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## Fiscal Determinants of Graduation Rates of African-American Students in Long Island Districts

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Fiscal Determinants of Graduation Rates of African-American Students in Long Island Districts

Jerel David Cokley

Dissertation Submitted in Partial Fulfillment  
of the Requirements for the Degree of

Doctor of Education

June 2023

Michael Hogan, Ph.D., Chairperson, Dissertation Committee  
Lester W. Young, Jr., Ed.D., Committee Member  
Christopher Dillon, Ed.D., Committee Member

Doctoral Program in Transformational Leadership Studies  
College of Education, Information, and Technology  
Long Island University  
LIU Post Campus

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## DEDICATION

I dedicate this dissertation to my mother, Doreen Linda Cokley, who has given me unconditional love, support, and guidance throughout my entire life. Her professional accomplishments were the driving force for me to embark on this educational journey of pursuing my doctorate – simply to emulate all that she has done during her career as a teacher, Assistant Principal, Principal, and Deputy Superintendent. To my big brother Jamar, thank you for always allowing me to stand on my own two feet and never letting me settle or be content with being “Jamar’s little brother”. Instead, you showed me it was better being my own person.

Such an accomplishment would not be possible without my wife, Veronica, for always believing in me and supporting me doing everything to make it possible for me to finish this degree. Last but not least, I must thank my daughter, Isabelle Evelina Cokley. You are the reason Daddy did this – just so you can be proud of me, which means more to me than anything!

I dedicate this dissertation to all of my family members that are watching me from up above. To my father, Daniel Lawrence Cokley aka “Zoke”, I hope this journey makes you proud Daddykins. From my undergraduate years in college to the husband, father, friend, and professional I am today, I hope you continue watching over me and guiding me to make good decisions as I navigate this jungle of life. To my grandparents, Evelyn Richardson, Arvella Cokley and Marion Cokley, you have all raised me into the man I am today. With your foundation of being family oriented, I have a solid base of who I am and more importantly who I represent by carrying on my surname. I promise I will never let you down!

I am forever grateful and appreciative for the love and support of my family, anything I do; I do to make you all proud.

## ACKNOWLEDGMENTS

Throughout the creation of this dissertation, I was blessed to have a great deal of supporters in my corner. Beginning with my advisor, Dr. Michael Hogan, who graciously assumed leadership of my doctoral committee and selflessly availed himself over the last couple of years in completing my doctoral degree – a true son of Xavier indeed! I greatly appreciated the wisdom bestowed by Dr. Lester Young, Jr. who has believed in me since I was a youngster and vastly expanded my institutional knowledge of education through his experience, words of wisdom and advice. A sincere thank you goes to Dr. Christopher Dillon who has greatly improved the quality of my analysis and day to day work as an educational finance expert, colleague, and a true friend.

A special thank you recognizing two incredible retired educators – Dr. Bernard Gassaway and Mr. Joseph Dragone for your countless hours with me prepare me for this journey. A sincere thank you goes to my LIU colleagues and fellow cohort students – especially Dr. Matthew Coleman and Dr. Sarah Farsijany, and my network of professional colleagues, friends and family for supporting me during this process.

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**ABSTRACT**

The aim of this research was to examine the influence of fiscal determinants on high school graduation rates for African-American students in Long Island public schools during the 2019-2020, 2020-2021, and 2021-2022 school years, within the context of various federal initiatives and educational equity policies. Utilizing ANOVA and linear regression analysis, the study investigated the relationship between independent variables such as per pupil expenditures, teacher experience, class size, district enrollment, poverty rate, and graduation rates among African-American students in Long Island school districts. The analysis involved quantitative correlational analysis using data from the New York State Department of Education (NYSED), New York State Division of Budget, and publicly accessible websites. The multiple regression analysis revealed a highly statistically significant model ( $F(8, 83) = 19.36, p < .001$ ) that accounted for 62% to 65% of the variance in high school graduation rates ( $R^2 = .65$ , Adjusted  $R^2 = .62$ ). The results identified three significant factors influencing graduation rates: per pupil expenditures ( $\beta = .51$ ), teacher experience ( $\beta = .41$ ), and total district enrollment ( $\beta = -.19$ ). The findings suggest that improving graduation rates among African-American students in Long Island public high schools requires attention to budgetary allocations, teacher experience, and total enrollment. The study's implications extend to school funding and educational policy, providing insights into New York's fiscal distribution process and its potential impact on measurable student outcomes.

*Keywords:* enrollment, graduation rate, New York, per pupil expenditures, poverty, school district, teacher experience

## **CHAPTER 1: BACKGROUND AND CONTEXT**

### **Introduction of the Study**

This dissertation explores the connection between fiscal determinants in New York and the high school graduation rates of African-American students in public school districts on Long Island. It aims to build upon previous research that has investigated the impact of different fiscal determinants on measurable student outcomes. To enhance reliability, the study analyzes data from the 2019-2020, 2020-2021, and 2021-2022 school years in Nassau and Suffolk County, New York. The dissertation consists of multiple chapters that cover the introduction, problem statement, research purpose, interdisciplinary significance, research questions, theoretical framework, and methodology overview in Chapter 1. Definitions relevant to the study and a chapter synthesis are also included. Chapter 2 reviews previous research on education finance in New York State, explores the funding of public education, particularly Foundation Aid, discusses relevant court cases related to education finance litigation in New York, examines the impact of each fiscal determinant on graduation rates, and concludes with a chapter synthesis. Chapter 3 outlines the methodology employed in the study, including research questions, research design, and validity and reliability considerations, insights into the setting, participants, and data collection. The chapter concludes by addressing methodological limitations and providing a chapter synthesis. Chapter 4 presents the results of statistical tests conducted for each research question and concludes with a chapter synthesis. Chapter 5 provides responses to the research questions, addresses implications, discusses the study's contribution to the current education landscape at the state and national levels, identifies potential areas for future research, and concludes with a personal reflection on the study.

Since the 1960s, there has been extensive research and debate on the effects of education. In response to the Civil Rights Act of 1964, former President Lyndon Johnson tasked sociologist James S. Coleman to conduct a survey on the unequal educational opportunities based on race, color, religion, or national origin in public schools. Coleman's report, officially known as Equality of Educational Opportunity but commonly referred to as the Coleman Report, is widely regarded as the most significant educational study of the 20th century. The findings indicated that school funding levels have little impact on student achievement, while factors such as student background and teacher effectiveness play a more influential role. The report also highlighted the benefits of well-integrated classrooms for disadvantaged African-American students, leading to the adoption of its official name and the hope for achieving racial balance through student transportation.

Following the release of the Coleman Report, researchers continued to investigate the relationship between funding and student achievement. Eric Hanushek, in disagreement with the report's conclusions, dedicated years to understanding its findings. In 1981, Hanushek concluded that schools do make a difference in student achievement but that it was difficult to determine which specific aspects, such as school spending, teacher salaries, or class sizes, were effective. He expressed skepticism about the effectiveness of input policies typically pursued in education. On April 26, 1983, former President Ronald Reagan received a report from the National Commission on Excellence in Education, referred to as *A Nation at Risk*. This report warned of a crisis in American education, highlighting the country's lagging position in global economic development. The report emphasized that the educational foundations of society were being eroded by a rising tide of mediocrity, posing a threat to the nation's future. The commission made several recommendations for change, leading to various efforts at the local, state, and

federal levels to improve education. One of the recommendations focused on enhancing educational leadership and financial support. While the report acknowledged the downward spiral of basic education and its impact on producing educated and productive citizens, it also acknowledged a significant underlying event.

Reaganomics refers to the economic policies implemented by President Ronald Reagan to reduce inflation. These policies included reductions in government spending, regulation, and taxes. In the early 1980s, there was a \$44 billion (5.7%) cut in the federal government's operating budget, with over 50% of that reduction affecting federal funding for education, training, employment, social services, and income security. With reduced federal funding for education at the national level, individual states faced difficult decisions such as raising property taxes substantially at the state and local level to continue providing educational services or allocating and distributing fiscal resources adequately to support education.

The high school graduation rate serves as a widely used indicator to assess the effectiveness of an education system. It has been reported that investments in education to increase graduation rates not only lead to higher employment and earnings but also result in reduced healthcare and welfare expenses, as well as decreased involvement in the criminal justice system (Belfield & Levin, 2007). Analyzing the influence of specific educational funding on the graduation rates of African-American students can contribute to the broader understanding of the impact of financial resources on academic performance.

In the past few decades, the United States, once considered a global leader in education among industrialized nations, has experienced a significant decline. According to the Organization for Economic Co-Operation and Development (OECD), the United States has dropped from the 2nd to the 21st position out of 28 superpower countries in terms of high school

graduation rates, falling below the global average for the first time. While the U.S. high school graduation rate has remained relatively stable (between 73% and 76%), other countries have made more rapid progress, placing a greater emphasis on education (OECD, 2011).

Achieving improved academic performance for students from diverse socio-economic backgrounds with limited federal, state, and local funding presents a significant challenge for schools (Kirabo, Rucker, & Persico, 2016). The nation's economy and state fiscal resources have faced considerable strain in recent years, even as the demand for educated workers continues to grow. Given these circumstances, it becomes crucial for stakeholders to comprehend the issue and identify effective strategies to maximize available resources. Such understanding necessitates knowledge of the impact of K-12 educational funding on the state's economy and how to measure the educational return on fiscal investments. In a statement to Congress, former President Barack Obama stated:

Right now, three-quarters of the fastest-growing occupations require more than a high school diploma, and yet just over half of our citizens have that level of education. We have one of the highest high school dropout rates of any industrialized nation, and half of the students who begin college never finish. This is a prescription for economic decline, because we know the countries that out-teach us today will out-compete us tomorrow.  
(President Barack Obama, in a Congressional speech February 24, 2009)

There is a significant pressure to prepare individuals who can thrive in a global society and economy in the 21st century. Educational leaders must recognize the importance of school finance in enhancing student achievement. The allocation of public resources has always been a

topic of intense scrutiny, especially when it comes to public education (Webb, 2008). This scrutiny becomes even more relevant when focusing on local educational agencies (LEAs) within the complex structure of public school systems like that of New York (Jacobson et al, 2006). The size of school districts may influence the distribution of funds and the management of bureaucratic processes. Compounding the issue is the fact that many educators may lack a clear understanding of the most effective ways to utilize these funds (Pike, Kuh, McCormick, Ethington, & Smart, 2011). In this dynamic, public school leaders can serve as primary advocates for education, highlighting the need for further research on their perceptions of how fiscal resources in education are utilized, ensuring that they accurately represent and benefit all students (Goe, 2008).

New York State boasts the largest educational institution globally, with the New York City Department of Education catering to over 1.1 million students, of which 24.4% are African-American (NYCDOE, 2022). In 2004, Mr. David C. Banks established the first Eagle Academy for Young Men in New York City, specifically targeting boys of color in grades 6-12, with a focus on addressing the challenges faced by young Black men (Banks, 2022). At that time, the graduation rate for African-American students in New York was 32%. Presently, there are six Eagle Academies for Young Men spread across the five boroughs of New York City and Newark, New Jersey, where 98% of their scholars graduate and gain college acceptance. However, the disparity in college and career readiness still persists within the educational system. A report commissioned by New York's Young Men's Initiative revealed that for every 1,000 African-American high school graduates, only 156 are adequately prepared for college or a career. The education gap existed even before these students reached high school, as African-American students in grades 3-8 demonstrated the lowest English and Math proficiency rates



among their peers (NYC Young Men's Initiative Commission Report, 2021). Falling behind in educational literacy creates challenges to catch up. Consequently, students may become academically frustrated, leading to increased classroom difficulties, discipline issues, and further widening of the education gap (Noguera, 2008).

Multiple factors contribute to academic performance and measurable student outcomes, including high school graduation rates. Some of these factors, such as per pupil spending, school environment, socioeconomic status of families, and students' self-efficacy, influence these outcomes (Bozkurt et al., 2021). The impact of fiscal determinants on measurable student outcomes, specifically graduation rates, has sparked extensive debates among educational stakeholders. This study focuses on several determinants, namely per pupil expenditures, enrollment, class size, poverty rate, and median teacher experience (years of certified teaching experience in New York State). Each of these determinants plays a vital role in determining measurable student outcomes. The study aims to examine the statistical significance of each determinant (independent variable) in relation to graduation rates of African-American public high school students (dependent variable).

### **Problem Statement**

Extensive literature exists on educational equity (Ford & Moore, 2013; Hartney & Flavin, 2014; Graham, 2007; Levin, 2012; Lucas, 2010; McNeal, 2009), which emphasizes the importance of equity policies in American public schools to bridge the opportunity gaps between African-American students and national averages. Research has consistently shown that African-American students experience disproportionately lower graduation rates due to various factors (Hartney & Flavin, 2014; Ford & Moore, 2013; Noguera, 2008; Pitre, 2014). In response to the growing demand for educational accountability at the federal level, through initiatives like the

No Child Left Behind Act of 2001 and the Every Student Succeeds Act of 2015, many states have implemented educational equity policies aimed at addressing the academic needs of African-American students and narrowing the educational divide among student groups. The achievement gap is not solely a concern for African-American students, their families, and communities; it also has far-reaching implications for the overall well-being of the nation. Researchers have identified that "the persistent educational achievement gap imposes on the United States the economic equivalent of a permanent national recession" (McKinsey & Company, 2009).

This study builds upon the works of Dansby and Dansby-Giles (2011) and Robertson et al. (2015) by examining the impact of five fiscal determinants on high school graduation rates of African-American students in public school districts on Long Island. The findings of this research hold potential significance for the fields of public policy and administration, as well as educational leadership, offering fresh insights to policymakers, educators, and the general public.

### **Purpose of the Study**

The objective of this research was to examine the impact of fiscal factors on graduation rates and explore the extent to which each factor (such as per pupil expenditures, class size, poverty rate, enrollment, and median teacher experience) affects student outcomes. The study also aimed to investigate the influence of socioeconomic and demographic differences among school districts, particularly focusing on the poverty levels of students. The findings of this study were expected to provide valuable insights for policymakers and stakeholders in formulating effective educational reform strategies.

Specifically, the research focused on examining the relationship between the fiscal resources allocated to Long Island school districts and the graduation rates of African-American

students within those districts. By doing so, this study aimed to contribute to the existing body of knowledge on how fiscal resources are distributed in New York State. Furthermore, it aimed to provide empirical research in areas that have received less attention, such as State Aid and the state's funding formula known as Foundation Aid. The research methodology employed a non-experimental ex post facto analysis, eliminating the need for a specific hypothesis to be tested.

Analyzing the fiscal determinants of Long Island public school districts alongside the high school graduation rates of minority (African-American) students raised several questions. The study aimed to explore the long-term effects of increased fiscal effort by districts on educational outcomes, particularly graduation rates. This question had not been extensively investigated in the context of New York State. The study utilized several years of data on districts' fiscal effort to examine whether the effort slopes were decreasing, flat, or increasing. The period from 2019 to 2022 was selected to capture the most recent three years' worth of relevant data on graduation rates and fiscal determinants.

Ultimately, the study aimed to identify funding and resource allocation criteria that could be implemented by policymakers and educational stakeholders to ensure a fair distribution of fiscal resources and optimize measurable student outcomes for all students. It aimed to contribute to the ongoing efforts in achieving equitable education by providing evidence-based insights and recommendations.

### **Interdisciplinary Significance of the Study**

The findings of this study will provide valuable insights for elected officials, policymakers, school district administrators, and education stakeholders regarding the impact of fiscal determinants (such as per pupil expenditures, class size, district enrollment, poverty rate, and teacher experience) on measurable student outcomes, specifically high school graduation

rates, for a specific subgroup of students in New York. Stakeholders should consider utilizing the study's findings for further research and as a guide for effective decision-making in budgeting, funding, and policy development.

The foundation of funding in education and its influence on graduation rates encompasses multiple disciplines, including organizational theory, economics, and sociology. Organizational theory examines the structure and operations of educational institutions, including the performance of subgroups. In the context of this study, performance refers to measurable student outcomes, while the subgroups are African-American public school students on Long Island. Analyzing performance involves assessing the overall graduation rate to determine if a correlation exists between achievement and funding. The study monitors student demographics such as socioeconomic status, achievement levels, and district spending per pupil.

Furthermore, funding in education is rooted in economics as fiscal resources are distributed to public school districts through various mechanisms, including taxpayer funds. Evaluating per-pupil spending in each district of the targeted subgroup allows for an objective assessment of the fiscal effort contributing to students' success. Education serves as an investment in students, equipping them with knowledge, skills, and real-world understanding. The return on this investment manifests as economic development when students become civic-minded employees who contribute to society's progress.

Lastly, funding in education has a sociological foundation, which focuses on human functioning within society. Sociological analysis can examine high school graduation rates for a specific targeted group, such as African-American students in Long Island, New York, throughout their educational journey and beyond. This analysis may encompass factors such as

their proficiency levels in reading and math during primary grades, college acceptances, and their present participation in various sectors of the workforce.

