

THE IMPACT OF RACIAL SEGREGATION ON SCHOOL PERFORMANCE IN CHARTER  
SCHOOLS

by

Billie W. Berry

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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## ABSTRACT

Now in existence for over two decades, charter schools have become a divisive issue in American public education. Advocates contend that charters provide students and parents greater control of their education and promote innovation. School choice critics indicate that charter schools serve as a means for racial re-segregation and have led to an increase in racially homogeneous public schools. This quantitative study seeks to determine differences among the racial composition of charter schools and the racial composition of traditional public school systems in the same community to determine if charters have served as a means of “White flight” for students in traditional public schools. The study also seeks to determine if there is a statistically significant difference in school performance data including school performance grades, school growth indexes, and incoming student readiness among charter schools that serve a predominantly White student population and charter schools that serve a predominantly non-White student population.

*Keywords:* charter schools, segregation, school choice, social inequality

## **Dedication**

This dissertation is dedicated to my daughter, Marissa Berry. You are the greatest joy of my life and you can do anything you set your mind to. “For I can do everything through Christ, who gives me strength.” Philippians 4:13 (New Living Translation)

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### **List of Abbreviations**

Analysis of Variance (ANOVA)

End of Grade Test (EOG)

End of Course Test (EOC)

Institutional Review Board (IRB)

Knowledge is Power Program (KIPP)

Multivariate Analysis of Variance (MANOVA)

National Center for Education Statistics (NCES)

No Child Left Behind (NCLB)

North Carolina Department of Public Instruction (NCDPI)

School Performance Grade (SPG)

Statistical Package for the Social Sciences (SPSS)

Traditional Public School (TPS)

## **CHAPTER ONE: INTRODUCTION**

### **Overview**

Over the past two decades, charter schools have grown both in number and popularity throughout the United States. As the number of charter schools continues to rise, debates rage about their effect on public education. Proponents of charters contend that they are saving public education by providing flexibility, innovation, and school choice, while detractors argue that charters are destroying public education by diverting much needed funds from traditional public schools (Kelley, 2015). As the number of students attending charter schools increase, concerns also increase that charters have resulted in re-segregated public schools through “White flight” (Paino, Renzulli, Boylan, & Bradley, 2014). This chapter will outline the historical and social contexts of charter schools, provide a problem statement, and describe the purpose and significance of the study. The chapter will also cite the research questions to be explored and provide definitions of terms pertinent to the study.

### **Background**

America’s public education system has been a dynamic and constantly-evolving system over the past several decades. However, many argue that classrooms in the United States have been slow to adapt to changing times and that the American education system is failing students. Renowned British Educator Sir Ken Robinson (2014) states that schools should abandon antiquated practices in favor of instructional strategies that develop each student’s curiosity and creativity. Visnovsky and Zolcer (2016) advocate for democratic ideals in education, believing that the development of a shared vision and mutual respect are paramount for student success. Because the traditional model of education that is evident in many classrooms places very little emphasis on creativity and fails to adequately prepare students for the modern workplace,

Rotberg (2019) contends that it is not surprising that charter schools have been viewed as an attractive alternative to traditional public education. However, the expansion of school choice and the increase in the number of charter schools has had the unintended consequence of turning back the clock on racial segregation in schools.

### **Historical Context**

Although more than 60 years have passed since the *Brown v. Board of Education* (1954) decision ended segregation by law in public schools, de facto segregation still remains a concern throughout the United States. Bifulco and Ladd (2006) contend that the exponential growth in the non-White student population has exacerbated the problem of segregation, particularly in large urban areas. Despite efforts during the Civil Rights era to ensure the successful integration of schools, private schools were used to provide choice to parents who hoped to avoid newly integrated public schools. Chapman (2018) found that the number of private schools in the South grew ten-fold between 1964 and 1969. In addition to privatization, many inner cities have experienced a “White flight,” resulting in racially isolated neighborhood schools in the inner cities and the suburbs. While the *Swann* (1971) decision provided a model for districts to ensure balanced diversity through busing, recent school choice efforts have made it increasingly more difficult for districts to sustain this balance (Chapman, 2018).

Following the publication of *A Nation at Risk* in 1983, efforts to promote school choice appealed to parents seeking to avoid what they believed to be America’s failing public schools. Among the school choice efforts of the 1990s was creation of charter schools in many states. Charters were lauded for being innovative and for being unhindered by the bureaucracy of public education (Kelley, 2015). The number of students attending charter schools has grown exponentially over the past 20 years. Between 2000 and 2016, the number of students attending

charter schools has grown from 400,000 to more than three million and more than six percent of America's students now attend charters (National Center for Educational Statistics, 2019).

As the number of charter schools has grown throughout the country, the same trends are evident in North Carolina. The state saw the first charters open their doors in 1997 and by 2018 more than 170 charter schools were operating within 61 of the 115 school districts in North Carolina (Girsch, 2019). To ensure that charter schools did not adversely affect traditional public schools throughout the state, the number of charter schools was initially capped at 100 (Jinnai, 2014). However, in 2011, North Carolina Senate Bill 8 lifted the cap and the number of charters has grown each year since that time (Kelley, 2015).

The increase in charter schools and other forms of school choice have curbed efforts by school districts to achieve racial and economic balance in America's schools. Bifulco, Ladd, and Ross (2009) state that school choice promotes segregation by shifting control of the composition of schools from policy-makers and school systems to parents. Because parents must choose to apply to a charter school, concerns have grown that charters may lead to re-segregation, as parents are more likely to send their children to a school with students of a similar ethnicity, faith, and socioeconomic status (Kelley, 2015).

### **Social Context**

The increase in charter schools has presented numerous challenges for educators in North Carolina and throughout the country. Ladd and Singleton (2018) found that charter schools reduce per-pupil funding and services in traditional public schools, as funding follows students without restrictions. If 15% of a school district's students attend a charter school, then the school district is required to send 15% of the funding to the charter school. This system of funding rests on the belief that a school district will not need the funds to educate charter school students.

However, this system of funding fails to consider that many of the operating costs of local school districts are fixed and cannot be reduced because of fewer students (Ladd & Singleton, 2018). As such, sending funds to charter schools places a heavy burden on local school systems by reducing much-needed funding.

Charter schools have also presented challenges to school districts as they continue to promote ethnic and socioeconomic diversity within their system. Because charter schools are not required to provide transportation, child nutrition services, or accommodations to students with disabilities, they tend to attract fewer economically-disadvantaged and academically at-risk students (Kelley, 2015). Parents of charter school students also tend to have higher education level than their counterparts in traditional public schools (Jinnai, 2014). The increased role of parents in the application process has left charter schools with no standardized method to ensure ethnic or socioeconomic diversity among students. This has resulted in growing concerns among educators and policymakers that charter schools are reversing integration efforts in public education.

### **Theoretical Framework**

This study was framed using two theories: the market competition theory and the social inequality theory. The market competition theory contends that public education should be free from governmental regulation because overregulation prevents schools from being influenced by beneficial market forces such as competition, which may result in greater student achievement (Chubb & Moe, 1990). Proponents of school choice believe that charter schools allow educators to challenge traditional practices and foster innovation in schools. Lubienski (2003) states that the trend towards market competition in education is rooted in the belief that traditional public schools are overly regulated, bureaucratic, and stifle innovation through conformity. Chubb and



Moe (1990) argue that educational reformers have been unable to solve problems in education because the institutions are the problem. As such, advocates of market competition promote replacing the traditional model of public education with a new system built on the foundation of school choice and competition.

The social inequality theory, promoted by scholars such as Carnoy (2000), claim that charter schools and other methods of school choice failed to deliver on the promise of better education for the poor and created a system of inequality throughout the American public education system. Fiel (2013) states that the increase in school choice resulted in many middle-class White students enrolling in charter schools, increasing the isolation of disadvantaged minority students in traditional public schools. Opponents of charter schools cite evidence that racial segregation of minority children results in lower levels of academic performance and indicate that further dividing students by race creates the potential to exacerbate inequality in academic achievement (Riel, Parcel, Mickelson, & Smith, 2018).

This study reviewed demographic data for North Carolina charter schools compared to traditional public schools in the same community to determine differences among the racial composition of charter schools when compared to local school systems. The researcher also reviewed school performance data to understand the effects of racial re-segregation on student performance. The study sought to determine if increased opportunities for school choice promoted by the market competition theory resulted in inequitable opportunities for students described in the social inequality theory.

### **Problem Statement**

The number of charter schools in North Carolina has increased exponentially since the North Carolina General Assembly lifted the 100-school cap in 2011. By 2019, 185 charter

schools were operating throughout the state and 35 new charter schools have met the application deadline to begin operation in the fall of 2020 (Hui, 2018). Advocates of charter schools claim that school choice increases the quality of education, satisfies parents, and creates a market system of education. However, opponents claim that charters have resulted in an increase in racial segregation in schools (Choi, 2012). Logan and Burdick-Will (2016) found that on average White, Black, and Hispanic students attend charter schools in which their group is the majority. While charters offer parents the opportunity to attend a school outside of their community, parents must choose to apply to a charter school. The increased role of parental preferences may result in disproportionality among the racial and socioeconomic make up of charter schools when compared to traditional public schools in the same community.

As the number of students leaving traditional public schools for charter schools has increased, concerns have arisen that many of North Carolina's charter schools lack diversity. North Carolina Charter School legislation states that the student population of a charter school should reasonably reflect the student population of the surrounding school district (Giersch, 2019). However, studies have shown that the increase in the number of charter schools in the state have led to an increase in racially homogenous schools and a widening of the achievement gap between White students and students of color in North Carolina (Ladd, Clotfelter, & Holbein, 2015). The problem is that while charter schools may promote innovation and school choice, it is likely that charter schools are racially and socioeconomically homogeneous and that existing racial and economic segregation in North Carolina charter schools may be detrimental to student achievement.

### **Purpose Statement**

The purpose of this causal-comparative study is to determine if a significantly significant difference exists between the demographic composition of students in charter schools in North Carolina when compared to their counterparts in traditional public schools. Research was conducted to determine if increased school choice promoted by the market competition theory has created inequities described in the social inequality theory. Using the proportion of White students as a dependent variable and type of school (charter or traditional public school system) as independent variables, the researcher sought to determine if the degree of racial homogeneity in North Carolina charter schools has persisted as the number of charter schools has increased. The researcher used archival data provided by the North Carolina Department of Public Instruction (NCDPI) Statistical Profile to conduct the study.

In addition to determining the demographic difference among North Carolina charter schools and traditional public school systems, the study also examined the relationship between racially homogeneous schools and academic achievement and how this relationship differs between students in predominantly White charter schools and their counterparts in predominantly non-White charters. Using predominantly White and predominantly non-White charter schools as independent variables and school performance grade, incoming student readiness, and growth data as dependent variables, the study determined if there is a significant difference among school performance in charter schools that serve a predominantly White student population and charter schools that serve a predominantly non-White student population.

Data for racial composition was collected and analyzed from each of the 169 charter schools operating in North Carolina at the conclusion of the 2017-2018 school year and from each of the 61 school districts in which the charter schools operate.

### **Significance of the Study**

Bifulco and Ladd (2007) found that North Carolina's charter school policies increased racial isolation of both Black and White students. However, earlier studies of charter schools in North Carolina yielded different results. Jinnai (2014) cited studies in 1998 and 2005 which indicated that the percentage of Black students was actually higher in charter schools than traditional public schools. While this may seem like progress towards integration, Logan and Burdick-Will (2016) found that in North Carolina, Black students were more likely to enroll in charter schools that had a predominantly Black student population. This may account for the higher percentages in the aforementioned studies. While most studies indicate that racial segregation is evident in charter schools, few studies have been conducted on the topic since the cap for charter schools was lifted in 2011.

Rotberg (2019) suggests that charter schools make it difficult for school districts to integrate schools, as students leave traditional public schools for less integrated charter schools, which essentially function as tuition-free private schools. If charter schools are draining services and per-pupil funding from traditional public schools, while at the same time attracting higher-motivated and higher-resourced students from their districts, this trend could be detrimental for local school systems.

This study utilized demographic data from the 2018-2019 school year to determine if there is a statistically significant difference between the proportion of White students in charter schools when compared to the traditional public school systems in which they operate. The researcher conducted a Mann-Whitney *U* test to explore the racial differences among charter schools compared to traditional public schools. This analysis allowed the researcher to identify

differences in the proportion of White students attending charter schools when compared to traditional public schools in the same district or community.

If racial segregation exists among North Carolina's charter schools, it is also necessary to determine significant differences in academic achievement between charter schools that serve predominantly White students and charter schools that serve predominantly non-White students. This study compared school performance grades, incoming student readiness, and growth data obtained from the North Carolina Department of Public Instruction to determine if such differences exist.

### **Research Questions**

**RQ1:** Is there a difference between the proportion of White students attending charter schools in North Carolina when compared to the proportion White students attending traditional public schools in the same school district?

**RQ2:** Is there a difference in the school performance grade, school growth, and incoming student readiness among charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population?

### **Definitions**

1. *Charter School*-Schools that receive public funding, but are operated by private board of directors and are freed from many of the rules and regulations that govern public schools (Carr, 2015).
2. *Integration*-The description of schools whose student populations exhibit more variation in race or social class. Integrated schools may also be described as diverse (Giersch, 2019).

3. *Racial Isolation*- The percentage of White (or non-White) students attending the average White (or non-White) student's school. Cutoffs for extreme racial isolation vary by district or individual researcher (Conger, 2010).
4. *Re-segregation*- The transition from schools that were formerly integrated to schools where students of one race, ethnicity, or socioeconomic status are less likely to encounter students from a different race, ethnicity, or socioeconomic status (Carr, 2015).
5. *Segregation*- The description of schools whose student populations are homogeneous in race or social class (Giersch, 2019).
6. *Traditional Public School*- Schools that are funded by tax dollars, open to all students and are governed by locally elected school boards. Services include special education, English as a Second Language, transportation, and child nutrition (Carr, 2015).

## **CHAPTER TWO: LITERATURE REVIEW**

### **Overview**

There has been much debate over the effectiveness of charter schools. While policy-makers have stood firmly behind the expansion of charter schools and other methods of school choice, opponents have argued that charter schools increase racial segregation and create inequitable opportunities for students. As such, it is necessary to understand what research states about charter schools and their effects on public education. This chapter will review literature regarding the theoretical framework used for this study, the history of the charter school movement, the growth of charter schools in North Carolina, and the effects of charter schools on racial segregation in both charter schools and traditional public schools. The literature review is designed to support the importance of understanding the nature of racial segregation in charter schools and to identify what is known and what has yet to be determined regarding the effects of potential racial isolation on school performance.

