Disproportionality in Discipline Referrals for Disruptive Behavior in Grades 3 Through 8: Associations with Race, Gender, and Academic Achievement

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ABSTRACT

Disproportionality in public school exclusionary discipline data has been documented throughout the United States, including the Commonwealth of Virginia. The literature reviewed indicates that Black male students are disproportionately excluded from school and that subjective office discipline referrals are a factor. Within subjective referrals, disruptive behaviors are the primary reasons for the referral of Black male students. The literature has investigated implicit bias as a possible cause and found that Black males were viewed as more aggressive and academically lower achieving than other subgroups. This study sought to investigate disproportionality in referrals for disruptive behavior and the possible relationships among race, gender, and academic achievement for students issued the referrals. Three years of enrollment, discipline, and academic achievement data for students in grades 3 through 8 were obtained from three Title I schools, two elementary schools and a middle school, in a high-poverty school division. A correlational, nonexperimental design was used to address two questions, was there evidence of disproportionality by race/ethnicity and/or gender in office discipline referrals for disruptive behavior? Was there a relationship among race, gender, and academic achievement for students issued those referrals? Two phases of data collection and analysis were involved, with descriptive statistics used for each phase. Results were analyzed and there were four findings: there was evidence of disproportionality by race/ethnicity, there was evidence of disproportionality by gender, there was not consistent evidence of disproportionality by race/ethnicity and gender, and there were no statistically significant relationships among race, gender, and academic achievement for students issued a referral. These findings could help

researchers and educators identify and understand disproportionality in referrals for disruptive behaviors and address disproportionality in exclusionary disciplinary practices.

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GENERAL AUDIENCE ABSTRACT

Disproportionality in public school exclusionary discipline data has been documented throughout the United States, including the Commonwealth of Virginia. The literature reviewed indicates that Black male students are disproportionately excluded from school and that subjective office discipline referrals are a factor. Within subjective referrals, disruptive behaviors are the primary reasons for the referral of Black male students. The literature has investigated implicit bias as a possible cause and found that Black males were viewed as more aggressive and academically lower achieving than other subgroups. This study investigated disproportionality in office discipline referrals for disruptive behavior and the relationships among the variables of race, gender, and academic achievement. A correlational, nonexperimental design was used to address two questions, was there evidence of disproportionality by race/ethnicity and/or gender in office discipline referrals for disruptive behavior? Was there a relationship among race/ethnicity, gender, and academic achievement for students issued those referrals? Three years of enrollment, discipline, and academic achievement data for students in grades 3 through 8 were obtained from three Title I schools, two elementary schools and a middle school, in a high-poverty school division. Results were analyzed and there were four findings: there was evidence of disproportionality by race/ethnicity, there was evidence of disproportionality by gender, there was not consistent evidence of disproportionality by race/ethnicity and gender, and there were no statistically significant relationships among race, gender, and academic achievement for students issued a referral.

DEDICATION

I dedicate this paper to my family. You have believed in me, encouraged me, and supported me in this journey. Keith and Claire, you inspire me with your passion for life and the laughter you find in each day. I would not have made it here without the two of you. Keith, I thank you for your unwavering love and support. Claire, I dedicate this to you as you start your journey into public education. Never be afraid to lead but always do so with love in your heart. You have much to give, and the world needs more people like you. I dedicate this to my late parents, Avery and Barbara Mills, who instilled in me the belief that I could accomplish anything I set my mind to do. They taught me the value of education and modeled for me a passion for learning.

I dedicate this to the students, families, and educators with whom I have had the pleasure to work and know. You have taught me so much about life, love, struggle, and strength. I have been fortunate to share time with you.

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I want to thank God for giving me the strength to make this journey and for the lessons I have learned along the way. I wear a bracelet with this verse from Psalm 46:5, “God is within her, she will not fail; God will help her at break of day.” This scripture helps me to remember that I am not alone in those moments of doubt and uncertainty, not only on this journey but also in my role as an educational leader during a pandemic.

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To my committee members, Dr. Emily Boyles, Dr. Jodie Brinkmann, and Dr. Carol Cash, I thank you for your support, guidance, and belief. You have not only supported me in this process, but you have inspired me with your leadership and wisdom. I thank you for your time and thoughtfulness in guiding me and providing me the support to grow and learn.

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Chapter 1: Introduction to the Study

Overview of the Study

Disproportionality in public school exclusionary discipline data has been documented throughout the United States, including the Commonwealth of Virginia (Losen & Whitaker, 2018; Virginia Department of Education [VDOE], 2021b). Research has found subjective office discipline referrals (ODRs) were a factor in disproportionality and disruptive behaviors were the primary reasons for the referral of Black male students (Diem & Welton, 2020; McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011). The data analysis in this research focused specifically on ODRs for disruptive behavior. Results could help researchers and educators identify and understand disproportionality in referrals for disruptive behaviors and address disproportionality in exclusionary disciplinary practices.

The focus was on disproportionality in subjective ODRs and the possible relationships among student variables. The two research questions were, was there evidence of disproportionality in ODRs for disruptive behavior by race/ethnicity and/or gender in grades 3 through 8? Was there a relationship among race, gender and academic achievement for students issued an ODR for disruptive behavior in grades 3 through 8? Three years of enrollment, discipline, and academic achievement data were obtained from three Title I schools, two elementary schools and a middle school, in a high-poverty school division. There were two phases of data collection and analysis, with descriptive statistics used for each phase.

Statement of the Problem

National reports and research studies have identified the number and percentage of students missing instruction due to exclusionary disciplinary practices, the loss of instructional time resulting from these practices, and the impact of these practices on academic achievement

(Arcia, 2006; Losen & Martinez, 2020; Losen & Whitaker, 2018; Morris & Perry, 2016). Reports and research have also revealed the disproportionate number of Black male students in exclusionary disciplinary data and drop-out rates and the underrepresentation of Black male students in gifted and advanced educational programs (Erwin & Worrell, 2012; Henfield et al., 2014; Losen & Martinez, 2020; VDOE, 2021b; Whiting, 2009). Within the research on disproportionality in exclusionary disciplinary practices, subjective ODRs were a factor in disproportionality, and disruptive behaviors were the primary reasons for the referrals of Black male students (Diem & Welton, 2020; McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011). This is an issue because exclusion from learning opportunities has been found to have educational, social, and economic impacts for the excluded students as well as society (Arcia, 2006; Lewis et al., 2010; Losen & Gillespie, 2012; McCray et al., 2015; Skiba et al., 2014).

Significance of the Study

Developing culturally responsive public schools and classrooms is a challenge across the nation and one that the Commonwealth of Virginia has made a priority. Culturally responsive schools recognize and value racial and cultural diversity and make learning more relevant and effective for ethnically diverse students (VDOE, 2021b). The Virginia General Assembly passed legislation in 2020 requiring the Virginia Department of Education to establish a Culturally Relevant and Inclusive Education Practices Advisory Committee. As a product of this work, the Virginia Department of Education (2021b) developed *Navigating Equity VA: Virginia's Road Map to Equity*, which prioritized the following: (1) increasing the cultural proficiency of Virginia's educator workforce, (2) eliminating disproportionality in student outcome data, and (3) closing opportunity gaps among marginalized student groups. Identifying inequities in school

data, including disproportionality in discipline data, is a component of eliminating disproportionality in student outcomes and closing opportunity gaps.

In focusing on equity, the Virginia General Assembly revised the Board of Education guidelines and model policies for codes of student conduct, Va. Code § 22.1-279.6. (1950 & rev. 2020) to require the Board of Education to include standards for "reducing bias and harassment in the enforcement of any code of student conduct." The VDOE provided guidance to local school divisions on aligning policies and practices for equity in the *Navigating EdEquity: Virginia's Roadmap to Equity* (2021b). As a part of the Commonwealth's work on equity in schools, The Virginia Tiered System of Support follows the guidance and research of Positive Behavioral Interventions and Supports (VDOE, 2021b).

The guidance and research from Positive Behavioral Interventions and Supports recommended local school boards include a five-point approach to reduce disproportionality and ensure equity (McIntosh et al., 2018). The five points address disproportionality and are as follows:

- Evaluate student code of conduct and school discipline policies for gender, racial, ethnic, linguistic, and cultural biases;
- Collect, use, and report disaggregated discipline data that clearly identify disparate discipline outcomes and utilize this data to inform professional development planning;
- Provide implicit bias training and implement protocols to mitigate bias in discipline decisions;
- Develop policies that include accountability for discipline disproportionality; and

- Implement a behavior framework that is preventative, restorative, multi-tiered, and culturally responsive (McIntosh et al., 2018).

To implement these components, schools and school boards need a system for collecting, using, and disaggregating the discipline data to identify disproportionality. Schools and school boards need to understand the relationships of variables associated with disproportionality to inform professional development planning and policy decision-making.

Purpose and Justification of the Study

The purpose of this nonexperimental, quantitative study was to identify evidence of disproportionality in ODRs for disruptive behaviors and investigate the possible relationships among race, gender, and academic achievement for students issued the referrals. The focus was on students issued an ODR for disruptive behavior in a high-poverty school division in southwestern Virginia. This adds to the research on disproportionality in exclusionary disciplinary practices, specifically on ODRs for disruptive behavior, and to the research on the possible associations between race, gender, and academic achievement in exclusionary discipline data.

The rational for this is that disproportionate representation in ODRs for disruptive behavior has been found to be a factor in the disproportionate exclusion of certain racial and ethnic groups from school (McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011; Smolkowski et al., 2016). The review of the literature showed that Black male students are impacted by disproportionality in exclusionary disciplinary practices more than other groups (Losen & Martinez, 2020; Losen & Whitaker, 2018; Morris & Perry, 2016). In an early study exploring the phenomena of Black disproportionality in school discipline data, Skiba and colleagues (2002) found that disproportionality in the data was due to higher rates of ODRs.

Several studies found that Black students were more likely to receive ODRs for less serious and more subjective offenses than students in other subgroups, and Black male students were more likely to receive ODRs for disruptive behavior than White male students (Diem & Welton, 2020; McCray et al., 2015; Skiba, 2011; Smolkowski et al., 2016). Disproportionality in ODRs for disruptive behavior and the possible associations of variables related to it need to be identified to understand and address the issue.

Research Questions

The following research questions were developed from the completed review of the literature and the identified gaps in the research reviewed:

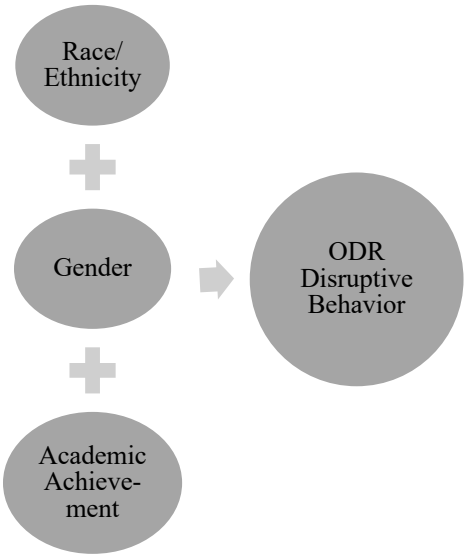
1. Is there evidence of disproportionality in ODRs for disruptive behavior by race/ethnicity and/or gender in grades 3 through 8?
2. Is there a relationship among the variables of race, gender, and academic achievement for students issued an ODR for disruptive behavior in grades 3 through 8?

Conceptual Framework

Understanding the components related to a problem helps clarify it; this is true in life and in research. Kuhn (2012) described this part of approaching a problem as “Isolate and Give Structure.” Luse et al. (2012) further described this process as isolating the problem from other external factors to understand each component of the problem. The conceptual framework serves the dual purpose of isolating the components while illustrating the relationship of each component in a logical, visual structure (Grant & Osanloo, 2014). Figure 1 provides a visual representation of the variables and their possible relationships involved in the study of the problem of disproportionality in ODRs for disruptive behavior.

Figure 1

Conceptual Framework for Investigating Disproportionality in Discipline Referrals



Note. The figure represents the variables investigated and their relationship for the study.

The conceptual framework in Figure 1 was developed through the review of the literature and included three variables related to students issued ODRs for disruptive behaviors. The literature reviewed showed that ODRs from the classroom were a factor in disproportionality in exclusionary discipline data, and Black male students were more frequently referred for disruptive behaviors (Diem & Welton, 2020; McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011). The variables of race/ethnicity and gender were identified for investigating evidence of disproportionality and associations with ODRs for disruptive behaviors.

Further review of the literature on disproportionality and possible causes revealed implicit bias, student-teacher relationships, and school culture to be potential factors (Amemiya et al., 2020; Bell, 2020; Chin et al., 2020; Diem & Welton, 2020; Gregory & Ripski, 2008; Peguero & Bracy, 2014). In terms of implicit bias, research found that Black males were often viewed as more aggressive, more culpable for their behavioral infractions, and lower in academic achievement (Chin et al., 2020; Goff et al., 2014; Halberstadt et al., 2018; Okonafua et al., 2016;

Verkuyten et al., 2019). The bias and beliefs attached to certain groups by a society can affect the identities of individuals in that group (Mullen & Robertson, 2021a; Mullen & Robertson, 2021b). Academic achievement was added as a variable to understand if there were associations among race, gender, and academic achievement in ODR data for disruptive behavior.

Definitions of Terms

Disproportionality is defined by the National Association of School Psychologists (n. d.) as referring to the representation of a particular group in a category that exceeds the expectation for that group. In terms of school discipline, it refers to the high rates at which a racial or ethnic group appear in school discipline data for office discipline referrals, suspension, expulsions, and school arrests (National Association of School Psychologists, n.d.).

Exclusionary Discipline is defined by the American Psychological Association Services (2019) as including any type of disciplinary action that "removes or excludes a student from his or her usual educational setting." These actions most commonly include removal from class, suspensions, and expulsions; however, they may include alternative placements and disciplinary sanctions where instructional services are provided, such as homebased instruction.

Expulsion, according to the U.S. Department of Education's Office of Civil Rights (2021), is the action taken by a local school division removing a student from the regular school setting for the remainder of the school year or longer because of zero-tolerance policies. *Zero-tolerance policies* are defined as policies requiring mandatory expulsion of any student who commits a violation involving guns, other weapons, or violence or "similar factors, or combinations of these factors" (U.S. Department of Education's Office of Civil Right [USDEOCR], 2021). An expulsion can be with or without educational services.

School Discipline is defined by the National Center on Safe Supportive Learning Environments (n.d.) as encompassing the rules and strategies used in the school environment to manage student behaviors.

Suspension as defined by the National Center on Safe Supportive Learning Environments (n.d.) refers to the temporary removal of a student from the normal school setting for a violation of school rules and/or policies. *Out-of-School Suspension* as defined by U.S. Department of Education's Office of Civil Rights (2021) refers to the student being removed from the regular physical school setting for at least half a day. In the case of out-of-school-suspension, the student is not allowed to attend classes or school events or participate in extra-curricular activities. In Virginia, suspensions may be short-term, which are not more than ten days, or long-term, which are eleven to forty-five days. *In-School Suspension* as defined by U.S. Department of Education's Office of Civil Rights (2021) refers to the student being excluded from the normal class setting for at least half the school day, while being in direct physical supervision of school personnel.

