negative correlation was significant for the concurrent year of Title 1 funding and graduation rates as well as up to a 6-year time lag of graduation rate to Title 1 funding. Interestingly, there was a statistically significant positive, albeit weak, relationship found between SOQ funding standardized to require local effort/actual local effort and minority male graduation rates over time. The data analysis conducted for this study revealed data results that may be utilized for future research and provide implications for division level and state level funding practices.

CHAPTER 5:

CONCLUSIONS

Chapter Overview

In this chapter, the researcher discussed the findings and limitations of the study, summarized implications for practice and policy, and provided recommendations for future research. The purpose of this study was to examine the relationship between Virginia Title 1 spending and the 2008-2019 minority male graduation rates. This quantitative ex-post facto study utilized a time-lag method to explore the association between state and federal funding allocations (SOQ and Title 1) and minority male graduation rates from 2008-2019. Descriptive, inferential, correlational, and regression (linear and multiple) analyses were used to analyze data related to the research questions. The stratified random sample used in this study consisted of 30 school divisions (rural, suburban, and urban) that represented the eight geographical regions, throughout the entire state of Virginia.

Overall Discussion

The national educational spending totals can be misleading, as education costs throughout the United States vary by location and state fiscal effort and capacity. Some states operate on low financial resources, leaving the neediest school divisions with limited resources to support the needs of all students (Owings & Kaplan, 2020). Historically, high poverty school divisions have been large urban school divisions and isolated rural divisions that have high demand for educational resources and require more financial support. As a result, wealthier school divisions typically outperform poorer school divisions by a substantial difference. The American public-school system has relied heavily on locality wealth to drive local educational funding by creating a ratio of the division's property valuation divided by the number of pupils within the system

(Owings & Kaplan, 2020). This model of generating educational funding means school divisions with high poverty rates and low property values generate less local revenue for school divisions to operate. Unfortunately, these school divisions are heavily dependent on state SOQ funding. Since, SOQ funding levels are so low in Virginia, each school division is able to provide funding that exceeds the "floor" of services funding. Schools serving the most disadvantaged students often require higher levels of funding to overcome the financial challenges required to serve the needs of disadvantaged students, specifically students with disabilities, and English language learners.

The financial literature supported the link between public school spending and student achievement through teacher effectiveness, continuous professional development, reduced class sizes, increasing teacher salaries, and improving school facilities (Owings & Kaplan, 2020; Pan et al., 2003; Verstegen & King, 1998). Therefore, the reduction of SOQ funding has negative implications for school divisions across the state of Virginia. This is especially true for high poverty school divisions historically receiving less funding compared to wealthier divisions less dependent on SOQ funding for their total budget (Appendix A) (Delja, 2004; Gorski, 2013; Lhamon et al., 2018; Lou et al., 2018; Morgan & Amerikaner, 2018). This study aimed to add to the body of knowledge by addressing the gap in research related to educational fiscal funding at the federal, state, and local level and its impact on student achievement and outcomes.

SOQ Funding Formula: Fiscal Accountability in Virginia

The No Child Left Behind act (2001) was authorized to increase academic accountability and achievement throughout the nation's public-school system. Each state was charged with implementing and instituting an accountability system that would address the widening academic gap. Nationwide, there is a persistent achievement gap between economically disadvantaged

students and their more affluent peers. Virginia chose to adopt and implement the SOQ funding formula in the state constitution (Delja, 2004). To reform desegregation in 1971, school divisions in Virginia began funding through a combination of federal, state, and local allocations. State and local funding comprise the largest portion of individual school division budgets. The implementation of the SOQ formula includes the local composite index, which determines a locality's fiscal capacity and required local effort. Another significant component of SOQ funding was the establishment of educational objectives known as standards of learning. These standards of learning in courses such as English, mathematics, science, and history form the core of Virginia's educational programming and ensure the development of the skills necessary for success in school and preparation for the workforce (Virginia Department of Education, 2020a). These skills are valuable when implementing Virginia's initiative related college and career readiness.

According to Duncombe and Cassidy (2016), since the recession of 2008, Virginia's SOQ funding statewide has been eroding. The lack of funding has stemmed from the changes Virginia legislators have made to the state's funding formula, resulting in budget cuts. The statewide budget cuts have decreased funding allocations compared to the prior formula at an estimated $1.6 billion over two years, generating a $800 million yearly loss in funding opportunity. Moreover, of the $800 million in budget cuts, approximately $683 million are directly related to Virginia's SOQ formula adjustments, impacting all school divisions within Virginia each year (Duncombe & Cassidy, 2016). The cuts in funding have negatively obstructed schools throughout Virginia by way of fewer teachers, increased class sizes, and deteriorating school buildings.

One of the greatest financial impacts of state funding cuts included a cap on the number of support positions the state will assist in covering financially (Duncombe & Cassidy, 2016). Support services positions are necessary to not only effectively run school buildings but also to meet the physical needs of students. In the first year of the funding cap (2009), the state cut funding for approximately 12,900 support positions (social workers, attendance clerks, clerical support, operation and maintenance personnel, security, and pupil transportation personnel) which meant these positions had to be funded by localities or eliminated (Duncombe & Cassidy, 2016). Other changes that have impacted educating students in Virginia involved changing the estimated lifespan of buses to 15 years from the original life span of 12 years and reducing funding for Virginia's K-3 class size reduction program. These budget cuts have far reaching implications, warranting further research on educational funding and student achievement. The next section will discuss the findings of the data analysis process.

Findings and Discussion of Findings

The findings of this study did support a relationship existing between standardized SOQ funding and minority male graduation rates over time. Moreover, there were two themes that emerged from the data analysis of this study: 1) there is an inverse statistically significant relationship between Title 1 funding and minority male graduation rates. Meaning as Title 1 funding increases, minority male graduation rates decrease. 2) There is a positive statistically significant relationship between minority male graduation rates and SOQ funding standardized to require local effort (RLE) and calculated percentage above RLE. RLE is the locality's share of funding that is required to be paid by examining the locality's wealth through the local composite index. The calculated percent above RLE is found by dividing any division's actual local expenditures by the required local effort. When the correlation tests were completed,

minority male graduation rates and SOQ standardized to both RLE and calculated percentage above RLE had a positive statistically significant relationship.

The following research questions guided this quantitative study:

1. What were the trend(s) in Title 1 funding in Virginia over 11 years, 2008-2019?

The Figure 9 scatterplot created for research question 1 revealed that Title 1 funding from 2008 to 2019 stayed fairly consistent with one outlier of Title 1 funding for all divisions analyzed stemming from the 2009 American Recovery and Reinvestment Act (ARRA). Title 1 funding from 2008-2019 remained fairly consistent with the needs of the students being served. Title 1 funding is granted annually, and the division-wide dollar amounts do not change dramatically from year to year. Which allows school divisions to establish instructional programming that can be sustained from year to year if the Title 1 federal funding is awarded.

From 2008-2019, the trends of SOQ funding were also assessed. When assessing the trends in SOQ funding overtime, the following school division data were revealed. From 2008-2019, Bland was the only school division to receive SOQ under $5 million. Nine school divisions received between $5 million – $20 million in SOQ funding: Bristol, Carroll, Appomattox, Cumberland, Louisa, Harrisonburg, Gloucester, King George, and Colonial Heights. Six school divisions received between $20 million – $50 million in SOQ funding: Pulaski, Halifax, Pittsylvania, Danville, Culpeper, and Dinwiddie. Five school divisions received between $50 million – $100 million in SOQ funding: Roanoke, Rockingham, Lynchburg, Arlington, and Suffolk. Three school divisions received between $100 million – $150 million in SOQ funding: Spotsylvania, Stafford, and Hampton. One school division received between $150 million – $200 million in SOQ funding Norfolk Public Schools. Five school division received between $200 million – $500 million in SOQ funding: Loudoun, Prince William, Virginia

Beach, Henrico, and Chesterfield. One major finding related to SOQ trends was that the largest urban and suburban school divisions included in this study received at least $100 million in SOQ funding or greater towards the division-wide budget.

Figure 11 revealed the trends in calculated percentage above required local effort that school divisions were able to pay towards the annual division operating budget. This scatterplot revealed that many of the school divisions in this study were able to pay between 50% - 150% above the required local effort. Southwest (Region 7), Southside (Region 8), Chesterfield, Henrico, Dinwiddie (Region 1), Suffolk and Norfolk (Region 2) were able to pay between 50% - 100% calculated percentage above RLE. Central Virginia (Region 1) had one division Colonial Heights and Tidewater (Region 2) had two school divisions (Hampton and Virginia Beach) that were able to pay 100% above the local required effort. Northern Neck (Region 3), Northern Virginia (Region 4), Valley (Region 5), and Western Virginia (Region 6) were able to pay between 100% - 200% calculated percentage above RLE.

The second research question to be discussed relates to the overall trends in high school graduation rates for minority males.

2. What were the trend(s) in high school graduation rates for minority males in Virginia over 11 years, 2008-2019?

Another scatterplot was graphed to provide visual representation of the trend in high school graduation rates over time. Results included an inspection of the created scatterplot assessed for homoscedasticity and normal distribution of minority male graduation rates over time. The prediction equation for this time series: total minority graduation rate = -2745.74 + (1.404*year). Time series ranging from 2008-2019, indicated a statistically significant prediction of graduation rates for minority males $F(1, 336) = 119.98$, $p < .001$. The model summary table

was used to examine the proportion of variance. The time series analysis accounted for 26.3% of the variation in minority male graduation rates with an adjusted R^2 of 26.1%. Since 2008, minority male graduation rates have seen an average annual increase of 1.404% per year. The trend of minority male graduation rates in 2008 started at 69% and in 2019, increased to an 83% graduation rate (Figure 12). From 2008-2019, Western Virginia (Region 6), Tidewater (Region 2), Southside (Region 8), and Valley (Region 5), had the greatest gains in graduation rates for minority males, increasing by 20, 18, 18, and 17 percentage points, respectively (Appendix B).

The last research question to be discussed relates the relationship between minority male graduation rates and the independent variables of the study Title 1, SOQ funding, and calculated percentage above RLE.

3. Is there a relationship among Title 1 funding, SOQ funding, and calculated percentage above RLE and the trends in high school graduation rates for minority males over an extended period of time, 2008-2019, in Virginia?
    a. Is there a relationship following a 5-year time lag in graduation rates?
    b. Is there a relationship following a 10-year time lag in graduation rates?

Research question three examined the association between the dependent variable (total minority male graduation rates) to the following independent variables (Title 1, SOQ, and the calculated percentage above the required local effort for each locality). A scatterplot of total minority male graduation rate compared to Title 1 funding was created. Visual inspection of the Title 1 and minority male graduation scatterplot indicated an inverse relationship existed between the two variables. This inverse relationship was due to affluent school divisions receiving negligible amounts of Title 1 funding and having high graduation rates, while poorer school divisions receive greater amounts of Title 1 funding and historically have lower

graduation rates. The sample population of school divisions used in this study has caused the findings to be inverse. For example, Loudoun Public Schools is a wealthier school division and does not require as much Title 1 funding compared to Norfolk Public Schools, a poorer school division with higher school needs and lower wealth. The school divisions were not controlled for comparable socioeconomic status. However, the local composite index does account for wealth to some degree. To further examine the relationship between the dependent and independent variables a Pearson's Product-Moment Correlation was conducted. As shown in Table 2, the results of the correlation and significance levels of SOQ standardized to RLE and calculated percent above RLE compared to minority male graduation rates using a time-lag analysis.

The sub questions of research question three were addressed using a time-lag analysis. As Fullan (2010) suggested, the researcher was able to see the impact that Title 1 and SOQ funding had on the student outcome of minority graduation rates over a 5-7 year time span. The results of Table 2 reveal minority male graduation rates were negatively correlated with Title 1 funding. This negative correlation was significant for the concurrent year of Title 1 funding and graduation rate as well as for up to a 6-year time lag of graduation rate to Title 1 funding. However, there was a positive, weak, statistically significant relationship found between standards of quality standardized to require local effort/actual local effort and minority male graduation rates over time. The results indicate a positive 7-year time lag in significance for minority male graduation rates and SOQ standardized to RLE and calculated percentage above RLE. This finding concluded that standardized SOQ funding has a positive association with minority male graduation rates and continues to have a positive impact for up to 7 years later.