### **Theoretical Framework**

The theoretical framework of this study was based on equity theory in relation to federal and state legislation. The concept of "equity in education" is multifaceted, making it challenging to establish a precise definition for educators. Generally, it refers to creating an educational system that caters to students of diverse backgrounds and provides them with appropriate support and resources to achieve their educational goals. Equity-based reform aims to allocate resources equitably for educational purposes. There is a strong emphasis on public schools to ensure access and equity for all students, meeting rigorous academic standards and preparing them for college and career readiness. However, states have faced difficulties in identifying a funding model that effectively meets students' learning needs.

Educational equity supports access to resources and rigorous education throughout a student's journey, regardless of factors such as race, gender, ethnicity, language, disability, sexual orientation, family background, and socio-economic status. While the terms "equity" and "equality" are often used interchangeably, they have distinct differences. "Equality" focuses on providing the same educational opportunities to all students, but it overlooks the fact that students have different needs to succeed. In contrast, "equity" acknowledges these differences and aims to level the playing field by providing support and resources to disadvantaged students, ensuring they have equal opportunities. It goes beyond equality by addressing the disparities and making up for the differences among students.

Landmark cases like *Brown v. Board of Education* in 1954 led to significant shifts in state educational funding mechanisms to promote greater equity. Extensive research has been

conducted on the correlation between public school funding and student achievement, with federal legislation like the No Child Left Behind Act of 2001 emphasizing accountability and academic progress benchmarks for all students. Despite these efforts, achievement gaps persist, particularly among students from different socio-economic backgrounds.

Studies have analyzed state funding mechanisms to assess their alignment with equity theory in public school districts. The evidence supports the idea that additional resources are needed to support groups of children who may face disadvantages. Students classified as at-risk, low-income, students with disabilities, minority students, English language learners, urban students, and those from families with low parental education require additional support to succeed academically.

In New York, challenges remain evident, as indicated by the high percentage of students receiving free or reduced lunch and the misalignment between per-pupil spending and educational rankings. Although New York residents vote on school district budgets annually, increasing the need for more spending, there is a lack of measurable accountability associated with proposed budget increases. While New York State ranks highest in per-pupil spending on K-12 education, it is essential to determine if this spending aligns with student performance or if other variables beyond measurable outcomes play a role in funding allocation.

Governor Cuomo of New York has stated that the issue with education in the state is not money, considering its high spending rate, but rather the misalignment between spending and performance. This raises questions about the underlying factors influencing education spending and student outcomes and whether there is a correlation between the two variables.

### **Research Questions**

The main objective of this study will be to examine the relationship between school districts' fiscal determinants and high school graduation rates. The goal is to provide additional data beyond the current empirical research on the relationship between New York State's education funding and high school graduation rates of African-American students on Long Island, New York. The following research questions and null hypotheses that will be addressed are:

1. Does school districts' per pupil spending relate to the graduation rate among African-American public high school students in the Long Island region of New York public high schools?
2. Does school districts' enrollment size relate to the graduation rate among African-American public high school students in the Long Island region of New York public high schools?
3. Does school districts' enrollment size relate to the graduation rate among African-American public high school students in the Long Island region of New York public high schools?
4. Does poverty rate of African-American students' households relate to the graduation rate among African-American public high school students in the Long Island region of New York public high schools?
5. Does the median teacher experience relate to the graduation rate among African-American public high school students in the Long Island region of New York public high schools?

6. What trends are apparent in relation to New York State's fiscal determinants with high school graduation rates on African-American students in the Long Island region of New York public high schools?

### **An Overview of Methodology**

The methodology employed in this study investigates the impact of fiscal determinants in New York school districts on the high school graduation rates of African-American students in Long Island. The study design aims to uncover significant relationships, identify predictive trends, and validate connections between funding variables and achievement, as measured by the fiscal determinants of school districts and high school graduation rates. Correlation analyses will be conducted to examine the relationships between fiscal determinants (such as per pupil expenditures, district enrollment, class size, poverty rate, and teacher median years' experience) and high school graduation rates. Multiple linear regression, simple linear regression, and ANOVA will also be utilized to assess the strength of the relationship between each fiscal determinant and high school graduation rates. However, it should be noted that fiscal determinants and student achievement inputs in education do not occur simultaneously, as funds are typically allocated before student achievement is measured for a given year. This may result in a delay when analyzing the impact of fiscal effort inputs on student achievement.

The Long Island University Institutional Review Board has determined that this study does not involve human subjects' research, as it utilizes secondary data analysis. Therefore, it does not require IRB review or oversight. Due to the ex post facto design of the research, random sampling cannot be incorporated. Instead, naturally occurring groups will be examined to observe relationships, comparing groups that were previously different and analyzing the reasons for these differences. This approach deviates from traditional sampling methods, where equal



groups are randomly assigned different treatments. By not including possible covariance, there may be biased correlation estimates in the distributed lag analysis. Additionally, the use of a fixed effects model (least squares dummy variable model) may result in multicollinearity among variables, leading to increased standard errors and limitations in assessing individual predictors. However, multicollinearity does not diminish the overall predictive power or reliability of the model. Despite these limitations, the strength of this study lies in comparing local funding disparities and examining their impact on student achievement. It is important to note that the generalizability of this study is limited to the local level, as it does not consider other localities.

### **Definitions of Terms**

There are key terms and words associated in this study. The definitions will provide an insight into each term to portray each term's usefulness in support of this study.

**Class Size.** The number of students in a given course, section, or classroom. It should be noted that local educational agencies (LEA) commonly track and report average class sizes that are expressed as student to teacher ratio.

**District Enrollment.** The total number of students enrolled at a local educational agency (LEA) within New York State. As of 2023, there are 731 public school districts and 2,448,537 K-12 public school students in New York State (NYSED, 2023).

**Sound, basic education.** A United States' Constitutional right for each state to provide for state residents when students reach school-age readiness. According to the New York State Education Department (NYSED) Foundation Aid formula, it will cost approximately \$62.6 billion provide a sound, basic education (SBE) to student in the 2019 – 2020 school year.

**Measurable Student Outcomes.** A set of outcomes measuring skills, abilities, and competencies that students attain upon satisfactory completion of an objective, educational

assessment, such as high school graduation. In this study, high school graduation rate will serve as the independent variable where fiscal determinants will be tested statistically and analytically for correlation.

**Foundation Aid Formula.** Foundation Aid is the positive result of (a) the district adjusted foundation amount which is the basic foundation amount for 2019-20 (\$6,714) multiplied by the consumer price index (1.018) multiplied by a phase-in foundation percent (1.0000) multiplied by a Regional Cost Index (RCI) multiplied by a Pupil Need Index (PNI) less (b) an expected minimum local contribution.

**Fiscal Transparency.** A 2018 – 2019 mandate for all school districts under the Every Student Succeeds Act (ESSA) that will help understanding equity in federal, state, and local educational resources. Fiscal transparency reports are an annual obligation (by August 30<sup>th</sup> of each year) for school districts to outline how much each school is spending per student according to the source of funds. Data from OpenBudget.gov will be utilized for the 2019 – 2020, 2020 – 2021, and 2021 – 2022 school years for Long Island public school districts to view per pupil expenditures and district total spending.

**Campaign for Fiscal Equity.** Lawsuit that stemmed from a non-profit advocacy organization that sought to protect constitutional rights for a sound, basic education for all public school students in New York State, Under the leadership of Mr. Michael A. Rebell, a lawsuit was filed and won the “CFE vs. State of New York” case, which required New York State to adequately and equitably fund each public school district (based on a formula).

**Socio-economic Status.** Quality of life that is attributed to societal opportunities and privileges afforded to citizens. Poverty is not a single factor, but is an important factor that is characterized by multiple physical and psychosocial stressors within this study.

**Teacher Experience.** Years of full-time teaching experience an instructor possesses. This determinant is used to test for significance on measurable student outcomes (graduation rates) within this study.

### **Chapter Summary**

The ongoing debate surrounding the impact of funding on academic achievement has remained inconclusive since the release of the Coleman Report. Despite numerous research efforts investigating the effect of increased funding in public schools, no definitive answer has been reached. While some researchers (Baron, 2019; Kirabo, 2016) have found a close relationship between educational outcomes and funding, other studies, including the Coleman Report and the work of Kreisman and Steinberg (2019), have provided substantial evidence suggesting that increased per pupil school spending may not necessarily lead to improved academic achievement. These inconsistencies have significant implications for educational policies concerning funding, which ultimately influence educational standards and academic performance. Therefore, the purpose of this study is to contribute to the ongoing discourse on funding and school district spending, aiming to enhance academic achievement among African-American high school students on Long Island by identifying effective and evidence-based approaches.

## CHAPTER 2: LITERATURE REVIEW

### School Education Finance in New York

Chapter 1 provided a background and context uncovering the issue of disparate funding in K-12 public education in New York State and proposed further research be done into how and why funding is dispersed across the state to support student achievement (graduation rates). This chapter provides a review of literature on financing education. It reviews the history of American education finance, and will also describe the legal framework for financing education because policy, legal matters, and legislation have gravely impacted funding for education. Next, details regarding financing education are reviewed through its impact on student achievement. Fiscal effort is defined. Graduation rates are covered in three ways. First, graduation rate is emphasized in relation to human capital. Second, it is closely examined through federal legislation. Finally, it is analyzed through the lens of state graduation rate calculation. Research questions and definitions conclude the chapter.

This section provides an overview of the literature review, starting with an exploration of education finance equity and adequacy. It also discusses the litigation surrounding the definition and funding policies related to these concepts. Given the current economic climate, it is crucial for educators to determine effective ways of utilizing allocated education funding. Understanding education finance involves recognizing its impact on the state's economy and assessing the return on investment (Owings & Kaplan, 2013). Researchers like Opkala (2002) emphasize the importance of not only examining expenditures but also analyzing their impact on student achievement, particularly the relationship between funding and student achievement (Kelly, 2012). In this study, the focus is on the high school graduation rates of African-American students on Long Island, New York. Throughout the years, numerous studies have examined the

relationship between funding and various factors influencing student achievement. However, the evidence from these finance studies has not yielded conclusive results (Hill, 2018).

Given the current economic situation, educational leaders must demonstrate the significance of the relationship between funding and student achievement. This emphasis has been amplified due to changes in finance policy, litigation regarding equity and adequacy in education, and relevant legislation. Education finance policy has been a significant aspect of educational research, litigation, and legislation for many decades. The influential Equality of Educational Opportunity study, commonly known as the Coleman Report, played a crucial role in education finance policy. The report focused on equality in public schools in America (Coleman, 1966). According to the Coleman Report, school funding inputs were found to have no significant relationship with student achievement, with socioeconomic status and family background being the primary predictors of a child's success. These findings led many to question whether funding alone could address student achievement issues. The ongoing debates surrounding education finance and its impact on educational policy continue to draw upon information from the Coleman Report. Many research studies have been conducted on school finance and student achievement, influenced by the seminal research of the Coleman Report, which still holds relevance today.

The production function method has been widely employed in the study of education finance, with the Coleman Report of 1966 serving as a notable example of its application (Hedges et al., 1994). Hedges et al. (1994) noted that the production function has been the dominant paradigm for analyzing the relationship between educational resources and student outcomes over the past few decades. This method involves examining the correlation between specific inputs and outcomes, such as determining the impact of increased student expenditures

on test scores (Hedges et al., 1994). These studies are typically non-experimental as they analyze historical data. The production function approach has influenced various economic theories and can be defined as specifying the minimum input requirements necessary to produce desired levels of output (Hedges et al., 1994). However, applying this function to educational research faces challenges due to the complexities of school-based factors (Hanushek, 1986).

Modifications are often necessary to account for policy issues and measurement variables (Hanushek, 1986).

In this study, multiple regression analysis and repeated measures ANOVA were used to investigate the impact of five fiscal determinants on the graduation rates of African-American students in Long Island school districts. Both regression analysis and ANOVA are statistical models employed to predict continuous outcomes. Regression analysis predicts the continuous outcome based on one or more continuous predictor variables, while ANOVA predicts the continuous outcome based on one or more categorical predictor variables. The fiscal determinants considered in this study were per pupil expenditures, class size, district enrollment, socio-economic status (poverty rate), and teacher experience. This longitudinal study aimed to examine whether increases in each fiscal determinant over time correlated with higher graduation rates across all Long Island public school districts. Instead of focusing solely on student per-pupil expenditures, which is common in many other studies, this research also examined state fiscal effort, which represents a state's contribution to education relative to its wealth. Analyzing fiscal effort provides a different perspective on the analysis (Owings & Kaplan, 2013). State fiscal effort was assessed for all Long Island public school districts in New York State over a three-year period. In this study, state fiscal effort and time were considered as input variables,

while high school graduation rate served as the common output variable since it is calculated by all states.

The study employed a correlational design and utilized multiple regression analysis, which is a sophisticated statistical technique for examining the relationship between variables (Aiken & West, 1991). Given the complexity of education finance research and its numerous defining aspects, this approach enabled the researcher to control for various fiscal determinants while focusing on the primary variable of high school graduation rates among African-American students in Long Island districts. Additionally, repeated measures ANOVA were employed to assess the association between each fiscal determinant and changes in state high school graduation rates over time. Repeated measures ANOVA is a method used to determine if there have been significant changes in the means of variables throughout the study.

Extensive research has been conducted on the topic of education finance and its impact on student achievement (Hill, 2008; Kelly, 2012; Morris, 2012). The question of what factors contribute to student achievement remains a subject of debate and contention among stakeholders (Lips, Watkins, & Fleming, 2008). Ongoing research aims to identify variables that influence student achievement, such as teacher capacity, school leadership, curriculum, and instructional materials. Education funding is a highly intricate matter due to the multitude of variables at the school level that must be considered (Hill, 2008). Each school resource can be linked to student achievement.

Currently, there is a controversial discussion surrounding the relationship between spending and student achievement. However, researchers agree that funding should be allocated to areas that positively impact student achievement (Lips et al., 2008). A comprehensive review conducted by Owings and Kaplan in 2006 analyzed finance and achievement studies, utilizing

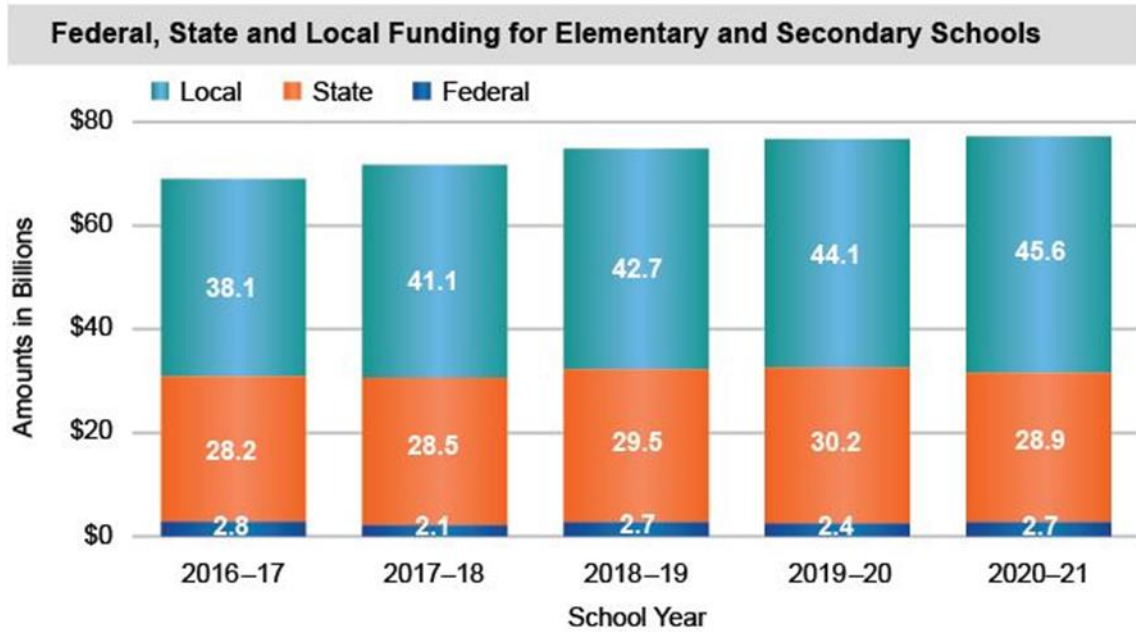
factor analysis to determine which funding areas exhibited a positive relationship with student achievement. The review highlighted the importance of directing education funding towards retaining high-quality teachers, providing purposeful professional development, and maintaining school facilities. Advancing our understanding of school funding practices and their influence on student achievement will assist policymakers in making informed decisions regarding state expenditures. To explore the connection between funding and student outcomes, it is necessary to consider educational litigation cases such as the Campaign for Fiscal Equity and the existing structure of funding policies.