Assumptions, Limitations, and Delimitations

The assumptions necessary to conduct the research involved the quality and availability of the data. Since existing data were used, the assumption was that the data were accurate measures of ODRs for disruptive behavior, demographics, and academic achievement. The investigation into the relationship between race, gender, and academic achievement of students issued an ODR for disruptive behavior required the assumption that a sufficient sample size could be acquired after matching the ODR data to the academic achievement data. Another assumption pertained to the Northwest Evaluation Association Measures of Academic Progress (NWEA MAP) assessments as accurate measures of the students' academic achievement. The

assumption was that students actively participated in the assessments, and they were valid measures of their academic achievement.

The limitations were primarily related to the inability to infer causality and generalizability. Causality could not be determined due to the correlational, nonexperimental design. The Chi-Square Test of Independence (2 x 2) provides statistical information as to whether two or more variables were independent of each other or whether one variable was conditional on another but not causality (Howell, 2013; Trochim, n.d.). The population was limited to students in grades 3 through 8 in a medium-sized, high-poverty school division in southwestern Virginia, which impacted generalizability. The disproportionality in ODR for disruptive behavior data caused the groups for the second research question to be non-equivalent. This was addressed by using the academic data from the three academic years in one data set to increase the overall sample size for each group. Although a student may appear more than once in the data, the academic achievement of the student may vary by year.

As a non-experimental design using existing data, there was not a manipulated variable nor a control group. In determining disproportionality there were reference groups developed from the demographic enrollment data. The population samples were not randomized, which also limited generalizability. The sample for academic achievement was derived from students issued ODRs for disruptive behaviors and those for whom there were mid-year/Winter NWEA MAP Reading and/or Math assessment data for the academic year of the ODR, so it was not a randomized sample and impacted generalizability.

The delimitations were around the nonexperimental sampling, the measure of academic achievement, and time span. The samples were limited to students in grades 3 through 8 because those were the only grades in the division with consistent use of NWEA MAP assessments

during the designated time span. The sample for academic achievement was a sample of convenience derived from students issued ODRs for disruptive behavior and those for whom there was Winter NWEA MAP reading and/or math assessment data for the academic year of the ODR. The study on academic achievement was limited to students issued ODRs for disruptive behavior because the student identification numbers for those not having an ODR during those three years could not be accessed by the researcher for matching to the academic data.

In terms of measuring academic achievement, NWEA MAP assessments in reading and/or math were used for the years 2016-2017, 2017-2018, and 2018-2019. These measures were selected as they have been validated and are nationally normed. Additionally, the time span for the data used in the study was limited to three academic years. The three academic years were the most recent years that the assessments were administered with fidelity in grades 3 through 8, and the academic years were not impacted by school closures related to the pandemic.

Organization of the Study

The study is organized into five chapters. Chapter 1 provides the overview, purpose, and justification for the study. It also provides a conceptual framework, definitions of terminology related to the study, the assumptions, limitations, and delimitations. Chapter 2 provides a review of the relevant literature on public school education, policy and practices related to exclusionary discipline, and the impact and causes of exclusionary discipline and disproportionality. The literature review revealed six themes as follows: role of public education, school-to-prison pipeline, zero-tolerance policies, disproportionality in exclusionary disciplinary practices, impact of exclusionary disciplinary practices, and potential causes of disproportionality in exclusionary disciplinary practices. Chapter 3 describes the methodology, including research design and justification, sample selection, and data sources. Chapter 3 also describes the two phases of data

collection, management, and treatment processes. Chapter 4 provides the results followed by an analysis of the descriptive statistics from the data. Chapter 5 includes a review of the results, discussion of the findings, practitioner implications, policy implications, conclusions and recommendations for further research, and researcher reflections.

Chapter 2: Review of the Literature

The purpose of this nonexperimental, quantitative study was to identify evidence of disproportionality in office discipline referrals (ODRs) for disruptive behaviors and investigate the possible relationships among race, gender, and academic achievement for students issued the referrals. This literature review explored disproportionality in exclusionary disciplinary practices, its impact, and its possible causes. Research cited in this review evidenced that disproportionality in exclusionary disciplinary data dates to 1975 and remains a current issue (Children's Defense Fund, 1975; United States Department of Education's Office of Civil Rights [USDEOCR], 2021). Data from the USDEOCR *Civil Rights Data Collection*, which is a survey required to be completed biennially by all K-12 public school systems, revealed disproportionality in disciplinary data as an equity issue at the national, state, and local level.

Recent *Civil Rights Data Collection*s show that disproportionality continues to be an issue. The 2017-2018 data collection, which is the most recent published report due to the closing of schools in March 2020, showed that nationally Black males were the racial subgroup that had the most disparity in suspensions across all race/ethnicity and gender groups (USDEOCR, 2019). An analysis of the 2015-2016 data collection showed that at the state level Black students lost the most instructional time due to exclusionary disciplinary practices in 43 states (Losen & Whitaker, 2018). The Virginia Department of Education's (VDOE) *Navigating Equity VA: Virginia's Road Map to Equity* (2021b), which used data from the 2017-2018 *Civil Rights Data Collection*, reported that in Virginia Black students comprised 22% of the total enrollment in schools and 52% of the suspensions. At the division level, 127 of the 132 showed disproportionality in disciplinary data for Black students' suspensions (VDOE, 2021b). In 60%

of 132 divisions, Black students were more than twice as likely to be suspended as non-Black students (VDOE, 2021b).

The VDOE's *Navigating Equity VA: Virginia's Road Map to Equity* (2021b) revealed disproportionality in access to advanced learning opportunities as well. In Virginia's 2018-2019 data collection for referral and inclusion in gifted programs, Black students made up 22% of the total enrollment in Virginia schools, 12% of the referrals for gifted services, and 13% of the students identified as gifted. Hispanic students made up 16% of the total enrollment, 9% of the referrals for gifted services, and 14% of students identified as gifted (VDOE, 2021b). That contrasts with White students who made up 48% of the total enrollment, 58% of the referrals for gifted services, and 53% of the students identified as gifted (VDOE, 2021b).

Disproportionality was evidenced in advance programs. In disaggregating Advanced Placement and dual enrollment data for the 2019 graduating cohort in Virginia, 54% of all students were enrolled in either an Advanced Placement or dually enrolled course, of those 62% were White students, 77% were Asian students, 36% were Black students, and 38% were Hispanic students (VDOE, 2021b). If the data were proportionate, then the enrollment percentages in gifted and advanced programs would align with the total enrollment percentages (Henfield et al., 2014). Disproportionality in gifted and advanced programs is potentially related to the academic achievement gap and disproportionality in exclusionary disciplinary data (Erwin & Worrell, 2012; Gregory et al., 2010).

Research revealed that exclusionary disciplinary practices may have an academic impact and contribute to the achievement gap (Arcia, 2006; Chu & Reedy, 2018; Gregory et al., 2010; Lewis et al., 2010; Losen & Gillespie, 2012; Losen & Martinez, 2020; Peguero & Bracy, 2014). Academically, studies have found that students who had been suspended were three to five years

behind their non-suspended peers in reading (Arcia, 2006; Lewis et al., 2010; Morris & Perry, 2016). Regardless of race and poverty levels, student suspensions correlated to a higher risk for retention in grade level, dropping out, and issues with the juvenile justice system (Arcia, 2006; Lewis et al., 2010; Losen & Gillespie, 2012). Groups that were disproportionally represented in the discipline data were at even greater risk for these impacts, which potentially had negative social and economic effects for the individual, the affected group, and society.

Methods for Searching the Literature

The following questions were used to search the literature: what impact K-12 exclusionary disciplinary practices have on Black male students' opportunity to learn, and what are the underlying causes of overrepresentation in exclusionary discipline. Keywords for the search related to the first question included the following: *United States, K-12 public schools, school-to-prison pipeline, zero-tolerance policies, disproportion, exclusionary discipline, suspension, expulsion, discipline in schools, Black, African American, Black male, opportunity to learn, instructional time,* and *student outcomes.* Keywords for the search related to the second question included the following: *United States, K-12 public schools, academic achievement, Black, African American, Black male, implicit bias*, *unconscious bias*, *school discipline disparities, teacher-student relationship,* and *discipline in schools*. The types of documents found were peer-reviewed journal articles, legal reviews, literature reviews, policy reviews, and books. The search started with EBSCOhost through the Virginia Polytechnic Institute and State University online library and resulted in 407 sources, reviewing the titles for relevance narrowed the search to 99 sources.

The process then involved identifying articles to include in the literature review determined by relevance, date range, the community of scholars, and seminal research. Out of

the 99 abstracts reviewed 63 articles were read, and 56 were analyzed for relevance to the literature review questions. Of the 56 articles read and analyzed, there were 40 peer-reviewed journal articles and 16 literature, legal, and policy reviews (see Appendix A). Included in the literature were articles within the 2015 through 2020 date range and researchers who were part of the community of scholars. Skiba, Losen, and Gregory were identified as members of the community of scholars for disproportionality and exclusionary disciplinary practices established by the number of articles published and the frequency of citations in other articles. Also, articles published earlier than 2015 were included if they were determined to be seminal studies and were frequently cited in the current research. Finally, five policies and seven government reports referenced in the articles and reviews were read in their entirety and analyzed for the review of the literature.

The review of the literature also included six books: two books on policy, one on educational law, and two on issues of policies and practices related to race. Four of the books were read and analyzed through studies on educational law and policy (Alexander & Alexander, 2019; Alexander et al., 2015; Diem & Welton, 2020; Tienken, 2020). The book entitled *The New Jim Crow: Mass Incarceration in the Age of Colorblindness* (Alexander, 2020) was found through citations in other works, and the book entitled *Why Race and Culture Matter in Schools: Closing the Achievement Gap in America's Classrooms* (Howard, 2010) was found through a reference in a professional conference. Both books were read in their entirety and analyzed for the review of the literature.

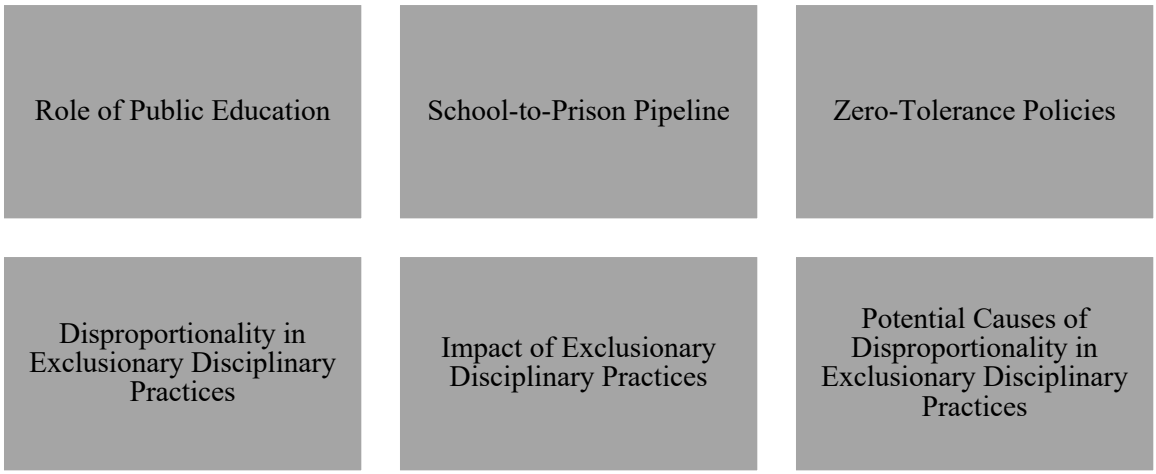
Themes from the Literature Review

There were six themes found in the review of the literature (see Figure 2). The theme concerning *role of public education* was developed through a search of law and law reviews, as

well as information from four books (see Appendix A). Specific U.S. Supreme Court cases discussed in relation to this theme were *Brown v. Board of Education; Meyer v. Nebraska; Pyler v. Doe,* and *Goss v. Lopez* (Alexander & Alexander, 2019; Brown, 2015). The themes of *school-to-prison pipeline* and *zero-tolerance policies* were prevalent in the literature and included articles correlating zero-tolerance policies and the creation of the school-to-prison pipeline. The themes of *disproportionality in exclusionary discipline* and *impact of exclusionary discipline practices* emerged in the articles by Losen, Skiba, and Gregory, as well as others. The articles used analysis of several *Civil Rights Data Collection*s to identify disproportionality and subsequent loss of instructional time. The final theme to emerge was *potential causes of disproportionality in exclusionary discipline practices*, which encompassed research into implicit bias, student-teacher relationships, school culture, and the impact of these on student outcomes.

Figure 2

Six Themes from the Literature Review



Role of Public Education

The government of the United States of America was founded on the belief that all people have certain rights. At its inception, the role of public education had been to educate

young people to be citizens able to pursue those rights. Horace Mann, who is often considered the father of American public education, viewed education as an absolute and natural right that would prevent humankind from living in “ignorance, poverty, and vice” (Alexander & Alexander, 2019, p. 42).

This role is evident in the characteristics and goals of American public education. In their article, Warnick and Scribner (2020) described school as having four distinctive characteristics as follows: educational purposes, the age of students and developmental ethos, school association, and public accountability and legitimacy. The first characteristic of educational purpose includes having vocational, liberal, and civic goals. The vocational goal encompasses the academic curriculum and provides students with the critical thinking and technical skills to participate in the economy. The vocational goal also encompasses the social curriculum, which teaches skills such as communication, teamwork, critical thinking, and responsibility.

One of the natural rights of human beings is the pursuit of happiness, and the liberal goal of education is often considered a part of that right. Warnick and Scribner (2020) described the liberal goal of education as one that seeks to develop autonomy through the critical thinking necessary for people to make their own decisions and choose their own lifestyle according to their values. Adam Smith, one of the philosophers who influenced the early advocates for universal public education, posited that only through a free and public education could students develop inquisitive minds separate from the “limits of parental mind control, religious inculcation, and government propaganda” (Alexander et al., 2015, p. 8). Being autonomous in making decisions and choices is a component in the right to pursue happiness and is a factor in civic education (Warnick & Scribner, 2020).

The civic goal of education is one that is often considered an aspect in maintaining the republic of the United States by teaching its citizenry to be autonomous, productive members of society (Alexander et al., 2015; Imoukhuede, 2018; Warnick & Scribner, 2020). To be autonomous is to be free in thought and able to think critically. This ability to think critically is often considered a means to protect the republic through participation in its processes. The social curriculum supports the civic goal as it does the vocational goal (Warnick & Scribner, 2020). Educational literature propounds that through the social curriculum of school students become citizens who can make positive contributions by working with other members of the society (Diem & Welton, 2020; Howard, 2010; Imoukhuede, 2018; Losen, 2013; Skiba & Peterson, 2003; Tienken, 2020; Warnick & Scribner, 2020).