The results and findings of the analysis conducted in this study provide implications for both practical and statistical significance. "Statistical significance is concerned with whether a

research result is due to chance or sampling variability; practical significance is concerned with whether the result is useful in the real world" (Kirk, 1996, p. 746). The data analysis tests conducted for this study, Pearson's Product-Moment Correlation and Multiple Regression ANOVA, revealed a statistically significant relationship between the dependent variable (minority male graduation rates) and independent variables (Title 1 and SOQ). Additionally, the analysis of the patterns in the data, variable slopes, and results of the visual data (scatterplots, linear regression graphs, and pie charts), suggested it is imperative to look at both practical and statistical data presented in an effort to make conclusions that may impact future educational policy reform. Research supports that the inaugural implementation Title 1 funding was established to improve the educational opportunities of disadvantaged students (Boyle & Lee, 2015; Lhamon et al., 2018; Ohnemus, 2002; Slavin, 1999). Since its inception, Title 1 funding has supported and enhanced educational opportunities for disadvantaged students. However, in this study while spending above required local effort and SOQ funding standardized to RLE and calculated percent above RLE had a significant a positive association with student achievement, Title 1 funding spending did not have a positive association with minority male graduation rates in Virginia.

Limitations

Despite this study's significant findings there were several limitations that should be addressed to fully appreciate the depth of the results. Many factors that impact student academic performance and outcomes that were not considered in this study. Factors not accounted for in this study include overall division student demographic subgroups, individual division size, the increase or decrease of student enrollment numbers, teacher to student ratios, teacher experience levels, and principal years of experience. Additionally, the sampling of the data set used in this

study could be viewed as a limitation. The total sample size of this study was 30 school divisions out of the 133 school divisions in Virginia. Two school divisions (Bland and Carroll) were excluded from the data set in SPSS when comparing Title 1 and SOQ funding to minority male graduation rates, as these two divisions lacked sufficient minority male graduation data from the years examined in this study.

While this study was ex-post facto in nature, the findings should not be overly generalized to future events. The financial data utilized in this study were presented as division-wide funding allocations. The data were not disaggregated at the individual school level, so the researcher was unable to determine how or where the money was spent. Another limitation is that the data set of this study starts in 2008, however the calculated percentage of RLE is first documented in 2010, leaving two years of missing data in the data set related to RLE. The General Assembly made it a requirement that localities throughout the state of Virginia must meet or exceed the required local effort funding before they can receive SOQ funding.

Implications for Practice and Policy

True adequacy in educational funding requires rigorous instructional resources for all students. In their research, Odden and Picus (2008) noted in their research the importance of identifying how much division level funding is required to educate special education students, students from high poverty, and students without English proficiency, to the same state accountability measures as other students within the public education system. The researcher utilized this study to examine the significance of Virginia's fiscal effort for education and its direct impact in determining how much federal and state funding is required to balance funding inequities through a concept known as *vertical equity.* Vertical equity is defined as the treating of unequals requires appropriate unequal treatment (Owings & Kaplan, 2020). Prior scholarly

financial studies have concluded that sustained fiscal effort over time has a positive association with increased high school graduation rates (Cedo, 2014; Johnson, 2014; Soderholom, 2019).

Many educational policymakers view education as the great equalizer and support the notion of increased student achievement through the implementation of ESSA. However, despite the promise of an equal educational opportunity, there is an evident achievement gap that exists between marginalized students and students from affluent communities, creating disparate student outcomes. Consequently, poorer schools often have teacher ineffectiveness, lower paid teachers, fewer higher-level academic course offerings, run down facilities, and inadequate access to school materials and academic resources (Gorski, 2013; Lhamon et al., 2018; Owings & Kaplan, 2020). This lack of inadequate access to resources plagues high poverty communities and continues the cycle of low student achievement and has vast implications for students of color.

Virginia lawmakers should be cognizant that the trend of cutting SOQ funding in the current formula used to support Virginia school divisions, has negative systemic implications on student achievement data and outcomes. The findings of this study revealed a positive association between fiscal effort of SOQ standardized to RLE, calculated percent above RLE, and minority male graduation rates. These findings present several policy implications. The state of Virginia should work to sustain or increase SOQ funding with the local composite index formula that is assessed every two years by the General Assembly. According to the Virginian-Pilot, during the COVID19 pandemic, Virginia schools are expected to lose approximately $95 million and $93.6 million in SOQ funding for the 2020-2021 and 2021-2022 school years, respectively, due to revisions in the state budget as a result of a decline in sales tax revenue (Coutu, 2020, September 3). The following school divisions used in this study will be taking the

greatest loss of financial support: Loudoun ($7.3 million), Prince William ($5.4 million), Virginia Beach ($4.6 million), Arlington ($3.6 million), Henrico ($3.6 million), Chesterfield ($3.5 million), and Norfolk ($1.5 million). This loss in SOQ funding will have negative implications for school divisions previously struggling from prior budget cuts.

When localities are not equitably funded through SOQ funding, they are burdened with covering the lack of funding. Low capacity school divisions are negatively impacted, and wealthier school divisions are at an advantage and can fully fund all instructional positions. Moreover, if school divisions could plan for minimal budget cuts each year then chief financial officers, district federal program directors, and division level superintendents could make equitable fiscal decisions that are in the best interest of all students. If schools are unlikely to receive a large increase in educational funding in the future, then school divisions need to find methods to use the resources they are given in ways that are fiscally responsible and aligned with best practices, leading to improved student achievement and student outcomes (Odden & Picus, 2008).

There are myriad of factors that negatively impact historically marginalized students from succeeding in high school. Four primary risk factors that have negative implications relating to minority male success in high school include poverty, disciplinary practices, chronic absenteeism, and retention of quality teachers (Children's Defense Fund, 2020; Darling-Hammond, 2001; Lara et al., 2018). Of these factors, poverty is the risk factor that exacerbates all other risk factors. The concept of poverty is a major social problem in the United States and has implications on how different students experience being educated. According to Milner (2013), one of the substantial reasons schools across the nation have not seen universal academic

improvements is because federal educational policy has not effectively addressed the manner in which poverty and inequities influence student learning and academic outcomes.

When examining poverty within Virginia, a family of four is consider low-income if the annual income or $48,678 or less. The National Center for Children in Poverty (2018) reported how many students in each race are categorized as low-income within Virginia: White students (24%), Black students (55%), Hispanic students (44%), and Asian (19%). The school dropout rate of students from low socio-economic backgrounds is 500% greater than students from affluent communities. Poor educational practices lead to large public and social costs in the form of lower income and economic growth, reduced tax revenue, and higher costs of public services such as health care, criminal justice, and welfare assistance (Levin et al., 2007a). When educational funding is not prioritized, students of color gain limited access to early childhood programs, high quality teachers, high quality curricula, and improved school quality (Vega et al., 2015).

Recommendations for Future Research

The findings and limitations in this study provide points of reference for recommendations for future research to expand upon this study. For this study, the sample size contained only 30 school divisions. Further research my consider increasing the sample size by examining five to six school divisions per region. This would not only give the study a larger sample size but strengthen the reliability and variability of the data set. Additional studies may consider the size of the school divisions, during the sample population selection process. Considering school division sizes would allow the researcher to compare similar-sized divisions throughout the eight geographical regions in Virginia. This recommendation would not only strengthen the data but establish continuity in the data set.

When assessing the relationship between Title 1 funding and minority male graduation rates, there appeared to be a significant inverse relationship. A future study should account for this discrepancy by controlling for low-socio economic funding data by selecting school divisions that have a local composite index of .40 or lower. The Title 1 allocations examined in this study reflected the division level funding provided to localities from the federal Department of Education based on calculated student need. Therefore, while the neediest school divisions receive a larger amount of Title 1 funding, this funding but may not be effectively spent or sufficient to overcome social inequities in these divisions limiting student success. It is imperative that leaders make fiscally responsible decisions with the provided funding to close the achievement gap between marginalized students and their peers.

It is recommended that this study be replicated and incorporate a mixed methods methodology to examine how Title 1 funding is being spent at the individual school level. The qualitative aspect of the study could provide anecdotal data and insight regarding Title 1 implementation by interviewing district level directors of federal programs and building level principals. These interviews would provide significant insight into the divisions fiscal plans and priorities in supporting low-socioeconomic schools. The quantitative aspect of the study would allow the researcher to conduct a Title 1 budget audit by examining budget line items and gaining an understanding of how the building principal utilizes Title 1 funding throughout the academic school year. Another expansion of this study, the researcher could evaluate the professional development or division level training that building level principals receive as a means to effectively implement school-wide Title 1 programming. This study could inform director of federal programs and chief financial officers of the disconnect building principals are

experiencing between themselves and division level personnel, and the suggest ongoing training for the first three years of Title 1 implementation.

The final recommendation for an extension of this study, the researcher could examine the program effectiveness of Title 1 pull-out programs versus Title 1 push-in programming. For the pull-out model, Title 1 students receive supplemental instruction from a highly qualified reading or math specialist outside of the general classroom environment during the school day. The push-in model is different in that Title 1 students receive academic interventions within the general classroom environment from a highly qualified teacher, reading specialist, or math specialist. Looking at the effectiveness of student achievement in these two Title 1 programming models could also provide promising implications that would warrant federal and state policymakers to reevaluate Title 1 accountability measures and programming protocols. This study can be replicated at the division level in other states as Title 1 is a federally recognized educational support for historically marginalized schools.

Conclusion

For education to be the "great equalizer," policymakers will need to view education through a human capital investment and a critical race theory lens. There are many positive implications stemming from all students' receiving a quality education with clear financial benefits to individuals, the economy, and society at large (Owings & Kaplan, 2020). National trends in the last two decades have shown a sharp increase in investments toward incarceration funding versus educational per pupil funding. This increase in incarceration funding leads to the concept of school-to-prison pipeline, which is a collection of educational and public safety policies and practices that push school children out of the classroom environment and into the streets, the juvenile justice system, and/or the criminal justice system (Archer, 2009).

Historically marginalized students will have an opportunity to receive a high-quality education if educational dollars are prioritized for hiring and retaining high quality teachers, providing meaningful professional development, reducing class sizes, increasing teacher salaries, and maintaining school facilities where students feel safe and supported (Growe & Montgomery, 2003; Owings & Kaplan, 2020). School divisions in Virginia are bound by the Virginia Constitution to ensure that the educational programs in schools are of high quality and continually maintained. The quest to narrow the prevailing student achievement gap and high school dropout phenomena through financial reform will require educational funding to be prioritized through a vertical equity lens. A quality education is not only the launching pad for minority male students to be college and career ready, it is also necessary for success beyond the classroom.

