

**Graduation Rates from Prior Academic Achievement, Attendance, and Behavior in One
School System Over Four Years: A Quantitative Analysis**

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ABSTRACT

The purpose of this study was to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over 4 years. The study addressed three questions, which of the students included in this study dropped out of high school, how exclusionary discipline affected students' attendance at school and their ability to graduate. In addition, for the students who dropped out, what was their exclusionary discipline rate, what was their chronic absenteeism rate, and what was the leading cause of students not graduating on time? By examining specific predictors, we can gain insight into why some students fail to graduate high school on time or drop out early. Keeping track of essential indicators such as attendance, behavior, and academic achievement in the classroom will increase the likelihood of students graduating after 4 years of high school. Using the comparative case study approach, this study compared four cohorts of students who graduated from one urban high school. A correlational, nonexperimental design was used. After the data were analyzed, using descriptive statistics and mean averages of the variables, it was discovered that, across three of the four study cohort clusters, there was a consistent overrepresentation of Hispanic male English language learners (ELLs) who experienced some type of exclusionary discipline, and who failed their Standards of Learning English reading/writing and mathematics assessments leading to them dropping out of school. As a result of tracking students' academics, attendance, and behaviors, schools can design professional development for teachers and school

administrators to identify at-risk students early and assist them in preventing failure. In the mid-Atlantic region of the United States, academic warning indicator systems must be more representative of diverse student populations. This research supplements past fieldwork on this topic.

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GENERAL AUDIENCE ABSTRACT

The purpose of this study was to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over 4 years. The study addressed three questions, which of the students included in this study dropped out of high school, how exclusionary discipline affected students' attendance at school and their ability to graduate. In addition, for the students who dropped out, what was their exclusionary discipline rate, what was their chronic absenteeism rate, and what was the leading cause of students not graduating on time? Using the comparative case study approach, this study compared four cohorts of students who graduated from one urban high school. A correlational, nonexperimental design was used. After the data were analyzed, using descriptive statistics and mean averages of the variables, it was discovered that, across three of the four study cohort clusters, there was a consistent overrepresentation of Hispanic male English language learners (ELLs) who experienced some type of exclusionary discipline and who failed their Standards of Learning English reading/writing and mathematics assessments leading to them dropping out of school. As a result of tracking students' academics, attendance, and behaviors, schools can design professional development for teachers and school administrators to identify at-risk students early and assist them in preventing failure.

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CHAPTER 1

INTRODUCTION

This research strives to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over 4 years. Throughout the United States, the high school graduation rate in your city, town, county, and state is a solid predictor of the future success of the youthful population. When students have successfully completed high school, it is ideal for them to be able to enter the workforce or postsecondary education as soon as possible after securing a high school diploma. Depaoli et al. (2018) stated that the aim for high schools is to increase graduation rates for all students, especially impoverished students who are faced with the most significant challenges and who continue to lag in the schools with the lowest performance. Many schools educate a considerable number of Black, Hispanic, and disadvantaged students.

All aspects of achievement and success of our country's economic and social well-being may not be equitable, but wise investments can be made to address disparities that lead to severe and persistent problems (Heckman, 2011). Impoverished racial minority students experience various risk factors, including poor health insurance, poor nutrition, low parental support for their education, and low-resourced, highly segregated schools (Gandara & Contreras, 2020). DePaoli et al. (2015) found a significant gap in high school graduation rates between minority and low-income children who performed worse academically than their White and higher-income peers. Suarez-Orozco et al. (2009) described the complexities of immigrant students and their families of establishing relationships within the school setting.

According to McKee and Caldarella (2016), a number of social and academic factors, such as poor attendance, a lack of course completion, and a low-grade point average (GPA)

contribute to high school dropout. In order to increase the high school graduation rate, historical data must be examined to determine how students' performance is impacted. I intend for my research to assist school divisions with developing comprehensive reforms that combine quality instruction, positive relationships with school staff, and a strong emphasis on why graduating high school is so essential.

Purpose of the Study

The purpose of this study was to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over four years. Analyzing specific predictors may shed light on the causes of why particular students drop out of high school and do not graduate on time (Rumberger & Lim, 2008). In Virginia, the Virginia Department of Education (VDOE) (2021a) holds public high schools accountable for their attendance, dropout, and on-time graduation rates. When accountability methods are established in education, they have a positive effect on student success (Hanushek & Raymond, 2005). As Pinkus (2008) argued,

By preventing students from being disregarded and ensuring that they receive the appropriate level of attention, instruction, engagement, and support needed to succeed in their classes, educators can give every student the chance to graduate from high school prepared for college, the modern workforce, and life (p. 1).

Organization of the Study

This dissertation is organized into five chapters. The first chapter provides an introduction, a problem statement, and the significance of what is researched. Additionally, it includes the research questions, definitions of terms used in the study, and the study limitations

and delineations. In Chapter 2, I review the literature on academic effort, attendance, and factors contributing to high school dropouts. In Chapter 3, I discuss the qualitative study's methodology featuring the research design, research questions, the setting, participants, data collection, and data analysis. In Chapter 4, I organize the information by each of the research questions and disclose the study's findings. Chapter 5 includes a summary of the findings, conclusions arranged by the research questions, discussion, suggestions for future research, and a summary of the study.

Statement of the Problem

There exists a push and pull factor to why students drop out of high school (Stearns & Glennie, 2006). Doll et al. (2013) defined push factors as falling behind in their academic work or school consequences due to attendance and discipline, and identified out-of-school influences, such as familial obligations or working to generate money, as pull factors. “Using data from the 2008-2012 American Community Survey, researchers at the Urban Institute found that nearly a third of the 563,000 teenage dropouts left school to work” (Douglas-Gabriel, 2015, p. 2). In Virginia, the dropout rate rose modestly from 5.5% in 2018 to 5.6% in 2019 (VDOE, 2021b). Statistics from the 2008-2012 American Community Survey revealed that Hispanic males 16 to 18 years of age stood as the most likely students not to finish high school (Douglas-Gabriel, 2015). For the academic year 2018-2019, Virginia had the fifth lowest graduation rate (72.9%) for Hispanic students in the nation (Duffin, 2021). The most common causes of high school dropout are pulling factors, or external pressures, such as becoming a parent early, having family responsibilities, becoming ill, and feeling peer pressure (Doll et al., 2013).

Research by DePaoli et al. (2015) discovered that ethnic minority students are closing the graduation gap on White peers. The team reported that Hispanic/Latino, whose populace of

learners is quickly growing, made the most significant gains in the adjusted cohort graduation rate (ACGR) from school years 2011 to 2013 at 4.2% points. African American students improved their ACGR by 3.7% points during the same time. Despite the improvement in ACGR, disadvantaged minority students whose first language is not English do not graduate from high school at a reasonable rate. The challenge for schools is to balance high expectations for all students with an emphasis on vulnerable minority students. In 2016, 76.4% of Black students, 79.3% of Hispanic students, and 88.3% of White students received their diplomas on time. In 34 states, the graduation rate for Black students remained below 80, and in 8 of those states, it is less than 70% (DePaoli et al., 2018). In 2016, Virginia had one of the highest proportions of English language learner's non-graduate populations in the United States, with the third lowest ACGR of 45.4% (DePaoli et al. 2018).

Study Justification and Significance

An achievement gap between White and racial minority students exists, with psychological constructs contributing to the issue (Williams, 2011). A study by Walton and Cohen (2007) on social-belonging treatment in the academic setting discovered positive effects on African American student's grade point average, which helped cut the achievement gap by half. The achievement gap is the educational disparity between White and ethnic minority students. Hemphill and Vanneman (2011) shared that a National Assessment of Educational Progress (NAEP) revealed that achievement gaps exist among students of color, English language learners, students with disabilities, boys and girls, and low-income households.

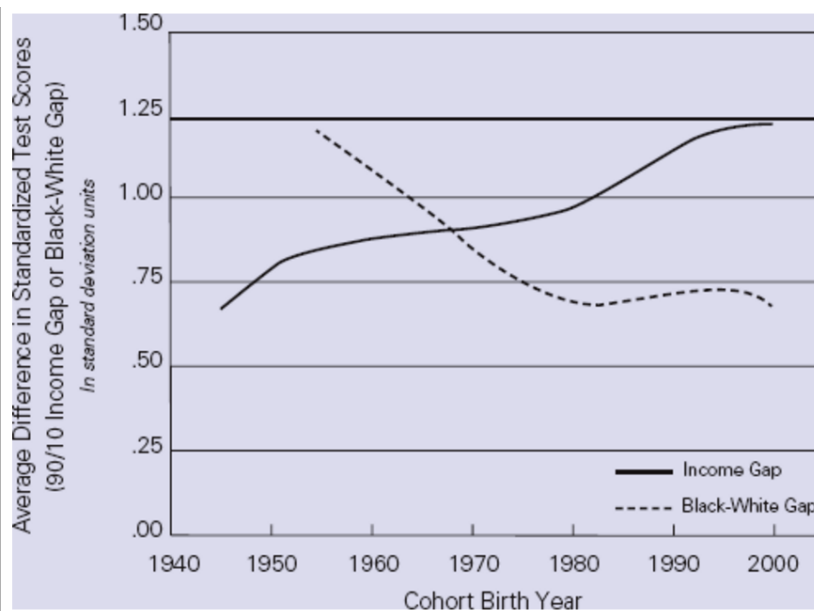
The educational achievement gap is tied to the inequality of high-income and low-income families in the United States over the past 60 years (Reardon, 2013). The income achievement gap has grown larger than the educational achievement gap between White and Black students

(Reardon, 2018). According to Reardon (2013), the achievement gap has grown larger over the years and stated that:

Among children born in the 1950s, 1960s, and early 1970s, the reading achievement gap between those from high-income families (at the 90th percentile of the income distribution) and those from low-income families (at the 10th percentile) was about 0.9 of a standard deviation. [As illustrated in Figure 1,] this gap began to widen beginning with the cohorts born in the mid-1970s. Among those born 20–25 years later, the gap in standardized test scores was roughly 1.25 standard deviations—40 percent larger than the gap several decades earlier. (p. 10)

Figure 1

Income Achievement Gap and Black-White Achievement Gap in Reading for 1943–2001 Birth Cohorts



Source: Adapted from "The Widening Socioeconomic Status Achievement Gap: New Evidence and Possible Explanations" (p. 98) by S. F. Reardon, in R. J. Murnane & G. J. Duncan (Eds.), *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances*, 2011, New York: Russell Sage Foundation.

The Elementary and Secondary Act (ESEA) of 1965 was designed to help provide federal funding to public schools and underprivileged students who desperately needed it to succeed academically (Stralek & Papa, 2020). Growing roots from the Great Society Campaign, Head Start was created as a catch-up summer program to increase early childhood education for low-income children and families as part of President Lyndon Johnson war on poverty. A study by Puma et al. (2010) found that providing opportunities to the Head Start program improved the quality of children's preschool experiences. Attending Head Start at the age of 3 years, followed by a high-quality pre-k program at 4 years, yielded strong early reading skills (Jenkins et al., 2016). Nevertheless, Haskins and Rouse (2005) stated that Black and Hispanic children begin kindergarten with reading and math readiness scores inferior to those of their White counterparts. The minority students came from low-income families who lacked the educational resources to ready their children for reading (Haskins & Rouse, 2005).

Reading problems that continue through the primary grades have a long-lasting effect on high school graduation. "One in six children who are not reading proficiently in third grade do not graduate from high school on time, a rate four times greater than that for proficient readers" (Hernandez, 2011, p. 3). According to Hernandez (2011), the graduation rates of Black and Hispanic students with weak reading skills in third grade were lower than those of White students with the same reading skills. The reading issues that continue in middle school for minority language and native English speakers warranted targeted instruction for struggling students (Lesaux & Kieffer, 2010). At the middle school level, reading progress will take multiple years of interventions based on student comprehension skills or vocabulary (Vaughn et al., 2010). Students find themselves falling behind their peers academically when their reading difficulties compound over the years reducing their desire to do well at school or to engage in

classroom instruction; thus, they begin to think about deserting school altogether (Reschley, 2010). It is crucial for schools to provide the necessary interventions to prevent students from dropping out of school and keep them on track for graduation. Schools must provide the necessary interventions to prevent students from dropping out and keep them on track to graduate.

Establishing an early warning system that tracks key indicators such as poor grades in core area subjects, low attendance, behavior issues, and classroom engagement can help provide the needed intervention to keep students from dropping out of school (Kennelly & Monrad, 2007). As Pinkus (2008) stated, schools that establish early warning systems for at-risk youth will need to have the resources available to provide an effective program where students are successful. Ecker-Lyster and Niileksela's (2016) review of literature on drop-out trends and prevention and intervention initiatives provides suggestions for keeping students in school so they can earn their diploma. My research study builds on the research by Casillas et al. (2012) and McKee and Caldarella (2016) and links early warning system indicators of student academic achievement, attendance, and behavioral accounts to predict high school graduation. Previous research on indicator systems used with diverse populations of students in the Mid-Atlantic region of the United States has been inadequately represented. My research would add to past fieldwork on this topic.

Definition of Terms

The following definitions include terms used in this study.

Adjusted Cohort Graduation Rate (ACGR) – “The percentage of first-time ninth graders in public high schools who graduate with a regular diploma within 4 years” (McFarland et al., 2018, p. 38).

Average Freshman Graduation Rate – “The estimated percentage of public-school students who routinely graduate with a diploma 4 years after starting ninth grade” (McFarland et al., 2018, p. 46).

High School Drop Out – Quitting high school before graduating.

Dropout Factory – A high school with a high percentage of students that quit school before earning their diploma or Graduation Equivalency Diploma (GED).

Event Dropout Rate – “The percentage of 15- to 24-year-olds in grades 10 through 12 that leave high school between the beginning of one school year and the beginning of the next without earning a high school diploma or an alternative credential such as a GED” (McFarland et al., 2018, p. 8).

Exclusionary Discipline – A school disciplinary action, typically a suspension or expulsion that removes a student from his or her typical education setting.

Graduation Cohort Rate – The percent of freshmen who graduate from high school in four years.

General Educational Development Test (GED) – A battery of tests taken by an individual to earn the equivalency of a high school diploma.

Sliders - Students with limited English proficiency (LEP) or disabilities allowed to graduate or complete high school in more than four years based on their graduation or completion date.

Status Completion Rate – The percentage of 18-24-year-old students who have graduated high school compared to the same group of students not currently enrolled in high school (de Bray et al., 2019).

Status Drop Out Rate – The percentage of students ages 15 to 24 that leave high school without earning their diploma or graduation equivalency (GED) (McFarland et al., 2018).

Socioeconomic Status – A measurement of income, education, and employment that is predictive of one's social standing in society (SES).

Research Questions

Three questions guided this study pertaining to Hemlock High School (a pseudonym):

1. Which of the students included in the study dropped out of Hemlock High School?
2. How did exclusionary discipline affect students' attendance at school and their ability to graduate? Of the students who dropped out, what was their exclusionary discipline rate, and what was their chronic absenteeism rate?
3. What was the leading cause for students not graduating on time from Hemlock High School?

Theoretical Framework

Students may choose to leave high school for a variety of reasons and not graduate including low or failing grades, attendance, misbehavior, native language, social-economic status, age, or family structure (Doll et al., 2013). According to the National Center of Educational Statistics (2020), the overall Hispanic student-on-time graduation rate in Virginia for the 2018–2019 school year was near the bottom at 46 out of 50 states. There has been a significant gap between Hispanic high school graduation rates and their peers in Virginia, with Hispanic graduation rates among the lowest in the Commonwealth (Jaquith, 2022). In Virginia, graduation rates for Hispanic students lagged behind their White peers, with the overall public

high school graduation rate for the class of 2022 standing at 92.1%, with White students at 94.2%, Black students at 90.3%, and Hispanic students at 83.15% (VDOE, 2022a).