Although education is deemed to be a natural right, its consideration as a fundamental right is not as clear. A fundamental right is one that a person is entitled to and is inherent without having to be earned (Alexander & Alexander, 2019). The U.S. Constitution does not acknowledge education as a fundamental right; however, through the Bill of Rights and the Fourteenth Amendment, it does acknowledge education as a right that the government shall not deny (Alexander & Alexander, 2019; Alexander et al., 2015). That means that if a state establishes a system of public education, then no child having residence in that state can be denied an education without due process. While all states have some form of an established system of public education, only fifteen state constitutions establish it as a fundamental right (Alexander et al., 2015). However, at all levels of government, education exists as a right and requires due process for the denial of the right.

School-to-Prison Pipeline

Public education often has been viewed as an equalizer and an element in the promise of the American Dream (Diem & Welton, 2020; Howard, 2010; Imoukhuede, 2018; Losen, 2013; Skiba & Peterson, 2003; Tienken, 2020). However, the promise of the American Dream is one that is often broken for many of society's citizens because of inequities in funding, policies, and practices in public education (Diem & Welton, 2020; Howard, 2010; Mullen & Kealy, 2012). While many of the policies in government and school division policy manuals may appear equitable to all, the daily practices, biases, and data tell a different story that contributes to the development of the school-to-prison pipeline (Diem & Welton, 2020; Howard, 2010; Imoukhuede, 2018; Losen, 2013; Skiba & Peterson, 2003; Tienken, 2020).

The school-to-prison pipeline refers to systemic processes that are designed to serve the country's youth, but in implementation have a disparate impact and may steer them to the criminal justice system (Dancy, 2014; Healey, 2014; Justice, 2018; Losen, 2013). Analysis of data on exclusionary discipline practices revealed that low-income and students of color were disproportionally impacted by zero-tolerance policies and exclusionary practices (Balfanz et al., 2014; Diem & Welton, 2020; Losen, 2013; Skiba et al., 2002). The literature revealed that millions of students were suspended each year, and that at least three million students were suspended at least once in the 2009-2010 academic year (Losen, 2013; Losen & Gillespie, 2012; Losen & Whitaker, 2018; Nance, 2016). Students who had been suspended were more likely to drop out of school and were three times more likely to drop out by tenth grade than students who had not been suspended (Balfanz et al., 2014; Chu & Reedy, 2018; Losen & Gillespie, 2012). This contributes to the school-to-prison pipeline, for students who drop out of school are three times more likely to be incarcerated (Chu & Reedy, 2018; Kirk & Sampson, 2013; Schott

Foundation for Public Education, 2012). The possible association between dropping out of school and future incarceration is supported by a 2014 study that found more than half of those incarcerated did not have a high school diploma (Boag & Wilson, 2014).

Zero-Tolerance Policies

The review then focused on the development of zero-tolerance policies, their evolution from the criminal justice system into the educational system, and their role in disproportionality in school discipline. While these policies originated in the Gun-Free School Zones Act (1990) section of the Crime Control Act (1990), they crossed into educational policy in the Gun-Free Schools Act (1994). Zero-tolerance policies for schools were developed out of the Gun-Free Schools Act (1994) in response to growing concerns about juvenile crime rates and safety in schools (Diem & Welton, 2020).

The Guns-Free Schools Act (1994) required any state receiving federal funds under the Elementary and Secondary Education Act (1965) to have in effect a state law that required the expulsion of a student for no less than one year who had been determined to have brought or possessed a firearm at school. However, the Gun-Free Schools Act (1994) did allow for the chief administrator of a local educational agency to modify the expulsion requirement on an individual basis if the modification was in writing. This Act also contained a stipulation for the local educational agency to have a policy requiring the referral of any student bringing a firearm or weapon to school to the criminal justice system or juvenile delinquency system (Gun-Free Schools Act, 1994). As a part of the assurances from the local educational agency for receiving Elementary and Secondary Education Act (1965) funds, local school boards had to have in place policies in compliance with state law and the Gun-Free Schools Act (1994). No federal funds

would be made available to the local educational agency unless this policy was in place; thus, these policies helped lay the foundation for the school-to-prison pipeline.

The Gun-Free Schools Act (1994) was created to ensure that schools were safe for students and staff and to ease the concerns of families and communities around school safety. The policies for zero tolerance were developed to address violent infractions by juveniles and to help deter these acts through the threat of punitive actions (Diem & Welton, 2020). In 1999 the Columbine shooting added to the fear of gun violence in schools, which prompted many states and local educational agencies to make even more stringent policies than were originally required by the Gun-Free Schools Act (1994) (Diem & Welton, 2020). The increased stringency led to issues around the implementation of the policies and disproportionality. As an example of the increased stringency, the Act required expulsion for bringing a firearm to school or possessing a firearm at a school (Gun-Free Schools Act, 1994). The term *firearm* was used specifically, and the definition was established as having the same definition as section 921(a), of Title 18, of the United States Code. The Code defines *firearm* as

> (A) any weapon (including a starter gun) which will or is designed to or may readily be converted to expel a projectile by the action of an explosive; (B) the frame or receiver of any such weapon; (C) any firearm muffler or firearm silencer; or (D) any destructive device. Such term does not include an antique firearm. (United States Code, 2018)

However, the section of the Act requiring a policy for referral to the criminal justice system or the juvenile delinquency system expanded the wording to include a student possessing a *firearm* or *weapon* (Guns-Free Schools Act, 1994). From this, the zero-tolerance policies expanded from a focus on *firearms* to include *weapons* through the policies of local school divisions and, with the mandatory referral to the criminal justice system for having a firearm on

school property, furthered the connection between school and the criminal justice system (Diem & Welton, 2020).

The addition of *weapon*, which is not defined in the legislation, allows for more subjectivity in terms of what constitutes a weapon and must be reported to law enforcement. A specific example of the expansion of the term *weapon* is in school board policies that define a weapon to include not only firearms but also several types of knives, razors, brass knuckles, sling shots, and other items that are not identified as firearms according to the original Act. The increase in stringency in policy as well as the expansion of suspension to other types of infractions including minor ones, contributes to disproportionality and adds more sections to the growing school-to-prison pipeline (Diem & Welton, 2020; McCray et al., 2015; Skiba et al., 2011; Skiba, Arredondo, et al., 2014). This expansion of expulsion and suspension beyond the Gun-Free Schools Act (1994) in response to growing concerns about school safety allows for subjectivity in viewing what is disruptive and constitutes a suspension (Alexander, 2020; Diem & Welton, 2020; Losen, 2013; McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011; Skiba, Choong-Geun et al., 2014).

Disproportionality in Exclusionary Disciplinary Practices

Disproportionality in exclusionary discipline practices can be dated back to a 1975 study entitled *School Suspensions: Are They Helping Children? A Report*, which was one of the earliest statistical studies of overrepresentation by minorities in school discipline data (Children's Defense Fund, 1975). Data on race and gender disparities in school discipline continue to provide evidence of disproportionality in school discipline data and its impact on Black male students' opportunity to learn. An analysis of the 2014-2015 *Civil Rights Data Collection* showed that Black students were expelled from school three times more than White

students (Martin et al., 2016). The disproportionality was evidenced again in the *School Climate and Safety Survey* (USDEOCR, 2019). These data indicated that Black males represented 8% of the enrollment and 23% of the expulsions compared to White males who represented 25% of the enrollment and 27% of the expulsions; this resulted in Black students losing 66 days of instruction per 100 students as compared to White students losing 14 days per 100 students (Losen & Whitaker, 2018; USDEOCR, 2019).

An analysis of suspension rates by state and district indicated significant differences in the risks for suspension. Several studies in the review of the literature found that Black male students had higher rates of office referrals and were more likely to get suspended; however, racial differences in behavior were not significant (Chu & Reedy, 2018; Losen, 2013; McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011). One study conducted in New York City Public Schools found that the odds for suspensions for Black male students were 2.5 times greater than they were for White male students (Chu & Reedy, 2018). The VDOE's *Navigating EdEquityVA: Virginia's Road Map to Equity* (2021b) reported that more than half of the state's school divisions had moderate to high disproportionality in Black student suspensions, and Black students were 4.5 times more likely to be suspended than White students. The report also stated that while Black students constituted 22% of the total student enrollment, they comprised 52% of all students suspended (VDOE, 2021b).

The greater risk for suspension supported the variability in determining student behavior that constitutes a suspension and differences in consequences. Studies found that White students were more likely to be referred to the office for objective offenses such as smoking and skipping class while Black students were more likely to be referred to the office for subjective offenses such as disruption and disrespect (McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011).

Studies also found that Black students were more likely to receive more severe consequences than White students (McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011). In fact, at both the K-6 and the K-9 grade levels Black students were overrepresented in the discipline compared to White students across all types of infractions, but particularly in the subjective infractions of disruption and noncompliance (Skiba et al., 2011; Smolkowski et al., 2016).

Socio-economic level and differences in behaviors are often posited as causes for discrepancies; however, this was not supported in the review of the literature. Several studies found that when controlling for poverty/socioeconomic level in school discipline data, race was the predominant factor (Balfanz et al., 2014; Bell, 2020; Diem & Welton, 2020; Skiba et al., 2002; Skiba, Choong-Geun et al., 2014; Wallace et al., 2008). In further analysis of discipline data, studies found that Black male infractions did not differ from those of White males, and Black males were more likely to receive ODRs for subjective/minor offenses than were White males (Diem & Welton, 2020; McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011). Alternatively, data showed that regardless of the kind of infraction, race was a significant variable in the consequences given for the infraction (Skiba et al., 2002; Skiba et al., 2011; Smolkowski et al., 2016).

Impact of Exclusionary Disciplinary Practices

Research has shown that exclusionary discipline practices have a negative educational impact for students who are suspended (Balfanz et al., 2014; Chu & Reedy, 2018; Gregory et al., 2010; Kirk & Sampson, 2013; Lewis et al., 2010; Losen, 2013; Losen & Gillespie, 2012; Losen & Whitaker, 2018; McCray et al., 2015; Nance, 2016; Pesta, 2018; Rangel et al., 2020; Skiba et al., 2002). Arcia's (2006) study found that in Year I, students with 51 days or more of suspension throughout the three-year study were approximately three grade levels behind their non-

suspended peers in reading, and in Year II they were five years behind. Losen and Gillespie's (2012) study found that regardless of race and poverty level there was a correlation between suspensions and higher risk for retention in grade, dropping out, and issues with the juvenile justice system. With the disproportionality in suspension rates, Black males are impacted to an even greater level than other subgroups by the risk for retention in grade, dropping out, and issues with the juvenile justice system.

In Arcia's (2006) study students who were suspended at least once in three consecutive academic years were matched and compared to non-suspended students in reading achievement. This research is often cited in the research for the breadth of the three consecutive years of cohort data. The study also compared students who were not suspended in Year I but were suspended in Year II and/or III to students who were not suspended. The study found that students who had been suspended had lower average reading scores in Year I than did non-suspended students, and the differences in scores in reading achievement increased with additional days suspended (Arcia, 2006). The study also found that students who had lower scores in Year I were suspended more days throughout the three years than students with higher scores (Arcia, 2006). Overall, the study found that the greater the number of days a student spent in suspension, the greater the negative impact on reading achievement.

Other studies also have found negative impacts on student outcomes. Another study examined data for 3,587 Black males in a midwestern school district (Lewis et al., 2010). In one academic year, Black males accumulated 3,714 missed days due to suspensions. In the same district that year 48% of Blacks performed Proficient and Advanced (P&A) on the state reading assessment, fewer than 19% met P&A on the grade 8 science assessment, and fewer than 7% of ninth- and tenth-grade students met P&A on the math state assessments (Lewis et al., 2010). In a

longitudinal study by Morris and Perry (2016) school suspensions were found to account for approximately one-fifth of the differences in academic outcomes for Black and White students. This research found that academic growth dropped significantly after one early suspension (Morris & Perry, 2016).

The relationship between suspensions and lowered academic outcomes is further understood when considering the amount of instructional time lost by students. Nationally in 2015-2016, students lost 11,392,474 days to suspensions (Losen & Martinez, 2020). At the secondary level, Black students lost 103 days per 100 students enrolled compared to White students who lost 21 days per 100 students (Losen & Martinez, 2020). The issue is further exacerbated when these data are disaggregated by gender. Black males were the subgroup with the highest level of suspension having lost 132 days per 100 students enrolled. Also, these statistics include the number of days suspended and do not account for the additional instructional time lost due to the administrative procedures related to being excluded from class with the office discipline referrals, processing the referrals, and re-entry processes (Brown, 2007).

Exclusionary discipline practices may have a social impact as well. The purpose of public education in the United States is twofold: to develop the talents and abilities of an individual and to teach the social and civic curriculum that prepares an individual to be a functioning part of society (Imoukhuede, 2018; Skiba & Peterson, 2003; Tienken, 2020). Exclusion from school limits the opportunity of students to have access to the social and civic curriculum of public education (Skiba & Peterson, 2003; Warnick & Scribner, 2020). This becomes more than an issue of equity and justice, but also one of ethics. In discussing the ethic of justice, Tienken (2020) described the importance of the relationship between public schools and a democratic

society in that public school is the only universally accessible institution to provide a system to socialize all of society's future adults to be citizens of a democracy.

Tied closely to the ethic of justice is the ethic of caring, which is focused on the relationships between and among members of a society (Tienken, 2020). In the ethic of caring, individuals recognize each individual's human dignity and desires for the individual to enjoy a human life, which is similar to the idea that, "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain inalienable rights, that among these are Life, Liberty, and the pursuit of Happiness," found in the 1776 U.S. Declaration of Independence (para. 2). The ethic of caring ties to the ethic of justice in that to be a whole person involves participating in a community with others.

In this line of reasoning, exclusionary discipline practices violate the ethic of justice and the ethic of caring. In denying students the opportunity to participate in public education, which is the universally available system to prepare them to be members of a democratic society, it is violating the ethic of justice (Tienken, 2020). All schools and classrooms teach a social curriculum through the rules and expectations both written and taught by verbal communication and discipline practices (Skiba & Peterson, 2003; Warnick & Scribner, 2020). This social curriculum not only ties to school discipline, but also teaches students behaviors related to citizenship and self-respect. When students are excluded from school, they are denied access to the social curriculum, which is purported to be the means of teaching citizens how to be functioning and productive members of society (Diem & Welton, 2020). The potential impact of this exclusion is evident in the relationship among exclusionary discipline rates, drop-out rates, and incarceration rates (Alexander, 2020; Balfanz et al., 2014; Chu & Reedy, 2018; Diem &

Welton, 2020; Gregory et al., 2010; Healey, 2014; Kirk & Sampson, 2013; Losen & Gillespie, 2012; Pesta, 2018; Skiba et al., 2002).