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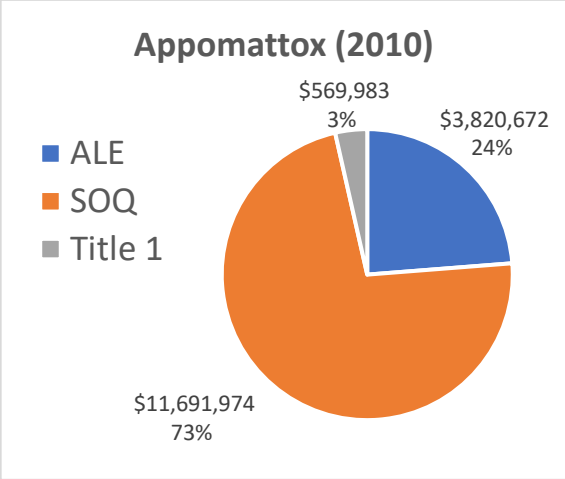
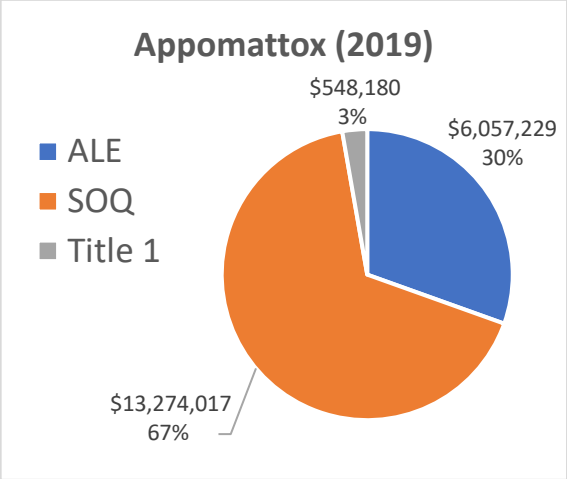
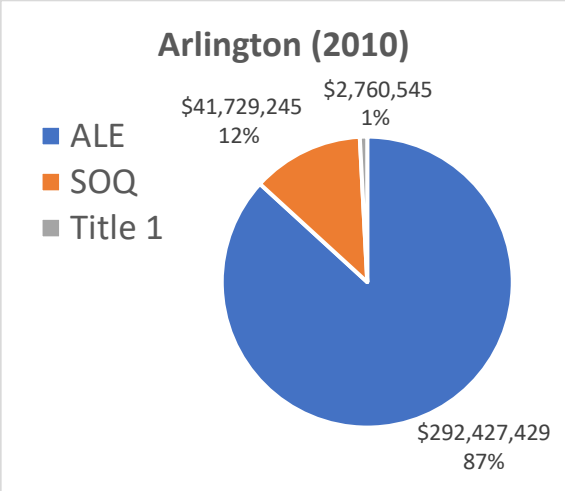
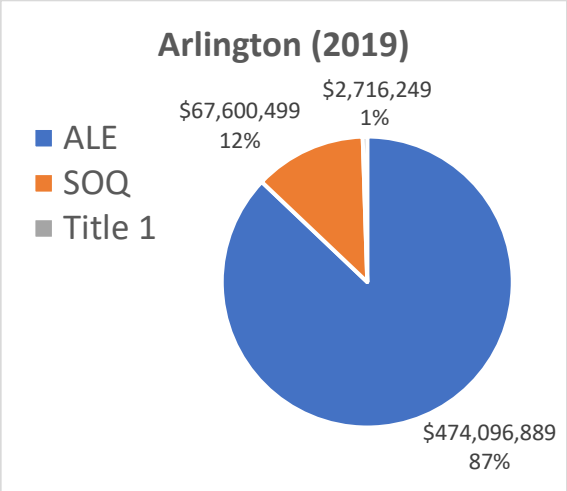
Appendix A:

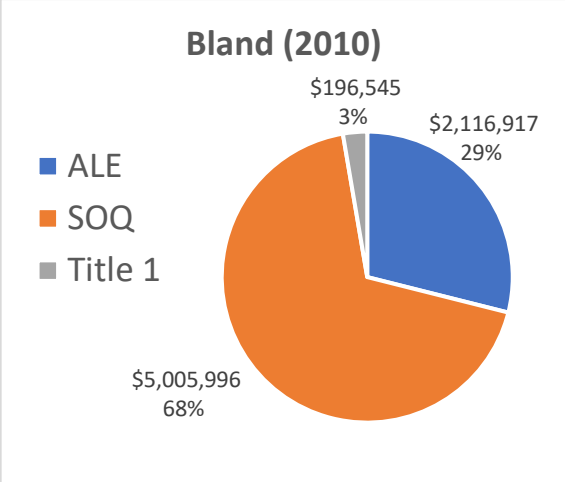
Federal, State, and Local Sources for Division Funding