### **Conceptual or Theoretical Framework**

This study was based on two key theories: the market competition theory and the social inequality theory. Each theory offers a different perspective on the effects of charter schools on public education. The market competition theory contends that while children are the primary beneficiaries of educational services, parents have no direct influence over the deliveries of these services (Chubb & Moe, 1991). As such, school choice is necessary to give parents options and to provide incentives for administrators in traditional schools to improve their institutions (Jinnai, 2014). Other scholars, such as Carnoy (2000), contend that there is no evidence that school choice improves educational delivery and that choice results in social inequalities throughout America's education system. These two theories shaped the theoretical framework to

understand the rapid growth of the charter school movement and identify the unintended consequences of the movement.

### **Market Competition Theory**

The market competition theory is rooted in the belief that as an advanced capitalist society, Americans place great emphasis on the principles of free choice and voluntary exchange, but public education offers students and parents few opportunities to have a voice in the educational process (Chubb & Moe, 1991). During the early 1980s, education reformers and policy makers began to push back against the state's monopoly of public education in favor of market competition (Chew, 2019). A key component of the backlash against public education was the advocacy of school choice, which refers to the processes surrounding a student's enrollment in alternatives to traditional public schools such as magnet schools, private school vouchers, and charter schools (Robertson & Riel, 2019).

Market competition theorists contend that the effective implementation of school choice initiatives represents the best way to organize education and achieve the greatest social benefits (Harrison, 2005). The market competition theory suggests that the politicians and bureaucrats who govern public schools do not have the knowledge or the incentive to make sound decisions to improve public education (Harrison, 2005). School choice is rooted in the principle individual freedom is based on the premise that free market reforms will lead to greater improvements in education than government-run traditional public schools (Robertson & Riel, 2019). Proponents of school choice, like Harrison (2005), argue that traditional public schools lack innovation, discourage sound instructional practices, and harm the poor, as many disadvantaged students are trapped in failing schools. In the era of school choice, education is viewed as a commodity and



families are viewed as consumers, responsible for gathering information and choosing schools (Robertson & Riel, 2019).

School choice efforts, such as private school vouchers, magnet schools, and charter schools have become commonplace throughout the country over the past several decades. Advocates of market competition in education, like Chubb and Moe (1990), argued that increased per-pupil expenditures and increased teacher salaries have had no effect on improving America's education system and they warned that the "rising tide of mediocrity" poses a great threat to the nation's future. Proponents of choice argue that the expansion of school choice allows families to flee lower performing schools and allows disadvantaged families to have access to a higher quality education (Chew, 2019). The increased emphasis on the individual rights of parents and students makes schools accountable to parents, as competing schools must attract parents to survive (Harrison, 2005).

Bipartisan support served as a driving force behind the rapid expansion of school choice in America, resulting in an increase in the number of charter schools. While many politicians support charters, their rationale often varies based on political ideology. Those on the left contend that charter schools provide access to better education for economically-disadvantaged students, while the right argues that school choice creates market competition to improve schools (Kelley, 2015). The market competition theory is based on economic principles that allow parents to act as consumers in choosing the school that best meets the needs of their children and their interests (Ayscue, 2016). Choi (2012) states that early advocates of school choice argued that bureaucracy and overregulation stifled innovation and improvement in public schools. Proponents of the market competition theory also contend that school choice will ultimately result in reform and improvement among traditional public schools (Jinnai, 2014).

Fienberg and Lubienski (2008) state that proponents of free market competition in education are drawn to the idea that education should exist free of state intervention and cite four justifications used to promote school choice:

1. The protection of liberty.
2. Improving academic achievement.
3. Increasing quality.
4. Creating consensus.

The expansion of charter schools appeals greatly to those seeking to promote market competition in America's public schools. The market competition theory has been utilized to encourage the expansion of charter schools by supporting the deregulation of education and supporting incentives and choice as a means to foster innovation in schools (Ayscue, 2016). Proponents of charter schools believe that the threat of students leaving traditional public schools for charter schools will inspire improvement and result in higher levels of achievement in all schools (Holmes, Desimone, & Rupp, 2006). While the research is inconsistent about the effects of charter schools on academic achievement, school choice has no doubt allowed parents to have a greater voice in the quality of their child's education. As such, the increasing number of charter schools serves as an instance of emphasizing individual rights over government control of education (Chew, 2019). Through the implementation of school choice efforts and the expansion of charter schools, no longer are parents geographically restricted by school districts or intra-district zoning, parents are provided with an alternative choice and thus have greater control over their child's education (Jinnai, 2014).

Despite numerous studies, there is no general consensus about the effects of school choice on academic achievement (Jinnai, 2014). A study of the effects of school choice in the

Charlotte-Mecklenberg School System cited slight gains in postsecondary attendance and degree completion among female high school students who were afforded opportunities for school choice based on a lottery system (Deming, Hastings, Kane, & Staiger, 2014). Another North Carolina study indicated that implementing school choice through charter schools can raise traditional public school test scores by a full point (Holmes et al., 2006). However, Bifulco and Ladd (2006) showed that despite evidence of moderate improvement over time, the effect of attending a school of choice was persistently negative. Opponents of school choice also point out that it is difficult to measure the effects of school choice in improving academic outcomes. Because charter schools and private schools are not subject to the same accountability as traditional public schools, there is often no clear understanding regarding how to measure success (Paino, Renzulli, Boylan, & Bradley, 2014).

As the number of charter schools continues to grow exponentially, concerns over the effect of charter schools on student achievement have increased. Concerns have also emerged regarding the use of school choice initiatives as a means for many White families to avoid racially integrated schools (Bifulco, Ladd, & Ross, 2009). These concerns raise the question of whether charter schools and other method of school choice are fulfilling the market theory's promise of providing a high quality education to all students through competition and school choice. This study explored the impact of market competition on racial isolation in charter schools. The study also sought to determine statistically significant differences among school performance indicators of racially isolated charter schools that serve predominantly White student populations compared to their counterparts that serve predominantly non-White student populations. This allowed the researcher to determine if the implementation of the market

competition theory through increased enrollment in charter schools is has resulted in the state's ability to provide a better quality education to all students in North Carolina.

### **Social Inequality Theory**

While advocates of school choice point out the advantages of innovation and deregulation in the market competition theory, detractors contend that school choice increases inequalities already evident in public education. Chew (2019) contends that while school choice allows families to flee schools with poor performance, market competition perpetuates re-segregation in public schools and creates a system of winners and losers.

While school choice existed before the growth of the charter school movement, it was largely limited to home schooling or private schools, both of which require a substantial investment of financial resources and time on the part of parents (Holmes et al., 2006). Charter schools offered the promise of attending a school of choice at no cost to parents. Because school choice programs shift control of student enrollment from school districts to parents, efforts to maintain demographically consistent schools have been challenging. Bifulco et al. (2009) contend that school choice will increase segregation because parents of all races will seek out educational environments to allow their child to attend schools with students of a similar background.

Despite laws and policies aimed at creating a diverse public education system, charter schools and other school choice efforts are stifling efforts to promote an equitable system of education for all students (Ayscue, 2016). Chapman (2018) found that after more than a decade of charter school operation, only 27.5% of charter schools were non-segregated and Fiel (2013) contends that a typical minority student attends school with fewer White students than a minority student in 1970. Logan and Burdick-Will (2016) found that White students attending charter

schools have a lower exposure to poverty and that highly segregated districts have the largest achievement gaps between White and non-White students. The issue of social inequality has become increasingly important as school choice has shifted control of the demographic makeup of schools from school systems to allow a system that places great emphasis on parental preferences for cultural and socioeconomic familiarity.

While choice advocates claim that market-based education can enhance academic achievement and increase diversity in schools, there is evidence to suggest that charter schools segregate students by class and race (Riel et al., 2018). Despite laws in many states requiring charters to reflect the demographic make-up of their community, charter schools have failed in their efforts to enroll students of color, students with disabilities, English language learners, and homeless students (Mullen, Samier, Brindley, English, & Carr, 2013). Many early charters were created with an emphasis on improving the academic achievement of disadvantaged students and charter schools that have been effective in serving poor and minority children have been the subject of numerous news reports and documentaries. However, despite claims to the contrary, widespread improvements in academic results and equity among charter school students has not kept pace with political enthusiasm and media attention (English, Papa, Mullen, & Creighton, 2012).

The social inequality theory incorporates principles from the integration theory of choice which contends that racially diverse schools have a multitude of benefits for students, including improved academic achievement and social relationships, while racially isolated schools have resulted in unequal opportunities for students (Ayscue, 2016). Despite years of research citing the advantages of racially diverse schools and the disadvantages of racially and economically

isolated schools, charter schools have become increasingly hyper-segregated (Mullen et al., 2013).

### **Disadvantages of racially homogeneous schools.**

While many charters were created to promote increases in student achievement, it is unclear that charter schools have any effect on achievement when compared to traditional public schools (Riel et al., 2018). Regardless of comparisons to traditional public schools, evidence suggests that racial segregation in charter schools has the potential to exacerbate inequities in public education. The Coleman Report in 1966 found that racial segregation is associated with lower levels of academic achievement among minority children (Riel et al., 2018). Research also suggests that Black students display a greater preference for integrated schools than White students, suggesting that minority students seek access to the resources and opportunities that exist in predominantly White schools (Fiel, 2013).

In addition to poor academic performance, predominantly non-White schools face numerous additional challenges. Clotfelter, Ladd, and Vigdor (2005) found that minority isolated schools tend to have fewer qualified teachers, less experienced teachers, and higher levels of teacher turnover than schools that serve a predominantly White student population. Quillian (2014) found that segregation can result in higher dropout rates, lower graduation rates, and lower college admission among minority students. Ayscue (2016) cites additional challenges faced by racially isolated schools, including insufficient instructional materials, insufficient access to instructional support personnel, inadequate facilities, and fewer curricular options, such as Advanced Placement courses.

### **Benefits of diversity in schools.**

The benefits of increased racial diversity in schools extend far beyond the classroom walls and years beyond childhood. Public schools are microcosms of American society and exist to equip students with skills necessary for success in the modern workforce. As such, local school systems should seek to create diverse environments that are inclusive and promote the free exchange of ideas. Horace Mann's philosophy that schools should provide high quality education to all students that will allow them to serve as productive citizens has served the foundation for American public education (Guttek, 2011). Riel et al. (2018) states that the social relationships formed in schools serve as the foundation for interactions as adults. In addition to what is learned in the classroom, Mickelson and Nkomo (2012) found that attending schools that are racially and ethnically diverse helps foster the development of attitudes and behaviors necessary for success as a member of a diverse workforce in a global economy. If widespread school choice efforts are limiting a child's exposure to students from diverse backgrounds, then the American education system may be failing to prepare students for the modern workplace.

The increase in racial segregation through enrollment in charter schools and other methods of school choice has caused educators and scholars to question the effectiveness of market competition in education. Robertson and Riel (2019) question how families with disabled children, low income families, or families without adequate transportation can take advantage of school choice when charter schools cannot accommodate their needs. Bifulco, Ladd, and Ross (2009) contend that school choice programs have served as a means for many White families to avoid racially integrated schools and provide a significant obstacle to racial integration.

The increase in charter schools, privatization, and other school choice efforts have indicated a shift from educational policies rooted in the social inequality theory in favor of policies rooted in the market competition theory. Despite extensive social science research

displaying the importance of diversity in schools and the disadvantages of racial segregation, policies promoting school choice have persisted (Ayscue, 2016). This study sought to identify potential inequities that have resulted from the expansion of charter schools in North Carolina by identifying the degree of racial segregation in charter schools and understanding differences in school performance indicators and incoming student readiness among charter schools that serve primarily White students when compared to charter schools that serve a predominantly non-White student population.

## **Related Literature**

### **The Charter School Movement**

The publication of *A Nation at Risk* in 1983 painted a dire picture of public education in America and reawakened the notion of using public funding to create alternatives to public schools and providing tuition vouchers to students to attend private and parochial schools (Mullen et al., 2013). During the 1980s and 1990s, school choice advocates fought for the expansion of alternatives to traditional public schools including magnet schools, tuition vouchers, home schooling, and charter schools that transferred decisions about a child's education from education policy-makers to parents (Riel et al., 2018). The idea of choice appealed to many parents eager to remove their children from failing government schools and education reformers claimed that the only way to save America's failing public schools was to dismantle the government's monopoly on public education and replace it with market reforms like charter schools (Mullen et al., 2013).

Charter schools are unique in that they are not governed by local governmental boards, but instead by individuals, teachers, parents, community members, and organizations (Paino et al., 2013). Unlike traditional public schools or magnet schools, charter schools are free to



exercise great flexibility in scheduling, operations, personnel qualifications, curriculum, assessment, and are not required to provide transportation, child nutrition, or special education accommodations (Riel et al., 2018). Lubienski (2003) contends that the flexibility afforded to charter schools allows educators to foster educational innovation and challenge traditional practices associated with district administration of schools. Although conversion of traditional public schools is permitted, most charter schools were opened as new schools and have a wide variety of missions and goals (Paino et al., 2013).

The expansion of charters has been met with support from both sides of the political spectrum and has gained tremendous momentum over the past several decades. Under President Bill Clinton, the Charter Schools Program was passed as an amendment to the Elementary and Secondary Education Act of 1994 (Ayscue, 2016). In 1998, President Clinton also signed into law the Charter School Expansion Act, claiming that the bill would “strengthen our efforts to support charter schools, providing parents and students with better schools, more choice, and higher levels of accountability in public education” (Clinton, 1998). The charter school movement was subsequently expanded by the No Child Left Behind (NCLB) Act of 2001, signed into law by President George W. Bush and gained additional momentum under President Barack Obama’s Race to the Top initiative (Tanner, 2013). In 2016, then candidate Donald Trump announced that if elected President, he would shift \$20 billion in federal education funding to be used as grants by states to promote the expansion of private and charter schools (Heise, 2017). In his first address to Congress, President Trump garnered applause from both parties when he encouraged the legislature to pass an education bill that funds school choice for disadvantaged youth (Thompson Dorsey & Roulhac, 2019).

Politicians from both parties have promoted education as a civil rights issue and have promoted school choice as a means of increasing access to high quality education for all children (Thompson Dorsey & Roulhac, 2019). While the growth of the charter movement is supported by a range of political ideologies, each faction supports the movement for different reasons. Neoconservatives and the religious right view charter schools as a means of deregulation and removing government restrictions on education, while neoliberals view charter schools as a way to promote choice and competition (Gawlik, 2016). Urban families feel that school choice serves as a means to create better schools for their children and the middle class views the movement as a way to expand returns on investment in public education (Gawlik, 2016). Widespread support among unlikely allies have helped the charter movement grow despite changes in political party majorities within congress or the presidency.