Not only do exclusionary disciplinary practices affect a student's access to the social curriculum, but they also have been found to contribute to a student having a weak bond to school, which is a factor in the violation of the ethic of caring (Gregory et al., 2010; Kirk & Sampson, 2013). Weak bonds to school have been found to have a connection to such issues as truancy and dropout, and suspensions have been found to be a leading indicator of dropping out (Anyan et al., 2016; Losen & Gillespie, 2012). Multiple suspensions of students have been connected to school transience, which denotes not only mobility in and out of schools but also loss of a school home (Brown, 2007). Another factor contributing to developing weak bonds with school is the relationship that the student has with the adults and peers in school (Bell, 2020; Gregory et al., 2010; Gregory & Ripski, 2008; Peguero & Bracy, 2014). In a study of youth who had multiple suspensions or expulsion and placement in an alternative educational program, students reported feeling that the adults in school did not care for their well-being (Brown, 2007). This was correlated with a lack of trust in the adults and the institution of school.

Studies have shown that teachers who use a relational approach to discipline and classroom management have much lower rates of disruption and defiance (Gregory et al., 2017; Gregory & Ripski, 2008; Kirk & Sampson, 2013). This is significant, as Black students are more likely to be referred for offenses such as disruption, defiance, disrespect, and excessive noise (Diem & Welton, 2020; Skiba et al., 2002; Smolkowski et al., 2016). Additionally, students of color have been found to receive harsher consequences for the same infractions as White students (Diem & Welton, 2020; McCray et al., 2015; Skiba et al., 2002). Student trust in teacher authority and relationships ties directly to the concept of the ethic of caring. When the teacher

builds a relationship and trust with the student, the teacher is showing a willingness to acknowledge the student's identity and their right to that identity, which are key components to an ethic of caring (Gregory & Ripski, 2008; Starratt, 1991; Tienken, 2020).

Disproportionality in exclusionary discipline practices affects more than just the educational process of Black male students, but also has a potential economic impact. Studies have found that Black males tend to be less educated and have lower college enrollment, which are contributing factors to a lower economic future and stability (Alexander, 2020; Balfanz et al., 2014; Kirk & Sampson, 2013; Losen & Whitaker, 2018; McCray et al., 2015; Skiba et al., 2002). This is potentially a contributing factor to Black males making up most of the inmate population in the U.S. penal system (Alexander, 2020).

The rate of incarceration of Black males is not only an ethical and moral issue but also an economic one for society. In a recent study on the cost of incarcerating youth, the average cost for one juvenile for one year in the state of Virginia was $214,207.00 (Justice Policy Institute, 2020). The average cost for in-state tuition for that same youth was $13,630.00; therefore, reallocating resources to educate rather than incarcerate moves beyond ethics to have far-reaching economic savings and benefits (Justice Policy Institute, 2020). According to a report by the Virginia Department of Juvenile Justice (2018), the average daily population for a juvenile correctional center in 2017 was 245 and in 2018 was 216. Even with the reduction, the cost of incarcerating 216 youths at the current rate would be $46,268,712; however, the cost of educating those same 216 students with in-state tuition would be $2,944,080. Besides the cost differences, reducing the number of incarcerated individuals and increasing the number of individuals functioning as contributing members of society have the potential for social and financial benefits.

Besides having economic implications in terms of the cost of incarceration, there are other economic considerations. Black males have continued to have an unemployment rate higher than the national average (U.S. Bureau of Labor Statistics, 2020). In 2019, Whites made up 77% of the labor force, and Blacks made up 13% of the labor force. The unemployment rate for Blacks was 6.2% and for Whites was 3.3%. The report also stated that Black men continued the "longstanding pattern" of having the lowest employment-to-population ratio at 64% as compared to Hispanic men at 77.4%, Asian men at 73.1%, and White men at 60.6% (U.S. Bureau of Labor Statistics, 2020). A 2015 study found the Black subgroup was the only one in which male unemployment exceeded female unemployment (McCray et al., 2015). Contributing to this, national studies have found that students who had been suspended were less likely to graduate from high school or college, which potentially limits their opportunity for employment and could contribute to the racial stratification of society (Balfanz et al., 2014; Chu & Reedy, 2018; Losen & Martinez, 2020; Losen & Whitaker, 2018; Skiba et al., 2002).

Potential Causes of Disproportionality in Exclusionary Disciplinary Practices

While policies and practices are factors contributing to the disproportionality in exclusionary discipline data, they may not be the underlying causes. Many studies have explored the potential causes of disproportionality in exclusionary discipline data (see Appendix A). These causes include implicit bias, student-teacher relationships, and school culture.

The concept of implicit bias suggests that people act on preferences or prejudices without intention. Implicit bias involves the concepts of implicit attitude and implicit stereotypes (Greenwald & Krieger, 2006). *Implicit attitude* is the tendency to like or dislike someone or something (Greenwald & Krieger, 2006). Implicit attitude is not inherently negative, for a student attending a university is likely to have an implicit attitude toward that university over

another. *Implicit stereotype* involves the attribution of qualities to certain social groups (gender, race, age, etc.) formed on past experiences, whether the identification of these qualities is accurate or not (Greenwald & Krieger, 2006). An example of a stereotype would be that people in poverty are lazy. Implicit attitude and/or implicit stereotype contribute to forming implicit bias. The subconscious nature of implicit bias makes it a challenging concept to measure, for it goes against what a subject avows as his belief system or decision-making process.

The Implicit Association Test was developed in 1998 and was an impetus in the ability of researchers to study implicit bias as well as being the most widely used measure of implicit bias (Greenwald & Krieger, 2006). Chin et al.'s (2020) study of implicit bias across states and counties used data from the Implicit Association Test collected through Project Implicit, the *Civil Rights Data Collection*, and Stanford Education Data Archive. It was found that the counties with overall higher explicit and implicit bias (teachers and non-teachers) had greater discrepancies in suspensions between White and Black students. When disaggregated to the teacher level, counties with higher levels of pro-White/anti-Black teachers had larger discrepancies in test scores and discipline data for White and Black students. The study also found that racial bias tended to vary across gender and race. Females had slightly less bias than non-females, and teachers of color appeared less biased than White teachers (Chin et al., 2020).

A separate study assessed the racialized perceptions in preservice teachers in terms of subjects' emotions. Halberstadt et al.'s (2018) study involved preservice teachers (N = 40) from a southeastern U.S. university. The participants were shown images of 20 different adult actors displaying various expressions of emotion. The results showed that preservice teachers were less accurate at recognizing facial expressions of Black faces than White faces. A second aspect of the research investigated anger bias, which is a form of implicit bias that misidentifies non-angry

emotions as angry due to implicit stereotypes. In terms of anger bias, preservice teachers mislabeled non-angry facial expressions as angry for Black faces more than White ones. In terms of Black verses White, these racialized perceptions were stronger for male faces than female faces. In fact, anger bias for White males was almost non-existent, and Black faces were four times more likely to be mislabeled as angry than White faces (Halberstadt et al., 2018).

The same study assessed hostility attributions by preservice teachers using observed vignettes of student interactions (Halberstadt et al., 2018). Elementary-aged actors were used to film 20 vignettes between an unseen boy and either a Black or White antagonist. The study examined the hostility attributions in terms of severity in behavior, race, and the interaction of severity and race. Across the vignettes, preservice teachers perceived Black boys as more hostile than White boys; however, the differences in perceived hostility did not vary significantly between Black and White across severities. This suggests that the effect of race on preservice teachers' perceptions of hostility were consistent whether the behavior was moderate or severe in nature (Halberstadt et al., 2018).

Another aspect of implicit bias is the concept that Black children are not perceived the same as children of other races (Dancy, 2014). Goff et al.'s (2014) study focused on the concept that Black children were not afforded the same protection of childhood as children of other races, The idea of the *protection of childhood* is that societies try to protect children from the harshest realities of adulthood (Goff et al., 2014). In this research 123 students from a large public university rated the perceived innocence of children in White, Black, and general groups across six age subgroups. The participants perceived the innocence of Black children to be less than or equal to the next oldest cohort of non-Black children (Goff et al., 2014).

In a second part of the study, police officers were shown pictures of felons and asked to determine age and culpability. Officers overrated the age of Black and Latino subjects, and Black subjects were miscategorized with an average error of 4.59 years older (Goff et al., 2014). In practice this would mean that a Black subject at 13.5 years of age could be miscategorized by a police officer as 18 years old, which could result in an adolescent being viewed as an adult and not receiving the protections of childhood.

The concept of the loss of the protection of childhood may have a connection to data from the criminal justice system. Analysis of data found that of the new admission of youth into adult prisons, three out of four of the youth were minority (Poe-Yamagata & Jones, 2007). In offenses against a person, White youth comprised 57% of the cases and 45% of the cases moved to adult court; however, Black youth comprised 40% of the cases and 50% of the cases moved to adult court (Poe-Yamagata & Jones, 2007).

The placement of a youth in an adult criminal justice facility could contribute to what some race theorists consider the dehumanization of Black children (Diem & Welton, 2020; Goff et al., 2014). Dehumanization involves the denial of full humanness, such as childhood protection. Research has shown that Black children were more likely to be sentenced as adults than White children, and in some instances the likelihood was 18 times greater for Black children (Goff et al., 2014; Poe-Yamagata & Jones, 2007). Within the same study with officer participants, Black subjects were not only miscategorized as older than other race subjects, but Black subjects were also seen as more culpable for their actions than White or Latino, particularly when the actions were of a more serious nature (Goff et al., 2014). The research and data bring into question the United States justice system concept of “Equal Justice Under the Law.”

When considered holistically, the results of these studies may have implications for the role of implicit bias as one of the potential causes of disproportionality in exclusionary discipline data. Implicit bias in terms of pro-White/anti-Black was seen to be correlated with discipline discrepancies at the teacher level (Chin et al., 2020). Considering that most discipline referrals originate in the classroom and that disproportionality in exclusionary discipline practices was found to be due to a higher number of office referrals (Skiba et al., 2002), the implicit bias of teachers is a potential cause for disproportionality. Also, in considering the effects of race on perceptions of hostility and culpability, a Black male student may be more likely to be perceived as hostile and culpable for his actions in the classroom, resulting in a greater chance of receiving an office discipline referral. That, in combination with Black males being perceived as less innocent and older than their actual age, potentially leads to Black males being held to higher standards of behavior than are developmentally appropriate.

Discipline data showed that Black students were more likely to receive subjective office discipline referrals in the classroom than in other settings (Smolkowski et al., 2016). Smolkowski et al.'s (2016) study found that Black students were 1.2 times more likely to receive a subjective office discipline referral than White students from the same teacher in the same school, and Chu and Reedy's (2018) study found that Black males had odds for being suspended 2.5 times greater than White students in the same school. The role of implicit racial bias in disproportionality has been documented in other studies as well (Allen, 2015; Bryan et al., 2012; Pesta, 2018; Starck et al., 2020).

There have been several studies on the role of teacher-student relationships in discipline, particularly for students from high-poverty environments (Amemiya et al., 2020; Bryan et al., 2012; Durr, 2019; Gregory & Ripski, 2008; Losen, 2013; Mullen, 2014). Adolescent trust in

teacher caring has been found to be a significant predictor of student discipline, and teachers who took a relational approach to classroom discipline had fewer instances of disruption and defiance, which are subjective office discipline referrals (Gregory & Ripski, 2008; Smolkowski et al., 2016). This is not a new issue, for non-violent, non-disruptive behaviors were found to be the predominant cause for suspension dating back to the 1975 report by the Children's Defense Fund. In one study, trust was found to matter more for behavioral engagement in teacher-student pairs that were not the same gender (Amemiya et al., 2020). In a study involving 171 teachers from 29 high schools in a large division, it was found that higher levels of teacher supervision, discipline, and instructional management were associated with fewer high-risk behaviors, which included fighting and carrying weapons (Martinez et al., 2016). This same study found that a teacher's ability to manage instruction was associated with positive student interactions and behaviors, such as respect (Martinez et al., 2016). This is significant when considering the disproportionality for males in exclusionary disciplinary data.

The research on subjective behaviors and suspension rates considered with the research on risks for students dropping out of school provide a deeper understanding of disproportionality. Research indicated that as much as 95% of suspensions were for subjective behavior infractions (Diem & Welton, 2020; McCray et al., 2016; Skiba et al., 2002). The research on drop-out risks showed that a student's chances of dropping out doubled with their first suspension, and a student's enrollment in post-secondary education dropped from above 50% to below 50% with the first suspension (Balfanz et al., 2014; Rausch & Skiba, 2004). Chu and Reedy's (2018) study found that students who were suspended within the first three semesters of high school were 18% less likely to graduate in 4 years and 17% less likely to graduate in 5 years. However, student perception of having a positive student-teacher relationship was found to be protective for the

student against dropping out (Gregory & Ripski, 2008; Hancock, 2011; Peguero & Bracy, 2014). This is significant, when considering the long-term economic and social impact on the future of the student being suspended for a subjective offense.

Another factor potentially contributing to disproportionality in exclusionary discipline data is the concept of school culture. As with teacher-student relationships, trust in the teacher and the school administrator has been found to help prevent school dropout (Gregory & Ripski, 2008; Hancock, 2011; Peguero & Bracy, 2014). McCray et al. (2015) defined *cultural collision* as the cultural clash in schools that occurs between students of color from low socioeconomic backgrounds and educators who bring a middle-class value system to the educational process. This concept was supported in a qualitative study that found Black students who had been disciplined felt targeted for their style of dress, hair, and musical preferences regardless of gender and social status (Bell, 2020). The cultural ecology of the school has been found to be a factor in alienating students of color and a cause for disconnectedness (Anyan et al., 2016; Bell, 2020; Gregory et al., 2010; Hancock, 2011; Howard, 2010). Subsequently, students who were less connected to school were more likely to be involved in activities that violated the law (Gregory et al., 2010; Kirk & Sampson, 2013). Disproportionate discipline practices not only impact the sense of school culture for Black students but have been found to negatively impact the culture for all students (Anyan et al., 2016).

While the school-to-prison pipeline is a contentious issue, this concept exists in the policies and practices of the US public education system (Imoukhuede, 2018). Part of the role of the public education system is promoting and teaching students to become successful citizens in society. The issue is that many of the exclusionary practices related to discipline and labeling

may force marginalized students out of the classroom and into the justice system (Alexander, 2020; Imoukhuede, 2018; Justice, 2018; Losen & Whitaker, 2018; Rangel et al., 2020).