In the fall of 2008, Virginia reported, for the first time in the United States, a graduation cohort rate of 81.3% using long-term grade data from their 2004–2005 freshman class (VDOE, 2008a). In the report, the total number of students representing the statewide cohort for 2008 stood at 96,979; 78,805 graduated on time, with 85.3% representing White students, 72.6% of Black students, and 70.4% of Hispanic students. To enhance public knowledge and accountability, Virginia’s on-time graduation rate provides the most accurate representation for high schools and school divisions (VDOE, 2008a). The VDOE calculated graduation rate by the number of on-time graduates in 2008 divided by first-time ninth-grade students in the 2004-2005 school year plus any who had transferred minus the number who transferred out.

Figure 2

The VDOE Graduation Rate

On-time Graduates in Year 2008 $\frac{[(\# \text{ of first time entering ninth graders in year 2004-2005} - 4) + (\text{Transfers In}) - (\text{Transfers out \& deceased})]}{\text{Denominator}}$

The VDOE (2008a) adjusted the numbers in the calculations to identify Language English Proficient (LEP) and disabled students who qualified as a member of the 2008 graduating cohort but failed to earn a diploma. “This formula, known as the adjusted graduation cohort rate (AGCR) serves as percentage of first-time ninth graders in public high schools who graduate with a regular diploma within 4 years” (McFarland et al., 2018, p. 38).

Figure 3

The Adjusted Graduation Cohort Rate

Adjusted Cohort who Earned an Approved Diploma No Later Than Summer 2008
$\frac{[(\text{Adjusted cohort based on first-time entering ninth graders in 2004 – 2005}) + (\text{Transfers In}) - (\text{Transfers out \& deceased})]}{}$

Public graduation rates in Virginia continue to improve overall. Research by the National Center for Education Statistics (2021) reported the ACGR in Virginia for the 2018-2019 school year increased to 88% which stood higher than the national average of 86%. The ACGR score for White students remained higher than for minority students: 92% for White students, 84% for Black students, and 73% for Hispanic students. Even though all ACGRs improved, the gaps between White and ethnic minority students continued to present an issue for the number of students that graduate on time. “Despite efforts to narrow the gap in graduation completion for minority students, African American and Hispanic students continue to drop out at alarming rates compared to their White counterparts” (Garin, 2018, p. 3). High school graduation rates need to be improved because minority students are being left behind academically (Greene & Winters, 2006).

Study Limitations and Delimitations

This quantitative study used preliminary data from a northern Virginia high school graduation cohort. Access to the sample size and selection of data was limited to the latest graduation cohort. As an administrator in the building and the researcher for this study, bias from my prior information and assumptions regarding why students were unsuccessful academically was present. These limitations were acknowledged, and precautions were taken to minimize their effect on the research or its design that could affect the study's outcome.

This study is limited to just one Virginia school district that has one high school. This school is in a heavily populated area of Virginia within a large metropolitan area. Similar studies have taken place in the United States, but this study is set exclusively in a single school system in Virginia. The selected school has one of the lowest graduation rates and highest dropout rate in Virginia. Furthermore, at the time of the study, the school did not have an official program to help boost graduation rates.

Summary

A high school diploma can spur many opportunities for students in industry, at college, and for specialized training that escapes a high school dropout (Patterson et al. 2007). Of the 97,155 students listed on the 2021 Virginia Adjusted Cohort Graduation Report, 12.20% of Hispanics and 4.82% of Black students dropped out of school compared to 2.27% of White students (VDOE, 2021b). The same publicized report divulged that Virginia had a minority dropout issue in that, in the 2021 cohort, Hispanic students made up 15.5% of the total number of students, Black students made up 21.8%, and White students made up 49.5% (VDOE, 2021b). According to Marquez-Vera et al. (2016), creating an early warning system to keep track of how students are performing would help improve graduation rates. Currently, an early warning system is not in use at Hemlock High School. An early warning system would recognize children who are at danger of failing to complete high school based on their attendance or academic performance (Allensworth, 2013). In addition to identifying students at risk of missing critical educational milestones, a comprehensive assessment system also diagnoses their needs and recommends interventions to assist them in achieving graduation as quickly as possible (Casillas et al., 2013).

CHAPTER 2

REVIEW OF THE LITERATURE

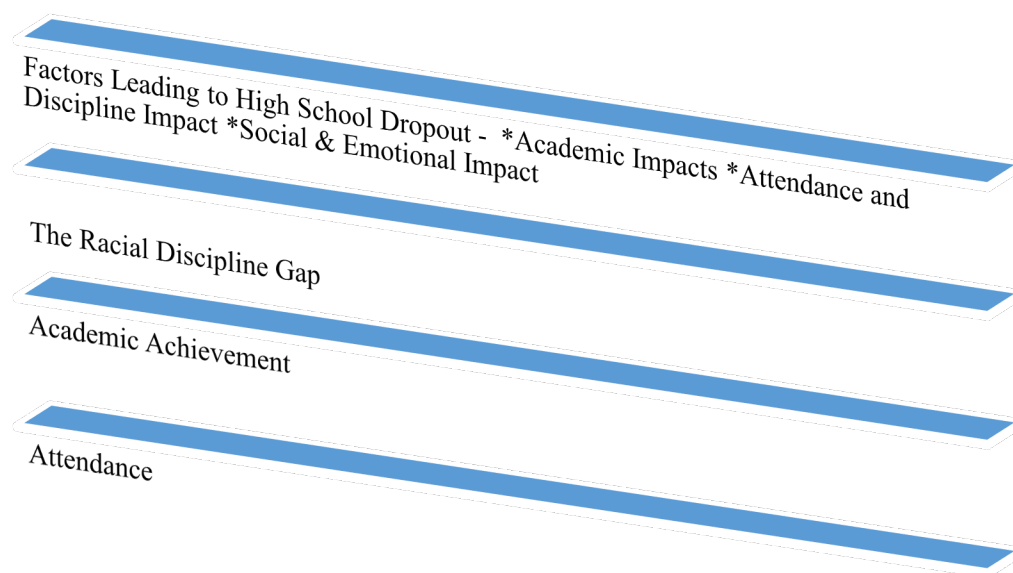
This study seeks to answer the following research questions. Which of the students included in this study dropped out of high school, how did exclusionary discipline affect students' attendance at school and their ability to graduate. In addition to the students who dropped out, what was their exclusionary discipline rate, what was their chronic absenteeism rate, and what was the leading cause of students not graduating on time? The purpose of this study was to analyze prior academic achievement, attendance, and behavior of four graduation cohort clusters in one school system over 4 years. Using historical data to discover the effects on students' productivity is vital to increasing the high school graduation rate. Understanding these effects will help school divisions create comprehensive reforms in conjunction with quality instruction, positive relationships with school staff, and, all the while, encouraging why it is essential to graduate high school.

I focused this review of literature on how academic achievement, attendance, and behavior can be a predictor for high school graduation. Based on my analysis of literature, the writing is separated into four sections to explain the factors contributing to why some students struggle to graduate high school. The initial part features the factors that lead students to drop out of high school. This initial part is separated into three sections and explains the academic, attendance, disciplinary, and social, emotional impacts on why students struggle to graduate with their high school diploma. The explanation of the racial discipline gap allows the reader to understand the effects of disproportionate discipline in schools. This helps support the next segment of the literature review regarding how teachers' perceptions of students of color contribute to their perceptions of behavior in the classroom setting. These perceptions link to the

behaviors and achievement of students. The third segment, regarding the racial discipline gap, concentrates on the socio-economic contributors of children and their families. Next, the fourth section of the literature review will address student attendance as another factor contributing to low graduation rates. Various interventions put in place to help these specific students can help boost graduation rates. The final part will address academic achievement through students' sense of belonging and purpose, which contributes to greater student engagement in the classroom. Identifying students at risk and using interventions can boost graduation rates. Figure 4 displays the four areas of research addressed by this review.

Figure 4

Contributing Factors to Poor Graduation Rates: Structure for Literature Review



Note. This figure provides an overview of the five sections identified in the literature review.

Factors Leading to High School Dropout

Effective high schools in the United States are able to grow, within the boundaries of their own systems, structures, and educational initiatives that support their students' scholastic requirements and social -emotional needs (Rutledge et al., 2015). Social and emotional support helps increase students' well-being and, in turn, improves school attendance and grades, and decreases disciplinary infractions (Borman et al., 2019). High schools that aim to meet academic, attendance, and disciplinary goals decrease the dropout rate (Kotak et al., 2016). High expectations, rigorous curriculum, and engaging coursework are essential for student academic achievement (Balfanz et al., 2010). Nonetheless, one of the most reliable indicators of a child's academic success and educational outcomes has always been their parents' financial status (Reardon, 2018).

Racial segregation in public schools was made unlawful by the landmark decision in *Brown v. Board of Education* by the U.S. Supreme Court, yet there are still grave racial and social class injustices (Lopez & Burciaga, 2014). A student's socioeconomic status leaves some minority children without access to a quality education which creates an achievement gap between races (Reardon, 2013). De Brey et al. (2019) reported that White students in grades 4 and 8 had higher average math and reading scores than Black and Hispanic pupils in those same grades. As discovered by Barry (2006), a positive relationship exists between a student's socioeconomic status and weak test scores.

Students who perform poorly in school have a greater chance of quitting completely. Every day, almost 7,000 students in the United States leave their secondary schools. (Parise et al., 2017). Regarding their earnings,

High school dropouts earn \$9,200 less per year on average than those who graduate. Over the course of their lifetimes, they will earn an average of \$375,000 less than high school graduates, and roughly \$1 million less than college graduates. (Center for Labor Market Studies, 2007, as cited in Burrus & Roberts, 2012, p. 1)

With respect to socioeconomic status, "...high school dropouts are three times more likely to be unemployed than college graduates. Chances are also much higher that they will be living in poverty compared to high school graduates" (Bridgeland et al., 2006, as cited in Burrus & Roberts, 2012, p. 1). It is essential for high schools to develop student-centered programs and pathways, so students are not dropping out of school and can complete high school to support themselves, better the community they live in, and, most importantly, avoid a life of poverty (Tyler & Lofstom, 2009). When speaking to a joint session of Congress, President Barack Obama remarked, "Dropping out of high school is no longer an option. It's not just quitting on yourself; it's quitting on your country—and this country needs and values the talents of every American" (The White House, 2009, para. 57).

Individual schools in the United States with high minority populations face the challenge of retaining students and keeping them on track to attain their high school diplomas. Not all students have high expectations while attending high school and are at risk of dropping out of school. These students need the caring support of school staff to encourage them to stay in school and graduate (Knesting, 2008). Student results will be significantly different for high school administrators who are committed to a strong preference for high school graduation rates (Coelli & Green, 2012). This study aims to determine the causes of why children decide to abandon school and the undertaking of school leaders to intervene and place students on a path to success.

Academic Impact

Students drop out of high school due to academic challenges, family matters, or lack of school engagement, but 47% of all high school dropouts also find their coursework boring (Bridgeland et al., 2006). Teachers and principals believe students who dropped out due to boredom are speaking to an important cause (Bridgeland et al., 2009). A study by Guardino and Fullerton (2010) discovered that by modifying the classroom environment, a teacher could improve classroom engagement and student behavior. Gregory et al. (2010) found that behavior and academic progress are closely linked. Student performance at school was positively correlated to school engagement and attendance as well as contextual factors such as family, teachers, and peers (Miranda-Zapata et al., 2018). In addition, Roby (2004) discovered a strong correlation between school attendance and student achievement in his study of Ohio public schools. According to the U.S. Department of Education (2016), students who are chronically absent from school and miss at least three weeks yearly of school will likely fall behind their academic peers.

Attendance and Disciplinary Impacts

School systems have long punished students by suspending or expelling them for improper behavior. Suspensions and expulsions exclude children from acquiring the academic skills needed for achievement because they are absent from school. Research confirms that Black students suspended at higher rates than their White peers creates a disproportionate gap or racial discipline gap in suspension and expulsion rates (Gregory et al., 2010). These retaliatory measures, coupled with time spent away from the classroom setting, tend to put children at risk of graduating from high school.

With the use of restorative practices to keep children in school, administrators often have the authority to respond to a disciplinary infraction by choosing a lesser punishment or none at all. Those responses, in turn, allow a child to take advantage of instructional time. Nevertheless, in some cases, the school division's code of conduct is not so lenient. School administrators have the power to suspend students for severe offenses, preventing access to mainstream academic resources (Heitzeg, 2009).

Also, children's ability to study at school is affected by school discipline because it frequently results in lost instructional time (Gastic, 2017; Greenwood et al., 2002). Arcia's (2006) investigation demonstrated that children who were suspended learned less academically and had a higher rate of school dropout than those who remained at school. Morris and Perry (2016) indicated that school suspensions lead to racial discrepancies in academic performance. Studies have shown suspensions and lower academic achievement to be linked (Belfanz et al., 2015; Cobb-Clark et al., 2015). Schools with better academic results have lower suspension and expulsion rates (Skiba et al., 2014).

Similarly, related research by Duxbury and Haynie (2020) found that suspended students often preserve a lower grade point average (GPA) compared to higher-achieving non-suspended students. Research by Rumberger and Losen (2016) proposed that exclusion from school can easily negatively impact grades and high school completion. Kieffer et al. (2014) found that students whose attendance declined dramatically during the school year helped predict if students would graduate high school on time. Belfanz et al. (2007) discovered that creating a comprehensive plan of school improvements to track student attendance, incorporating behavioral supports, and providing additional academic assistance increased the odds that students will graduate from high school on time.

Social and Emotional Impact

Over time, some students tend to lose interest in their academics, and long-lasting difficulties with poor classroom behavior and truancy are at the forefront of why students choose not to finish high school (Rumberger, 2020). Between the 2015 and 2016 academic years, over a half-million students left high school in the United States without obtaining their diploma (McFarland et al., 2018). Research by Benner et al. (2017) reflected that assistance is needed, especially for low-income and minority students as they transition from the middle grades to high school so they can experience school engagement and belonging.

Exclusion from school interrupts a student not only academically, but socially and emotionally as well (Brown, 2007). Students who are not physically and emotionally connected to school may be more likely to participate in illegal endeavors and become less likely to experience academic success (Gregory et al., 2010). It is not surprising that there has been a propensity to look for the roots of such discrepancies in the individual traits of the minority children who are over-represented in discipline, given the false perspective that school exclusion is mainly motivated by student misconduct (Skiba et al., 2002).

Justification and Significance

The educational achievement gap between Black and White children is a major issue. (Burchinal et al., 2011). Coleman (1968) discussed this inequality of educational opportunity by race decades ago. “Black children in the United States start school about one-half standard deviation behind their White peers on standardized reading and mathematics tests”. “Racial disparities in school achievement increase about one tenth of a standard deviation during each year of school” (Burchinal et al., 2011, p. 1404).

These statistics from Burchinal et al. (2011) were corroborated by the research of Fryer and Levitt (2004), Rouse et al. (2005), and Hanushek and Rivkin (2006). The National Assessment of Educational Progress (NAEP) testing, which measures student progress in grades 4, 8, and 12 for mathematics and reading in public and private schools across the United States. Musu-Gillette et al. (2017) indicated that NAEP results revealed the magnitude of the gaps between White and Black students. “From 1992 through 2015, the average reading scores for White students in grades 4, 8, and 12 were higher than those of their Black and Hispanic peers” (Musu-Gillette et al. 2017, p. 46). According to the National Center for Educational Statistics (2021), the NAEP mean scores in eighth grade mathematics stood higher for White students (293) than Black (260) and Hispanic (269) students.

Mac Iver et al. (2017) stated that students show a tendency to become disengaged when they cannot keep pace educationally. These researchers found that disengagement leads to an increase in absences and incomplete assignments, ultimately leading to failure in classes. Gottfried (2019) discovered that the likelihood of decreased Stanford Achievement Test scores was present aside from the students with a history of extensive absence (reading -1.15 and math -1.92), but also fellow classmates (reading -5.67 and math -8.85). On the other hand, Allensworth and Easton (2007) found that attending school is a more important predictor of graduating high school than standardized test scores. Casillas et al. (2012) found the importance of tracking academic achievement, psychosocial characteristics, and behavior when predicting academic failure in high school. A similar study by McKee and Caldarella (2016), aimed at predicting drop out risk, used indicators such as attendance, course results, grade point average, and math scores from the American College Test (ACT). Calculations of high school dropout rates vary depending on the methods used in the research (Shore & Shore, 2009). “No matter which method

is used, the key finding is the same: too many students are leaving school without the knowledge and skills they need to meet the demands of twenty-first century workplaces and communities” (Shore & Shore, 2009, p. 2). Minority and low-income students are particularly affected by this type of problem, which means that the likelihood that they will graduate from high school increases once they are identified as such (Atwell et al., 2019).