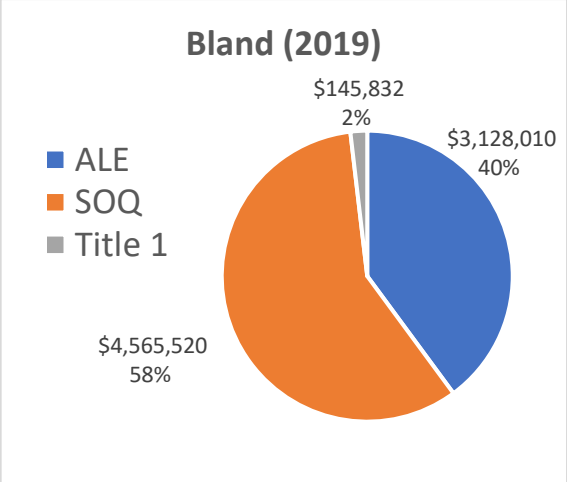


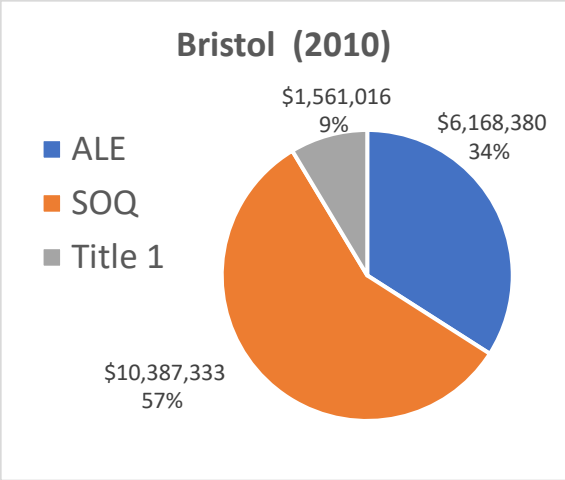


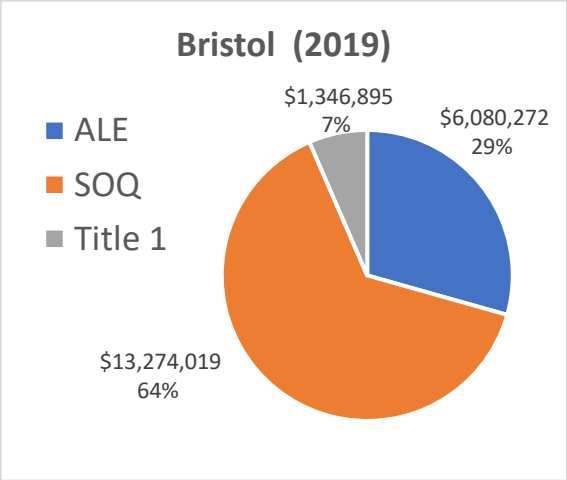


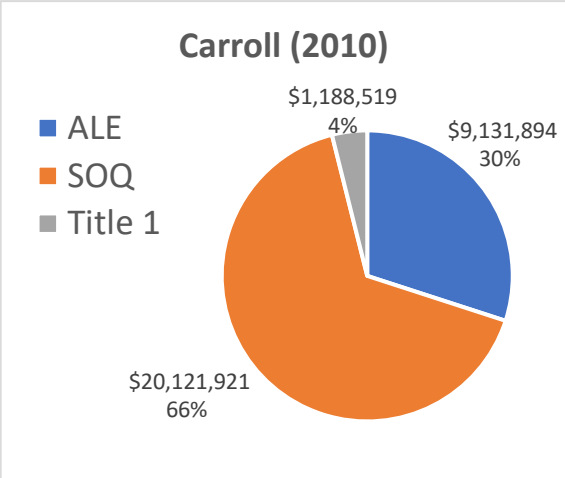


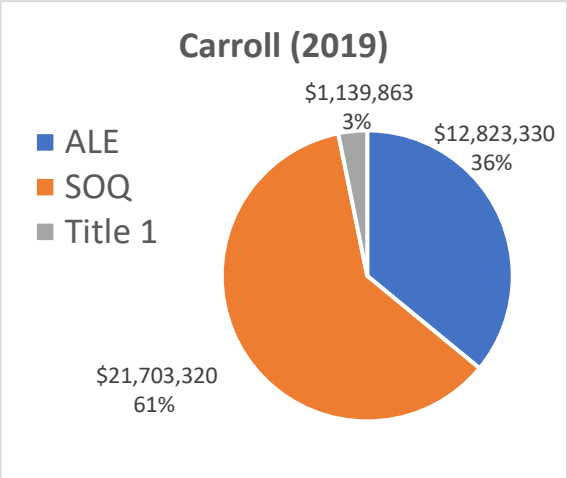


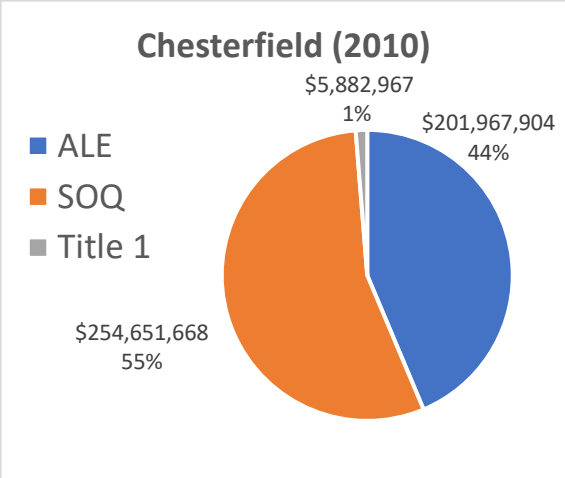


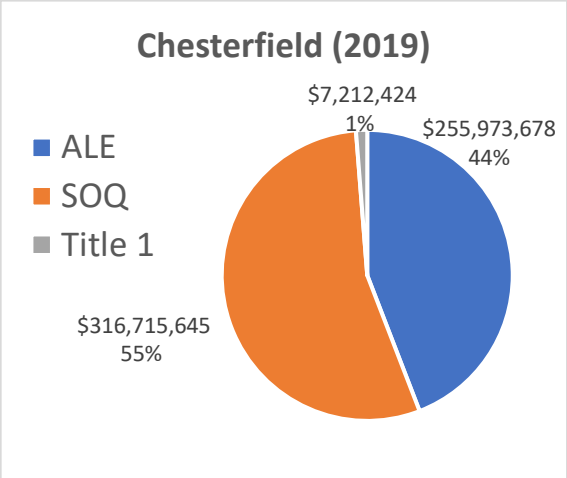

Bristol (2010)
ALE
SOQ
Title 1
$1,561,016
9%
$6,168,380
34%
$10,387,333
57%

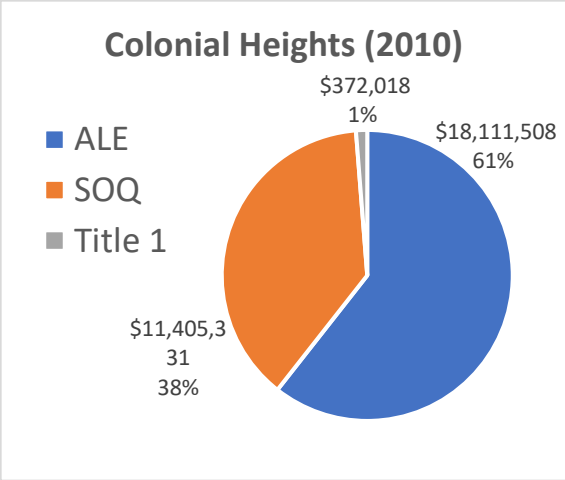

Bristol (2019)
ALE
SOQ
Title 1
$1,346,895
7%
$6,080,272
29%
$13,274,019
64%

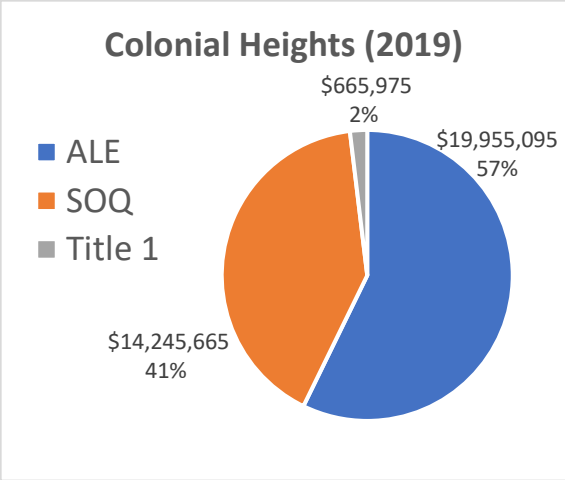

Carroll (2010)
ALE
SOQ
Title 1
$1,188,519
4%
$9,131,894
30%
$20,121,921
66%

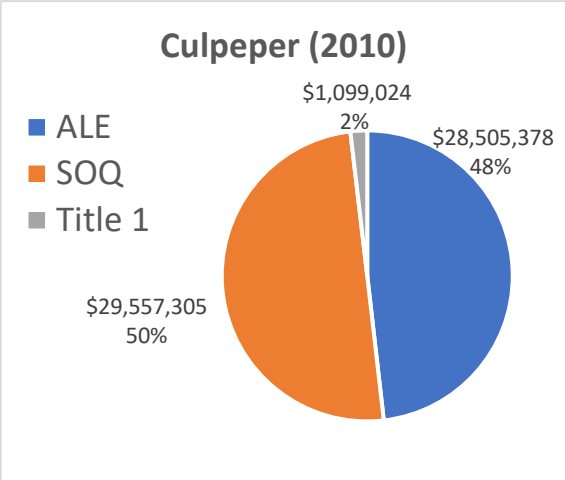

Carroll (2019)
ALE
SOQ
Title 1
$1,139,863
3%
$12,823,330
36%
$21,703,320
61%

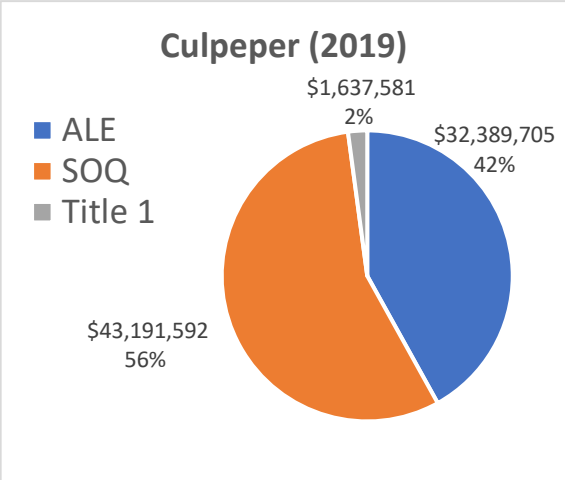

Chesterfield (2010)
ALE
SOQ
Title 1
$5,882,967
1%
$201,967,904
44%
$254,651,668
55%

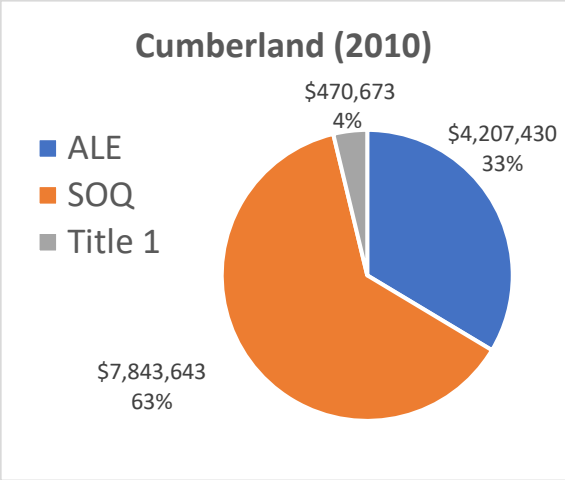

Chesterfield (2019)
ALE
SOQ
Title 1
$7,212,424
1%
$255,973,678
44%
$316,715,645
55%

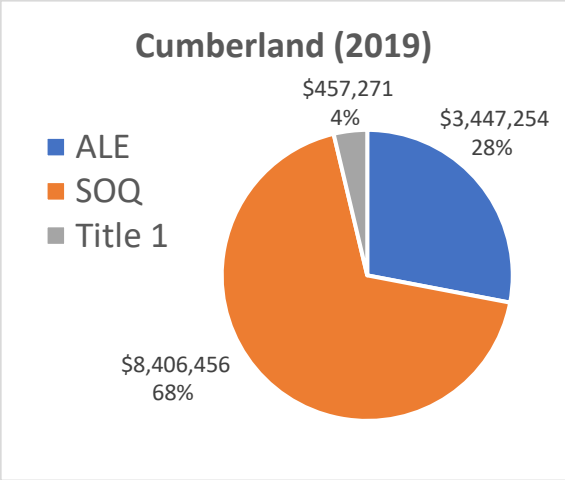

Colonial Heights (2010)
ALE
SOQ
Title 1
$372,018
1%
$18,111,508
61%
$11,405,3
31
38%

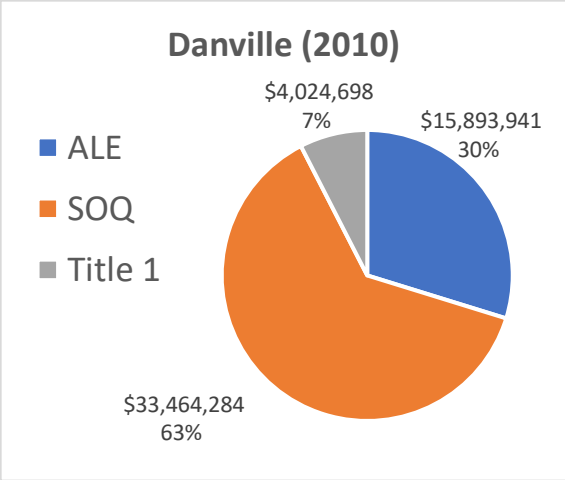

Colonial Heights (2019)
ALE
SOQ
Title 1
$665,975
2%
$19,955,095
57%
$14,245,665
41%