Summary

Historical trends in national public school discipline data for Black males indicate that they are suspended and/or expelled at a higher rate than other subgroups (Children's Defense Fund, 1975; Losen & Whitaker, 2018; Martin et al., 2016; USDEOCR, 2019). The role of public education in the United States has been to educate young people to be productive citizens able to pursue their inalienable rights; however, the disproportionate representation of Black male students in exclusionary discipline practices excludes them from access to the social and academic curriculum of school. The disproportionality in school discipline data has been a significant component in the school-to-prison pipeline, which refers to systemic processes that are designed to serve the country's youth, but in implementation have a disparate impact and steer the most vulnerable youth to the criminal justice system (Dancy, 2014; Healey, 2014; Justice, 2018; Losen, 2013). The review of the literature has provided a synthesis of the policies, practices, implications, and potential causes of disproportionate representation of Black males in public school exclusionary discipline data. Much of the research focused on the impact of exclusion on academic achievement; however, this review revealed a gap in the literature regarding the possible connection among ODRs for subjective disruptive behaviors, race, gender, and academic achievement.

Chapter 3: Methodology

Purpose of the Study

The purpose of this nonexperimental, quantitative study was to identify evidence of disproportionality in office discipline referrals (ODRs) for disruptive behaviors and investigate the possible relationships among race, gender, and academic achievement for students issued the referrals. Disproportionality in public school discipline data has been documented in the Commonwealth of Virginia as well as the nation (Losen & Whitaker, 2018; Virginia Department of Education [VDOE], 2021b). Researchers have explored potential causes of disproportionality, which have ranged from policies to socioeconomics, cultures, behaviors, and biases. Researchers have identified disproportionality in ODRs in subjective behavior, primarily disruption and defiance, as contributing to disproportionality in exclusionary disciplinary data (Diem & Welton, 2020; Skiba et al., 2002; Smolkowski et al., 2016). However, a gap in the literature reviewed existed concerning the possible connection among student race, gender, academic achievement, and ODRs for disruptive behavior.

Research Design and Justification

Quantitative research focuses on studying and understanding the relationship among variables. A quantitative correlational design is most appropriate when the research is nonexperimental and is focused on using correlational statistics to describe and measure the degree of association between two or more variables (Creswell, 2014; Howell, 2013; Trochim, n.d.). A quantitative, correlational design was selected to investigate the association among three variables: race, gender, and academic achievement for students issued an ODR for disruptive behavior.

While there was research into the impact of exclusionary disciplinary practices on the academic achievement of Black males, there was a gap in the research reviewed exploring the relationship among race, gender, academic achievement, and ODR for disruptive behavior. Disproportionality in ODRs for disruptive behavior was determined as a focus from the literature review. The correlational design was used to examine possible association of race/ethnicity, gender, and academic achievement for students issued the ODRs. The correlational research design is not causal; however, it provides information on relationships between variables and possibly guides future experimental research (Cook & Cook, 2008; Howell, 2013; Trochim, n.d.).

Nonexperimental Design

Correlational nonexperimental research investigates associations between variables on predetermined, intact groups; therefore, there is no manipulation of variables nor is there a control group (Cook & Cook, 2008; Howell, 2013; Trochim, n.d.). Existing data collected by the school division as a part of its normal operating procedures were used, and two intact groups were determined from the data. To address the first research question, the intact group was composed of students issued an ODR for disruptive behaviors. To address the second research question, the intact group included those students in the initial sample for whom the division had mid-year/Winter Northwest Evaluation Association Measures of Academic Progress (NWEA MAP) data for the academic year in which the student received the ODR. The variables of gender, race/ethnicity, academic achievement, and ODRs for disruptive behavior were not manipulated.

Measure for Academic Achievement

The following section describes the NWEA MAP assessments and the Rasch UnIT (RIT) scale. NWEA MAP was determined to be the instrument of measure for academic achievement for several reasons. NWEA MAP assessments were administered three times per year to measure academic progress and achievement of students in grades 3 through 8. The NWEA MAP Reading and Math assessments are computer adaptive assessments that have been found to have construct validity and are nationally normed (NWEA, 2015; Wang et al., 2013). The assessments use the RIT scale to provide data on academic achievement and growth. The RIT is a stable, equal interval, vertical scale spanning kindergarten through grade 8 and has been shown to be valid and reasonable for use across grade levels and academic years (He et al., 2016; Wang et al., 2013).

Through the national norming process, the RIT scale normative data are used to develop the Student Status Norms tables (NWEA, 2015). These tables provide means and standard deviations for each grade level, subject, and time of year (NWEA, 2015). The Student Status Norms tables give educators a reference to compare a student's achievement status to other students' performance in the same grade and subject at a similar stage in the school year (NWEA, 2015). Using the data from the Student Status Norms tables, a range of performance can be determined for that grade level, subject, and time of year by adding the standard deviation to the mean and subtracting it from the mean (NWEA, 2015). This was the method used to determine ranges for the academic achievement variable (see Appendix B). Students were coded Yes *In Range* if the student RIT score was in the range or No *In Range* if the student score was not in the range developed using the RIT scale normative data.

Research Questions and Hypotheses

The following research questions were developed from the completed review of the literature and the identified gaps in the research reviewed:

1. Is there evidence of disproportionality in ODRs for disruptive behavior by race/ethnicity and/or gender in grades 3 through 8?
2. Is there a relationship among race, gender, and academic achievement for students issued ODRs for disruptive behavior in grades 3 through 8?

There were the following two hypotheses:

H_1: There is evidence of disproportionality by race/ethnicity and/or gender in ODRs for disruptive behavior in grades 3 through 8.

H_2: There is a relationship among race, gender, and academic achievement for students issued ODRs for disruptive behavior in grades 3 through 8.

Site Selection

The data used were from a medium–sized school division in southwestern Virginia. The school division was high poverty with a student population of approximately 1900 students and consisted of five schools: one early childhood center, two elementary schools, one middle school, and one high school. The percentage of students categorized as Economically Disadvantaged was 71.7%. Grades 3 through 8 were selected because NWEA MAP assessments were administered consistently in those grade levels from the 2016-2017 academic year until the 2019-2020 academic year when schools were closed due to the COVD-19 pandemic. The grade range resulted in the inclusion of the two elementary schools and the one middle school.

Sample Selection

The study investigated evidence of disproportionality in the number and percentage of students who received ODRs for disruption and defiance and the possible connection among ODRs for disruptive behavior, race, gender, and student academic achievement. Until the 2021-2022 academic year, public school divisions throughout the Commonwealth of Virginia were required to annually submit data on incidents of discipline, crime, and violence in schools to the VDOE. This report was entitled the *Discipline, Crime, and Violence Data Report* and was used by the VDOE to provide safety indicators for schools as reported on the *School Quality Profile* located on the VDOE website for public access.

In the data collection and reporting, incidents were coded by the type of offense. The coding was divided into 29 categories, with each category containing offense-specific codes (VDOE, 2019). Since the focus was on disruption and defiance, the category of codes used was *Disruptive Behavior*. Within that category, there were seven individual codes, often referred to as *D codes*, for offenses as seen in Table 1 (VDOE, 2019).

Table 1

Discipline, Crime, and Violence Disruptive Behavior Codes

D1C Disrespect/Walking Away
D2C Defiance/Refuses Request
D3C Disruptive Demonstrations
D4C Possession of Obscene/ Disruptive Literature
D5C Classroom/Campus Disruption
D6C Obscene/Inappropriate Language/Gestures
D8C Minor Insubordination

Students included in the first sample were those in grades 3 through 8 who received at least one ODR for a *D code* offense, and the second sample included those students in the initial sample who had Winter reading and/or math data in the NWEA MAP database for the academic year in which the ODR occurred.

Data Collection and Gathering Procedures

The researcher requested permission to conduct the study from the division superintendent on August 26, 2021 (see Appendix C) and received a signed permission form on that date (see Appendix D). The Instructional Review Board (IRB) Collaborative Institutional Training Initiative courses as required by Virginia Polytechnic Institute and State University were completed on September 13, 2021 (see Appendix E). Permission to conduct the study with existing data was requested using the Existing Data Research Proposal from Virginia Polytechnic Institute and State University's IRB. The Virginia Polytechnic Institute and State University's IRB approved the request and provided written permission to proceed with the study 21-784 on October 11, 2021 (see Appendix F).

The data were collected in two phases, one for each research question. For the first phase, the researcher contacted the Coordinator of Data and Assessment Management for the school division to request the *Discipline, Crime, and Violence* data for the academic years of 2016-2017, 2017-2018, and 2018-2019. Once the request was submitted, a data developer who submits the data to VDOE processed the request and sent the data to the researcher through VDOE's secure Single Sign-On Web System drop box. Discipline data were provided to the researcher in November 2021. The discipline data were disaggregated to identify students who received an ODR for disruptive behavior. Enrollment demographic data were then collected from the *Fall Student Record Collection* for each year. For the second phase, the researcher accessed academic achievement data through the NWEA password-protected database. The matching of the discipline data and academic data to develop the study sample for the second research question was completed in December 2021. The identification of the second sample data was completed in January 2022.

Data Treatment and Management

Once the researcher received email notification of the data availability through the VDOE Single Sign-On Web System, the researcher used a unique password to log into the system to download the data. The data were provided in three separate Microsoft Excel workbooks, one for each academic year requested. Each Excel spreadsheet contained a unique student local number, race, ethnicity, gender, date of birth, grade level, the state code of the school in which the student was enrolled, the state code of the school in which the offense occurred, the date of the offense, the code for the type of offense, and the code for the consequences related to the offense for each student offense. The data were filtered by the code for the type of offense to include only *D code* ODRs and were then filtered by grade level to include only grades 3 through 8. Multiple offenses for a student were then removed so that each student was counted once. All infractions that were not *D code* infractions were removed from the file. The data were used to investigate the first research question on the existence of disproportionality in ODRs for disruptive behaviors.

To investigate the second research question on the association among race, gender, and academic achievement for students issued an ODR for disruptive behaviors, achievement data had to be matched to ODR data. A column for the student's name was added to the spreadsheet to be used in matching the discipline data to achievement data. Separate variable columns of academic achievement were added to input data for reading and/or math Winter NWEA MAP data for each student. The data were then downloaded on the school division's secured server. All data were then saved and processed on a password-protected laptop provided to the researcher by the school division. The data were stored in a password-protected secure Google drive provided by Virginia Polytechnic Institute and State University and were uploaded into the

secure IBM Statistical Package for Social Science (SPSS) platform provided by the university for statistical analysis.

To match discipline data to NWEA MAP academic achievement data, the researcher entered each unique student number in the division's *Power School* student information system. If the student was still enrolled or had graduated from the school division, then the student name that was associated with the student number was accessed. The researcher entered that name in the spreadsheet with the discipline data. Any data for which the student number was not matched to a student name were deleted. Individual student names were then entered into the NWEA MAP database, and the assessment data were filtered by Winter and the academic year of the disciplinary infraction. Winter data were used, as they were more complete than Fall or Spring data. Math and/or reading data available for that assessment were entered in the spreadsheet.

Only those students who had a *D code* infraction for disruptive behaviors and were matched to Winter reading and/or math NWEA MAP assessment data were included in the second sample. Once the discipline data and academic data were matched, any data not matched were removed from the study and students' names were removed from the matched data to protect confidentiality. All data will be deleted within one year of the completed dissertation process as approved by the Virginia Polytechnic Institute and State University's IRB.

Data Analysis Techniques

Existing NWEA MAP and ODR data were used for the academic years 2016-2017, 2017-2018, and 2018-2019. For the investigation of evidence of disproportionality, data for each academic year were disaggregated by grade level to identify the sample for grades 3 through 8. Students issued more than one ODR were identified, and duplicates were removed so that each student was represented once on the data. Data were then disaggregated by race/ethnicity and

gender. Enrollment data for each of the three years were disaggregated by grade level, race/ethnicity, and gender. Purposive sampling to investigate the relationship among race, gender, and academic achievement was determined by establishing data for students in grades 3 through 8 issued at least one ODR for a *D code* offense and matching discipline data for those students to NWEA MAP Winter data for the academic year of the offense.

Three types of statistics were used to address the research questions. To address the first research question, data were analyzed by risk index and relevant risk ratio (RR).
The risk index is a within group comparison of the total number of ODRs for that subgroup as compared to the total enrollment of the subgroup for that academic year (Kaur, 2019). The subgroup risk index was then divided by the reference group risk index to calculate the relative risk ratio (RR) for each subgroup. In analyzing the RR for each subgroup, an RR = 1 indicated that a subgroup faces no disproportionality, an RR > 1 indicated that a subgroup is overrepresented, and an RR < 1 indicated that a subgroup is underrepresented (Kaur, 2019). The Chi-Squared Test of Independence (2 x 2) was used to address the second research question. Six tests were used, three each for reading and math, to investigate the relationship of race and academic achievement, gender and academic achievement, and race/gender and academic achievement. The group-size assumptions for the tests were addressed by investigating the variable for race at two levels: Black and Non-Black. Females were underrepresented in the ODR data. To address the group-size assumptions the race/gender association was investigated at two levels: Black Male and Non-Black Male.

To calculate the risk index and RR, ODR for *D code* data were disaggregated by race/ethnicity and gender to determine the number and percentage of ODRs for each race/ethnicity and gender subgroup. The data were then compared to reference groups calculated

by the number of students issued an ODR divided by the number enrolled for the academic year of the ODR data. The enrollment data were accessed through the data submitted for the VDOE *School Quality Profile.* Six Chi-Square Tests of Independence (2 x 2) were used to answer the second research question, which involved the variables race, gender, and *In Range* for academic achievement. Individual student RIT scores were coded as No if below the grade-level range or Yes if in or above the grade-level range for the In Range variable. Race was coded as Black or Non-Black, and Gender was coded as Male or Female. The Chi-Square Test of Independence (2 x 2) was used because race/ethnicity, gender, and the In Range variables were all categorical.

Summary

A correlational, nonexperimental design was used to address two questions, was there evidence of disproportionality by race/ethnicity and or/gender in office discipline referrals for disruptive behavior, and was there a relationship among race, gender, and academic achievement for students issued those referrals. A correlational design was selected to investigate disproportionality and the degree of association among three variables: race, gender, and academic achievement for students issued an ODR for disruptive behavior. A nonexperimental design was determined because existing data were used, no variables were being manipulated, and intact groups were used for each research question. NWEA MAP assessments were determined to be the instruments of measure for academic achievement because they are computer adaptive assessments that have been found to have construct validity and are nationally normed. The assessments used the RIT scale, which is a stable, equal interval, vertical scale spanning kindergarten through grade 8 and has been shown to be valid and reasonable for use across grade levels and academic years. Student Status Norms tables were used to develop ranges for the academic achievement variable. The data collection occurred in two phases, one

for each research question. The first phase involved the collection and disaggregation of the data from the *Discipline Crime and Violence Report* for each of the three years to identify the sample. In the second phase, academic data for reading and/or math were matched to students issued an ODR for disruptive behavior for each academic year. Three types of statistics were used for the study. Risk indexes and RRs were calculated in a secured Microsoft Excel workbook to determine evidence of disproportionality. Data from the Excel workbook were imported into IBM SPSS to run the Chi-Square Tests of Independence (2 x 2) to determine relationships among race, gender, and academic achievement for students issued an ODR for disruptive behavior. To address group size concerns caused by disproportionality, the chi-square tests used *Black* and *Non-Black* as the variables for race and *Black Male* and *Non-Black Male* as the variables for race/gender.