Racial Discipline Gap

A stereotypical bias in school discipline finds disproportionality between male African American students and their White peers (Xie, 2015). “Over 300 school districts in the United States suspended 25% or more of their enrolled Black students” (Losen & Gillespie, 2012, p. 27). The reasons for racial and gender differences in school punishment have been examined in a number of studies. Wallace et al. (2008) found that White students are less likely to be suspended or expelled than minority students. Male students are suspended more from school, with the number of Black males being the highest of all genders/races expelled (Losen & Gillespie, 2012). Additionally, for the same offenses, Black pupils face stricter punishments than White students (Kinsler, 2011). In a similar vein, Downing (2022) found evidence of an unequal distribution of office discipline referrals based on race and ethnicity with Blacks being overrepresented compared to their White counterparts.

As part of their study of the Los Angeles Unified School District, Robert and Okiliwa (2018) found that Black students were far more likely to experience discipline issues than their White counterparts. All in all, students of minority race, male gender, or low socioeconomic status, have historically been disproportionately suspended from school (Nichols et al., 1999). The evidence that out-of-school suspension used to punish children is not impartial to all students, creating a chasm between White and Black students (Skiba et al., 2009). Administrators

need to evaluate discipline data to determine if there are indications of disparity and to determine the root cause (Downing, 2022). To establish what inquiry affords regarding the racial discipline gap, the following section is divided into two separate sections of research: teacher perceptions and socioeconomic factors of the discipline gap.

Teacher Perceptions

“Low-income students with histories of low achievement, who reside in high crime/high poverty neighborhoods, may be at greater risk for engaging in behavior resulting in office disciplinary referrals and school suspension” (Gregory et al., 2010, p. 60). Skiba et al. (2011) found that minority students are at higher levels for suspension or expulsion than their White peers even when disciplined for related conduct. “Although attempting to assert self-affirming identities in adverse environments, behaviors among African American youth often fuel pejorative stereotypes that distinguish Black males as troublesome or threatening” (Monroe, 2005, p. 46).

Monroe (2005) noted that some teachers often approach low-income, low-academic-ability African American youths in a controlling nature. “When examining race as a factor in the differential treatment of students, evidence suggests that African American students are subject to differential treatment from teachers at school” (Hinojosa, 2008, p. 176). Monroe stated that school personnel tended to use extreme disciplinary practices when addressing student behaviors when they appeared no different than behaviors of White students. In research by Morris et al. (2016), Black and Latino students received suspensions from school more often than their White counterparts. On a regular basis, and frequently for hours at a time, teachers engage with pupils. “Teacher expectations and perceptions have the potential to impact students’ academic and social outcomes” (Hinojosa, 2008, p. 176). Cultural mismatch or racial stereotyping contributes to

disproportionate office referrals (Skiba et al., 2011). Townsend (2000) noted that African American students often express themselves in unfamiliar and familial ways to their White teachers. This creates misunderstandings between the student and teacher and causes problems that the teacher does not understand. This is also the case with nonverbal communication used by African American girls because their excessive forms of nonverbal communication are too often misinterpreted.

This communication bravura is popular among Black teenagers, but persons unfamiliar with this language might find it provocative. Townsend (2000) also pointed to the manner in which some African American children speak louder than their White counterparts rather than the typical softer voice. This louder tone may result in a violation of classroom and school rules, increasing the risk of an office discipline referral, suspension, or expulsion.

O'Brennan et al. (2014) examined how the social climate of the classroom influenced a teacher's view of challenging student behavior. In their longitudinal study of 37 elementary schools from 5 counties in Maryland 8,750 students in grades 1-5 from 467 classrooms with no self-contained special education classroom took part. Of the entire group, 48% were White, 44% were African American students, 52% were male and 48% were female. Most of the teachers participating were White (89%), 92% of whom were female. Roughly 43% of the teachers worked at their respected schools for 1 to 5 years, 17% for 6 to 10 years, and 40% for more than 10 years.

The research team obtained student and teacher demographics, classroom demographics, and school characteristics from the Maryland Department of Education (O'Brennan et al., 2014). To assist in investigating the critical questions for the study, this research team created the

following multilevel modeling structure developed for the size of the study; three levels of modeling assured more validity.

Model 1 examined the effects of individual student-level covariates on reports of problem behavior... Model 2 examined the association between the student problem behavior and non-malleable variables at the class level, including classroom.... The final model (Model 3) examined the relationship between student problem behavior and malleable classroom and school factors. (O'Brennan et al., 2014, p. 130)

As discovered, classroom behavior is closely linked to student's empathy toward other classmates and the ability to concentrate during academic coursework. How their teacher perceives the school climate is significantly related to overall student behavior. Individual student characteristics (males, Black students, and mobility) significantly affected problem behavior.

With teacher ethnicity and student behavior in mind, Monroe (2009) conducted a comparable study on the attitudes, careers, and backgrounds of proficient Black and White teachers about classroom management. This qualitative research took place at Adams Middle School which is part of an urban school system in a large southern city of the United States. A total of 727 pupils were enrolled in the school, with 37% of them being Caucasian, 2% Hispanic, 1% Asian, 1% American Indian, 58% Black, and 1% mixed race. The student population eligible for free and reduced lunch program was 59% with 80% to 94% meeting or exceeding state assessments for the year.

In Monroe's 2009 study, a teacher's influence on student behavior was studied. Consequently, Monroe noted that the principal made decisions that staff who portrayed sound instructional practice and understood the students' cultural backgrounds would partake in the

study. Monroe distinguished that the principal narrowed choices for staff to math and science practitioners due to an interest in teaching and learning in these core areas. Monroe visited the four classrooms of average ability for her field visits and selected classes that had the most significant number of African American students in it. Four themes materialized: (a) the importance of preservice teacher preparation, (b) the impact of recalled teachers and teacher mentors, (c) the impact of learning-based views of student conduct, and (d) outreach initiatives to children's parents and families.

Monroe's (2009) findings suggested that engaging children with sound instructional practices help reduce the discipline gap. With more time on task activities, children will remain focused on what is at hand and not allow their minds to wander. Additionally, Monroe recommended that practitioners experience a minority environment during their student teaching experience to help them understand the African American culture. And last, mentors or cooperating teachers who are African American can assist colleagues in understanding Black youth and their families.

Socioeconomic Contributors

School systems across our nation use disciplinary and exclusionary approaches when responding to disruptive students. This equated to 48% of public schools in the 2005-2006 school year of which 74% resulted in suspensions lasting 5 or more days with 5% representing expulsion from school and 20% of students sent to alternative schools (Dinkes et al., 2009). Office discipline referrals revealed that school-based administrative decisions to penalize secondary students in 2005-2006 disclosed that a substantial number of middle and high school students who participated in a 1,510-school national study received out-of-school suspensions (Spaulding et al., 2010). In the 2011–2012 academic year, for public school students nationwide,

Black pupils experienced higher suspension rates than other ethnic backgrounds (U.S. Department of Education, 2016).

A link exists between the racial composition of a school and Black students experiencing a higher rate of punitive disciplinary actions (Welch & Payne, 2010). One of the most reliable indicators of harsh school punishment over the past few decades has been student economic hardship, which is typically formally defined as whether a kid receives free or discounted meals (Welch & Payne, 2010). Past researchers have studied socio-demographic factors and school discipline to discover whether a link to racial and ethnic differences exists (Losen & Gillespie, 2012). However, student economic status did not correlate with a high suspension rate in some studies (Mendez et al., 2002).

Wallace et al. (2008) led a study to investigate the differences in suspension and expulsion of White and minority students. The national representative sample of students in grades 8, 10, and 12 from the lower 48 states of the United States was used to examine the following:

First, to document the prevalence of both minor and more serious school disciplinary practices experienced by youth in the United States, with a particular focus on racial and gender differences; second, to examine explicitly the extent to which there is racial and ethnic disproportionality in the application of minor and serious school disciplinary practices; third, to examine racial and ethnic differences in school discipline over time; and fourth, to ascertain the extent to which controlling for socio-demographic variables that are potentially confounded with school discipline helps explain racial and ethnic differences in school discipline. (p. 50)

Wallace et al. (2008) took a multistage approach to the national sample by selecting specific public and private institutions in a geographical region of the United States to narrow the total number of schools to 420. The data used is representative of only 10th-grade students to limit the number of dropouts while also providing more information on substance use behavior. They noted that, since the annual samples from racial and ethnic subgroups are small, the study combined data from 2001 to 2005 to produce a sample size of 74,000 10th graders.

Wallace et al. (2008) discovered that Black, Hispanic, and American Indian youth found themselves disciplined by schools more often than their White peers. Additionally, the author's findings suggested that Blacks were more likely to find themselves suspended or expelled for more punitive actions at a rate of 330% or 3.3 times compared to White students. The gap between Black and White girls was even more significant with visits to the office at approximately twice the rate. When factoring in suspensions and expulsions between races, Black girls were five times more likely to face disciplinary action than White girls.

Wallace et al. (2008) stated that most racial and ethnic subgroups experienced an increase in discipline rates during the 1990s, with an eventual decline in the years that followed. Since the early 1990s, data analysis has disclosed that American Indian schoolchildren, followed by Hispanic, White, and Asian American students had fewer discipline issues. Nevertheless, Black discipline rates rose after the year 2000 and continue to climb. The researchers deduced that the socio-economic factors typically associated with race and ethnicity had little impact on the differences seen in school discipline.

The socio-economic factors that Wallace et al. (2008) concluded have an insignificant impact on suspensions. Ganoe et al. (2013) delved deeper into the topic by studying contextual factors that influence suspension rates for Black and White pupils. They considered how

individual, family, and community/neighborhood characteristics affect school suspensions. Prior research regarding contextual factors showed the link with suspension and not individual race. Derived from a previous study by Kilpatrick and Saunders (2000) named the National Survey of Adolescents in the United States, the research questioned adolescent children and their parent(s) or guardian using a telephone surveying application by computer. Only parents or guardians who spoke English or Spanish and resided in the central city areas of the United States took part in the study. The sum of all adolescents for this original study stood at 4,023.

Ganao et al.'s (2013) study explicitly included only Black and White adolescent students, which brought the sample number to 3,318. Broken down by race, 17% of the students stood to be Black, with White students representing the remaining 83%. The average respondent was in ninth grade and 15 years of age. Their parents' total income per year averaged \$30,000 to \$40,000 with four in each family unit.

Respondents were invited to answer questions about their own delinquency or their friend's wrongdoing, e.g., alcohol use, robbery, or unlawful entry. The higher the score, the higher the chance for delinquency. The family model raised questions regarding family income, parental issues, and family alignment. An additional section asked about a history of substance abuse and the concerns of the parent relating to crime, gangs, drugs, and education. The higher the score in this section, the greater the chance for family concerns. Lastly, the community section inquired about the environment where each respondent resided. Again, the more elevated the score, the greater the concern for neighborhood safety and crime.

A series of analytic strategies such as including the dependent variable in each model, t-tests, correlations, and logistic regressions to discover if a relationship existed between school suspensions and Black and White students. Ganao et al. (2013) discovered using logistic

regression in the individual model, that Black (.658) and White (.595) students prone to delinquency, found themselves suspended, with exclusionary discipline happening most often for White students in lower grades. For White students, more often suspended in the family model of the study, discovered that family issues such as alcoholism, substance misuse, divorce, moving, and death remained to be the significant predictors. On the other hand, the single best predictor for Black students was family disruptions. Black students tended to be suspended in the community model if neighborhood safety was at a low level, while White students exposed to crime-riddled neighborhoods were suspended more often. A final model based on the preceding regression analyses revealed that for Whites, age, delinquency, and exposure to crime had the most significant impact on suspension from school. Delinquency, family disruption, and the exposure to crime had the greatest impact on suspension of Black students. Ganao et al. (2013) concluded that if at-risk students are identified in the elementary years, administrators and staff can work with them to help avoid suspensions. According to these researchers, developing a program such as positive behavior intervention support and combining it with the multi-tiered systems of support approach can place children on a successful path.

Academic Achievement

There is an interconnection between future academic achievement and the intrinsic motivation of some school students (Taylor et al., 2014). Zheng et al. (2014) uncovered that self-motivation was highly correlated (.217) with success in reading and mathematics for special education students. Allen et al. (2017), found that students who studied in schools with more supportive environments were more likely to achieve academically. They hypothesized that the higher the endorsement of academic drive, mental health advocacy, and school identification, the greater the likelihood of academic success. The impact of teacher-student relationships

throughout a child's time in school is essential for the sense of belonging and the benefits of academic success (Roorda et al., 2017).

Also studying school motivation, Fan and Wolters (2014) used data from a 2002 Educational Longitudinal Study as they examined data from tenth grade students in the United States through their post-secondary education or current career field. Fan and Walters sought to investigate if an association existed between student expectations and school motivation and dropout levels. The study used data from 2004 to complement the initial figures. The poll was administered to 16,194 students from 752 Catholic, public, and private schools, and its ethnic breakdown was as follows: 54% White, 16% Hispanic, 13% Black, 54%, and 10% Asian, and the remaining comprised of Hawaiians, Native Americans, and other ethnicities. The gender breakdown in the final sample stood at 48% male, 47% female, and 5% unaccounted.

Fan and Wolters (2014) sought to identify whether students believed in their academic skills in the core areas of English and mathematics along with intrinsic motivation. To determine students' motivation, the researchers used a 4-point scale that was given to all students when they attended the tenth grade. Likewise, an educational expectation, attainment question, and demographic information were gathered. The current enrollment status in spring 2004 became the dependent variable for the study. The investigators created dropout and non-dropout groups to assess the findings.

The research team discovered that the non-dropout group ($M = 5.25$) of students had higher educational expectations than the dropout group ($M = 4.22$). Additionally, educational expectations in English and math appeared to have a more significant variance for the dropout group ($SD = 1.75$) than the non-dropouts (1.39). The research team found that males, non-White, and low SES students dropped out of high school more often than the others. When taking into

consideration the students' belief in their learning abilities and intrinsic motivation level for English and math, they found that, if they felt confident, they gained a better chance of graduating high school. Fan and Wolters (2014) suggested that students need a warm and supportive instructional environment with programs and actions that will inspire them to graduate high school.

In reference to feeling welcomed at school and being committed to academic success, Chase et al. (2014) examined how school engagement and academic achievement are interrelated during high school. Their research began in 2002 with intermediate schoolchildren and their parents and concluded when the students reached their 10th to 12th grade. The current study included 710 students, with 69% female. The racial breakdown was 83.1% European American, 4.7% Latino, 4.7% Black, 2.8% Asian American, 2.5% multiracial, 1.6% Native American, and 1.2% that did not report. The participants came from privileged socioeconomic backgrounds, with 42.7% of their parents holding a college degree.

The research team collected data, questioning the study group in several ways including in person, by email, by mail, or over the phone. Chase et al. (2014) created three separate subscales of five items each around the themes of behavioral, emotional, and cognitive engagement. Additionally, each student reported a GPA, and this determined their academic achievement. The team analyzed the correlational relationship between school engagement (behavioral, cognitive, and emotional) and academic performance of the high school study group.

Due to residual variance, Chase et al. (2014) adjusted the final measurement model determining that they would not use Grade 9 data due to the fact it was not a good fit for the model. When analyzing the data from the 10th-12th-grade high school students, academic

achievement and school engagement were complementary to one another. Behavioral, emotional, and cognitive attachment at school heavily influenced the GPA of high school students with behavioral engagement being its principal covariant. However, if students knew that school was important, but have poor work habits toward their studies and did not complete work, then, in turn, the poor work habits this had a negative effect on academic achievement. These researchers stated that future research could focus on the freshman transition and its effects on academic achievement throughout high school. Furthermore, exploring how students with lower GPA's fare in relation to school engagement is another topic for further study.