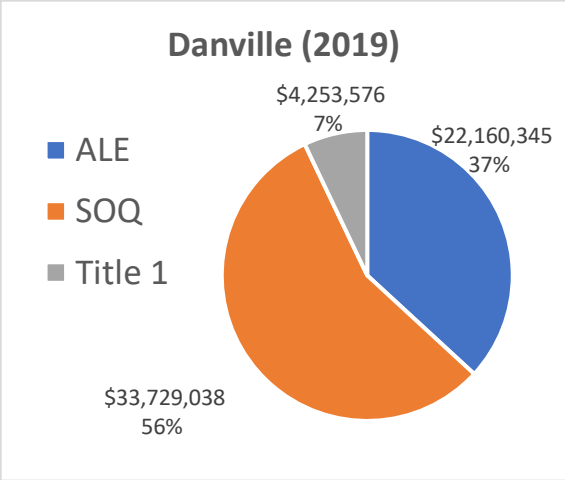

Culpeper (2010)
ALE
SOQ
Title 1
$1,099,024
2%
$28,505,378
48%
$29,557,305
50%

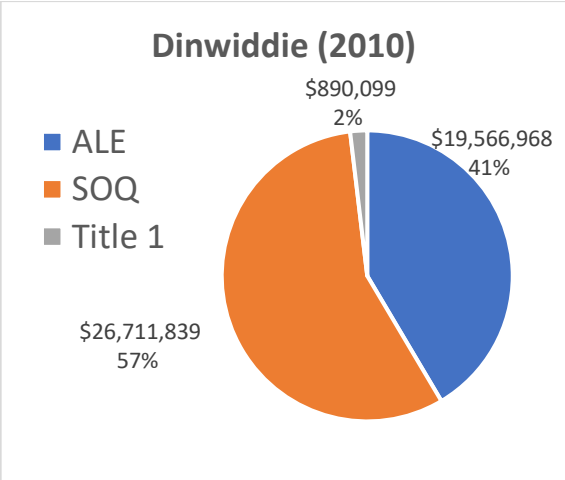

Culpeper (2019)
ALE
SOQ
Title 1
$1,637,581
2%
$32,389,705
42%
$43,191,592
56%

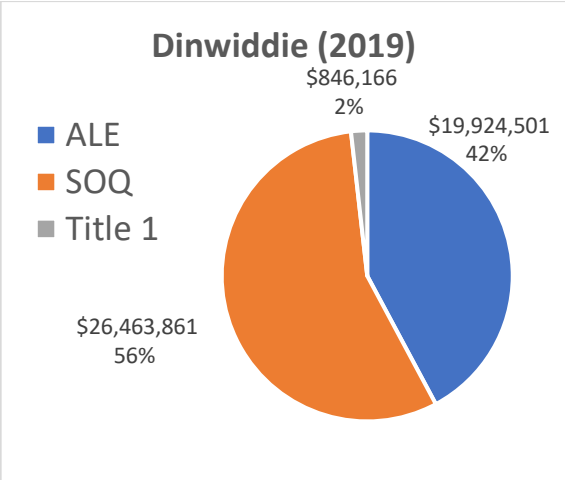

Cumberland (2010)
ALE
SOQ
Title 1
$470,673
4%
$4,207,430
33%
$7,843,643
63%

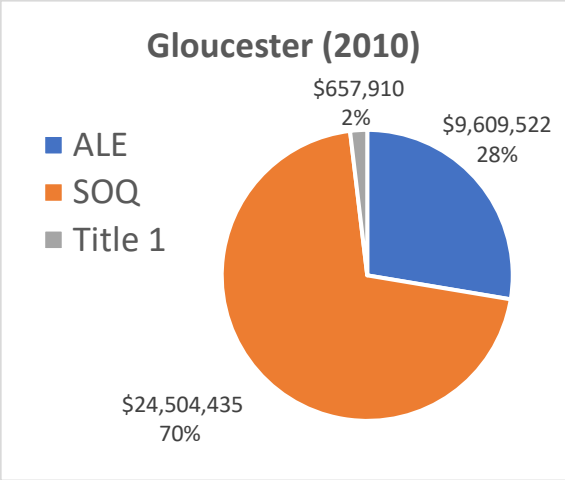

Cumberland (2019)
ALE
SOQ
Title 1
$457,271
4%
$3,447,254
28%
$8,406,456
68%

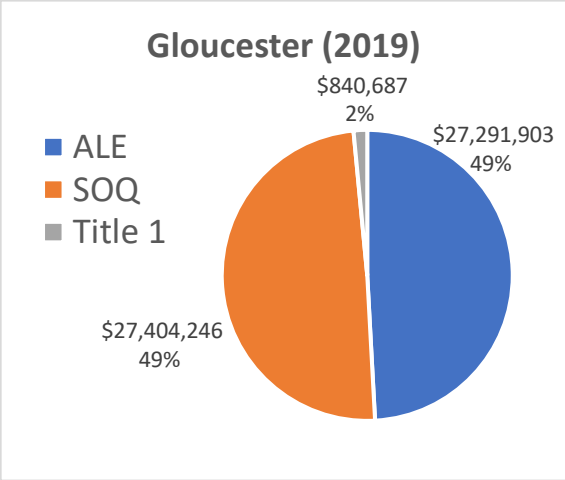

Danville (2010)
ALE
SOQ
Title 1
$4,024,698
7%
$15,893,941
30%
$33,464,284
63%

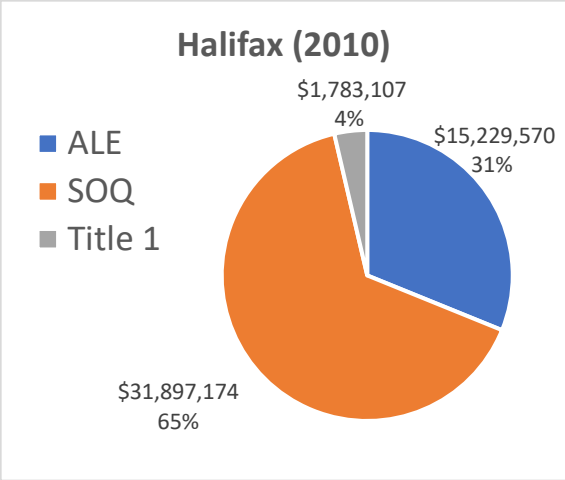

Danville (2019)
ALE
SOQ
Title 1
$4,253,576
7%
$22,160,345
37%
$33,729,038
56%

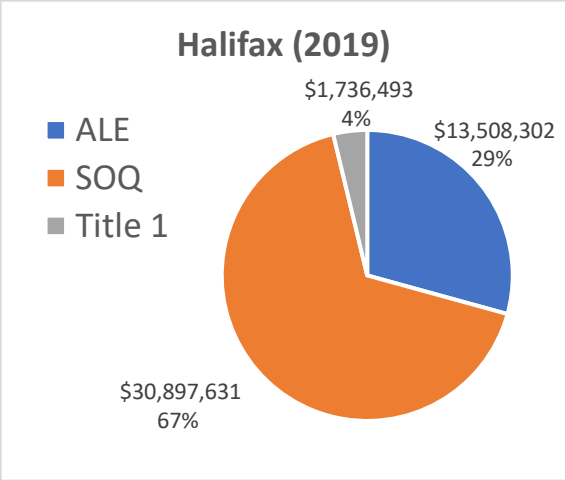

Dinwiddie (2010)
ALE
SOQ
Title 1
$890,099
2%
$19,566,968
41%
$26,711,839
57%

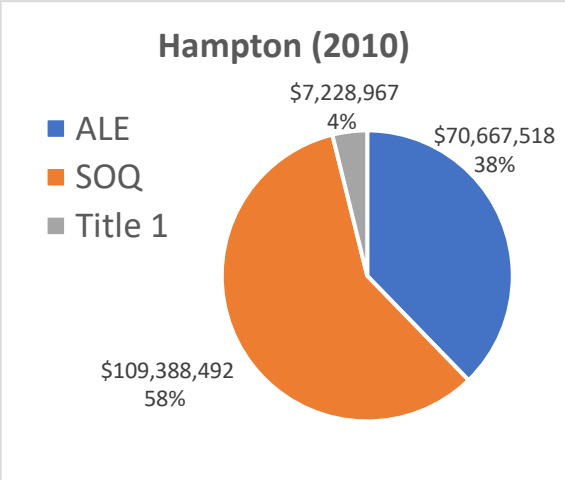

Dinwiddie (2019)
ALE
SOQ
Title 1
$846,166
2%
$19,924,501
42%
$26,463,861
56%

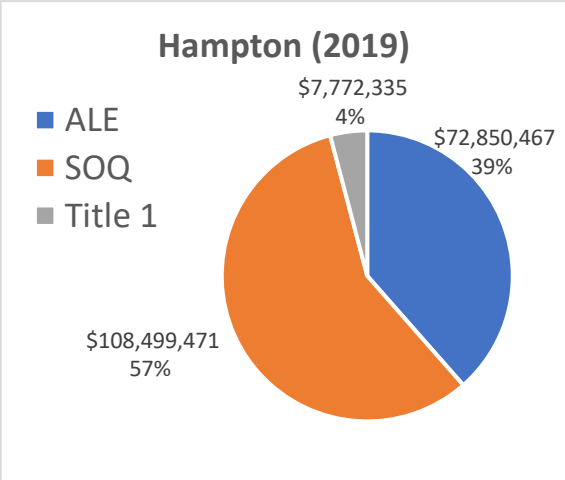

Gloucester (2010)
ALE
SOQ
Title 1
$657,910
2%
$9,609,522
28%
$24,504,435
70%

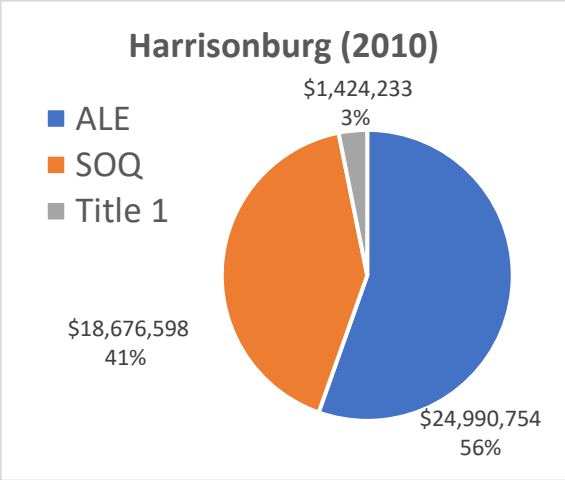

Gloucester (2019)
ALE
SOQ
Title 1
$840,687
2%
$27,291,903
49%
$27,404,246
49%

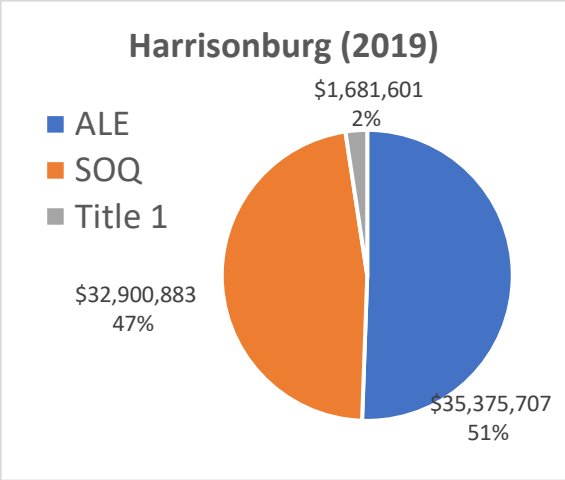

Halifax (2010)
ALE
SOQ
Title 1
$1,783,107
4%
$15,229,570
31%
$31,897,174
65%

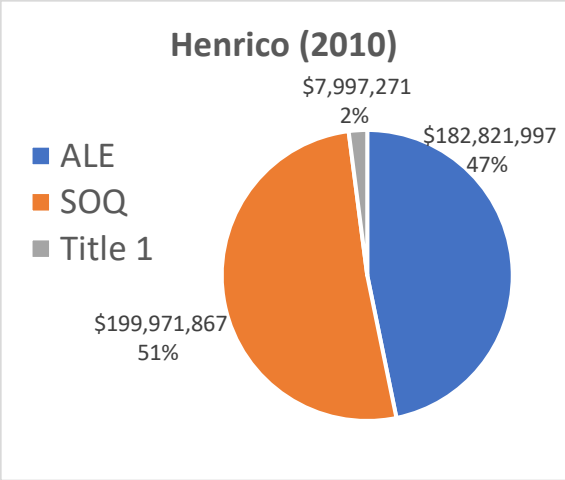

Halifax (2019)
ALE
SOQ
Title 1
$1,736,493
4%
$13,508,302
29%
$30,897,631
67%

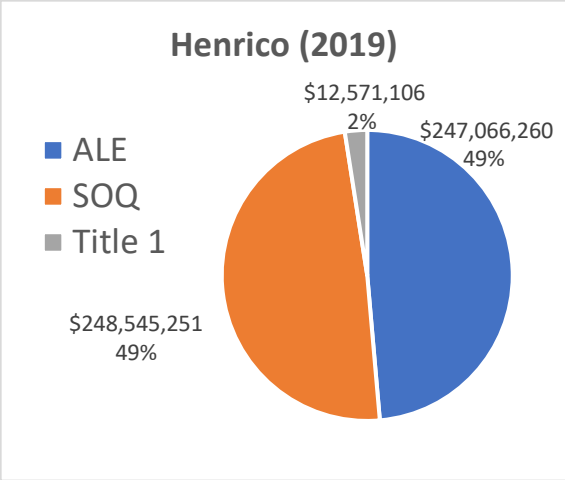

Hampton (2010)
ALE
SOQ
Title 1
$7,228,967
4%
$70,667,518
38%
$109,388,492
58%

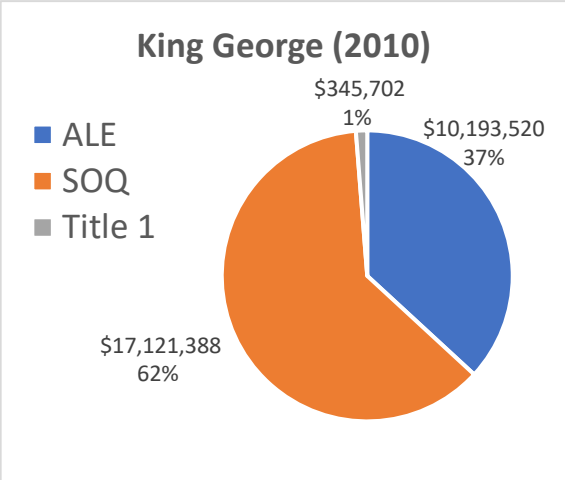

Hampton (2019)
ALE
SOQ
Title 1
$7,772,335
4%
$72,850,467
39%
$108,499,471
57%

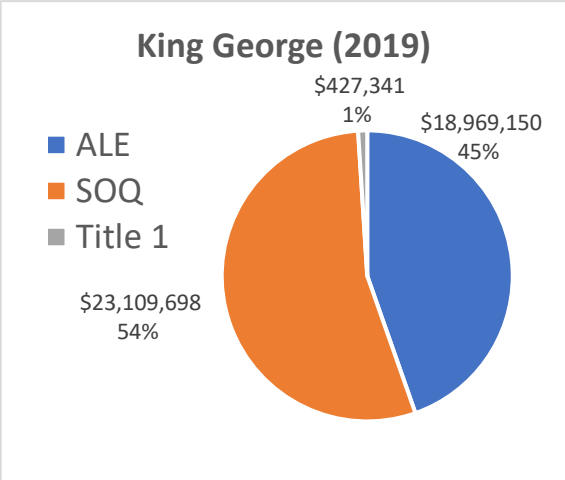

Harrisonburg (2010)
ALE
SOQ
Title 1
$1,424,233
3%
$18,676,598
41%
$24,990,754
56%

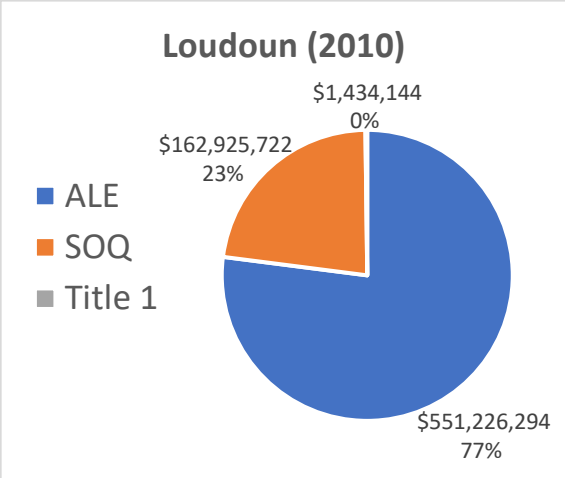

Harrisonburg (2019)
ALE
SOQ
Title 1
$1,681,601
2%
$32,900,883
47%
$35,375,707
51%