With remarkable political support from both sides of the aisle, it is not surprising that student enrollment in charter schools has grown exponentially over the past three decades in the United States. The first legislation establishing charter schools was passed in Minnesota in 1991 and since that time, 43 states and the District of Columbia have adopted charter school legislation and the number of students attending charter schools increased from 0.4 million in 2000 to three million in 2016 (National Center for Education Statistics, 2019). Student attendance in charter schools has increased an average of 9% annually (Spees, 2019). The share of public school students attending charter schools has also grown from 1% of all public school enrollment in the year 2000 to more than 6% by 2015 (Riel et al., 2018). In several large cities such as New Orleans and Washington, DC, charter schools now represent more than one quarter of all public schools (Gawlik, 2016). As of 2019, more than 7,000 charter schools exist throughout the United States (National Center for Education Statistics, 2019).

## **Charter School Growth in North Carolina**

Consistent with national trends, school choice initiatives have grown considerably over the past several decades in North Carolina. The school choice movement has shifted the view of education as serving the public good to a view of education which serves to benefit the individual (Robertson & Riel, 2019). As such, the increase in charter school enrollment results from families and children seeking educational alternatives beyond the public schools because of their dissatisfaction with traditional methods of education, many of whom feel that they had not been served well by their local schools (Gawlik, 2016). North Carolina education laws have shifted to promote competition between public schools, charter schools, and private schools to provide greater opportunities for individuals (Robertson & Riel, 2019).

The North Carolina General Assembly passed the Charter Schools Educational Opportunity Act in June of 1996 in an effort to expand learning opportunities for students, create new professional opportunities for teachers, and promote creativity in public education (Carruthers, 2012). Legislators also believed that charter schools would be free from the burdensome regulations governing traditional public schools and would improve traditional public schools (Mullen et al., 2013). During the 1997-1998 school year, the first 33 charter schools opened in North Carolina (Spees, 2019). While North Carolina originally capped the number of charter schools at 100, the cap was lifted during the summer of 2011 and now the state allows an unlimited number of schools (Paino et al., 2014). The reason for the cap was to ensure that the state could adequately assess whether charter schools improved or harmed the quality of neighboring traditional public schools (Jinnai, 2014). Consistent with national trends, North Carolina has witnessed rapid growth and expansion in charter school programs throughout

the state. By the 2016-2017 school year, more than 167 charter schools were operating in North Carolina and an estimated 32,000 students are on charter school waitlists (Spees, 2019).

Charter schools in North Carolina are funded based on a per-pupil transfer from local, state, and federal governments equivalent to the per-pupil cost incurred by local school districts (Carruthers, 2012). As a result, the presence of a charter school typically means funding that would have been available to the local school district is diverted to the charter school (Ladd & Singleton, 2018). North Carolina charter schools also receive any additional funding for special education students and students with limited English proficiency, but are not eligible to receive capital funding and cannot use state funds to purchase property (Spees, 2019). While charter school advocates contend that charter school funding lags behind traditional public school funding, Nordstrom (2016) found that charter schools in North Carolina receive more local funding per student than their counterparts in traditional public schools. Charter school funding in North Carolina has been the subject of much controversy, as school districts are forced to offset lost revenue sent to charter schools through higher taxes, reductions in programs, or cutting personnel (Ladd & Singleton, 2018). Riel et al. (2018) contends that there is ample evidence that charter schools divert public funds and support from public schools, which causes concern that the expansion of charters will damage students left behind in traditional public schools.

North Carolina charter schools are also exempt from many of the policies and regulations that govern traditional public schools. Unlike traditional public schools who are governed by local boards of education and the North Carolina Department of Public Instruction (NCDPI), each charter school is governed by a board of directors who are in charge of the budget, curriculum, and operations of the school (Spees, 2019). Charter schools have relaxed

requirements for staff credentialing and licensing of teachers when compared to traditional public schools. In fact, only 75% of elementary school teachers and 50% of middle and high school teachers are required to hold full teaching licenses (Carruthers, 2012). North Carolina charter schools are also not required to provide transportation or child nutrition services to students (Spees, 2019).

Like many other states, charter schools in North Carolina are afforded freedom to establish their own goals and curriculum, but are accountable to their mission, federal standards of achievement, and are subjected to an annual review to maintain their charters (Paino et al., 2014). In 2013, the North Carolina General Assembly also created the North Carolina Charter Schools Advisory Board and in 2015 the North Carolina Office of Charter Schools to make recommendations to the State Board of Education on how to govern charter schools and provide guidance on charter school applications (Robertson & Riel, 2019).

### **Charter Schools Yield Mixed Results**

Although charter schools are lauded as laboratories or research and development centers designed to yield innovations not available in bureaucratic school districts, little is known about the types of actual changes that have transpired in charter classrooms (Lubienski, 2003). Researchers have conducted numerous studies on student achievement in charter schools over the past several decades. However, these studies have yielded mixed results. While some studies have found minor effects and others have found no effects at all, only a handful of studies have displayed large gains in student achievement in charter schools (Gawlik, 2016).

A large scale study of 2,330 charter school students throughout 15 states indicated that while parents and students were more satisfied with their schools, measures of student achievement did not vary when compared to their counterparts in traditional public schools

(Mullen et al., 2013). Despite being heralded as vehicles for reform and innovation, Lubienski (2003) concluded that there is little evidence that charter schools have actually produced innovative instructional strategies that could not have been easily replicated in traditional public schools. While there is a lack of evidence regarding differences in student achievement, evidence has mounted that charter schools often attract better performing students from traditional public schools, while counseling out hard-to-educate students (Mullen et al., 2013). Despite reporting higher overall satisfaction, charter school parents have expressed concerns regarding limited access to instructional materials, career and technical education, athletics, world languages, special education services, and the comprehensive curriculum found in most traditional public schools (Mullen et al., 2013).

The ability of charter schools to improve education among students with disabilities and English language learners is also unclear. Rapa, Katsiyannis, and Ennis (2018) found that students with disabilities performed better in charter schools than their counterparts in traditional public schools. However, Holmes (2006) contends that improvements in the academic achievement of at-risk students when comparing charter schools and traditional public schools could be the result of migration of lower performing students between charter schools and traditional public schools. Disparities also exist between the number of students with disabilities enrolled in charter schools when compared to traditional public schools. During the 2011-2012 school year, charter schools reported 10.42% of their students having disabilities, while 12.55% were enrolled in traditional public schools (Dunn, Katsiyannis, & Ryan, 2018). Studies have shown that student achievement among English language learners fared slightly worse in charter schools compared to those in traditional public schools (Rapa et al., 2018).

Evidence is also inconsistent regarding the effectiveness of charter schools on improving academic achievement of economically disadvantaged students. Advocates of school choice point to the successes of charter school networks like the Knowledge is Power Program (KIPP), which has a track record of improving student achievement among students from low-income families (Gleason, 2019). Despite evidence suggesting that charter schools have led to improved outcomes for disadvantaged students, recent studies have found no effects on long term outcomes such as college enrollment (Ladd, 2019).

While research is inconsistent regarding parent satisfaction and gains in student achievement, studies suggest that attending a charter school may indicate higher educational attainment (Spees, 2019). Booker et al. (2011) found that attending a charter school significantly increased a student's chances of graduating and increased a student's likelihood of going to college by as much as 10%. Similar studies have cited positive effects on educational attainment among students who attend charter schools with a strong focus on persistence, discipline, conscientiousness, and a policy of no excuses (Spees, 2019).

### **Charter School Success and Failure in North Carolina**

Consistent with national studies, studies of student achievement in North Carolina charter schools has also yielded mixed results. Spees (2019) states that while there is evidence that attending a charter school will result in beneficial noncognitive outcomes, charter schools have generally been found to be ineffective when measured using traditional methods of student achievement. Bifulco and Ladd (2006) found that between 1992 and 2002, charter school students trailed traditional public school students in both reading and math. Similarly, Carruthers (2012) found that while charter schools may serve as vehicles for competition and innovation, a lengthy maturation process is required and that charters had an overall negative

effect on student achievement. Bifulco and Ladd (2006) contend that high student turnover in charter schools could result in substandard academic performance when compared to traditional public schools.

In addition to weak evidence supporting educational improvements, charter schools in North Carolina report higher levels of teacher turnover and tend to have less experienced teachers than traditional public school systems throughout the state (Carruthers, 2012). Robertson and Riel (2019) contend that school choice might undermine North Carolina's obligation to provide competent teachers to students who remain in traditional public schools, which leaves these students academically disadvantaged. As school choice initiatives have expanded throughout the state, concerns have grown that charter schools may be attracting quality teachers from local school systems. Increases in teacher turnover and reductions in teacher quality have been evident in hard to staff traditional public schools when a charter school opens in the area (Jackson, 2012).

Despite concerns regarding teacher quality in traditional public schools, studies have shown that the movement of teachers from traditional public schools to charter schools is more likely to hurt students attending charter schools. Carruthers (2012) found that 36.1% of charter school teachers formerly taught in traditional public schools and that mobile teachers are on average earlier in their careers, less educated, and more likely to have lower licensure test scores and lower attendance rates than their counterparts who remained in local school systems throughout the state. Similarly, Jackson (2012) found that teachers who move from traditional public schools to charters are less likely to hold a teaching license and are less likely to have graduated from a selective college. The inability of North Carolina charter schools to recruit effective teachers will likely inhibit student achievement in the future (Carruthers, 2012).



There have also been studies indicating that school choice in North Carolina has resulted in improvements in traditional public schools. Holmes et al. (2006) found that traditional public schools responded to competition provided by charter schools by improvements in their average proficiency rates. However, the study urges caution in translating the results, as many North Carolina charter schools target at-risk students and do not pose a competitive threat to traditional public schools (Holmes et al., 2006). Despite studies revealing marginal gains by traditional public school systems, Bifulco and Ladd (2006) argue that there is little evidence that students in North Carolina traditional public schools have benefitted from the competition of school choice through the expansion of charter schools.

While several studies indicate academic improvements resulting from charter schools, researchers argue that academic gains in North Carolina charter schools may be the result of attracting better performing students. Bifulco et al. (2009) found that advantaged students, particularly those whose parents have a college education, are more likely to opt out of their assigned schools. Similarly, Robertson and Riel (2019) contend that while there is little data indicating that charter schools successfully recruit higher achieving students, evidence suggests that they attract fewer high needs students.

Charter school funding has also been a subject of controversy in North Carolina. Disputes between charter schools and traditional public schools over funding have raged for more than a decade and show no signs of abatement (Lukasik, 2012). Like traditional public schools, charter schools are subject to periodic financial evaluations and audits; however, charter school operators must negotiate financial flexibility to remain in operation (Paino et al., 2014). While charter school advocates continue to seek additional funding, it is evident that charter

schools place additional financial burdens on local school systems which result in reduced per-pupil spending or higher local taxes (Ladd & Singleton, 2018).

North Carolina has witnessed a series of lawsuits regarding charter school funding. Many of the cases have involved definitions, interpretations, accountability, and the local governments' interpretations of the funding guidelines for charter schools (Wood, 2019). In the most notable of these cases, *Sugar Creek Charter School v. Charlotte Mecklenburg Board of Education* (2008), charter school operations challenged the apportionment of funding by the local board of education (Wood, 2019). In the *Sugar Creek* decision, the court held that charter schools do not have equal access to public school funding because they should be treated as an additional educational program (Robertson & Riel, 2019).

### **Consequences of School Choice**

Carnoy (2000) states that while school choice has existed for decades, historically school choice was driven by property values and access to higher quality education was afforded to those who were able to purchase property in a "better" school district. Similarly, Frankenberg, Kotok, Schafft, and Mann (2017) contend that public school choice was traditionally geographically constrained, as the only choice available to many students regarding school enrollment was tied to their families' ability to live within a particular district's boundaries or often a particular school. During the 1980s and 1990s, alternatives to geographic school choice gained popularity as scholars like Chubb and Moe (1990) promoted market competition in education through the use of state-funded vouchers to provide parents opportunities to attend the school of their choice. School choice advocates claimed that market competition would lead to greater teacher empowerment, economic productivity, and the overall improvement of traditional public schools (Chubb & Moe, 1990).

Scafidi (2015) contends that allowing additional choice in education would result in allowing traditional public schools to compete for resources more efficiently, promote the opening of new schools in communities with low quality schools, and allow schools to specialize in a way that promotes additional opportunities for students. In addition to vouchers, advocated by Chubb and Moe (1990), magnet schools and charter schools emerged as a means of promoting choice to improve academic achievement, broadening access to quality education, and offering parents the opportunity to match their child's interest with a school that suits their needs (Riel et al, 2018).

While charter schools have not been a magic bullet, Gleason (2019), argues that charter schools have benefitted disadvantaged students from urban areas. However, he contends that evidence does not indicate consistent impacts or long term benefits in educational attainment or earnings (Gleason, 2019). Despite evidence of marginal academic gains among some students, Ladd (2019) contends that the fundamental problem with charter schools is that they undermine the effectiveness of local school systems by reducing funding, making it difficult for school systems to effectively achieve integration, and leaving traditional public schools with disproportionate numbers of students with special needs.

Frankenberg et al. (2017) contend that the expansion of school choice is based on the assumptions that all consumers have access to the same information, that competition will be widespread, and that all consumers will have equal opportunities. With regard to these assumptions, Robertson and Riel (2019) contend that limited access to information has enormous potential to limit student diversity between schools of choice and traditional public schools and that evidence exists that charter schools enroll fewer high-needs students. Similarly, Scafidi (2015) contends that schools of choice skim the best students from traditional public

schools and in turn attract better teachers. Because these assumptions have proven unreliable, many scholars have asserted that school choice initiatives have not delivered improved education as predicted (Scafidi, 2015).

Despite the advantages promoted by school choice advocates, there are significant debates about the ability of charter and magnet schools to promote academic achievement (Riel et al, 2018). In addition to the lack of evidence supporting educational improvements, school choice programs have several unintended consequences. While charter school advocates contend that there is no financial hardship placed on traditional school districts because the money follows the student, Robertson and Riel (2019) state that school funding has proven to be the most contentious issue between charter schools and traditional public schools. Baker (2016) also contends that charter schools place a financial strain on school systems, as school systems are unable to adjust costs on a student by student basis and that school choice forces districts to operate two systems and creates additional costs. Similarly, Green, Baker, and Oluwole (2013) argue that charter schools use hybrid characteristics to reap the benefits of public funding while circumventing federal and state regulations that apply to traditional public schools.