Historically, public school funding has been derived from federal, state, and local government sources. Presently, states contribute the largest share of funding to school districts. However, as suggested by Kirabo (2020), the allocation of resources at the federal and state levels can have adverse effects on education due to socioeconomic disparities across the country. The ability of school districts to effectively utilize resources allocated by the federal and state governments is limited by the availability of funds from categorical funding and grants intended for specific subgroups within a school district (Blagg, Rainer, & Waxman, 2019). Independent certified accountants conduct annual audits of federal funds to ensure fiscal accountability and regulatory compliance. Local funds, including property taxes and other local revenue sources, as well as Foundation Aid and non-categorical aid funds, are solely utilized by the local governing body, the school board. Consequently, funding limitations may impede schools' performance in certain areas. The below figure illustrates the varying percentages of local, state, and federal fiscal allocation of resources to support education in New York State over the last five years (Office of the State Comptroller of New York, 2022):



**Figure 1**

*Federal, State, and Local Funding for Elementary and Secondary NY K-12 Schools*



*Note.* Data shows the local, state, and federal contributions to education finance in New York

Currently, the education finance system in New York State caters to the educational needs of 2,448,537 K-12 students across 731 public school districts (NYSED, 2023). This system comprises three primary components: local property taxes, state aid provided to school districts, and School Tax Relief (STAR) exemptions, which are disbursed either to school districts or directly to homeowners. It is worth noting that the Conference of Big 5 City School Districts, which now includes eight school districts (New York City, Buffalo, Rochester, Syracuse, Yonkers, Mount Vernon, Albany, and Utica), does not function as independent school districts but operates as departments within their respective local city governments. In order to support K-12 education, the state of New York allocates and distributes approximately \$30 billion (NYSED, 2023). However, the state's commitment to funding schools and its Foundation

Aid formula was prompted by a protracted lawsuit filed by a group of parents who claimed that the New York City students' right to a sound basic education was being violated primarily due to insufficient and inadequate funding.

### **Campaign for Fiscal Equity**

The history of state school aid in New York began with a significant court ruling in the case of Campaign for Fiscal Equity (CFE) v. New York (2003), which determined that the amount of state aid provided to New York City was inadequate to ensure a "meaningful high school education" (<http://schoolfunding.info>). The Campaign for Fiscal Equity (CFE), led by Michael Rebell, was formed by parents who filed a lawsuit against the State of New York in 1993, asserting that children were being denied an adequate education. In 2006, the New York State Court of Appeals ruled in favor of the CFE, declaring that New York State was violating students' constitutional right to a "sound and basic education" by inadequately funding schools. As a result of this ruling, schools were mandated to receive an increase of \$5.5 billion in basic operating aid, also known as Foundation Aid, over a four-year phase-in period from 2007 to 2011 (Alliance for Quality Education, 2006). Additionally, the ruling required an annual additional operating aid of \$1.93 billion to be allocated to New York City.

In 2007, state officials implemented a new education aid formula statewide, aiming to address fiscal disparities and align funding with the key principles outlined in the CFE ruling. However, the implementation of this new formula was interrupted by the global economic downturn during the Great Recession (2007-2009), which temporarily hindered the state's commitment to the CFE ruling.

### **The Origination of New York State's Foundation Aid Formula**

Although local educational agencies primarily manage public school education, the State holds the ultimate responsibility for educating residents and provides financial assistance to address disparities in local property wealth and student needs. In 1993, an advocacy group called the Campaign for Fiscal Equity (CFE) filed a lawsuit against the State of New York, alleging that New York City public schools failed to offer students a "sound basic education" as mandated by the State's Constitution due to insufficient funding. In 2003, the Court of Appeals ruled in favor of CFE, leading to the State of New York being tasked with appropriately allocating fiscal resources for New York City public schools. In response, State leaders enacted the State Education Budget and Reform Act of 2007, which aimed to increase school aid for all public school districts in the state by \$7 billion annually over four years, including \$3.2 billion allocated specifically to New York City.

As part of this legislation, thirty categorical aid programs were consolidated into Foundation Aid, which sought to better direct funds to school districts facing inadequate financial resources. The primary objective of Foundation Aid was to distribute school aid increases in a targeted and progressive manner. The formula used to calculate Foundation Aid for each district involved the following steps:

1. Determine the "foundation amount" needed per pupil for a sound basic education. This amount, currently set at \$6,917 for the 2022-2023 school year, is based on the average per pupil cost of general education in successful school districts as determined by the New York State Education Department (NYSED).
2. Adjust for regional cost variations. The state is divided into nine regions, and non-education labor costs serve as a proxy measure for overall operating costs. The North

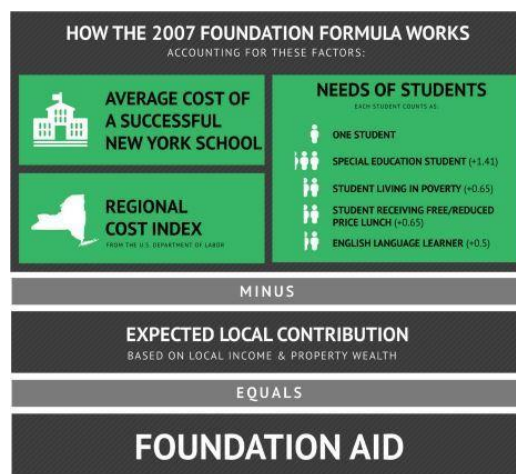
Country and Mohawk Valley regions are considered the base value (1.0), while the New York City-Long Island region has the highest cost (1.425).

3. Increase funding based on the proportion of students with special needs, English language learners, and impoverished students. These students often require additional services or instruction. The adjustments made in steps 2 and 3 raise the statewide average per pupil amount from \$6,340 to \$15,695, with district variations ranging from \$7,962 to \$22,705.
4. Deduct the expected local contribution per pupil from the total to determine Foundation Aid. The local contribution is calculated based on a district's wealth per student, taking into account taxable property value and adjusted gross income.
5. Multiply the adjusted per pupil Foundation Aid amount by the number of students in the district to determine the total Foundation Aid funding allocated to that district

Here is an illustration of the Foundation Aid formula and how it is calculated:

**Figure 2**

*New York State's Foundation Aid Formula*



*Note.* All New York K-12 public school districts are funded by the Foundation Aid formula

When the Foundation Aid program was established, its purpose was to serve as the primary channel for school aid, with a focus on directing increased funding to low-wealth districts with students in need. At the same time, it was agreed that no district would receive less aid than what it had previously received under the old formula. To ensure this, the formula was adjusted to protect districts from any decrease in funding. Additionally, measures were implemented to ensure that almost all districts, regardless of their level of need, would receive a share of any increase in aggregate Foundation Aid.

Since the aid was intended to reach a target amount gradually over several years, a "phase-in" factor was introduced to adjust the distribution amount for each year. However, this adjustment was not uniform among districts and varied based on different categories. Over time, these provisions have had a significant impact and have distorted the intended targeting of Foundation Aid. There are three specific concerns with the Foundation Aid formula:

1. The calculations for determining the local share of funding are inconsistent and do not consistently account for a district's ability to contribute financially.
2. Arbitrary limits, adjustments, transitional periods, and additional factors used to calculate aid amounts result in distorted final funding distributions.
3. Outdated measures of poverty either underestimate or overestimate the level of need in many districts.

The below figure shows the current Foundation Aid amounts using outdated data and arbitrary factors to adjust regional cost index and pupil needs index:

**Figure 3**

*Fifteen-Year Analysis of Foundation Aid amounts per-pupil*

	<b>Foundation Amount</b>	<b>1 + CPI change</b>	<b>Foundation Amount X CPI chg.</b>	<b>Phase-in Foundation Percent</b>
2007-08	4,695 <sup>1</sup>	1.120	5,258	1.0768
2008-09	5,258	1.029	5,410	1.0526
2009-10	5,410	1.038	5,616	1.0250
2010-11	5,708 <sup>1</sup>	0.996	5,685	1.0768
2011-12	5,685	1.016	5,776	1.1314
2012-13	5,776	1.032	5,961	1.1038
2013-14	5,926 <sup>1</sup>	1.021	6,050	1.0768
2014-15	6,050	1.015	6,141	1.0506
2015-16	6,141	1.016	6,239	1.0250
2016-17	6,334 <sup>1</sup>	1.001	6,340	1.0000
2017-18	6,340	1.013	6,422	1.0000
2018-19	6,422	1.021	6,557	1.0000
2019-20	6,557	1.024	6,714	1.0000
2020-21	6,714	1.018	6,835	1.0000
2021-22	6,835	1.012	6,917	1.0000
2022-23	6,917	1.047	7,242	1.0000

When the program was initiated in the 2007-2008 school year, Foundation Aid accounted for \$14.9 billion, which was approximately 77% of the total state school aid of \$19.3 billion. Since then, Foundation Aid has seen significant increases, although some planned increases were delayed due to the financial impact of the Great Recession in 2008. In the 2019-2020 school year, state school aid amounted to \$27.9 billion, with Foundation Aid constituting \$18.4 billion. The following year, during the 2020-2021 school year, both state aid and Foundation Aid remained unchanged at \$27.9 billion and \$18.4 billion, respectively, due to the effects of the global pandemic.

It is worth noting that during the 2020-2021 school year, a major lawsuit, *New York State Educational Rights vs. State of New York*, reached a settlement. The lawsuit, initiated in 2014 by a coalition of parents, organizations, and community groups advocating for the Schenectady and New York City school districts, sought to ensure that New York State fulfilled its commitment to fully fund Foundation Aid, as mandated by the Campaign for Fiscal Equity case. On October 14, 2021, Governor Hochul announced a settlement in the *NYSER vs. State*

case, outlining a plan to fully phase in Foundation Aid over the next three fiscal years. In FY2022, an additional \$19.8 billion would cover 30% of the calculated shortfall. In FY2023, an additional \$21.3 billion would cover 50% of the anticipated shortfall. Finally, in FY2024, an additional \$23.2 billion would eliminate the remaining anticipated shortfall, ensuring full funding of Foundation Aid for all public school districts in New York State. The State has remained committed to this agreement, as the FY2024 allocations were approved in the Governor's 2023-2024 Executive Budget.

### **Relationship of Funding and Graduation Rates**

Over the course of time, studies on education finance have yielded inconclusive and conflicting results. Presently, however, there is a consensus that the impact of funding varies depending on its allocation. Some studies have found correlations, while others have not, primarily due to the specific focus of the funding (Hill, 2008; Verstegen, 2011). Nonetheless, there remains a need to determine the appropriate amount of funding required and where it should be targeted to make a significant difference in students' academic success (Grubb, 2006). In addition, previous studies attempted to make generalizations that extended beyond their research scope. Although Archibald (2006) drew conclusions in her research, she overlooked factors such as expenditure considerations and multiple assessments. Smith (2004) concentrated solely on one division, which imposed limitations. Archibald's study was restricted to a single state, further narrowing its scope. Consequently, the studies lacked the necessary breadth to support the generalizations made in the research. Card and Payne (2002) analyzed micro samples of SAT scores from the same period to examine whether higher or lower spending made a difference. Once again, the researchers focused on a single variable.

Another limitation was that these studies were confined to a few schools or divisions. Ilon and Normore's (2006) research focused on one state and failed to adequately distinguish the impact of class size initiatives from teacher qualifications and salaries. O'Connell-Smith's (2004) study involved only a few divisions in Minnesota. Biniaminov and Glasman (1983) collected data from a national sample of 32 secondary schools out of a total of 572, representing a mere 5.6% of the population.

Over time, research on education finance has made strides in improvement. Studies have begun incorporating more common variables. Grubb (2006) examined multiple variables and considered a broader range of resources. Grubb utilized the National Educational Longitudinal Survey of the Class of 1988 to estimate intermediate equations within a more comprehensive system, specifically focusing on the effects of funding patterns on school resources known to be effective. These effective strategies went beyond mere test scores and encompassed various educational outcomes created within the classroom.

Recent studies have built upon one another, endeavoring to establish connections. O'Connell-Smith (2004) referred to existing research to identify factors associated with increased student achievement, such as smaller class sizes, higher teacher salaries, and more experienced teachers. Furthermore, her study included teacher quality as a significant variable, building upon the 1994 study by Hedges et al. O'Connell-Smith and Card and Payne (2002) drew upon Hanushek's (1986; 1996) research to establish linkages with their own studies.

Research has achieved some success in identifying variables that are associated with student outcomes. Verstegen and King (1998) discovered that previous studies relied on assumptions that the production process could be modeled and that it was possible to estimate the contributions of individual inputs to specific and measurable educational outcomes.



However, these assumptions posed a limitation because the studies predominantly used standardized achievement test scores and family inputs, overlooking variables that might have had a closer connection to the teaching and learning process.

The graduation rate has long been a significant focus in the field of education, particularly emphasized with the recent reauthorization of the Elementary and Secondary Education Act (ESEA) through No Child Left Behind (NCLB). NCLB mandates that states use graduation rate as an academic measure for determining Adequate Yearly Progress (National High School Center, 2011). According to the federal government, graduation rate for states is defined as the number of students who graduate on time within a 4-year period, excluding General Education Diplomas (GED) and other alternative diplomas (National High School Center, 2011). Graduation rate remains a priority for the current political administration, with states forming ongoing committees to establish work readiness and graduation requirements that align with college and career readiness. In 2005, all 50 governors signed the National Governors Association (NGA) Compact Rate, aiming to adopt a standardized statistical approach for reporting graduation rates (NGA, 2006). However, due to the ever-evolving landscape, this effort is ongoing as states continue to identify needs in graduation rate calculation (NGA, 2006). These committees recognize the necessity for students to possess specific skills to thrive in the 21st century. A follow-up report to "A Nation at Risk," titled "A Nation Accountable: Twenty-five Years after a Nation at Risk" (2008), acknowledges the ongoing efforts to predict the skills and competencies students need to become productive citizens. All these predictors influence the decisions made by states regarding the knowledge and skills required for high school graduation. Furthermore, in 2008, the United States Department of Education established additional regulations and guidelines for high school graduation rates, introducing the 4-year adjusted

cohort rate as the revised measure (Morris, 2012). This new definition aimed to promote greater consistency in the calculation of graduation rates across states (Morris, 2012), and it was directly tied to adequate yearly progress for the 2011-2022 school year.

High school graduation rate data, collected over an extended period, enable longitudinal studies and can support an examination of changes across states over time (Swanson & Stevenson, 2002). By utilizing state-specific high school graduation rates, the limitation of collecting data over a prolonged duration across all states can be minimized.

Past studies lacked specificity and precision by relying on the national average for high school graduation rates. This study will focus on the fiscal effort and high school graduation rates of each state individually, allowing for greater specificity and validity (Owings & Kaplan, 2013). State high school graduation rate data has been utilized in previous studies to establish validity (Morris, 2012). This study, utilizing longitudinal state high school graduation rate data and state fiscal effort, aims to demonstrate the impact of state funding on student achievement (high school graduation rates) of African-American students in Long Island districts, which has never been tested before. .

### **Impact of District Enrollment on Graduation Rates**

Student enrollment plays a critical role in shaping public schools, particularly in terms of funding for local educational agencies. The amount of funding a school district receives is largely determined by the number and types of students enrolled. From an educational finance perspective, a higher student enrollment translates to increased funding for the district.

Conversely, a lower student enrollment not only leads to reduced funding for operating the district but also poses challenges that may require tough decisions regarding school closures, consolidations, mergers, and rezoning regulations.

Enrollment statistics hold great significance in high schools. While private schools use enrollment as a measure of success based on tuition and fees, public schools rely on enrollment data to assess educational effectiveness and student retention (National Center for Education Statistics, 2021). District enrollment provides valuable insights into various factors such as funding levels, student demographics, available programs, extracurricular activities, athletics, and overall school spirit. Furthermore, district enrollment strongly influences high school graduation rates. Active student attendance and engagement create a myriad of opportunities for academic success and personal growth.

Graduating from high school holds significant implications for a student's life, particularly in terms of financial success. Statistics indicate that high school graduates earn approximately \$700 more per week compared to high school dropouts (Bureau of Labor Statistics, 2022). High school typically spans four years, with the first year playing a pivotal role in shaping a student's educational trajectory. Data analysis reveals that around one-third of recent high school dropouts in the country never progressed beyond the ninth grade (NCES, 2022). Consequently, a crucial aspect of improving high school graduation rates should involve identifying struggling ninth-grade students and understanding the underlying reasons for their difficulties.

In the majority of New York State public school districts, it is generally required for students to reside within the local school district zone in order to enroll in the respective district. Over the past decade, there has been an observable increase in racial diversity among both the general population and students attending public schools in Long Island. Specifically, in Nassau and Suffolk Counties, the proportion of non-Hispanic Whites in the overall population of Long Island decreased from over 70 percent in 2010 to 64 percent in 2019. During this period, the

Hispanic population rose from 15 to 18 percent, and the Asian population increased from 5 to 7 percent. Despite an increase of 17,000 individuals, the African-American population remained at 9 percent. This demographic shift, combined with the potential lack of affordable housing and the discovery of housing market discrimination through a three-year investigation by Newsday, suggests that African-American families may have been disproportionately affected.