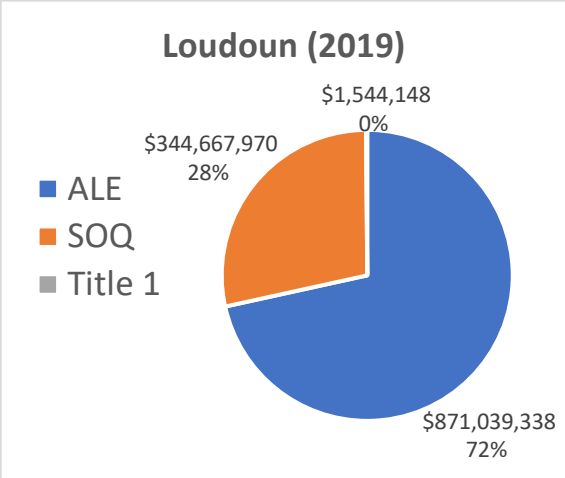

Henrico (2010)
$7,997,271
2%
$182,821,997
47%
ALE
SOQ
Title 1
$199,971,867
51%

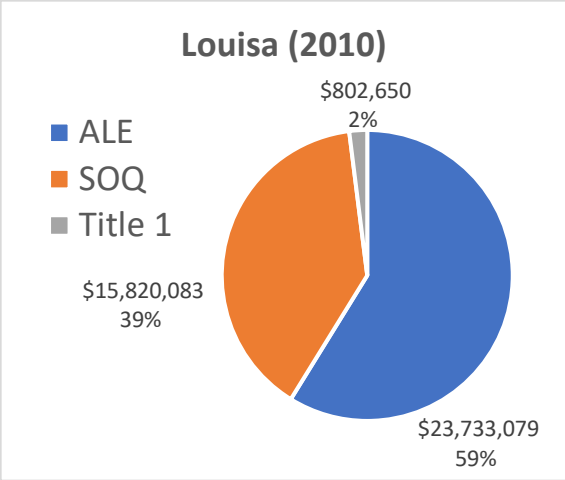

Henrico (2019)
$12,571,106
2%
$247,066,260
49%
ALE
SOQ
Title 1
$248,545,251
49%

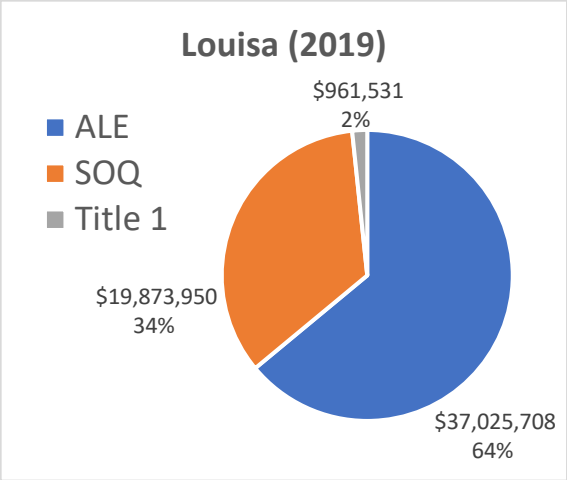

King George (2010)
$345,702
1%
$10,193,520
37%
ALE
SOQ
Title 1
$17,121,388
62%

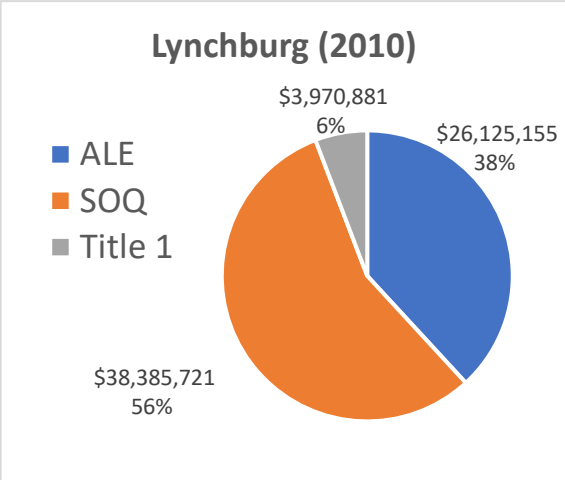

King George (2019)
$427,341
1%
$18,969,150
45%
ALE
SOQ
Title 1
$23,109,698
54%

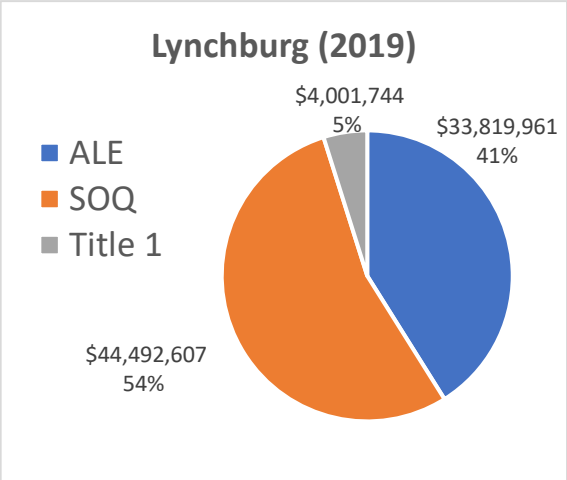

Loudoun (2010)
$1,434,144
0%
$162,925,722
23%
ALE
SOQ
Title 1
$551,226,294
77%

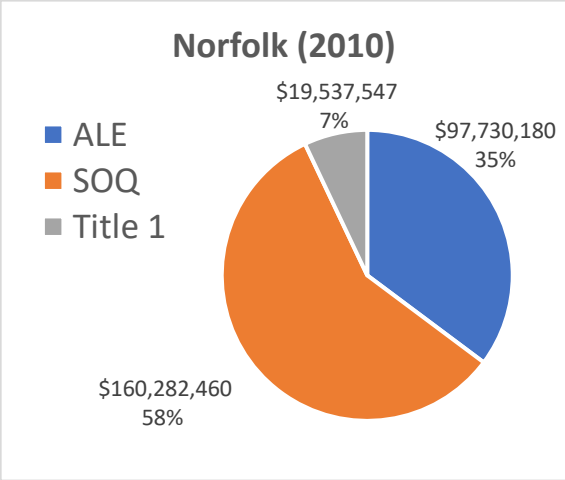

Loudoun (2019)
$1,544,148
0%
$344,667,970
28%
ALE
SOQ
Title 1
$871,039,338
72%

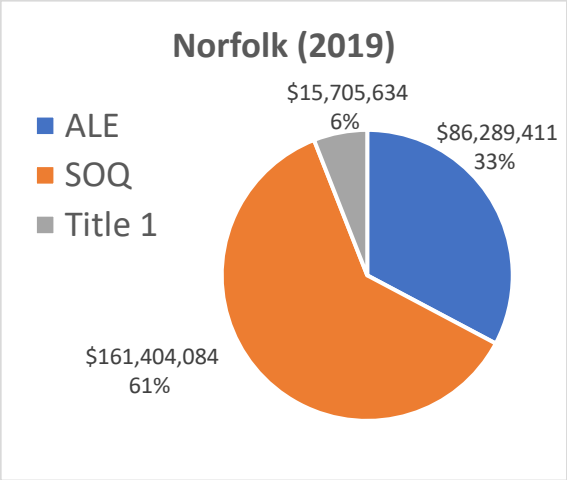

Louisa (2010)
ALE
SOQ
Title 1
$802,650
2%
$15,820,083
39%
$23,733,079
59%

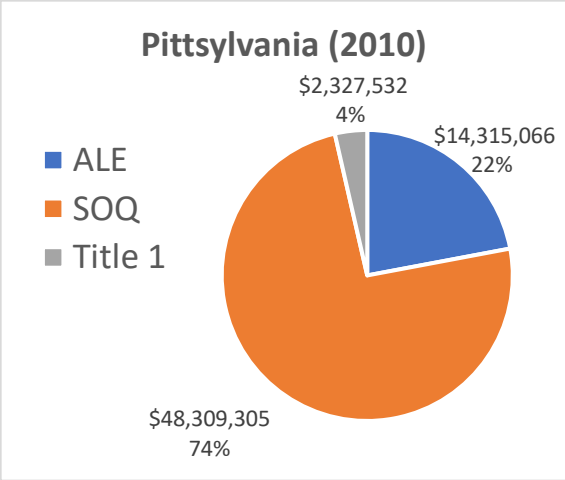

Louisa (2019)
ALE
SOQ
Title 1
$961,531
2%
$19,873,950
34%
$37,025,708
64%

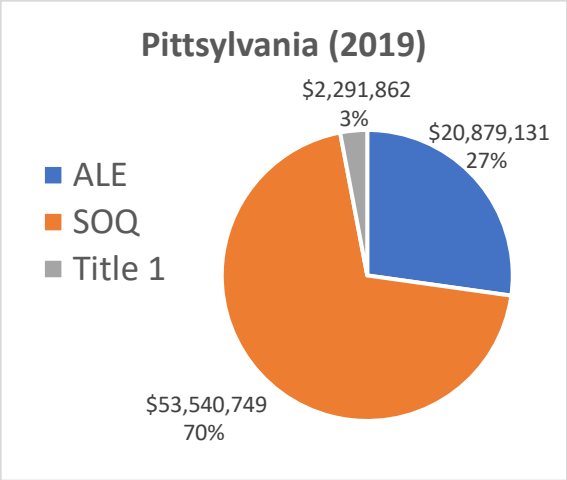

Lynchburg (2010)
ALE
SOQ
Title 1
$3,970,881
6%
$26,125,155
38%
$38,385,721
56%

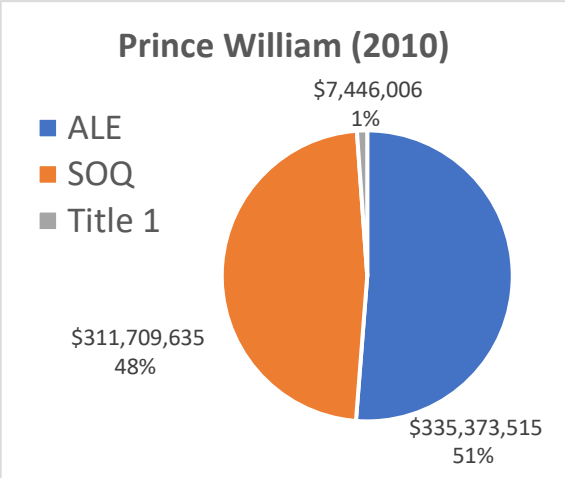

Lynchburg (2019)
ALE
SOQ
Title 1
$4,001,744
5%
$33,819,961
41%
$44,492,607
54%

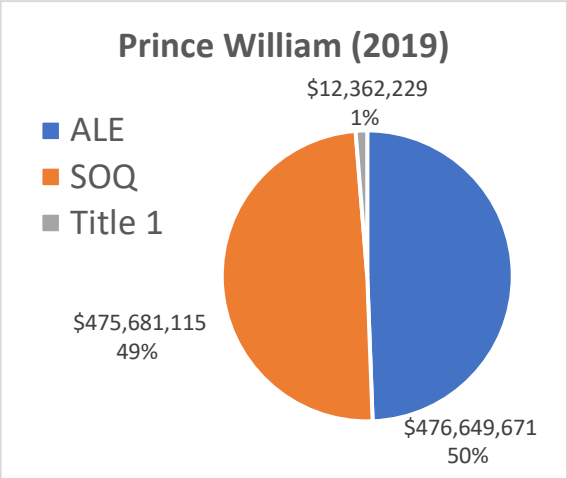

Norfolk (2010)
ALE
SOQ
Title 1
$19,537,547
7%
$97,730,180
35%
$160,282,460
58%

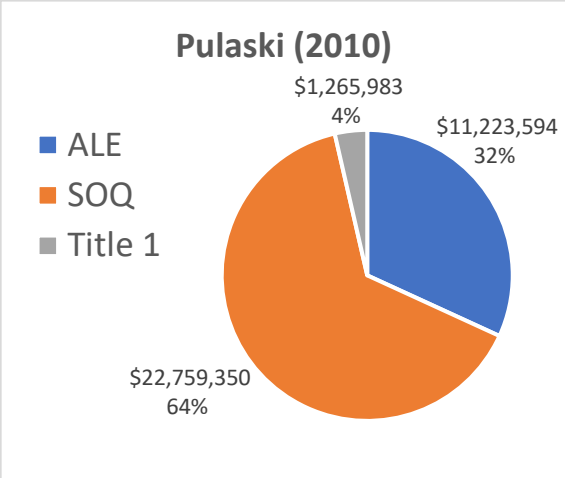

Norfolk (2019)
ALE
SOQ
Title 1
$15,705,634
6%
$86,289,411
33%
$161,404,084
61%

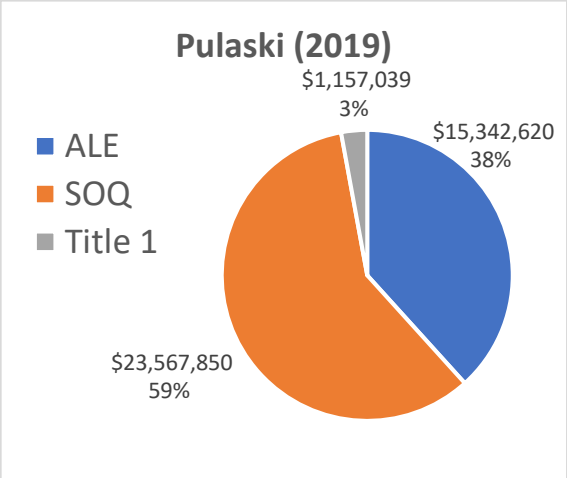

Pittsylvania (2010)
$2,327,532
4%
$14,315,066
22%
ALE
SOQ
Title 1
$48,309,305
74%