While numerous studies indicate that charter schools divert much-needed funds from local school districts, there are studies suggesting the financial implications of charter schools may not be as severe as once thought. Gleason (2019) states that charter schools force local districts to improve and suggests that there is little evidence that charter schools have harmed traditional public schools financially. Buerger and Bifulco (2019) found that while charter schools in New York initially increased operating costs for traditional public schools, they forced local districts to be more efficient and the gains in efficiency outweighed the additional costs. Similarly, Gronberg, Jansen, and Taylor (2012) found that while charter schools are not

systematically more efficient than traditional public schools, they are able to produce effective educational outcomes at a lower cost. Despite these studies, Ladd (2019) argues that the lack of fiscal accountability allows charter schools to operate at the expense of serving children in traditional public schools.

There is also evidence that charter schools and other school choice initiatives shifted enrollment trends and reduced the overall enrollment in traditional public schools (Baker, 2016). The expansion of charter schools and private school vouchers greatly exacerbated inequalities among America's students by increasing segregation in public schools, isolating economically disadvantaged students in traditional public schools, and forcing public schools to serve a disproportionate number of disadvantaged students and students with disabilities with fewer resources (Baker, 2016). Because of their adverse effects on economically disadvantaged students, the NAACP has recently spoken out against charter schools in favor of a greater emphasis on improving traditional public education (Ladd, 2019).

### **History of Segregation in American Schools**

Although nineteenth-century reformers argued that mass education would provide a common experience for all students and create an avenue for social mobility, large disparities in school quality have been evident throughout the history of American public education (Downey & Condon, 2016). Following the landmark Supreme Court decision *Plessy v. Ferguson* in 1896, the government officially adopted the "separate but equal" doctrine, which forced children of color to be educated in separate schools, claiming that the separate schools were not a violation of Equal Protection Clause of the Fourteenth Amendment (Thompson Dorsey & Roulhac, 2019). The *Plessy* decision resulted in a half century of Jim Crow laws that segregated nearly every aspect of American society, including public schools.

Historically, laws in the United States have been built on the foundation of White supremacy and inequality (Thompson Dorsey & Roulhac, 2019). Even when progress towards integration was made, it occurred in a way that did not disrupt the interests of White students or their families. Evidence of this can be seen following the *Brown v. Board of Education* decision in 1954 when schools serving students of color were generally closed and their students and teachers would acquire minority status following their disbursement to White schools (Urrieta, 2006). Despite the nature of the change, the *Brown* decision began a decades-long process of widespread integration throughout the United States (Fiel, 2013).

In the aftermath of the *Brown* decision and the Civil Rights Act of 1964, The Coleman Report found that the majority of American children attended schools that were segregated, meaning that they were largely comprised of students of the same racial background (Coleman et al., 1966). Coleman et al. (1966) also found that minority students displayed lower academic outcomes when they attend schools with higher concentrations of minorities and lower exposure to White students. Evidence also suggests that the isolation of students in predominantly minority school districts contributed to increases in the achievement gap between White students and students of color (Stiefel, Schwartz, & Chellman, 2007). While segregating policies displayed negative effects on students, Rivkin (2016) found that desegregation policies led to higher levels of achievement and reductions in dropout rates among Black students, particularly those who had higher initial levels of achievement.

Although there seemed to be a brief period of progress during the 1970s and 1980s when schools around the country desegregated, this period was soon followed by a long period of regression, as many students of color are currently attending re-segregated schools (Thompson Dorsey & Roulhac, 2019). The percentage of African American students enrolled in racially

isolated schools fell by half between 1969 and 1981, resulting in a sharp decline in segregation in America (Scafidi, 2015). This period was marked by reductions in the dropout rates and increases in student outcomes for Black students (Fiel, 2013). Despite the period of progress, Fiel (2013) found that students from each minority group attended schools with fewer and fewer White students over the past several decades. Similarly, Scafidi (2015) found that from 2000-2010, school integration lagged behind efforts to integrate neighborhoods and schools became more racially isolated.

Racial segregation in schools often yields socioeconomic segregation, which presents numerous challenges for public schools. Concentrations of racial minorities are often correlated with concentrations of poverty, as the typical minority student attends school with a majority of students living below the poverty line (Logan & Burdick-Will, 2016). In addition to racial segregation, income segregation in schools increased by more than 40% between 1991 and 2012 (Johnsen, 2017). Income segregation can result in numerous consequences for schools that serve a disadvantaged student population, including lower graduation rates, difficulty attracting qualified teachers, and lower levels of funding per-pupil funding when compared to schools that serve higher-resourced students (Logan & Burdick-Will, 2016).

### **School Choice and Segregation**

The 1980s ushered in a conservative political movement in education that pushed for privatization, high-stakes standardized tests, and school choice (Urrieta, 2006). The same emphasis on school choice is evident today, as the current U.S. Secretary of Education, Betsy DeVos, and the current North Carolina Superintendent of Public Instruction, Mark Johnson, both reached their positions by advocating for school choice initiatives and the expansion of charter schools (Thompson Dorsey & Roulhac, 2019).

With the exponential increase in school choice programs in America, it is critical to understand how student movement through school choice initiatives affects the demographic composition of schools. Scafidi (2015) contends that racial integration of schools is important because interracial contact may promote better understanding and appreciation for those who are of a different race and because there is strong evidence that African American students experience lower academic outcomes in segregated schools. Some have argued that school choice fosters equity and diversity because families are no longer bound by geographic location (Frankenberg et al., 2017). However, Swanson (2017) contends that choosing a racially isolated school could result from implicit racial bias or parents not wanting their child to be a member of a racial out-group in their school.

While school choice proponents argue that offering parents public school options empowers them to secure an optimal school for their children, choice allows White families to have higher quality options than their Black counterparts (Simms & Talbert, 2019). As America has become a more diverse nation, evidence suggests that neighborhoods have become less segregated since the 1960s (Simms & Talbert, 2019). Despite the integration of neighborhoods, numerous studies have revealed that school choice initiatives have turned back the clock on school integration.

Buerger and Bifulco (2019) provide evidence that charter schools impact enrollment and student composition in traditional public schools and found that charter schools increase the share of low-income students and students receiving special education services. Likewise, Logan and Burdick-Will (2016) found that both White and Black students are more racially isolated in areas where charter schools operate. In many cities like Little Rock, Arkansas, studies have found that



school choice has resulted in hypersegregation in both traditional public schools and charter schools (Ritter, Jensen, Kisida, & Bowen, 2016).

Simms and Talbert (2019) found that White parents consider the quality of the school system as a primary factor when evaluating prospective neighborhoods, but Black families often lack the resources to move into selective neighborhoods and are often dissatisfied with their schools. As such, Black families who exercise school choice endure an additional burden trying to navigate the complex and arduous process of finding a school (Simms & Talbert, 2019). Studies have also shown that Black and Latino students are averse to moving to charter schools with large numbers of White students (Frankenberg et al., 2017). This has resulted in additional racial isolation among both charter schools and traditional public schools.

Regardless of their reason for choosing a charter school, enrolling in a charter school often requires extensive information gathering and an application process; therefore, some researchers have argued that charter schools attract the most motivated and capable students in the area (Logan & Burdick-Will, 2016). This results in greater disparities between schools of choice and traditional public schools. Robertson and Riel (2019) assert that equal access to quality schooling should not be traded for individual freedom to choose schools.

### **Racial Segregation in North Carolina Charter Schools**

Research suggests that the exposure of students to classmates from a diverse set of backgrounds has positive social benefits for students and studies have shown the positive effects of racially integrated schools on academic achievement (Monarrez, Kisida, & Chingos, 2019). Because studies have found that minority students exhibit lower academic achievement and attainment when they attend racially homogeneous schools, and that racial segregation tends to widen the achievement gap between White students and students of color, concerns have grown

that America's schools are becoming less diverse through the rapid expansion of charter schools (Fiel, 2013).

The increase of parental preferences of schools has sparked debates regarding the effect of school choice on integration efforts in North Carolina. While many fear that choice programs will increase segregation, others contend that choice programs can play a positive role in integrating schools (Bifulco et al., 2009). School choice advocates are quick to highlight the success of predominantly Black charter schools that feature Afrocentric themes and pedagogy as a means to promote diversity through school choice (Riel et al., 2018). Proponents also point out that many charters focus on serving students with autism or other special learning needs (Mullen et al, 2013). Despite these claims, there is ample evidence to suggest that charter schools undermine racial diversity by attracting higher-resourced White students away from traditional public schools, increasing the isolation of minority and disadvantaged student populations in public schools (Riel et al., 2018).

Consistent with national trends, charter schools in North Carolina followed similar patterns of re-segregation, as minorities were drawn to charter schools as alternatives to their local public schools (Urrieta, 2006). Bifulco et al. (2009) contend that racial and socioeconomic preferences are often more emphasized in school choice programs than student achievement, quality of instruction, discipline, and program offerings. Enrollment trends in North Carolina charter schools have left many concerned that school choice initiatives have served as a means of re-segregating public schools. Urrieta (2006) argues that the rhetoric surrounding charter schools in North Carolina has allowed charter schools to benefit from colorblind educational policies and have resulted in race-based inequality in education.

To address concerns regarding the lack of diversity in charter schools and fears that charters were being used as a means of “White flight” for many families, the North Carolina General Assembly passed a racial compliance law stating that “within one year after a charter begins operation, the population of the school shall reasonably reflect the racial and ethnic composition of the general population of the school district or of the special population the school seeks to serve residing in the district” (Paino et al., 2014). Despite the early attempts to increase diversity in charter schools, the North Carolina General Assembly eliminated the mandate in 2013 and replaced it with a simple requirement that charters make an effort to reflect the demographics of their respective school districts (Riel et al., 2018).

Despite the efforts to ensure demographic consistency between charter schools and traditional public schools, research suggests that charter schools are more likely to isolate minority students in racially segregated settings and evidence suggests that charters also contribute to White flight and economic self-isolation in North Carolina (Mullen et al., 2013). Evidence from the state’s two largest school districts, Charlotte-Mecklenburg and Wake County, found that both districts have experienced an increase in intensely segregated schools, decreasing exposure of Black and Latino students to White students, and a large increase in segregated charter schools (Ayscue, Siegel-Hawley, Kucsera, & Woodward, 2018). Similarly, Bifulco et al. (2009) found that as a result of school choice programs, Durham Public Schools were more segregated by race than they would be if all students attended schools assigned by the school district.

Bifulco and Ladd (2007) found that after the first decade of charter school operations in North Carolina, charter schools had increased racial isolation among both Black and White students and had widened the achievement gaps. While few statewide studies have been

conducted since the 100-school cap was lifted in 2011, Thompson Dorsey, and Roulhac (2019) found that North Carolina's charter schools remain more segregated than the state's traditional public schools and that high levels of segregation in charter schools serves as an unintended consequence of school choice. Similarly, Robertson and Riel (2019) contend that while North Carolina law encourages more educational options, school choice options are limited to advantaged parents and students who are better equipped to gather information and shape decisions about which school to attend. As such, North Carolina charter schools serve lower portions of disadvantaged students and have resulted in increased racial segregation when compared to traditional public schools (Robertson & Riel, 2019).

Increased racial homogeneity resulting from school choice initiatives in North Carolina has led to concerns that many disadvantaged minority students are left behind in traditional public schools. Bifulco et al. (2009) found that advantaged students used school choice programs in Durham to opt out of their assigned schools, which resulted in many neighborhood schools being left with economically disadvantaged students. This trend was especially evident in schools with high concentrations of disadvantaged students that were located near choice schools attractive to high achievers (Bifulco et al., 2009). Robertson and Riel (2019) contend that while low-income families have the most to gain from school choice programs, advantaged parents and students are better equipped to gather information to navigate the market of school choice options. As a result, students assigned to poor performing schools, and whose parents are unable or unwilling to take advantage of school choice opportunities, are vulnerable to being left behind in a weaker learning environment (Bifulco et al., 2009).

## Summary

Review of the literature has presented that charter schools and other school choice initiatives have grown at a rapid pace in North Carolina and throughout the country. Advocates of charter schools see the expansion of school choice as a means to greater efficiency, effectiveness, and equity (Teresa & Good, 2018). The promotion of school choice appealed to policy-makers from both sides of the political spectrum and resulted in the exponential increase in the number of charter schools. As the number of charter schools increased, concerns have grown that charter schools are stalling integration efforts in public schools. The literature also suggests that despite the well-documented benefits of diverse schools and the disadvantages of racial isolation, that there is a strong link between school choice programs and student segregation by race, ethnicity, and income (Rotberg, 2014).

The literature review began with a review theoretical framework used to guide this study. Both the market competition theory and the social inequality theory were examined to determine if the expansion of charter schools promoted by school choice advocates utilizing the market competition theory resulted in unequal opportunities for students based on the social inequality theory. A thorough review of the literature indicates that the expansion of charter schools has led to racially isolated schools for both White and non-White students. In many cases charter schools resulted in hyper-segregated schools, as 17% of charter schools in 2014 had enrollments comprised of 99% or more students of color (West, 2019). Giersch (2019) found that both district superintendents and charter school operators in North Carolina have indicated that they have little control over diversity in an era of school choice and that the expansion of school choice will only increase segregation.

The increase in racial segregation resulted in both social and academic inequities among students. Logan and Burdick-Will (2016) found that both White and Asian students were exposed to fewer students from poverty when attending charter schools and that charter schools provided better services in high poverty areas, but yielded worse results in low poverty areas. In addition to the adverse effects of racial and economic isolation in resulting from charter schools, there is also little evidence that charter schools lead to gains in academic achievement or innovation when compared to traditional public schools (Rotberg, 2014). It is clear that additional research is necessary to gain a greater understanding of the effects of charter schools on racial segregation and student achievement in North Carolina.

## **CHAPTER THREE: METHODS**

### **Overview**

The purpose of this study was to determine if students in North Carolina charter schools are more segregated by race than their counterparts in traditional public schools. The study also sought to determine if there is a difference in the school performance data of charter schools that serve predominantly White students compared to charter schools that serve predominantly non-White student populations. This chapter describes the methodology used to conduct this quantitative study. The chapter will highlight the design of the study, research questions, hypotheses, participants, and will detail specific statistical measurements and data analysis used to conduct the study.

### **Design**

This non-experimental study utilized a causal-comparative research design. Ex post facto data regarding individual charter school and district composition and performance was collected using archival data from the 2018-2019 school year. The study sought to determine if charter schools serve as a means of “White flight” by examining differences among the demographic make-up students attending charter schools in North Carolina when compared to the traditional public school systems in which they are located. The study also sought to determine if school performance varies between predominantly White charter schools and predominantly non-White charter schools. This research design was selected due to the researcher’s desire to explain educational differences in a school’s performance through the study of cause and effect relationships (Gall, Gall, & Borg, 2007).