#### Figure 4

##### *Comparison Racial Composition of Long Island from 2010 to 2019 Census Data*

Table 1. Racial composition of Long Island, 2010 and 2019.

	2010 Population	2019 Population	2010 Percentage	2019 Percentage
Non-Hispanic Black	241,828	258,946	9	9
Hispanic/Latino	409,470	515,858	15	18
Non-Hispanic White	1,973,251	1,816,273	70	64
Asian	148,594	187,841	5	7
Others	38,488	61,423	1	<1
Total	2,811,631	2,840,341	100	100

Source: 2010 and 2019 American Community Survey Five-Year Estimates

Nevertheless, it is important to acknowledge that despite the overall racial diversity among students, the enrollment patterns on Long Island's public K-12 school districts remain highly segregated. An intriguing statistic reveals that in the 2019-2020 school year, more than 50 percent of the total enrollment in these districts consisted of students of color (ERASE Racism, 2022). This racial segregation contributes to significant disparities in fiscal resources among school districts due to the current funding formula implemented by the state of New York. In comparison to predominantly White districts, racially segregated districts receive less funding, experience lower financial stability in terms of income, wealth, and property values, suffer from higher teacher turnover rates, larger class sizes, a scarcity of Advanced Placement courses, and a higher workload for guidance counselors and social workers.

**Figure 5**

*Comparison of Student Demographics from 2003 – 2004 and 2019 – 2020 school years*

**Table 2. Racial composition of students in Long Island K-12 public schools, 2003-2004 and 2019-2020 school years.**

	2004 Student Percentage	2019 Student Percentage	2019 Student Population
Non-Hispanic Black	11	9	39,076
Hispanic/Latino	13	30	128,570
Non-Hispanic White	70	49	206,740
Asian	5	10	40,427
Others	1	2	10,064
Total	100	100	424,877

Source: New York State Department of Education<sup>13</sup>

Long Island and Nassau County have a well-documented history of housing discrimination that dates back several decades. In the late 1940s and early 1950s, Abraham Levitt planned and built a settlement called Levittown, consisting of 17,400 houses on 4,000 acres, primarily for returning war veterans. While this concept initially appeared promising for economic development and creating a fair society where many could benefit after sacrificing for their country, it had a significant flaw. Abraham Levitt, the mastermind behind Levittown, was a racist who explicitly designed the community exclusively for the Caucasian race. The houses in Levittown were legally prohibited from being sold or occupied by anyone other than Caucasian individuals.

As a result, Levittown remained overwhelmingly white, with only a small percentage of African American residents. This racial segregation contributed to the larger issue of segregation within Long Island communities and schools. One can only imagine the challenges faced by prospective homebuyers today who are aware of this history when considering purchasing a home in Levittown.

Another factor that further perpetuated segregation in Long Island was the actions of urban planner Robert Moses during the 1920s. Moses bulldozed African American and Latino

homes to make way for parks and constructed highways that divided minority neighborhoods. It is even said that Moses deliberately constructed low bridges on parkways leading to Long Island beaches to prevent city buses, which were likely to carry poor minorities, from passing underneath. This tactic aimed to confine New York City residents, particularly those from marginalized communities, to local beaches while excluding them from Long Island's beaches like Long Beach and Jones Beach.

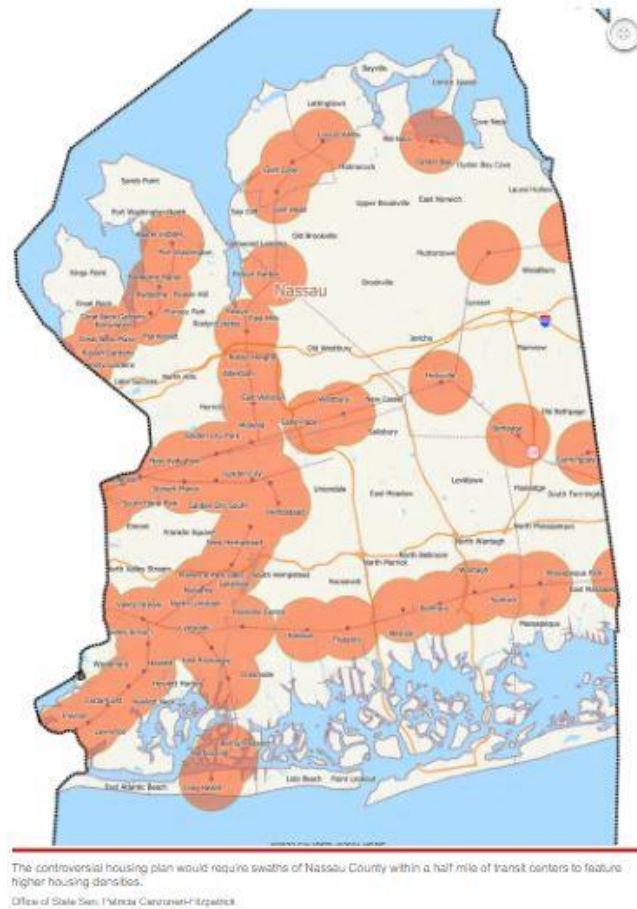
Given this historical context, it becomes clear why achieving desegregated public schools in today's climate is challenging. The foundations of society were laid with such discriminatory practices, making it difficult to dismantle the deeply ingrained segregation.

In recent times, New York State Governor Hochul made efforts to expand housing opportunities statewide, with a particular focus on Long Island. Her plan aimed to develop 800,000 housing units in identified areas across the state over the next decade. Specifically, she proposed that Long Island suburbs within fifteen miles of New York City allow for a minimum of fifty housing units per acre within a half-mile radius of any transit station. However, legislators rejected this plan, expressing concerns about changing the character of their communities. They argued that if people wanted to live in different conditions, they would choose to reside in areas like Queens instead of Nassau County.

Overall, the complex history of housing discrimination, racial segregation, and resistance to change continues to shape Long Island's communities and poses significant challenges to achieving equity and integration in the region. Here is a figure that illustrates the intended plan:

**Figure 6**

*2023 NYS Housing Plan Proposal for Nassau County*



*Note.* This proposal was submitted by Governor Hochul, but ultimately rejected.

Long Island, with its 290 communities, exhibits a striking pattern of residential segregation, particularly concerning its African-American population. The majority of African-American residents are concentrated in just 11 communities. Meanwhile, the proportion of minorities in Long Island's schools has been on the rise, driven primarily by the increasing Hispanic and Asian populations, while the representation of white students has decreased (NYSED, 2022).

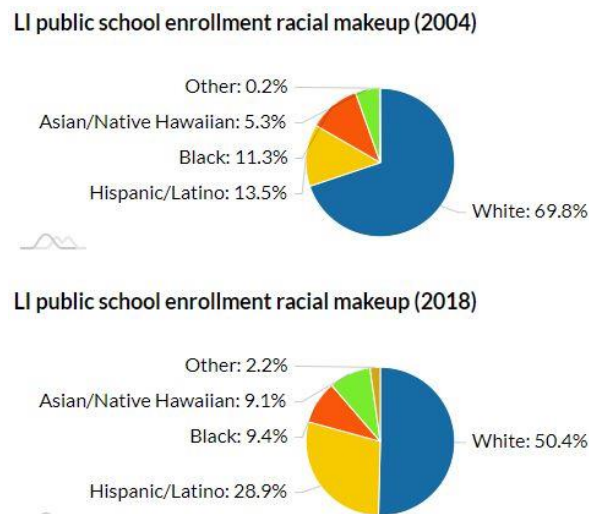
In 1976, white students accounted for a staggering 89 percent of public-school students. However, by 2021, their representation had diminished to just over 50 percent. Conversely, Hispanic students saw a significant increase from 3 percent to 28 percent, and Asian students rose from less than 1 percent to 9 percent between 1976 and 2021. In comparison, the percentage

of African-American students remained relatively stable compared to other minority groups. They constituted 7 percent of the student population in the 1976-77 school year, reached a peak of 12 percent in 2000-01, and then declined to 10 percent by 2021.

Since 2004, African-American students on Long Island have actually decreased by approximately 2%, largely due to dropping out of school as well as the charter school movement where African-American students make up the largest demographics of charter school students in New York. The below figures show a visualization of this:

### Figure 7

#### *Comparison of Long Island District Enrollment Demographics*



The enrollment patterns within Long Island districts have a substantial impact on the graduation rates of African-American students. The funding allocated to each district is directly influenced by student enrollment. Consequently, when a district experiences a decline in student numbers, it results in a surplus of funds available for the remaining students. An illustrative example of this educational disparity based on residential location is found in Nassau County's Clinton Road, which transforms into Clinton Street, effectively dividing two different districts. This division creates unequal educational opportunities and fiscal resources for students based



solely on where they reside. It is disheartening that education outcomes on Long Island are still heavily influenced by zip codes and community boundaries.

Long Island displays a troubling trend of residential segregation and disparities in educational opportunities. The concentration of African-American residents in a limited number of communities, along with the unequal allocation of resources based on residential location, hampers efforts to ensure equitable educational outcomes for all students on the island.

### **Impact of Per Pupil Expenditures on Graduation Rates**

Extensive research has been conducted on educational funding, employing various models such as per-pupil expenditures and analyses of spending practices spanning decades. Some individuals oppose calls for increased educational funding, citing research suggesting that higher expenditures have minimal impact on achievement (Hanushek, 1986). On the other hand, other studies have found a correlation between increased funding for specific school resources and student achievement (Hedges et al., 1994). These finance studies have focused on factors like class size reduction, teacher salary increases, teacher quality, professional development, leadership, and instructional materials (Darling-Hammond, 2000), aiming to determine their influence on student achievement.

The Coleman Report, also known as the Equality of Education Opportunity study, holds significant importance in the field of school finance. This federally-funded study conducted in the 1960s supported the Civil Rights Act of 1964 (Owings & Kaplan, 2013). Its primary focus was to assess equality in the educational system concerning facilities, teacher quality, socioeconomic status, curriculum, and student achievement (Owings & Kaplan, 2013). The findings indicated that schools had limited impact on student performance, but the study's significance extends beyond this outcome. The Coleman Report's methodology, which employed

a production function theory, contributed to subsequent studies in education finance (Hedges et al., 1994). Production function studies seek to establish a relationship between inputs and outputs, aiming to develop models that predict the effects of specific inputs on desired outcomes. Eric Hanushek is another influential figure in the realm of school finance and production function studies. Throughout the 1980s and 1990s, Hanushek published several articles supporting the findings of the Coleman Report. His work, spanning several decades and incorporating data from 38 different sources, focused on inputs and their impact on outcomes. Hanushek examined variables such as teacher-pupil ratio, teacher experience, teacher education, administrative inputs, and facilities. He argued that no significant relationship exists between school funding and student achievement, emphasizing the complexity of education research due to numerous variables and challenges in determining outcomes (Hanushek, 1986). Furthermore, Hanushek asserted that simply pouring money into education is not the solution to improving student outcomes (Hanushek, 1986). Instead, he has more recently suggested that the key lies in how the money is spent.

In summary, a range of research has explored the relationship between educational funding and student achievement. While some studies argue that increased expenditures have limited impact, others have found correlations between certain resources and improved outcomes. The Coleman Report's production function approach paved the way for further investigations in education finance. Eric Hanushek's work also supported the notion that school funding alone does not guarantee better student achievement, with a growing focus on how funds are allocated and utilized.

During the same period, several researchers conducted studies that found a positive correlation between increased educational funding and student achievement (Hedges et al.,

1994). These studies primarily focused on the relationship between educational funding and labor market outcomes (Owings & Kaplan, 2013). A group of economists examined the connection between school spending and adult success in terms of higher earnings, and these links were found to be significant and persistent over time (Verstegen & King, 1998). In a study by Card and Krueger (1992), earnings were used as the outcome measure instead of test scores, and they discovered significant relationships between education spending and labor market outcomes.

A growing body of research suggests that increased funding has an impact on improving student achievement. Hedges et al. (1994) reanalyzed Hanushek's data and found evidence supporting the correlation between funding and student achievement. This study, described as one of the most comprehensive syntheses of education production functions to date, demonstrated that money does matter. However, studies in this field continue to produce conflicting results, leading to an ongoing debate.

As education becomes increasingly complex, understanding how to effectively utilize funding becomes crucial. Some research indicates that funding does make a difference in certain outcomes, while other studies suggest that funding has no significant effect. The seminal studies by Coleman (1966) and Hanushek (1986; 1996) found no significant impact of expenditures on student achievement, whereas the study by Hedges et al. (1994) identified significant effects related to finance. Despite these studies, the debate persists.

A study by Heckman et al. (2016) highlighted that adequate funding for schools is a key indicator of delivering a quality education. The lack of an interdependent relationship between per-pupil school spending and measurable student outcomes, such as high school graduation rates, is surprising. Establishing a causal relationship between the two variables is challenging

due to the absence of a clear link between school spending and graduation rates. Ludwig and Miller (2016) observed that school districts with higher rates of low-income students benefited from additional state funding, but such policies were associated with an inverse relationship between school spending and measurable student outcomes for public school students.

During the 1970s and 1980s, several states underwent school finance reforms, resulting in significant changes in K-12 public education spending in the United States (Jackson et al., 2017).

These reform efforts often lowered the required state assessment scores for high school graduation. However, Hoxby (2016) found mixed evidence regarding the correlation between increased spending from financial reforms and higher dropout rates in high school, while Downes and Figlio (1998) found no significant impact on high school graduation rates. Roy et al. (2015) examined individual states that underwent school finance reform and concluded that additional funding leading to higher per-pupil spending improved test scores and graduation rates for low-income students. The studies mentioned above demonstrate that the relationship between school spending and measurable student outcomes, such as graduation rates, can yield positive, negative, and mixed results. Therefore, variations in school spending do not necessarily guarantee improved measurable student outcomes for public high school students.

Papke et al. (2015) conducted research using an event study and instrumental variables model, which suggested that increasing per pupil spending through school financial reforms improved high school graduation rates. The study found that for every 10% increase in per pupil spending, high school completion rates increased among students from wealthy income households. Additionally, a 25% increase in per pupil spending was found to eliminate gaps in graduation rates and student achievement metrics for low-income families. Card and Payne (2017) supported these findings through additional tests, showing a causal link between per pupil

school spending and high school graduation rates. Their research indicated that educational financial reforms led to increased student spending, smaller class sizes, lower dropout rates, higher teacher salaries, and improved teacher retention, resulting in improved graduation rates for public high school students.

However, Hanushek (2015) contradicted these findings by reporting negligible impact of per pupil school spending on graduation rates and student achievement measures, particularly among students from low-income backgrounds. In summary, previous studies have shown that per pupil school spending significantly influences student achievement and high school graduation rates. Notably, these studies included samples with a focus on the socioeconomic status of low-income households, suggesting a link between poverty and the impact of spending on achievement and graduation rates.

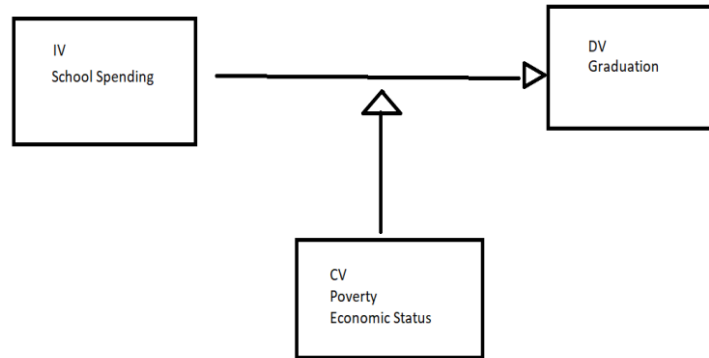
Nevertheless, other studies have reported contrasting outcomes, suggesting that per pupil school spending and graduation rates at the district level may not have a significant relationship. Instead, the level of poverty and socioeconomic status among students in public high schools appears to be the determining factor in how they benefit from spending and ultimately improve their achievement and graduation rates. While literature reviews have debated the relationship between per pupil spending and graduation rates, a distinct determination regarding this relationship remains elusive due to mixed outcomes in previous studies.

The existing gap in the literature suggests that most scholars have not thoroughly examined the specific aspects of per pupil school spending that positively, negatively, or non-significantly impact graduation rates for public high school students. Therefore, a closer analysis is necessary to determine how different components of per pupil school spending affect graduation rates across public high schools. This analysis should also consider how variables like

poverty and socioeconomic status can influence graduation rates either positively, negatively, or non-significantly.

The findings section of this study aimed to provide a detailed analysis of the latent variables associated with per pupil school spending and graduation rates, including student achievement. This analysis was conducted to establish a well-defined and analyzed relationship between these variables.

In terms of education funding, the study applied the cost function theory, which examines the relationship between input (school spending level) and output (graduation rates). The cost function theory has previously been used to assess the adequacy of school funding in various states. For example, Zhao (2021) analyzed Connecticut's education funding using cost function analysis and found that lower property wealth, high child-poverty rates, and larger student enrollments were associated with lower cost-adjusted spending and excessive costs. Similarly, Armon III (2016) applied cost function analysis in Missouri and discovered that poorer public school districts received more funding than wealthier districts, leading to underperformance. Therefore, based on the cost function theory, increased funding and spending should be directed towards public school districts that incur higher costs in order to improve measurable student outcomes. Figure 8 depicts existing school funding programs and evidence from the literature regarding the factors influencing student achievement levels.