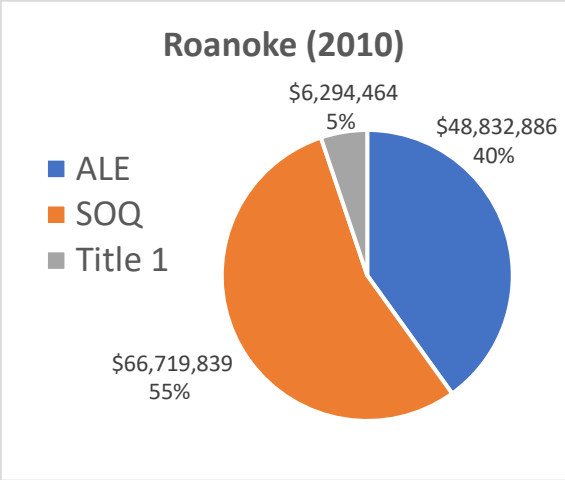

Pittsylvania (2019)
$2,291,862
3%
$20,879,131
27%
ALE
SOQ
Title 1
$53,540,749
70%

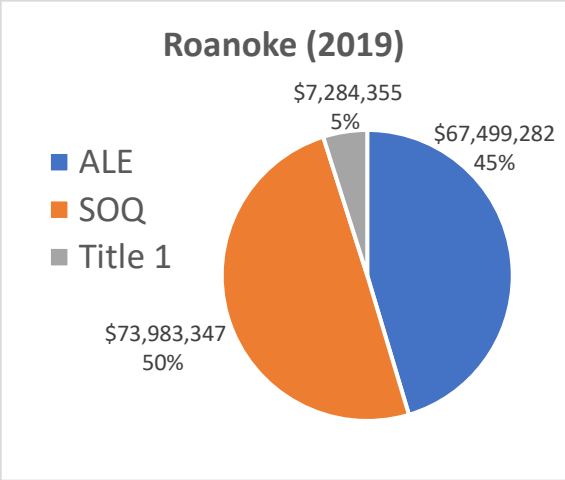

Prince William (2010)
$7,446,006
1%
ALE
SOQ
Title 1
$311,709,635
48%
$335,373,515
51%

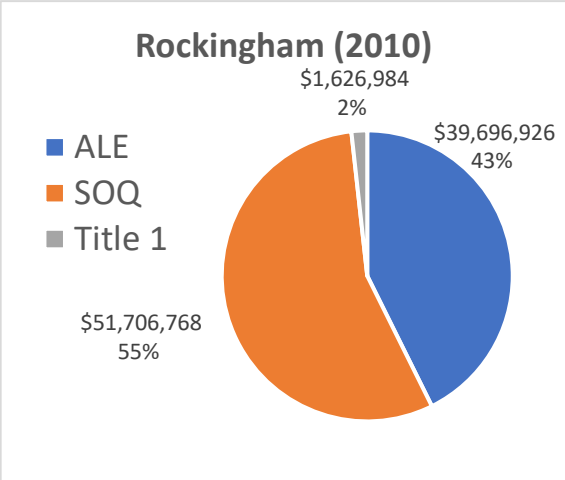

Prince William (2019)
$12,362,229
1%
ALE
SOQ
Title 1
$475,681,115
49%
$476,649,671
50%

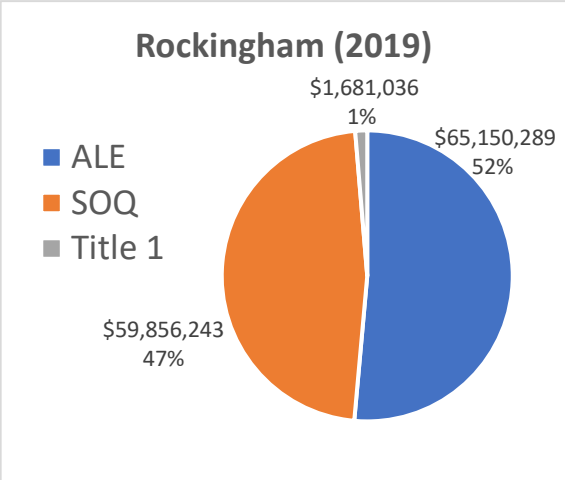

Pulaski (2010)
$1,265,983
4%
$11,223,594
32%
ALE
SOQ
Title 1
$22,759,350
64%

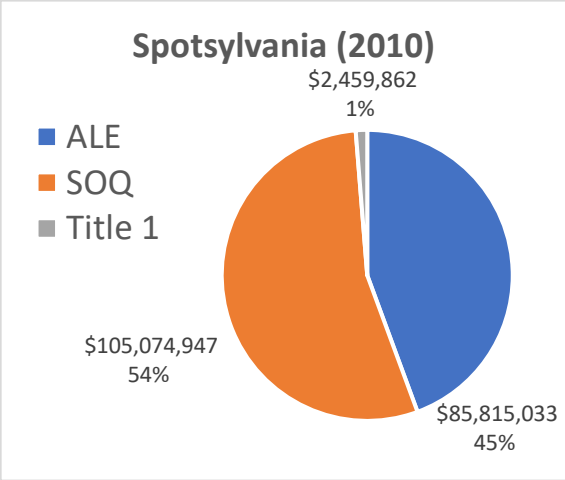

Pulaski (2019)
$1,157,039
3%
$15,342,620
38%
ALE
SOQ
Title 1
$23,567,850
59%

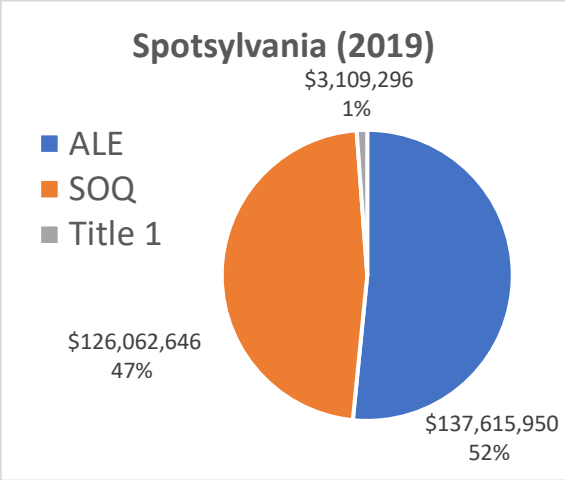

Roanoke (2010)
$6,294,464
5%
$48,832,886
40%
ALE
SOQ
Title 1
$66,719,839
55%

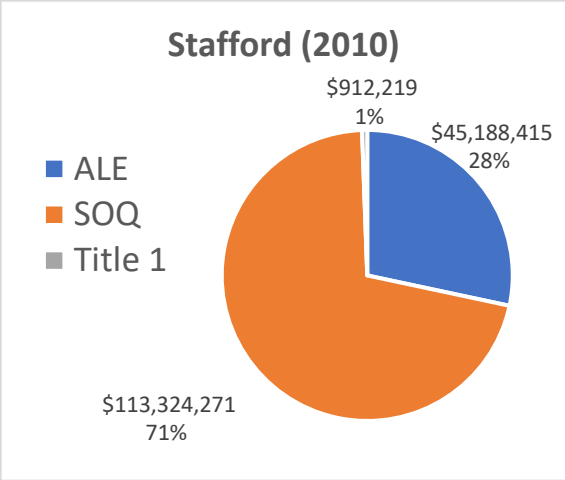

Roanoke (2019)
$7,284,355
5%
$67,499,282
45%
ALE
SOQ
Title 1
$73,983,347
50%

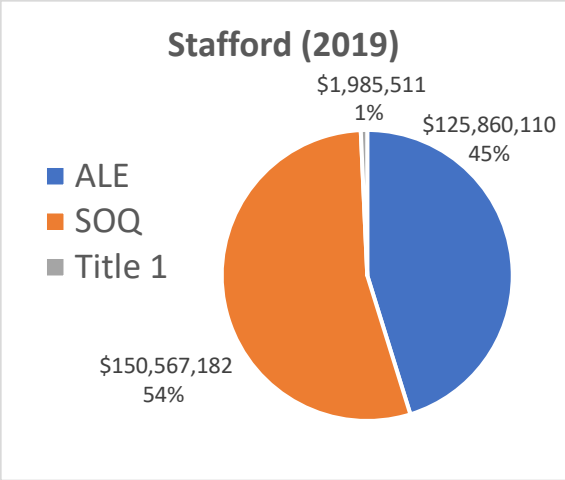

Rockingham (2010)
$1,626,984
2%
$39,696,926
43%
ALE
SOQ
Title 1
$51,706,768
55%

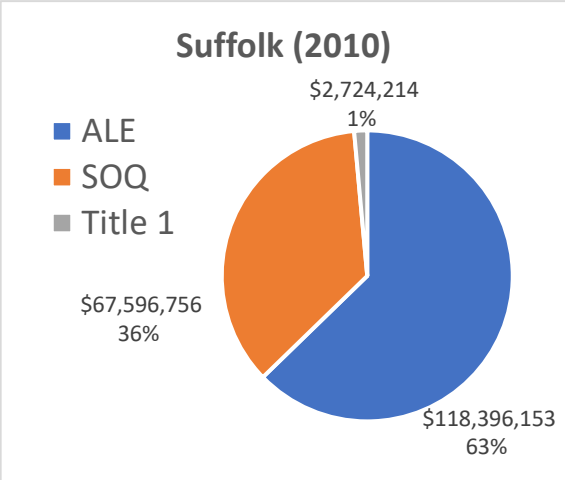

Rockingham (2019)
$1,681,036
1%
$65,150,289
52%
ALE
SOQ
Title 1
$59,856,243
47%

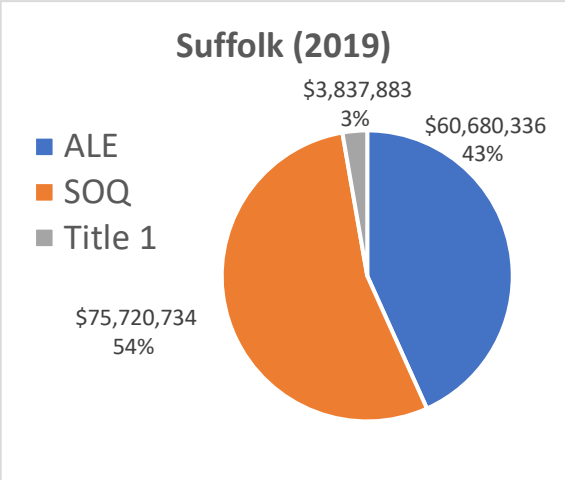

Spotsylvania (2010)
$2,459,862
1%
ALE
SOQ
Title 1
$105,074,947
54%
$85,815,033
45%