The quantitative nature of the study allowed the researcher to analyze differences in the dependent variable of percentage of White students between the independent variables of charter

schools and traditional public school systems to answer Research Question One. To answer Research Question Two, statistical analyses were utilized to explore differences among the dependent variables of school performance grade, school growth index, and incoming student readiness among the independent variables of predominantly White charter schools and predominantly non-White charter schools.

### **Research Questions**

This study set out to determine if charter schools are racially homogeneous when compared to traditional public schools in the same geographic location. This information will allow researchers to validate or disprove claims that charter schools are used as a means of “White flight” resulting in the re-segregation of public schools. If charter schools are in fact racially segregated, it is also important for educators and policy-makers to know if there are differences in school performance among charter schools serving a predominantly White student population compared to charter schools that serve a primarily non-White student population. To conduct the study, the following research questions were formulated:

**RQ1:** Is there a difference between the proportion of White students attending charter schools in North Carolina when compared to the proportion White students attending traditional public schools in the same school district?

**RQ2:** Is there a difference in the school performance grade, school growth, and incoming student readiness among charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population?

### **Null Hypotheses**

**H<sub>01</sub>:** There is no statistically significant difference between the proportion of White students attending charter schools when compared to the proportion of White students attending



traditional public schools in the same school district based on data obtained from the North Carolina department of Public Instruction Statistical Profile.

**H<sub>0</sub>2:** There is no statistically significant difference between the school performance grades of charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population on the North Carolina School Report Card.

**H<sub>0</sub>3:** There is no statistically significant difference between the school growth indexes of charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population on the North Carolina School Report Card.

**H<sub>0</sub>4:** There is no statistically significant difference between the incoming student readiness indexes of charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population on the North Carolina School Report Card.

### **Participants and Setting**

Gall, Gall, and Borg (2007) state that researchers should seek to use the largest sample possible when conducting quantitative research. To determine the racial differences between charter schools and traditional public schools, the study first analyzed the racial composition of the entire target population. Participants included all charter schools and the school districts in which charter schools operate. At the conclusion of the 2018-2019 school year, 180 charter schools operated in North Carolina, serving 103,626 students. The demographic makeup of charter schools in North Carolina is: 55% White, 26% Black, 10% Hispanic, 4% Asian, and 5% two or more races. The demographic makeup of traditional public schools in North Carolina is

47% White, 25% Black, 18% Hispanic, 3% Asian, and 4% two or more races. To ensure that all schools have data represented on the 2019 North Carolina School Report Card, 11 charter schools that opened after the 2017-2018 school year were eliminated from the study. The elimination of 11 charter schools reduced the number of charter schools considered in the study to 169 schools.

Purposive sampling was used to identify racially homogenous charter schools to compare the school performance of charter schools that serve a predominantly White student population to those that serve a predominantly non-White student population. Fraenkel and Wallen (2003) state that purposive sampling is used to select a sample that will provide the information necessary to provide the data needed for the study. The sample used in this study was all charter schools in North Carolina that are racially homogeneous. For the purposes of this study, racial homogeneity is defined as a school in which 70% of the student population is comprised of one race. Participants included 91 charter schools, 68 of which have a White student enrollment of more than 70% and 25 of which have a non-White student enrollment of more than 70%. To ensure that the appropriate data can be obtained for each of the dependent variables, elementary charter schools were removed from the study, bringing the number of participants to 61 predominantly White charter schools and 19 predominantly non-White charter schools. The number of participants exceeded the required minimum number to conduct a one-way multivariate analysis of variance (MANOVA).

## **Instrumentation**

### **Demographic Data**

This study used data obtained from the North Carolina Department of Public Instruction (2019) Statistical Profile to determine the racial composition of both charter schools and

traditional public schools during the 2018-2019 school year. Each school district or charter school is required to report demographic data at the end of the first month of each school year to the North Carolina Department of Public Instruction (NCDPI). Once a student is counted in the enrollment figure, he or she remains in that count for the entire school year. Information on race and gender reported from school systems and charter schools is maintained on the NCDPI Statistical Profile to ensure compliance with Title VI of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972 (NCDPI, 2019). The Statistical Profile also provides information to educators, the public, and the General Assembly about public school students, personnel, and finances (NCDPI, 2019).

Utilizing data found on the North Carolina Department of Public Instruction (NCDPI) Statistical Profile, the study obtained the demographic composition of each charter school in North Carolina. Because the NCDPI Statistical Profile displays student enrollment in frequency counts, proportions for each race was calculated by dividing the total number of students from each race enrolled in the charter school into the total number of students in the charter school. The same calculation was utilized to obtain racial proportions for each individual school district where the charter school is located. Demographic data was obtained from all 169 charter schools operating at the conclusion of the 2017-2018 school year. The same data was obtained from each school district in which the charter school operates.

### **School Performance**

To determine differences among school performance between predominantly White charter schools and predominantly non-White charter schools, three instruments were used: the school's performance grade score, the school's growth composite, and incoming student readiness. Data for each of these indicators was obtained from each school's 2019 North

Carolina School Report Card. Student proficiency is used to calculate each school's performance grade. End-of Course (EOC) and End-of-Grade (EOG) assessments in North Carolina are broken down into five achievement levels: Level I, Level II, Level III, Level IV, and Level V based on mastery of the standards. Students are considered proficient if they score a Level III or above on these state assessments and proficiency indicates that the students are prepared for the next grade level (North Carolina Department of Public Instruction, 2019). A school performance grade score is calculated based on the percentage of students achieving proficiency on all End-of-Grade (EOG) or End-of-Course (EOC) tests in a given year and is based on a 0-100 scale.

Student growth is based on the amount of academic progress a student makes over the course of a class or a year. Growth is calculated using each individual student's prior testing data to predict the student's score on an assessment (North Carolina Department of Public Instruction, 2019). The expectation is that with appropriate instruction students will make at least an average amount of growth in a grade or subject. Unlike proficiency, which simply measures content mastery, growth considers that students enter a course or grade at different levels and measures the progress of each student from year to year or course to course. A school's growth index is calculated based on the aggregate of all student growth on End-of-Grade (EOG) or End-of Course (EOC) assessments. Each year all schools receive a growth designation of not met, met, or exceeded. However, for the purposes of this study, growth was measured using the 0-100 growth index from the North Carolina School Report Card.

Incoming student readiness is defined as the number of students entering the school at or above grade level based on reading and math from the previous year (North Carolina Department of Public Instruction, 2018). Student readiness is calculated in grades 6 and 9 and uses fifth

grade and eighth grade End-of-Grade proficiency as a measure. Schools with lower levels of incoming student readiness may face challenges as they seek to raise proficiency and growth scores among their students.

### **Procedures**

Before conducting the study, the researcher obtained approval from the Liberty University's Institutional Review Board (IRB). Because of the ex post facto nature of the research design, all data regarding the demographic composition of individual schools and school districts and data regarding school performance indicators was archived and available through the North Carolina Department of Public Instruction website. All demographic data was obtained from the North Carolina Department of Public Instruction Statistical Profile and all school performance data was obtained from each school's North Carolina School Report Card. For the purposes of this study, all names of individual charter schools and school districts were removed.

To address Research Question One, the study began by obtaining the proportion of White student enrollment for each charter school in North Carolina. The same data was collected for each individual school district in which the charter school is located. This data was recorded on a spreadsheet and inputted into SPSS for analysis. A nonparametric Mann-Whitney  $U$  test was conducted to determine if a statistically significant difference exists between the dependent variable of the proportion of White students when comparing the independent variables of charter schools and traditional public school systems.

To address Research Question Two, purposive sampling used to identify charter schools that serve a racially homogeneous population. For the purposes of this study, racial homogeneity was defined as any charter school where one racial group comprises at least 70% of the student

enrollment. The demographic composition of each charter school was calculated using archival data available on the North Carolina Department of Public Instruction's Statistical Profile.

Independent variables for Research Question Two was charter schools who serve a predominantly White student population and charter schools who serve a predominantly non-White student population.

After identifying racially homogeneous charter schools, data for the outcome variables of school performance grade scores, student growth index, and incoming student readiness were obtained from the North Carolina School Report Cards for each individual school. These data were entered into SPSS and a one-way multivariate analysis of variance (MANOVA) was conducted to determine differences between predominantly White charter schools and predominantly non-White charter schools on each dependent variable.

### **Data Analysis**

This study sought to determine if North Carolina charter schools are fulfilling the requirement to make an effort that their schools reflect the demographics of the surrounding school district. This study measured the demographic composition of charter schools compared to traditional public schools to determine if charter schools are more racially segregated than the traditional public school systems in which they are located. To address null hypothesis one, a Mann-Whitney  $U$  test was conducted to determine if a statistically significant difference exists between the proportion of White students attending charter schools when compared to traditional public schools in the same district. In this analysis the percentage of White students served as the dependent variable and the type of school (charter or traditional) served as the independent variable. The Mann-Whitney  $U$  test was used because the data failed both the assumption of normality and the assumption of equal variance. Lared Statistics (2015) states that a Mann-

Whitney *U* test should be used as a nonparametric alternative to the independent samples t-test to determine if there are differences between two groups on a dependent variable when the data collected fails assumption testing for the independent samples t-test.

This study also sought to determine statistically significant differences in school performance measures among charter schools that serve a predominantly White student population and charter schools that serve a predominantly non-White student population. To address null hypotheses two, three, and four, the researcher used purposive sampling to identify charter schools that serve a racially segregated student population. For the purposes of this study, schools comprised of more than 70% of students of one race were selected. A one-way multivariate analysis of variance (MANOVA) was conducted to determine if there is a statistically significant difference between the dependent variables of school performance grade composite, school growth index, and incoming student readiness among the independent variables of predominantly White charter schools and predominantly non-White charter schools. Gall et al. (2007) states that a one-way multivariate analysis of variance (MANOVA) is the appropriate statistical analysis to determine differences between groups on more than one dependent variable.

Data screening and assumption testing was conducted before performing the MANOVA. The researcher examined the data for possible outliers using box and whisker plots and by calculating *z* scores for any potential outliers. The assumption of normality was tested using a Kolmogorov-Smirnov test, as the number of participants in the study was greater than 50. The researcher also looked for a linear relationship between each pair of dependent variables to test the assumption of multivariate normal distribution by plotting a scatterplot matrix for each group of the independent variable. The researcher also tested the homogeneity of variances and

covariance matrices using Box's M test of equality of covariance. The researcher also conducted a Pearson's  $r$  correlation analysis to test for the absence of multicollinearity by ensuring that correlations are less than .90.



## CHAPTER FOUR: FINDINGS

### Overview

The purpose of this causal-comparative study was to determine if students in North Carolina charter schools are more segregated by race than their counterparts in traditional public school systems. The study also sought to determine if there is a difference in the school performance data of charter schools that serve primarily White student populations compared to charter schools that serve predominantly of non-White student populations. This chapter describes the statistical analyses used to conduct this quantitative study. The chapter will highlight the results of the statistical analyses, including descriptive statistics, data screening, assumption testing, and statistical results. All inferential statistics are reported for each null hypothesis and the study's research questions and hypotheses are evaluated.

### Research Questions

**RQ1:** Is there a difference between the proportion of White students attending charter schools in North Carolina when compared to the proportion White students attending traditional public schools in the same school district?

**RQ2:** Is there a difference in the school performance grade, school growth, and incoming student readiness among charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population?

### Null Hypotheses

**H<sub>0</sub>1:** There is no statistically significant difference between the proportion of White students attending charter schools when compared to the proportion of White students attending traditional public schools in the same school district based on data obtained from the North Carolina department of Public Instruction Statistical Profile.

**H<sub>0</sub>2:** There is no statistically significant difference between the school performance grades of charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population on the North Carolina School Report Card.

**H<sub>0</sub>3:** There is no statistically significant difference between the school growth indexes of charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population on the North Carolina School Report Card.

**H<sub>0</sub>4:** There is no statistically significant difference between the incoming student readiness indexes of charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population on the North Carolina School Report Card.

### **Descriptive Statistics for Research Question One**

A Mann-Whitney  $U$  test was used to address Research Question One and null hypothesis one. To determine if a statistically significant difference exists between the proportion of White students attending charter schools when compared to the traditional public school systems in which they operate, data was obtained from the North Carolina Department of Public Instruction (NCDPI) Statistical Profile. Frequency count data from the NCDPI Statistical Profile was used to calculate the proportion of White students enrolled in each charter school and traditional public school system. Data was obtained from all 169 charter schools operating at the conclusion of the 2017-2018 school year and from the 61 traditional public school districts in which charter schools operate for a total of 230 participants ( $N = 230$ ). Descriptive statistics to address Research Question One can be found on Table 1.

Table 1

*Descriptive Statistics for Research Question One*

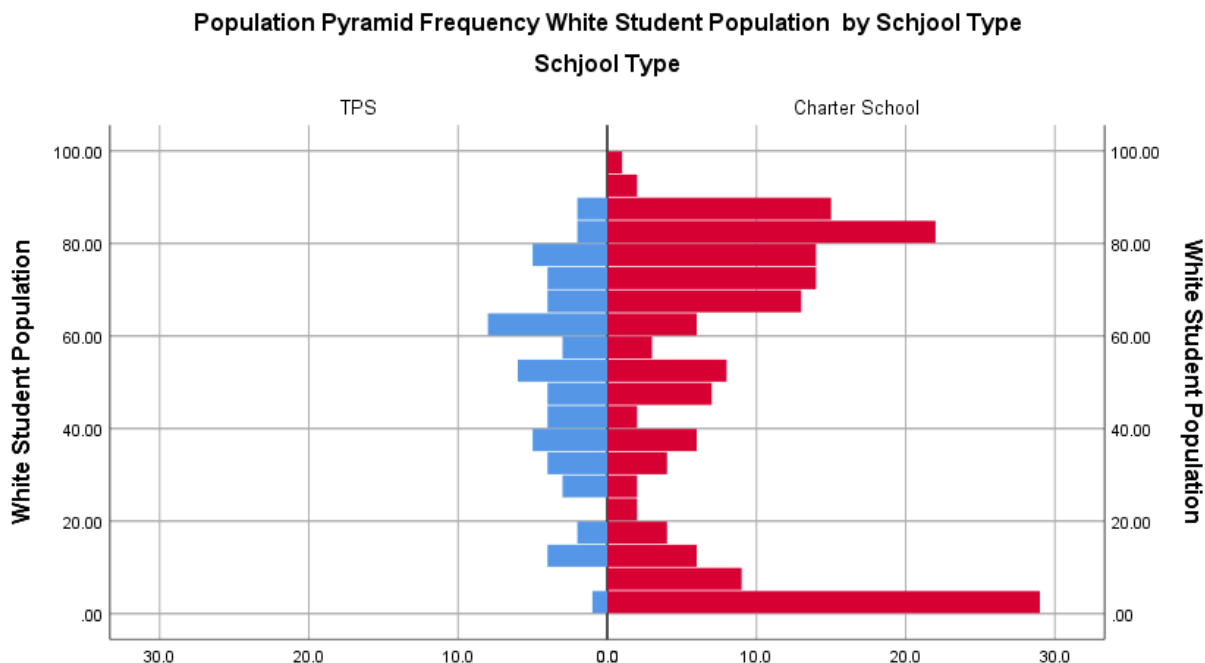
	N	M	SD	Median	Min	Max
Charter Schools	169	50.15	32.33	62.60	0.00	95.50
TPS	61	51.04	21.31	51.20	4.00	86.20

A review of descriptive statistics indicated that the proportion of White students attending traditional public school (TPS) systems in which charter schools operated is slightly higher ( $M = 51.04$ ,  $SD = 21.31$ ) than the proportion of White students attending charter schools ( $M = 50.15$ ,  $SD = 32.33$ ). However, the median proportion of White students attending charter schools is 62.60 which greatly exceeds 51.20, the median proportion of White students attending traditional public school systems where charters operate.