**Figure 8***Educational attainment and poverty*

Based on the theory of cost and production function, the levels of academic achievement, which are the outputs, are influenced by the quantity of inputs, specifically educational resources. As a result, students from low socioeconomic backgrounds or living in poverty, along with other environmental factors, may have limited access to educational resources, leading to poor academic achievement. Funding policies play a crucial role in how these resources are allocated, distributed, and utilized, thereby impacting student achievement levels.

To address this issue, an empirical analysis has been conducted to assess the relationship between per pupil school spending, graduation rates, and measurable student outcomes among African-American public high school students on Long Island, New York. The study includes a review of relevant literature by previous scholars, which has revealed a gap in knowledge and understanding on this topic.

### **Impact of Class Size on Graduation Rates**

Finn and Achilles (1990) conducted research focused on the reduction of class size and its impact on student outcomes. They carried out an experiment in Tennessee where students were randomly assigned to either large or small classes. The results of their study revealed a significant positive relationship between lower pupil-teacher ratios and student outcomes. In

2003, the American Educational Research Association (AERA) extended this line of study by examining the effects of small classes on long-term achievement over consecutive years. The study found that minority and urban students were able to maintain their level of achievement even when class size increased after experiencing consecutive years in small classes (AERA, 2003).

Nyhan and Alkadry's research (1999) focused on class size and pupil-teacher ratios as well. They explored the relationship between socioeconomic factors, class size, and academic performance. Analyzing data from 531 schools in southern Florida and utilizing state achievement test data, Nyhan and Alkadry concluded that there was a correlation between socioeconomic factors, rather than class size, and academic performance. They found little to no impact of smaller class sizes on improving student achievement.

Ilon and Normore (2006) investigated the connection between class size reduction, funding, and academic achievement. Their study examined the relationship between smaller class sizes and increased achievement while also considering cost efficiency. They specifically analyzed Florida's statewide initiative to reduce class sizes, aiming to determine if this approach was more cost-effective compared to other educational inputs in the state. Ilon and Normore acknowledged a limitation in previous studies where researchers used a linear model, which may not fully capture the nested nature of educational data. To address this limitation, they employed a multilevel model for greater reliability and validity (Osborne, 2008). Additionally, they found that experimental design models had not yielded satisfactory results in the past. Therefore, they opted for a nonexperimental design using raw data from Florida schools, including budget information. The findings indicated that reducing class size in these Florida schools was the least cost-effective method for improving test scores. The researchers confirmed that class size



reduction was not more cost-efficient than hiring teachers with higher qualifications, such as master's degrees.

Hattie's meta-analysis in 2009 examined the variable of class size and concluded that the impact of class size on student achievement is minimal. One contributing factor to this limited effect is attributed to teachers not adopting new teaching methods. Many teachers continue to use large-group strategies, which prevent them from fully capitalizing on the opportunities provided by smaller class sizes, such as individualized instruction (Finn, 2002).

While class size can have positive effects in certain circumstances, particularly when linked to improving teacher quality, it is crucial to consider both factors together. The billions of dollars being invested in reducing class size should be reconsidered if these two elements are not addressed simultaneously (Hattie, 2009).

During the 1980s and 1990s, class size was a major concern in academic expenditures as a means to enhance student achievement. This emphasis led to extensive research to determine whether focusing on expenditures yielded statistically significant outcomes (Odden & Piccus, 2011). MacPhail-Wilcox and King (1986) examined 44 studies and concluded that smaller class sizes did contribute to increased student achievement, but they did not provide specific details about coefficient signs or effect sizes. Finn & Achilles (1990) suggested that smaller class sizes had a positive impact on academic performance in the early grades but diminished as students advanced. This conclusion was drawn from their study in Tennessee where students were assigned to either larger or smaller classes. Finn & Achilles (1990) emphasized that there are limits to the benefits derived from reducing class sizes, particularly in early educational environments, although disadvantaged minorities may experience even better results. They also asserted that class size remained significant within the range of 22 down to 15 students. On the

other hand, Greenwald et al. (1996) believed that class size produced inconclusive and highly variable results, despite stating that overall expenditures did lead to positive academic outcomes. In Hattie's meta-analysis in 2017, mixed results were found, leading to the conclusion that class size reduction was not a worthwhile investment when evaluated at a macro level considering the entirety of previous examinations. Addonizio & Phelps (2000) conducted a comprehensive examination of class sizes that yield diminishing returns in comparison to expenditures. Their findings revealed that reducing class sizes below 15 in elementary grades and below 18 in middle and high schools did not yield substantial improvements in student achievement. However, they did identify significant returns from class size reduction until reaching those thresholds. Versteegen & King (1998), analyzing data from studies by MacPhail-Wilcox and King (1986), Hanushek (1986; 1989; 1994), and Hedges, Laine, & Greenwald (1994a), similarly concluded that class sizes below 18 remained statistically significant.

### **Impact of Teacher Experience on Graduation Rates**

For decades, researchers have investigated the relationship between staff qualifications, instructional quality, and student achievement. Bidwell and Kasarda (1975) and Phillips (2010) discovered that hiring highly qualified teachers had a positive impact on mathematics and reading academic performance. Bidwell and Kasarda's study revealed that both high funding and staffing qualifications, defined by college completion and the willingness to invest in highly qualified teachers, positively influenced academic achievement (Bidwell & Kasarda, 1975). Phillips suggested that smaller investments in instructional quality and other educational strategies could lead to gains in achievement. Hedges et al. (1994) found statistically reliable evidence linking staff qualifications, instructional quality, and increased student achievement. Darling-Hammond (2006) emphasized the importance of teacher quality factors, such as content

knowledge, skillful teaching, ongoing professional development, and verbal ability, in influencing student outcomes. These qualities help students overcome demographic challenges, including poverty.

Hattie's meta-analysis in 2009 supported the idea that teacher actions significantly impact student success. His research examined various aspects of teacher quality, including teacher effects, influences, questioning techniques, and teaching and learning strategies. Hattie emphasized that teachers who adopt deliberate and visible teaching practices can make a difference. These practices involve adjusting instruction based on students' learning progress, setting challenging goals, and providing multiple opportunities for students to acquire and apply knowledge. Effective questioning and teaching strategies were also identified as key factors in student achievement. Hattie cited studies by Wiggins and McTighe (2005) that supported the benefits of direct instruction and research emphasizing the importance of engaging students in active thinking through active teaching.

Consistent educational research confirms that the quality of the classroom teacher plays a vital role in student achievement. Ferguson (1991) found that teacher experience was associated with higher test scores, and in grades 1-7, smaller class sizes down to 18 students contributed to increased scores. Card and Krueger (1992) discovered that teacher experience and class size influenced student success and future earnings. They also highlighted the positive impact of teacher pay on teacher quality, even after adjusting for socioeconomic status. Odden et al. (1996) argued that increasing teacher salaries and reducing class sizes alone did not significantly improve student achievement without proper teacher training to enhance expertise. Hartman and Boyd (1998) reported that research on the effectiveness of spending categories emerged during the 1980s when there was a political push to increase productivity without a proportional

increase in spending. Wenglinsky (1997), analyzing data from the US Department of Education, found that increased spending on district administration and classroom instruction, leading to smaller class sizes, had a statistically significant effect on student achievement. Elliot (1998), using data from the National Education Longitudinal Survey of 1988, revealed that teacher experience significantly impacted student mathematics and science achievement scores in grades 8 to 10. However, there were non-statistically significant positive effects related to teacher education and negative effects when class size dropped below 13. In a newly released study, Abbott, Kogan, Lavertu, & Peskowitz (2020) demonstrated that increasing spending on teacher salaries instead of hiring more teachers for smaller class sizes resulted in increased test scores by approximately 0.15 standard deviations and graduation rates by approximately 9 percentage points for every \$1000 increase per pupil.

Hanushek (1994) argued that teaching experience had a significant impact on student outcomes but proposed a theory that experienced teachers achieved better results because they taught higher-level classes with more capable students. However, the only supporting evidence for this claim was a small study conducted by Greenberg and McCall (1974) in the San Diego school district. This study did not directly support Hanushek's assertion; instead, it found that teachers with seniority within a district chose to move to schools with higher socioeconomic status (SES) when their salaries remained the same. The study did not investigate the differences between teachers of varying experience levels in similar SES environments. Thus, Hanushek's assertion lacked strong evidence and contradicted the findings of his previous nationwide study.

In Hanushek's earlier work (1989), he suggested that overall teacher salaries might be too low to attract talented teachers. He also proposed that merit-based pay could be necessary to reduce turnover in high-need areas such as STEM and retain high-quality teachers, as longevity

in teaching correlated with higher test scores. A survey conducted by Marder, Brown, and Plisch (2017) indicated that increased salaries would generate more interest in STEM teaching positions. However, Hanushek (1994) argued that if more money were spent on schools to increase teacher salaries, it would slow turnover and discourage dynamic new teachers from entering the field. This stance contradicted Hanushek's earlier paper (1986) that proposed increased pay as a means to attract better teachers. Hanushek (1994) later advocated for screening teachers based on ideal attributes and implementing incentive structures tied to student achievement (Hanushek, 1997). In his research, Hanushek synthesized various potential causes but ultimately concluded that broad increases in expenditures did not yield statistically significant positive outcomes when examining national data. Hedges, Laine, and Greenwald (1994a) refuted Hanushek's claims after analyzing his data and emphasized that teacher experience did have a statistically significant impact on student achievement outcomes.

Verstegen and King (1998), in their examination of Hanushek's studies, also found that teacher experience had a significantly positive effect on student achievement, while noting the positive outcomes associated with other factors such as teacher verbal ability and education levels. Ferguson (1991) reported that in Texas, teacher experience did not affect test scores when controlled for teacher quality, measured by recertification and ACT scores (Hoxby & Kuziemko, 2004). Odden (1995) acknowledged that performance-based incentives for teachers had not been successful historically but theorized that this was due to competition between teachers. Odden (1995) believed that merit-based pay tied to skills and knowledge, rather than experience and seniority, could positively impact student performance. Ferguson and Ladd (1996) extended this research by examining the impact of teacher verbal ability and exam scores, finding both to be significant factors in student academic achievement, indicating that quality outweighed

experience. Verstegen and King (1998), considering the research from various perspectives, concluded that both experience and teaching traits contributed to student academic achievement. Overall, research on performance-based incentives for teachers has yielded either no statistical correlation with success or a negative one (Jackson, 2018; Ladd, 2011; Verstegen & King, 1998).

### **Impact of Poverty Rates on Graduation Rates**

The relationship between poverty and education within educational systems has long been acknowledged. Recent data reveals that in 2020, one in six children in the United States lived in households with incomes below the federal poverty line (Freitag & Hill, 2022). Poverty has been found to increase the likelihood of mental, behavioral, and emotional challenges among students. Various factors, including perceived parental investment, housing instability, and limited resources, contribute to the negative academic impact experienced by students living in poverty. It is evident that poverty adversely affects high school graduation rates and the future earning potential of students. Dropping out of high school significantly limits opportunities in both the workforce and society as a whole. It is worth noting that African-American adolescents growing up in high-poverty and high-unemployment communities have a 76 percent chance of graduating, compared to a 96 percent chance for those in wealthier neighborhoods. Similarly, white children in affluent neighborhoods have a 95 percent high school graduation rate, while those in low-income areas have an 87 percent likelihood (Wotdke, 2011).

To address the educational needs of students growing up in poverty, various positive strategies can be implemented. Enhancing communication between schools and families and increasing parental investment are key approaches. By considering factors such as perceived parental investment, housing, and lack of resources, educators can support the academic success of students facing poverty-related challenges.

Undoubtedly, poverty significantly hinders high school completion and adversely affects students' academic performance. Students raised in poverty often encounter difficulties in completing their high school education due to various reasons, including mental, physical, and emotional distress. Growing up in poverty negatively impacts students' health, well-being, language and literacy development, as well as access to material resources and opportunities for mobility (Parrett & Budge, 2016). Rumberger (2013) identifies two types of poverty—family poverty and community poverty—that have detrimental effects on students' educational outcomes.

Multiple factors contribute to graduation rates, including perceived parental investment, housing stability, and access to resources. These factors have cognitive, emotional, and physical implications for students, and each issue encompasses multiple elements. Leon and Spengler (n.d.) emphasize the importance of parent/guardian involvement, support at home and school, and effective communication between schools and parents/guardians as key components in many potential solutions. By engaging all stakeholders and fostering positive attitudes, students living in poverty can be positively influenced and supported to achieve their academic potential.

### **Impact of COVID-19 on Education and Graduation Rates**

Long Island has been severely impacted by the COVID-19 pandemic, particularly affecting Black, Latinx, and low-income children due to pre-existing health disparities, limited community resources, and chronically underfunded schools. Nassau and Suffolk counties have witnessed some of the highest infection and death rates in the state. The challenges brought by the novel coronavirus have reverberated throughout the school communities in Long Island. Apart from dealing with illness and grief, schools are also grappling with the dilemma of whether to reopen and facing additional financial burdens without receiving any extra aid. In the

communities most affected by COVID-19, students are expected to do more with fewer resources. It is unfair for Black, Latinx, low-income, and immigrant students to bear the burden of the state's reluctance to tax the ultra-wealthy while implementing severe budget cuts in education.

Communities recognize that in order to ensure safety and foster learning, the upcoming school year must prioritize healing and student-centered approaches. The voices of parents, students, educators, and community members must not only be heard but actively included in the decision-making process. Whether schools reopen in person, virtually, or through a combination of both, each locality must develop a clear, inclusive, and transparent plan that addresses the specific needs of the community. This plan should include measures to guarantee connectivity and access to online resources, along with appropriate and up-to-date hardware and training for teachers to effectively facilitate remote learning. It should prioritize the safety of students who have no alternative but to attend in person or for whom in-person learning is developmentally and educationally necessary. Additionally, the plan should outline protocols in case of closure or illness. These considerations should be integral to every plan, requiring adequate funding and resources.

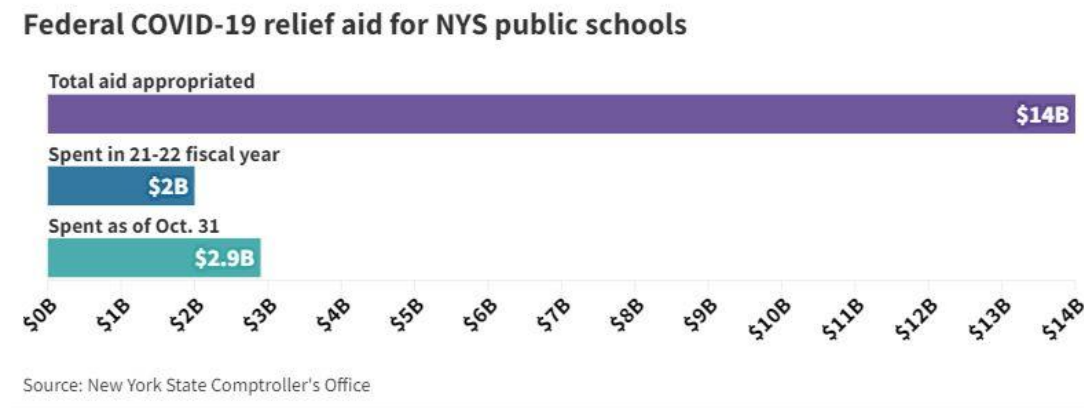
Last year, New York experienced a slight increase in its high school graduation rate after end-of-year exams, normally required for a diploma, were canceled due to the pandemic. Instead, students were evaluated based on locally developed tests, coursework, and projects. The graduation rate for students who completed high school in 2021 reached 86.1%, compared to 84.8% the previous year. Data showed improvements across various subgroups, including Black, Latino, American Indian, Asian American, and Pacific Islander students, while the graduation rate for white students remained stagnant at just over 90%.



Since 2020, federal authorities have allocated \$14 billion in relief funds to schools throughout the state, including over \$520 million for Nassau and Suffolk counties. The decisions on how to utilize these funds were left to local control, resulting in some districts addressing basic needs for remote or hybrid instruction by providing technological devices and connectivity, while others focused on significant improvements to ventilation, filtration, and infrastructure. These relief funds, provided through the CARES Act, CRRSA, and ARPA, were meant to address non-recurring expenses, as the allocations are set to expire in September 2023 and September 2024, respectively. The below figure shows a visualization of federal funds allocated to public school districts in New York:

**Figure 9**

*NYS Public Schools’ Federal COVID-19 Relief Aid Allocated and Expended*



The infusion of these funds has led to substantial increases in per pupil spending for districts, although the specific expenditures vary depending on the approved spending plans of each local school community. As the relief funds come to an end in the near future, ensuring fiscal sustainability in New York remains a top priority for legislators and educational stakeholders.