Chapter 4: Data Analysis and Results

Introduction

The purpose of this nonexperimental, quantitative study was to identify evidence of disproportionality in office discipline referrals (ODRs) for disruptive behaviors and investigate the possible relationships among race, gender, and academic achievement for students issued the referrals. Existing discipline and academic data for students in grades 3 through 8 in two elementary schools and a middle school in a medium-sized, high-poverty school division in southwestern Virginia were used for this purpose. Permission was provided by the superintendent, and the discipline data for the academic years of 2016-2017, 2017-2018, and 2018-2019 were requested from the discipline data processor. The discipline data were received in three separate Microsoft Excel files, one for each academic year. Each file was filtered by grade level so that only students in grades 3 through 8 were included. Then each file was filtered so that only *D code* disruptive behaviors were included. In cases where a student received more than one office discipline referral (ODR) for disruptive behavior, the duplicates were deleted so that each student was counted only once in the data. The data were then copied and pasted in the Excel workbook for the study with each academic year on a separate spreadsheet. These spreadsheets were used in each phase of the data collection and processing. The data collection occurred in two phases, one for each research question.

In the first phase, demographic enrollment data by grade level were obtained from the *Fall Student Record Collection*. Student record collections are reports that all public schools in the Commonwealth of Virginia submit four times a year and are used for funding calculations and data reporting for the *School Quality Profile*, which is a public reporting tool for each school and division on the Virginia Department of Education (VDOE) website. The data for the *Fall*

Student Record Collection are collected for division membership on September 30 of each academic year. The data are disaggregated by grade level, race/ethnicity, and gender. The enrollment data for grades 3 through 8 were included on a worksheet in the Excel workbook for each academic year.

The process for identifying the membership of each subgroup was the same used for identifying subgroups in Virginia's accreditation calculation process. The subgroup data were first filtered to only include students with ethnicity Hispanic coded "N" for no. The data were then filtered by race. In the reporting system, races are coded by number with 3 = Black or African American and 5 = White. The term *Black* was used because that is the term used in federal reporting. Any race codes above 7 are included in Multiple-Race. All filters were then cleared and filtered to only include students with ethnicity Hispanic coded "Y" for yes to determine the Hispanic subgroup sample. Any subgroup with a demographic membership of less than 30 in the data was not included. In Virginia's accountability system, a group of less than 30 is reported as a *small n* or too small to report. The same race/ethnicity filtering process was used with the addition of gender for disaggregation of the data. The disaggregated discipline and demographic data were used for the calculation of the risk index and relative risk ratio (RR). The calculation formula for RR provided by VDOE (2021a) was used for each year to determine disproportionality by race, gender, and race and gender.

The second phase of the data collection involved matching student discipline data to student academic data. The discipline data provided in the Excel workbooks identified students by a local student number. Columns were added for students' first and last names in the spreadsheet. The student numbers were matched to student names using *Power School*, which is the Student Information System used by the division. Only students who were still enrolled in the

division or had graduated could be identified in *Power School* and were included in the sample. Additional variable columns were then added for Winter Northwest Evaluation Association Measure of Academic Progress (NWEA MAP) Reading and Winter NWEA MAP Math assessment data. Student names were then entered into the secure NWEA database. Once the individual student profile was accessed, the data were filtered by the appropriate academic year and assessment season. NWEA MAP were administered in the beginning of year/Fall, mid-year/Winter, and end-of-year/Spring for reading and math. The mid-year/Winter assessments, which were administered in December of each year, were used as they were the most complete data. This was primarily due to enrollment stabilizing by September 30. Reading and or math data were entered into the appropriate variable columns. Only those students having either a Winter reading score and/or Winter math score were included in the sample. Any students not having a Winter NWEA MAP score for the academic year were deleted from the data. Student names were then deleted from the data and unique numbers were assigned to each student to protect confidentiality. This chapter displays the findings for each phase of data collection and analysis.

The following research questions were developed from the completed review of the literature and the identified gaps in the research reviewed:

1. Is there evidence of disproportionality in ODRs for disruptive behavior by race/ethnicity and/or gender in grades 3 through 8?
2. Is there a relationship among race/ethnicity, gender, and academic achievement for students issued an ODR for disruptive behavior in grades 3 through 8?

Results from the Study

Result 1

The RR and risk index data for students issued an ODR for disruptive behavior indicate evidence of disproportionality among racial/ethnic subgroups for each of the three years. The Non-White subgroup had the highest risk indexes, and the Non-Black subgroup had the lowest risk indexes across all three years of data (see Table 2). Across all three years, the Black subgroup had an RR > 1 and was more likely to receive an ODR for disruptive behavior than the other race/ethnicity subgroups (see Table 3).

Analysis to support result 1

Table 2 indicates the risk index for each reference group used to determine the RR for each subgroup. The reference groups contained all race/ethnicity student groups except the identified group. For example, the Non-Black group contained all subgroups except Black. In comparing risk indexes across all three academic years, there was a fluctuation in the number of ODRs for all groups in the 2017-2018 data. This could not be explained by the data. Considering the decrease in the risk indexes for 2017-2018, there were consistencies in the data across all three years. The risk indexes were highest for the Non-White reference group and lowest for the Non-Black reference group in the data for each of the academic years.

Table 2

Race/Ethnicity Reference Groups' Risk Indexes for Receiving an ODR for Disruptive Behavior

	Race/Ethnicity	# ODRs	# Enrolled	Risk Index
2016-2017				
	Non-Black	52	347	14.98%
	Non-White	146	658	22.18%
	Non-Hispanic	168	769	21.84%
	Non-Multi-Race	180	830	21.68%
2017-2018				
	Non-Black	17	346	4.91%
	Non-White	65	664	9.78%
	Non-Hispanic	66	781	8.45%
	Non-Multi-Race	68	843	8.06%
2018-2019				
	Non-Black	41	316	12.97%
	Non-White	117	649	18.02%
	Non-Hispanic	123	736	16.71%
	Non-Multi-Race	138	786	17.55%

Note: This table provides the data used to calculate the RR for each subgroup in Table 3.

Table 3 contains the risk index and RR rates for each of the subgroups. In 2016-2017, the Black subgroup had an RR = 1.64, and the other subgroups were underrepresented in the data (RR < 1). This meant that Black students were 1.64 times more likely to receive an ODR for disruptive behavior than the Non-Black reference group for that year. Even though the population for Black increased in 2017-2018, the number of Black subgroup referrals decreased from 128 in 2016-2017 to 55. Despite the decrease, there were consistencies in the data across all three years. In the 2017-2018 academic year, the RR for Black students increased to 2.10, which was the highest of the subgroups. Though the RR for the Black subgroup dropped to 1.46 in 2018-2019, it was the highest of the subgroups, and the other subgroups were underrepresented in the data (RR < 1). Across all three academic years, the Black subgroup had an RR > 1 with the highest RR = 2.10 in 2017-2018 and the lowest RR = 1.46 in 2018-2019.

Table 3

Risk Indexes and Relative Risk of Race/Ethnicity Subgroups for Receiving an ODR for Disruptive Behaviors

	Race/Ethnicity	# ODRs	# Enrolled	Risk Index	RR
2016-2017					
	Black	128	521	24.57%	1.64
	White	34	210	16.19%	0.73
	Hispanic	12	99	12.12%	0.55
	Multi-Race	6	38	15.79%	0.73
2017-2018					
	Black	55	532	10.34%	2.10
	White	7	214	3.27%	0.33
	Hispanic	6	97	6.19%	0.73
	Multi-Race	4	35	11.43%	1.42
2018-2019					
	Black	97	513	18.91%	1.46
	White	21	180	11.67%	0.65
	Hispanic	15	93	16.13%	0.97
	Multi-Race	5	43	11.63%	0.66

Result 2

The RR data for receiving an ODR for disruptive behavior indicate evidence of disproportionality between genders for each of the three years. In determining if there was disproportionality by gender, the RR for Males indicates they were almost two times more likely to receive an ODR for disruptive behavior than females (see Table 4). The higher RR for the Male subgroup was consistent across each of the three academic years.

Analysis to support result 2

Table 4 shows the risk index and RR calculated for Male to Female and Female to Male. In the comparison of Male to Female, the Male subgroup had an RR > 1 for each academic year, and the Female subgroup had an RR < 1 each academic year. In comparing risk indexes across all three academic years, there was a decrease for both subgroups in the 2017-2018 data. This could not be explained by the data. Even considering the decrease in 2017-2018, the Male

subgroup was consistently overrepresented. In fact, the Male subgroup had its highest RR in that academic year despite the decrease in risk indexes overall. That year the male students were two times more likely to receive an ODR for disruptive behavior (see Table 4). The Female subgroup was consistently underrepresented across all three academic years.

Table 4

Risk Indexes and Relative Risk of Gender Subgroups for Receiving an ODR for Disruptive Behaviors

	Gender	# ODRs	# Enrolled	Risk Index	RR
2016-2017					
	Male	119	439	27.11%	1.91
	Female	61	429	14.22%	0.52
2017-2018					
	Male	49	453	10.82%	2.00
	Female	23	425	5.41%	0.50
2018-2019					
	Male	89	430	20.70%	1.69
	Female	49	399	12.28%	0.59

Result 3

The RR data for receiving an ODR for disruptive behavior indicate evidence of disproportionality among race/ethnicity; however, the group impacted varies by the race/ethnicity gender subgroup. The Non-White subgroup had the highest risk indexes for both Male and Female across all three years (see Table 5). The Black subgroup was impacted by disproportionality for each of the three academic years, but there was some variation by gender (see Table 6). The White Female and White Male subgroups were consistently underrepresented in the data over all three years. The Hispanic Female subgroup was underrepresented in two of the three years of data.

Analysis to support result 3

The risk indexes for the reference group in Table 5 indicate that the Non-White Male and Non-White Female subgroups had the highest risk indexes across all three years. Even with the decrease in the risk indexes for the 2017-2018 data, the Non-White Male and Non-White Female reference groups had the highest risk indexes across all three years. Conversely, the Non-Black Male and the Non-Black Female reference groups had the lowest risk index for each of the three years in data.

Table 5

Race/Ethnicity Gender Reference Groups' Risk Indexes for Receiving an ODR for Disruptive Behavior

	Race/Ethnicity Gender	# ODRs	# Enrolled	Risk Index
2016-2017				
	Non-Black Male	34	164	20.73%
	Non-White Male	90	307	29.31%
	Non-Hispanic Male	108	371	29.11%
	Non-Black Female	12	145	8.27%
	Non-White Female	50	313	15.97%
	Non-Hispanic Female	54	360	15.00%
2017-2018				
	Non-Black Male	6	153	3.92%
	Non-White Male	42	333	12.61%
	Non-Hispanic Male	46	386	11.92%
	Non-Black Female	7	158	4.43%
	Non-White Female	19	296	6.42%
	Non-Hispanic Female	16	360	4.44%
2018-2019				
	Non-Black Male	28	139	20.14%
	Non-White Male	69	316	21.83%
	Non-Hispanic Male	77	363	21.21%
	Non-Black Female	8	134	5.97%
	Non-White Female	43	290	14.83%
	Non-Hispanic Female	41	330	12.42%

Note: This table provides the data used to calculate the RR for each subgroup in Table 6.

The data in Table 6 indicate that in each academic year one of the Black subgroups had the highest RR of any subgroup. The variations came in the gender subgroups. For 2016-2017, the Black Male RR was higher than that of any other male subgroups, and Black Female RR was higher than that of any of the other race/ethnicity gender subgroups. In the 2017-2018 data the Black Male subgroup had the highest RR of all subgroups (RR = 3.69). In that same academic year, the Hispanic Female subgroup had a significant increase in disproportionate representation. In the 2018-2019 data, the Black Male subgroup's RR dropped to 1.08; however, the Black Female RR increased to 2.62, indicating they were 2.62 times more likely to receive an ODR than the Non-Black Female reference group.

Table 6

Risk Indexes and Relative Risk of Race/Ethnicity Gender Subgroups for Receiving an ODR for Disruptive Behavior

	Race/Ethnicity Gender	# ODRs	# Enrolled	Risk Index	RR
2016-2017					
	Black Male	82	257	31.91%	1.54
	White Male	26	114	22.81%	0.78
	Hispanic Male	8	50	16.00%	0.55
	Black Female	46	264	17.42%	2.11
	White Female	8	96	8.33%	0.52
	Hispanic Female	4	49	8.16%	0.54
2017-2018					
	Black Male	41	283	14.49%	3.69
	White Male	5	103	4.85%	0.38
	Hispanic Male	1	50	2.00%	0.17
	Black Female	14	249	5.62%	1.27
	White Female	2	111	1.80%	0.28
	Hispanic Female	5	47	10.64%	2.39
2018-2019					
	Black Male	59	270	21.85%	1.08
	White Male	18	93	19.35%	0.89
	Hispanic Male	10	46	21.74%	1.02
	Black Female	38	243	15.64%	2.62
	White Female	3	87	3.45%	0.23
	Hispanic Female	5	47	10.64%	0.86

Result 4

There was not a statistically significant relationship between race and academic achievement of students receiving ODRs for disruptive behavior. Two Chi-Square Tests of Independence (2 x 2) were performed, one for math and one for reading, to investigate the relationship between race and academic achievement for students receiving an ODR for disruptive behavior. An alpha value of 0.05 was used for all statistical tests. The relationship between race and academic achievement for math was not significant, $X^2(1, N = 289) = 1.679, p = .195$ (see Appendix G). The Black students were just as likely to be in grade level range on NWEA MAP Math as the Non-Black students. The relationship between race and reading achievement was not significant, $\chi^2(1, N = 256) = .016, p = .899$ (see Appendix H). The Black students were just as likely to be in grade level range on NWEA MAP Reading as the Non-Black students. There was a slightly stronger relationship between race and academic achievement in math than race and academic achievement in reading; however, neither was statistically significant. The race variables of Black or Non-Black and whether academic achievement was In Range for the grade level did not have a statistically significant relationship.

Analysis to support result 4

There was not a statistically significant relationship between race and academic achievement in math or reading. Of students receiving ODRs for disruptive behaviors with mid-year/Winter NWEA MAP Math data (*N = 289)*, the Black (*N* = 219) subgroup composed 75.8% of the sample and the Non-Black (*N* = 70) subgroup composed 24.2% of the sample (see Appendix G). In analysis of the frequencies Black/Yes In Range (*N* =128) was 73.1% of the students in range on MAP Math (*N* = 175) and Black/No In Range (*N* = 91) was 79.8% of the students not in range on MAP Math (see Table 7). With *p* =.195, there was not a statistically

significant relationship among Black and Non-Black and academic achievement on NWEA MAP Math in either Yes In Range or No In Range.

