

DISSERTATION APPROVED BY

10/8/2020

Date

Jennifer Murnane-Rainey

Jennifer Murnane-Rainey, Ph.D., Chair

Jean Hearn

Jean Hearn, Ed.D., Committee Member

Jennifer Moss Breen Kuzelka

Jennifer Moss Breen Kuzelka, Ph.D., Director

Gail M. Jensen

Gail M. Jensen, Ph.D., Dean

STUDENT ACHIEVEMENT: EXPLORING THE STANDARDIZED TEST SCORES
OF LOW SOCIOECONOMIC STATUS STUDENTS IN THE DISTRICT OF
COLUMBIA'S TRADITIONAL AND SELECTIVE PUBLIC HIGH SCHOOLS

By
BRIAN E. ANDERSON

A DISSERTATION IN PRACTICE

Submitted to the faculty of the Graduate School of Creighton University in Partial
Fulfillment of the Requirements for the degree of Doctor of Education in
Interdisciplinary Leadership

Omaha, NE
September 25, 2020

Copyright 2020, Brian E. Anderson

This document is copyrighted material. Under copyright law, no part of this document may be reproduced without the expressed permission of the author.

Abstract

The purpose of this quantitative dissertation in practice was to explore the academic achievement of students of low socioeconomic status attending the District of Columbia's traditional and selective public high schools, as measured by the annual Partnership for Assessment of Readiness for College and Careers (PARCC) standardized test scores. The aim of the research was to utilize the standardized test data to create evidence-based recommendations for the District of Columbia Public Schools (DCPS) leadership on whether selective public high schools had a positive impact on the standardized English language arts and math test scores of students of low socioeconomic status. The population studied consisted of students from the school years 2014–2018. The quantitative study utilized Pearson's chi-square test with Cramer's V to explore the relationship between the proficiency on standardized English language arts and math tests and enrollment of low-socioeconomic status students in traditional and selective public high school. Significant differences were found in the students' English language arts and math proficiency levels; specifically, selective schools had significantly higher percentages of English language arts and math proficient students than did traditional schools. The cause of low-socioeconomic status students in selective schools outperforming the students in traditional schools could be due to other factors in the students' learning environments. The District of Columbia education system should consider establishing a peer-to-peer tutoring program between traditional and selective high schools to enhance low-socioeconomic status student achievement on standardized tests.

Keywords: Achievement gap, selective schools, traditional schools, socioeconomic status

Dedication

This dissertation is dedicated to my wife Jacqueline and children, who constantly encouraged me to continue this journey. I also dedicate this dissertation to my mother, Cora D. Ross, who instilled in me the desire to learn and to never underestimate the value of an education.

Acknowledgements

Special acknowledgement and thanks belong to my dissertation committee, Dr. Jennifer A. Murnane-Rainey and Dr. Jean L. Hearn, for defining the path of my research. Their support, vision, and constructive feedback helped to make the completion of this dissertation a rewarding experience. Special thanks also go to my cohort members at Creighton University, whose committed support was never in question. I would like to thank Creighton's Doctor of Education in Interdisciplinary Leadership faculty and staff who exemplify the Jesuit values.

Table of Contents

| | Page |
|--|------|
| Acknowledgments..... | v |
| Table of Contents..... | vi |
| List of Tables | x |
| List of Figures..... | xi |
| CHAPTER ONE: INTRODUCTION..... | 1 |
| Introduction and Background | 1 |
| Statement of the Problem..... | 5 |
| Gap in the Literature | 8 |
| Purpose of the Study | 9 |
| Research Questions..... | 10 |
| Aim of the Dissertation in Practice..... | 10 |
| Definition of Relevant Terms | 10 |
| Methodology Overview | 13 |
| Delimitations and Limitations..... | 14 |
| Leader’s Role and Responsibility in Relation to the Problem..... | 16 |
| Theoretical Framework..... | 16 |
| Significance of the Study | 19 |
| Summary | 19 |
| CHAPTER TWO: LITERATURE REVIEW..... | 21 |
| Introduction..... | 21 |
| Social Factors..... | 23 |

| | |
|---|----|
| Standardized Tests | 24 |
| External Variables Affecting Student Achievement..... | 26 |
| School Readiness | 26 |
| Family Socioeconomic Background..... | 29 |
| Parental Involvement | 31 |
| Neighborhoods – Low Socioeconomic Status | 32 |
| Internal School Variables Affecting Student Academic Performance | 35 |
| Student Perseverance | 35 |
| Class Size | 36 |
| Curriculum | 37 |
| Teacher Qualifications and Methodologies | 38 |
| School Safety | 40 |
| Technology | 41 |
| Strategies and Disparities Between Traditional Versus Selective Public High Schools ... | 42 |
| Selective School Student Selection Process | 43 |
| Parent’s School Choice: Traditional or Selective | 45 |
| Student Composition..... | 48 |
| Summary | 48 |
| CHAPTER THREE: METHODOLOGY | 52 |
| Introduction..... | 52 |
| Research Question(s)/Research Hypotheses..... | 52 |
| Method | 54 |
| Research Design | 55 |

| | |
|---|----|
| Data Sources | 62 |
| Data Collection Procedures..... | 62 |
| Data Collection Tools | 63 |
| Data Analysis | 64 |
| Methodological Integrity | 65 |
| Ethical Considerations | 65 |
| Summary | 66 |
| CHAPTER FOUR: FINDINGS..... | 67 |
| Introduction..... | 67 |
| Presentation of Findings | 68 |
| Analysis and Synthesis of Findings | 81 |
| Summary | 82 |
| CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS | 84 |
| Introduction..... | 84 |
| Purpose of the Study | 85 |
| Aim of the Study..... | 85 |
| Proposed Solution | 85 |
| Support for the Solution..... | 87 |
| Implementation of the Proposed Solution..... | 88 |
| Potential Barriers and Obstacles to Proposed Solution..... | 89 |
| Leader’s Role in Implementing Proposed Solution | 90 |
| Building Support for the Proposed Solution..... | 90 |
| Evaluation and Timeline for Implementation and Assessment | 91 |

Implications.....91

 Practical Implications.....91

 Implications for Future Research.....93

Summary of the Study93

References.....96

Appendices.....112

List of Tables

| | Page |
|--|------|
| Table 1. Proficiency levels in English language arts based on school type (N = 9,023) | 71 |
| Table 2. Proficiency levels in math based on school type (N = 9,382) | 74 |
| Table 3. English language arts proficiency rates for the school years 2014–2015 and 2015–2016 (N = 4,446) | 76 |
| Table 4. Math proficiency rates for the school years 2014–2015 and 2015–2016 (N = 4,957) | 77 |
| Table 5. English language arts proficiency rates for school years 2016–2017 and 2017–2018 (N = 4,577) | 78 |
| Table 6. Math proficiency rates for the school years 2016–2017 and 2017–2018 (N = 4,425) | 79 |
| Table 7. English language arts proficiency rates for all school years 2014–2018 (N = 9,023) | 80 |
| Table 8. Math proficiency rates for all school years 2014–2018 (N = 9,382) | 81 |

List of Figures

| | Page |
|---|------|
| Figure 1. Selective School Demographics SY 2014–2015 | 57 |
| Figure 2. Selective School Demographics SY 2015–2016 | 58 |
| Figure 3. Selective School Demographics SY 2016–2017 | 58 |
| Figure 4. Selective School Demographics SY 2017–2018 | 59 |
| Figure 5. Traditional School Demographics SY 2014–2015 | 60 |
| Figure 6. Traditional School Demographics SY 2015–2016 | 60 |
| Figure 7. Traditional School Demographics SY 2016–2017 | 61 |
| Figure 8. Traditional School Demographics SY 2017–2018 | 61 |
| Figure 9. English Language Arts Proficiency Levels Based on Year and School Type | 73 |
| Figure 10. Math Proficiency Levels Based on Year and School Type | 76 |

CHAPTER ONE: INTRODUCTION

Introduction and Background

Collectively, the public-school system has a mission to provide students with an education regardless of their economic status. Nationwide, over 50 million economically advantaged and disadvantaged students in Grades 1 through 12 enrolled in traditional and selective public schools for the school year 2019-20 (National Center for Education Statistics, 2019). Nonetheless, equality in public schools varies considerably from state to state and district to district. The disparities among schools can be found in the amount of funding a school district receives per student, the quality of the educators, and the availability of school resources, such as up-to-date textbooks and computers. The most publicly recognized disparities among schools is evident in annual standardized test scores.

The educational opportunities offered by different public schools do not allow students of low-socioeconomic status to attain the same levels of academic success on standardized tests (Shields et al., 2017). Furthermore, the National Assessment of Educational Progress, the organization responsible for annually assessing the nation's student achievement reports show that state and school district average scores differ significantly on standardized tests for Grades 4, 8, and 12 in reading, mathematics, science, and writing (National Center for Education Statistics, 2019).

Early standardized testing did not make comparisons between the students' and their schools but instead provided safeguards to ensure the masses received the appropriate public education services to meet their needs. The purpose and uses of standardized testing has changed. Nevertheless, as standardized testing has evolved and

gone beyond the classroom as a useful teaching tool, comparisons among standardized test results is a method used to determine academic achievement; the results of end-of-year standardized tests are announced on district webpages to signify the quality of a school's educational success (Gallagher, 2003).

The purpose and uses of standardized testing has changed. High standardized test scores have become the motivation for increased student enrollment at some of the most prestigious traditional and selective public high schools in the country. However, when Horace Mann first introduced standardized testing in the mid-1800s in the Boston Public School system, the purpose was to reflect the two guiding principles of fairness and proficiency in the educational system (Gallagher, 2003). The principle of fairness reassured parents that their child was given the same opportunities as students in other schools. The principle of proficiency provides parents with a regular dissemination of educational information, such as special education services for children in need.

Several court cases were impacted by standardized test score data. One of the first significant court cases to address equity in education was *Brown v. Board of Education* (1954) that ruled segregation in public schools was unconstitutional, setting in motion social and moral viewpoints, which would subsequently lead to student testing also becoming a subject for the courts. *Brown v. Board of Education* (1954) was later followed by *Hobson v. Hansen* (1967) in which the courts ruled that the education system deprived low-socioeconomic status students of their right to equal educational opportunities.

While education inequality was being challenged in the courts in the U.S., the federal government simultaneously made strides in public education when President

Lyndon B. Johnson authorized the Elementary and Secondary Education Act (ESEA) of 1965, which was the first significant legislation mandated to allocate federal funding to public schools with an emphasis on equal access to education (United States, 1965). The ESEA's intended to narrow the achievement gap by providing educational resources to impoverished students.

To ensure that states were observing mandated laws, the federal government included a passage in the Civil Rights Act of 1964 that required the United States Department of Health, Education, and Welfare to conduct a survey on the lack of educational opportunities available to different groups of children attending public institutions. The act states the following:

The Commissioner shall conduct a survey and make a report to the President and the Congress, within two years of the enactment of this title, concerning the lack of availability of equal educational opportunities for individuals because of race, color, religion, or national origin in public educational institutions at all levels in the U.S., its territories and possessions, and the District of Columbia (Civil Rights Act, 1964, Sec. 402).

While the Civil Rights Act of 1964 specifically addressed educational inequalities based on race and color, this dissertation focused on students' socioeconomic status regardless of race. Any mention of race is used purely for illustration purposes of identifying the population of the student body in the traditional and selective public high schools.

Dr. James Coleman was selected to lead a nationwide education survey in the 1960s. Data was collected from 4,000 schools, 66,000 educators, and over 600,000

students in the first, third, sixth, ninth, and 12th grades to determine if the U.S. education system was equitably administered by student achievement when measured by test scores (Hill, 2017). The 1966 report, titled *The Equality of Educational Opportunity Report*, often identified as the Coleman report, presented the results of the survey research on the effects of family background and the school environment on student achievement. The outcome of the study produced evidence that federal funding provided to schools had little effect on student achievement (Coleman et al., 1966). Furthermore, it also suggested that children from economically disadvantaged homes lacked the ideal environment, beliefs, and family support to learn regardless of the school they attended (Coleman et al., 1966).

The Coleman Report recognized that disparities existed between student achievement when measured by standardized tests. Furthermore, Coleman et al. (1966) emphasized that students' background characteristics had implications for the quality of educational opportunities provided to students, the social composition of the student body, and the percentage of families of low-socioeconomic background attending schools within the same community.

Although *Brown v. Board of Education* (1954) ruled that segregated public educational facilities were unconstitutional, the Coleman report (Coleman et al., 1966) confirmed that nationally, public schools with low-income students remained segregated, not equitable. The enactment of Title 1, under the provisions of the Elementary and Secondary Education Act of 1965 (United States, n.d.), steered school districts to a model of school choice in the 1970s. The emergence of school choice proposed by Section 5301 Magnet School Assistance Part C of the Elementary and Secondary Education Act

sanctioned public education alternatives, including magnet schools, selective schools, specialized high schools, and exam schools as a means of providing an equitable education (United States, n.d.).

School choice was a way to provide equality in public education, decrease isolation, and desegregate the classroom environment (United States, n.d.). The traditional public high schools and other school choice options observed the educational standards provided by each state's department of education with guidance from the United States Department of Education. In addition to the competitiveness of students with regard to school choice, students tended to have fewer missed and suspended days (Finn & Hockett, 2013). Public school choice was created in the 1960s to reform the education system, with the first super high school opening in Dallas, Texas, in 1971 (Magnet Schools of America, 2020). These specialized public schools were open to all socioeconomic levels and offered course selection in science, technology, engineering, mathematics, world languages, and career and technical education (Magnet Schools of America, 2020).

Statement of the Problem

A single school district serves the students in the District of Columbia. The head of the school district, designated by the mayor, functions as the chancellor of the District of Columbia Public Schools (DCPS), which serves 48,000 students and operates 115 schools (District of Columbia Public Schools, n.d.-a). During the 2017–2018 school year, the officials of the DCPS reported an overall enrollment of 10,778 students in the ninth to 12th grades. Collectively, the District of Columbia has a total of 17 public high schools

with 11 designated as traditional public high schools and the remaining six designated as selective public high schools.

The traditional public high schools are located within the vicinity of the students' homes. The six selective public high schools are located citywide, and enrollment to the selective schools is based on specific standards, including a students' grades and standardized test scores. Students desiring to attend selective public high schools are required to apply through an online application process (My School DC, n.d.).

Academically, the educational programs and the requirements for taking a standardized test in traditional and selective public high schools may differ. After the culmination of four years of high school, traditional and selective public high school students have an opportunity to earn the same District of Columbia Public Schools high school diploma. However, the achievement gap between the traditional and selective public high schools becomes apparent when assessing the standardized test scores (Barrow et al., 2017). Students enrolled in the District of Columbia Public Schools are required by federal law to take the Partnership for Assessment of Readiness for College and Careers (PARCC) standardized test at least once during the spring semester, aligning with the curriculum in which the students are enrolled. The PARCC assessment covers English language arts and mathematics and is intended to be an indicator of a student's needs and progress. Each student is evaluated on a five-point scale, with those who earn scores of four and five considered college and career ready.

Supporters of school choice argue that having an option to select a school can result in higher student achievement (Maddaus & Marion, 1995). Parents with the opportunity of school choice will tend to enroll their children in schools that generate

high standardized test scores (Maddaus & Marion, 1995). School choice has become an essential strategy for parents and students to enhance academic achievement (Cullen et al., 2006). Gamoran (2007) described the achievement gap among school districts; average achievement levels in some U.S. school districts equal those in the world's high-achieving nations. Inequality is evident not only between districts but also within districts and within schools where students of different social backgrounds attain widely varying outcomes. The problem is particularly pronounced for students who face economic disadvantages (Garcia & Weiss, 2017).

While the District of Columbia Public Schools staff and leadership are committed to the education of all students, the achievement gap between students of low socioeconomic status in the traditional and selective public high schools is evident in the standardized test results. The results of the 2018 PARCC standardized test showed that less than 5% of the traditional public high school students who took the online computer test scored Level 4 (met expectations) or Level 5 (exceeded expectations) (Stein, 2018). Stein (2018) reported that traditional public high schools primarily serving students from low-socioeconomic backgrounds noted decreased or stagnant test scores.

Furthermore, Stein (2018) indicated that the District of Columbia's selective public high schools, with many students coming from households with high socioeconomic status, performed better than their peers in the traditional public high schools. Stein (2018) stated that 55% of selective public high school students obtained Level 4 (met expectations) or Level 5 (exceeded expectations) in the English language arts test, whereas 33% attained Level 4 (met expectations) or Level 5 (exceeded expectations) in the math test.

The official report provided by the Office of the State Superintendent of Education (OSSE) for 2018, stated that in eight of the 12 traditional public high schools, 0% of the students of low socioeconomic status attained Level 4 (met expectations) or Level 5 (exceeded expectations) in the English language art or math portion of the PARCC standardized test (District of Columbia Public Schools, n.d.-b). In one of the traditional public high schools, 0% of the students attained Level 3 (approached expectations) or above in the standardized math test for the 2017–2018 school year (District of Columbia Public Schools, n.d.-b). During the same school year, one of the six selective public high schools, with a student body of 482 and 100% of these students considered economically disadvantaged, showed 70% of the students attained either Level 4 (met expectations) or Level 5 (exceeded expectations) in the standardized math test. Whereas 92% attained either Level 4 (met expectations) or Level 5 (exceeded expectations) in the standardized English language arts and math tests, demonstrating that they were college-ready (District of Columbia Public Schools, n.d.-b).

Gap in the Literature

The design of this dissertation in practice was grounded in the survey findings of *The Equality of Educational Opportunity Report*, also known as the Coleman Report (Coleman et al., 1966). The findings of that survey disclosed four areas lacking in the equity of education across the nation. Two of the survey areas aligned with the purposes of the current research: (a) “How much do students learn as measured by their performance on standardized achievement tests?” and (b) “What is the possible relationship between student achievement and the kinds of schools they attend?” The study focused on the academic achievement of low socioeconomic status students

enrolled in the traditional and selective public high schools in Washington, D.C., as measured by standardized tests.

The 1966 Coleman report laid the foundation for the investigation of future educational studies on the impact of socioeconomic status on academic achievement and how internal and external challenges affect student academic performance. Numerous researchers have previously addressed the issue of academic achievement among low-socioeconomic status students, suggesting that students from low-income families enter high school with mediocre literacy skills five years behind high-income status students (Buckingham et al., 2013; Reardon et al., 2013). However, to date, there has not been attention given to the academic disparities between the low-socioeconomic status students in selective and traditional public high schools as measured by the standardized tests.

The findings of this study should make an important contribution to the field of education regarding economically disadvantaged students. Students of low socioeconomic status that attend selective public high schools face similar economic and external hardships as those that do not attend selective schools; nonetheless, they outperform the low-socioeconomic status students in traditional public high schools in the District of Columbia. This quantitative study shows that selective public high school students have increasingly higher standardized test scores than their traditional school counterparts.

Purpose of the Study

The purpose of this quantitative dissertation in practice was to explore and compare the academic achievement of students of low socioeconomic status attending

selective schools to those of their counterparts in traditional schools in the District of Columbia as measured by the annual PARCC standardized test scores.

Research Questions

This study explored the relationship between standardized English language arts and math scores of students of low socioeconomic status in the District of Columbia's traditional and selective public high schools. The following research questions were the focus of this study:

RQ1 Do students of low socioeconomic status attending selective public high schools perform better on the English language arts standardized tests than students of low socioeconomic status attending traditional public high schools?

RQ2 Do students of low socioeconomic status attending selective public high schools perform better on the standardized math tests than students of low socioeconomic attending traditional public high schools?

Aim of the Dissertation in Practice

The aim of this dissertation in practice was to utilize standardized test data in order to help create evidence-based recommendations for the DCPS leaders and educators on how best to increase the academic performance among disadvantaged students.

Definition of Relevant Terms

Academic achievement: a measurement of performance outcomes that indicate the extent to which a student has accomplished instructions in math and English language arts (Osborne-Lampkin et al., 2015).

Achievement gap: Identifying the disparity in academic performance between students at different socioeconomic levels (National Education Association, n.d.-b).

Adjusted cohort graduate rate: The percentage of public high school freshmen graduating with a regular diploma within four years of starting the ninth grade.

Charter Schools: Public school that operates as a school of choice. Charter schools are exempt from significant state or local regulations, but follow regulations of public schools. The study does not include students enrolled in charter schools.