**Chapter Summary**

In conclusion, previous research studies regarding each of the five determinants in this study exhibited tested procedures, flaws, limitations, and hinted at the need for continued research in this area. Also, the impact of a global pandemic put Long Island, New York, the country, and the world in a state of flux entering into uncharted territory to resume instruction. While spending was definitely higher in the years of this study, there were so many variables and individual priorities of what needed to be addressed to meet the needs of students and communities. The research did not present a holistic picture of educational funding and its impact on student achievement. This study expanded education finance research through a longitudinal study over 3 years. This study is unique because it analyzed all Long Island public school districts and five fiscal determinants from Long Island, New York over a 3-year period (2019 – 2022) using a consistent indicator of high school graduation rates.

### CHAPTER 3: METHODOLOGY

This chapter describes and justifies the research methodology utilized in conducting the study. A research methodology describes the specific techniques and approaches applied in identifying, attaining, analyzing, and understanding data regarding the research question (Clarke & Visser, 2019). The research methodology helps the reader to critically evaluate the findings' reliability, validity, and overall value (Henson et al., 2020). Key areas of the research methodology describes in this section are the methods and design, research questions and hypotheses, population, sampling, and data collection and instruments used in the study. The study's design is also discussed in this chapter. This discussion includes consideration of the sample, data sources, measures, data analytic techniques, and a priori criteria.

#### **Overview of Methodology**

This study employed a non-experimental, ex post facto design to address the research questions. Ex post facto designs aim to determine if preexisting conditions have led to significant differences between compared groups (Cohen, Manion, & Morrison, 2007). In cases where causal relationships are examined, certain phenomena are better analyzed by studying naturally occurring groups rather than manipulating random samples. The study utilized a posttest-only, non-equivalent group research design due to the absence of random assignment of the independent variable. The ex post facto research design was employed to investigate the data in this study. Ex post facto research designs are often considered pseudo experimental and quantitative in nature. As Kerlinger (1973) explains, ex post facto research involves a systematic empirical inquiry in which the researcher does not have direct control over independent variables because their manifestations have already occurred or are inherent. The ex post facto research design examines the impact of an event on an outcome to establish a causal link.

In this study, the five predictors (per pupil expenditures, class size, enrollment, poverty rate, and teacher experience) differed in their high school graduation rates and the percentage of funding (fiscal effort) allocated to public school K-12 education. The objective of this study was to investigate whether the studied variables, or fiscal determinants, significantly influenced the high school graduation rates (criterion variable) of African-American students in Long Island districts. The chosen method follows an established research design to analyze experimental components and generate quantitative outcomes that can inform the allocation of future educational funds. The study aimed to identify cause-and-effect relationships between fiscal determinants and graduation rates among African-American students in Long Island districts. Given the ethical concerns of withholding state funding from random states, the study relied on existing data. The predictor and criterion variables were examined using data points over a three-year period. The state high school graduation rate was selected as the criterion variable because it is a figure calculated and reported by all states for federal educational accountability. The study population consisted of 115 Long Island districts over a three-year period.

Multiple regression models were used to understand the relationship between predictor variables and the criterion variable. Specifically, regression analysis helped identify how changes in any one of the predictor variables affected the value of the criterion variable. Regression analysis commonly estimates the conditional expectation of the dependent variable given the independent variables (Aiken & Stephen, 1991). Additionally, repeated measures ANOVA was employed to test changes in means over time (Trochim, 2001). Consequently, the researcher was able to determine the relationship between the outcome variable (high school graduation) and the predictor variables (per pupil expenditures, class size, enrollment, poverty rate, and teacher experience) collectively.

The study involved short-term trend analysis using data from a three-year period. The researcher assessed growth and trends by examining the slope in relation to regression. The study utilized a common indicator employed by states and encompassed multiple years of data. Data for each determinant from the 2019-2020, 2020-2021, and 2021-2022 school years, as well as high school graduation rates of African-American students in Long Island districts, were collected. The data sources for this study included the New York State Education Department, the Office of the State Comptroller of the State of New York, and the National Center for Educational Statistics.

### **Research Site**

The focus of this study was the Long Island region of New York, which includes 56 public school districts in Nassau County and 69 public school districts in Suffolk County. Located in the southern part of New York State, this area is considered downstate (NYSED, 2023). Nassau County encompasses the western section of Long Island, covering approximately 285 square miles. In the 2021-2022 school year, there were around 16,300 twelfth-grade students enrolled in approximately 62 public high schools in Nassau County. Among them, 1,651 students identified as Black or African-American, and 4,672 students were classified as economically disadvantaged (NYSED, 2023).

Suffolk County, on the other hand, encompasses the eastern section of Long Island and spans approximately 912 square miles. In the 2021-2022 school year, there were approximately 19,522 twelfth-grade students attending around 65 public high schools in Suffolk County. Among these students, 1,561 identified as Black or African-American, and 7,230 students were classified as economically disadvantaged (NYSED, 2023).

### **Population and Sample**

The population for this study consists of public high schools in the Long Island Region of New York, which includes all the persons or objects that share similar characteristics and are the focus of the scientific inquiry.

The sample size comprises approximately 115 Long Island public high schools that submitted a report card to the New York State Education Department for the school years 2019-2020, 2020-2021, and 2021-2022. This sample represents approximately 79.2% of all 125 public school districts in Long Island. It should be noted that some districts only include elementary schools or go up to the eighth grade. The sample consists of 58 (45.48%) public high schools in Nassau County and 69 (54.52%) public high schools in Suffolk County. The unit of analysis in this study is the school district to which each high school belongs. The criterion variable of the study is the graduation rate.

### **Research Methods and Design**

This study employed a quantitative correlational research design to investigate the research questions. Quantitative research involves the quantification of variables and the use of statistical techniques to draw conclusions (Queiros et al., 2017; Apuke, 2017). It is characterized by its ability to search for cause-and-effect relationships, test hypotheses, and make predictions based on numerical data. The primary focus of this study was to examine the relationship between school funding and graduation rates, making the quantitative method an appropriate choice. This approach offers advantages in terms of precision, reliability, and generalizability (Queiros et al., 2017). However, it should be acknowledged that quantitative research in secondary education may face limitations due to data availability. In this study, a correlation

research design was employed to explore the relationship between per pupil school spending and the graduation rates of African-American public high school students in Long Island, New York.

Correlational research design, as described by Apuke (2017), relies on statistical techniques to identify the type and strength of relationships between variables. While it allows for the identification of patterns and trends in the data, it does not establish causation. Therefore, the current study focused on examining the nature and strength of the relationship between the independent and dependent variables.

The study addressed the following research questions:

- Is there a relationship between per pupil school spending and the graduation rates of African-American public high school students in Long Island, New York?
- Does the poverty rate of students' households relate to the graduation rates of African-American public high school students in Long Island, New York?
- Is there a relationship between district median teaching experience and the graduation rates of African-American public high school students in Long Island, New York?
- Does district enrollment relate to the graduation rates of African-American public high school students in Long Island, New York?
- Is there a relationship between class size and the graduation rates of African-American public high school students in Long Island, New York?
- Are there any trends in the fiscal determinants concerning the graduation rates of African-American students in Long Island districts?

### **Research Hypothesis**

Many sets of research hypothesis were tested. The null ( $H_0$ ) and alternative hypotheses ( $H_1$ ) corresponding to the research questions are:

**Research Question 1.**

Does per pupil school spending relate to the graduation rates of African-American public high school students in Long Island, New York?

*H<sub>0</sub>*: Per pupil school spending does not have a meaningful relationship with graduation rates among African-American public high school students in Long Island, New York schools.

*H<sub>1</sub>*: There is a significant relationship between per pupil school spending and graduation rates among African-American public high school students in Long Island, New York schools.

**Research Question 2.**

Does poverty rate of students' households relate to the graduation rates of African-American public high school students in Long Island, New York?

*H<sub>0</sub>*: Poverty rate does not have a meaningful relationship with graduation rates among African-American public high school students in Long Island, New York schools.

*H<sub>1</sub>*: There is a significant relationship between poverty rate and graduation rates among African-American public high school students in Long Island, New York schools.

**Research Question 3.**

Does district median teaching experience relate to the graduation rates of African-American public high school students in Long Island, New York?

*H<sub>0</sub>*: Teacher experience does not have a meaningful relationship with graduation rates among African-American public high school students in Long Island, New York schools.



$H_1$ : There is a significant relationship between teacher experience and graduation rates among African-American public high school students in Long Island, New York schools.

**Research Question 4.**

Does district enrollment relate to the graduation rates of African-American public high school students in Long Island, New York?

$H_0$ : District enrollment does not have a meaningful relationship with graduation rates among African-American public high school students in Long Island, New York schools.

$H_1$ : There is a significant relationship between district enrollment and graduation rates among African-American public high school students in Long Island, New York schools.

**Research Question 5.**

Does class size relate to the graduation rates of African-American public high school students in Long Island, New York?

$H_0$ : Class size does not have a meaningful relationship with graduation rates among African-American public high school students in Long Island, New York schools.

$H_1$ : There is a significant relationship between class size and graduation rates among African-American public high school students in Long Island, New York schools.

**Research Question 6.**

Are there trends of the fiscal determinants in relation to the graduation rates of African-American students in Long Island districts?

*H<sub>0</sub>*: There are no trends of fiscal determinants with a meaningful relationship with graduation rates among African-American public high school students in Long Island, New York schools.

*H<sub>1</sub>*: There is a significant relationship between trends of fiscal determinants and graduation rates among African-American public high school students in Long Island, New York schools.

To address the first five research questions, a multiple linear regression analysis was conducted to examine the relationship between the independent and dependent variables and determine if a linear relationship existed (Fields et al, 2015). This approach allowed for assessing the relative contribution of each predictor to the outcome. The last research question was addressed using an independent one-way ANOVA, which provided descriptive statistics and reported the statistical significance of the results. The research design adopted for this study was ex post facto, and a predictive model based on multiple linear regression was utilized to explore the extent to which the duration of exposure to educational equity policies predicted high school graduation rates for Black students.

To perform the multiple linear regression analysis and test the hypotheses, Stata version 18 and Microsoft Excel version 2010 were employed. The association between the independent and dependent variables was examined, and additional predictors were added to enhance the reliability of the results and explain the variations in the outcome variable (Fields, 2015). According to Fields, a predictor that significantly contributes to the predictive power of the model is retained, while others are considered (p. 322).

The first predictor added in this study was per pupil expenditures (labeled as perpupilexp000). The importance of money in education and its correlation with measurable

student outcomes led to its inclusion. The 2019-2020, 2020-2021, and 2021-2022 school years were particularly relevant due to the potentially higher per pupil expenditures resulting from the impact of the COVID pandemic and federal fiscal intervention during this period. Another predictor introduced was the percentage of the poverty rate of economically disadvantaged students (labeled as povrate). Previous research acknowledged poverty as a factor influencing graduation rates, and it was selected based on findings from Gordon and Cui (2014), Rebell (2012), Johnson Jr. (2010), Day et al. (2015), Ransdell (2012), and Olszewski-Kibilius et al. (2017). Teacher experience (labeled as tchrmdexp) was included as a predictor due to the significant impact teachers have on their students. It was hypothesized that longer tenures would lead to increased graduation rates, especially for African-American students in Long Island districts. Enrollment (labeled as enrollment) was added as a predictor to account for the changing demographics in Long Island public schools, with a noticeable increase in minority students compared to a decade ago. Lastly, class size (labeled as classsize) was considered as a predictor, although its impact was expected to be less significant due to the pandemic-induced shift to remote and hybrid instructional models. The dependent variable, graduation rates for Black students, was labeled as gradrate in both Stata and Excel.

To ensure the validity of the analyses, the assumptions for ANOVA and multiple linear regression were examined and satisfied. The normality test confirmed that each group was drawn from a normally distributed population, with skewness and kurtosis values less than |2|. The homogeneity of variances assumption was met, as indicated by a nonsignificant Levene's F test. The independence of samples assumption was also satisfied since all groups were independent. For multiple linear regression, additional assumptions were checked using Stata and Excel. Homoscedasticity, which assumes equal error variances for all values of the predicted dependent

variable, was confirmed by plotting the standardized residuals against the unstandardized predicted values. Multicollinearity, which occurs when predictors are linearly correlated, was assessed using the variance inflation factor (VIF). Finally, the presence of outliers was examined to ensure their impact on the regression line was not significant (Fields, 2015).

### **Validity and Reliability**

The primary concern regarding the validity of this research was the use of archival data. The data for both the dependent and control variables were previously collected by Long Island school districts and reported to the New York State Education Department (NYSED) for annual data reporting. Subsequently, the data was forwarded to the National Center for Education Statistics (NCES) for inclusion in national statistics. Construct validity limitations arise from the assessment tools employed by each school district to gather their data.

The data underwent a transfer process, starting from the initial assessment tool used by school districts, then passing through NYSED at the state level before reaching NCES at the United States Department of Education (federal level). Although all 731 public school districts in New York State, including the 115 districts in Long Island used for this study, were provided with specific instructions for data collection, there is a possibility that some district employees who recorded the data may have interpreted the questions differently. For the purposes of this research, it was assumed that each data collector interpreted the questions accurately, thus ensuring a valid data source.

This data set, which was used by the United States government to report on the state of education in America to Congress and the public for the 2019-2020, 2020-2021, and 2021-2022 school years, was considered trustworthy, valid, and applicable to the current research. It was further

assumed that all policy manuals contained accurate and up-to-date information, providing reliable data sources.

### **Data Source**

Data for this study have already been created and are available to the public. The data analyzed in this study were selected from the New York State Education Department's Annual Report Cards for school districts for the 2019-2020, 2020-2021, and 2021-2022 school years (NYSED, 2023). These datasets are publicly available from the New York State Education Department's website. Also, expenditures of districts' spending were obtained from the Office of the State Comptroller of New York's website from a publicly accessible repository of school district financial information. Lastly, graduation rates at the national level were obtained from a database from the National Center for Education Statistics.

### **Measures**

This study incorporated various measures to examine the graduation rates of African-American students in Long Island public high schools during the 2019-2020, 2020-2021, and 2021-2022 school years. The primary dependent variable was the percentage of graduation rates among African-American students (gradrate), measured in percentage points ( $M = 63.26$ ,  $SD = 16.19$ , Minimum = 11, Maximum = 100).

Several independent variables were considered as potential predictors of graduation rates, including:

- School district budgetary investments per pupil (pupilexp000), measured in \$1,000 increments ( $M = 16.93$ ,  $SD = 3.15$ , Minimum = 12.80, Maximum = 25.02).
- School district average class size (classavgsize), measured in the number of students ( $M = 21.48$ ,  $SD = 1.68$ , Minimum = 16.00, Maximum = 25.00).

- School district median teaching experience (medtchexp), measured in years (M = 11.15, SD = 2.47, Minimum = 7.00, Maximum = 18.00).
- School district student enrollment (enroll000), measured in increments of 1,000 students (M = 4.63, SD = 3.02, Minimum = 0.25, Maximum = 17.16).
- School district poverty rate (povrate), measured in percentage points (M = 12.93, SD = 16.82, Minimum = 0.00, Maximum = 89.00).
- School district location (county), represented as a binary variable: 1 for Suffolk County (56.52%) and 2 for Nassau County (43.48%). Suffolk County was considered as a proxy for suburban/rural location, while Nassau County represented an urban location.

These measures were employed to explore their potential impact on the graduation rates of African-American students in Long Island public high schools.

### **Data Analysis**

This study utilized several software applications, including Stata/BE version 18, Microsoft Access version 2016, and Microsoft Excel version 2016. Within Stata/BE version 18, the researcher employed specific ado programs such as betacoeff (Baum, n.d.), regtabbeta (Red Owl, n.d.), and viftable (Red Owl, n.d.).

The primary analytical technique employed in this study was multiple regression analysis. The analysis established a predetermined criterion and decision rules. The alpha level for accepting statistical significance was set at  $\alpha = .05$  for both the F statistic and the t statistics associated with individual regression coefficients. The researcher utilized the R<sup>2</sup> value as an indicator of the regression model's goodness of fit. Additionally, the Adjusted R<sup>2</sup> was considered important, with a criterion of .030 for assessing the difference after adjustment.

The analysis also involved calculating standardized regression coefficients (beta weights) and determining 95% confidence intervals (CI). The researcher developed a combined marginsplot that depicted predicted graduation rates along with their corresponding 95% CI for different levels of each predictor variable. This combined marginsplot aimed to visualize the predicted graduation rates among African-American students in Long Island public high schools, considering various levels of the independent variables.

To investigate multicollinearity in the regression model, the variance inflation factors (VIF) of the predictor variables were reviewed. Three predefined acceptance criteria were established: (a) Mean VIF  $\approx 1$ , (b) No VIF  $> 10.00$ , and (c) all  $1/\text{VIF} \geq .20$ . If excessive multicollinearity was detected based on the VIF tests, the regression model was modified to address this issue.