Attendance

During the 2015–2016 school year, minority students in the United States missed, on average, 18.85 % of school days (U.S. Department of Education, 2019). White students that same year, failed to attend school at a rate of 14.5%, which is 4.35% less than minority students (U.S. Department of Education, 2019). Missing school hampers the academic performance of students (Gottfried, 2011). “Educators and policymakers cannot truly understand achievement gaps or efforts to close them without considering chronic absenteeism” (Belfanz & Byrnes, 2012, p. 3). Being chronically absent from school indicates that a student has missed more than 10% of the school days for the academic year (Attridge, 2016). The future ill-being of students is associated with their inability to attend school and develop into an at-risk student which can lead to retainment or dropping out of school (Sheldon & Epstein, 2004). Research by Levin et al. (2007) revealed that non-graduates are likely to earn less over their lifetime. This medium is evident in a study by Vining and Weimer (2019) who offer their viewpoint on how precious an asset a high school graduate is to the American public. Therefore, it is essential then to analyze

data to track on-time graduation and dropout rates of high school students (Stetsor & Stillwell, 2014).

Concerning absenteeism and understanding the importance of student success, a research study by Smerillo et al. (2018) brought to light the issues with truancy to school. Chronic absence is a matter that happens over time. The researchers referenced a large (N = 1,159) 2005 Chicago Longitudinal Study that primarily represented underprivileged Black students who stood a chance of underperforming academically or not graduating from high school. The research team focused on the middle grades with the hypothesis that chronic absence during this time will lead to lower high school completion rates. Their research questions were:

1. “Do students who are chronically absent in the middle school grades experience lower levels of achievement in the eighth grade, along with lower rates of high school completion than students who are not chronically absent?” (p. 165)
2. “Do the associations of chronic absence with these study outcomes vary by gender, mother's high school completion status, or level of parent involvement in first through third grade?” (p. 166)

Smerillo et al. (2018) included 1,148 students for this study. The 5th- and 6th-grade teaching staff served the critical role of keeping the chronic absence data. From the data collected, the research team created a constant absence measure that ranked the students from best attendance (1) through worst (5). A student with a ranking of 3.5 or higher existed as chronically absent. A student that fell below 3.5 was considered not chronically absent.

For the study, two additional end measures (eighth grade performance and graduation from high school) remained crucial. The math and reading level of eighth grade students was measured using the Iowa Test of Basic Skills. Coding was used to record if students graduated

high school or received their GED. The study included additional covariates and explanatory variables that helped gather data for the research.

The study found that chronically absent students had lower graduation rates who routinely graduated within 4-years of beginning high school or they did not graduate by the age of 21. A high correlation existed between low math scores on the Iowa Test of Basic Skills and chronically absent students in the middle grades. Students who fell into this category found themselves two months behind (effect size of 0.17) instructionally than their non-truant peers. As far as reading achievement, the data revealed a small effect ($D = 0.03$). Males had higher rates of chronic absenteeism than girls. Parents who were less involved during the early years of education increased the risk of a child developing chronic absenteeism. Smerillo et al. (2018) suggested that early interventions helped with the problem. If parents intervene early, it can help students keep on the right track for attendance and graduation. Lastly, the study indicated that students whose mothers graduated high school found themselves having poorer outcomes than the ones who did not.

Moreover, Benner and Wang (2014) looked at trends in students' attendance at school from the sixth to the 12th grades in a large school system in a southern state. Following the transition to high school, they tracked attendance throughout the high school years. An estimated 8,908 students from 18 middle schools, 14 high schools, and seven alternative schools participated in the study. A majority of the sample consisted of males (52%) and 48% of the sample consisted of females with a breakdown of ethnicity of 31% White, 13% African American, 54% Latino American, and 2% Asian American. Students who were economically disadvantaged comprised 54% of the sample.

All study data originated either from the school district or the state department of education. The research team developed cohorts to track the students for the school years 2005-2006 through 2007-2008. Benner and Wang (2014) followed attendance data and developed a formula to determine each school's structural characteristics that included SES, size, student diversity, and teacher experience. Additionally, data were analyzed to determine if students reported to school consistently, the attendance trajectory of specific subgroups, and what life disruptions influenced attendance. Lastly, data were used to predict the shift in attendance during the middle-to-high school transition.

What Benner and Wang (2014) discovered regarding the patterns of school attendance, was that there was a decline in attendance in middle school, through the middle school transition to high school, and then through the end of high school. Only 44% of students maintained sound attendance in the study. Assuming that attendance trajectory became disrupted, school engagement and the possibility of dropping out of school affected attendance. If students had a declining attendance trajectory at the end of their middle school years, the transition between middle school and high school served to be problematic. Additionally, if the high school was more welcoming to the developmental needs of middle school students during the transition period, the better the trajectory of attendance for its first-year high school class. Students who attended high schools with more diverse populations than the middle school they came from had lower attendance trajectories. Furthermore, the experience of teachers in the building had no effect on attendance concerns. Last, it is a challenge for high schools with more students from lower SES families to keep these students behaviorally engaged and, if needed, provide early educational interventions for greater academic success.

Summary

This review of research concluded that socio-economic factors contribute significantly to exclusion from school and loss of instructional time. It also revealed that tracking student attendance, providing support, and implementing the necessary interventions can increase high school graduation rates. In order to understand why students do not graduate high school within the 4-year window, more research is needed. Several factors affecting children's achievement outcomes include their teachers, their administrators, and their upbringing. For example, to improve outcomes, teachers can vary their teaching practices, improve their content knowledge, create a positive classroom culture, and have good classroom management. It is also helpful when administrators engage in instructional activities and provide honest feedback to their staff through proper evaluation procedures. As well as being a partner in building community learning teams with collaboration and learning more about equity practices will be beneficial. According to Mullen & Schunk (2011) "While multiple interventions are necessary antidotes for curbing dropout rates, consciousness-raising on the part of stakeholders, primarily teachers and administrators, is an important antecedent for change." To highlight this matter, this study was designed to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over 4 years. Similar studies have been conducted in other regions of the country, but this one focuses solely on the Virginia school system. By analyzing specific predictors, we can better comprehend why students drop out of high school or do not graduate on time.

CHAPTER 3

METHODOLOGY

The purpose of this study was to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over 4 years. The study addressed three questions: Which of the students included in this study dropped out of high school, how exclusionary discipline affected students' attendance at school and their ability to graduate. In addition to the students who dropped out, what was their exclusionary discipline rate, what was their chronic absenteeism rate, and what was the leading cause of students not graduating on time? High school graduation and dropout rates play a significant role in how a community rates the entire school system's productivity and effectiveness (Subedi & Howard, 2013). A significant social and economic benefit of schools is associated with an increase in high school graduation rates for both youth and society on a social and economic level (Zaff et al., 2017). Graduation or dropout indicator systems have been under-researched in the Mid-Atlantic region (Bowers et al., 2012; Robison et al., 2017; Smerillo et al., 2018). As part of the Every Student Succeeds Act (ESSA), which mandates information and reporting requirements for report cards and performance indicators, the Virginia Department of Education implemented the student record collection (SRC) system to synthesize and promote a more efficient and structured process for processing multiple data collections (VDOE, 2022a). The development and use of school graduation indicator systems have been under-researched in the Mid-Atlantic region (Bowers et al., 2012; Robison et al., 2017; Smerillo et al., 2018). This study adds to previous research on school attendance and high school graduation rates. This study also adds to the current information regarding the importance of tracking student attendance, achievement, and discipline to promote every student earning their high school diploma. Most importantly, the

study focuses on a diverse population of students underrepresented in research on indicator systems in this region of the United States. The research outcome can provide district officials with particular student pitfalls during high school and construct plans or programs to help deter dropouts and improve graduation rates.

Research Questions

Three research questions guided this study:

1. Which of the students included in the study dropped out of Hemlock High School?
2. How did exclusionary discipline affect students' attendance at school and their ability to graduate? Of the students who dropped out, what was their exclusionary discipline rate, and what was their chronic absenteeism rate?
3. What was the leading cause for students not graduating on time from Hemlock High School?

Research Design

This quantitative study focuses on student discipline, attendance, grade point average (GPA), Standards of Learning (SOL) test data, free and reduced meals (FARM), dropouts, on-time graduation cohorts, English language learners (ELLs), special education (SPEDs), and race and ethnicity. A comparative case study model was best suited for researching several graduation cohorts. Data were analyzed over a 4-year window of time, beginning with the transition from eighth grade to high school while qualifying for graduation. Data were analyzed from four graduation cohorts at an urban Virginia high school over 4 consecutive years.

Quantitative Approach

Quantitative research examines the relationship between variables using statistical procedures (Creswell & Plano Clark, 2007). This methodology focuses on numeric data that measures and answers the “what” or “how” of a particular condition (Goertzen, 2017). For that reason, “Therefore, because quantitative research is essentially about collecting numerical data to explain a particular phenomenon, particular questions seem immediately suited to being answered using quantitative methods:

- How many males earn a first-class degree at university compared to females?
- What percentage of teachers and school leaders belong to ethnic minority groups?
- Has pupil achievement in English improved in our school district over time?” (Muijs, 2004, p. 2)

Within the framework of the quantitative approach, a data dictionary contained data objects including state assessment/test results, school attendance, overall grade point average, discipline, and FARMS. The dictionary also included data on ELL and SPED students, as well as race and ethnicity. For secondary students in grades 7 through 12, a data set was constructed for four graduation cohorts. Multiple regression methods included a multivariate analysis of variance. As part of the analysis, a separate dropout and graduation analysis was carried out.

Comparative Case Study

The study compared four cohorts that graduated from a Virginia urban high school in succeeding years beginning in 2016. The purpose of comparative case study chosen was to identify what affected graduation and dropout rates in each cohort. To compare graduation and

dropout rates of four graduation cohorts, a multiple case study was needed. The design allowed for measuring several data collection sources which resulted in more robust results.

A case study is "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-world context" (Yin, 2014, p. 16). "Researchers may use "case" to mean one setting, place, or institution, or they may use "case" for both the institution (or place or setting) and each person in it" (Bartlett & Vavrus, 2017, p. 900). Goodrick (2020) explained that comparing case studies involves searching for similarities, differences, or patterns in the information. Multiple case studies help the researcher understand the differences and similarities of each. Analyzing data helps with understanding every angle of the information collected. The data collected may enhance the study and provide a better awareness of the findings (Yin, 2009). The goal is to replicate findings across each case study based on a theory (Yin, 2003). Early educational academics highlighted the case as an artifact instead of a process, helping to describe it as a bounded system (Stake, 1995). Consideration for the cases selected for a comparative study weighs mostly on how the analysis and design of the data will be connected (Goodrick, 2014). Yin (2009) outlined the use of numerous case examples to either "(a) predict similar results (a literal replication) or (b) predict contrasting results but for predictable reasons (a theoretical replication)" (p. 54). Goodrick (2014) indicated that comparative case studies require wide-ranging investigative, conceptual, and synthesizing work and, in the end, the synthesis will find the answer to why an intervention is successful or not when reviewing supportive or countering propositions.

This research examined information from the school data system, the SRC, on middle and high schools to determine the character traits of the dropout. The results can be beneficial to teachers in planning academic interventions, identifying gaps or areas for improvement, and

focusing instruction based on the student's progress. A review of the Standards of Learning (SOL) sub-group assessment data, attendance data, and overall grade point average (GPA) and their results can also be beneficial. This is especially true for ELLs and students with special education needs. Race and ethnicity data, discipline, and free and reduced-price meals (FARM) information were reviewed for each cohort year. Traditionally, quantitative research aims to identify similarities and differences among the variables considered relevant for the study. A dropout analysis was performed, and results were compared to the high school graduate analysis. The comparative case study was chosen for comparing the data for the four cohorts, which can be used to assist schools and districts in determining why certain students do not graduate.

Probability Sampling

Sandelowski (2000) pointed out that reading and writing about diverse persons or even populaces to become experts and draw conclusions surrounding statistical data supports the idea of probability sampling in quantitative research. Probability sampling is a technique by which a person or event can be predicted to be selected for inclusion in the sample. If, for example, we pick some white and pink golf balls from a bag full of the same color golf balls, we can expect each color to appear in the selection; thus, the sample is representative of the entire bag of balls.

Students at Hemlock High School (HHS) (pen name) in my proposed study were bound to be part of the probability sampling. The four graduating cohorts were investigated and compared to understand what factors affected graduation and dropout rates. My goal was to develop a dictionary of data objects to analyze assessment/test results, school attendance, overall GPA, discipline, free or reduced meals, dropouts, and time to graduation. These items represent the research variables.

Representative sampling is used to gain knowledge about a targeted group or population. The sample size is essential when investigating. The larger the size, the better the representation of the sample. Omair (2014) stated that deciding on the minimum sample size to achieve the principal objectives of the study is of prime importance. In a study, a researcher determines whether the sample will be single or multistage. If not, clustering is used (Creswell & Creswell, 2017). Creswell and Creswell claimed that when a single-stage survey technique is used, the researcher gets direct access to the names of the individuals involved in the study and can immediately collect samples from them. “In a multistage or clustering procedure, the researcher first identifies clusters (groups or organizations), obtains names of individuals within those clusters, and then samples within them” (Creswell & Creswell, 2017, p. 150). Creswell et al. (2016) indicated that, in theory, this technique is used when it is unfeasible to compile a complete list of elements within the sample population.

Another popular sampling method is random sampling which is more individualized but challenging, especially with a large number of study participants. Creswell and Creswell (2017) suggested that one way to randomly sample participants is to use a systematic approach toward the sample size of the population by taking a fraction of the individuals. This approach uses a number assigned to each element or individual in the population to be studied, whereby random numbers are generated based on this number to select the required sample (Creswell et al., 2016). Creswell and Creswell (2017) specified that sample size is vital in research and is determined when reviewing one’s variables. Larger samples provide a more accurate, but time-consuming, process.

As the population size of each cohort model was too large to perform a random sampling, I determined clustering as the best procedure. As previously mentioned, the objective was to

create a dictionary of data objects based on a data dictionary. By using the data dictionary, the results were determined for all assessments or tests, school attendance, overall grade point average, discipline, free or reduced meals, dropout rates, and on-time graduation from high school and charting the descriptive statistics.

After thoroughly reviewing the data, I developed a thematic analysis of descriptive statistics. This analysis was conducted on secondary students in grades 8 through 12. The data were also used to analyze dropout and graduation rates.

Setting

The study took place in a suburban/urban district outside a large metropolitan area in Virginia. To protect the identities of the school district, high school, and middle school, I used the following pen names: Silver Oaks School District (SOSD), HHS, and Spruce Middle School (SMS). The district's student population grew staggeringly over the last three decades. Total enrollment at the time of this study was more than 7,500 with over 3,300 students attending the middle and high schools. Along with the student growth came a change in SOSD's demographics from mainly Caucasian to a diverse population of students, with Hispanic students making up 67% of pupils.

HHS has one of the lowest on-time graduation rates and highest dropout rates in Virginia (VDOE, 2019). Virginia's Department of Education prepares School Quality Profiles for each individual school and district, which federal law requires (VDOE, 2022b). These widely published profiles communicate the status and achievements since 2017 when they were first put before the public (VDOE, 2022b). As part of each profile, the graduation and completion, as well as school dropout indicators, can be found in the Standards of Accreditation (SOA) under the

domain of student engagement (VDOE, 2017). An indistinctive and indescribable coding system was created for the data developed for the study and stored separately from other data.

Confidentiality

Knowing what kinds of personal information may be accessible, to whom, and under what circumstances is essential to maintaining confidentiality; in other words, it's about taking the big picture into account (Bos, 2020). Reasonable justification for obtaining data was the researcher's motive for examining it. Drawing attention to concealment in research that is not in-person poses a more significant threat to privacy regarding computer-aided data where trust can become an issue because the researcher controlled the information (Bos, 2020). Bassey and Owan (2019) recommended that researchers need to think about how they will protect the participants' confidentiality and privacy. The data spreadsheet designed to compile and preserve information for the study included numerical values for the dependent and independent variables to protect confidentiality. The study's schools and the school district's identity were described using pseudonyms to maintain the confidentiality of the data.