Community Eligibility Provision (CEP): Schools certified for the Community Eligibility Provision will receive free breakfast and lunch during the school year. Students are not required to submit a free and reduced-price meal application. Greater than forty percent of the students are considered disadvantaged (USDA, 2020).

Economically disadvantaged: The District of Columbia's Office of the State Superintendent of Education (n.d.) defines economically disadvantaged students as those who possess one of the following characteristics at any point in the school year: receiving a free and reduced-price meal program; attending a school where the entire student body receives free and reduced-price meal programs; eligible to receive short-term assistance for needy families or supplemental nutrition assistance program benefits; and recognized as homeless in available homeless data feeds from the Internet: or under the care of the Child and Family Services Agency (District of Columbia Public Schools, n.d.-a).

My School DC: The online computer application process for enrollment at the six-selective public high schools in the District of Columbia. Schools have specific deadlines and enrollment dates (My School DC, n.d.).

Partnership for Assessment of Readiness for College and Careers (PARCC): The District of Columbia’s annual standardized test of mathematics and English language arts, based on the Common Core State Standards. PARCC measures the skills necessary to comprehend complex writing and solve mathematical problems. Students in the third through eighth grades and high school take the PARCC test online each spring (Office of the State Superintendent of Education, n.d.).

Selective public high school: A high school that admits students based on grades, recommendation letters, essays, and admissions processes. The only means of attending a selective public high school is to apply through the My School DC lottery through the online computer application (My School DC, n.d.). The study does not include students enrolled in charter schools.

Socioeconomic status: Socioeconomic status is the combination of education, income, and occupation (White, 1982). Students of low-socioeconomic status families are less likely to have experiences that encourage the development of fundamental skills of reading acquisition (Buckingham et al., 2013; Morgan et al., 2009).

Social composition: A mix of students from diverse backgrounds (Perry, 2007).

Student demographics: characteristics of groups of students such as economically disadvantaged learners, English language learners, other ethnicities, and special education students (District of Columbia Public Schools, n.d.-a).

Title I: The largest federally funded educational program in the U.S. It mandates federal financial assistance to local schools with a high percentage of children from low-income families to ensure that these children meet state academic standards (United States Department of Education, 2018).

Traditional schools: Schools located in the ward in which the student resides. Typically, a student has the right to first attend the traditional high school in their ward within a relative distance to their neighborhood (District of Columbia Public Schools, n.d.-c). The study does not include students enrolled in charter schools.

Ward: An administrative division of the city that elects and is represented by a counselor. The District of Columbia is divided into eight wards.

Methodology Overview

This dissertation in practice was a quantitative study that explored the standardized test scores of students of low socioeconomic status who attended traditional and selective public high schools in the DCPS. Serving over 48,000 students annually, the DCPS student population is approximately 60% African American; 20% Hispanic; 15% white; and 5% Asian, multi-racial, or other, with 77% of the student body considered to be economically disadvantaged (District of Columbia Public Schools, n.d.-a). The population studied included students from school years 2014–2018 in the ninth, 10th, 11th, and 12th grades from the six selective public high schools and seven traditional public high schools in the DCPS system. While there are eight wards in the District of Columbia, only seven wards host traditional public high schools (District of Columbia Public Schools, n.d.-d).

This quantitative study required Pearson's chi-square test with Cramer's V to explore the relationship between the English language arts and math PARCC standardized test scores of traditional and selective public high school students. Pearson's chi-square test with Cramer's V was selected to discover if there were significant relationships between two categorical variables, school type (selective schools and

traditional schools) and proficiency level on the PARCC standardized test for English language arts and math (proficient and not proficient). Cramer's V was used to determine the strength of the relationships found to be significant using the Pearson's test.

Economically disadvantaged students were identified based on enrollment in the free and reduced-price meals program. The study included the school years 2014–2018, with a total student enrollment of 10,000 to 12,000 per school year.

Delimitations and Limitations

A limitation of the study is the lack of research on the academic performance of low-socioeconomic status students within the District of Columbia Public Schools. If you admit the “best” students base on test scores you could have skewed data that does not accurately reflect school performance. A delimitation of this study is its restriction to the population of students of low-socioeconomic status in the ninth to 12th grades in traditional and selective public high schools required to take the PARCC test in English language arts and math, aligning with the curriculum in which students were enrolled for the specific school year.

The DCPS operates selective public high schools in Wards 1, 2, and 5, but currently does not host any selective public high schools in Wards 3, 4, 6, 7, or 8. All six-selective public high schools were used in the study. Seven traditional public high schools were selected for this study, representing Wards 1, 3, 4, 5, 6, 7, and 8. At the time of this study, a traditional public high school was not based in Ward 2. The inclusion of a traditional public high school from the seven other wards demonstrated the diversity among the economic classes of the student body in the District of Columbia Public Schools. The District of Columbia's PARCC test data was utilized to determine the

academic performance of students of low socioeconomic status. Another delimiting factor is that the guardians or parents of students may not always provide truthful information concerning their D.C. residency when enrolling students in a school; some students who reside outside the District of Columbia may enroll at selective public high schools for a fee.

The PARCC test results available on the DCPS website were assumed current and accurate. The PARCC scores are released to the public annually in August. The study focused on the six selective public high schools that admit students based on specific eligibility requirements. Students eligible to enroll in the 9th to 12th grades can apply, but only students who meet the selective public high schools' requirements are considered eligible for admission (District of Columbia Public Schools, n.d.-e). Hence, the difference in the PARCC scores could be impacted by these selection criteria.

Selective school enrollment requirements could be a limitation of the study based on the specific standards, students' grades, and standardized testing scores. A limitation of the study is the lack of previous research studies explicitly conducted on students of low socioeconomic status in selective and traditional public high schools and their standardized test results. The District of Columbia Public Schools participates in a federal program that allows schools to receive free and reduced-price meals for students without accounting for low-socioeconomic status eligibility (Wexler, 2014). This quantitative study did not include intervention strategies provided to low-socioeconomic students in high school. The research focused on the standardized test results of traditional and selective public high school students in Washington, D.C. This study

excluded the District of Columbia public charter schools as nonprofits run them under an agreement approved by the District of Columbia Public Charter School Board.

The focus of this research is not about race; however, the identification of race is significant because African Americans and Hispanics make up most of the student population in the traditional public high schools in Washington, D.C. To create impartial learning environments for diverse students, school administrators, and staff must engage the entire school environment. Shifting demographics caused by gentrification have significant implications for all levels and functions of the education system. Gentrification is the process of changing the character of a poor neighborhood through the arrival of affluent people. Being economically disadvantaged does not necessarily mean that students perform below the PARCC standards of Level 4 (met expectations) (District of Columbia Public Schools, n.d.-e).

Leader's Role and Responsibility in Relation to the Problem

The role of leadership required a two-dimensional approach, utilizing transformational and servant leadership is to respond to the vast socioeconomic disparities of student achievement. The Transformational leadership focuses on collectively creating a school culture and a vision necessary to enhance the quality of teaching and student learning environment. The leadership requires a buy-in of all stakeholders, including students, educators, school and district leadership, community leaders, and policymakers.

The transformational leader helps to inspire others and lead by example (Sipe & Frick, 2015). The second role of leadership focused on servant leadership. In their role as teachers and educational leaders, servant leaders should be open-minded and prepared to

confront the challenges of the educational environment. Servant leaders should consider the needs of their students and should be engaged in supportive behavior for all students. Servant leadership focuses on maximizing the potential of the students' academic achievement (Sipe & Frick, 2015).

Theoretical Framework

Vygotsky's (1962) social constructivist theory focuses on the principle that learning precedes development and that learning occurs during the social interaction of children. According to Vygotsky, social interaction provides the foundation for students' learning. Students acquire knowledge when they interact with fellow students. Vygotsky's theoretical framework aligns with the impact of socioeconomic status on academic achievement in social constructivist theory. The constructivist approach is concerned with the construction of knowledge and positioning students in practical situations (Hussain, 2012).

Hussain's research furthered Vygotsky's framework by identifying that academic collaboration and cooperation help students develop their personalities and enhance their communication skills to appropriately convey ideas and viewpoints (Hussain, 2012). Learning can be promoted through collaboration among peers, as well as between students and the teacher. As students share background knowledge and participate in the give and take of collaborative and cooperative activities, they exchange meaning.

Vygotsky's social constructivist theory emphasizes the social interaction between professionals and learners. Parr and Townsend (2002) proposed a social constructivist theory in which peer pressure influences others' learning. Social interaction among peers

is essential in pairs and small groups. A fundamental aspect of Vygotsky's theory is the zone of proximal development. This zone of proximal development is a collection of tasks that are difficult for an individual to perform single-handedly but can be overcome with the assistance of more skilled peers (Vygotsky, 1962).

As a result of multiple social activities, students create more complex mental processes as they increase their knowledge and master skills (Hussain, 2012; Vygotsky, 1962). Additionally, children might have the ability to support one another in their academic achievement. "Children spend significant time in the company of other children, so the potential for influence is great" (Parr & Townsend, 2002, p. 404). Conclusively, students spend much time interacting with other students during lunchtime, classroom, and extracurricular activities, emulating positive and negative behaviors. These behaviors could alter their perception of the education environment. The relationships between children can influence positive behaviors and attitudes about the value of education and academic achievement (Parr & Townsend, 2002). By contrast, individual participation in antisocial behavior was connected to poor academic engagement and performance, regardless of the school, in which they were enrolled. Therefore, examining the correlation of academic achievement with families, peers, and individuals is essential when analyzing the predictors of this variable among high school students.

Educators, peers, and parents can be conduits for the development of socio-cultural tools. Students build knowledge not as individuals but through peer-to-peer interaction. Per Vygotsky's social constructivist theory, schooling is responsible for the

creation of a social context of learning, which can help students become proficient with the deployment of social tools (Smagorinsky & O'Donnell-Allen, 2000).

Palardy (2013) examined the relationship between socioeconomic status and the attainment of high school graduation and college enrollment. Using data obtained from the Education Longitudinal Study of 2002, the author investigated a sample of high school sophomores to determine if a relationship existed between socioeconomic status and students' performance (Palardy, 2013). The same groups of students were surveyed in the spring of 2002 while in the 10th grade, the spring of 2004 in the 12th grade, and in 2006, two years after their anticipated graduation date from high school (Palardy, 2013). The data was used to investigate high school students' socioeconomic-based peer influences and student economic composition. Palardy (2013) proposed that peer influences are associated with a range of school behaviors and attitudes, including academic achievement, educational aspirations, drug use, and delinquency. The results of the study provided evidence that the social composition of the study body was more essential for learning.

Significance of the Study

The significance of this dissertation in practice is threefold. First, the research will have a practical use for researchers in the field of education, as well as policymakers, in their efforts to further assess the impact of socioeconomic status on standardized tests in the District of Columbia. Second, the study promotes equal educational opportunities and encourages students of low socioeconomic status to apply to selective public high schools. Finally, the importance of social interaction between students of different

cultures could stimulate the increase of evidence about the benefits of school choice, allowing parents to choose the best school for their children.

Summary

This chapter introduced this study on students' academic performance on standardized tests while attending traditional and selective public high schools by identifying the problem statement, theoretical framework, statement of purpose, research questions, the significance of the study, and critical terms. Educators need to understand what supports or deters students' performance on standardized tests. This study benefits leaders and educators in pursuing knowledge that assists in determining the essential variables toward successful academic performance. Focusing on helping all students succeed is essential. The debate on how to effectively instruct students of low socioeconomic status is vital to their future and narrowing the achievement gap.

CHAPTER TWO: LITERATURE REVIEW

Introduction

Understanding the link between socioeconomic status and standardized test scores is significant in shaping education policies and narrowing the achievement gap.

Currently, every state and the District of Columbia use some form of standardized testing to assess whether the student's academic performance meets educational standards on a national level (United States Department of Education, 2018). The literature review demonstrates the need for the current study by providing context about the standardized test scores of low socioeconomic status students attending traditional and selective public high schools. Standardized tests assess the students' academic strengths and weaknesses, which may cause students of low socioeconomic status that attend traditional schools to be overlooked.

Educational scholars have examined numerous factors to explain why some students perform better on standardized tests. Consequently, researchers have collected data from a multitude of sources and analyzed by researchers to substantiate or cast doubt on the relationship between socioeconomic status and student achievement. A comprehensive viewpoint is necessary to discuss the issue why some students perform better on standardized tests effectively (Betson & Michael, 1997). Minimal research exists on the topic of about whether the standardized test results of students of low socioeconomic status in selective public high schools are higher than those of students of low socioeconomic status in traditional public high schools. Numerous factors play a role in a student's academic success. These factors are standardized testing, cultural variables, and disparities in teaching at traditional versus selective public high schools. This study

explored the literature on a number of listed factors to show how they affect student achievement, or, more specifically, a lack of achievement. Refining school systems and implementing early intervention programs may reduce some of these risk factors; therefore, increased research between socioeconomic status and education is necessary.

Farooq et al. (2011) stated that socioeconomic status influences the approaches that should be implemented in the curriculum to assist students of low socioeconomic status. According to Crook and Evan (2013), students that are children of economic middle class parents (middle class students) students tend to perform better academically due to the family support they receive at home. Middle- and high-socioeconomic status students are more prepared when attending school than their counterparts from lower-income school districts. Students in selective schools are exposed to family environments that value education and are less likely to have disciplinary issues (Crook & Evans, 2013; Kahlenberg, 2015).

Furthermore, selective schools have a less-transient population, and their students are more likely to attend college after graduation (Kahlenberg, 2015). Middle-class parents are more likely to support and become involved in school activities that promote the importance of education (Crook & Evan, 2013; Kahlenberg, 2015). Guskey and Jung, 2013; Kahlenberg (2015) concluded that students in schools with high poverty levels could be academically successful, but such success is limited. Students of low socioeconomic status perform well in middle-socioeconomic status schools compared with middle-socioeconomic status students in low-income schools (Kahlenberg, 2015).

Social Factors

According to Matthews et al. (2010), academic achievement differences go beyond the social and behavioral factors that are typically seen as the central determinants of academic excellence. Mathews et al. (2010) found that rarely examined additional factors affecting academic performance include learning-related and interpersonal skills. Among issues negatively affecting the educational experience of students of low socioeconomic status are decreased teacher expectations and disproportionate representation in lower-tiered classes (Matthews et al., 2010). In addition to socioeconomic factors, the gender distribution is also vital to students' academic achievement. Studies have shown that girls have stronger relationships with their teachers, are more likely to have higher grades, have higher class ranks, and progress to higher educational levels. According to Thielman (2012), policies, such as school selection and the No Child Left Behind Act, have had both positive and negative impacts on the turnaround of schools.

The factors that influence high school students' performance transcend the type of school system to include other social influences. Tavani and Losh (2003) stated that the factors influencing high school students' performance go beyond personal reasons and the type of school system to include other macro social influences. Factors such as parental praise also play a significant role in encouraging academic achievement among high school students. Tavani and Losh (2003) explored the existing relationship between high school students' academic performance, expectations, self-confidence, and motivation. Their findings indicated that positive correlations were found among all the variables.

Regardless of the school system, numerous factors outside of the students' control are likely to affect academic performance. Nebbitt et al. (2009) identified factors such as parental involvement and unfavorable attitudes regarding nonconformity that were associated with above-average grades.

Standardized Tests

Although standardized tests as a measure of academic achievement were designed to be fair and unbiased, students in traditional public high schools continue to struggle with these tests (Stein, 2018). The proponents of standardized testing suggest that these exams help bridge existing educational inequalities. Proponents opposed to the idea of standardized testing argue that they exacerbate inequality due to unfair competition in terms of socioeconomic differences, resource availability, and the quality of education in the traditional and selective public high schools (Guskey & Jung, 2013). The results of annual standardized tests suggest that students of low socioeconomic status in traditional public schools do not attain the levels of achievement required for college or careers beyond high school. Gamoran and Bruch (2017) argued that there is an urgent need to advance research on the most effective strategies that reduce educational inequalities, primarily by increasing research funding and pursuing broader and more integrated approaches to understanding inequality.

Studies have correlated socioeconomic status with test scores. Saifi and Mehmood (2011) stated that although standardized tests are not measurements of the entirety of student achievement, they are important. However, school administrators and teachers may need to focus more on how socioeconomic factors affect students' performance on standardized tests. Perry and McConney (2010) investigated data from the 2003 Program

for International Student Assessment (PISA). They compared it with a sampling of 12,000 Australian high school students' PARCC test scores in reading, mathematics, and science. PISA measures 15-year-olds' capabilities in reading, mathematics, and science literacy every three years. Perry and McConney (2010) noted that socioeconomic status, as determined by participation in the school's free and reduced price meals program, negatively influenced achievement. Additionally, the social composition of the school significantly affected the students' academic performance. Students who were not economically affluent had lower average scores in the achievement tests irrespective of the subject matter.

Students of low socioeconomic status are at an increased risk of failing standardized achievement tests for reasons beyond their control (Barrow et al., 2017; Van Ewijk & Slegers, 2010). Students of low socioeconomic status attending selective schools are likely to outperform their peers attending traditional public high schools. However, they are less likely to perform better on standardized tests than students from middle- and high-income backgrounds. As a result of poor performance and diminished school readiness on mandated standardized tests, economically disadvantaged students frequently achieve lower levels of success. Research has shown that standardized test scores are impacted by external variables.

External Variables Affecting Student Achievement

School Readiness

Perry and McConney (2010) advocated that school readiness is developed before a child's formal education starts, and previous learning environments vary along social lines. Moreover, these students typically have no or very few books at home, do not have

the technology to develop their academic ability, and rarely engage in learning activities, such as visiting the theater, library, museum, or zoo (Perry & McConney, 2010). Upper- and middle-class parents often enroll their children in daycare programs that offer curricula geared explicitly toward preparing their children for future academic success. Parents of low socioeconomic status lack the financial resources to provide this head start for their children. Most children from low-income families have little or no experience in an educational setting before enrolling in school (Heckman, 2011; Perry & McConney, 2010).

To understand the social constructs behind poor school readiness for low-income students, Isaacs (2012) examined the social dynamics and risks impeding academic progress. The Department of Education's birth cohort longitudinal study consisted of 4,300 children assessed for school readiness at nine months, two years old, four years old, and upon entry into kindergarten (Isaacs, 2012). School readiness was assessed in math, reading, attention-related behavior, physical health, and external problem behaviors. The children's school readiness was evaluated based on a score of no more than one standard deviation below average (Isaacs, 2012). Single-mothers in low socioeconomic status households tend to have lower academic accomplishments, poorer health, and higher rates of depression than affluent mothers (Isaacs, 2012).

The likelihood of graduating from high school and enrolling in college is mostly a function of two general interrelated factors. A student's background and aspects of the high school they are attending are the two interrelated factors that most prevent students from graduating high school and enrolling in college. The effect of socioeconomic status on school readiness does not decrease after the formal education process begins. After

enrollment, students from families with a low socioeconomic status experience year-to-year difficulties because of academic breaks in the school calendar year. After making some academic progress, students from economically disadvantaged families show a significant theoretical academic loss, particularly during summer breaks, then their fellow students from affluent families (Farooq et al., 2011).

Additionally, single-mother households exhibited more moderate levels of parenting skills. According to Isaacs (2012), these factors caused more than 20% of the school readiness disparity between children of low- and high-income backgrounds. Bhise and Sonawat (2015) also suggest that readiness for school contributes to future development. Bhise and Sonawat (2015) and Isaacs (2012) both found that school readiness is primarily affected by social and family background, including early childhood education experiences and the intervention provided to children by their teachers. Silvernail et al. (2014) suggested that a combination of factors, such as poverty and the school in which a student is enrolled, affects academic achievement.

Nevertheless, the relationship between poverty and school achievement varies depending on the level of education. For instance, the negative correlation between deficiency levels and academic achievement is weaker in K–8 schools. Silvernail et al. (2014) research showed that the poverty level affected the academic achievement of all the students.

Education scholars have established the origin of the academic achievement gap among young learners from low-income and middle- to high-income backgrounds. According to Williams et al. (2017), disparities in academic achievement in the United States are closely intertwined with cultural inequality. Compared with their white peers, children of color tend to lag in terms of educational accomplishment, grades, test scores,

and school readiness (Williams et al., 2017). The study also suggested that the achievement gap in reading and mathematics scores between students from low- and high-income families is almost twice as large as the achievement gap between the white and black student populations.