### **Ethical Considerations**

To ensure the confidentiality of Long Island school districts, data coding techniques were employed to prevent any identification. As all the data used in this study were publicly available, informed consent was not required. Nevertheless, any identifying information present in the data was either coded or removed. There was no direct contact made with any school districts, employees, or students during the data collection process.

Data security measures were implemented by storing the data on a laptop computer protected by a password. Additionally, the data were backed up on a password-protected USB drive. The USB drive was securely stored in a locked file cabinet, separate from the laptop computer, for a duration of 5 years. These precautions were taken to maintain the security and integrity of the data.

### **Summary**

The chapter began by introducing the objective of this study, which aimed to assess whether certain predictors (1) per pupil expenditures, (2) teacher median experience, (3) class size, (4) district enrollment, and (5) poverty rate could be used to predict graduation rates for African-American students in Long Island districts. The choice of an ex post facto research design was justified due to the existing conditions in the independent variables. The research questions and hypotheses were restated, with the central question being the examination of the statistical significance of any fiscal determinants as predictive measures for high school graduation rates among African-American students.

Regarding the methodology section, the population under this study comprised 115 Long Island school districts. The chapter provided definitions for the variables used in the research. Secondary data from NYSED, Office of the State Comptroller of the State of New York, and the National Center for Education Statistics for the 2019 – 2020, 2020 – 2021, and 2021 – 2022 school years were collected to obtain the dependent variable (graduation rates) and the independent variables (per pupil expenditures, class size, teacher experience, district enrollment, and poverty rate). Analyzing the data involved employing an independent one-way ANOVA and multiple linear regression to address the research questions. Statistical assumptions were verified and met using Stata and Excel. The primary challenge to the study's validity was the reliance on secondary data. Ethical considerations were assessed, and measures were taken to ensure confidentiality based on the guidelines of the Institutional Review Board (IRB). Chapter 4 presents descriptive statistics and findings from the multiple linear regression analysis.



**CHAPTER 4: RESULTS**

Table 1 presents the results of the regression analysis, highlighting three predictors that exhibited statistical significance in relation to school districts' college-going rates: (a) per pupil expenditures, (b) district enrollment, and (c) median teaching experience. The regression model as a whole was found to be highly statistically significant ( $F(8, 83) = 19.358, p < .001$ ), explaining approximately 62% to 65% of the variance in school districts' college-going rates ( $R^2 = .65, \text{Adjusted } R^2 = .62$ ).

*Multiple Regression Analysis of the Effect of Determinants on Graduation Rates of African-American Students in Long Island Districts*

Determinant	b	SE	t	p	LL	UL	Beta
Per pupil expenditures \$1,000s	2.69	0.146	4.853	< .001	1.082	3.393	.418
Average class size in district	0.51	0.105	0.253	.779	-1.301	1.719	.029
Median teaching experience in district in years	-1.143	0.084	-1.692	.094	-2.311	-0.125	-.137
Student enrollment 1,000s	0.022	0.024	0.180	.861	-0.725	0.692	.017
Poverty rate %	-0.025	0.031	-1.181	.224	-0.368	0.088	-.105
Long Island county Suffolk: 1 Nassau:2	2.765	2.493	1.552	.277	-2.215	7.745	.121
Constant	-123.211	94.649	-1.592	.124	-336.967	42.455	

*Note.*  $N=115; F(8,83) = 18.494; R\text{-square} = .651; \text{Adj. } R\text{-square} = .617; \text{RMSE} = 10.016$   
 \* $p < .001$

To visually illustrate the effects of these predictors on the college-going rates of districts, Table 2 displays the statistical summary of each determinant.

Source	SS	df	MS	Number of obs =	115
				F (6, 85) =	18.49
Model	512.042743	6	85.3404572	Prob > F =	0.000
Residual	392.225764	85	4.61442075	R-squared	0.6663
				Adj R-squared =	0.6356
Total	904.268507	91	9.93701656	Root MSE =	10.013

gradrates	Coefficient	Std. err.	t	P>t	[95% conf. interval]
classavgsz	0.269004	.7464257	0.22	0.000	-.9815339 1.392669
medtchexp	-1.219345	.5529435	-2.01	0.029	-2.3010221 -0.128943
enroll000	0.639485	.0385458	0.14	0.832	-.729489 0.840348
povrate	-0.135454	.125324	-1.17	0.219	-.407388 0.934353
pupilexp000	2.033468	.501943	4.03	0.000	-.0368235 0.0877339
county	2.438479	2.429766	1.04	0.224	-2.038490 7.349201

The Variance Inflation Factor (*VIF*) tests, whose results are presented in Table 3, did not indicate excessive multicollinearity based on the a priori criteria established in the methods

described above. No *VIF* exceeds 10.00, no  $1/VIF$  is less than .20, and the mean *VIF* is not substantially different from 1.00. Therefore, all hypothesized predictors were retained in the regression model.

Predictor	VIF	1/VIF
pupilexp000	2.288	.437
classavgsiz	1.504	.665
medtchexp	1.692	.591
enroll000	1.324	.755
povrate	1.022	.978
county	1.211	.826
Mean	1.510	

The regression results shown in Table 1 provide the empirical evidence for the responses to the research questions that guided the study. The responses to the research questions are discussed in turn below.

### **Per Pupil Expenditures and Graduation Rates of African-American Students**

The first research question examines the impact of per pupil expenditures on the graduation rates of African-American students in Long Island districts. According to the findings presented in Table 1, the level of budgetary resources allocated by school districts to their students, measured as per pupil expenditures in thousands of dollars, displayed a highly significant positive effect ( $p < .001$ ) on the high school graduation rates of African-American students, even after accounting for other variables in the model. For every additional \$1,000 spent per pupil, there was an average increase of approximately 2.09 percentage points in graduation rates. The 95% confidence interval suggests that this change could range from a minimum of 1.08 percentage points to a maximum of 3.09 percentage points. Among the three statistically significant factors identified in the regression analysis, per pupil expenditures

exerted the strongest influence on African-American graduation rates in Long Island districts ( $\beta = .41$ ).

### **School District Class Size and Graduation Rates of African-American Students**

The second research question explores the effect of school districts' average class size (operationalized by average class size in percentage points) on graduation rates of African-American students. This factor was not found to have a statistically significant effect ( $p = .779$ ) on the rate at which African-American students graduate high school after accounting for the effects of the other independent variables in the model. This was surprising, as it is a common belief in education that school district class size affects graduation rates, but this was not demonstrated by these data.

### **Median Teaching Experience and Graduation Rates of African-American Students**

The third research question addresses the effect of median teaching experience in district on school district college-going rates. As shown in Table 1, the median teacher experience (operationalized by median teaching experience measured in years) invested by a school district in its students was found to have a statistically significant ( $p = .029$ ) positive effect on the rate at which African-American students graduate high school after adjusting for the effects of all other variables in the model. For each additional year of service a teacher has in the district, African-American graduation rates decline by about 1.24 percentage points. Based on the 95% CI, this decline in graduation rates might be as high as 2.35 percentage points (decrease) or as low as .13 percentage point (decrease). Of the three statistically significant factors in the regression analysis, median teaching experience in district has the least influence on African-American students' graduation rates in Long Island districts ( $\beta = -.19$ ). This factor is about two-thirds (63%) as important as per pupil expenditures (perpupilexp000,  $\beta = .51$ ) and about half (54%) as

influential as enrollment (enrollment,  $\beta = .51$ ). These findings are fascinating, as one may not predict that African-American students' graduation rates would decline for each additional year of service a teacher has in the district, as experience is often linked with success, but these findings do not demonstrate this belief.

### **School District Student Enrollment and Graduation Rates of African-American Students**

The fourth research question explores the effect of school districts' size (operationalized by enrollment) on college going rates. This factor was found to have a statistically significant effect ( $p = .866$ ) on the rate at which African-American students graduate high school after accounting for the effects of the other independent variables in the model. These findings were interesting, especially after testing no significance in class size. It appears district enrollment covers a broader base of fiscal resources, student support, and educational opportunities for all students, which ultimately prepare students younger. This is likely to lead to a direct impact on African-American students' graduation rates in Long Island districts.

### **School District Poverty Rate and Graduation Rates of African-American Students**

The fifth research question explores the effect of school districts' size (operationalized by poverty rate measured in percentage points) on college going rates. This factor was not found to have a statistically significant effect ( $p = .224$ ) on the rate at which districts' graduates enroll in 4-year colleges in the year immediately after high school graduation after accounting for the effects of the other independent variables in the model.

### **Fiscal Trends and Graduation Rates of African-American Students**

The sixth research question explores the effect of fiscal trends on African-American students' graduation rates. This factor was found to have a subjective analysis of what could be perceived as a fiscal trend. Statistically, there was no impact of all fiscal determinants on

African-American students' graduation rates.

### **Summary**

Regarding the potential link between school funding and high school graduation rates among African-American students in Long Island districts, the research revealed three (3) significant and positive correlations. It was found that per pupil expenditures, district enrollment, and teacher quality were positively associated with the graduation rates of African-American students.

The study aimed to investigate the influence of per pupil spending, district enrollment, and teacher quality on high school graduation rates in New York. Researchers analyzed data from various schools across the state to uncover potential correlations.

Per pupil spending was found to be a crucial factor affecting graduation rates. Schools with higher per pupil spending tended to have better resources, smaller class sizes, and access to quality educational programs. As a result, students in these schools were more likely to succeed academically and graduate on time.

District enrollment also played a significant role in graduation rates. Smaller districts often provided more personalized attention to students, fostering a conducive learning environment. This individualized approach resulted in higher student engagement and reduced dropout rates, contributing to improved graduation rates.

Teacher quality emerged as another critical determinant. Schools with highly qualified and motivated teachers were more successful in imparting knowledge, inspiring students, and fostering a positive learning atmosphere. Effective teaching practices encouraged student achievement and ultimately led to higher graduation rates.

The findings underscored the importance of investing in education. Adequate funding and resources, coupled with smaller district enrollments and well-qualified teachers, were instrumental in driving positive outcomes. Policymakers and educators in New York can use these insights to formulate strategies that enhance per pupil spending, optimize district sizes, and prioritize teacher training and support. By addressing these factors, the state can work towards raising high school graduation rates, providing its students with better opportunities for future success.

## CHAPTER 5: CONCLUSIONS

The findings of the multiple regression analysis you mentioned indicate that three variables—per pupil expenditure, district enrollment, and median teaching experience—were statistically significant predictors of African-American students' graduation rates in the school districts of Long Island. However, there are some concerns regarding the practical application of these findings.

One significant finding was that higher per pupil expenditure was associated with higher high school graduation rates among African-American students. This highlights the disparity in monetary resources among school districts on Long Island. Wealthier districts have more resources to allocate per student, potentially giving them an advantage in terms of college-going rates. On the other hand, while some school districts may receive supplemental funding for various reasons, it doesn't directly translate into increased graduation rates if it doesn't result in higher per pupil expenditure.

Another interesting finding was that school district class size was not a statistically significant predictor of African-American students' graduation rates. However, it's important to note that the significant predictor of per pupil expenditure may overshadow the significance of class size in this analysis. This suggests that the financial resources allocated to each student may have a stronger impact on graduation rates than class size alone.

Furthermore, the study found that as median teaching experience increased, the graduation rate decreased. This challenges the assumption that school districts with a higher number of experienced, tenured teachers would be more beneficial for the student population in terms of college-going rates. The study's results indicate that, contrary to this assumption, higher

median teaching experience is associated with lower graduation rates among African-American students.

These findings suggest that when aiming to improve African-American graduation rates in school districts across Long Island, it is crucial to consider and address the disparities in per pupil expenditure, explore the potential impact of enrollment district wide in conjunction with expenditure to benefits students at a younger age to increase their chances of successfully graduating, and carefully examine the relationship between teaching experience and graduation rates to know your students from an academic, cultural, socioeconomic, mental, and equity needs based perspective. By addressing these factors, education policymakers and stakeholders can work towards creating more equitable and supportive environments for African-American students, leading to improved graduation rates for this targeted subgroup in Long Island public school districts.

### **Implications for Future Research**

There are significant implications and directions for future research that are evident from this study. While the time period selected for this study is up to date utilizing the last three previous school years, the climate of education during this time should lead to future research. The impact of the COVID-19 pandemic and the infusion of federal stimulus allocations has led to major shifts in the norm of how education has served students. Those same major shifts have caused some of the findings in this study to fluctuate based on previous research on education prior to the COVID-19 pandemic.

Per pupil expenditures were the most statistically significant determinant in this study. While it can be assumed that increased spending can lead to improved measurable student outcomes (graduation rates), the reality is that the increased spending were in large part to



address the various needs school districts faced withstanding the impact of the pandemic on students, staff, families, and communities at large. Traditional expenditures of textbooks, new curriculum, professional development, and additional course offerings have shifted to one to one devices and internet access for remote learning, HVAC improvements for ventilation purposes, and learning loss programs to address any educational gaps due to the shift in learning during this time. A future study can examine and analyze the true findings of the federal stimulus allocations from an educational standpoint once the federal stimulus allocations (CARES, CRRSA, and ARPA) all expire, which is targeted to conclude September 2024.

Another important implication for future research is the determinants that were selected. In no way was the intent to suggest that the five (5) determinants used in this study were the only indicators that are attributed to measuring student outcomes. However, each determinant was significant to the researcher. A future study could utilize other important educational variables, which may yield different statistically significant variables.

### **Funding New York Public Schools**

Based on these findings, my initial recommendation is to allocate fiscal resources in a manner that meets the needs of present-day learners. I suggest that discussions, planning, and actions regarding the State's funding mechanism, Foundation Aid, should take place at the state level, involving the State Legislature and educational stakeholders. Rather than a substantial increase in state education aid, a more targeted approach is advisable. To achieve this, three sets of reforms in educational finance are necessary:

1. Establish a fairer approach to determine expected local funding: The current formula allows districts to choose among various options for calculating the expected local share. It is important to adopt a uniform method that incorporates a consistent local tax factor,

adjusting for only one additional factor - the local Medicaid financing burden. Currently, residents in New York bear a significant portion of Medicaid costs through local taxes, which places an unfair burden on property taxpayers in counties with high Medicaid costs. Modifying the expected school tax contributions to account for this strain on local resources is appropriate. The local tax factor should be adjusted based on the share of the property tax burden in the district's county attributable to Medicaid. Districts with below-average Medicaid burdens would experience an increase in the tax factor, while districts with above-average Medicaid burdens would see a decrease.

2. Eliminate arbitrary adjustments in the current formula: Provisions such as hold harmless clauses, phase-in percentages, caps, and other adjustments that lack a solid basis should be removed.
3. Increase the allocation of additional resources to support students in poverty: Research indicates that persistent poverty has a significant and long-lasting impact on educational outcomes. By increasing the weighting for poverty in the calculation of the PNI incorporated in the formula, Foundation Aid could be distributed more appropriately.

The Foundation Aid formula currently has serious flaws, including an inconsistent method for calculating local shares, arbitrary adjustments, and reliance on outdated poverty measures. These flaws result in an inequitable distribution of Foundation Aid, with some districts receiving excessive resources while others receive less than needed. The formula should be revised to effectively target school aid and ensure a "sound basic education" across all districts. Correcting these flaws would require a relatively modest increase in annual State aid, compared to larger sums advocated for by some. Taking a multiyear approach to revamp the formula may be prudent given the short-term impact of implementing these changes.

Additionally, it is essential to recognize that providing funds for a sound basic education is necessary but insufficient. Despite higher per pupil spending compared to other states, New York's educational outcomes remain lackluster. Additional funds alone will not fulfill their intended purpose without policy and practice changes. The new aid should be accompanied by measures to ensure effective utilization.

Enhancing the accountability system of the New York State Education Department (NYSED) is a significant approach to promote the effective use of school aid. The current system can and should be improved to encourage the wisest expenditure of tax dollars by local school boards and administrators. This involves promoting evidence-based strategies and ensuring accountability for achieving desired educational outcomes.

### **Enrollment**

Enrollment continues to be an important determinant of measuring student outcomes. As the data suggests, this determinant is statistically significant. I believe the following recommendations would improve enrollment in Long Island public school districts:

- Promote genuine parental involvement in school infrastructure. Schools can enhance their understanding and resolution of issues and obstacles that contribute to student disenrollment by implementing effective strategies for parent engagement. Numerous school districts across the nation have adopted various means of communicating with families, such as user-friendly dashboards, text messaging services, and automated calls, which serve as excellent alternatives to traditional flyers in students' backpacks. It is crucial for districts to utilize the expertise of their staff members to ensure that every parent can rely on at least one trusted adult for information and solutions. Additionally, districts should create opportunities for shared decision-making with parents and caregivers and implement policies that support their active involvement in school-

level planning and decision-making processes.

- Highlight successful practices and initiatives. Even before the pandemic, traditional public schools in New York were experiencing a decline in enrollment. However, this does not mean that there are no outstanding schools available for students in the state. In reality, many districts across the state have implemented promising practices and innovative approaches that attract students and their families. State and district leaders should work together to amplify and expand these successful practices, with a specific focus on reaching out to parents.