### Results for Research Question One

#### Assumptions

Lared Statistics (2015) cites four assumptions necessary before conducting a Mann-Whitney  $U$  test: one dependent variable, one independent variable that consists of two categorical groups, independence of observations, and similar distribution among both groups. To conduct this analysis, the percentage of White students serves as the dependent variable and the type of school (charter or TPS) serves as the independent variable. To ensure independence of observations, the proportion of White students for each school district was entered only once, even if multiple charter schools operate within the school district. To analyze the distributions among both groups of the independent variable, a population pyramid was used. See Figure 1 for the population pyramid results.



*Figure 1.* Population pyramid for White Student Enrollment by School Type.

The results of the population pyramid indicated that the distributions for White student enrollment in charter schools and traditional public school systems do not have a similar shape. Because the assumption of similar distribution was violated, Lared Statistics (2015) states that the Mann-Whitney  $U$  test should be used to determine whether there are differences in the distributions among the White student population of charter schools and traditional public school systems.

### **Hypotheses**

A Mann-Whitney  $U$  test was conducted to address Research Question One. Null hypothesis one states that there is no statistically significant difference between the proportion of White students attending charter schools when compared to the proportion of White students attending traditional public schools in the same school district based on data obtained from the North Carolina department of Public Instruction Statistical Profile. Distributions of White

student population among charter schools and traditional public school systems were not similar, as assessed by visual inspection. The results of the Mann-Whitney  $U$  tested indicated that there was no significant difference in the proportion of White students attending charter schools when compared to the proportion of White students attending the traditional public school systems in which charter schools operate  $U = 4844$ ,  $z = -.697$ ,  $p = .486$ . As such, null hypothesis one was not rejected. See Table 2 for the results of the Mann-Whitney  $U$  test.

Table 2

*Results of Mann-Whitney U Test*

	N	U	Sig.	Mean of Ranks	Sum of Ranks
Total	230	4844.00	.486		
Charter Schools	169			1117.34	19830.00
TPS	61			110.41	6735.00

### Descriptive Statistics for Research Question Two

Data was obtained for each of the dependent variables (school performance grade, school growth, and incoming student readiness) for both categorical variables (predominantly White and predominantly non-White charter schools). Purposive sampling was used to identify charter schools in which 70% of the student population is comprised of one race. While 93 schools were identified as racially homogeneous, 13 elementary schools were eliminated from the study because they did not have data for incoming student readiness. A total of 80 schools were used in the study ( $N = 80$ ), 61 schools had a White student population of more than 70% and 19 schools had a non-White student population in which one race comprised more than 70% of the student body. Descriptive statistics for school performance, growth, and incoming student

readiness among predominantly White and predominantly non-White charter schools can be found in Table 3.

Table 3

*Descriptive Statistics for Research Question Two*

	Race	M	SD	N
School Performance	White	74.41	10.85	61
	Non-White	48.95	12.81	19
	Total	68.36	15.68	80
School Growth	White	77.44	11.40	61
	Non-White	81.12	9.75	19
	Total	78.08	11.03	80
Student Readiness	White	57.50	16.68	61
	Non-White	21.02	11.49	19
	Total	48.83	22.03	80

School performance overall ( $M = 68.36$ ,  $SD = 15.68$ ) was considerably higher among charter schools that serve a primarily White student population ( $M = 74.41$ ,  $SD = 10.85$ ) when compared to charters that serve largely non-White students ( $M = 48.95$ ,  $SD = 12.81$ ). However, student growth overall ( $M = 78.08$ ,  $SD = 11.03$ ) was marginally higher in primarily non-White charter schools ( $M = 81.12$ ,  $SD = 9.75$ ) when compared to charter schools that serve largely White student populations ( $M = 77.44$ ,  $SD = 11.40$ ). Incoming student readiness overall ( $M = 48.83$ ,  $SD = 22.03$ ) was also remarkably higher among predominantly White charter schools ( $M = 57.50$ ,  $SD = 16.68$ ) than in charter schools that serve a predominantly non-White student

population ( $M = 21.02$ ,  $SD = 11.49$ ).

## Results for Research Question Two

### Data Screening

Data screening was conducted by the researcher for each dependent variable (school performance grade, growth, and incoming student readiness) using the categorical variables of predominantly White charter schools and predominantly non-White charter schools. The data was scanned for inconsistencies and none were found. Box and whisker plots were used to detect outliers on each dependent variable. See Figures 2, 3, and 4 for boxplots of the dependent variables of school performance grade, school growth, and incoming student readiness.

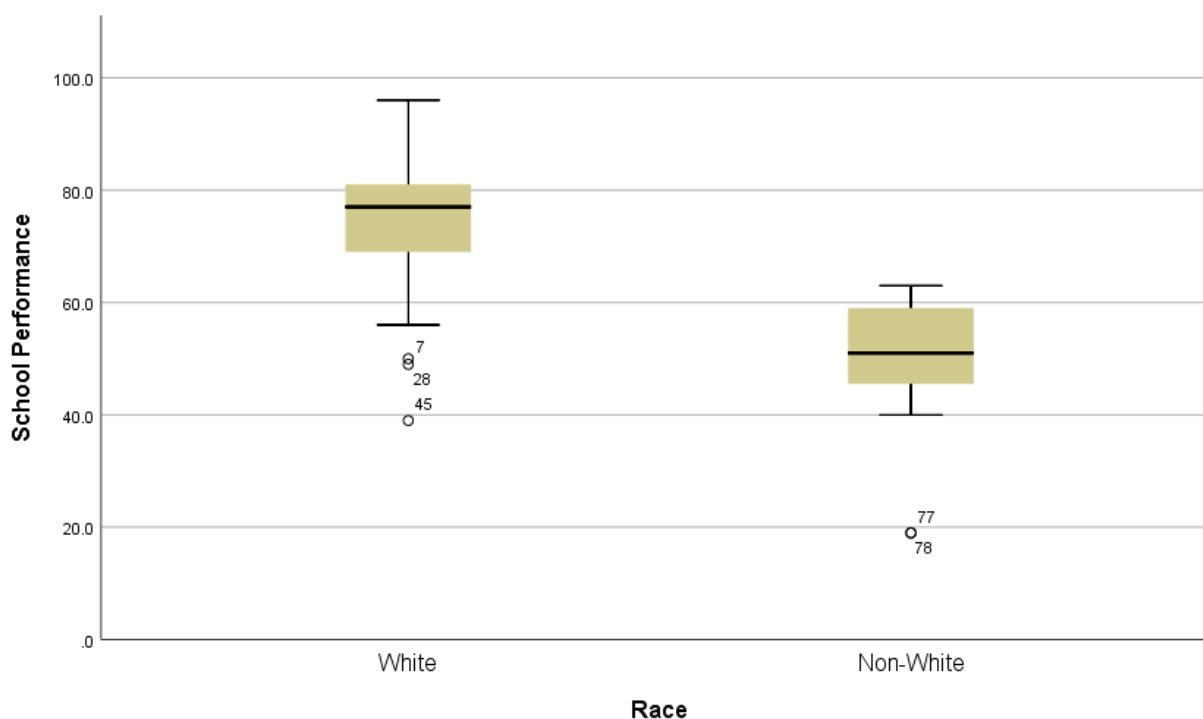


Figure 2. Box and Whisker Plot for School Performance and Race.

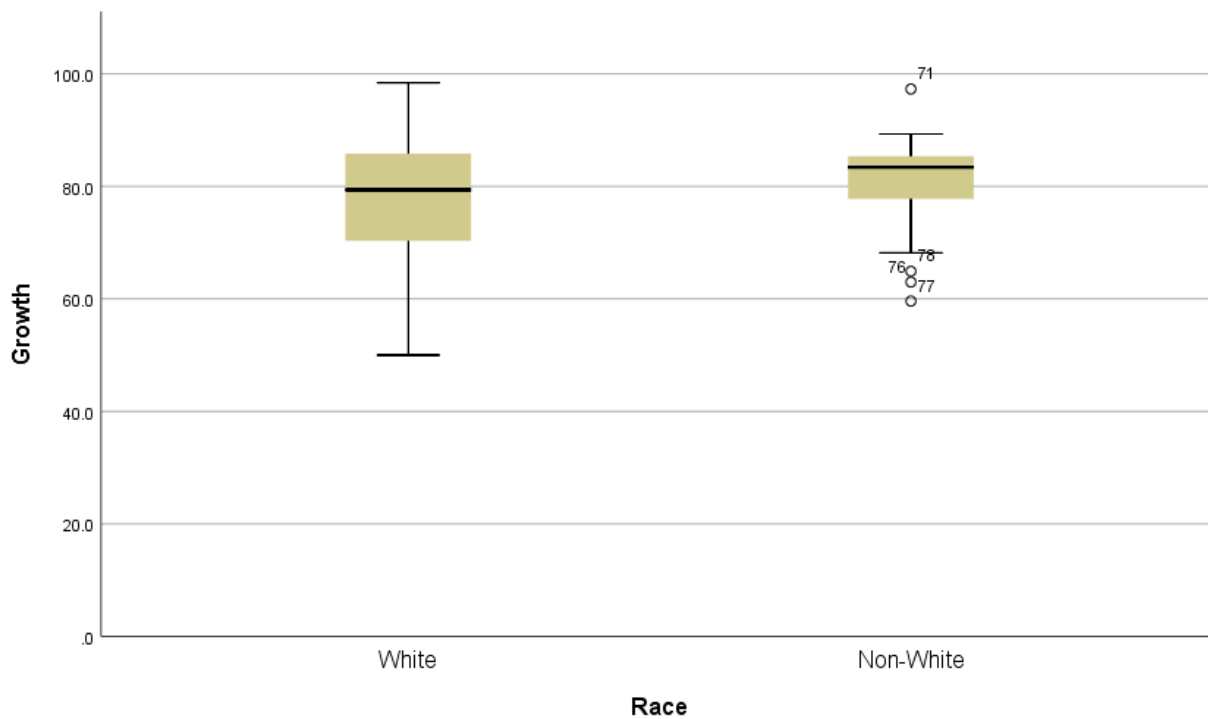


Figure 3. Box and Whisker Plot for School Growth and Race.

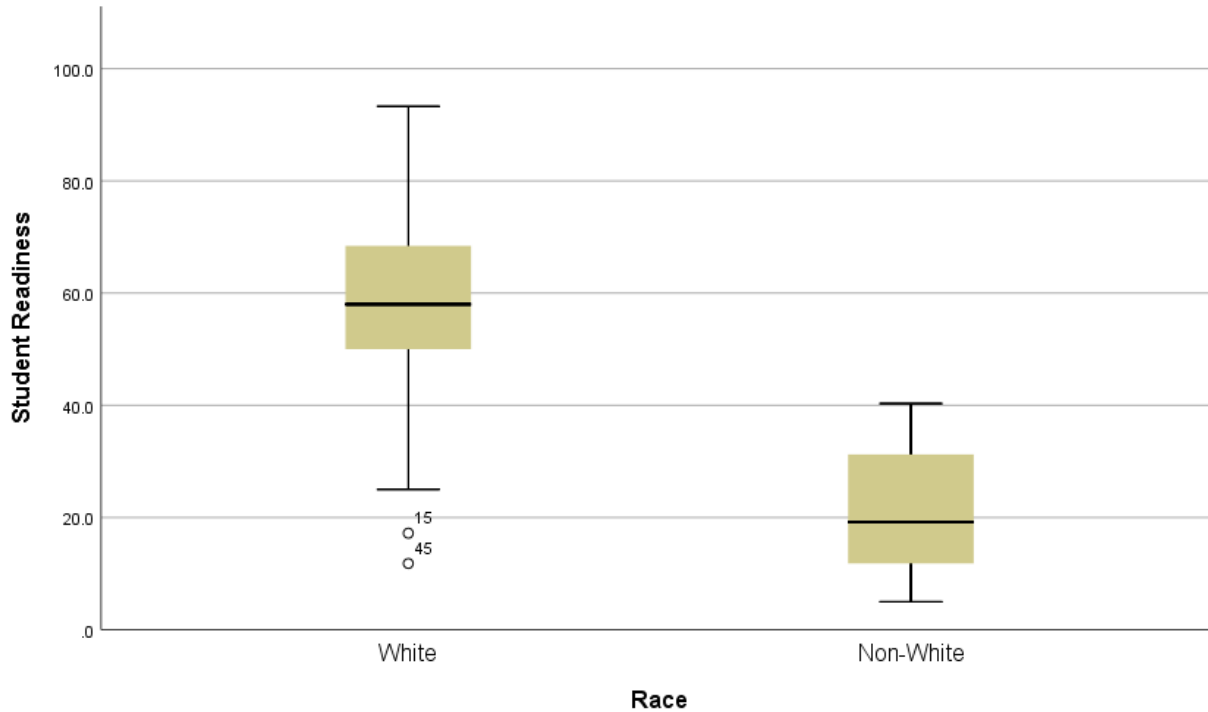


Figure 4. Box and Whisker Plot for Student Readiness and Race.



The box and whisker plots identified several potential outliers. Each outlier was converted to a  $z$  score and all scores fell within the acceptable  $z$  score range of -3.30 to 3.30 cited by Warner (2013). All univariate outliers also differed across the dependent variables. As such, no outliers were removed from the study. See Table 4 for the  $z$  score calculations for each outlier identified by the box and whisker plots.