Thompson and Ongaga (2011); Williams et al. (2017) suggested that income-related disparity in academic achievement is an early-onset issue in early childhood. The authors showed that caring relationships based on growth, competence, and trust between students and their caregivers were associated with higher academic achievement. Compared with their counterparts from middle- to high-income families, pre-kindergarten-aged children from low-income families are less expected to acquire cognitive and literacy readiness abilities. These findings are based on multiple studies conducted to assess early literacy skills in low- and high-socioeconomic regions (Williams et al., 2017). Only 46% of children between the ages of three and six living in low-income areas can write their names, compared with 64% of children in the same age group living above the poverty level (Williams et al., 2017). These findings were similar to those of Isaacs (2012), who evaluated the school readiness of poor children and found that about half of the children with low-income backgrounds were ready for school at the age of five, in comparison with 75% of the children from moderate- to high-income families.

Family Socioeconomic Background

Research on students' family socioeconomic backgrounds and academic achievement first appeared in the Coleman Report (Coleman et al., 1966). The findings showed that students' socioeconomic status, especially their parents' economic

conditions, substantially impacted on the students' academic achievement. Consequently, several researchers have conducted studies using student socioeconomic status as a variable in the educational process and academic achievement. The results of the Coleman report stated that a strong correlation existed between family socioeconomic status and students' academic achievement. However, several other research reports have shown that family socioeconomic status only had a moderate relationship with academic achievement.

For example, White (1982) carried out a meta-analysis study examining over 100 examples of previously researched reviews and literature. The study indicated that socioeconomic status had a weak correlation with academic performance. Because of the social, economic, and methodological changes that have occurred since the publication of White's review, estimating the current state of the relationship between socioeconomic status and academic achievement is difficult (Sirin, 2005).

Regarding socioeconomic status, Bhise and Sonawat (2015) suggested that the home environment is significant in supporting students in terms of school readiness and growth. Poverty is a primary obstacle in providing students with stimulatory materials and equipment. These authors studied a sample of 244 children with an average age of five years living in a metropolitan area; they evaluated the impact of various factors, such as family income and race on the children's readiness for mathematics. The findings suggested that compared with children of low-income backgrounds, the children from affluent families, and those from white ethnic groups, scored higher in mathematics readiness (Bhise & Sonawat, 2015).

The results complemented those in the study of Hu and Pattugalan (2013). Children's academic readiness was associated with the willingness of the family, the school, and the community to take an active role in the student's education. According to the researchers, a learning environment involving children from different ethnic and social backgrounds is vital for individual empowerment. Diversity is one of the concepts behind the establishment of selective schools. Nevertheless, this approach ties in with economic factors, implying that children from low-socioeconomic backgrounds are still disadvantaged, further increasing the gap in educational inequalities.

Family background affects school preparedness among children, including socioeconomic status and maternal education (Bhise & Sonawat, 2015). Maternal education is an essential factor with a strong correlation with children's language and cognitive and academic development (Bhise & Sonawat, 2015). Furthermore, higher maternal educational levels are essential to an improved home environment, responsiveness, and the provision of learning materials (Bhise & Sonawat, 2015). Denessen et al. (2007) determined that school administrators recognized difficulties in getting immigrant parents involved in their children's education. The two main barriers identified were language and cultural differences between the schools and the families. Bhise and Sonawat (2015) sampled 431 kindergarten students with an average age of five years. They found that parents who had higher educational qualifications were expected to be more involved in their children's homework, which significantly improved these students' school readiness.

Parental Involvement

Parental engagement makes a difference in students' academic achievement. Extensive research on the social factors that affect students' academic achievement has focused on parenting or parental involvement in child welfare, especially in matters related to education (Perna, 2000; Tomul & Savasci, 2012). Although econometric models have been built which speculate that the decision to attend college is based on a comparison of the benefits and costs of all possible alternatives, parents significantly contribute to their children's decision to pursue higher education.

Parental involvement is considered to have an essential influence on student's academic performance and success of students of low socioeconomic status. Furthermore, Desimone (1999) suggested that the effectiveness of parent involvement practices differed according to race, ethnicity, and family income. Increasing parental involvement in their children's academic performance is vital to students' success and achievement. However, Desimone (1999) and Denessen et al. (2007) reported that getting parents involved in their children's schools and discussing the importance of balancing the school and family culture was challenging.

Nonetheless, educating parents on the importance of the home environment to academic performance gives them the tools necessary to assist in the educational process. Parental involvement can help in establishing a positive home environment for children's education. When students grow up in a loving and positive home, they develop tools for becoming stable and confident members of society.

Tomul and Savasci (2012) suggested that household size affects parental participation in their children's academic affairs. The authors noted that children living in

larger families tended to have lower educational achievement than their counterparts from smaller families. Apart from resource utilization, the amount of time that parents spend with their children, especially in discussing their academic needs, decreased among large families (Tomul & Savasci, 2012).

Marzano (2003) suggested establishing a home-school environment, which entails homework reinforcement, attendance at parent-teacher conferences, joining parent-teacher associations, and supporting school disciplinary policies. Desimone (1999) proposed that engaging parents or guardians as school volunteers would better assist students in achieving academic success and help educators and policymakers make informed decisions about students' diverse needs. According to Barton (2004), the home environment contributes to the overall development and school preparedness of children. Students of low socioeconomic status are likely to face academic challenges because of the unavailability of a reliable support system. The students' parents are less likely to spend time with them or assist them with school assignments. Barton (2004) also showed that children with caregivers or parents who read to them in early childhood tended to have better linguistic skills.

Neighborhoods – Low Socioeconomic Status

Living in neighborhoods with low socioeconomic status has been associated with poor academic performance (Crowder & South, 2003; Rendón, 2014). Dittman and Goebel (2010), Martens et al. (2014), and Root and Humphrey (2014) similarly identified that living standards had an impact on students' academic performance and success. Dittman and Goebel (2009) produced empirical evidence indicating that the living conditions in residential areas influenced subjective well-being in cross-sectional and

panel analyses by measuring the difference between the status of the individual and his/her immediate neighborhood. Root and Humphrey (2014) conducted an early childhood longitudinal study that tracked children who changed schools. The researchers provided evidence that significant movements and changes in the neighborhood context affected children's health and academic performance over time. Root and Humphrey (2014) found that neighborhood movement influenced students' health and academic performance, regardless of whether the changes were positive or negative.

Farooq et al. (2011) noted that children from upper- and middle-class families make educational gains even during vacations. In contrast, children from families with a low socioeconomic status do not have any educational benefits when not in the academic setting. Parents, teachers, and academic advisors should recognize and understand some of the factors that influence their students' desire for success (Henry et al., 2011; Tavani & Losh, 2003). For example, when parents are involved in their child's schooling, they gain critical skills and information that equip them in assisting their child with school-related activities (Henry et al., 2011).

Martens et al. (2014) explored the relationship between a neighborhood's socioeconomic status and educational achievement, and health outcomes among local children. Adequate housing is an essential factor in child development and is a crucial determinant of health. Low-income families, especially those in urban areas, rely on public housing, which is affordable and relatively higher in quality than homeless shelters. The authors examined the differential outcomes of living in public housing. The study was grounded in the knowledge that area-level socioeconomic status affects children's health and education outcomes. The study found that children living in public

housing in wealthier areas had better education and health consequences during adolescence. Similarly, Barton (2004) suggested that similar access does not imply equal achievement in school, as children living in low-income areas are affected by other social and family factors.

The overall impact of poverty on student performance may require much more exploration to understand academic achievement among students from low-socioeconomic backgrounds. Taylor (2005) asserted that equity in education is yet to be achieved. One of the leading predictors of the level of student achievement is family income (Taylor, 2005). Moreover, the researcher's findings specified that low-income students are prone to underachieve academically and are at risk of not completing school compared with their counterparts from middle- and high-income households. Students from affluent families tend to outperform low-income students in science, reading, writing, and mathematics (Taylor, 2005).

The findings correspond to those of Lacour and Tissington (2011), who examined the relationship between poverty and academic achievement. Lacour and Tissington (2011) found that poverty extends beyond financial resources to include emotional, mental, spiritual, and physical resources, as well as role models, relationships, and support systems. Furthermore, the researchers suggested that poverty directly affects students' academic success because of the absence of the resources needed for student achievement.

Woman et al. (2007) evaluated the underlying reasons behind poor academic performance among students from low-income backgrounds. The author suggested that the associations between academic achievement and poverty are reliable and consistent in

developed and developing countries. Educational inequalities are still widespread, especially in the case of socioeconomic differences, because learning outcomes are tightly connected with the lasting equality of opportunities (Wobmann et al., 2007). Bridging the achievement gap in educational attainment between socioeconomic groups could promote a society that is both fairer and more inclusive.

Internal School Variables Affecting Student Academic Performance

Some of the school factors that affect achievement include perseverance, class size, curriculum, teacher qualification, school safety, and technology-assisted instruction (Liu & Liu, 2008). Most of the differences between traditional and selective public high schools are likely due to the factors mentioned above. Additional studies would be needed for a clear empirical answer.

Student Perseverance

Student achievement is affected by the school disciplinary climate, risk, and perseverance. Huang and Zhu (2017) suggested that the school disciplinary climate and student grit play a vital role in the academic desire of students of low socioeconomic status to become high achievers. These authors disputed previous research that focused on the family's educational background and the financial resources available to high socioeconomic status students, arguing that high achievement is possible through individual student performance. Dai et al. (2012) suggested that low socioeconomic status students could excel because of a creativity-related trait identified in 10% of these students.

Huang (2015) reported that students of low socioeconomic status worked toward narrowing the achievement gap solely through their grit and persistence. The studies of

Huang (2015) and Huang and Zhu (2017) both used the 2012 PISA and had the same sampling of 4,978 15-year-old students from 60 countries. Dai et al. (2012), Huang (2015), and Huang and Zhu (2015) concluded that students of low socioeconomic status could overcome their deficiencies to achieve academic success. Students of low-socioeconomic status can conquer academic weaknesses, and quality teaching can positively impact student achievement.

Class Size

Researchers have explored class size, both at the state and federal levels, and its impact on students' academic achievement. In the United States, most traditional public schools, especially in low-income areas, are still struggling to reduce class sizes because of the associated cost of increasing the number of classrooms, teachers, and other resources (Barton, 2004). According to De Paola et al. (2013), larger classes have a significant adverse effect on students' performance, especially in technical subjects, such as mathematics. Nevertheless, the negative impact varies depending on the students' abilities. For students of low socioeconomic status, especially in public high schools, the negative impact of large class sizes is more significant than that for students of high socioeconomic status in selective schools (De Paola et al., 2013).

Besides, the large class size was shown to generate a negative outcome on students' performance in mathematics. Still, it had no adverse effect on student success in subjects such as language skills (De Paola et al., 2013). In a comparative meta-analysis by Shin and Chung (2009), class size reduction had positive outcomes on students' performance. A comparative assessment of the effects of class size reduction suggested that the impact of school size was more significant in the elementary setting than in the

secondary school setting. Smaller class size has a positive effect on students' performance; the addition of technology enhances student classroom collaboration and performance.

Curriculum

The curriculum taught in selective public high schools is somewhat different from that in traditional public high schools. Selective public high schools usually adapt their curricula based on the students' needs. Students tend to take courses that are more advanced at these high schools, including advanced placement courses. According to Barton (2004), however, while selective schools accommodate students from all socioeconomic and racial groups, minorities still lag and tend to be underrepresented in advanced placement examinations. According to a study conducted by Clotfelter et al. (2010), teachers erroneously expressed the view that students who grew up in poverty were beyond repair. The teachers responded to the students as if they were negatively affected by their experiences. The teachers' experiences created a situation in which the students were challenging to educate. The teachers' misinformed views were unfortunate, as teachers may fail to offer children of low socioeconomic status a successful school experience that could help them break the cycle of poverty.

Teacher Qualifications and Methodologies

Another essential school factor that has a significant impact on students' academic outcomes is the quality of teachers. Barton (2004) asserted that teachers with a minimum of five years of experience tended to make more of a difference in student performance. Compared with selective schools, low-income and traditional public schools are more likely to have teachers with three or fewer years of experience (Kini &

Podolsky, 2016). Teachers' operating structural frameworks also differ between traditional and selective public high schools. In traditional public high schools found in areas with low socioeconomic status, students often encounter teachers with less experience, as they substitute or fill in for absent teachers.

On an average day, 6%–10% of the teachers in low-income schools are absent from school (Barton, 2004). This rate of absenteeism is more than double the rate for selective public high schools. In terms of qualifications, traditional public high schools only require teachers to meet state-mandated requirements and be proficient in their respective subject areas. By contrast, selective public high schools often require higher qualifications and specialization among teachers, in addition to meeting state-mandated requirements.

One of the ideas that Rice (2010) pursued is that educators in low-income schools who perform poorly tend to have fewer qualifications than their counterparts in selective schools. Another hypothesis is that the performance gap between the two teacher groups is the result of observable teacher characteristics, such as licensure status, experience, and advanced degree (Rice, 2010). Less-experienced teachers in traditional public high schools and low-income schools have lower salaries, which comparatively explains the quality-teaching gap. Based on these findings, Rice (2010) concluded that an even distribution of less-experienced teachers across high- and low-poverty schools would lessen the potential pitfalls of having all inexperienced teachers in a single location.

Aside from experience, teacher preparation is an essential factor in students' academic achievement. Research indicates that students with low-income and high-minority affiliations expect to be educated by out-of-field instructors (Barton, 2004; Rice,

2010). High-quality teachers are less likely to be assigned to low-socioeconomic school districts because they can ask for higher salaries. High-quality teachers are experienced and contribute to student success in the classroom (Dial, 2008). A study by Dial (2008) suggested that while teachers' degree levels do not affect students' academic achievement, years of experience are crucial for students' academic success, especially in mathematics and English language arts. Rice (2010) stated that teacher experience and preparation are the key factors in personnel policies affecting students' academic performance.

According to Rice (2010), educators' competence usually had the most influential role during the first several years of teaching practice. Career experience is vital to improving teachers' effectiveness, especially in identifying the specific needs of students.

Baete and Hochbein (2014) conducted a study to determine if an urban low income school district's effort to change teaching, intervention practices, and assessments increased student achievement or decreased achievement variation among classrooms in 11 high schools. These authors examined Grade 11 mathematics achievement data from the 2009–2010 and 2010–2011 Kentucky Core Content Test (Baete & Hochbein, 2014). The sample consisted of 2,451 students in 11 high schools that implemented an initiative identified as Project Proficiency.

Project Proficiency used hierarchical linear modeling to determine if changes in instructional practices yielded academic gains while controlling for an individual's and school's socioeconomic status and prior student achievement (Baete & Hochbein, 2014). The study revealed that Project Proficiency had a significant impact on state mathematics achievement, and that Project Proficiency reduced classroom variation by 55% in the final model as opposed to 16% in the control group. Baete and Hochbein's (2014)

findings revealed that a school's socioeconomic status, rather than individual students' status, had a more significant influence on student achievement.

Poverty affects students' academic achievement because a family's financial resources are critical determinants of the type of school attended. According to Taylor (2005), students from low-socioeconomic backgrounds are more likely to enroll in high-poverty schools given that 75% of the students in such schools qualify for free and reduced price meals. Compared with most industrialized countries, the United States has a high child poverty rate. The government has been working to solve the problem by assisting children through the public-school system (Taylor, 2005).

School Safety

School safety is a critical factor that has an impact on students' academic performance. According to Barton (2004), fear and disruption affect learning. Studies have shown a positive correlation between a positive disciplinary climate and student success. Factors such as absenteeism, alcohol use, possession of firearms, and violence, are among the behaviors that negatively affect the school learning climate. Barton (2004) suggested that the percentage of low-socioeconomic students who are afraid of attacks in school is twice that of high socioeconomic status students. Although no studies have been conducted to examine the impact of the current school shootings in United States public schools on academic performance, school shootings are one of the emerging security issues likely to have a negative outcome on school attendance and overall academic success.

Technology

Technology-assisted learning is used in both traditional and selective public high schools. However, Barton (2004) found that an achievement gap in the use of technology-assisted instruction between traditional and selective public high schools continued to increase, especially in terms of Internet availability. Differences in student access to technology-assisted education have a significant effect on academic achievement. Selective schools are likely to have adequate technological resources for personalized learning compared to traditional public schools with high poverty levels.

Education is one way for students of low socioeconomic status to overcome this background. First, the educational level is an essential determinant of income. Educated parents are likely to have a better opportunity to provide economic and social resources to their children (Tomul & Savasci, 2012). Second, the level of education of parents influences children's academic success through household expectations and beliefs. The most effective form of parental participation in a child's academic achievement includes social and educational support. According to Hanushek and Luque (2003), students' performance in the PISA examinations correlated with their parents' level of education.

Ng et al. (2016) recognized influences, such as the amount of time spent on school-related activities, as significant predictors of academic performance among high school students. Internet access and the academic performance had a strong correlation. While Internet access improved students' academic performance by facilitating their preparation for exams, it also provided a means to waste time on non-academic platforms. Secondary school students spend three to five hours on social media platforms daily (Ng et al., 2016). Social media platforms adversely affected time management.

Furthermore, the study suggested that frequent television viewers had better learning motivation than students who watched television less.

Strategies and Disparities Between Traditional Versus Selective Public High Schools

The academic achievement gap is not solely attributed to the school environment; family and social influences can also contribute to the difference. Armor (2006) explored some of the strategies that can be used to narrow this achievement gap. The first strategy proposed is eliminating the selective school system because it encourages segregation. Social inequalities persist because of differences in future earning potential between students who have attended selective schools and their counterparts who have attended traditional public high schools. Banerjee (2016) summarized the trend in poor academic performance among students of low socioeconomic status and noted that it results from the lack of a positive environment and the lack of support.

The different aspects of traditional and selective public high schools that affect achievement include class size, curriculum rigor, educator preparation, school safety, and the use of technology-assisted instruction. School choice means families have an opportunity to choose the school their children will attend to meet their needs. Barrow et al. (2017) investigated whether high-performing public high schools assist in closing the achievement gap between students from low- and high-socioeconomic environments. Barrow et al. (2017) suggested that selective schools tend to positively affect students' perceived experiences regardless of their racial or socioeconomic background. Nevertheless, the introduction of selective schools resulted in an adverse impact on students' relative rank in high school, their achievement, and their likelihood of attending college, especially among students from lower socioeconomic backgrounds. The authors

concluded that attending a selective public high school did not positively impact the test scores of students from a low-socioeconomic background.

Woessmann (2016) examined the importance of school systems as a factor in students' academic performance. The issue of school systems has recently gained recognition among education scholars as a result of discrepancies in students' performance in international achievement tests. Many studies have suggested that individual, social, and cultural factors play a significant role in determining students' academic performance and achievement. Woessmann (2016) argued that gaps in school systems in different countries are critical in predicting variations in students' academic performance.

Selective School Student Selection Process

While all selective public high schools have admissions requirements, the exact process of student selection varies (Barrow et al., 2017). Some school districts allow selective schools to establish their admission requirements (Barrow et al., 2017). While some selective schools admit students based on a combination of standardized tests and grades, others rely on a single entrance examination. According to Barrow et al. (2017), the admission criteria are extremely difficult to meet for students from low socioeconomic communities. Carnoy et al. (2003) claim that the introduction of high-stakes testing in individual schools had created a new dimension of accountability. Admission criteria focused strictly on passing an examination regardless of students' demographic characteristics results in a student body that does not reflect the population distribution at the school district level (Strauss, 2018). Additionally, selective schools lack race, income, and gender diversity.

Different factors were considered when deciding which students could apply to selective schools, including academic ability and a satisfactory grade point average. Student performance between traditional and selective public high schools in the United States is essential to understand the current differences in standardized test scores and the complexity of the problem. The differences between the two types of schools were based on socioeconomic perspectives (Thomson, 2018). Also, selective high school programs were limited to just a few school districts (Clark, 2010). However, according to Finn and Hockett (2013), selective schools tend to be diverse in terms of origin and purpose, and the primary motivation behind their establishment is still unclear. Some selective schools started based on the need to provide a high-powered program that prepares students for college education, whereas, others started as university initiatives and philanthropic ventures (Barrow et al., 2017; Finn & Hockett, 2013).