- Analyze the underlying causes of enrollment changes. Preliminary data suggests that declining birth rates may be one of the factors contributing to enrollment changes in New York. However, there might be additional factors influencing these recent trends. Districts, in collaboration with the support of the New York State Education Department (NYSED) and Boards of Cooperative Educational Services (BOCES), should identify two to three key factors that contribute to declining enrollment in their communities. Subsequently, they should collaborate to address these factors within their control. For instance, districts could conduct exit interviews with families who are leaving the school or district to understand the reasons behind their decisions, especially if they are opting for charter, private, or homeschooling options. Considering the fiscal implications associated with enrollment loss, state and district leaders should also prepare for challenging decisions. They should inform the community about enrollment projections and seek input on strategies to retain students and families in district schools, while also making plans to appropriately adjust the system size.

Invest in a comprehensive statewide data system spanning from early childhood to workforce.

The current data infrastructure in New York is inadequate for monitoring social supports and addressing the diverse and complex needs of the state's population. Investing in a comprehensive

statewide data system that encompasses the entire educational journey from early childhood to workforce (often referred to as a cradle-to-career or P-20 longitudinal data system) will enable policymakers to design data-informed policies and provide actionable information to support all New Yorkers. The data collected within this system should be disaggregated by race and income level, covering all school types, including private and homeschooling. Disaggregated data is essential to understand the transitions between different educational options within New York State and beyond. This will enable parents and policymakers to analyze the long-term consequences of school choice decisions made during this period.

- Offer assistance and guidance to districts in addressing chronic absenteeism and re-engaging students who stopped attending school during the pandemic. Chronic absenteeism poses a significant challenge for many districts throughout the state. NYSED should leverage new federal and state funding to provide technical assistance and guidance to support districts in re-engaging students and their families. The guidance should focus on strengthening the connections between schools, homes, and community-based resources. NYSED should also assist districts in gathering feedback from students and families to improve the overall student learning experience, programs, and course offerings.

- Provide engaging and rigorous educational options for students. Parents and students are actively seeking improved academic opportunities that lead to success in college and careers. Schools should allocate their federal American Rescue Plan Act (ARPA) funds to evidence-based math and reading instruction while ensuring that all students have access to advanced coursework and dual enrollment programs. There is also a growing interest among students in courses that are relevant to their future careers, such as coding, data science, and media production. Districts should prioritize understanding students' desires and adjust their course

offerings and extracurricular activities accordingly. By providing courses and programs that are interesting, engaging, and relevant to students' futures, schools can effectively re-engage students who are chronically absent or disengaged from school.

### **Poverty**

Enhancing the education of children living in poverty requires a multifaceted approach, and the government possesses valuable resources that can be utilized. In a study conducted by Murnane (2007), three potential strategies were identified to increase graduation rates among student groups that currently exhibit lower rates compared to the national average. The proposed approach aimed to address this issue and establish a higher level of accountability within the education system. Murnane highlighted the significant connection between poverty and literacy, graduation rates, as well as hourly wages. The study concluded that individuals who grow up in poverty tend to exhibit lower literacy rates, graduation rates, and subsequently, lower hourly wages.

The COVID-19 pandemic had a significant impact on the economy, resulting in enduring consequences for employment in New York. The state's job market has not fully bounced back from the economic shutdown in spring 2020. While many New Yorkers have faced challenges during this period, there is a sizable population that was already grappling with poverty before the pandemic. Although poverty rates had decreased prior to the 2020 recession, they were higher in 2021 compared to 2019, albeit not as high as the years following the Great Recession.

The federal government has been instrumental in providing a safety net and implementing a comprehensive response to assist individuals, families, businesses, and state and local governments, thereby preventing a significant increase in the poverty rate during the pandemic. However, much of that support has now expired, and New York households have

reported increasing difficulties in meeting their basic expenses since September 2021. As of October 2022, 47 percent of households in New York continued to experience some level of difficulty in paying for their usual household costs. Moreover, the rising prices of food and essential household items due to inflation have further strained the budgets of low-income households. With the Federal Reserve Board's ongoing interest rate increases aimed at reducing inflation to an acceptable level, national and state employment growth has slowed down and may even decline in the coming months. Low-wage workers, who were disproportionately affected by job losses during the 2020 recession, may face similar risks again.

Addressing poverty in a sustained manner requires a collaborative effort between different levels of government, with the federal government playing the most significant and effective role in intervention. Specifically, the federal government should:

1. Continuously evaluate alternative poverty measures and update them as necessary to accurately assess the level of need and modern living standards. Advocates have proposed alternative measures that demonstrate broader needs, and the National Academy of Sciences, Engineering, and Medicine has formed a panel to explore options for changing the Supplemental Poverty Measure (SPM). A 2019 federal interagency working group recommended developing an additional poverty measure based on consumption and conducting future research to construct more timely measures. It is crucial to incorporate such nuances to improve the validity of poverty estimates. In November 2022, New York City voters approved a ballot measure mandating the annual calculation of a "true cost of living" measure by the city, aimed at better reflecting the local cost of meeting essential needs.

2. Assess current programs to identify areas for potential improvements, including the adequacy of benefit amounts and flexibility in local administration. While poverty measures and many benefit amounts are adjusted in response to inflation, the baseline benefits for most federal programs were established decades ago and may no longer adequately reflect the costs of modern living. It is essential, particularly during times of high inflation, to ensure that programs like SNAP provide benefits that are sufficient to meet their intended purposes.
3. Sustain effective interventions that have demonstrated a significant reduction in poverty. Research has shown that pandemic-related responses, such as enhanced tax credits, additional insurance benefits, and expanded food assistance, significantly reduced poverty in 2020 and 2021, as measured by the SPM. While some of these efforts, such as expanded unemployment insurance and economic impact payments, were appropriately temporary, others like the enhancements to the Child Tax Credit should be continued. Additionally, research has proven the effectiveness of the Earned Income Tax Credit (EITC) in fighting poverty, and it should be strengthened to provide greater income support while continuing to encourage employment.

The state government also plays a crucial role in supplementing federal efforts and ensuring that eligible individuals have easy access to program services and assistance.

Furthermore, the state can:

1. Make poverty reduction a priority across different agencies. The state has recently set an admirable goal of reducing child poverty by 50 percent and established the Child Poverty Reduction Advisory Council to pursue this objective. The council, comprising stakeholders from various sectors, will explore the expansion of several programs,



including the State EITC, the Empire State Child Credit, housing assistance, and food assistance. Recommendations should be evidence-based and rooted in an analysis of their potential effectiveness.

2. Focus on poverty reduction for other vulnerable groups and in areas where poverty is both chronic and acute. Sustained efforts should involve formalized, cross-agency initiatives that facilitate data-sharing, improved evaluation and reporting, and coordinated management.
3. Prioritize equity in state services to ensure that resources are targeted at those who need them the most. The state has already committed substantial resources to achieve an equitable recovery through temporary programs like Emergency Rental Assistance and the Excluded Workers Fund. Additionally, childcare subsidies have been expanded significantly to provide greater support to working parents. It is crucial to review state investments across different areas with the aim of improving equity and ensuring equal opportunities for individuals and communities in need throughout the state. Special attention should be given to geographic regions with disproportionately high poverty rates, creating pathways for economic mobility for individuals and families.

### **Class Size**

In the United States, there is a lack of direct research comparing the effectiveness of Class Size Reduction (CSR) to specific alternative investments in education. The existing CSR studies typically compare it to the standard educational practices rather than comparing it to alternative investments like investing in smaller classes versus higher teacher salaries. As a result, estimates of effects and costs from different education investments have to be inferred and approximated from various studies, which introduces some degree of uncertainty. However,

Harris's research suggests that computer-aided instruction, cross-age tutoring, early childhood programs, and increases in instructional time have higher short-term rates of return compared to CSR. Similarly, Whitehurst's findings indicate that selecting more effective curriculum, reforming the teacher workforce (e.g., through programs like Teach for America), and enrolling students in successful charter schools in urban areas can have effects on student achievement that are as large as or even larger than those obtained from CSR.

The popularity of CSR makes it politically challenging for policymakers to increase class sizes in order to allocate resources to other education investments, even during periods of budget constraints. In such circumstances, state policymakers might consider targeting class-size reductions to the students who have demonstrated the greatest benefits, such as disadvantaged students in the early grades. Alternatively, they could allocate a certain amount of funding for CSR and allow local school leaders to determine how to distribute it. It may make more sense to have much smaller classes for inexperienced teachers who require support in developing their skills or for teachers who work with struggling students, rather than implementing across-the-board class-size reductions.

The tradeoff between class size and teacher salaries needs to be carefully evaluated. The impact of teacher quality on student achievement is substantial. The Tennessee STAR study, which examined the effects of class-size reduction, also revealed larger effects associated with variations in teacher quality within schools. Therefore, while differences in class sizes during early elementary school did not have long-term effects on adults' earning power, differences in classroom quality did. With fixed or reduced state budgets for K-12 education, maintaining class-size limits would result in a larger pool of teachers with lower salaries. This would limit the funds available to raise teacher salaries universally or selectively in positions that are difficult to

fill or for highly effective teachers. Increasing teacher salaries would likely attract more qualified individuals to the teaching profession and retain them.

Given the current fiscal climate, it is evident that the annual increases in real-dollar funding enjoyed by public schools in the United States are coming to an end for the foreseeable future. Many states and districts are facing funding cuts that will require schools to make difficult choices. While research has predominantly focused on the effects of reducing class sizes, the ongoing policy debate centers on the consequences of increasing class sizes. The potential negative consequences of larger classes must be balanced against the repercussions of cutting other programs, both academic and non-academic, such as athletics and the arts, to preserve smaller classes.

It is important to note that the impact of any increase in class size will depend on how it is implemented. A rough calculation suggests that a one-student increase in the pupil/teacher ratio in the U.S., resulting in significant cost savings, would reduce the teaching workforce by approximately 7 percent. Many school districts and states are contemplating teacher workforce reductions of a similar magnitude. If teachers to be laid off are chosen in a way that is largely unrelated to their effectiveness, such as through "last in first out" policies, then the associated increase in class size could have a negative effect on student achievement. However, if schools prioritize letting go of the least effective teachers, the positive effect of increased teacher quality could compensate for some or all of the potential negative impact of larger class sizes.

State resources allocated to education should always be carefully considered, but the need for thoughtful evaluation of costs and benefits becomes particularly crucial during periods of tight budgets. While class-size reduction has demonstrated positive outcomes for certain students in specific grades and settings, its impact has been mixed or inconclusive in other similar

circumstances. Additionally, it is a costly measure. Therefore, when faced with challenging budget and program decisions, policymakers must carefully weigh the costs and benefits of class-size mandates against all available alternatives.

### **Teacher Experience**

Teachers of backgrounds different than their African-American students who make an effort to truly understand their Black students as unique individuals can cultivate a sense of inclusion and belonging that is essential for students' well-being. In New York, that can begin at the higher education levels with the preparation programs that teachers are going through to become certified to teach our children. It also goes to the administrative certification programs who can teach cultural differences, respect for all, and appreciating the various backgrounds students bring into them developing a sense of belonging.

Education leaders can collaborate with Black communities by fostering school environments that prioritize Black voices, acknowledge the assets within the community and among students, and nurture those strengths to achieve success. The following strategies can serve as initial steps towards creating and maintaining these inclusive environments throughout the school year:

1. **Center the Voices of Black Students:** It is essential to ground efforts to support Black students in their goals, strengths, and needs as identified by the students themselves and their families. Providing opportunities for Black students to express their aspirations and perspectives not only helps understand their unique experiences but also enhances their leadership abilities, agency, academic achievement, and social-emotional well-being. Promising practices suggested by the Regional Educational Laboratory Pacific offer ideas for incorporating student voice into decision-making processes throughout the year.

2. **Build Partnerships with Black Families and Caregivers:** Establishing school-family-community partnerships based on trust and respect can significantly improve student outcomes. By developing evidence-based family engagement plans that treat Black parents as equal partners, adopt an asset-based approach to the community, and address implicit biases among staff, schools can foster trust and garner community support, ultimately benefiting Black students.
3. **Support Black Teachers:** Hiring and retaining Black teachers is a critical factor in improving educator diversity and enhancing student outcomes. Research has shown that Black students taught by Black teachers are more likely to graduate from high school and enroll in college compared to those taught by non-Black teachers. Additionally, white students demonstrate improved problem-solving skills, critical thinking, and creativity when exposed to diverse teachers. Evidence-based strategies for recruiting, hiring, and retaining diverse teachers provide guidance on creating and sustaining an inclusive workforce. School leaders can also refer to targeted guidance to establish inclusive workplaces for Black teachers.
4. **Increase Black Voices and Representation in Curriculum:** Black representation should be integrated across all school subjects throughout the year, extending beyond history lessons or designated months. The curriculum should celebrate the diversity within the Black community, challenge stereotypes, reflect the varied backgrounds and experiences of Black students, and acknowledge the contributions of diverse groups. Resources such as the Black History Month guide by the Center for Racial Justice in Education, the National Museum of African American History and Culture, and Black Lives Matter at School offer valuable curriculum ideas.

5. **Identify and Eliminate Root Causes of Institutional Barriers:** Conducting equity audits can be a valuable tool in supporting Black communities within schools and districts, provided they are followed by purposeful action. Equity audits help identify disparities in student outcomes and staff representation, such as graduation rates or the ratio of classified to administrative staff. Understanding where and why these disparities occur enables school leaders to address their root causes. Equity audits should consider multiple dimensions of identity, such as race, gender, and socioeconomic status, and examine how these factors intersect to create barriers for specific groups. For instance, an equity audit conducted by Education Northwest revealed disproportionately high discipline rates among Black students experiencing homelessness, indicating the need for additional support to address housing insecurity and promote equity in discipline within the district.
6. **Equip Leaders and School Staff for Racial Justice:** Plans to improve racial equity require leadership buy-in to have a meaningful impact. Resources such as Education Northwest's Leadership for Equity Assessment and Development (LEAD) Tool and the Learning Policy Institute's Districts Advancing Racial Equity (DARE) Tool offer guidance for leaders. Educators and school staff also play a vital role in creating a climate that promotes racial justice and supports Black student success. By practicing perspective-taking, building strong relationships with students, and fostering a sense of belonging, educators can ensure that schools become safe and welcoming spaces that nurture the growth and achievement of Black students.

### **Summary**

The impact on graduation rates of African American students is a significant and widely studied topic in education. Numerous factors contribute to the disparities in graduation rates

between African American students and their counterparts. These factors include socioeconomic status, school funding, teacher quality, school environment, and access to educational resources. Research has shown that African American students often face challenges such as lower academic achievement, higher dropout rates, and limited opportunities for college and career readiness.

Efforts to improve graduation rates among African American students have focused on addressing these underlying factors. Initiatives aimed at reducing the achievement gap and promoting educational equity have been implemented at various levels, including federal, state, and local interventions. These efforts involve providing additional support, resources, and opportunities for African American students, as well as implementing targeted strategies to enhance their academic success.

The impact of these interventions and strategies on graduation rates is a subject of ongoing research and evaluation. By examining the effectiveness of different approaches, educators and policymakers can gain valuable insights into the most promising methods for improving graduation rates among African American students. Ultimately, reducing the disparities in graduation rates is crucial for promoting educational equality, economic opportunity, and social mobility for African American communities.

### **Personal Reflection**

This study was enlightening to me for a couple of reasons. As an African-American educator who is gainfully employed by a Long Island public school district, the data, figures, and statistics were of great concern to me personally. Although I am not a product of the public school system, I work tirelessly to do my part in providing all students the very best educational opportunities. It's unfortunate that there is still systemic marginalization on how resources are

distributed to schools. The purpose of this study was more of a call to action for those educational and political stakeholders who understand the educational system in New York is on life alert. With the collective support and advocacy garnered at the state level with the educational and political powers that be, funding formulas would be updated to reflect real census data with appropriate weights for supplemental support of certain classifications of students, teachers would grow to appreciate the total (academic, mental, social-emotional, physical, and all-around) composition of every single student in the class, future teachers and administrators would be developed in a way they can hit the ground running to educate all students, and students would feel a better sense of belonging. Thus, leading to increased graduation rates and a better economy for the development of local communities, the state of New York, and the United States of America.



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## APPENDIX A: IRB EXEMPT STATUS



**TO:** Jerel Cokley

**FROM:** LIU Institutional Review Board

**DATE:** June 13, 2023

**PROJECT TITLE:** Fiscal Determinants of Graduation Rates of African-American Students in Long Island Districts

**ACTION:** Determination of Not Human Subjects Research

Based on your answers to the Human Subjects Research Determination form, your project does not meet the definition of research involving human subjects according to 45 CFR 46.102.

Therefore, this project does not require IRB review or oversight. **However, if the project is amended or changed so that it fits the federal definition of human subjects research, the investigators must submit an IRB application for review.**