Table 7

Frequencies and Chi-Square Results for Race and Academic Achievement in Math (N = 289)

Race	No In Range		Yes In Range		
	n	%	*n*	%	$X^2(1)$
Black	91	79.8	128	73.1	1.679
Non-Black	23	20.2	47	26.9	

$p < .05$

The same applied to reading. Of students receiving ODRs for disruptive behaviors with mid-year NWEA MAP Reading data ($N = 256$), the Black ($N = 190$) subgroup composed 74.2% of the sample and the Non-Black ($N = 66$) subgroup composed 25.8% of the sample (see Appendix H). In analysis of the frequencies, Black/Yes In Range ($N = 134$) was 74.4% of the students in range on MAP Reading and Black/No In Range ($N = 56$) was 73.7% of the students not in range on MAP Reading ($N = 76$) (see Table 8). With $p = .899$, there was not a statistically significant relationship among Black and Non-Black and academic achievement on NWEA MAP Reading in either Yes In Range or No In Range.

Table 8

Frequencies and Chi-Square Results for Race and Academic Achievement in Reading (N = 256)

Race	No In Range		Yes In Range		
	n	%	*n*	%	$X^2(1)$
Black	56	73.7	134	74.4	.016
Non-Black	20	26.3	46	25.6	

$p < .05$

Result 5

There was not a statistically significant relationship between gender and academic achievement of students receiving ODRs for disruptive behavior. Two Chi-Square Tests of Independence (2 x 2) were performed to examine the relationship between gender and academic achievement in math and reading for students receiving an ODR for disruptive behavior. An alpha value of 0.05 was used for all statistical tests. The relationship between gender and academic achievement for math was not significant, $X^2(1, N = 289) = .216, p = .642$ (see Appendix I). Also, the relationship between gender and academic achievement for reading was not significant, $\chi^2(1, N = 256) = .961, p = .327$ (see Appendix J). There was a slightly stronger relationship between gender and reading achievement; however, neither was statistically significant.

Analysis to support result 5

There was not a statistically significant relationship between gender and academic achievement for math. Of students receiving ODRs for disruptive behaviors with mid-year/Winter NWEA MAP Math data (*N = 289)*, the Male (*N* = 188) subgroup composed 65.1% of the sample and the Female (*N* = 101) subgroup composed 34.9% of the sample (see Appendix I). The frequency of Male/Yes In Range (*N* =112) was 64.0% on MAP Math and Male/No In Range (*N* = 76) was 66.7% on MAP Math (see Table 9). With p = .642, there was not a statistically significant relationship among Male and Female and academic achievement on NWEA MAP Math in either Yes In Range or No In Range.

Table 9

Frequencies and Chi-Square Results for Gender and Academic Achievement in Math (N = 289)

Gender	No In Range		Yes In Range		
	n	%	*n*	%	$X^2(1)$
Female	38	33.3	63	36.0	.216
Male	76	66.7	112	64.0	

$p < .05$

The same applied to reading. Of students receiving ODRs for disruptive behaviors with mid-year NWEA MAP Reading data ($N = 256$), the Male ($N = 174$) subgroup composed 68.0% of the sample and the Female ($N = 82$) subgroup composed 32.0% of the sample (see Appendix J). In analysis of the frequencies Male/Yes In Range ($N =119$) was 66.1% of the students in range on MAP Reading and Male/No In Range ($N = 55$) was 72.4% of the students not in range on MAP Reading (see Table 10). With $p = .327$, there was not a statistically significant relationship among Male and Female and academic achievement on NWEA MAP reading in either Yes In Range or No In Range.

Table 10

Frequencies and Chi-Square Results for Gender and Academic Achievement in Reading (N = 256)

Gender	No In Range		Yes In Range		
	n	%	*n*	%	$X^2(1)$
Female	21	27.6	61	33.9	.961
Male	55	72.4	119	66.1	

$p < .05$

Result 6

There was not a statistically significant relationship among the Black Male subgroup and academic achievement and the Non-Black Males subgroup and academic achievement of students receiving an ODR for disruptive behavior. Two Chi-Square Tests of Independence (2 x

2) were performed to examine the relationship between race/gender and academic achievement in math and reading for students receiving an ODR for disruptive behavior. An alpha value of 0.05 was used for all statistical tests. The relationship between race/gender and academic achievement on NWEA MAP Math was not significant in males, $X^2(1, N = 188) = 2.008, p = .156$ (see Appendix K). Also, the relationship between race/gender and academic achievement for males in reading was not significant, $X^2(1, N = 174) = .099, p = .753$ (see Appendix L). There was a stronger relationship between male and race in math than in reading; however, neither was statistically significant. The race/gender subgroups for Female contained groups that had expected counts of less than five, therefore violating the sample size assumption for the Chi-Square Test of Independence (2 x 2).

Analysis to support result 6

There was no statistically significant relationship between race and academic achievement in math and reading for the Male subgroup. On the NWEA MAP Math assessments for the Male subgroup (N = 188), Black Male (*N* = 138) had a frequency of 73.8% and Non-Black Male (*N* = 50) had a frequency of 26.6% (see Appendix K). Black Male/No In Range (*N* = 60) had a frequency of 78.9% and Black Male/Yes In Range (*N* = 78) had a frequency of 69.6% (see Table 11). Non-Black Male (*N* = 50) had a frequency of 26.6% on the math assessment. Non-Black Male/No In Range (*N* = 16) had a frequency of 21.2%, and Non-Black Male/Yes In Range (*N* = 34) had a frequency of 30.4% (see Table 11). With *p*=.156, there was not a statistically significant relationship among Black and Non-Black for Male and academic achievement on NWEA MAP Math in either Yes In Range or No In Range.

Table 11

Frequencies and Chi-Square Results for Race/Gender and Academic Achievement in Math (N = 188)

Race/Gender	No In Range		Yes In Range		
	n	%	*n*	%	$X^2(1)$
Black/Male	60	78.9	78	69.6	2.008
Non-Black/Male	16	21.1	34	30.4	

$p < .05$

Similarly in reading for the Male ($N = 174$) subgroup, the frequency of Black Male ($N = 127$) was 73.0% and Non-Black Male ($N = 47$) was 27.0% (see Appendix L). Black Male/No In Range ($N = 41$) had a frequency of 74.5% and Black Male/Yes In Range ($N = 86$) had a frequency of 72.3% (see Table 12). Non-Black Male/No In Range ($N = 14$) had a frequency of 25.5%, and Non-Black Male/Yes In Range ($N = 33$) had a frequency of 27.7%. With $p = .753$, there was not a statistically significant relationship among Black and Non-Black for Male and academic achievement on NWEA MAP Reading in either Yes In Range or No In Range.

Table 12

Frequencies and Chi-Square Results for Race/Gender and Academic Achievement in Reading (N = 174)

Race/Gender	No In Range		Yes In Range		
	n	%	*n*	%	$X^2(1)$
Black/Male	41	74.5	86	72.3	.099
Non-Black/Male	14	25.5	34	27.7	

$p < .05$

Summary

The analysis of the ODR data for disruptive behavior showed evidence of disproportionality for Black students and male students, although there were variations in

disproportionality when gender was examined as a variable with race. White and Hispanic students were consistently underrepresented through the three years of data when race was examined as the only variable. When gender was isolated as a variable, males were consistently overrepresented, and females were consistently underrepresented across all three years. However, when both race and gender were considered as variables the subgroup impacted by disproportionality varied. In the analysis of the relationship among race, gender, and academic achievement, there were not statistically significant relationships. When examining race as an isolated variable, the frequencies for Black students and Non-Black students in both reading or math achievement were as expected. There was a stronger relationship between race and academic achievement in math than race and academic achievement in reading; however, neither was statistically significant. In examining gender as an isolated variable in reading or math achievement, male and female frequencies were as expected. There was a stronger relationship between gender and reading achievement; however, neither was statistically significant. Finally, in analyzing for race and gender and academic achievement, there was not a statistically significant relationship between Black Male and achievement in reading or math and Non-Black Male and achievement in reading or math for students receiving ODRs for disruptive behavior. There was a stronger relationship between Male and race in math than in reading; however, neither was statistically significant.

Chapter 5: Discussions and Implications

Introduction

The purpose of this nonexperimental, quantitative study was to identify evidence of disproportionality in office discipline referrals (ODRs) for disruptive behaviors and investigate the possible relationships among race, gender, and academic achievement for students receiving the referrals. Risk indexes and relative risk ratios were examined to determine evidence of disproportionality for race and/or gender in ODR data for disruptive behavior. Test statistics were used to examine the academic achievement of students receiving ODRs for disruptive behavior on the Northwest Evaluation Association Measures of Annual Progress (NWEA MAP) for reading and math and the relationship among race and/or gender.

Research Questions

The following research questions were developed from the completed review of the literature and the identified gaps in the research reviewed:

1. Is there evidence of disproportionality in ODRs for disruptive behavior by race/ethnicity and/or gender in grades 3 through 8?
2. Is there a relationship among race and/or gender and academic achievement for students receiving an ODR for disruptive behaviors in grades 3 through 8?

Review of the Results

1. The risk index and relative risk ratio (RR) data for receiving an ODR for disruptive behavior indicate evidence of disproportionality among racial/ethnic subgroups for each of the three years.
2. The risk index and RR data for receiving an ODR for disruptive behavior indicate evidence of disproportionality between genders for each of the three years.

3. The risk index RR data for receiving an ODR for disruptive behavior indicate evidence of disproportionality among race/ethnicity; however, the group impacted varies by the race/ethnicity/gender subgroup.
4. There was not a statistically significant relationship between race and academic achievement in math or reading for students receiving ODRs for disruptive behavior.
5. There was not a statistically significant relationship between gender and academic Achievement in math or reading for students receiving ODRs for disruptive behavior.
6. There was not a statistically significant relationship among the Black Male subgroup and academic achievement in math or reading and the Non-Black Male subgroup and academic achievement in math or reading for students receiving an ODR for disruptive behavior.

Discussion of the Findings

The data were collected from a medium-sized, high-poverty school division in southwestern Virginia. Data on ODRs for disruptive behavior, demographic data, and academic achievement data were used to investigate evidence of disproportionality in ODRs and the possible relationship among race, gender, and academic achievement of students receiving the ODRs. Risk indexes and relevant risk ratios were used to investigate disproportionality. Chi-Square Tests of Independence (2 x 2) were used to investigate the relationship of race and gender with academic achievement of students receiving an ODR for disruptive behavior. These findings can lead to a clearer understanding of the factors in disproportionality in ODR data for subjective behaviors to help address disproportionality in exclusionary disciplinary practices.

Finding 1 There was consistent evidence of disproportionality by race/ethnicity.

The relative risk ratio was greater than one (RR > 1) for the Black subgroup in each of the three academic years of discipline data. The relative risk ratios were less than one (RR < 1)

for the White and Hispanic subgroups for each of the three academic years, and the relative risk ratio was less than one (RR < 1) for the Multiple-Race subgroup for two of the three academic years. The results provided evidence of disproportionality associated with the race/ethnicity variable. The finding in this data is supported by the research that found Black students were more likely to receive referrals for subjective offenses such as disruptive behavior (Diem & Welton, 2020; Skiba et al., 2002; Smolkowski et al., 2016).

Finding 2 There was consistent evidence of disproportionality by gender.

In looking at disproportionality related to gender, male students had a relative risk ratio greater than one (RR > 1) for each of the three academic years, and females had a relative risk ratio less than one (RR < 1) for each of the three academic years. Also, males were consistently overrepresented, and females were consistently underrepresented in the data. The study found evidence of disproportionality associated with the gender variable. This was supported in the literature that found male students showed lower rates of connectedness to school and were more likely to be referred for discipline issues than female students (Anyan et al., 2016; Bryan et al., 2012).

Finding 3 There was not consistent evidence of disproportionality for race/ethnicity as it interacts with gender.

In each of the three academic years, the relative risk ratios were greater than one (RR > 1) for both Black male students and Black female students. However, for the years 2016-2017 and 2018-2019, Black female students had higher relative risk ratios than Black male students. The relative risk ratios for White male students and White female students were less than one (RR < 1) for each of the three academic years. The relative risk ratios for Hispanic male students indicated little to no disproportionality over the three years with the highest relative risk ratio

being 1.02. Hispanic female students had relative risk ratios less than one (RR < 1) in the 2016-2017 and 2018-2019 data but had a relative risk ratio greater than 1 (RR > 1) in 2017-2018. The study found there was not consistent evidence of disproportionality in ODRs by race/ethnicity as it interacts with gender. This is supported by the literature that there is higher disproportionality for Black students than other subgroups (Diem & Welton, 2020; Skiba et al., 2002; Smolkowski et al., 2016).

Finding 4 There were no significant relationships among race, gender, and academic achievement in math or reading for students receiving an ODR for disruptive behavior.

An alpha value of 0.05 was used for all statistical tests. In the investigation into the relationship between race and academic achievement, the results from the chi-square test for math showed that the relationship was not significant, $X^2(1, N = 289) = 1.679, p = .195$. Similarly, the results from the test for reading found the relationship between race and academic achievement was not significant, $\chi^2(1, N = 256) = .016, p = .899$. In the tests for relationships between gender and academic achievement, the result for math was not significant, $X^2(1, N = 289) = .216, p = .642$. Similarly, the relationship between gender and academic achievement for reading was not significant, $\chi^2(1, N = 256) = .961, p = .327$. In the final two chi-square tests for the study, the relationship between race/gender for males and academic achievement in math was not significant, $X^2(1, N = 188) = 2.008, p = .156$. Also, the relationship between race/gender for males and academic achievement in reading was not significant, $X^2(1, N = 174) = .099, p = .753$. The literature reviewed found that Black male students are often viewed lower achieving academically due to implicit bias; however, in the context of this study there was no significant relationship among race, gender, and academic achievement (Okonofua et al., 2016; Verkuyten et al., 2019).

Practitioner Implications

Disproportionality in exclusionary disciplinary practices is an issue with potentially far-reaching implications for those affected. To address this, it is important that educators examine the discipline data to determine if there is evidence of disproportionality and, if so, the variables involved in the issue. Educators need to know who is being impacted to determine next steps in addressing it.

1. School leaders should continually monitor discipline data and relative risk ratios to identify any disproportionalities. Finding 3 reveals that groups impacted by disproportionality may vary by academic year.
2. School leaders should plan professional development for staff using the data analysis to address evidence of disproportionality as related to findings 1, 2, and 3.
3. Colleges and universities should educate aspiring teachers and administrators regarding the potential effects of disproportionality and awareness of implicit bias to develop culturally relevant classrooms and schools. This is supported by the literature reviewed and findings 1, 2, and 3. Finding 4 supports this in that there were no significant relationships among race, gender, and academic achievement for students issued a discipline referral.