In the United States, selective public high schools were known to accommodate the most advantaged students; in contrast, many students in traditional public high schools come from a low-socioeconomic background. Similarly, students' academic performance in selective public high schools is much higher than that in traditional public high schools. Welsh et al. (2016) suggested that changing schools is a factor that contributes to the lack of diversity in selective schools. According to the authors, students from low-socioeconomic communities are more apt to change schools because of financial difficulties. By contrast, gifted students are less likely to change schools or drop out of selective schools. Furthermore, resource availability is a factor that determines students' academic success. Successful learners from prestigious schools were more

likely to have been previously enrolled in selective schools than were students from low-income areas and lower quality schools (Welsh et al., 2016).

Parent's School Choice: Traditional or Selective

Some parents prefer selective schools to traditional public schools because of the wide range of advanced courses, including those of the International Baccalaureate programs (Clark, 2010). Selective schools are characterized by the enrollment of academically able students, employment of highly qualified teachers, and access to a specialized curriculum (Clark, 2010). Traditional public high schools do not necessarily have those three components. Among the issues that education researchers have been working to unravel is the impact of traditional and selective schools on the students who attend them, their effect on the distribution of student outcomes (Clark, 2010). School choice advocates suggest that even if families do have the right to choose the type of school for their children, organizations affiliated with the school should not have a say in pupil selection based on biases and insufficient diversity associated with selective schools (Ben-Porath, 2012).

School choice has become a popular option for parents throughout the country, enabling them to make the best choice for their children's education. Ben-Porath (2012) suggested that school choice is complicated by factors such as equality and liberty-based rationales. While students have an opportunity to select the school in which they would like to attend, what role does the school have in striking a balance between liberty and equality during student selection? Issues such as the distribution of opportunities and the racial composition of schools have been sources of contention when comparing students' performance in traditional and selective public high schools.

Ben-Porath (2012) stated that school choice policies tend to be multifactorial and lack cohesion and proper public justification. Furthermore, the outcomes of the selection policies used by selective and prestigious schools are at odds with the primary objectives behind their establishment, such as providing opportunities for students from low-income families (Ben-Porath, 2012). These findings correspond to those of Welsh et al. (2016), who suggested that students from low-income families have few options when it comes to school choice.

Kahlenberg (2015) indicated that some government policies and educational programs also negatively affect school choice. While federal funds dedicated to helping low-income students can be used at any school chosen by the student, the No Child Left Behind Act's current policy allows funding to be allocated to schools rather than to students (Kahlenberg, 2015). Students have limited options on the choice of schools they can attend as the schools often make this choice on their behalf as dictated by the federal funding system. Johnson (1994) outlined some guiding principles of school choice that the government overrides through funding requirements. Initially, the rationale for the public support of school choice included an opportunity for parents to have their children attend schools that reflected their religious beliefs or preserved unique and distinct elements of specific cultural and linguistic groups (Johnson, 1994). Other guiding principles for school choice included allowing parents to select schools based on quality, effectiveness, and diversity.

The need to restructure school systems and the growing concerns over the quality of public school education has increased the demand for school choice, which is one of the core strategies for addressing school reform and educational inequalities. According

to Johnson (1994), apart from parents being able to choose the schools their children will attend, school choice is based on the competitive principles of a free market. Competition results in an overall improvement in quality and the elimination of ineffective schools. Additionally, the original assumption was that free school choice would allow for low-socioeconomic students to enroll in better schools of their choice (Johnson, 1994). However, with the emergence of selective schools, social inequalities and lack of diversity have come to characterize them as excluding low-income children while benefitting those from affluent families.

Furthermore, the assumption that free school choice improves the quality of education is undemonstrated, as the availability of financial resources plays a significant role in where parents enroll their children (Johnson, 1994; Kahlenberg, 2015). Lastly, low-income parents are less informed in terms of how the educational system works regarding program selection (Kahlenberg, 2015). As a result, students from a low-socioeconomic background are more prone to enroll in traditional public high schools supported by the federal government. In contrast, whereas selective schools primarily enroll students from middle- to upper-socioeconomic backgrounds because the federal government's educational funding system does not dictate student selection (Kahlenberg, 2015).

Student Composition

An aspect of selective schools that are increasingly debated is the composition of the student body. Apart from the lack of diversity, most of the students attending these schools are high performers, which draws these students and resources (tax base and social capital) away from the traditional high schools (Barrow et al., 2017). As a result, selective schools serve a tiny percentage of students from a school district (Barrow et al., 2017). In addition to being high performers, the students are provided with a high-quality education, experienced teachers, and adequate resources compared with those in the traditional public high schools within the same school district (Barrow et al., 2017). Therefore, the students are likely to do much better on examinations. Rambo-Hernandez and McCoach (2015) studied the patterns between high-achieving and average students, which varied significantly, given that academic growth is slow and stable among high-achieving students.

Summary

The goal of the literature review was to examine the historical events, standardized tests, and the external and internal variables affecting student achievement. The review further highlighted the differences between traditional and selective public high schools, including the quality of teachers and education provided, and resources, which account for variations in test scores. While education is considered a critical factor in overcoming poverty, students from low-socioeconomic backgrounds may encounter more external challenges in attaining high-quality education because of socioeconomic obstacles, and a lack of family support (Strauss, 2018). Poverty also negatively affects the rate of admission in selective schools. The effect of the two types of schools on diversity

was analyzed. Selective schools tend to have a homogeneous population distribution with enrollment based on students' academic ability.

Research on selective public high schools abroad has shown a positive impact on students' performance. Clark (2010) examined the effects of attending a selective public high school in the United Kingdom, including the effect it had on students' performance. Students from 20 selective and non-selective schools were assigned to different types of high schools based on academic ability as perceived at the end of primary school and based on the results of tests taken (Clark, 2010). The study found that selective schools had a significant impact on course-taking, and more importantly, on university enrollment. The study confirmed the researcher's assumption that selective schools offer an advanced curriculum not generally provided in traditional public high schools. According to Clark (2010), academic ability is the primary factor used to track students in different types of high schools, especially in European countries such as the Netherlands, Germany, France, Italy, and the United Kingdom. In the United States, the tracking can be narrowed down to academically selective high schools in big cities.

Studies conducted at the international level have also identified a strong association between academic performance and poverty. For example, the PISA developed by the Organization for Economic Co-operation and Development is an international examination that assesses 15-year-old students in subjects, such as science, mathematics, and reading. Wobmann et al. (2007) demonstrated existing differences in performance in the PISA concerning the international socioeconomic index of work-related status. In this international examination, students from countries that fall in the

top quarter of the index tended to perform much better in all subject areas than did their counterparts in the bottom quarter.

The findings indicated that the countries that showed significant differences in success among students from diverse socioeconomic backgrounds had educational systems that allowed for selective schools, such as Germany, the United States, the Czech Republic, Switzerland, and Belgium. Selective schools that encourage student separation based on academic ability also promote educational inequalities along socioeconomic lines. These findings correspond to Burgess et al. (2019) who found that selective schooling systems indulge in disparity.

This review suggested that standardized tests tend to favor students in selective public high schools rather than those in traditional public high schools because of disparities in the quality of education. Furthermore, students from homes with a low socioeconomic status in selective public high schools are likely to underperform in standardized tests compared with middle- and high-income students because of social and family factors that negatively affect educational achievement. The studies reviewed showed a positive correlation between parental participation and children's academic performance. Assistance can be in the form of financial and social support, as well as actual academic support in the home environment.

Additional factors that correlate with student achievement beyond school include parent participation, hunger and nutrition, birth weight, television watching, and student mobility (Barton, 2004). A key social factor that correlates with student achievement is student mobility, which is affected by multiple social conditions, including the availability of jobs and affordable housing (Barton, 2004). Liu and Lu (2008) examined

parental participation, family socioeconomic status, and nutritional availability, and their findings corresponded to those of Barton (2004). A positive relationship between the family's involvement and the learners' performance can be established in early childhood.

CHAPTER THREE: METHODOLOGY

Introduction

The purpose of this quantitative dissertation in practice was to explore whether students of low socioeconomic status in selective public high schools outperformed students of low socioeconomic status in traditional public high schools. The research intended to show differentiating results through the standardized English language arts and math test results. The results of the study were derived from aggregate summary data, which is released publicly on the District of Columbia Public Schools website in August of each year. The reviewed English language arts and math PARCC results of low socioeconomic status students showed that the average PARCC test score was higher for those who attended selective public high schools.

The independent variable was the type of school (traditional or selective public high school), whereas the dependent variables were the English language arts and math PARCC test results. This chapter describes the methodology used to conduct and answers the research questions, followed by the research design and rationale for the selected research approach.

Research Question(s)/Research Hypotheses

The following research questions guided this quantitative study:

RQ1 Do students of low socioeconomic status attending selective public high schools perform better on the English language arts standardized tests than students of low socioeconomic status attending traditional public high schools?

RQ2 Do students of low socioeconomic status attending selective public high schools perform better on the standardized math tests than students of low socioeconomic status attending traditional public high schools?

The test scores of students enrolled in selective high schools will exceed the scores/threshold of the students who attend a traditional high school. A null hypothesis indicates the difference between the two population means is equal to some constant, where the constant is the desired threshold, $\mu_1 = \mu_2 = d_0$. The following hypotheses were investigated in this study:

Null Hypothesis 1 (H1₀: $\mu_{e1} = \mu_{e2} = d_0$). Students of low socioeconomic status attending selective public high schools will perform the same on the English language arts standardized tests as students of low socioeconomic status attending traditional public high schools.

Alternative Hypothesis 1 (H1_a: $d_0 > 0$). Students of low socioeconomic status attending selective public high schools will perform better on the English language arts standardized tests than students of low socioeconomic status attending traditional public high schools.

Null Hypothesis 2 (H2₀: $\mu_{m1} = \mu_{m2} = d_0$). Students of low socioeconomic status attending selective public high schools will perform the same on the standardized math tests as the students of low socioeconomic status attending traditional public high schools.

Alternative Hypothesis 2 (H2_a: $d_0 > 0$). Students of low socioeconomic status attending selective public high schools will perform better on the

standardized math tests than students of low socioeconomic status attending traditional public high schools.

Method

This dissertation in practice is a quantitative study that explored the standardized test scores of students of low socioeconomic status attending traditional and selective public high schools in the DCPS. The population under study included students from school years 2014–2018 in the ninth to 12th grades from the six selective public high schools and seven traditional public high schools in the DCPS system. Seven traditional public high schools were selected as the population sample. This quantitative study utilized Pearson's chi-square test with Cramer's V to explore the relationship of proficiency on the standardized English language arts and math tests with attendance at traditional and selective public high schools.

Pearson's chi-square test was selected to discover if there was a significant relationship between two categorical variables, school type (selective schools and traditional schools) and proficiency on the PARCC standardized testing for English language arts and math (proficient and not proficient). Cramer's V was used to determine the strengths of the significant relationships found using Pearson's chi-square. During the study period, the years 2014–2018, the District of Columbia's selective and traditional public high schools typically enrolled 10,000 students each school year.

Research Design

The research design for this dissertation in practice was a quantitative study with extant data. In this type of study, the researcher explains the relationship between the variables being examined (Creswell, 2014). The rationale for conducting a quantitative study was based on the premise that, a non-biased method, unlike an experimental or quasi-experimental method, the researcher did not manipulate aspects of the study environment with extant data. Extant data limits the ability to make stronger statements about cause and effect. However, by using only existing data, the study was less likely to be subjected to the researcher's inherent biases. Quantitative research operates under widely agreed-upon steps that guide the research process (Fraenkel et al., 2012).

Pearson's chi-square test with Cramer's V was used to compare rates of proficiency in the students' math and English language arts scores in the traditional and selective public high schools. Pearson's chi-square with Cramer's V test allowed the researcher to measure the statistical relationship between two categorical variables. Using Pearson's chi-square test with Cramer's V allowed the researcher to evaluate if there was a relationship between two variables (Camilli, 1995). Cramer's V calculated the correlation in tables that had more than 2x2 rows and columns. It was used to determine the strengths of the association after chi-square had determined significance.

Cramer's V measured nominal association and provided norming from 0 to 1 when row marginal equaled column marginal. V was the square root of chi-square divided by the sample size, n , time m , which is the smaller of (rows - 1) (Camilli, 1995).

The number of students scoring at Levels 4 or 5 in the English language arts and math sections of the annual 2015-2018 PARCC tests determined academic achievement.

Data was examined based on the proficiency demonstrated in Levels 4 and 5 in the PARCC test for the English language arts and math scores. The English language arts and math PARCC test was administered to many of the students online; however, DCPS offers other test accommodations (English as a second language and special needs). The PARCC math test portion consists of multiple-choice questions in Algebra II, Geometry, Integrated Pathways, and Integrated Math I. The English language arts portion consists of multiple-choice questions in narrative writing, research, and literary analysis. The number of correct question responses measures the students' proficiency in the PARCC test. Students obtaining a proficiency of Level 3 or lower are not considered college-ready. To maintain student privacy, this study did not use individual names.

The researcher took the following steps to develop and test the hypotheses (Creswell, 2014):

1. Establish the hypotheses. State the null and alternative hypotheses.
2. Determine the appropriate statistical test and sampling distribution.
3. Specify the Type I error rate (α).
4. Gather the sample data.
5. Calculate the value of the test statistic.
6. State the statistical results.
7. Draw a conclusion.

The school population consisted of approximately 10,000 students enrolled in grades 9–12 for the 2014–2018 school years (District of Columbia Public Schools, n.d.-b). Of the population, 100% of the traditional public high school students were recognized as economically disadvantaged, whereas five of the six selective public high schools were

economically disadvantaged. The School Without Walls Internet site website indicated that only 12% of its students were recognized as economically disadvantaged (District of Columbia Public Schools, n.d.-b). This study’s target population consisted of high school students of low socioeconomic status in the traditional and selective schools required to take the PARCC test during the 2014–2018 school years. The demographics reflect the total student enrollment, total student population of low socioeconomic status, and low socioeconomic status as a percentage of total enrollment in the selective schools (see Figures 1, 2, 3 and 4). DC’s selective schools are representative of a diverse population.

Figure 1

Selective School Demographics SY 2014–2015

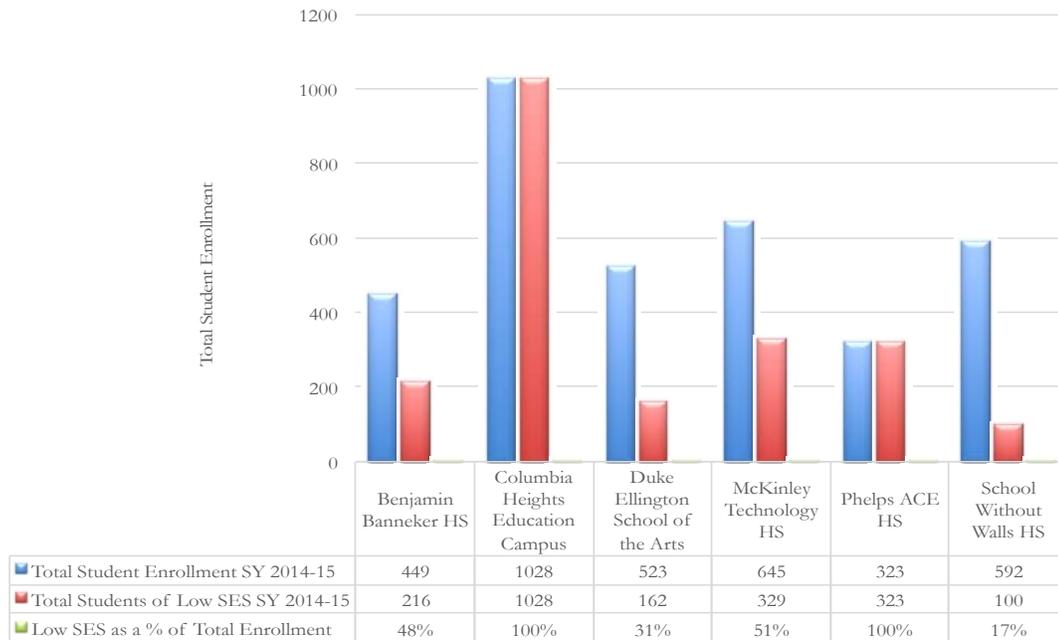


Figure 2

Selective School Demographics SY 2015–2016

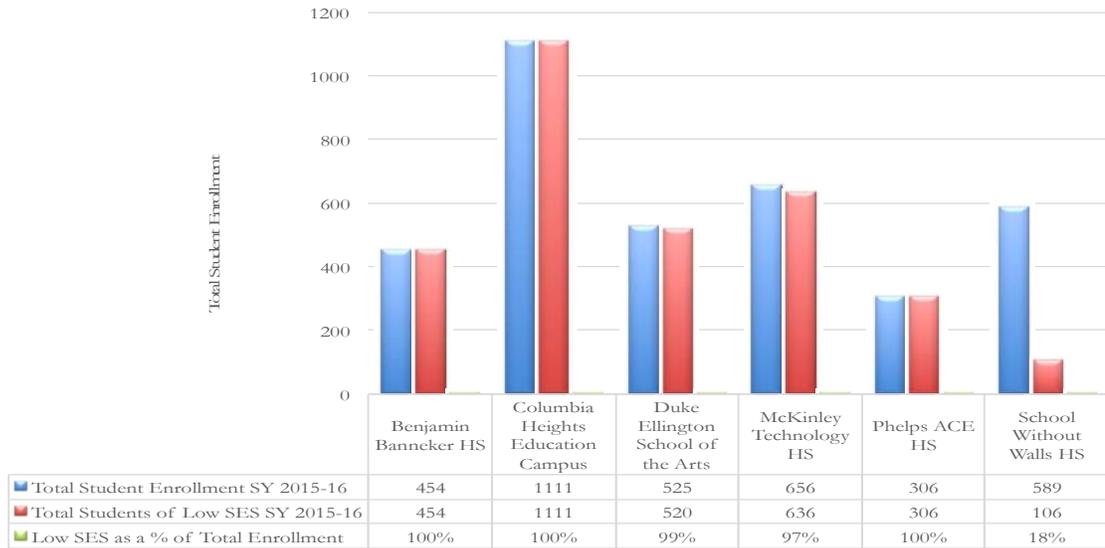


Figure 3

Selective School Demographics SY 2016–2017

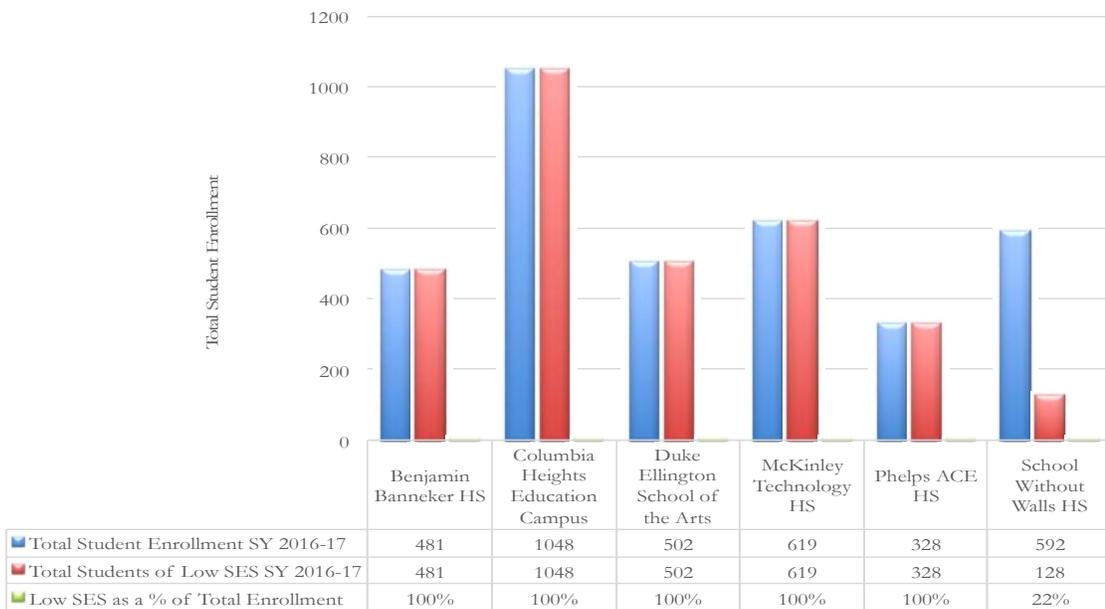
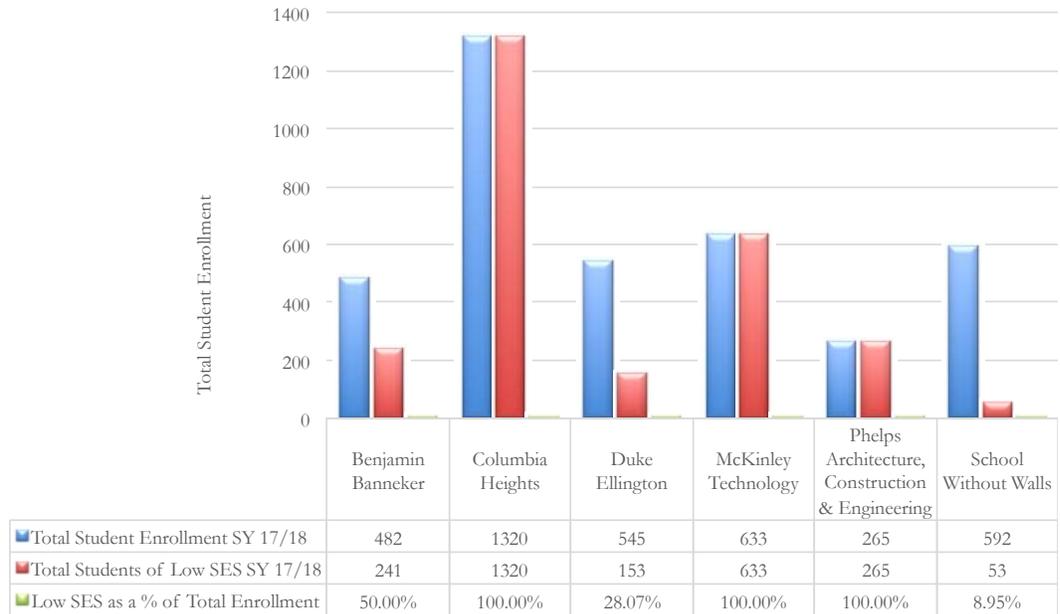


Figure 4

Selective School Demographics SY 2017–2018



Additionally, this study's target population included the high school students of low socioeconomic status in the traditional schools required to take the PARCC test during the 2014–2018 school years. The demographics reflected the total student enrollment, the total student population of low socioeconomic status, and low socioeconomic status as a percentage of total enrollment in the traditional schools (see Figures 5, 6, 7, and 8). DCPS's traditional schools are representative of a diverse population for the school years 2014–2018.