Validity and Reliability

Quantitative research requires accurate measurement of validity in order to be justified, and validity can be defined as the quality of being correct or accurate. Moreover, reliability can also be defined as a measure of consistency in quantitative studies. An alarm clock can illustrate validity and reliability if it clocks each morning at 7:00 a.m. but is set for 6:30 a.m. In this case, the alarm clock is reliable since it consistently rings at the same time each day, but it is not valid as it does not ring at the accurate time (Heale & Twycross, 2015).

Validity is essential for educational research. Muijs (2004) said that the most important factor is validity and principle when measuring an academic study and that it consists of three components: construct validity, content validity, and criteria validity. Content validity is the ability to measure a hidden concept (Muijs, 2004). Criterion validity is the degree to which one measure accurately forecasts the results of another. Westen and Rosenthal (2003) stated that construct validity is a continual process dependent on the original theory that variance in the measure reflects the conflict of the principal idea. Put another way, it refers to the degree to which your test or measure accurately reflects what it intends to detect or assess.

Data Analysis

In preparation for the analysis of the data, the four graduation cohorts in the study were coded with the letters A, B, C, and D. I collected all information from the school data system, PowerSchool and coded it, and then charted and coded it on spreadsheets. The areas of academic achievement (AA) consisted of math and language arts state assessment (SA) scores and overall GPA data. A passing score of 400 or better on the state assessment for math and English writing/reading was coded “1.” If a student failed or did not attempt the assessment, a score of “0” was given. Students with a GPA over 2.0 received a “2.” A GPA below 2 was recorded as “1,” and if they didn’t have a GPA, it was logged as “0.” The diploma type earned was logged as “0” for none, “1” for GED, “2” for Applied Studies, “3” Standard Diploma, and “4” for Advanced Diploma.

For the attendance category, if a student missed 10% or less of school days in the year, a score of “1” was recorded and a “0” was recorded if a student missed 11% or more days. The figure, 18, was based on a student missing more than 10% of the total school days (180) or for chronic attendance. Discipline (DISC) reflected whether the student received an out-of-school

suspension or expulsion. If they did, a “0” was recorded; if they had no suspension or expulsion, a “1” was recorded. Free and Reduced Meal (FARM) data from the school database were also used and recorded on the spreadsheet. A “0” was recorded for any students receiving FARM and a “1” was assigned for students who did not receive FARM. A dropout (DROP) and on-time graduation (OTG) analysis was created for each cohort. If students graduated, 2 was recorded; if they were a dropout, 1 was assigned. “0” represented if their status was unconfirmed, transferred, or withdrew.

Additionally, English language learners (ELL) and special educational (SPED) students were coded with "1" on the spreadsheet. If a student was special education (SPED) they were coded with “0” for yes, and “1” for no. Race and ethnicity were coded in the following manner: “0” for Hispanic, “1” for White, “2” for Black or African American, “3” for Asian, ‘4’ for American Indian or Alaska native, a “5” for Native Hawaiian or Pacific Islander, a “6” for multiple categories reported, and “9” for race unknown. Gender was coded as “1” for female, and “2” for male. Table 1 displays the chart used to compile data for variables for each cohort.

Table 1

Descriptive Statistics Chart

Variables	Cohort	Mean	Standard Deviation	N
Standards of Learning Average Score	A			
	B			
	C			
	D			
GPA Average Score	A			
	B			
	C			
	D			

(continued)

Table 1 (*cont.*)

Variables	Cohort	Mean	Standard Deviation	N
Chronic Absentee Yearly Total	A			
	B			
	C			
	D			
Discipline Suspension Yearly Total	A			
	B			
	C			
	D			
Free & Reduce Lunch Total	A			
	B			
	C			
	D			
Dropout Yearly Percentage	A			
	B			
	C			
	D			
On-Time Graduation Percentage	A			
	B			
	C			
	D			

Data analysis involves working with data on relevant information to make educated conclusions. Quantitative research is honest or straightforward fact-finding (Muijs, 2004).

Goertzen (2017) stated,

Quantitative research allows librarians to learn more about the demographics of a population, measure how many patrons use a service or product, examine attitudes and behaviors, document trends, or explain what is known anecdotally. Measurements like frequencies (i.e., counts), percentages, proportions, and relationships provide means to quantify and provide evidence for the variables listed above. (p. 12)

Summary

Chapter 3 provided an overview of the research methodology used for the study. It described the research questions, quantitative research design, comparative case study, setting, probability sampling, and data analysis used in the study. It also described confidentiality and addressed the validity and reliability of the research. More research on the development and use of graduation indicator systems in the Mid-Atlantic region was needed (Bowers et al., 2012; Robison et al., 2017; Smerillo et al., 2018). This study addressed this need by adding to previous research. The most important contribution of this study was focusing on a diverse population of students who have been underrepresented in previous studies on indicator systems. The implementation of tracking student attendance, achievement, and discipline at HHS could bring awareness to the participating district's administration to encourage students to stay in school and improve the on-time graduation rate. A professional development program based on the study's results can help teachers focus on instructional practices to vary their teaching styles, increase their content knowledge, establish a positive classroom culture, and maintain good classroom management skills. Moreover, the administration must engage in instructional activities and provide honest employee feedback through effective evaluation processes.

CHAPTER 4

DATA ANALYSIS AND RESULTS

The purpose of this study was to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over 4 years. The study addressed three questions: which students dropped out of high school studied, how exclusionary discipline affected students' attendance at school and their ability to graduate. In addition to the students who dropped out, what was their exclusionary discipline rate, what was their chronic absenteeism rate, and what was the leading cause of students not graduating on time? The researcher will examine the relationship between high school graduation rates and prior academic performance, attendance, and conduct at a single high school in a single school district in Virginia. In Virginia, which has a large metropolitan area and is densely populated, this type of school configuration is extremely uncommon. Similar studies have been conducted elsewhere in the country, but this study is exclusive to a single school system in Virginia. The chosen school had one of Virginia's lowest graduation rates and highest dropout rates.

In order to begin research, Virginia Tech requires Collaborative Institutional Training Initiative (CITI) courses that cover information privacy and security training (see Appendix A) as well as social and behavioral research training (see Appendix B). After obtaining permission from the division superintendent (see Appendix C), the district's Strategic Improvement and Accountability Office released data files for the individual graduation cohorts of 2015–2016, 2016–2017, 2017–2018, and 2018–2019. The records were provided on a Google drive and contained student demographics, attendance data, Standards of Learning assessment data, SPED and ELL information, as well as student status which included graduation, drop out, or unconfirmed/withdrawal data.

As a result of reviewing each cohort report, additional information on overall grade point average was requested from the Strategic Improvement and Accountability Office. For each graduation cohort, these data were added to the Google spreadsheet files. Following the collection of the data, they were matched with student identification numbers in order to ensure that the data were assigned to the right student. The GPA was coded as "2" if it was 2.0 or higher, "1" if it was under 2.0, and "0" if there was no GPA. The next step was to request additional discipline data from previous school years in order to determine if any exclusionary discipline matters existed during their high school tenure. Exclusionary discipline for the study was defined as any Virginia state-reported suspension in the PowerSchool system. In this case, the student was not in the classroom for a particular period of time, such as for an in-school suspension or an out-of-school suspension. Each spreadsheet was coded "1" for any occurrence. A request was made to obtain additional Standards of Learning testing data that covered each student's entire educational career. Data were entered on the spreadsheet as a "1" if they passed a high school mathematics and 11th-grade English reading and writing test. If they failed to achieve a 400 or better, a "0" was coded. These results were entered into the spreadsheet.

For the purpose of determining how many subjects (i.e., students) would be included in each cohort, a clustering procedure was used. All graduation cohorts had a different number of students. Among the variables that stood out was attendance or the percentage of absentees. The data file was limited to the number of students that had attendance data. To identify the students within the cohort, 200 students were randomly selected for each cohort cluster and marked with a "C" in the corresponding column. Upon reaching the required number of students, the spreadsheet was filtered according to the "C" or cluster marking, resulting in a new Google

spreadsheet with data for the 200 students in each of the four cohort cluster years 2016, 2017, 2018, and 2019.

The next phase of the analysis involved coding all the data for each cohort cluster in the areas of academic achievement that consisted of the math and language arts SOL assessment scores and overall GPA data. On the state assessment for math and English writing/reading, a passing score of 400 or better was coded as a “1” on the scale. Students who failed or did not attempt the assessment were given a score of “0”. Those students who had a GPA of more than 2.0 received a “2.” If the student had a GPA below 2.0, it was logged as “1” and “0” if there was no GPA. For the diploma type received, it was recorded as “0” for none, “1” for GED, “2” for applied studies, “3” for standard diploma, and “4” for advanced diploma.

In the attendance category, a score of “1” was assigned to a student who missed 10% or fewer school days in the course of the year, and a score of “0” was assigned to a student who missed 11% or more school days. A student was considered chronically absent if more than 10% of the total (180) school days were missed. Students were classified as disciplined if they had been suspended or expelled from school. It was recorded as a “0” if they had been suspended or expelled; if they had not, it was recorded as a “1.” The spreadsheet also included data from the school's database regarding FARMs. Students who received FARM were recorded as “0” and students who did not receive FARM were recorded as “1.” Each cohort was analyzed for dropouts (DROPs) and on-time graduations (OTGs). Graduating students were recorded as a “2;” dropouts were given a code of “1.” If their status was unconfirmed, transferred, or withdrawn, a “0” was used to identify the status as unconfirmed.

Furthermore, English language learners (ELLs) and special educational (SPED) students were identified on the spreadsheet. If a student was receiving special education services, they

were marked with “0” for yes and “1” for no. There were eight categories of race and ethnicity codes: “0” for Hispanics, “1” for whites, “2” for African Americans, “3” for Asians, “4” for American Indians and Alaska natives, “5” for Native Hawaiians or Pacific Islanders, “6” for multiple categories reported, and “9” for unknown races. In this study, gender was coded as "1" for females and "2" for males. The Virginia Department of Education (VDOE) gives credit to students who are ELLs or students with special educational needs who take more than 4 years to graduate. When students graduate high school, the VDOE adjusts their cohort assignment. If they have shifted from an earlier graduation cohort to a later one, they are classified as "sliders." These students were coded “1” for yes and “0” if they didn’t shift. A "1" was assigned to students who graduated with their initial cohort and a "0" was assigned to students who did not graduate with their cohort.

Presentation of Data Analysis

2016 Cohort Cluster

Reviewing the 2016 cohort cluster, it was found that Hispanic male students who had exclusionary discipline issues and slid from their original cohort were the most likely to drop out of school. In the past, studies have concentrated on the harmful effects of exclusive punishment methods on school performance such as high school graduation and grade retention (Allen et al., 2009). Exclusionary punishment methods included, but were not limited to, in-school and out-of-school suspension and expulsion. Overall, for the cluster group, exclusionary discipline was not causal with 97.5% reporting to school without any issues. Academic achievement was a factor with students not graduating on time due to most not succeeding on their SOL English

reading/writing assessments. This was coupled with the fact that the majority of dropout students slid out of their original graduation cohort.

Figure 5 displays data analyzed for the 2016 cluster cohort. The majority of the students in this cluster who were successful in the area of academic achievement did well and passed their SOL English reading/writing and math assessments and had GPAs above 2.0. Additionally, all students in this cluster that graduated had no issues with exclusionary discipline, but their school attendance could have been better. The data suggested that a third of these graduates received FARM. The number of ELLs who were SPED graduates stood at 12%. Most of the graduates were of Hispanic ethnicity, followed by White and Black students. The majority of the class earned an advanced diploma. The class graduated most of their cohort on time, with 38% of the students being sliders from past graduation cohorts.

Dropouts in this cluster represented about 7% of the students, with a fifth passing their math and English SOL tests. However, they were dropouts whose GPA could not be determined. Attendance was a significant factor, with most students not attending school and being chronically absent. Almost a third of dropouts experienced exclusionary discipline. In this cluster, 79% of the dropouts were Hispanic, 31% identified as ELLs, and 5.5 % identified as SPED. Of the dropouts, 89% were part of the cohort and 43.50% were sliders.

Unconfirmed students in this cohort did not pass their mathematics, English writing, or reading SOL assessments. Records of their GPAs were not present in the PowerSchool data system. Analysis of attendance revealed chronic absence was prevalent, but exclusionary discipline was not a factor. Of the group, 100% were Hispanic and ELLs but not enrolled in SPED or FARM. Of unconfirmed students, no diplomas were awarded to unconfirmed students;

100% were sliders and not part of their original 2016 cohort. Figure 5 displays data for the 2016 cohort cluster.

Figure 5*Data for the 2016 Cohort Cluster*

	Graduated			Dropout			Unconfirmed		
	F	M	Overall	F	M	Overall	F	M	Overall
Gender	98	87	185	5	9	14	0	1	1
SOL									
Failed	1%	3%	2%	80%	78%	79%	x	0%	0%
Passed	99%	97%	98%	20%	22%	21%	x	x	x
GPA									
None	4%	8%	6%	100%	100%	100%	x	100%	100%
Under 2.0	16%	14%	15%	0%	0%	0%	x	0%	0%
At 2.0 Or Higer	80%	78%	79%	0%	0%	0%	x	0%	0%
Attendance									
Missed More Than 10% of School	33%	34%	33%	100%	89%	94.50%	x	100%	100%
Missed Less Than 10% of School	67%	66%	67%	0%	11%	5.50%	x	0%	0%
Discipline									
Exclusionary Discipline	0%	0%	0%	20%	44%	32%	x	0%	0%
No Exclusionary Discipline	100%	100%	100%	80%	56%	64%	x	100%	100%
FARM									
Yes Free & Reduced Meals	36%	34%	35%	60%	22%	41%	x	100%	100%
No Free & Reduced Meals	64%	66%	65%	40%	78%	59%	x	0%	0%
ELL									
Yes English Language Learner	10%	13%	12%	40%	22%	31%	x	100%	100%
Not English Language Learner	90%	87%	88%	60%	78%	69%	x	0%	0%
Ethnicity									
Hispanic	41%	39%	40%	80%	78%	79%	x	100%	100%
White	27%	29%	28%	20%	0%	10%	x	0%	0%
African-American	20%	20%	20%	0%	11%	5.50%	x	0%	0%
Asian	3%	7%	5%	0%	0%	0%	x	0%	0%
American Indian/Alaska Native	2%	1%	1.50%	0%	11%	5.50%	x	0%	0%
Native Hawaii/Pacific Islander	0%	0%	0%	0%	0%	0%	x	0%	0%
Multiple Races	7%	5%	6%	0%	0%	0%	x	0%	0%
Diploma Type									
None	0%	0%	0%	100%	100%	100%	x	100%	100%
GED	1%	3%	2%	0%	0%	0%	x	0%	0%
Applied Studies	1%	6%	4%	0%	0%	0%	x	0%	0%
Standard	46%	41%	43.50%	0%	0%	0%	x	0%	0%
Advanced	52%	50%	51%	0%	0%	0%	x	0%	0%
SPED									
Yes Special Education	8.00%	16%	12%	0%	11%	5.50%	x	100%	100%
Not Special Education	92%	84%	88%	100%	89%	94.50%	x	0%	0%
Slider									
Yes	31%	45%	38%	20%	67%	43.50%	x	100%	100%
No	69%	55%	62%	80%	33%	56.50%	x	0%	0%
Original Cohort									
Yes	69%	55%	62%	80%	33%	56.50%	x	0%	0%
No	31%	45%	38%	20%	67%	43.50%	x	100%	100%

In summary, Figure 5 displays data analyzed for the 2016 cluster cohort. The majority of the students in this cluster who were successful in the area of academic achievement did well and passed their SOL English reading/writing and math assessments and had GPAs above 2.0. Additionally, all students in the 2016 cohort cluster who graduated had no issues with exclusionary discipline, but their school attendance could have been better. The number of ELL and SPED graduates stood at 12%. Most of the graduates were of Hispanic ethnicity, followed by White and Black students.