Table 4

*Z Scores for Outliers*

		Subject ID	Value	M	SD	$z$ score
White	School Performance	7	50	74.41	10.85	- 2.25
		28	49	74.41	10.85	- 2.34
		45	39	74.41	10.85	- 3.26
	Student Readiness	15	17.2	57.50	16.68	- 2.41
		45	11.8	57.50	16.68	- 2.74
Non-White	School Performance	77	19	49.95	12.81	- 2.42
		78	19	49.95	12.81	- 2.42
	School Growth	71	97.3	80.12	9.75	1.76
		76	63.0	80.12	9.75	- 1.75

**Assumptions**

A one-way multivariate analysis of variance (MANOVA) was conducted to determine if differences exist between predominantly White charter schools and predominantly non-White charter schools among the dependent variables of school performance grade, school growth, and incoming student readiness. The assumption of normality was examined using a Kolmogorov-

Smirnov Test, as the sample size was greater than 50. The assumption of normality was found to be tenable, with  $p > .05$  in each case. See Table 5 for the Kolmogorov-Smirnov and Shapiro-Wilk test results.

Table 5

*Tests of Normality*

		Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistic	<i>df</i>	Sig.	Statistic	<i>df</i>	Sig.
School Performance	White	.161	61	.200	.965	61	.080
	Non-White	.168	19	.161	.855	19	.008
School Growth	White	.104	61	.095	.954	61	.023
	Non-White	.20	19	.055	.905	19	.061
Student Readiness	White	0.81	61	.200	.981	61	.474
	Non-White	.122	19	.200	.941	19	.280

The assumption of multivariate normal distribution was assessed by plotting a scatterplot matrix for each group of the independent variable (White and non-White charter schools) to determine a linear relationship between each pair of dependent variables. All scatterplots for school performance, growth, and incoming student readiness displayed normal distribution. As such, the assumption for multivariate normal distribution was tenable. See Figure 5 for scatterplots.

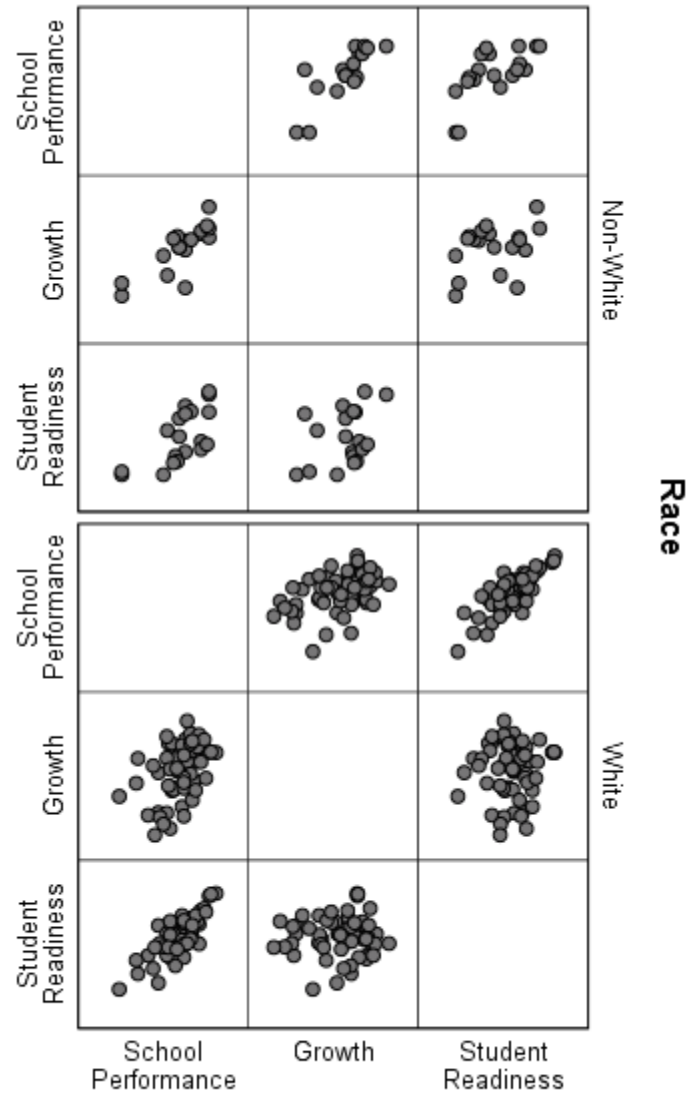


Figure 5. Scatterplot Matrix for School Performance, Growth, and Student Readiness.

The assumption of homogeneity of variance-covariance tested using Box's M test of equality of covariance. The results of the Box's M (16.67) was significant ( $p = .016$ ) indicating a violation of the assumption of homogeneity of variance-covariance. Because of this, Warner (2013) recommends reporting Pillai's trace instead of Wilks's lambda as the overall test statistic. Pillai's trace is more robust to violation of the homogeneity of variances and covariances, particularly in studies with unequal numbers in the groups (Warner, 2013). See Table 6 for the results of Box's M test.

Table 6

*Box's M Test Results*

Box's M	16.67
F	2.60
df1	6
df2	6712.05
Sig.	.016

The assumption of homogeneity of variance was examined using the Levene's test of equality of error variances. The assumption of homogeneity of variance was tenable for school performance (.672), growth (.666), and incoming student readiness (.231). Therefore, the assumption of equal variance was met. See Table 7 for the results of Levene's Test of equality of error variances.

Table 7

*Levene's Test Results*

	<i>F</i>	<i>df1</i>	<i>df2</i>	Sig.
School Performance	0.18	1	78	.672
School Growth	1.41	1	78	.666
Student Readiness	1.46	1	78	.231

*Note:* Tests the null hypothesis that error variance of the dependent variable is equal across groups. a. Design: Intercept + race

The researcher conducted a bivariate Pearson's *r* correlation to test for multicollinearity. The analysis found a moderately strong collinear relationship between school performance and

student readiness ( $r = .874$ ). However, the correlations did not violate the assumption at the 0.90 level, thus the assumption of multicollinearity was tenable (Lared Statistics, 2015). See Table 8 for the Pearson's  $r$  correlation analysis.

Table 8

*Pearson's  $r$  Correlation Analysis*

		School Performance	Growth	Student Readiness
School Performance	Pearson Correlation	1	.296	.874
	Sig. (2-tailed)		.008	.000
	N	80	80	80
School Growth	Pearson Correlation	.296	1	-.008
	Sig. (2-tailed)	.008		.943
	N	80	80	80
Student Readiness	Pearson Correlation	.874	-.008	1
	Sig. (2-tailed)	.874	.943	
	N	80	80	80

*Note:* Correlation is significant at the 0.01 level (2 tailed).

**Hypotheses**

A one-way multivariate analysis of variance (MANOVA) was conducted to address Research Question Two. The results of the one-way MANOVA indicated a statistically significant main effect difference between the school performance indicators (school performance grade, growth, and incoming student readiness) of charter schools that serve a predominantly White student population and charter schools that serve a predominantly non-

White student population. The Pillai's trace of .590 was significant,  $F(3, 76) = 1039.45, p < .01$ , partial  $\eta^2 = .59$ . See Table 9 for the results of the one-way MANOVA.

Table 9

*MANOVA Results for School Performance Grade, Growth, and Incoming Student Readiness*

	Pillai's Trace	<i>F</i>	<i>df</i>	Sig.	Partial $\eta^2$
Race	.590	36.40	3	.000	.59
Error			76		

While the MANOVA indicated a statistically significant result, to address null hypotheses two, three, and four, the researcher conducted a post hoc analysis by examining the one-way analysis of variance (ANOVA) results for each dependent variable. Null hypothesis two states that there is no statistically significant difference between the school performance grades of charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population on the North Carolina School Report Card. The results of the post hoc comparison for school performance grade indicated a statistically significant difference between charter schools that serve a predominantly White student population and charter schools that serve a predominantly non-White student population,  $F(1, 78) = 73.12, p < .01$ , partial  $\eta^2 = .48$ . As such, the researcher rejected null hypothesis two. See Table 10 for one-way ANOVA results.

Null hypothesis three states that there is no statistically significant difference between the school growth indexes of charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population on the North Carolina School Report Card. Results of the post hoc comparison for null hypothesis

three indicated no statistically significant difference in student growth among charter schools who serve a primarily White student population and their counterparts with a primarily non-White student population,  $F(1, 78) = .85, p = .36, \text{partial } \eta^2 = .01$ . Thus, the researcher failed to reject null hypothesis three signifying no significant difference among school growth in charter schools based on the predominant race of students enrolled. See Table 10 for one-way ANOVA results.

Null hypothesis four states that there is no statistically significant difference between the incoming student readiness indexes of charter schools who serve a predominantly White student population when compared to charter schools who serve a predominantly non-White student population on the North Carolina School Report Card. Results of post hoc analysis on incoming student readiness indicated a statistically significant difference in student readiness among charter schools that serve a predominantly White student population and charter schools that serve a predominantly non-White student population,  $F(1, 78) = 78.78, p < .01, \text{partial } \eta^2 = .50$ . The researcher rejected null hypothesis four as a result of the statistically significant difference. See Table 10 for one-way ANOVA results.

Table 10

*ANOVA Results for School Performance Grade, Growth, and Incoming Student Readiness Among Predominantly White and Predominantly Non-white Charter Schools*

Variables	<i>df</i>	<i>F</i>	Sig.	Partial $\eta^2$
School Performance	1	73.12	.000	.48
Error	78			
School Growth	1	.85	.360	.01
Error	78			
Student Readiness	1	78.78	.000	.50
Error	78			



## **CHAPTER FIVE: CONCLUSIONS**

### **Overview**

This chapter discusses the findings of this study by reexamining the study's purpose, research questions, and providing a summary of the statistical results and how the results were analyzed to answer each research question. Chapter Five will also explore how the findings of this study relate to the literature review and how they contribute to the current body of knowledge regarding charter schools and racial segregation. In addition to the study's findings, this chapter will also discuss the study's implications, limitations, and recommendations for future research on the topic.

### **Discussion**

The purpose of this causal-comparative study was to determine if a statistically significant difference exists between the demographic composition of students in charter schools when compared to their counterparts in traditional public school systems where charter schools operate. By comparing the proportion of White students enrolled in charter schools to the proportion of White students enrolled in traditional public school systems, the researcher sought to determine if charter schools are used by families as a means of "White flight" from traditional public schools. The study also examined the relationship between racially homogeneous schools and academic achievement to determine how this relationship differs between students in charter schools that serve primarily White student populations and their counterparts in charter schools that serve predominantly non-White student populations. By exploring these research questions, the researcher sought to determine if the expansion of market competition in education through increased enrollment in charter schools has resulted in racially segregated charter schools and if such segregation yielded differences in academic outcomes for students in North Carolina.

To conduct this study, the researcher examined demographic data for all 169 charter schools operating at the conclusion of the 2017-2018 school year and demographic data for the 61 traditional public school systems in which charter schools operate. The researcher also identified charter schools where 70% of the student population is comprised of students of one race. The researcher identified 68 predominantly White charter schools and 25 predominantly non-White charter schools. However, 13 racially homogeneous elementary charter schools were eliminated from the school performance analysis because they lacked data for incoming student readiness. This left 61 predominantly White charter schools and 19 predominantly non-White charter schools that were analyzed to answer Research Question Two. All school performance data was obtained from each charter school's 2019 North Carolina School Report Card.

### **Research Question One**

Research Question One asked if there was a difference between the proportion of White students attending charter schools in North Carolina when compared to the proportion of White students attending traditional public schools in districts where charter schools operate. Studies have shown that attending diverse schools helps students acquire the attitudes and behaviors that are paramount for success in today's diverse workforce (Mickelson & Nkomo, 2012). With the rapid expansion of charter schools in over the past 20 years, researchers like Bifulco et al. (2009) have expressed concerns that school choice initiatives have allowed White families to flee traditional public school for less integrated charter schools. Likewise, Bifulco and Ladd (2007) found that after the first decade of charter school operation, North Carolina charter schools were largely segregated by race.

To address concerns that charters might lead to racial re-segregation, the North Carolina General Assembly passed legislation stating that the student population of a charter school

should reasonably reflect the demographic composition of the student population of the surrounding school district within the first year of operation (Giersch, 2019). To analyze demographic differences among charter schools and traditional public schools in North Carolina, this study utilized a Mann-Whitney  $U$  test to determine if there was a statistically significant difference between the proportion of White students attending charter schools and the proportion of White students attending traditional public school systems where charter schools operate. The results of the Mann-Whitney  $U$  test indicated that there was no statistically significant difference in these proportions ( $U = 4844$ ,  $z = -.697$ ,  $p = .486$ ). When comparing the analysis results to demographic data from all North Carolina school systems, the researcher inferred that charter schools were more likely to exist in communities with higher proportions of White students. White students account for 47% of the student population in North Carolina's traditional public schools. However, in communities where charter schools operate, White students make-up 51.04% of the traditional public school enrollment.

Evidence from the descriptive data and purposive sampling revealed several noteworthy findings regarding the demographic composition of students attending charter schools in North Carolina. While comparing means displayed only a marginal difference between the White student enrollment in charter schools ( $M = 50.15$ ) and traditional public school systems ( $M = 51.04$ ), comparison of the median White student enrollment in charter schools and traditional public school systems revealed a much greater disparity. The median proportion of White students attending charter schools is 62.60 which greatly exceeds 51.20, the median proportion of White students attending traditional public school systems in communities where charter schools operate. Like the mean, the median is a measure of central tendency but offers the advantage of providing more reliable data in the presence of extreme values (Leys, Ley, Klein,

Bernard, & Licata, 2013). The disparity between comparing the means and medians of White students in charter schools and traditional public schools in this study can be attributed to the bimodal distribution of White students in charter schools.

While the descriptive data revealed several notable findings regarding differences among the demographic composition of students attending charter schools when compared to traditional public schools, inferential statistics suggested otherwise. Despite the disparity in medians noted in the descriptive statistics, the results of the Mann-Whitney *U* test indicated that there was no significant difference in the proportions of White students in charter schools and traditional public schools.

While charter schools offer parents educational options outside of their local school systems, Kelley (2015) contends that school choice has led to concerns that charters may lead to re-segregation, as parents are more likely to send their children to a school with students of a similar ethnicity, faith, and socioeconomic status. Similarly, Bifulco et al. (2009) stated that charter schools promote re-segregation by allowing parents greater control of school demographics than school administrators. Logan and Burdick-Will (2016) provided evidence validating this claim, finding that that on average White, Black, and Hispanic students attend charter schools in which their ethnic group is the majority. Likewise, Mullen et al. (2013) found that charter schools have become increasingly hyper-segregated when compared to traditional public schools. While purposive sampling used in this study did find that 93 of 169 charter schools operating in North Carolina at the conclusion of the 2017-2018 school year were comprised of student enrollments where one race accounted for at least 70% of the student population, the study did not find a statistically significant difference in the mean proportions of White students attending charter schools when compared to traditional public schools.