Figure 5

Traditional School Demographics SY 2014–2015

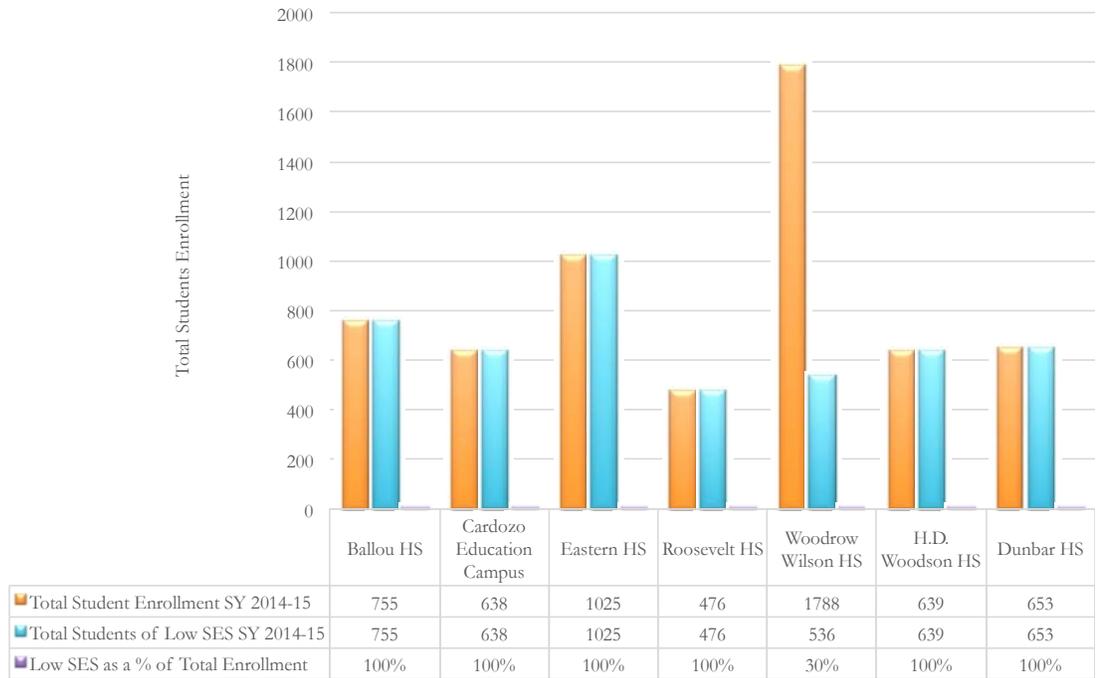
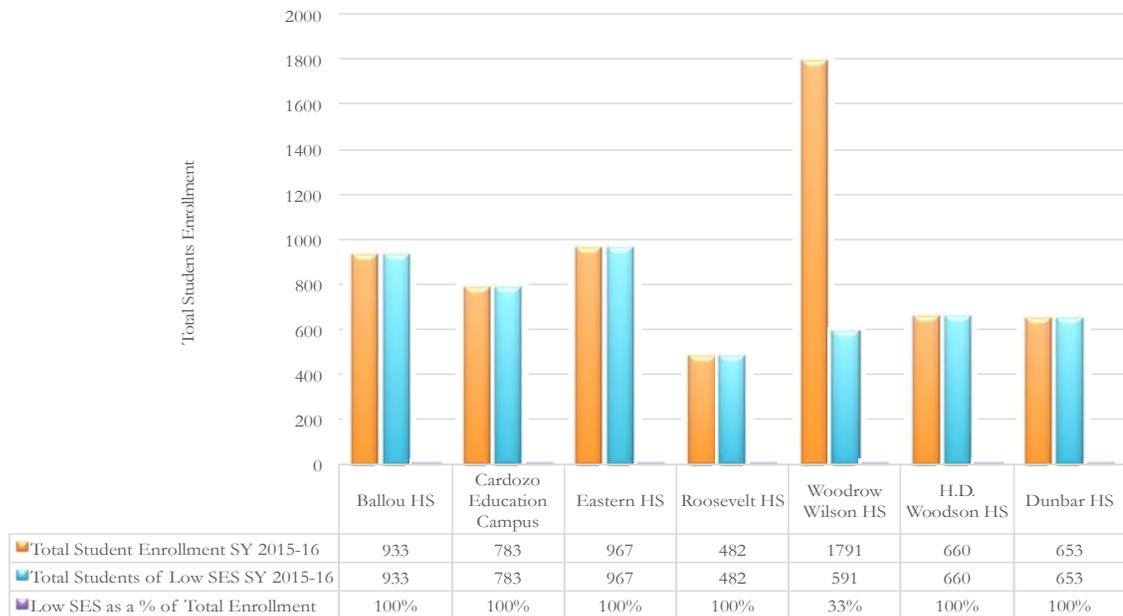


Figure 6

Traditional School Demographics SY 2015–2016



Data Sources

The results of the study were derived from aggregate summary data accessed on public websites housing PARCC standardized assessment and high school data for DCPS selective and traditional public school students. No direct interaction occurred with any DCPS students or administrators. This study considered data from 9,382 low-socioeconomic students, including:

- (a) Aggregate summary data collected from 9,382 DCPS students attending selective and traditional public high schools.
- (b) The number of low-socioeconomic students scoring Level 4 (met expectations) or Level 5 (exceeded expectations) on the English language arts portions of the PARCC test in six selective and seven traditional DCPS.
- (c) The number of low-socioeconomic students scoring Level 4 (met expectations) or Level 5 (exceeded expectations) on the math portion of the PARCC test in six selective and seven traditional DCPS.

Data Collection Procedures

A Pearson's chi-square test with Cramer's V was conducted to explore the research questions for correlations between two categorical variables. The quantitative study was conducted utilizing the statistical package for the social sciences (SPSS) software to explore whether students of low socioeconomic status in the selective public high school outperformed students of low socioeconomic status in the traditional public high school on the standardized tests. SPSS was used to review the students' test scores in English language arts and math to determine if a statistically more significant proportion of proficient results were obtained for the students who attended the selective public high

schools. The independent variable was attendance at a traditional or selective public high school, whereas the dependent variables were the English language arts and math test proficiency results of the students. Pearson's chi-square test with Cramer's V was used to compare the students' math proficiency in the traditional and selective public high schools. Pearson's chi-square test with Cramer's V was also used to compare the students' English language arts proficiency.

A p -value of 0.05 or less was considered statistically significant ($\alpha = .05$). The null hypothesis was that there was no difference between the schools in terms of the proportions of proficiency. Pearson's chi-square test with Cramer's V examines whether the proportion is significantly different from the expected distribution if no relationship was present. Cramer's V helps determine the strength of significant relationships.

Data Collection Tools

The purpose of the data collection was to obtain the information necessary to determine the association between attendance at each type of school and academic achievement for the low-socioeconomic status students. The independent variable was attendance at traditional and selective public high schools by students of low socioeconomic status. The dependent variable consisted of the English language arts and math PARCC test results with regard to proficiency. Students of low socioeconomic status were identified based on the PARCC data subdivided by low socioeconomic status (free and reduced-price meals program). Participation in the free and reduced-priced meals program was available to students with limited family income. The Food and Nutrition Service is the federal agency that determines the income eligibility guidelines for participation in the free and reduced-price meals program.

A further breakdown of the students enrolled in the free and reduced-priced meals program indicates that the District of Columbia Public high schools, which are located in low-income communities, are eligible to participate in the federally funded Community Eligibility Provision (CEP) program (USDA, 2020). Schools considered eligible to participate in CEP are enrolled in the National School Lunch Program and School Breakfast Program, which automatically qualifies students for free breakfast and lunch meals. There is no obligation for schools registered under the CEP program to require students to complete the free and reduced-priced meals application (USDA, 2020). Furthermore, students in CEP eligible schools are considered high poverty. The significance of identifying the federally recognized CEP eligible schools is to support the low socioeconomic status of the students and the schools.

The data collected was the low socioeconomic status student scoring based on the level of proficiency. The District of Columbia Public Schools identified Level 1 through Level 5 as the measurement of student proficiency in the PARCC in English language arts and math, with Levels 4 and 5 demonstrating proficiency. The study examined the PARCC test results for the low-socioeconomic students at each selective public and traditional high school and then applied Pearson's chi-square test with Cramer's V utilizing the SPSS statistical software.

Data Analysis

Determining the relationship between socioeconomic status and academic achievement was critical in identifying strategies to improve the academic performance of students of low socioeconomic status. This study examined the scoring proficiency identified from Level 1 (did not yet meet expectations) to Level 5 (exceeded

expectations) in the DCPS PARCC scoring. The analysis explored the percentage of students scoring proficiently in the English language arts and the math portions of the PARCC test and the percentage of students enrolled in the free and reduced-price meals program. The two variables identified the association between academic achievement and the type of public high school in the DCPS. The DCPS high school students from these schools were selected for the study because the PARCC test aligns with the standard core courses for the 2014–2018 school year.

Methodological Integrity

Much time and fiscal resources have been spent in the development of reliable assessments, and the quality of standardized assessments are relatively high; the questions are usually field-tested, well-written, and aligned with state curriculum through various quality assurance processes that ensure reliability and validity (Brown & Hattie, 2012). The PARCC results were assumed to be reliable data and were obtained from the official government website. I used aggregate summary data. Additionally, I checked the credentials of the website authors to verify their expertise and the information of the parent organization. Checking the sources of the website and who uses it verified the reliability of the information it provided. The standardized assessments provided an impartial perspective of student academic achievement in the individual subject areas which provide helpful information for administrators and parents.

The validity of the web predicated aggregate summary data was consequential to ascertain the PARCC results are accurate. I attempted to eliminate or minimize threats to internal validity while recognizing that diminishing all threats was not plausible. The study determined whether some unanticipated events occurred while the statistical

summary data was being analyzed and whether these events affected the dependent variable. By lessening validity threats and pursuing high internal validity the research was safeguarded (Creswell, 2014).

Kazdin (2003) stated that construct validity tries to determine if the intervention or arrangement was the causal agent; statistical conclusion validity refers to how the effects were determined. Cook and Campbell (1979) identified that statistical conclusion and validly infers whether it would be reasonable to presume co-variation given a specified alpha level and the obtained variances.

Ethical Considerations

Ethical considerations in research are critical in strengthening credibility and were of concern in the interpretation of the aggregate summary data in this study. The study credibility was addressed by documenting the aggregate summary data to maintain transparency, controlling the manner of how the data was collected to avoid measurement bias, ensuring the experiment results were placed in the literature, and not injecting any past or personal experiences related to the research into the study. As a former secondary school teacher, the researcher addressed potential bias that may have impacted the impartial analysis of study results. The goal of the study was to promote authentic, original, and accurate knowledge while avoiding errors (Roberts, 2014).

The study dealt with aggregate summary data of student success rates, and no students were used in the research as confirmed by the Institutional Review Board Approval (See Appendix A). The Creighton University Institutional Review Board helped the institution and researcher eliminate potential legal implications from any behavior that might be deemed unethical. All secondary summary data collection was

presented in an aggregated form. The study strove to ensure that the concerns of relevant stakeholders were addressed. Researchers must observe ethical standards for the public to support and trust in the research.

Summary

The study investigated the association between socioeconomic status and academic achievement by posing two research questions and related hypotheses which were vital in recognizing strategies to improve the standardized test scores for students of low-socioeconomic status. Additionally, the researcher identified possible correlations between socioeconomic status and academic achievement, although this was difficult to establish. The researcher shared information on the proposed research design, data collection tools, reliability and validity, analysis of the data, data analysis plan, ethical considerations, study timeline, IRB approval, and reflections. Respect for anonymity, confidentiality, and privacy of the aggregate summary data collection was crucial for ensuring the research's integrity. The quantitative correlational summary data analysis focused on the measurement of the summary data and used statistics to help generate the results and establish conclusions for the study. Furthermore, the data collection plan helped keep the researcher's biases from affecting the conclusions. Finally, the researcher selected questions to frame the research and put it into perspective within the literature.

CHAPTER FOUR: FINDINGS

Introduction

The No Child Left Behind Act of 2001, signed into law by President George W. Bush, set in motion laws that mandated that schools be held accountable for the academic progress of student achievement (No Child Left Behind [NCLB], 2002). President Bush believed that “too many of our neediest children are being left behind” (U.S. Department of Education, 2002, p. 9). States and school districts were mandated to develop and implement minimum performance benchmarks for standardized reading and math testing to be used to demonstrate student proficiency and adequate rates of progress.

This dissertation in practice explored the standardized test results of low socioeconomic status enrolled in the District of Columbia’s traditional and selective public high schools. Partnership for Assessment for College and Careers (PARCC) scores in English language arts and math for the school years 2014–2018 were explored. These school years were selected to comparatively explore disadvantaged students’ standardized test results, because this was during the time period that the NCLB was implemented.

The population of low socioeconomic status was based on the number of students enrolled in the free and reduced-price meals program. Eligibility for enrollment in this program was based on the U.S. Department of Agriculture’s Food and Nutrition Services guidelines. While significant differences exist, such as income and education among the low-, middle-, and high-socioeconomic classes, the PARCC scores of middle- and high-socioeconomic status students were not a part of this research. The PARCC scores of disadvantaged students in the selective high schools were compared to the PARCC scores

of other disadvantaged students in the traditional high school. Two research questions were formulated, and data were gathered to attempt to answer them.

Presentation of Findings

Aggregate summary data for the research study were low socioeconomic status students enrolled in the District of Columbia traditional and selective public high schools. Aggregate summary data refers to numerical information collected from multiple sources; the variables had been previously compiled into data summaries or summary reports for DCPS to reveal information and offer insights. The archived PARCC results from the website registered under the Office of the State Superintendent of Education for the District of Columbia Public Schools was used. The study's population consisted of 9,382 students enrolled in six selective high schools and seven traditional high schools for the academic school years 2014–2018. The six selective schools were Benjamin Banneker, Columbia Heights Education Campus, Duke Ellington School of the Arts, McKinley Technology, Phelps ACE (Selective), and School Without Walls. The seven traditional schools were Ballou, Cardozo Education Campus, Eastern, Dunbar, H.D. Woodson, Roosevelt, and Woodrow Wilson.

Within the traditional public high schools, Ballou, Cardozo, Dunbar, Eastern, Woodson, and Roosevelt have been recognized by the District of Columbia Public Schools as Community Eligibility Provision schools (DCPS, n.d.-f). Furthermore, the following selective public high schools, Columbia Heights, McKinley, and Phelps have been recognized as Community Eligibility Provision schools (DCPS, n.d.-f). The significance of identifying the CEP schools is to support the low socioeconomic status of the school and the students.

***RQ1.** Do students of low socioeconomic status attending selective public high schools perform better on the English language arts standardized tests than students of low socioeconomic status attending traditional public high schools?*

To ascertain whether a relationship exists between the English language arts standardized test results of low socioeconomic status students in selective and traditional public high schools, a Pearson chi-square for Cramer's V was conducted. There was a statistically significant relationship between the school type and proficiency in English language arts. Selective public high school students were more likely than traditional public high school students to achieve proficiency on the PARCC standardized test in English language arts. Significant differences between school types were found in the English language arts proficiency levels for all four years studied, including the aggregated total for all four years. In general, values under .1 mean little to no relationship, .1-.3 means a low association, and .3-.5 means a moderate association. The focus is on the fact that all the values are in the low to moderate range. The low to moderate range is acceptable, because other factors have a strong or stronger influence. If the range was higher ($>.5$), other factors would not matter that much. If they were lower ($<.1$), the type of school would not matter at all.

As Table 1 and Figure 7 shows, there were significantly more proficient English language arts test students at the selective schools (43.8%) compared to the traditional schools (19.1%) for 2014–2015 ($V = .27, p < .001$). Also, there were significantly more proficient English language arts students at the selective schools (45.5%) compared to the traditional schools (10.7%) for 2015–2016 ($V = .40, p < .001$). In addition, there were significantly more English language arts proficient students at the selective schools

(50.2%) compared to the traditional schools (23.5%) for 2016–2017 ($V = .27, p < .001$). There were also significantly more proficient English language arts students at the selective schools (55.6%) compared to the traditional schools (23.5%) for 2017–2018 ($V = .33, p < .001$). When aggregating the totals from 2014–2015 to 2017–2018, there were significantly more English language arts proficient results at the selective schools (48.7%) compared to the traditional schools (18.9%) for all four years studied ($V = .32, p < .001$).¹ Please note that in totaling the results over multiple years, individual students could be represented more than once in the data (Camilli, 1995).

¹ For the individual years, n represents both unique students and test administrations. For the total, the n represents only test administrations (and not unique students).