The majority of the class earned an advanced diploma. Dropouts in this cluster represented about 7% of the students, with a fifth passing their math and English SOL tests. Attendance was a significant factor, with most students not attending school and being chronically absent. Unconfirmed students in this cohort did not pass their mathematics, English writing, or reading SOL assessments. Analysis of attendance revealed chronic absence was prevalent, but exclusionary discipline was not a factor.

2017 Cohort Cluster

In this cluster, male Hispanic ELL students that were sliders with exclusionary discipline issues were the students likely to drop out of Hemlock High School. Variables that affected ELL and SPED students sliding from their original graduation cohort, and not graduating on time, included not passing the SOL English reading/writing and mathematics assessments. This finding draws a parallel with Jimerson et al. (2009) that failure to pass state exams and dropping out of school are significantly correlated with a number of negative consequences disproportionately affecting Hispanics and youth, especially ELLs. In this study, exclusionary discipline was a factor, with attendance standing at 7% for male students not earning a diploma.

Of the cluster of 200 students, 87% were graduates, with all students passing their SOL writing and reading test and a state math test. Most students had a grade point average over 2.0 and almost 75% of graduates missed less than 10% of school days. There were no exclusionary discipline issues encountered by any members of this cohort. Nearly half of the group's graduates were Hispanic, followed by 26% White, 9.5% Black, 8% multiple races, 7% Asian, and 1% American Indian or native Alaskan. Of this group, 22.5% were ELL students. Nearly one-third of the cohort received FARM, with 12.5% receiving special education services. Of the group, 98% of students earned a standard or advanced diploma and 36.5% of the group were sliders from their original graduation cohort. Figure 6 displays data analyzed for the 2017 cluster cohort.

The dropouts in this cluster did not pass the math or English SOL tests during their high school career. A GPA was not reported for any of the students. The majority of students who were dropouts were chronically absent with 19% having exclusionary discipline problems. Just over half of the students were represented as ELLs, 24% of this group received SPED services and 11.5% received FARM. The ethnicity of the 2017 cohort was 76% Hispanic, 16% White, and 7.5% African American. Of the 17 students in this group, 64% were classified as sliders and 36.5% were on schedule to graduate with the 2017 cohort. The 10 unconfirmed students in this group did not have a final GPA. None of these students passed the SOL math test or the English writing and reading assessments during high school. Of these students, 50% were chronically absent and 12.5% experienced some sort of exclusionary discipline. The same percentage of students, 12.5%, received FARM and special education services. The breakdown of ethnicities in the 2017 cohort was 69% Hispanic, 12.5% Black, 12.5% White, and 6% representing multiple races. One of the 10 students earned a diploma in applied studies before withdrawing. Of this unconfirmed group, 82% were classified as sliders and 18% were part of the original cohort.

Figure 6*Data for the 2017 Cohort Cluster*

	Graduated			Dropout			Unconfirmed		
	F	M	Overall	F	M	Overall	F	M	Overall
Gender	91	82	173	4	13	17	2	8	10
SOL									
Failed	0%	0%	0%	100%	100%	100%	100%	100%	100%
Passed	100%	100%	100%	0%	0%	0%	0%	0%	0%
GPA									
None	0%	2%	1%	100%	100%	100%	100%	100%	100%
Under 2.0	13%	12%	12.50%	0%	0%	0%	0%	0%	0%
At 2.0 Or Higer	87%	85%	86%	0%	0%	0%	0%	0%	0%
Attendance									
Missed More Than 10% of School	35%	28%	26.50%	100%	92%	96%	50%	50%	50%
Missed Less Than 10% of School	65%	82%	73.50%	0%	8%	4%	50%	50%	50%
Discipline									
Exclusionary Discipline	0%	0%	0%	0%	38%	19%	0%	25%	12.50%
No Exclusionary Discipline	100%	100%	100%	100%	62%	81%	100%	75%	87.50%
FARM									
Yes Free & Reduced Meals	24%	41%	32.50%	0%	23%	11.50%	0%	25%	12.50%
No Free & Reduced Meals	76%	59%	67.50%	100%	77%	88.50%	100%	75%	87.50%
ELL									
Yes English Language Learner	21%	24%	22.50%	50%	62%	56%	100%	25%	62.50%
Not English Language Learner	79%	76%	67.50%	50%	38%	44%	0%	75%	37.50%
Ethnicity									
Hispanic	48%	48%	48%	75%	77%	76%	100%	38%	69%
White	24%	28%	26%	25%	8%	16%	0%	25%	12.50%
African-American	12%	7%	9.50%	0%	15%	7.50%	0%	25%	12.50%
Asian	5%	9%	7%	0%	0%	0%	0%	0%	0%
American Indian/Alaska Native	0%	2%	1%	0%	0%	0%	0%	0%	0%
Native Hawaii/Pacific Islander	0%	0%	0%	0%	0%	0%	0%	0%	0%
Multiple Races	10%	6%	8%	0%	0%	0%	0%	12%	6%
Diploma Type									
None	0%	0%	0%	100%	100%	100%	100%	88%	94%
GED	0%	0%	0%	0%	0%	0%	0%	0%	0%
Applied Studies	1%	4%	2.50%	0%	0%	0%	0%	0%	0%
Standard	41%	48%	44.50%	0%	0%	0%	0%	12%	6%
Advanced	58%	49%	53.50%	0%	0%	0%	0%	0%	0%
SPED									
Yes Special Education	9%	16%	12.50%	25%	23%	24%	0%	25%	12.50%
Not Special Education	91%	84%	87.50%	75%	77%	76%	100%	75%	87.50%
Slider									
Yes	34%	39%	36.50%	50%	77%	64%	100%	63%	82.00%
No	66%	61%	63.50%	50%	23%	36.50%	0%	37%	18%
Original Cohort									
Yes	66%	61%	63.50%	50%	23%	36.5	0%	37%	18%
No	34%	39%	36.50%	50%	77%	64%	100%	63%	82%

As shown in Figure 6, male Hispanic ELL students who were sliders with exclusionary discipline issues were more likely to drop out of Hemlock High School than those who did not pass the SOL English reading/writing and mathematics assessments. Of 200 students, 87% were graduates, with a grade point average over 2.0. Of those graduates, 73.5% missed less than 10% of school days. In the group of graduates, 98% earned a standard or advanced diploma while 36.5% were sliders from their original graduation cohort. None of the 2017 cohort dropouts passed the math or English SOL tests, a large majority were chronically absent, and 19% had exclusionary discipline problems. Of the 17 dropouts, 64% were classified as sliders. Of the 10 unconfirmed students, 50% were chronically absent and 12.5% experienced exclusionary discipline.

2018 Cohort Cluster

Hispanic males who were ELLs and sliders dropped out of high school due to exclusionary discipline. However, Hispanic females who were sliders stood out because half of the dropouts had exclusionary discipline issues. Overall, this group had a small percent of male graduates who had discipline problems that did not affect their attendance at school. Only a small percentage (13%) of the dropouts passed their SOL assessments. Conversely, the majority of dropouts did poorly on their assessments causing them not to pass. What was notable was the 87% slider rate for dropouts included mostly (91%) males.

The majority (176) of the students in this cluster graduated with 99.5% passing their SOL math and English writing and reading assessments. The majority of this cluster graduated with a final GPA over 2.0 with 67% of the graduates missing less than 10% of their school days. Exclusionary discipline was a factor in 1% of graduates. Of the 176 graduates, 43% received FARM, 38% were ELLs, and 13% were special education students. The graduates were 59%

Hispanic, 18.5% White, 13% Black, 5.5% Asian, and 4.2% reporting multiple races. The majority of students earned a standard diploma, followed by 42.5% earning advanced diplomas, and 5% earning their GED or applied studies diploma. Graduates from sliders accounted for 51%, and only 49% graduated with their original cohort.

Reviewing the SOL pass rates for dropouts revealed that only 13% were successful. Again, a final GPA was not archived for the students in the PowerSchool database, and only 8.5% of the dropouts were not chronically absent from school. Exclusionary discipline occurred more often with this group of 17 dropouts at 38.5%. The group's FARM's rate stood at 42.5%. Regarding ethnicity, 91.5% of dropouts were Hispanic and Black students represented the rest of students at 8.5%. Of the dropouts, 79% were ELLs and 8.5% were SPED students. Of the total group of 17, 13% (15) were part of the original cohort and 87% were sliders. Figure 7 includes data for the 2018 cohort cluster.

Seven students in the 2018 cluster were unconfirmed with none passing a SOL assessment or possessing a final GPA in the PowerSchool data system. As for chronic absenteeism, 71% of pupils missed more than 10% of days with 14% experiencing exclusionary discipline. The majority (87%) of the students were Hispanic and 12.5% were of Asian descent. Four of the group's seven pupils received FARM, and one of them was a special education student. Only 17% of the students in this group were from their original cohort, while 83% were sliders.

Figure 7*Data for the 2018 Cohort Cluster*

	Graduated			Dropout			Unconfirmed		
	F	M	Overall	F	M	Overall	F	M	Overall
Gender	83	93	176	6	11	17	3	4	7
SOL									
Failed	0%	1%	0.50%	83%	91%	87%	100%	100%	100%
Passed	100%	99%	99.50%	17%	9%	13%	0%	0%	0%
GPA									
None	7%	2%	5%	100%	100%	100%	100%	100%	100%
Under 2.0	11%	34%	22.50%	0%	0%	0%	0%	0%	0%
At 2.0 Or Higer	82%	63.00%	72.50%	0%	0%	0%	0%	0%	0%
Attendance									
Missed More Than 10% of School	36%	30%	33%	83%	100%	91.50%	67%	75%	71%
Missed Less Than 10% of School	64%	70%	67%	17%	0%	8.50%	33%	25%	29%
Discipline									
Exclusionary Discipline	0%	2%	1%	50%	27%	38.50%	0%	25%	13%
No Exclusionary Discipline	100%	98%	99%	50%	73%	61.50%	100%	75%	87.50%
FARM									
Yes Free & Reduced Meals	48%	38%	43%	67%	18%	42.50%	66%	50%	57%
No Free & Reduced Meals	52%	62%	57%	33%	82%	57.50%	34%	50%	43%
ELL									
Yes English Language Learner	35%	41%	38%	67%	91%	79%	66%	75%	71%
Not English Language Learner	65%	59%	62%	33%	9%	21%	34%	25%	29%
Ethnicity									
Hispanic	61%	57%	59%	83%	100%	91.50%	100%	75%	87.50%
White	18%	19%	18.50%	0%	0%	0%	0%	25%	12.50%
African-American	12%	14%	13%	17%	0%	8.50%	0%	0%	0%
Asian	6%	5%	5.50%	0%	0%	0%	0%	0%	0%
American Indian/Alaska Native	0%	0%	0%	0%	0%	0%	0%	0%	0%
Native Hawaii/Pacific Islander	0%	0%	0%	0%	0%	0%	0%	0%	0%
Multiple Races	2%	3%	2.50%	0%	0%	0%	0%	0%	0%
Diploma Type									
None	0%	0%	0%	100%	100%	100%	100%	100%	1000%
GED	0%	1%	1%	0%	0%	0%	0%	0%	0%
Applied Studies	1%	8%	4%	0%	0%	0%	0%	0%	0%
Standard	47%	58%	52.50%	0%	0%	0%	0%	0%	0%
Advanced	52%	33%	42.50%	0%	0%	0%	0%	0%	0%
SPED									
Yes Special Education	8.00%	18%	13%	17%	0%	8.50%	0%	25%	13%
Not Special Education	92%	82%	87%	83%	100%	91.5	100%	75%	97%
Slider									
Yes	45%	57%	51%	83%	91%	87.00%	66%	100%	83%
No	55%	43%	49%	17%	9%	13%	34%	0%	17%
Original Cohort									
Yes	55%	43%	49%	17%	9%	13%	34%	0%	17%
No	45%	57%	51%	83%	91%	87.00%	66%	100%	83%

Figure 7 reveals that Hispanic males who were ELLs and sliders dropped out of high school due to exclusionary discipline. The majority (176) of the students in the 2018 cluster graduated with 99.5% passing their SOL assessments with a final GPA over 2.0, and 67% of the students missed less than 10% of their school days. Of the 176 graduates, 43% received FARM, 38% were ELLs, and 13% were special education students. The majority of students earned a standard diploma while 42.5% earned advanced diplomas and 5% earned their GED or applied studies diploma. The most important detail in the data is that 51% of dropouts were sliders, and only 49% graduated with their original cohort.

The SOL successful pass rate for dropouts in the 2018 cohort was only 13%, and a mere 8.5% of the dropouts were not chronically absent from school. Exclusionary discipline occurred more often (38.5%) with this group of 17 dropouts which had a FARM's rate of 42.5%. Of the total group of 17, 13% (15) were part of the original cohort and 87.0% were sliders. Seven students in the 2018 cohort cluster were unconfirmed, and 71% of pupils missed more than 10% of days with 14% experiencing exclusionary discipline. Four of the group's seven pupils received FARM, and one of them was a special education student. Only 17% of the students in this group were from their original cohort, while 83% were sliders.

2019 Cohort Cluster

The students in the 2019 cluster who dropped out at Hemlock High School were Hispanic females, had some success at passing their SOL mathematics and English reading and writing assessment, had limited discipline issues, and were not chronically absent. This group was mainly ELLs who were sliders from a past cohort. Overall, exclusionary discipline contributed slightly to a small percentage (13%) of male dropouts. SOL assessment data revealed that failure to pass was a factor for students not graduating from Hemlock High School on time.

The graduate group consisted of 178 students comprised of 51.5% Hispanic, 26.5% White, 11.5% Black, 4.5% Asian, 3% multiple races, and 2.5% American/Alaska native. Almost all (98.5%) students passed their SOL math and English reading and writing assessments. The majority of students (77.5%) had a 2.0 GPA. As for chronic attendance, 92% of graduates missed less than 10% of school during the school year. None received any exclusionary discipline during high school. Of the graduated students in this cluster, 14% were SPED, 19.5% received FARM, and 28% were ELLs. The majority of students (52.5%) earned a standard diploma, 41.5% were awarded advanced studies diplomas, 4.5% earned an applied studies diploma, and 1.5% received a GED. More than a third (38%) of students slid from a different cohort with 62% graduating from the original cohort. Figure 8 includes the data for the 2019 cohort cluster.

Of the 18 dropouts in the cluster, 15% passed their SOL assessments in math, English writing, and reading. Regarding chronic absenteeism, 6.5% of all students attended school more than 10% of school days, but 17% experienced exclusionary discipline at school. Dropouts constituted 94% Hispanic and 6% African American. Of the students who didn't earn a diploma due to dropout, 49% received FARM and 11.5% were special education students. The majority of students were ELLs (79%). A very high percentage (85%) of dropouts were sliders with only a small overall percentage (15%) of students being members of the original 2019 cohort.

As for the unconfirmed students in this 2019 cohort, none were recorded in the PowerSchool database as having passed an SOL or obtained a GPA. The percentage of students missing less than 10% of school days was 25% for the group. None of the students experienced exclusionary discipline or special education. All students in the group were Hispanic and ELLs with 50% receiving FARM. Of the unconfirmed group, 100% were sliders.