## Research Question Two

The second research question asked if there was a difference in the school performance grade, school growth, and incoming student readiness among charter schools that serve a predominantly White student population when compared to charter schools that serve a predominantly non-White student population. Scafidi (2015) asserts the importance of diverse schools in promoting appreciation and understanding for those who are of a different race, but more importantly because there is strong evidence that African American students experience lower academic outcomes in segregated schools. Similarly, Monarrez et al. (2019) contends that exposure of students to a diverse set of classmates has shown positive social benefits for students and have resulted in greater academic outcomes for students.

Numerous studies have been conducted over the past several decades to explore differences in academic outcomes in highly segregated American schools. Twelve years after *Brown v. Board of Education* (1954) ended segregation in public schools, Coleman et al. (1966) published *Equality of Educational Opportunity*, finding that American schools were still largely segregated by race and that minority students displayed lower levels of academic achievement when they attended schools with higher concentrations of minorities and little exposure to White students.

To explore differences in the school performance outcomes of racially homogeneous charter schools, the researcher conducted a one-way multivariate analysis of variance (MANOVA). The researcher utilized each school's school performance grade, school growth index, and incoming student readiness as dependent variables for this study. Consistent with the aforementioned studies, this study found a statistically significant main effect difference between these school performance indicators when comparing charter schools that serve a predominantly

White student population and charter schools that serve a predominantly non-White student population. The MANOVA indicated a significant Pillai's trace of .590,  $F(3, 76) = 1039.45$ ,  $p < .01$ , partial  $\eta^2 = .59$ . The researcher then conducted a one-way analysis of variance (ANOVA) on each dependent variable to determine which school performance indicators accounted for the significant result. The post hoc ANOVA results found that school performance grades and incoming student readiness differed between predominantly White and predominantly non-White charter schools. Despite the significant differences in these proficiency indicators, the analysis found no significant difference in school growth.

One of the primary concerns surrounding school choice is the notion that charter schools result in White flight from traditional public schools and that predominantly White charter schools often attract higher motivated and higher resourced students. Mullen et al. (2013) contends that evidence suggests that charter schools attract better performing students from traditional public schools and counsel out hard-to-educate students. While charter school advocates claim school choice provides additional opportunities for minorities and economically disadvantaged students, Chew (2019) argues that market competition had led to segregated charter schools and has created a system of winners and losers.

This study analyzed the incoming student readiness of racially homogeneous charter schools to determine if predominantly White charter schools are attracting more prepared students. The results of this study found that predominantly White charter schools in North Carolina are attracting higher performing students than predominantly non-White charter schools. In fact, the study revealed that only 21% of students attending predominantly non-White charter schools enter middle or high school performing on grade level, compared to 57.5% of students in predominantly White charter schools.

Charter schools have been lauded as a means for minority students to flee poor performing schools and provide greater educational opportunities for all students. Despite these claims, English et al. (2012) states that the school choice movement has not yielded improvements in equity and academic results for minority students. Logan and Burdick-Will (2016), Bifulco and Ladd (2007), and Stiefel et al. (2007) found that highly segregated schools increase the achievement gaps between White students and students of color. Similarly, Rivkin (2016) found that integration policies led to higher student outcomes and reduced dropout rates, particularly among African American students.

The results of this study were consistent with findings of the aforementioned studies. This study found that school performance grades in primarily White charter schools exceeded school performance grades of charter schools that serve a predominantly non-White student population. The results of the post hoc comparison for school performance grades indicated a statistically significant difference between charter schools that serve a predominantly White student population and charter schools that serve a predominantly non-White student population. School performance was considerably higher among charter schools that serve a primarily White student population ( $M = 74.41$ ) when compared to charters that serve a predominantly non-White student population ( $M = 48.95$ ).

Despite clear differences in school performance grades and incoming student readiness, these indicators may not capture the full essence of a school's effectiveness. Paino et al. (2014) claim that measuring the effectiveness of charter schools is difficult because they are not subject to the same accountability as traditional public schools. Advocates of school choice, like Gleason (2019), also point out successes of charter school models like the Knowledge is Power Program (KIPP), which have a record of success in improving student outcomes for minority

students. Rather than relying solely on proficiency measures, the North Carolina Department of Public Instruction recommends using a variety of assessments and processes to measure success (North Carolina Department of Public Instruction, 2019).

To include an additional measure of effectiveness, this study analyzed differences in school growth among charter schools that serve a predominantly White student population and charters that serve primarily non-White students. Student growth is the amount of academic progress a student makes over a course or a grade. Unlike proficiency, growth assumes that students enter a course or a grade at different levels and that all students are capable of growth regardless of where they started (North Carolina Department of Public Instruction, 2019). School growth represents the average academic progress all students in a school make over the course of a year. The results of this study found no significant difference in school growth among charter schools that serve a predominantly White student population when compared to charter schools that serve predominantly non-White student populations. In fact, charter schools that serve largely non-White students displayed slightly higher levels of academic growth ( $M = 81.12$ ) than their counterparts that serve primarily White student populations ( $M = 77.44$ ). This suggests that while predominantly non-White charter schools are attracting lower performing students and display lower levels of proficiency, there is evidence of successful academic outcomes when measuring student growth.

## **Implications**

### **Theoretical**

While opponents of school choice claim that the rapid growth of charter schools promoted by the market competition theory will result in inequalities outlined in the social inequality theory, the current study revealed mixed results. Although policy-makers have stood



firmly behind the expansion of charter schools as a means to improve education, findings from this study indicate that charter schools are not always fulfilling the market theory's promise of providing a better education to all students. Purposive sampling revealed that 93 of 169 charter schools operating in North Carolina at the conclusion of the 2017-2018 school year were comprised of student populations where 70% of students were from the same racial background. Despite these descriptive findings, the study found no statistically significant difference among the proportion of White students attending charter schools when compared to traditional public schools.

The study also found that students in racially homogeneous charter schools where White students represented the majority of the population attracted better prepared students and displayed higher levels of school performance than charter schools where the student population was predominantly non-White. These findings are consistent with social inequality theorists like Urrieta (2006), who argues that the rhetoric surrounding the charter school movement has allowed charters to benefit from colorblind educational policies and have created race-based inequality in education. On the contrary, despite clear differences in proficiency indicators, the current study found no significant difference among school growth in charter schools that serve predominantly White student populations when compared to charter schools that serve predominantly non-White students.

### **Practical**

Investigating the degree of racial segregation in charter schools is crucial to understanding the effect that charter schools have on public education in North Carolina and throughout the country. The expansion of the school choice movement has shifted the way Americans view education, transforming education from a service for the good of the public to a

view of education as an individual right (Robertson & Riel, 2019). Bifulco et al. (2009) contends that the expansion of charter schools will increase segregation because parents of all races will seek out schools that allow their child to attend school with students of a similar background.

The North Carolina General Assembly also expressed concern that charter schools would lead to racial imbalances in public schools. However, the General Assembly's original requirement that charter schools reasonably reflect the racial and ethnic composition of the student population of the surrounding school district was replaced with a simple requirement that charters make an effort to reflect the demographics of their respective school districts (Riel et al., 2018). This study found that greater than half of the charter schools throughout the state (93 of 169) are comprised of racially homogeneous student populations. The practical implications of these findings are consistent with the findings of Giersch (2019), who stated that both superintendents and charter school operators in North Carolina have indicated that they have little control over demographic composition in an era of school choice and that charter schools have increased segregation. However, the findings of the Mann-Whitney *U* test indicated that there was no statistically significant difference in the proportion of White students attending charter schools when compared to traditional public school systems where charter schools operate.

This study yielded mixed results regarding the effects of attending a racially homogeneous charter school on student achievement. The study found that predominantly White charter schools displayed significantly higher levels of incoming student readiness and school performance than charter schools that serve predominantly non-White student populations. Despite the statistically significant findings on school proficiency indicators, the current study

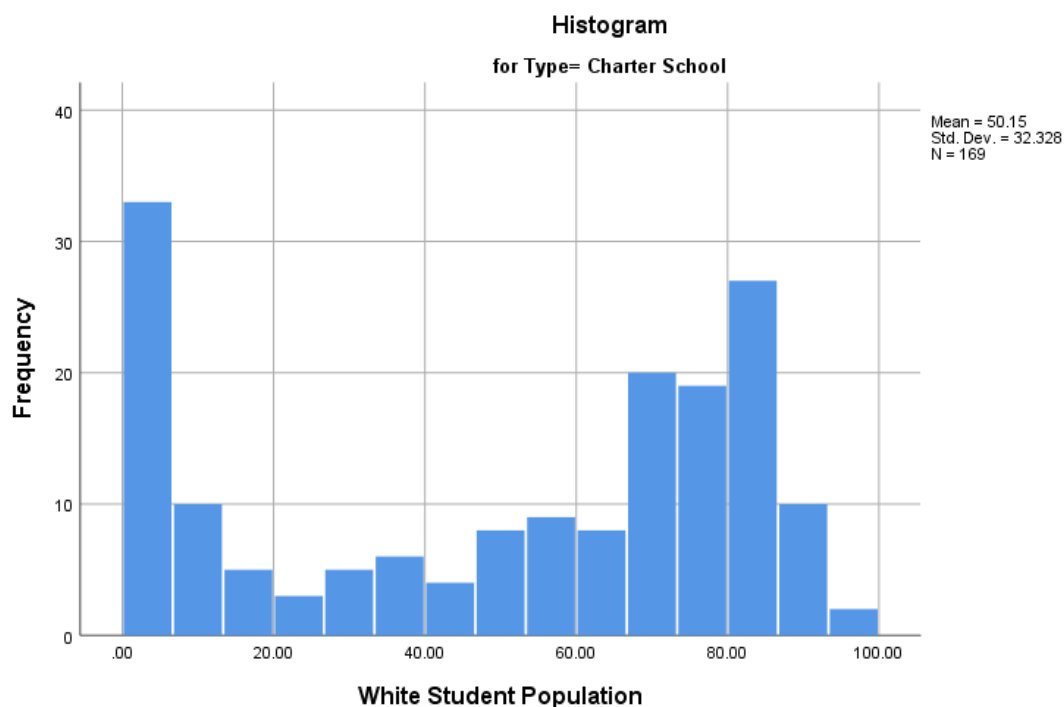
found no differences in school growth, indicating that students in both predominantly White and predominantly non-White charter schools are making consistent progress.

### **Limitations**

The researcher identified several limitations to this study. First, the assumption of independence of observations resulted in an unequal number of charter schools and traditional public school systems being used to answer Research Question One. While there are school districts that have only one charter school in the community, several large districts have numerous charter schools operating within their boundaries. In fact, one large school system in North Carolina has 27 charter schools operating within the district. This resulted in 27 charter school participants for only one traditional public school system being used for this study. In total, the 61 traditional public school systems used in this study represent a much larger number of students than the 169 charter school participants, presenting a threat to both internal and external validity. As such, this study should not be overly generalized regarding differences in White student populations of charter schools and traditional public schools.

Another threat to the internal validity of this study resulted from the non-normal distribution of White students in charter schools in North Carolina. Descriptive statistics revealed a noticeable difference in the medians among the two populations. The median proportion of White students attending charter schools (62.60) greatly exceeds the median proportion of White students (51.20) attending traditional public school systems where charter schools operate. The difference between comparison of the mean and comparison of the median in this study can be attributed to the non-normal distribution of White students in North Carolina charter schools. A histogram of the White student population in charter schools reveals a bimodal distribution, indicating that many charter schools have large populations of White

students, while others very few White students. Despite differences among these descriptive data, the Mann-Whitney  $U$  test did not indicate a statistically significant difference in the proportion of White students in charter schools when compared to the proportion of White students in traditional public school districts where charter schools operate. See Figure 6 for a histogram of White student enrollment in charter schools.



*Figure 6.* Histogram of White Student Population in Charter Schools.

Another limitation of this study was the uneven number of participants in each group of charter schools used to answer Research Question Two. Purposive sampling was used to identify racially homogeneous middle and high charter schools in North Carolina ( $N = 80$ ). The study identified 61 predominantly White charter schools and 19 predominantly non-White charter schools, which resulted in a greater than 3:1 ratio of White schools to non-White schools. To account for the unequal sample size, the researcher used Pillai's trace as the overall test

statistic for Research Question Two. Warner (2013) recommends reporting Pillai's trace instead of Wilks's lambda when there are unequal numbers of participants in each group.

### **Recommendations for Future Research**

Additional research on the topic of the effect of charter schools and segregation is paramount as the number of charter schools increase in North Carolina and throughout the country. While this study stands as a snapshot of current racial composition and school performance data, it is recommended that a longitudinal approach be employed in future studies to provide data regarding changes in demographic compositions over time. Utilizing a longitudinal approach would also allow researchers to identify trends in school performance data as schools become more or less segregated.

While this study compared school performance among predominantly White and predominantly non-White charter schools, additional research is also necessary to compare academic achievement of students in charter schools to traditional public schools. While several studies have been conducted comparing charter school performance and traditional public schools, few studies have been conducted in North Carolina since the charter school cap was lifted in 2011. Additional research would allow educators and policy-makers to understand if the operation of a charter school is having a positive or negative effect on student achievement in the school district in which the charter school operates.

Additional research is also necessary to gain a better understanding of demographic differences between charter schools and traditional public schools. Although the Mann-Whitney *U* test used in this study did not find a statistically significant difference in the proportion of White students enrolled in charter schools when compared to traditional public school systems in which charter schools operate, these results are limited to statewide proportions and do not

compare individual charter schools to the districts in which they operate. To compare each individual charter school to their own traditional public school system, Choi (2012) recommends utilizing an absolute dissimilarity index to calculate more accurate differences between the demographic compositions of two populations. The absolute dissimilarity index is calculated by subtracting the absolute value of the difference of the percentage of students in a racial group in a school district from that of a charter school operating in that district. The range of the absolute dissimilarity index is 0-99.99%, with 0 representing complete integration and 99.99 representing complete segregation (Choi, 2012).

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**APPENDIX A****Institutional Review Board (IRB) Approval****LIBERTY UNIVERSITY.**  
INSTITUTIONAL REVIEW BOARD

April 10, 2020

Billie Berry  
John Bartlett

Re: IRB Application - IRB-FY19-20-290 The Impact of Racial Segregation on School Performance in Charter Schools

Dear Billie Berry, John Bartlett:

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study does not classify as human subjects research. This means you may begin your research with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research

Explanation: Your study does not classify as human subjects research because:

(1) it will not involve the collection of identifiable, private information.

Please note that this decision only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at [irb@liberty.edu](mailto:irb@liberty.edu).

Sincerely,

**G. Michele Baker, MA, CIP**  
*Administrative Chair of Institutional Research*  
**Research Ethics Office**