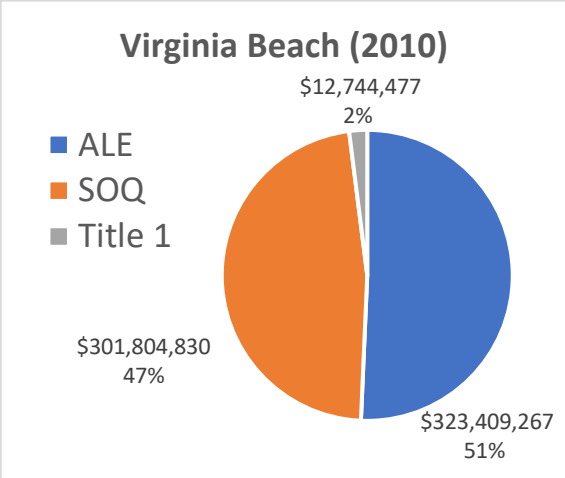

Spotsylvania (2019)
$3,109,296
1%
ALE
SOQ
Title 1
$126,062,646
47%
$137,615,950
52%

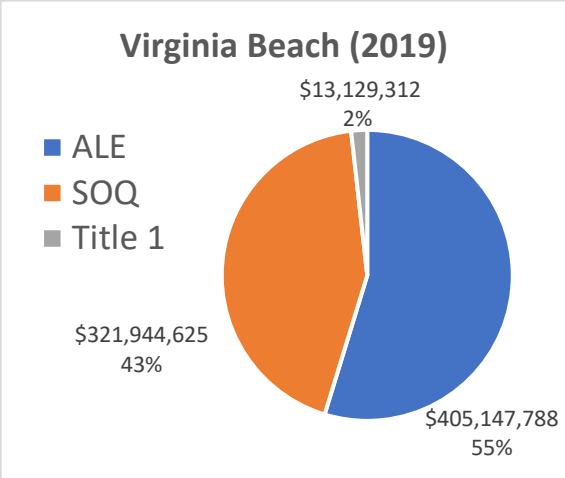

Stafford (2010)
$912,219
1%
$45,188,415
28%
ALE
SOQ
Title 1
$113,324,271
71%


Stafford (2019)
$1,985,511
1%
$125,860,110
45%
ALE
SOQ
Title 1
$150,567,182
54%


Suffolk (2010)
$2,724,214
1%
ALE
SOQ
Title 1
$67,596,756
36%
$118,396,153
63%

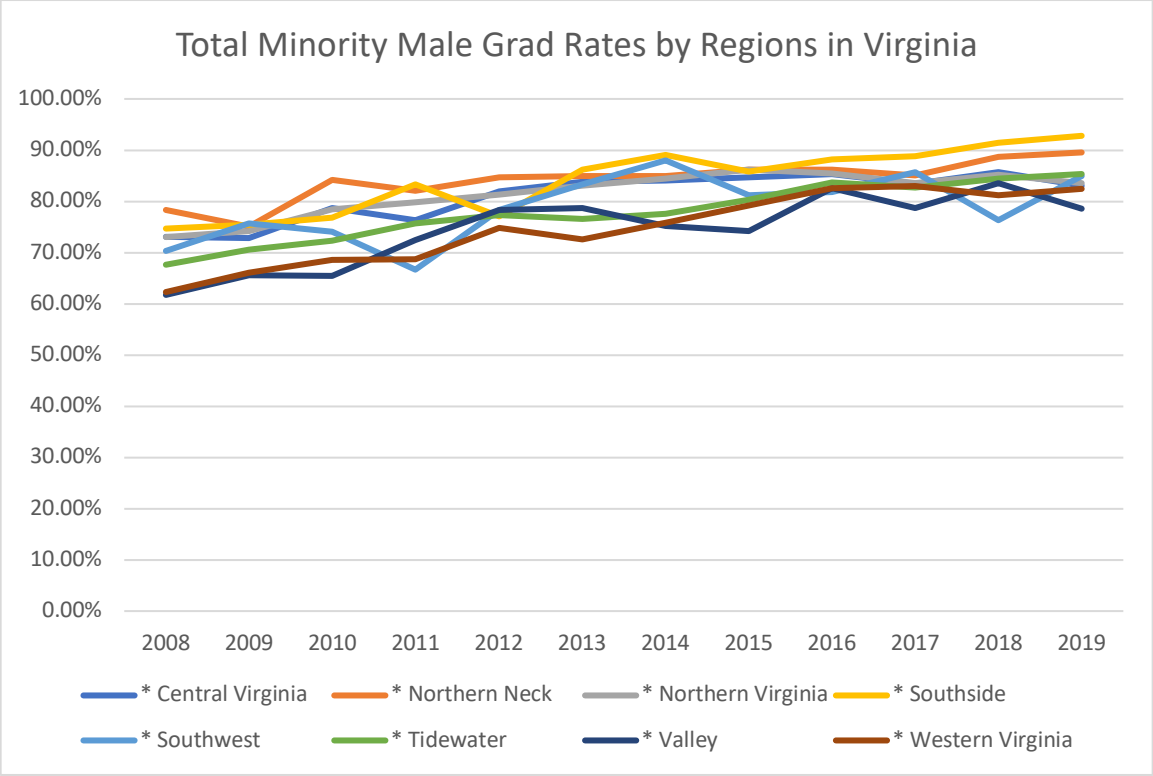

Suffolk (2019)
$3,837,883
3%
$60,680,336
43%
ALE
SOQ
Title 1
$75,720,734
54%


Virginia Beach (2010)
$12,744,477
2%
ALE
SOQ
Title 1
$301,804,830
47%
$323,409,267
51%


Virginia Beach (2019)
$13,129,312
2%
ALE
SOQ
Title 1
$321,944,625
43%
$405,147,788
55%

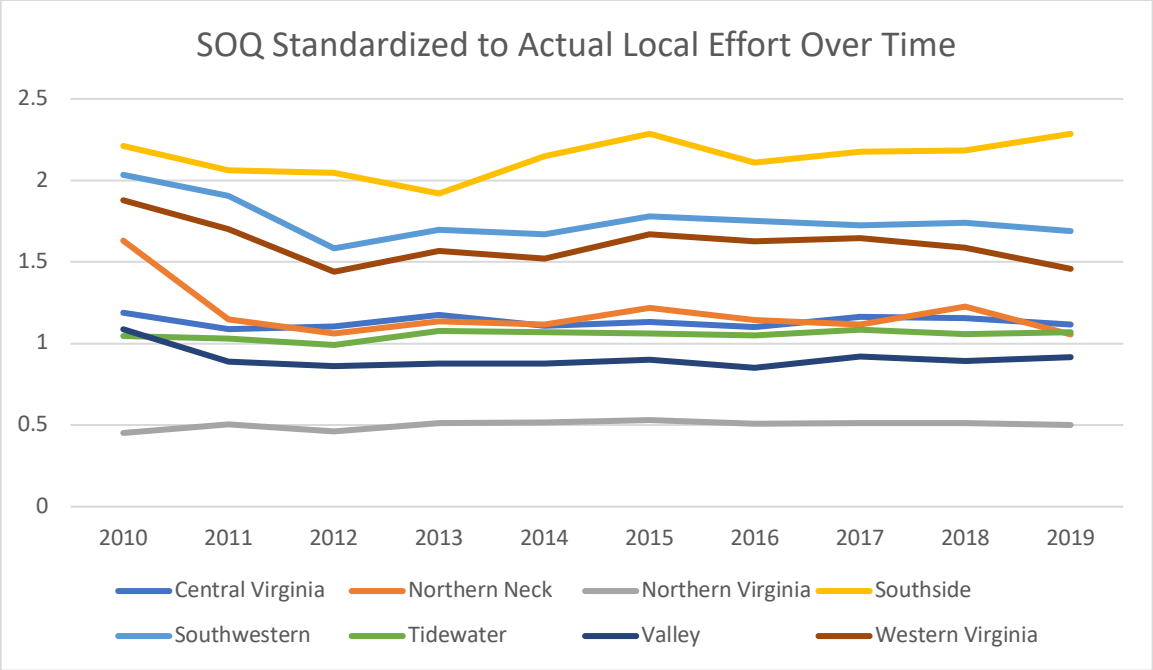
Appendix B:

Total Minority Male Graduation Rates by Regions in Virginia



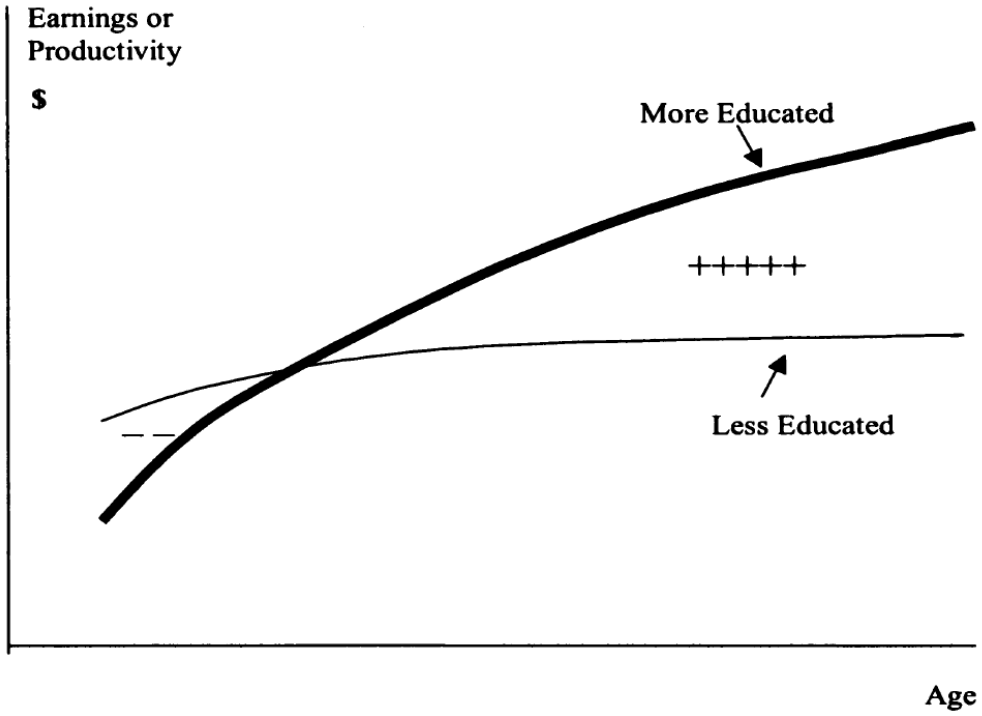
Appendix C:

SOQ Standardized to Actual Local Effort Over Time



Appendix D:

Basic Tradeoff in Human Capital Theory



Source: Adapted from "The Value of Investments in Education: Theory, Evidence, and Policy", by George Psacharopoulos, 2006, *Journal of Education Finance*, 32 (2), p. 115.

VITA

Anastacio B. Marin

Education:

Doctor of Philosophy, Educational Leadership
Old Dominion University, Norfolk, VA — December 2020

Education Specialist, Administration and Supervision
Old Dominion University, Norfolk, VA — May 2017

Master of Arts in Teaching, Special Education
Liberty University, Lynchburg, VA — May 2014

Bachelor of Science, Business Administration
Eastern Mennonite University, Norfolk, VA — April 2010

Professional Certification:

Post Graduate Professional License
Administration & Supervision (PreK-12); General Curriculum Special Education (K-12)

Professional Experience:

DeKalb County Public Schools
Assistant Principal
Chamblee Charter High School — 2019 – Present

Portsmouth Public Schools
Assistant Principal
Churchland High School — 2017 – 2019

Norfolk Public Schools
Special Education Teacher
SECEP, Chesapeake Center — 2014 – 2017

Specialized Youth Services
Life Skills Teacher
Shenandoah Academy Alternative School — 2010 – 2014

Awards and Honors:

Life Changer of the Year Nominee — 2018 – 2019
ASCD Emerging Leader — June 2017
Teacher of the Year — June 2016
Cord of Distinction (Eastern Mennonite University) — May 2010