Figure 8*Data for the 2019 Cohort Cluster*

	Graduated			Dropout			Unconfirmed		
	F	M	Overall	F	M	Overall	F	M	Overall
Gender	90	88	178	10	8	18	4	0	4
SOL									
Failed	1%	2%	1.50%	70%	100%	85%	100%	x	100%
Passed	99%	98%	98.50%	30%	0%	15%	0%	x	0%
GPA									
None	3%	6%	4.50%	100%	100%	100%	100%	x	100%
Under 2.0	16%	20%	18%	0%	0%	0%	0%	x	0%
At 2.0 Or Higer	81%	74%	77.50%	0%	0%	0%	0%	x	0%
Attendance									
Missed More Than 10% of School	8%	8%	8%	100%	87%	94%	75%	x	75%
Missed Less Than 10% of School	92%	92%	92%	0%	13%	6.50%	25%	x	25%
Discipline									
Exclusionary Discipline	0%	0%	0%	20%	13%	17%	0%	x	0%
No Exclusionary Discipline	100%	100%	100%	80%	87%	83%	100%	x	100%
FARM									
Yes Free & Reduced Meals	19%	20%	19.50%	60%	38%	49%	50%	x	50%
No Free & Reduced Meals	81%	80%	80.50%	40%	62%	51%	50%	x	50%
ELL									
Yes English Language Learner	29%	27%	28%	70%	88%	79%	100%	x	100%
Not English Language Learner	71%	73%	72%	30%	12%	21%	0%	x	0%
Ethnicity									
Hispanic	52%	51%	51.50%	100%	88%	94%	100%	x	100%
White	28%	25%	26.50%	0%	0%	0%	0%	x	0%
African-American	12%	11%	11.50%	0%	12%	6%	0%	x	0%
Asian	3%	6%	4.50%	0%	0%	0%	0%	x	0%
American Indian/Alaska Native	4%	1%	2.50%	0%	0%	0%	0%	x	0%
Native Hawaii/Pacific Islander	0%	0%	0%	0%	0%	0%	0%	x	0%
Multiple Races	0%	6%	3%	0%	0%	0%	0%	x	0%
Diploma Type									
None	0%	0%	0%	100%	100%	100%	100%	x	100%
GED	1%	2%	1.50%	0%	0%	0%	0%	x	0%
Applied Studies	4%	5%	4.50%	0%	0%	0%	0%	x	0%
Standard	54%	51%	52.50%	0%	0%	0%	0%	x	0%
Advanced	41%	42%	41.50%	0%	0%	0%	0%	x	0%
SPED									
Yes Special Education	9%	19%	14%	10%	13%	11.50%	0%	x	0%
Not Special Education	91%	81%	86%	90%	87%	88.50%	100%	x	100%
Slider									
Yes	37%	39%	38%	70%	100%	85%	100%	x	100%
No	63%	61%	62%	30%	0%	15%	0%	x	0%
Original Cohort									
Yes	63%	61%	62%	30%	0%	15%	0%	x	0%
No	37%	39%	38%	70%	100%	85%	100%	x	100%

Figure 8 includes the data for the 2019 cohort cluster. The graduate group consisted of 178 students, most of whom had a 2.0 GPA. Of the graduated students, 14% were SPED students, 19.5% received FARM, and 28% were ELLs, while 52.5% of students earned a standard diploma, 41.5% were advanced studies diplomas, 4.5% earned an applied studies diploma, and 1.5% received a GED. More than a third (38%) of students slid from a different cohort, and 62% graduated from the original cohort.

The students who dropped out at Hemlock High School were Hispanic females, had some success at passing their SOL assessments, had limited discipline issues, and were not chronically absent. Of the 18 dropouts in the 2019 cohort, 15% passed their SOL assessments in math, English writing, and reading, 6.5% of all dropouts attended school more than 10% of school days, but 17% experienced exclusionary discipline at school. Of the unconfirmed students in the group, none were recorded in the PowerSchool database as having passed an SOL or obtaining a GPA. The percentage of students missing less than 10% of school days was 25% for the group.

Overall Results for Cohort Clusters 2016 - 2019

The analysis of the four cohort clusters from 2016 to 2019 at Hemlock High School, Hispanic males and females accounted for 85% of the dropouts, followed by 7% of African American and White students, and 1% percent of American Indian/Alaska Native students. The overall percent of Hispanic ELL dropouts was 62%, and the majority (66%) of these dropouts were male. Slider students accounted for 85% of the total number of dropouts. Attendance was a significant factor in dropping out of school, as 94% of dropouts missed more than 10% of school days. Another significant factor was failure on the SOLs, as 88% of dropouts failed the assessments, but the majority of Hemlock High School dropout students (73%) did not experience exclusionary discipline.

Seventy-nine percent of the 712 students who received a diploma had a grade point average above 2.0, with 99% passing the SOLs. Seventy-five percent of graduates were not chronically absent, and 75% of pupils missed less than 10% of school days. Nearly half of the pupils were Hispanic (49.5%) followed by 24.5 % White, 13.5 % African American, 6 % Asian, 5% Multiple Races, and 1.5% American Indian/Alaska Native. Of the graduating students, 58% were members of their initial graduation cohort, while 42% were sliders. The majority (49%) of students earned a standard diploma.

Among the four graduation clusters, there were 22 unconfirmed candidates who either transferred or withdrew from Hemlock High school. On their SOLs, all 22 students failed, yielding a 100% failure rate, and 46 had a chronic absenteeism issue. Sixty-eight percent of students were Ells with the plurality being Hispanic. Of these pupils, 77% were Hispanic, 11.5% were African American, 7.5% were White, and 4% were of multiple races. With only 18% of secondary school students experiencing exclusionary discipline, exclusionary discipline did not play a role. The majority (67%) of the students in the group were sliders, while only 33% were on course to graduate with their original cohort.

Figure 9*Data Overall for Cohort Clusters 2016 – 2019*

	Graduated			Dropout			Unconfirmed		
	F	M	Overall	F	M	Overall	F	M	Overall
Gender	362	350	712	25	41	66	9	13	22
SOL									
Failed	1%	2%	1.00%	83%	92%	88%	100%	100%	100%
Passed	99%	99%	99.00%	17%	8%	13%	0%	0%	0%
GPA									
None	4%	5%	4.00%	100%	100%	100%	100%	100%	100%
Under 2.0	14%	20%	17%	0%	0%	0%	0%	0%	0%
At 2.0 Or Higer	83%	75%	79.00%	0%	0%	0%	0%	0%	0%
Attendance									
Missed More Than 10% of School	28%	22%	25%	96%	92%	94%	48%	56%	52%
Missed Less Than 10% of School	72%	78%	75%	4%	8%	6.00%	52%	44%	48%
Discipline									
Exclusionary Discipline	0%	1%	1%	23%	31%	27%	0%	37.50%	18%
No Exclusionary Discipline	100%	100%	100%	77%	69%	73%	100%	63%	82%
FARM									
Yes Free & Reduced Meals	32%	33%	33.50%	47%	25%	36%	29%	19%	24%
No Free & Reduced Meals	68%	67%	67.50%	53%	75%	64%	71%	81%	76%
ELL									
Yes English Language Learner	24%	26%	25%	57%	66%	62%	67%	69%	68%
Not English Language Learner	76%	74%	75%	43%	34%	39%	33%	31%	32%
Ethnicity									
Hispanic	50%	49%	49.50%	85%	86%	85%	100%	54%	77%
White	24%	25%	24.50%	11%	2%	7%	0%	15%	7.50%
African-American	14%	13%	13.50%	4%	10%	7%	0%	23%	11.50%
Asian	5%	7%	6.00%	0%	0%	0%	0%	0%	0%
American Indian/Alaska Native	2%	1%	1.50%	0%	2%	1%	0%	0%	0%
Native Hawaii/Pacific Islander	0%	0%	0%	0%	0%	0%	0%	0%	0%
Multiple Races	5%	5%	5%	0%	0%	0%	0%	8%	4%
Diploma Type									
None	0%	0%	0%	100%	100%	100%	100%	0%	100%
GED	1%	2%	1.00%	0%	0%	0%	0%	0%	0%
Applied Studies	2%	6%	4.00%	0%	0%	0%	0%	0%	0%
Standard	47%	50%	49.00%	0%	0%	0%	0%	0%	0%
Advanced	51%	44%	47.50%	0%	0%	0%	0%	0%	0%
SPED									
Yes Special Education	9%	17%	13%	10%	13%	11.50%	0%	37.50%	19%
Not Special Education	92%	83%	87%	90%	87%	88.50%	100%	62.50%	81%
Slider									
Yes	36%	45%	42%	70%	100%	85%	67%	66%	67%
No	64%	55%	58%	30%	0%	15%	33%	34%	33%
Original Cohort									
Yes	64%	55%	58%	30%	0%	15%	33%	34%	33%
No	36%	45%	42%	70%	100%	85%	67%	66%	67%

Summary

After analyzing the data, it was found that, across three of the four study cohort clusters, there was a consistent overrepresentation of Hispanic males who were ELLs that experienced some form of exclusionary discipline during their time in high school. The analysis also revealed that 86% of the dropouts were Hispanic males. Based on these data, there is good evidence to suggest that Hispanic males are students who do not graduate on time. When students graduated, there was a very strong correlation that they were not chronically absent from school. According to the study statistics, 75% of graduates missed less than 10% of school days. One other aspect of student performance that had a strong relationship with dropping out and not finishing on time was the ability of the student to pass the Virginia SOL mathematics and/or English reading/writing assessments. In this study, all students were assessed in reading and writing in their 11th grade approximately a year before graduation. This can be considered a bellwether moment for students. It would have been necessary for them to pass Algebra 1 and Geometry state exams during their underclassman years.

CHAPTER 5

FINDINGS, SUMMARY, AND CONCLUSIONS

The purpose of this study was to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over 4 years. A quantitative analysis of the student data from four prior cohorts of graduates was conducted at one Virginia high school and one school district. The records examined for the study contained demographic information about students, attendance information, data regarding Virginia Standards of Learning (SOL) assessments, information concerning SPED and English Language Learners (ELLs), and student status information. Data on graduates, dropouts, or unconfirmed/withdrawals were included in this report. Individual statistical evaluations were performed on each graduation cohort to determine which students dropped out of high school, whether exclusionary discipline affected a student's ability to attend school and graduate, and the leading cause of students not graduating on time.

The three questions that guided the study are:

1. Which of the students included in the study dropped out of Hemlock High School?
2. How did exclusionary discipline affect students' attendance at school and their ability to graduate? Of the students who dropped out, what was their exclusionary discipline rate, and what was their chronic absenteeism rate?
3. What was the leading cause for students not graduating on time from Hemlock High School?

Review of the Results

The following eight findings resulted from the analysis of the data received on four cohort clusters of students:

1. Results indicated that 86% of Hispanic male ELLs experienced some form of exclusionary discipline during high school which led to a significant association between graduation and the fact these students regularly missed class time.
2. Overall Hispanic females at 85% were overrepresented in dropping out of school followed by 11% of White and 4% of African American females.
3. Analysis found that 62% of dropouts were Hispanic ELLs with males represented 66% overall.
4. A student's ability to pass the Virginia Standards of Learning mathematics and English reading/writing assessments was another factor that had a solid association with dropping out and failing to graduate on time.
5. A strong relationship existed between dropouts and sliders in that 85% of student dropouts were sliders with only 15% being part of their original graduation cohort.
6. Statistics indicated 75% of the graduates missed fewer than 10% of their scheduled school days.
7. There was a significant relationship between not having exclusionary discipline and receiving a diploma, given that 99.5% of students who didn't experience exclusionary discipline during high school received a diploma.
8. The study found that 7% of White and African American students dropped out of school.

Summary of Data Analysis and Findings

The research was limited to one high school and one school district in Virginia. This school configuration is extremely rare in Virginia, which has a large metropolitan area and a high population density. The selected school has one of the lowest graduation rates and the highest attrition rates in Virginia. Data files for the 2015–2016, 2016–2017, 2017–2018, and 2018–2019 graduation cohorts included student demographic information, attendance data, Virginia SOL assessment data, SPED, and ELL information. Student status included data on graduates, dropouts, and unconfirmed/withdrawal. The study was to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over 4 years. Utilizing statistical analysis, it was determined which students dropped out of high school, whether exclusionary discipline affected a student's ability to attend school and graduate, and the primary cause of students not graduating on time. By analyzing specific predictors, it was possible to comprehend why some students do not graduate high school on time or opt out of school early. Monitoring essential indicators such as attendance, conduct, and academic performance can lead to increasing the likelihood that students will graduate in four years.

Summary of 2016 Cohort Cluster

When the 2016 cohort cluster was examined, it was discovered that Hispanic male students who had exclusionary disciplinary concerns and had moved from their original graduation cohort were more likely to drop out. With 97.5% of students reporting to school without any concerns, exclusionary discipline was generally not problematic for the 2016 cohort cluster. Academic success was a contributing factor in students' failure to graduate on time because the majority of these students failed their SOL English reading/writing assessments.

Additionally, the majority of dropout students graduated with a different class cohort than they had been part of originally.

Summary of 2017 Cohort Cluster

According to the 2017 cohort cluster findings, male Hispanic ELL students who had exclusionary discipline concerns and were sliders were the students most likely to drop out from Hemlock High School. Pupils who didn't graduate on time were impacted by factors including being ELL and/or SPED pupils who slipped from their initial cohort while passing the SOL English reading/writing and mathematics tests. As a result, Hispanics and young people, especially ELLs, were disproportionately affected by the negative repercussions. Exclusionary punishment played a role in the 7% of male learner's attendance who did not graduate.

Summary of 2018 Cohort Cluster

In the 2018 cohort cluster, male Hispanics who were ELLs and sliders dropped out of high school due to exclusionary discipline. Among these data, Hispanic female dropouts stood out with half of them having exclusionary disciplinary concerns. In general, this cohort had a small percentage of male graduates who had conduct issues, but these issues did not impair their attendance at school. Overall, only 13% of dropouts had passed their SOL assessments. On the other hand, the majority of dropouts performed poorly, preventing them from passing. The 87% slider rate for dropouts was noteworthy, and, of those dropouts, 91% was male.

Summary of 2019 Cohort Cluster

The majority of the 2019 Hemlock High School dropouts were female, Hispanic, and had moderate performance on their SOL mathematics and English reading and writing assessments. They also had few behavioral problems and were not regularly absent. ELLs who were sliders

from the previous cohort made up the majority of this group. Overall, exclusionary discipline played a minimal role in the 13% male dropout rate. Data from the SOL assessments showed that failure on SOLs contributed to students not graduating from Hemlock High School.

Summary of Findings

Hispanic males who were ELLs, chronically absent from school, and sliders from their original graduation cohort had the highest dropout rate (86%) among all students according to the data analysis of the aggregate results of all four study cohort clusters. Additionally, the overall results indicated that Hispanic females were overrepresented at 85% in dropping out of school, followed by 11% White and 4% African American females. When accounting for all 778 study students (both graduates and students who dropped out of school), exclusionary discipline did not factor into dropping out since 98% of the students did not experience any exclusionary factors in their time in high school. Of the students who dropped out of school, only 27% (18 out of 66) of the total dropouts, were subject to exclusionary discipline, whereas 94% (62 out of 66) of the dropouts were chronically absent. There was a significant correlation between dropouts and sliders, as 85% of dropouts were sliders, and only 15% were part of their original graduation cohort. The leading factor causing students not to graduate on time from Hemlock High School was a student's ability to pass the Virginia SOL mathematics or English reading/writing assessments. Of the students who dropped out of Hemlock High School, 58 of 66 (88%) failed their state assessment(s). There was also a significant correlation between dropouts and sliders, as 85% of dropouts were sliders, and only 15% were part of their original graduation cohort.

Implications

Successful high school graduates attended class on a consistent basis, performed well on state assessments, and avoided disciplinary issues. However, the converse was true for those who did not; they struggled to achieve success. It is essential that educational professionals analyze all the factors and determine what can be done to ensure the success of all students. I offer the following recommendations resulting from this study.

Implication 1

At each grade level, school administrators and counselors should conduct a quarterly evaluation to determine if students are on track to graduate on time. At the outset of each quarter, the attendance, core subject academics, and discipline review triad should be examined. Summertime is crucial for preparing for the upcoming school year and assessing students' graduation status. This implication addresses all findings resulting from the analysis of the overall data. After examining student data, administrators and counselors will be able to determine how students are performing in their classes by conversing with ELL personnel. Understanding the World-Class Instructional Design and Assessment (WIDA) level of ELLs is essential for determining whether students are making progress and prepared to perform well on local and state assessments. Discussions and data analysis will aid in determining whether or not students require additional assistance to remain in grade-level cohorts. During quarterly meetings, attendance and conduct needs to be discussed in order to determine if the student and/or family requires assistance from school or outside agencies.