Table 1*Proficiency levels in English language arts based on school type (N = 9,023)*

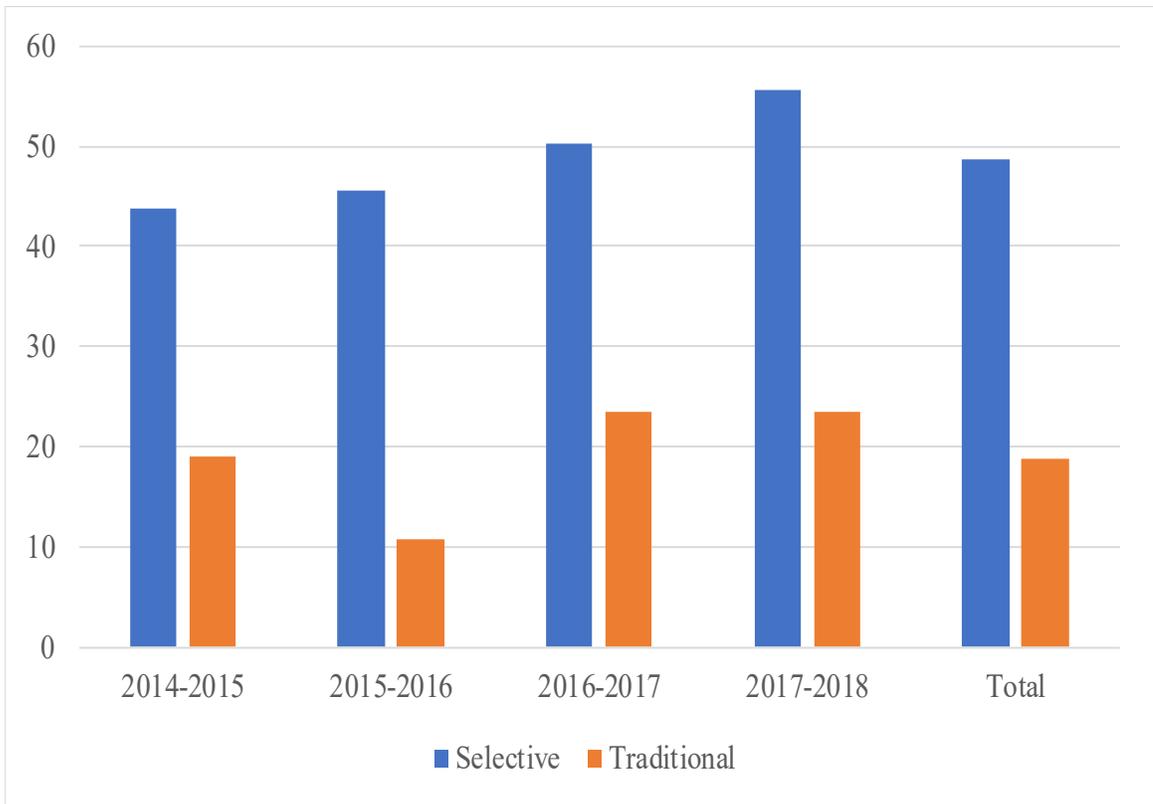
| School Year | School Type | Proficiency | | | |
|------------------------|--------------------|--------------------|------|------------|------|
| | | No | | Yes | |
| | | <i>n</i> | % | <i>n</i> | % |
| 2014–2015 ^a | Selective | 491 | 56.2 | 382 | 43.8 |
| | Traditional | 824 | 80.9 | 195 | 19.1 |
| 2015–2016 ^b | Selective | 502 | 54.5 | 419 | 45.5 |
| | Traditional | 1,459 | 89.3 | 174 | 10.7 |
| 2016–2017 ^c | Selective | 457 | 49.8 | 461 | 50.2 |
| | Traditional | 1,108 | 76.5 | 341 | 23.5 |
| 2017–2018 ^d | Selective | 381 | 44.4 | 478 | 55.6 |
| | Traditional | 1,033 | 76.5 | 318 | 23.5 |
| Total ^e | Selective | 1,831 | 51.3 | 1,740 | 48.7 |
| | Traditional | 4,424 | 81.1 | 1,028 | 18.9 |

^a $\chi^2(1, N = 1,892) = 133.31, p < .001$. Cramer's $V = .27$.
^b $\chi^2(1, N = 2,554) = 398.97, p < .001$. Cramer's $V = .40$.
^c $\chi^2(1, N = 2,367) = 177.43, p < .001$. Cramer's $V = .27$.
^d $\chi^2(1, N = 2,210) = 233.52, p < .001$. Cramer's $V = .33$.
^e $\chi^2(1, N = 9,023) = 903.88, p < .001$. Cramer's $V = .32$.

English language arts proficiency levels were much higher for the selective schools than for the traditional schools. English language arts proficiency levels for both selective and traditional schools were based on school type for the school years 2014 through 2018 (see Figure 9).

Figure 9

English Language Arts Proficiency Levels Based on Year and School Type



***RQ 2.** Do students of low socioeconomic status attending selective public high schools perform better on the standardized math tests than students of low-socioeconomic attending traditional public high schools?*

Pearson chi-square tests were also performed to determine if proficiency levels in math differed depending on whether the student attended a selective or traditional type school (see Table 2 and Figure 8). There was a statistically significant relationship between the school type and proficiency in math for the years studied, including the aggregated total of all four years.² Specifically, there were significantly more proficient math students at the selective schools (16.8%) compared to the traditional schools (2.7%) for 2014–2015 ($V = .24, p < .001$). Also, there were significantly more proficient math students at the selective schools (21.5%) compared to the traditional schools (7.1%) for 2015–2016 ($V = .21, p < .001$). In addition, there were significantly more proficient math students at the selective schools (26.9%) compared to the traditional schools (7.0%) for 2016–2017 ($V = .27, p < .001$). There were also significantly more proficient math students at the selective schools (31.8%) compared to the traditional schools (8.8%) for 2017–2018 ($V = .29, p < .001$). When aggregating the total from 2014–2015 to 2017–2018, there were significantly more proficient math results at the selective schools (23.9%) compared to the traditional schools (6.7%) for all four years studied ($V = .25, p < .001$). Please note that in totaling the results over multiple years, individual students could be represented more than once.

² For the individual years, n represents both unique students and test administrations. For the total, the n represents only test administrations (and not unique students).

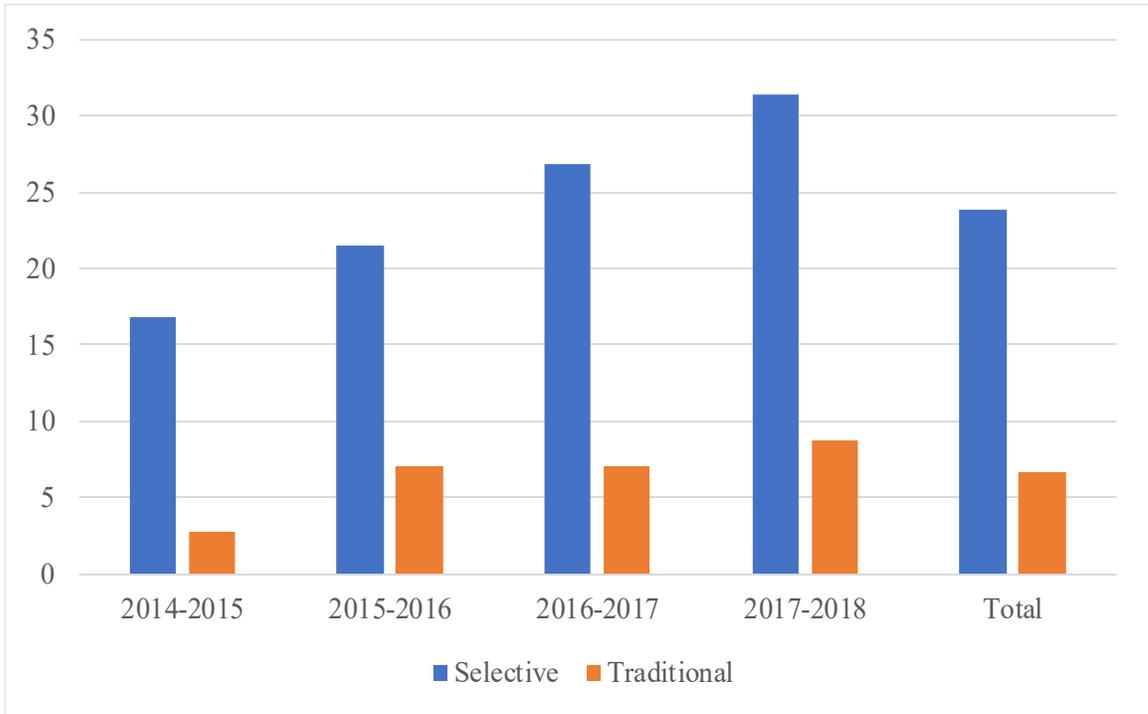
Table 2*Proficiency levels in math based on school type (N = 9,382)*

| School Year | School Type | Proficiency | | | |
|-------------|-------------|-------------|------|----------|------|
| | | No | | Yes | |
| | | <i>n</i> | % | <i>n</i> | % |
| 2014–2015 | Selective | 637 | 83.2 | 129 | 16.8 |
| | Traditional | 926 | 97.3 | 26 | 2.7 |
| 2015–2016 | Selective | 1,033 | 78.5 | 283 | 21.5 |
| | Traditional | 1,786 | 92.9 | 137 | 7.1 |
| 2016–2017 | Selective | 661 | 73.1 | 243 | 26.9 |
| | Traditional | 1,380 | 93.0 | 104 | 7.0 |
| 2017–2018 | Selective | 520 | 68.6 | 238 | 31.4 |
| | Traditional | 1,166 | 91.2 | 113 | 8.8 |
| Total | Selective | 2,851 | 76.1 | 893 | 23.9 |
| | Traditional | 5,258 | 93.3 | 380 | 6.7 |

^a $\chi^2(1, N = 1,718) = 101.24, p < .001$. Cramer's $V = .24$.
^b $\chi^2(1, N = 3,239) = 141.89, p < .001$. Cramer's $V = .21$.
^c $\chi^2(1, N = 2,388) = 178.67, p < .001$. Cramer's $V = .27$.
^d $\chi^2(1, N = 2,037) = 168.31, p < .001$. Cramer's $V = .29$.
^e $\chi^2(1, N = 9,382) = 561.82, p < .001$. Cramer's $V = .25$.

Figure 10

Math Proficiency Levels Based on Year and School Type



For the school year 2014–2015, the two schools with the highest English language arts proficiency rates were selective schools: School Without Walls (96.5%) and Benjamin Banneker (74.3%). The three schools with the lowest English language arts proficiency rates were traditional schools: Ballou, H.D. Woodson, and Roosevelt (0.0%). For 2015–2016, the two schools with the highest English language arts proficiency rates were again selective schools: Benjamin Banneker (98.4%) and School Without Walls (84.1%). The three schools with the lowest English language arts proficiency rates were traditional schools: Dunbar (4.8%), H.D. Woodson (3.6%), and Ballou (2.9%) (see Table 3).

Table 3

English language arts proficiency rates for the school years 2014–2015 and 2015–2016 (N = 4,446)

| School Type | School Name | 2014–2015 | | 2015–2016 | |
|--------------------|--------------------|------------------------|---------------------------|------------------------|---------------------------|
| | | Students Tested | Percent Proficient | Students Tested | Percent Proficient |
| Selective | Banneker | 109 | 74.3 | 125 | 98.4 |
| Selective | Columbia | 243 | 16.5 | 293 | 18.1 |
| Traditional | Ballou | 122 | 0.0 | 245 | 2.9 |
| Traditional | Cardozo | 67 | 6.0 | 148 | 5.4 |
| Traditional | Eastern | 233 | 10.7 | 251 | 17.5 |
| Selective | McKinley | 135 | 30.4 | 147 | 36.1 |
| Traditional | Roosevelt | 65 | 0.0 | 155 | 7.1 |
| Traditional | Wilson | 317 | 49.8 | 411 | 20.9 |
| Traditional | Woodson | 118 | 0.0 | 192 | 3.6 |
| Selective | Walls | 143 | 96.5 | 157 | 84.1 |
| Traditional | Dunbar | 97 | 8.2 | 231 | 4.8 |
| Selective | Ellington | 125 | 49.6 | 124 | 38.7 |
| Selective | Phelps | 118 | 16.9 | 75 | 13.3 |

For the school year 2014–2015, the two schools with the highest math proficiency rates were selective schools: School Without Walls (76.0%) and Benjamin Banneker (31.5%). The five schools with the lowest math proficiency rates were traditional schools: Ballou, Cardozo Education Campus, Dunbar, H.D. Woodson, and Roosevelt (0.0%). For 2015–2016, the two schools with the highest math proficiency rates were selective schools: Benjamin Banneker (61.5%) and School Without Walls (52.1%). The five schools with the lowest math proficiency rates were traditional schools: H.D. Woodson (0.9%), Dunbar (0.8%), Roosevelt (0.6%), Ballou (0.4%), and Cardozo Education Campus (0.0%) (see Table 4).

Table 4*Math proficiency rates for the school years 2014–2015 and 2015–2016 (N = 4,957)*

| School Type | School Name | 2014–2015 | | 2015–2016 | |
|-------------|-------------|-----------------|--------------------|-----------------|--------------------|
| | | Students Tested | Percent Proficient | Students Tested | Percent Proficient |
| Selective | Banneker | 111 | 31.5 | 130 | 61.5 |
| Selective | Columbia | 189 | 1.1 | 445 | 1.3 |
| Traditional | Ballou | 87 | 0.0 | 251 | 0.4 |
| Traditional | Cardozo | 100 | 0.0 | 105 | 0.0 |
| Traditional | Eastern | 248 | 1.6 | 261 | 1.1 |
| Selective | McKinley | 157 | 6.4 | 212 | 10.4 |
| Traditional | Roosevelt | 74 | 0.0 | 159 | 0.6 |
| Traditional | Wilson | 279 | 7.9 | 695 | 18.4 |
| Traditional | Woodson | 75 | 0.0 | 215 | 0.9 |
| Selective | Walls | 100 | 76.0 | 313 | 52.1 |
| Traditional | Dunbar | 89 | 0.0 | 237 | 0.8 |
| Selective | Ellington | 100 | 3.0 | 125 | 8.8 |
| Selective | Phelps | 109 | 2.8 | 91 | 1.1 |

For the school year 2016–2017, the two schools with the highest English language arts proficiency rates were the selective schools: Benjamin Banneker (89.9%) and School Without Walls (85.0%). The three schools with the lowest English language arts proficiency rates were traditional schools: H.D. Woodson (8.4%), Dunbar (6.1%), and Cardozo Education Campus (5.3%). For 2017–2018, the two schools with the highest English language arts proficiency rates were selective schools: Schools Without Walls (94.1%) and Benjamin Banneker (92.0%). The three schools with the lowest English language arts proficiency rates were traditional schools: Roosevelt (7.6%), Dunbar (6.4%), and Ballou (2.8%) (see Table 5).

Table 5

*English language arts proficiency rates for school years 2016–2017 and 2017–2018
(N = 4,577)*

| School Type | School Name | 2016–2017 | | 2017–2018 | |
|--------------------|--------------------|------------------------|---------------------------|------------------------|---------------------------|
| | | Students Tested | Percent Proficient | Students Tested | Percent Proficient |
| Selective | Banneker | 129 | 89.9 | 112 | 92.0 |
| Selective | Columbia | 266 | 27.1 | 234 | 26.1 |
| Traditional | Ballou | 247 | 8.9 | 180 | 2.8 |
| Traditional | Cardozo | 151 | 5.3 | 170 | 9.4 |
| Traditional | Eastern | 170 | 20.0 | 189 | 17.5 |
| Selective | McKinley | 185 | 41.1 | 143 | 69.2 |
| Traditional | Roosevelt | 117 | 9.4 | 170 | 7.6 |
| Traditional | Wilson | 449 | 54.1 | 421 | 55.1 |
| Traditional | Woodson | 167 | 8.4 | 112 | 10.7 |
| Selective | Walls | 140 | 85.0 | 135 | 94.1 |
| Traditional | Dunbar | 148 | 6.1 | 109 | 6.4 |
| Selective | Ellington | 137 | 46.7 | 156 | 48.7 |
| Selective | Phelps | 61 | 23.0 | 79 | 15.2 |

For the school year 2016–2017, the two schools with the highest math proficiency rates were selective schools: School Without Walls (68.7%) and Benjamin Banneker (53.8%). The five schools with the lowest math proficiency rates were traditional schools: Eastern (1.0%), Dunbar (0.6%), Ballou (0.0%), Cardozo Education Campus (0.0%), and H.D. Woodson (0.0%). For 2017–2018, the two schools with the highest math proficiency rates were selective schools: School Without Walls (73.0%) and Benjamin Banneker (69.6%). The five schools with the lowest math proficiency rates were four traditional schools and one selective: [Traditional] H.D. Woodson (0.9%), Cardozo Education Campus (0.6%), Ballou (0.5%), and [Selective] Phelps ACE (0.0%) (see Table 6).

Table 6*Math proficiency rates for the school years 2016–2017 and 2017–2018 (N = 4,425)*

| School Type | School Name | 2016–2017 | | 2017–2018 | |
|--------------------|--------------------|------------------------|---------------------------|------------------------|---------------------------|
| | | Students Tested | Percent Proficient | Students Tested | Percent Proficient |
| Selective | Banneker | 132 | 53.8 | 115 | 69.6 |
| Selective | Columbia | 258 | 10.9 | 180 | 8.9 |
| Traditional | Ballou | 240 | 0.0 | 201 | 0.5 |
| Traditional | Cardozo | 155 | 0.6 | 178 | 0.6 |
| Traditional | Eastern | 195 | 1.0 | 166 | 1.8 |
| Selective | McKinley | 169 | 18.9 | 120 | 23.3 |
| Traditional | Roosevelt | 128 | 3.9 | 167 | 3.0 |
| Traditional | Wilson | 437 | 21.7 | 328 | 30.2 |
| Traditional | Woodson | 172 | 0.0 | 107 | 0.9 |
| Selective | Walls | 134 | 68.7 | 126 | 73.0 |
| Traditional | Dunbar | 157 | 0.6 | 132 | 2.3 |
| Selective | Ellington | 145 | 9.7 | 140 | 15.7 |
| Selective | Phelps | 66 | 9.1 | 77 | 0.0 |

For all four testing periods combined 2014–2018, the schools with the highest English language arts proficiency testing rates were the selective schools: School Without Walls (89.7%) and Benjamin Banneker (89.1%). The schools with the lowest English language arts proficiency testing rates were the traditional schools: Roosevelt (6.9%), Cardozo Education Campus (6.7%), Dunbar (6.0%), Woodson (5.6%), and Ballou (4.3%) (see Table 7). Please note that in totaling the results over multiple years, individual students could be represented more than once in the data.

Table 7

English language arts proficiency rates for all school years 2014–2018 (N = 9,023)

| School Type | School Name | 2014–2018 | |
|--------------------|--------------------|------------------------|---------------------------|
| | | Students Tested | Percent Proficient |
| Selective | Banneker | 475 | 89.1 |
| Selective | Columbia | 1,036 | 21.8 |
| Traditional | Ballou | 794 | 4.3 |
| Traditional | Cardozo | 536 | 6.7 |
| Traditional | Eastern | 843 | 16.1 |
| Selective | McKinley | 610 | 44.1 |
| Traditional | Roosevelt | 507 | 6.9 |
| Traditional | Wilson | 1,598 | 45.0 |
| Traditional | Woodson | 589 | 5.6 |
| Selective | Walls | 575 | 89.7 |
| Traditional | Dunbar | 585 | 6.0 |
| Selective | Ellington | 542 | 46.1 |
| Selective | Phelps | 333 | 16.8 |

For all four testing periods combined 2014–2018, the schools with the highest math proficiency testing rates were the selective schools: School Without Walls (62.9%) and Benjamin Banneker (54.5%). The schools with the lowest math proficiency testing rates were traditional schools: Roosevelt (2.1%), Eastern (1.4%), Dunbar (1.0%), H.D. Woodson (0.5%), Cardozo Education Campus (0.4%), and Ballou (0.3%) (see Table 8). Please note that in totaling the results over multiple years, individual students could be represented more than once in the data.

Table 8*Math proficiency rates for all school years 2014–2018 (N = 9,382)*

| School Type | School Name | 2014–2018 | |
|--------------------|--------------------|------------------------|---------------------------|
| | | Students Tested | Percent Proficient |
| Selective | Banneker | 488 | 54.5 |
| Selective | Columbia | 1,072 | 4.9 |
| Traditional | Ballou | 779 | 0.3 |
| Traditional | Cardozo | 538 | 0.4 |
| Traditional | Eastern | 870 | 1.4 |
| Selective | McKinley | 658 | 14.0 |
| Traditional | Roosevelt | 528 | 2.1 |
| Traditional | Wilson | 1,739 | 19.8 |
| Traditional | Woodson | 569 | 0.5 |
| Selective | Walls | 673 | 62.9 |
| Traditional | Dunbar | 615 | 1.0 |
| Selective | Ellington | 510 | 9.8 |
| Selective | Phelps | 343 | 2.9 |

Analysis and Synthesis of Findings

Determining the relationship between academic performance and low socioeconomic status is essential in yielding evidence that attending selective high schools in the District of Columbia improves the academic performance of low-socioeconomic students. This study looked at 9,382 low-socioeconomic students in the District of Columbia selective and traditional public high schools to find the correlation between low socioeconomic status and academic performance on the PARCC standardized assessment tests in English language arts and math. The study used the 2014–2018 PARCC assessment data from the standardized English language arts and math tests. Low-socioeconomic students were identified as those students who received free or reduced-price meals in each ward of the District of Columbia.

The DCPS operates selective public high schools in Wards 1, 2, and 5 but currently does not have selective public high schools in Wards 3, 4, 6, 7, or 8. All six selective public high schools were used in the study. SPSS was used to analyze the aggregate summary data, and the output was created in the form of statistical results, figures, and tables.

The research findings from the Pearson chi-square tests with Cramer's V showed that low-socioeconomic status students who attended selective public high schools performed better on the PARCC English language arts and math assessment tests than low-socioeconomic status students attending traditional public high schools. The results showed a relationship existed between the type of school and attainment of proficiency in English language arts and math within DCPS. In both hypotheses, the nulls (H_{10} and H_{20}) were rejected and the alternatives (H_{1a} and H_{2a}) were supported.

The alternative null 1, and alternative null 2 hypotheses ($H_a: d_0 > 0$) showed that a positive Pearson chi-square correlation existed between low-socioeconomic status students' academic performance on the standardized PARCC assessment tests who attended selective high schools. The significant Pearson's results had Cramer's V values that identified the relationships as being in the low to moderate range.

Summary

In summary, this quantitative dissertation in practice explored the academic achievement of a sample of 9,382 students of low socioeconomic status attending the District of Columbia's selective and traditional public high schools. Significant relationships were found in students' English language arts (Research Question 1) and math (Research Question 2) proficiency levels; specifically, selective schools had

significantly higher percentages of English language arts and math proficient students than traditional schools. In the final chapter, these findings will be compared to the literature with conclusions and implications drawn, followed by a series of suggested recommendations.

The study examined and analyzed the data collected from 9,382 high school students attending the District of Columbia traditional and selective public high schools. The aggregate summary data was collected to find the correlation between selective and traditional low-socioeconomic status students' performance on the PARCC standardized assessment tests in English language arts and math. SPSS was used to process the aggregate summary data, and the output was used to generate test results, figures, and tables. Tables were generated to help the reader to understand and visualize the results of the study.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

Introduction

Based on the findings from the data presented in the previous chapter, there are important points to consider as they relate to the two research questions. To verify the Coleman Report's findings, testing data from DCPS for the years 2014 –2018 were used. The PARCC standardized tests measured the students' progress in English language arts and math from one academic year to the next. Essentially, the PARCC tests measured the students' progress and readiness for college or careers.

Low-socioeconomic status students enrolled in DCPS selective high schools, in which the average economic status was considered high, performed better on the standardized tests than the students attending traditional or selective schools in which 100% of the student body was considered economically disadvantaged. Coleman's research was validated by the DCPS standardized test results that supported that low-socioeconomic status students perform better when a combination of high and low-socioeconomic status students attends the same schools, regardless of whether the school was traditional or selective.

The remaining discussion in this chapter will highlight a proposed solution for using this data to create evidence-based solutions to the problem explored in this research. It encompasses a proposed solution, implementation of the proposed solution, potential barriers and obstacles, the leader's role in implementing the proposed solution, building support, evaluation and timeliness for implementation and assessment, implications, and a summary of the study.

Purpose of the Study

The purpose of this quantitative study was to explore the academic achievement of low-socioeconomic status students attending the District of Columbia's traditional and selective public high schools, as measured by the annual PARCC standardized test.

Aim of the Study

The aim of the study was to utilize standardized test data to create evidence-based recommendations for the District of Columbia Public Schools' leaders and educators on how best to achieve academic standards among low-socioeconomic status students.

Proposed Solution

The proposed solution to the problem involves the development of an in-school curriculum for peer-to-peer tutoring. Peer-to-peer tutoring is a term used to refer to "students working in pairs to help one another learn the material or practice an academic task" (National Education Association, n.d.-a).

Grounded on Vygotsky's social constructivists theory in an educational setting, the implementation of the peer-to-peer tutoring program would allow fellow students to collectively work on task together, with one student designated as the subject matter expert. The proposed solution would create a peer tutoring partnership between students. Specifically, peer-to-peer would require a collaborative agreement between high-achieving Level 4 or Level 5 traditional or selective public high school students and lower-achieving students. The peer-to-peer tutoring program would permit students attaining Level 4 and Level 5 on standardized tests to tutor lower-achieving students within the school. For schools that have students who cannot achieve a Level 4 or Level 5, then the peer-to-peer program would seek to partner with a high achieving high school.

Peer-to-peer tutoring is not a new phenomenon, New York City high schools implemented peer tutoring programs in the early 1970s for students that performed below required levels in reading and math as measured by standardized tests (Hassett, 1974). The New York City peer tutoring program produced positive results, which provided much needed individual help to achieve student academic success (Hassett, 1974).

The rationale for the proposed solution is to empower students toward positive change and to enable low-socioeconomic status students to take control of their education. An analysis of the collected data and findings demonstrated that the PARCC standardized tests among the economically disadvantaged students in the selective and traditional public high schools identified a wide achievement gap among students of similar demographics. The findings in the previous chapter showed that many economically disadvantaged students in the traditional public high schools are not meeting national achievement standards. What could be deemed successful in attaining academic achievement for some low-socioeconomic status students has not produced a successful model for other low-socioeconomic status students to emulate. If low-socioeconomic status students are to narrow this achievement gap, students should embrace learning opportunities within their grasp.

The primary qualification for selection as a peer-to-peer tutor is the standardized test readiness in English language arts and math at Level 4 (met expectations) or Level 5 (exceeded expectations). The proposed peer tutoring program would be tailored to meet individualized student needs, with a focus on preparation for PARCC testing in English language arts and math. Kunsch et al.'s (2007) research on peer tutoring suggests that student tutoring works best when students of different aptitude levels work together.

Support for the Solution

A review of the literature revealed that a discouraging disparity exists between the standardized test results of low socioeconomic status students attending the traditional public high and those attending selective public high schools. The research suggests there are internal and external factors negatively affecting students who attend both school types. Nevertheless, numerous students of low socioeconomic status in the selective public high schools have consistently attained Level 4 (met expectations) or Level 5 (exceeded expectations) despite the daily external barriers they faced. Furthermore, the research showed that too many students of low socioeconomic status in the traditional public school are not meeting Level 4 (met expectations) or Level 5 (exceeded expectations) and are not considered college or career ready.

Researchers must continue to explore the outliers, such as those students that outperformed other students with similar demographics, to determine which factors promote a successful academic environment. For the others, the proposed peer-to-peer tutoring solution has proven to be successful in other educational settings. Data obtained from Chicago randomized controlled trials showed that by the end of the school year students participating in peer tutoring programs had significantly higher grades and test scores (Ander et al., 2016). Al kharusi (2016) maintained that peer-tutoring produced positive results for primary and secondary schools and contributed to the field of tutoring and education. The students' ability to learn increases when students teach their peers (Zarifnejad et al., 2018).

If the achievement gap between low-socioeconomic status students and their economically advantaged peers is too narrow, an investment in education will play a key

role. The effects of academic achievement may not be realized immediately; however, future generations will reap the benefits of those efforts.

Implementation of the Proposed Solution

There are several steps necessary to implement the proposed solution. The process of implementation is identified in four phases and will run concurrent with the school year. Stakeholders should recognize their roles and responsibilities as they work through the process to establish the peer-to-peer tutoring program. The data results in this dissertation in practice shows that there is a need for an intervention program to aid economically disadvantaged students toward increasing academic success. In the first phase, the person selected to oversee the peer-to-peer tutoring program must obtain buy-in from the mayor and school chancellor by presenting a need for the peer-to-peer tutoring program with a focus on the research findings in Chapter 4.

The second phase of the proposed solution will require identifying key stakeholders and obtaining their buy-in to ensure success, most notably the mayor and school chancellor. Identifying key stakeholders will be followed by engaging a host of other stakeholders that will be either directly or indirectly affected by the success of a peer-to-peer tutoring program, such as teachers, DCPS administrators, local high school board members, students, parents, local business leaders, and community resource partners.

The third phase of the proposed solution will require generating an initial committee meeting to assess the need for a peer-to-peer tutoring program based on the research data. The committee will identify the mission, goals, and objectives of the peer-to-peer tutoring program. Generate community partnerships to generate the monetary

resources necessary to sustain the program with equipment and materials. There would also be a need to develop a proposal and curriculum for the English language arts and math courses, including Algebra I, Geometry, Algebra II, and Integrated Pathway. The course curriculum would align with courses students are required to enroll in during each semester. Finally, students would need to be recruited as tutors with a plan to create a tutor development program. The members of the committee will be tasked with completing parts of the process that pertain to their expertise.

The fourth phase is the assessment of the peer-to-peer tutoring program, recruitment and training peer tutors, and implementation. The sign-up and recruitment of tutors will begin at the end of a school year (typically in May) to launch the program the next year. The program coordinator will contact the student tutors who have volunteered to tutor at the beginning of the next school year (which begins in August). Course curricula and training programs will need to be developed and approved by DCPS. Student progress will be documented, tracked, and a quarterly assessment made based on the results of the previous years' standardized tests.

Potential Barriers and Obstacles to Proposed Solution

The study anticipates that the proposed peer-to-peer tutoring solution may encounter some potential barriers. Potential barriers may be present in many forms; the greatest resistance is anticipated to arise from the students who need the most support. Students may feel they cannot grasp a subject in the classwork environment, which plays a role in not seeking help. If a student in the high-socioeconomic status group volunteers to be a tutor, the student with low-socioeconomic status may feel stigmatized or otherwise intimidated by the peer tutor. There may not be actual evidence they are being

stigmatized, but there is an assumption or perception that they will be judged by their peers (Cisell et al., 2016).

Leader's Role in Implementing Proposed Solution

The leader of the proposed solution will need a leadership style that motivates, inspires change in the followers, and aligns with the educational setting. The leadership style that resonates with the type of leader needed to implement the proposed solution to the problem is the transformational leader. The transformational leader embraces features that will help to inspire others and leads by example (Sipe & Frick, 2015). The transformational leader will play a critical role in unifying the numerous stakeholders; most importantly, the leader must be charismatic and transparent. The transformational leader can inspire change to enable the students to improve and transform, while focusing on the needs of the students.

Building Support for the Proposed Solution

Support of the peer-to-peer tutoring program as a viable proposed solution may be vital in building a foundation for improving academic achievement for disadvantaged students. The seven traditional and six selective public high schools identified in this research indicated that the economically disadvantaged students were not achieving Level 4 (met expectations) or Level 5 (exceeded expectations) on standardized tests. Essentially, these students were not ready for college or a career.

The academic achievement disparities between low- and high-socioeconomic status students continue to present a critical challenge for school districts on how to best help these students. "Some have come to believe that the effects of poverty are too powerful for teachers and schools to substantially improve the academic outcomes of

disadvantaged children” (Ander et al., 2016, p.7) In addition to helping with achieving academic standards, peer-to-peer tutoring offers personal advantages to students, such as an opportunity to develop confidence, social skills, and ongoing friendships.

Evaluation and Timeline for Implementation and Assessment

In order to receive the necessary support, the peer-to-peer tutoring program must undergo an evaluation and have a timeline for the implementation and assessment period. The evaluation and timeliness for implementation are outlined in the proposed implementation and will follow the school calendar.

Implications

Practical Implications

The purpose of this quantitative study was to explore the academic achievement of economically disadvantaged students in traditional and selective public high schools as measured by standardized test scores. The study results indicated that many of the economically disadvantaged students in the traditional public high schools are not achieving national benchmarks on standardized tests. The development of a specific individualized approach, such as peer-to-peer tutoring, may better support the needs of the students. The data may function as a guideline for school administrators in narrowing this achievement gap. The implementation of an individualized peer-to-peer tutoring program may provide long-term benefits to the students. Moreover, this study contributes to the existing body of literature by accumulating data regarding students’ progress on standardized tests.

Implications for Future Research

Prior studies were lacking in the area of low-socioeconomic status students' performance on English language arts and math standardized tests, when matched against selective and traditional public high schools in the District of Columbia. The relationship between low-socioeconomic status student achievement on standardized test scores and whether they attended a traditional or selective school is only part of a more complex set of relationships regarding educational achievement outcomes. Standardized test scores are simply more visible because of the existing educational system and the government mandated testing that allows a certain level of comparisons to be made. Future research is needed to further explore the differences in school inputs such as class volume, per-pupil expenditure, teacher education, and teacher proficiency.

Future studies might also consider a mixed-methods approach to identify other factors such as those deemed important by students. For example, a survey could include questions about the importance of education, academic areas in which they require assistance, and what would make them feel more comfortable in asking for assistance. Using a qualitative survey approach involving teachers, students, and parents could also be beneficial.

Summary of the Study

This dissertation in practice employed an exploratory study of the academic achievement of economically disadvantaged students attending the District of Columbia's traditional and selective public high schools as measured by the annual PARCC standardized test scores. The aim of the study was to utilize standardized test data to create evidence-based recommendations for the District of Columbia Public Schools'

leaders and educators on how best to achieve academic standards among disadvantaged students.

The quantitative study used Pearson's chi-square test with Cramer's V to explore the relationship between the standardized English language arts and math test scores of traditional and selective public high schools low-socioeconomic status students.

Significant relationships were found in the students' English language arts and math proficiency levels. Selective schools had significantly higher tested proficiency levels in English language arts and math than did traditional schools. The cause of low-socioeconomic status students in selective schools outperforming those in traditional schools could be an indicator of internal and external factors in the students' learning environments. The District of Columbia education system should consider implementing a peer-to-peer tutoring program to enhance low-socioeconomic status student achievement.

The proposed solution to the research findings suggests that the implementation of a peer-to-peer tutoring program may positively contribute to some students' academic success (Al kharusi, 2016). As previously noted, the proposed solution would create a peer-to-peer tutoring partnership among students. Specifically, peer-to-peer tutoring would necessitate a joint agreement between higher-achieving traditional or selective public high school students and lower-achieving students. The program would run concurrently with the school year. The enrollment of lower-achieving students would be based on standardized test scores on the PARCC of less than Level 3 (approached expectations) or lower.

An assessment of the peer-to-peer tutoring program would need to be conducted quarterly to evaluate its effectiveness in regards to students' academic achievement on standardized tests. The standardized test, in turn, poses a problem when trying to measure the effectiveness of the tutoring program since students are enrolled in courses that align with the standardized tests. Students' can apply the knowledge learned in the tutoring program on the standardized test and their English language arts and math classes. However, a more reliable evaluation would involve assessing classroom grades and examination scores based on the specific courses, which align with the PARCC tests.

This research contributes to the greater good by helping economically disadvantaged students discover their strengths and weakness. While disadvantaged students face daily challenges in attaining the same academic achievements as their advantaged peers, some low socioeconomic status students can discover their inner strengths and overcome such obstacles. This research is dedicated to those economically disadvantaged students who cannot, through no fault of their own, and the hope that they find that inner strength to persevere. This journey started with the intent of bringing attention to low-socioeconomic status students in the selective public schools and their ability to excel academically, despite their economic status.

The direction of this research began to gradually shift as it became evident that many economically disadvantaged students in the traditional public high schools were not attaining the national standards on standardized tests. These students may eventually graduate from high school, but since they are not at the top of the class at their traditional or selective schools, they may continue the cycle of a low-socioeconomic class existence.

References

- Al kharusi, D. (2016). What positive impacts does peer tutoring have upon the peer tutors at SQU? *Journal of Education and Practice*, 7(27), 115–127.
<https://files.eric.ed.gov/fulltext/EJ1115801.pdf>
- Ander, R., Guryan, J., & Ludwig, J. (2016). Improving academic outcomes for disadvantaged students: Scaling up individualized tutorials (ED570862).
<https://eric.ed.gov/?id=ED570862>
- Armor, D. J. (2006). Brown and black-white achievement. *Academic Questions*, 19(2), 40–46. <https://doi.org/10.1007/s12129-006-1014-8>
- Baete, G. S., & Hochbein, C. (2014). Project proficiency: Assessing the independent effects of high school reform in an urban district. *Journal of Educational Research*, 107(6), 493–511. <https://doi.org/10.1080/00220671.2013.823371>
- Banerjee, P. (2016). A systematic review of factors linked to the poor academic performance of disadvantaged students in science and math in schools. *Cogent Education*, 3(1), 1–17. <https://doi.org/10.1080/2331186X.2016.1178441>
- Barrow, L., Sartain, L., & Torre, M. (2017). *The role of selective high schools in equalizing educational outcomes: Using place-based affirmative action to estimate heterogeneous effects by neighborhood socioeconomic status* (Report No. WP 2016-17). Federal Reserve Bank of Chicago.
- Barton, P. E. (2004). Why does the gap persist? *Educational Leadership*, 62(3), 8–13.
<https://www.ascd.org/publications/educational-leadership>

- Ben-Porath, S. (2012). School choice and educational opportunity: Rationales, outcomes, and racial disparities. *Theory and Research in Education, 10*(2), 171–189.
<https://doi.org/10.1177/1477878512446545>
- Betson, D. M., & Michael, R. T. (1997). Why so many children are poor. *The Future of Children, 7*(2), 25–39.
https://www.futureofchildren.org/usr_doc/vol7no2ART2.pdf
- Bhise, C. D., & Sonawat, R. (2015). Factors influencing school readiness of children. *Research Journal of Recent Sciences, 5*(5), 53–58. <https://doi.org/10.ISCA-RJRS-2015-068.php>
- Brown v. Board of Education, 347 U.S. 483 (1954).
- Brown, G. T. L., & Hattie, J. A. (2012). The benefits of regular standardized assessment in childhood education: Guiding improved instruction and learning. In S. Suggate and E. Reese (Eds.), *Contemporary debates in childhood education and development* (pp. 287-292). Routledge.
- Buckingham, J., Wheldall, K., & Beaman-Wheldall, R. (2013). Why poor children are more likely to become poor readers: The school years. *Australian Journal of Education, 57*, 190–213. <https://doi.org/10.1177/0004944113495500>
- Burgess, S., Dickson, M., & Macmillan, L. (2019). Do selective schooling systems increase inequality? *Oxford Economic Papers, 72*(1), 1–24.
<https://doi.org/10.1093/oep/gpz028>
- Camilli, G. (1995). The Relationship between fisher's exact test and pearson's chi-square test: A bayesian perspective. *In Psychometrika* (Vol. 60, Issue 2, pp. 305–312).

- Carnoy, M., Elmore, R., & Siskin, L. (2003). *The new accountability: High schools and high stakes testing*. Routledge Falmer.
- Ciscell, G., Foley, L., Luther, K., Howe, R. & Gjsedal, T. (2016). Barriers to accessing tutoring services among students who received a mid-semester warning. *National College Learning Center Association*. 21(2), 39–54.
<https://files.eric.ed.gov/fulltext/EJ1114513.pdf>
- Civil Rights Act, Title VII, Pub. L. 88-352, 78 Stat. 241 (1964).
- Clark, D. (2010). Selective schools and academic achievement. *B.E. Journal of Economic Analysis & Policy*, 10(1), 2–12. <https://doi.org/10.2202/1935-1682.1917>
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2010). Teacher credentials and student achievement in high school: A cross-subject analysis with student fixed effects. *The Journal of Human Resources*, 45(3), 655–681.
<https://doi.org/10.3368/jhr.45.3.655>
- Coleman, J. S., Campbell, E. Q., Hobson, C. I., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (1966, July 7). *Equality of educational opportunity*. Retrieved January 10, 2017, from <https://files.eric.ed.gov/fulltext/ED012275.pdf>
- Cook, T. D., & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings*. Houghton Mifflin.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage.
- Crook, S. R., & Evans, G. W. (2014). The role of planning skills in the income-achievement gap. *Child Development*, 85(2), 405–411.
<https://doi.org/10.1111/cdev.12129>

- Crowder, K., & South, S. J. (2003). Neighborhood distress and school dropout: The variable significance of community context. *Social Science Research, 32*(4), 659–698. [https://doi.org/10.1016/S0049-089X\(03\)00035-8](https://doi.org/10.1016/S0049-089X(03)00035-8)
- Cullen, J., Jacob, B. A., & Levitt, S. (2006). The effect of school choice on participants: Evidence from randomized lotteries. *Econometrica, 74*(5), 1191–1230.
- Dai, D. Y., Tan, X., Marathe, D., Valtcheva, A., Pruzek, R. M., & Shen, J. (2012). Influences of social and educational environments on creativity during adolescence: Does SES matter? *Creativity Research Journal, 24*(3), 191–199. <https://doi.org/10.1080/10400419.2012.677338>
- Denessen, E., Bakker, J., & Gierveld, M. (2007). Multi-ethnic schools' parental involvement policies and practices. *School Community Journal, 17*(2), 27–44.
- De Paola, M., Ponza, P., & Scoppa, V. (2013). Class size effects on student achievement: Heterogeneity across abilities and fields. *Education Economics, 43*(3), 418–433. <https://doi.org/10.1080/09645292.2010.511811>
- Desimone, L. (1999). Linking parent involvement with student achievement: Do race and income matter? *The Journal of Educational Research, 93*(1), 11–30. <https://doi.org/10.1080/00220679909597625>
- Dial, J. C. (2008). *The effect of teacher experience and teacher degree levels on student achievement in mathematics and communication arts* [Doctoral dissertation, Baker University]. http://www.bakeru.edu/images/pdf/SOE/EdD_Theses/Dial_Jaime.pdf
- District of Columbia Public Schools (n.d.-a). *DCPS at a glance: Enrollment*. Retrieved February 1, 2019, from <https://dcps.dc.gov/node/966292>

District of Columbia Public Schools (n.d.-b). *DCPS fast facts 2017–2018*. Retrieved September 20, 2019, from

<https://dcps.dc.gov/sites/default/files/dc/sites/dcps/publication/attachments/DCPS%20Fast%20Facts%202017-18.pdf>

District of Columbia Public Schools. (n.d.-c). *In-boundary school enrollment*.