Implication 2

A graduation coordinator should supervise a team consisting of administrators, counselors, deans of students, attendance officers, and volunteer instructors who meet every 2 weeks to discuss the status of students and strategies to help them succeed in each grade. This implication addresses all findings resulting from the analysis of the overall data. Based on conversations with the team of school personnel, an overview of students is needed for those who are at risk for dropping out rather than staying on track with their grade level cohort. The graduation coordinator would schedule regular meetings to discuss recent data on grades and attendance for high-risk students. Through discussions and data analysis, the need for additional support for students to sustain grade-level cohorts can be determined. The purpose of the meetings would be to determine if the child and/or family require school assistance in the form of a student support meeting with the graduation coordinator, grade-level administrator, dean of students, or counselor.

Implication 3

A sheltered immersion program for ELLs with dedicated instructors at all grade levels and small class sizes could benefit ELL students. It would help students acquire academic concepts and prepare in English faster. This implication addresses findings one and three. Sheltering ELL pupils with a World-Class Instructional Design and Assessment level of 1 and 2 would enhance their English language proficiency and literacy. All subjects would be taught in English, and students would learn to write and read exclusively in English. This approach in a small class setting will engage them in instruction, encourage success, and develop the self-assurance they need to succeed.

Implication 4

The administration of the high school could establish a monthly outreach program in which parents and students are invited to learn more about the school and the graduation process. This implication addresses all of study findings. The administration must provide opportunities and strongly encourage parents and custodians to actively partake in the educational process. To ensure student success, parents need to be involved in education; teachers should provide learning resources, and families should work with schools to share information. By educating parents about the importance of attending school, their child's academic, behavioral, and social goals each year, and the importance of staying on track, parents can better understand the importance of school.

Implication 5

The central administration of the school system and all school-based administration should provide professional development based on the findings of this study. This implication also addresses all study findings. Participation by school administration at all levels of instruction and professional development is beneficial. A professional development program can increase a person's confidence in their work leading to improved job satisfaction, efficiency, effectiveness, and motivation. In order to determine whether students are making progress and are prepared for success, professional development is essential. Discussions and data analysis can be used to determine whether additional assistance is necessary. By analyzing specific predictors, one can better understand why students drop out of high school or fail to graduate on time.

Policy Recommendations

The following policy recommendations are based on the findings of this study.

1. The state should reduce the number of credits needed to graduate high school for newcomer ELL students or limit them to core area courses with additional English language reading and writing classes. This would facilitate the path to graduation and encourage students to remain in school.
2. Federal officials should review Adjusted Cohort Graduation Rate (ACGR) policies and develop an indicator for extended year graduation to assist secondary schools with students who, like slider students, struggle to graduate in 4 years.
3. Unless the infraction threatens the safety and well-being of the school community, local school boards should review all policies requiring students to remain in a face-to-face learning environment or at an alternative location. The COVID-19 pandemic demonstrated the importance of live instruction for pupil learning.

Recommendations for Further Research

Recommendations for further research include the following:

1. Future research should be conducted on the graduating cohorts from the year 2020, which would include the years of the COVID-19 pandemic. This would aid educational practitioners' understanding of how graduation and attrition rates compare to this study's findings.
2. Future research should investigate the correlation between slider pupils and the point in the 4-year window at which the trend begins to emerge. This information would be useful for establishing needs for professional growth of educators and the potential educational needs of students in order to address disproportionality.

3. Future research should examine the relationship between academic achievement, gender, state assessments, and Hemlock High School ELL dropout students. This would contribute to the comprehension of why males and females drop out of school and assist educators in creating professional development opportunities to address the issue.
4. Future research should examine the connection between African-American and White Hemlock High School dropouts and the SOL assessments, attendance, and discipline data. This could aid educational practitioners in gaining a deeper comprehension of the issue's causes and in developing and implementing solutions.
5. Future research should also investigate what is currently in place in grades K–6 to assist students who are struggling academically and those with attendance and behavior issues in order to keep them on track for graduation. This could aid educational practitioners in gaining a deeper comprehension of the issue's root causes and developing and implementing proactive solutions.

Conclusion

The purpose of this study was to analyze high school graduation rates from prior academic achievement, attendance, and behavior in one school system over four years. By analyzing the specific predictors, the data revealed the reasons why some high school students fail to graduate on time or drop out of school prematurely. The predictors increase the probability that students will complete secondary school within 4 years. In three of the study's cohort clusters, Hispanic males who are ELLs, who experienced exclusionary discipline in high school and who slid from their original graduation cohort, are consistently overrepresented among those who did not graduate on time, dropping out. The inability to pass the Virginia SOL in

mathematics and/or English reading/writing assessments was another aspect of student performance that had a very strong correlation with dropping out and failing to graduate on time. In his research, Jimerson (2009) found that there were significant correlations between failing state examinations and dropping out of school with a number of negative consequences disproportionately affecting Hispanics, adolescents, and ELLs. There was also a strong correlation between students who graduated and those who were not chronically absent, did well academically, and performed well on state assessments. Students who attended school regularly achieved higher academic levels than those who did not (The National Forum on Education Statistics, 2009).

The results revealed that Hispanic male students were most likely to drop out of high school, with 86% of Hispanic males who dropped out. This result was in line with research by Douglas-Gabriel (2015) who discovered that Hispanic males aged 16 to 18 were the most likely students not to complete high school. That the majority (62%) of dropouts in the study were ELLs correlates with research findings of Duffin (2021) that Virginia has one of the highest proportions of ELL non-graduate populations in the United States in that 57% of ELL females had dropped out and 66% of ELL males dropped out.

Overall, the study found that 7% of White and African American students dropped out of school. Most of the studies in the literature reviewed for this study found a large gap in high school graduation rates between minority and low-income pupils whose academic performance trailed that of their White and high-income peers (DePaoli et al, 2015). A study by Garin (2018) reported that African American and Hispanic pupils were more likely to drop out of school than White students. Notably 10% of African American males and 4% of African American females had left school. However, when it came to the overall percentage of White to African American

students, 24.5% of White students compared to 13.5% of African American students had dropped out.

Given these statistics, it is important for schools to provide the necessary interventions to prevent students from dropping out of school and to keep them on track for graduation. Pinkus (2008) specified that establishing early warning systems for at-risk adolescents must ensure that schools have the means to implement a successful program for students. By monitoring the academic performance, attendance, and behavior of students, schools can design professional development for teachers and school administrators to aid at-risk students in avoiding failure. Indicator systems in the mid-Atlantic region of the United States are inadequately representative of the diverse student populations served.

Following the COVID-19 pandemic, there has been a struggle in schools across the country to keep students consistently in school. To accomplish this, K-12 schools need to better engage parents in the education of their children. Research by Castro et al. (2015) pointed out that schools must provide opportunities for parents and guardians to participate actively in the educational process by eliminating obstacles to participation. Teachers who engage parents in education by providing learning resources can be essential to ensuring student success. Schools that actively work with families can enable parents to understand the value of their child attending school. Schools can also help parents recognize the academic, behavioral, and social goals of their child each year along with the importance of keeping their child on track to graduate.

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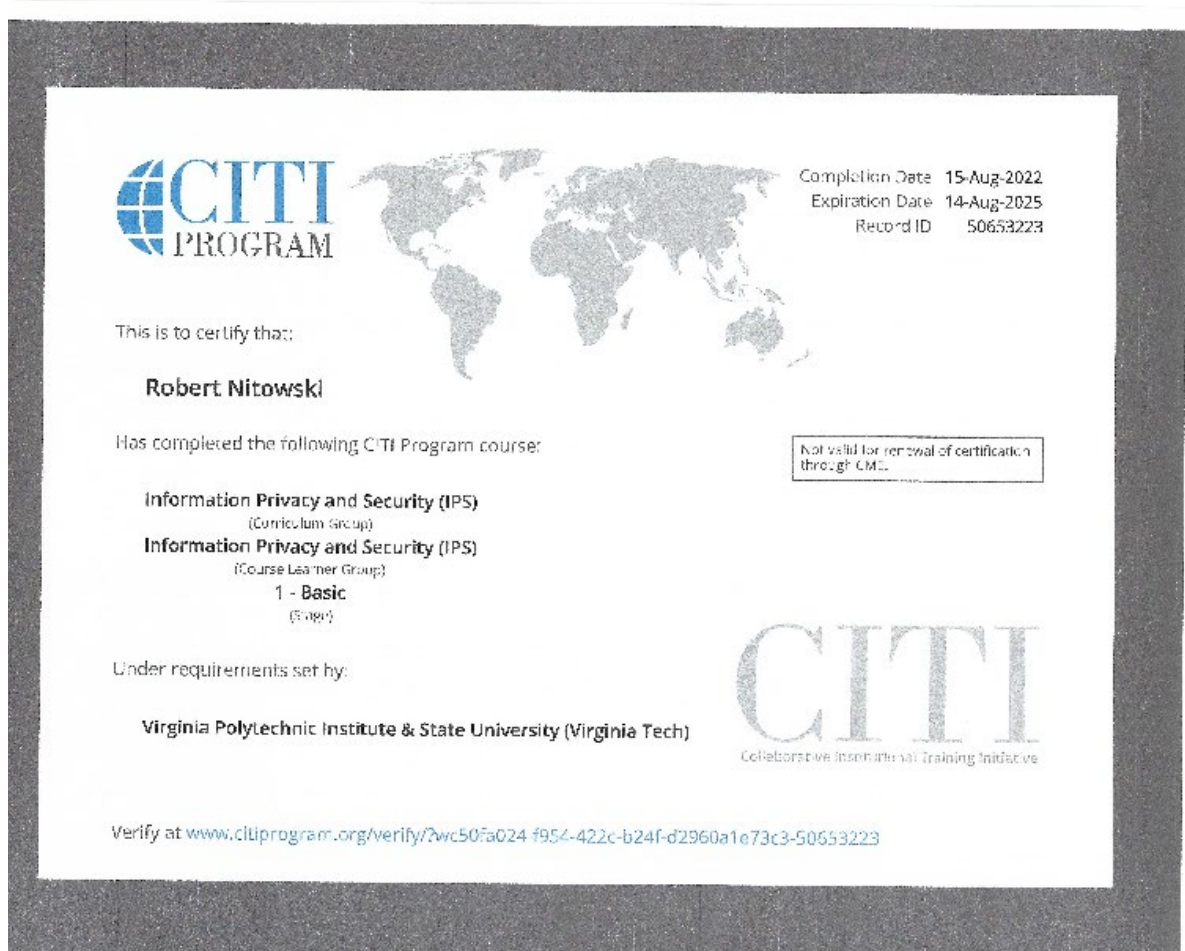
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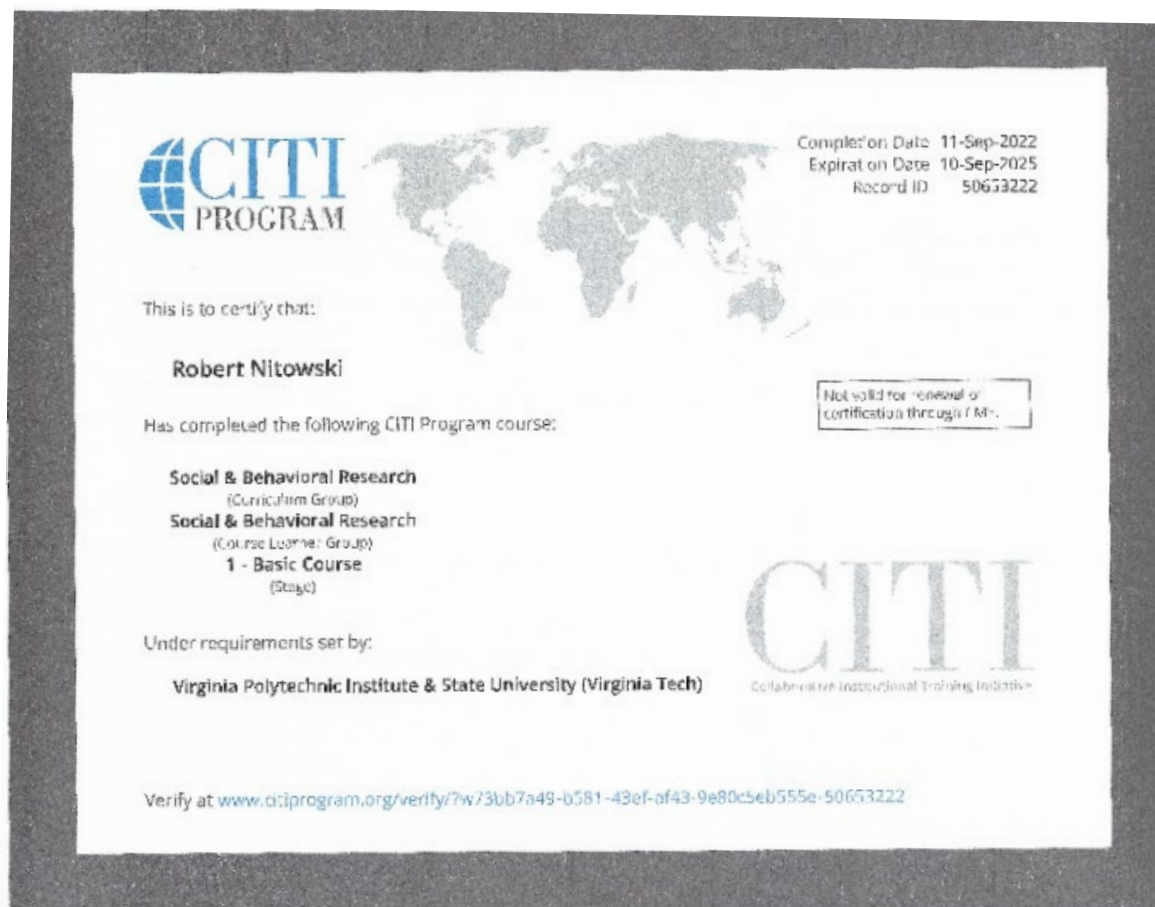
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APPENDIX A

CITI CERTIFICATION:

INFORMATION PRIVACY AND SECURITY TRAINING



APPENDIX B**CITI CERTIFICATION:****SOCIAL AND BEHAVIORAL RESEARCH TRAINING**

APPENDIX C

PERMISSION LETTER FOR SUPERINTENDENT

Dear Dr.

As you know, I am enrolled in the doctoral program at Virginia Tech in Educational Leadership and Policy Studies. This letter is to request permission to conduct a quantitative research study using [xyz] Public Schools students' data for grades 7 - 12 and the academic years 2014 – 2015, 2015 – 2016, 2016 – 2017, 2017 – 2018, 2018 - 2019. A prospectus exam titled "Predicting Graduation Rates from Prior Academic Achievement, Attendance, and Behavior" is scheduled for September 30, 2022. In order to begin research, I will submit a request to Virginia Tech's Institutional Review Board (IRB) once I have successfully defended my prospectus. I have been guided in my dissertation for the last year and a half by my committee chair, Dr. Carol A. Mullen.

This study aims to analyze prior academic achievement, attendance, and behavior to predict high school graduation. Tracking particular students' academics, attendance, and behavior using the [xyz] Power School and network drive will allow me to determine why students leave or do not graduate on time. The confidentiality of student information will be of utmost importance, and all names will be redacted when reporting to my committee. Statistical software provided by Virginia Tech will be used to protect all data. This research aims to assist stakeholders in staying in school, improve on-time graduation rates, and provide information to the administration of [xyz] Public Schools. In any case, I would like to share more specific details with you and others within the school division with a genuine interest in learning what strengths and weaknesses my research identified.

I would be glad to answer any questions or concerns you may have regarding this request. If you would like to meet in person to discuss how this research could potentially aid [xyz] Public Schools, I would be happy to do so. I would appreciate a signed letter from you approving my use of the data described above that I can submit with my IRB application if you consent. Your consideration and support of my educational endeavors are greatly appreciated.

Respectfully,

Robert J. Nitowski