<https://dcps.dc.gov/page/boundary-school-enrollment>

District of Columbia Public Schools (n.d.-e). *Selective high school admissions requirements and processes*. <http://dcps.dc.gov>

District of Columbia Public Schools (n.d.-f). *Community eligibility provision schools*.

<https://dcps.dc.gov/page/community-eligibility-provision-cep-schools>

Dittmann, J., & Goebel, J. (2010). Your house, your car, your education: The socioeconomic situation of the neighborhood and its impact on life satisfaction in Germany. *Social Indicators Research*, *96*, 497–513.

<https://doi.org/10.1007/s11205-009-9489-7>

Farooq, M. S., Chaudhry, A. H., Shafiq, M., & Berhanu, G. (2011). Factors affecting students' quality of academic performance: A case of secondary school level. *Journal of Quality and Technology Management*, *7*(2), 1–14.

<https://doi.org/10.5430/jnep.v8n1p60>

Finn, C., & Hockett, J. (2013). *Exam schools: Inside America's most selective public high schools from the inside*. Princeton University Press.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th ed.). McGraw Hill.

Gallagher, C. J. (2003). Reconciling a tradition of testing with a new learning paradigm.

Educational Psychology Review, 15(1), 83–99.

<https://doi.org/10.1023/A:1021323509290>

Gamoran, A. (2007). *Standards-based reform and the poverty gap: Lessons for “No*

Child Left Behind.” Brookings Institution Press.

Gamoran, A., & Bruch, S. (2017). Educational inequality in the United States: Can we

reverse the tide? *Journal of Education and Work*, 30(7), 777–792.

<https://doi.org/10.1080/13639080.2017.1383091>

Garcia, E., & Weiss, E., (2017, September 27). *Education inequalities at the school at the*

school starting gate: Gaps, trends, and strategies to address them. Economic

Policy Institute. Retrieved June 16, 2019, from

<https://www.epi.org/publication/education-inequalities-at-the-school-starting-gate/>

Guskey, T. R., & Jung, L. A. (2013). *Answers to essential questions about standards,*

assessments, grading, & reporting. Corwin.

Hanushek, E., & Luque, J. (2003). Efficiency and equity in schools around the world.

Economics of Education Review, 22, 481–502. [https://doi.org/10.1016/S0272-](https://doi.org/10.1016/S0272-7757(03)00038-4)

[7757\(03\)00038-4](https://doi.org/10.1016/S0272-7757(03)00038-4)

Hassett, J. J. (1974). Peer tutoring in New York City high schools. *The English Journal*,

63(4), 77–78.

Heckman, J.J. (2011). The economics of inequality: The value of early childhood

education. *American Educator*, 35(1), 31-35. Retrieved July 29, 2020, from

<https://files.eric.ed.gov/fulltext/EJ920516.pdf>

- Henry, K., Cavanagh, T., & Oetting, E. (2011). Perceived parental investment in school as a mediator of the relationship between socio-economic indicators and educational outcomes in rural America. *Journal of Youth and Adolescence*, 40(9), 1164–1177. <https://doi.org/10.1007/s10964-010-9616-4>
- Hill, H. C. (2017). The Coleman report, 50 year on: What do we know about the role of schools in academic inequality? *The Annals of the American Academy of Political and Social Science*, 674(1), 9–26. <https://doi.org/10.1177/0002716217727510>
- Hobson v. Hansen, 269 F. Supp. 401 (D.D.C 1967).
- Hu, H., & Pattugalan, M. (2013). Factors that impact children’s school readiness: Comparing the perspectives of Charles Wright Mills and Bell Hooks. *Ryerson Journal of Policy Studies*, 1, 1–12.
- Huang, H. (2015). Can students themselves narrow the socioeconomic status-based achievement gap through their own persistence and learning time? *Education Policy Analysis Archives*, 23(108), 1–35. <https://doi.org/10.14507/epaa.v23.1977>
- Huang, H., & Zhu, H. (2017). High achievers from low-socioeconomic backgrounds: The critical role of disciplinary climate and grit. *Mid-Western Educational Researcher*, 29(2), 93–116.
- Hussain, I. (2012). Use of constructivist approach in higher education: An instructors’ observation. *Creative Education*, 3, 179–184.
<https://doi.org/10.4236/ce.2012.32028>
- Isaacs, J. B. (2012). *Starting school at a disadvantage: The school readiness of poor children*. Center on Children and Families at Brookings, Brookings Institute.

Retrieved February 7, 2020, from https://www.brookings.edu/wp-content/uploads/2016/06/0319_school_disadvantage_isaacs.pdf

Johnson, R. L. (1994). School choice: Limited choices for minority and the poor.

Intercultural Development Research Association (IRDA) Newsletter.

<https://www.idra.org/resource-center/school-choice-limited-choices-for-minority-and-the-poor/>

Kahlenberg, R. (2015, February 14). Saving school choice without undermining poor communities. *Atlantic*. Retrieved July 29, 2019, from

<https://www.theatlantic.com/education/archive/2015/02/saving-school-choice-without-undermining-poor-communities/385510/>

Kazdin, A. (2003). *Research design in clinical psychology* (4th ed.). Pearson Publishing.

Kini, T., & Podolsky, A. (2016, June) *Does teaching experience increase teacher effectiveness? A review of the research*. Palo Alto: Learning Policy Institute.

Retrieved July 31, 2020, from <https://learningpolicyinstitute.org/our-work/publications-resources/does-teaching-experience-increase-teacher-effectiveness-review-research>.

Kunsch, C. A., Jitendra, A. K., & Sood, S. (2007). The effects of peer-mediated instruction in mathematics for students with learning problems: A research synthesis. *Learning Disabilities Research & Practice*, 22(1), 1-12.

<https://doi.org/10.1111/j.1540-5826.2007.00226.x>

Lacour, M., & Tissington, L. (2011). The effects of poverty on academic achievement.

Education Research and Reviews, 7, 522–527.

- Liu, X., & Lu, K. (2008). Student performance and family socioeconomic status. *Chinese Education and Society, 41*(5), 70–83. <https://doi.org/10.2753/CED1061-1932410505>
- Maddaus, J., & Marion, S. (1995). Do standardized test scores influence parental choice of high school? *Journal of Research in Rural Education, 11*(2), 75–83. <https://doi.org/10.1.1.530.2449&rep=rep1>
- Magnet Schools of America (2020). *What are magnet schools*. Retrieved June 19, 2020, from <https://magnet.edu/about/what-are-magnet-schools>
- Martens, P. J., Chateau, D. G., Burland, E. M., Finlayson, G. S., Smith, M. J., Taylor, C. R., Brownell, M. D., Nickel, N. C., Katz, A., & Bolton, J. M. (2014). The effect of neighborhood socioeconomic status on education and health outcomes for children living in social housing. *American Journal of Public Health, 104*(11), 2103–2115. <https://doi.org/10.2105/AJPH.2014.302133>
- Marzano, R. J. (2003). *What works in schools: Translating research into action*. Association for Supervision & Curriculum Development.
- Matthews, J. S., Kizzie, K. T., Rowley, S. J., & Cortina, K. (2010). African Americans and boys: Understanding the literacy gap, tracing academic trajectories, and evaluating the role of learning-related skills. *Journal of Educational Psychology, 102*(3), 757–771. <https://doi.org/10.1037/a0019616>
- Morgan, P. L., Farkas, G., Hillemeier, M. M., & Maczuga, S. (2009). Risk factors for learning-related behavior problems at 24 months of age: Population-based estimates. *Journal of Abnormal Child Psychology, 37*, 401–413. [doi:10.1007/s10802-008-9279-8](https://doi.org/10.1007/s10802-008-9279-8)

My School DC (n.d.). *Application*. <http://apply.myschooldc.dc.gov>

National Education Association. (n.d.-a). *Research spotlight on peer tutoring*. Retrieved May 9, 2020, from <http://www.nea.org/tools/35542.htm>

National Education Association (n.d.-b). *Students affected by achievement gaps*. Retrieved April 16, 2019, from <https://www.nea.org/home/20380.htm>

Nebbitt, V. E., Lombe, M., LaPoint, V., & Bryant, D. (2009). Predictors and correlates of academic performance among urban African American adolescents. *Journal of Negro Education, 78*, 29–41.

Ng, S., Zakaria, R., & Lai, S. (2016). A study of time use and academic achievement among secondary-school students in the state of Kelantan, Malaysia. *International Journal of Adolescence and Youth, 21*, 433–448.

No Child Left Behind Act of 2001, P.L. 107-110, 20 U.S.C. § 6319 (2002).

Office of the State Superintendent of Education <https://osse.dc.gov/service/national-school-lunch-program-nslp>

Office of the State Superintendent of Education (n.d.). *The partnership for assessment of readiness for college and careers (PARCC)*. <https://osse.dc.gov/parcc>

Osborne-Lampkin, L., Folsom, J. S., and Herrington, C. D. (2015). A systematic review of the relationships between principal characteristics and student achievement (ED561940). Retrieved January 5, 2020, from <https://eric.ed.gov/?id=ED561940>

Palardy, G. J. (2013). High school socioeconomic segregation and student attainment. *American Educational Research Journal, 50*(4), 714–754.

<https://doi:10.3102/0002831213481240>

- Parr, J. M., & Townsend, M. A. R. (2002). Environments, processes, and mechanisms, in peer learning. *International Journal of Educational Research*, 37(5), 403–423.
[https://doi.org/10.1016/S0883-0355\(03\)00013-2](https://doi.org/10.1016/S0883-0355(03)00013-2)
- Perna, L. (2000). Differences in the decision to attend college among African Americans, Hispanics, and whites. *Journal of Higher Education*, 71(2), 117–143.
<https://doi.org/10.2307/2649245>
- Perry, L. B. (2007). *School composition and student outcomes: A review of emerging areas of research* [Paper presentation]. The AARE 2007 International Educational Research Conference, Fremantle, Western Australia.
- Perry, L. B., & McConney, A. (2010). Does the SES of the school matter? An examination of socioeconomic status and student achievement using PISA 2003. *Teachers College Record*, 112, 1137–1162.
- Rambo-Hernandez, K., & McCoach, D. (2015). High-achieving and average students' reading growth: Contrasting school and summer trajectories. *The Journal of Educational Research*, 108, 112–129.
<https://doi.org/10.1080/00220671.2013.850398>
- Reardon, S. F., Valentino, R. A., Kalogrides, D., Shores, K. A., & Greenberg, E. H. (2013). *Patterns and trends in racial academic achievement gaps among states, 1999-2011*. Center for Education Policy Analysis, Stanford University. Retrieved August 10, 2019, from <https://cepa.stanford.edu/content/patterns-and-trends-racial-academic-achievement-gaps-among-states-1999-2011>
- Rendón, M.G. (2014). Drop out and “disconnected” young adults: Examining the impact of neighborhood and school contexts. *The Urban Review*, 46(2), 169–196.

<https://doi.org/10.1007/s11256-013-0251-8>

- Rice, J. K. (2010). *The impact of teacher experience: Examining the evidence and policy implications*. National Center of Analysis of Longitudinal Data in Education Research.
- Roberts, C. M. (2014). *The dissertation journey: A practical and comprehensive guide to planning, writing, and defending your dissertation* (2nd ed.). Corwin Press.
- Root, E., & Humphrey, J. (2014). The impact of childhood mobility on exposure to neighborhood socioeconomic context over time. *American Journal of Public Health, 104*(1), 80–82. <https://doi.org/10.2105/AJPH.2013.301467>
- Saifi, S., & Mehmood, T. (2011). Effects of socioeconomic status on students achievement. *International Journal of Social Sciences and Education, 1*, 119–128.
- Shields, L., Newman, A., & Satz, D. (2017). Equality of educational opportunity, In E. N. Zalta (Ed.), *Stanford Encyclopedia of Philosophy*. Retrieved September 20, 2019, from <http://plato.stanford.edu/archives/sum2017/entries/equal-ed-opportunity/>
- Shin, I., & Chung, J. (2009). Class size and student achievement in the United States: A meta-analysis. *KEDI Journal of Education Policy, 6*(2), 3–19.
- Silvernail, D. L., Sloan, J. E., Paul, C. R., Johnson, A. F., & Stump, E. K. (2014). *The relationship between school poverty and student achievement in Maine*. Center for Education Policy, Applied Research and Evaluation, University of Maine.
- Sipe, J. W., and Frick, D. M. (2015). *Seven pillars of servant leadership*. Paulist Press.

- Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research, 75*, 417–453.
<https://doi.org/10.3102/00346543075003417>
- Smagorinsky, P., & O'Donnell-Allen, C. (2000). Idiocultural diversity in small groups: The role of the relational framework in collaborative learning. In P. Smagorinsky and C. D. Lee (Eds.), *Vygotskian perspectives on literacy research: Constructing meaning through collaborative inquiry* (pp. 165–190). Cambridge University Press.
- Stein, P. (2018, August 18). In D.C. high schools, few students are passing national standardized test. *Washington Post*. Retrieved November 8, 2019, from https://www.washingtonpost.com/local/education/in-dc-high-schools-few-students-are-passing-national-standardized-test/2018/08/17/4d7c9e24-a22d-11e8-83d2-70203b8d7b44_story.html?utm_term=.3c883ead2f14
- Strauss, V. (2018, December 16). Can charter schools be reformed? Should they be? *Washington Post*. <https://www.washingtonpost.com/education/2018/12/16/can-charter-schools-be-reformed-should-they-be/>
- Tavani, C., & Losh, S. (2003). Motivation, self-confidence, and expectations as predictors of the academic performances among our high school students. *Child Study Journal, 33*(3), 141–153.
- Taylor, J. (2005). Poverty and student achievement. *Multicultural Education, 12*(4), 53–57.
- Thielman, J. (2012). School turnaround: Cristo Rey Boston High School case. *Catholic Education, 16*, 115–149.

- Thompson, C., & Ongaga, K. (2011). "Flying the plane while we build it": A case study of an early college high school. *High School Journal*, 94(2), 43–57.
<https://doi.org/10.1353/hsj.2011.0000>
- Thomson, S. (2018). Achievement at school and socioeconomic background: An educational perspective. *Science of Learning*, 3, 5.
<https://doi.org/10.1038/s41539-018-0022-0>
- Tomul, E., & Savasci, H. (2012). Socioeconomic determinants of academic achievement. *Educational Assessment, Evaluation and Accountability*, 24(3), 175–187.
<https://dor.org/10.1007/s11092-012-9149-31>
- United States (1965). Elementary and secondary education act of 1965: H.R. 2362, 89th Cong., 1st sess., Public law 89-10. Reports, bills, debate and act. U.S. Govt. Print. Off.
- United States (n.d.). Elementary and secondary education act of 1965, as amended, Title 1, Part A; 20 U.S.C. §6391-6339, §6571-6578.
- United States Department of Agriculture. (2020, August 8). Community Eligibility Provision Resource Center. Retrieved September 27, 2020, from <https://www.fns.usda.gov/nslp/community-eligibility-provision-resource-center>
- United States Department of Education. n.d. "Fast facts." National Center for Education Statistics. Retrieved January 15, 2019 (<https://nces.ed.gov/fastfacts/>).
- United States Department of Education. (2018, October 24). Improving basic programs operated by local educational agencies (Title I, Part A).
<https://www2.ed.gov/programs/titleiparta/index.html?exp=0>

United States Department of Education, Office of Elementary and Secondary Education.

(2002, September). *No child left behind: A desktop reference*. p. 9. Retrieved

December 10, 2019, from

<https://www2.ed.gov/admins/lead/account/nclbreference/reference.pdf>

Van Ewijk, R., & Slegers, P. (2010). The effect of peer socioeconomic status on student achievement: A meta-analysis. *Educational Research Review*, 5, 134–150.

<https://doi.org/10.1016/j.edurev.2010.02.001>

Vygotsky, L. S. (1962). *Thought and language* (E. Hanfmann & G. Vakar, Eds. and Trans.). MIT Press.

Welsh, R. O., Duque, M., & McEachin, A. (2016). School choice, student mobility, and school quality: Evidence from post-Katrina New Orleans. *Education Finance and Policy*, 11(2), 150–176. <https://doi.org/10.1162/EDFP.a.00183>

Wexler, N. (2014, April 9). Why are so many DCPS schools listed as 99% low-income? It's not necessarily because they are. *Greater Washington*. Retrieved January 24, 2020, from <https://ggwash.org/view/34337/why-are-so-many-dcps-schools-listed-as-99-low-income-its-not-necessarily-because-they-are>

White, K. R. (1982). The relationship between socioeconomic status and academic achievement. *Psychological Bulletin*, 91, 461–481. <https://doi.org/10.1037/0033-2909.91.3.461>

Williams, J. M., Bryan, J., Morrison, S., & Scott, T. R. (2017). Protective factors and processes contributing to the academic success of students living in poverty: Implications for counselors. *Journal of Multicultural Counseling and Development*, 45(3), 183–200. <https://doi.org/10.1002/jmcd.12073>

- Wobmann, L., Ludemann, E., Schutz, G., & West, M. R. (2007) *School accountability, autonomy, choice, and the level of student achievement: International evidence from PISA 2003* (OECD Education Work Papers No. 13).
<https://doi.org/10.1787/19939019>
- Woessmann, L. (2016). The importance of school systems: Evidence from international differences in student achievement. *Journal of Economic Perspectives*, 30(3), 3–22. <https://doi.org/10.1257/jep.30.3.3>
- Zarifnejad, G., Mirhaghi, A., & Rajabpoor, M. (2018). Does peer education increase academic achievement in first year students? A mixed-method study. *Journal of Peer Learning*, 11(7), 89–98. <https://eric.ed.gov/?id=EJ1176030>

Appendix A – Institution Review Board Approval

Office of the Provost
Research Compliance

| | |
|------------------|---|
| DATE: | 13-Jan-2020 |
| TO: | Anderson, Brian E |
| FROM: | Social / Behavioral |
| PROJECT TITLE: | STUDENT ACHIEVEMENT: EXPLORING THE STANDARDIZED TEST SCORES OF THE DISTRICT OF COLUMBIA'S TRADITIONAL AND SELECTIVE PUBLIC HIGH SCHOOLS |
| REFERENCE #: | 2000706 |
| SUBMISSION TYPE: | Initial Application |
| REVIEW TYPE | NHS Review |
| ACTION: | NO IRB OVERSIGHT REQUIRED |
| EFFECTIVE DATE: | 13-Jan-2020 |

Thank you for your submission of Initial Application materials for this project. The protocol attached to this submission have been reviewed.

It has been determined this project does not involve human subjects under 45 CFR 46.102(f). IRB review is not required.

We will retain a copy of this correspondence within our records.

If you have any questions, please contact the IRB Office at 402-2802126 or irb@creighton.edu. Please include your project title and number in all correspondence with this committee.