Policy Implications

Federal, state, and local policymakers should disaggregate the data collected from schools to ensure equitable access to the social and academic curriculum provided through public education. A factor in ensuring equitable access is monitoring the data on exclusionary disciplinary practices. Analysis of data on exclusionary disciplinary practices revealed that low-income and students of color were disproportionally impacted by zero-tolerance policies and

exclusionary practices (Balfanz et al., 2014; Diem & Welton, 2020; Losen, 2013; Skiba et al., 2002). The disproportionate representation of Black male students in ODRs for disruptive behavior has been found to be a factor in the disproportionate exclusion of Black male students from school (Losen & Martinez, 2020; Losen & Whitaker, 2018; Morris & Perry, 2016). The analysis of disciplinary data should guide policymakers in the evaluation of policies and the potential impact on equitable access and opportunity.

Conclusions and Recommendations for Further Research

This study contributes to the research on disproportionality by investigating the relationships among race, gender, and academic achievement of students receiving ODRs for disruptive behavior. The variables race/ethnicity and gender showed consistent evidence of disproportionality when isolated. Black students were consistently found to be disproportionality represented, and male students were consistently found to be disproportionality represented. Findings 1 and 2 were not unanticipated and are supported by the literature review (Diem & Welton, 2020; Skiba et al., 2002; Smolkowski et al., 2016). It was expected that Black students would have a greater relevant risk for receiving an ODR for disruptive behavior than White students and that male students would have a greater relevant risk than female students.

The results also align with the research that Black male students were more likely to receive an ODR for subjective, disruptive behavior than White male students (Diem & Welton, 2020; McCray et al., 2015; Skiba et al., 2002; Skiba et al., 2011). In the discipline data used, Black male students were overrepresented, and White male students were underrepresented. However, the results did not find that Black male students were consistently impacted more than all other subgroups. In the 2016-2017 and 2018-2019 data, Black female students were found to have higher relevant risk ratios than Black male students. In the 2017-2018 data, Hispanic female

students had the highest relevant risk ratio (RR = 2.39). Findings 1 and 3 indicated that race/ethnicity appeared to be the variable with the consistent association to disproportionality.

There was a gap in the literature reviewed on the relationships among race, gender, and academic achievement of students receiving an ODR for subjective offenses. The research on implicit bias found that Black male students were often viewed as more aggressive and lower in academic achievement than other students (Goff et al., 2014; Chin et al., 2020; Halberstadt et al., 2018; Okonafua et al., 2016; Verkuyten et al., 2019). Finding 4 indicated there were no statistically significant relationships among the race, gender, and academic achievement of students receiving an ODR for disruptive behavior. When specifically investigating the relationship among Black males, Non-Black males, and academic achievement, there was no statistically significant difference in academic achievement for either math or reading.

Regarding recommendations for further research,

1. Future research should investigate the relationship between evidence of disproportionality in ODRs for subjective behaviors and suspension data. This could assist practitioners and policymakers in further understanding the possible causes of disproportionality and developing policies and practices to address the issue.
2. Future research should investigate the relationship among academic achievement, race, and gender of students issued suspensions. This data would be beneficial in determining the professional development needs of educators and the possible academic needs of students to address disproportionality.
3. Future research should examine the data for ODRs for disruptive behavior by gender of student and gender of teacher. This would contribute to the understanding of gender disproportionality and identify professional development needed to address the issue.

4. The data processes could be replicated by schools and school divisions to determine evidence of disproportionality. This process could be used to investigate disproportionality in ODRs and the different types of exclusionary discipline, such as in-school suspension, out-of-school suspension, and expulsion.

Researcher Reflections

At a conference several years ago, I heard about the traditional greeting among the warriors of the Masai tribe, "Kasserian Ingera," which translates to "And how are the children." This resonated with me. If the children of a society are well, then the prospects for the future of that society are good. As a public educator with over 29 years of experience in high-poverty schools, I have seen the difference that education can make for students and families. It can change the trajectories of the student's future and help break the cycle of generational poverty for the family. I believe that as educators we have a moral imperative to ensure each student has equal access to a quality education. I was driven to do this work by questions I had concerning possible inequities in education within the context studied. It is my hope that this can lead others to ask questions and provide a means to find answers to address disproportionality. Through this work, my hope is that our society may be one step closer to replying to the greeting, "And how are the children," with the traditional response used when times are good, "All the children are well."

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Appendix A: Review of the Literature

Author & Year	Purpose	Methodology/ Data Source	Themes	Researcher's Notes
Alexander & Alexander, 2019	The purpose was to discuss the field of public-school law, history, and an analysis of the relevant cases.	The book utilizes case law and cases	Education is not a fundamental right in federal case law as determined in several U.S. Supreme Court cases. Education is a negative right (shall not). Education is a natural right.	The researcher reviewed pertinent cases related to education as a right as listed.
Alexander, 2020	The purpose was to provide historical context of racism and disproportionality throughout American history and account of the rebirth of a caste-system through policy and disproportionality in the American legal and justice systems.	Historical review and policy review	A major cause of this is explicit and implicit bias impacting decision-making. A review of juvenile sentencing reports found that prosecutors regularly describe Black youth as committing crimes due to internal personality flaws, such as disrespect, and White youth because of external factors such as family conflict. "Racial bias is most acute at the point of entry into the system for two reasons: discretion and authorization." Much like teachers, police officers may be the gatekeepers into exclusionary practices and their subjective decisions	The current stereotypes of Black males as aggressive, unruly predators can be traced back to post-Civil War when Whites feared the angry mass of Black men who had been enslaved. A 2007 study sponsored by the U.S. Justice Department found that African American youth accounted for 16% of all youth, 28% of juvenile arrests, and 58% of youth incarcerated in adult prisons.
Alexander et al., 2015	The purpose was to examine the theory, policy, and practice of public-school finance.	The book reviews literature and includes various data banks	Education is a fundamental right in 15 state constitutions.	*The Enlightenment* philosophies were foundational to the development of the American public education system. The philosophies of the era viewed education as a natural right and public education as the only means to achieve equality of rights.
Allen, 2015	The purpose was to examine teachers' ideologies and practices with Black male students.	Ethnographic study, Data was based on 10 Black male students through purposive sampling	Teachers as gatekeepers Data showed teachers were conscious of racism as a structural barrier. Cultural capital of middle-class values	Students were middle and working class to see if and how class mediated the experiences. Teachers relied on cultural deficit explanations for Black male learning outcomes.

				Both Black and White teachers used middle-class norms to explain discrepancies in Black male performance. White teachers tended to blame maladaptive Black culture while Black teachers blamed economic status.
Amemiya et al., 2020	The purpose was to examine the role of teacher and institution trust as predictors of student behavior the day after being disciplined by the teacher.	Daily diary study (N = 190, Age = 14 years)	"Teacher trust mattered more for behavioral engagement among gender mismatched student–teacher pairs than matched pairs."	"Results revealed that teacher discipline had virtually no association with subsequent behavior for adolescents with low trust in their teacher. "
Anyan et al., 2016	The purpose was to explore whether there were racial disparities in students' connectedness to school and whether racial gaps in schools' out-of-school suspensions were related to all students' sense of connectedness.	Quantitative, Data from Denver Public Schools School Satisfaction Survey for student-level data and archived administrative data for school-level contextual variables of discipline disproportionality	Disconnectedness may be caused by students of color feeling the cultural ecology is not inclusive. Cultural discontinuity may be a cause of the disconnectedness. All students are hurt by inequities in discipline creating a cultural ecology that is oppressive and distrustful. The study suggested that policies and practices which aim to improve racial equity in education need to attend to relational dynamics in schools and develop school staff members' skills in connecting with youth of color.	Male students showed lower rates of connectedness than female. Black, Native American, Latino, Asian, and Multiracial students showed significantly lower rates of connectedness than White students. The study found significant racial differences in students' connectedness to school. Disparities in out-of-school suspension data were negatively associated with all students' connectedness to school.
Arcia, 2006	The purpose was to explore the impact of exclusionary discipline practices on student achievement.	Quantitative; Student data from a large urban school district's database for three academic years (2001-2002, 2002-2003, 2003-2004)	Across grades in Year I of the study, students with 51 days (about 1 month 3 weeks) or more in suspension throughout the three years scored 258 points lower than students with no suspensions. This equated to being three grade levels behind in reading. In Year III, this group of students scored an average of 327 points less than non-suspended students. This equated to being five years behind in reading.	The study found a correlation between low reading achievement pre-suspension and suspension rates. The study also found that the more days students spent in suspension, the less students gained in reading.
Balfanz et al., 2014	The purpose was to examine the connection between out-of-school	Longitudinal cohort study of 181,897 Florida	Blacks made up 24% compared to Whites making up 54% of N; however, Blacks received twice	The study followed them to 2005-06 for high school outcomes and

	suspension in 9th grade and high school and post-secondary outcomes. Also, the study explored the relationships between suspensions and other off-track indicators such as attendance and grades.	students who were first-time ninth graders starting in 2000-01	as many suspensions as White students during the 9th-grade year. For average # of days suspended, Blacks were suspended twice as long as Whites. Poverty was the most strongly related student factor to higher suspension rates, but even controlling for poverty status, Black students still had significantly higher suspension rates than White students and even those of other minority groups. Economic disadvantages did not account for all the racial disparities in disciplinary incidence. A student's associated chances of dropping out doubled with their first suspension. A student's associated enrollment in post-secondary education dropped from above 50% to under 50% with the first suspension. "After controlling for demographics, attendance, and course performance in a logistic regression model, each additional suspension further decreases a student's odds of graduating high school by 20%. . ."	2007-08 for post-secondary outcomes.
Banerjee, 2018	This study examined two research questions: Is there a difference in students' math and reading growth trajectories when assigned to classrooms where teachers share their ethnoracial identities as compared to classrooms where teachers do not? Does overall teacher diversity in schools	Quantitative; data from the Early Childhood Longitudinal Survey for a cohort of kindergarten students who were followed through third grade	This article aligns with the research from Rasheed et al. in terms of teacher-student racial match and impact on student academic achievement.	Assignment to matched ethnoracial teacher was not found to be a significant predictor of math or reading growth in early elementary grades. "Black students in non-Black teachers' classrooms experience a modest five-point improvement in math achievement growth between kindergarten and 3rd grade compared to their Black peers in Black teachers' classroom."

	moderate the relationship between student-teacher ethnoracial matching in classrooms and academic achievement growth?			"The math achievement growth trajectories for these two groups are not statistically significantly different by 3rd grade."
Bell, 2020	The purpose was to explore Black students' and parents' perceptions of fairness and equity in the distribution of out-of-school-suspensions.	Critical Qualitative study, Snowball sampling 30 Black students and 30 parents of Black students	"Boys from low socio-economic backgrounds were more likely to report school officials marginalized their voices throughout the disciplinary process." Regardless of gender or social class, participants felt targeted based on style of dress, hair, and musical preference. Both parents and students felt marginalized during the disciplinary process and felt punishments were harsher than infractions.	Critical Race Theory was discussed as perspective. Themes that emerged were a) perceived fairness of school discipline, b) feelings of being targeted, and c) Black educational flight.
Boag & Wilson, 2014	The purpose was to determine if empathy would increase, and prejudice would decrease after interaction with incarcerated serious offenders.	Experimental field study, pre-and post-questionnaires before and after interactions	Disproportionality	Participants were found to have increases in empathy and decreased prejudice against felons after getting to know them.
Brown, F., 2015	The purpose of this article was to provide information on barriers to Black males' educational success.	Literature Review	Discussed impact of inequities in education on Black males.	The article examined barriers from a state, federal, criminal justice perspective. The article discussed policies and programs that had been put in place to support Black students and students of poverty and that these programs had not had the impact. The article encouraged parents to address the inequities at the local level.
Brown, T., 2007	The purpose was to study the academic and socioemotional experiences of 37 students who were suspended or expelled and were attending an alternative high school.	Mixed Method, Student surveys and researcher experience as teacher	Multiple exclusions resulted in school transience. Exclusionary practices correlated with a lack of connection and trust in adults and school. Students with high numbers of suspensions felt that adults at	Researchers developed the term *school transience*: Prolonged cycles of being in and out of school or shuttling between schools or programs. *Transience* denotes mobility. *Transient* denotes homeless.

			school did not care about their "well- being." Students faced significant challenges and felt "lost" academically upon return to school Students were often removed from school longer than the suspension term because of time lost to administrative procedures related to exclusion (processing referral and re-entry procedures).	Students were often removed from school longer than the suspension term because of time lost to administrative procedures related to exclusion (processing referral and re-entry procedures). This resulted in students missing more instructional time than was documented in these data.
Bryan et al., 2012	The purpose was to examine potential predictors of math and English teachers referring high school students to counselors for disruptive behavior.	Quantitative, Educational Longitudinal Study of 2002	Gender was a predictor of referral for both English and math teachers. Race was a predictor for English teachers. Teachers' expectations were negative predictors for referral (lower expectations/ the higher odd of being referred).	English classes: Males had three times higher odds of being referred than females; Black students had 71% greater chance of being referred than White students. There was no significant correlation between a teacher's race and gender and the students' race and gender. Math: There was no significant interaction between student's race and gender, neither was there one between teacher's race and gender. Higher teacher expectations in both math and English, lowered the odds of students being referred. As math teacher expectations increased, the odds of a student being referred decreased by 42%
Children's Defense Fund, 1975	The book examines the incidence and impact of suspension as a disciplinary method and its effectiveness.	Mixed method: data from the suspension data submitted to the Office of Civil Rights from 2,682 school districts, independent survey data from over 6,500 families in nine states including District of Columbia, and interview data from over 300 school officials and community leaders	Data from 1972-1973 showed Black children were suspended from school at twice the rate of any other group. One district suspended 64% of their Black students and another suspended 53% of their Black students. Most of the suspensions in the survey were found to be for non-violent, non-serious offenses that did not have a seriously disruptive impact on the learning environment.	This report documents that disproportionality in the exclusion of Black students from public school dates to the 1970s.

			The evidence in the report found that the disproportionate suspension of Black students was not due to differences in behavior but was related to other factors such as school policy and a pervasive culture of intolerance for students who were different.	
Chin et al., 2020	The purpose of the study was two-fold: 1) to determine if teacher-level explicit and implicit varied across states, individuals, and characteristics, and contextual variables and 2) to determine if county-level explicit and implicit White/ Black bias correlated with disparities in test scores and discipline data.	Descriptive statistics; data from Project Implicit, the CRDC, and Stanford Education Data Archive (SEDA)	Teacher White/ Black bias varied based on gender and race: female teachers appeared slightly less biased than non-female, and teachers of color appeared less biased than White teachers. Counties with overall higher levels of explicit and implicit biases had larger suspension discrepancies between White and Black. Counties with higher levels of pro-White/ anti-Black bias in teachers had larger disparities in test scores and discipline data.	On average K-12 educators held slight anti-Black implicit bias; however, there was variance by counties and states. Teachers of color tended to show lower average bias than White teachers. Black students were more than twice as likely to be suspended than White students.
Chu & Reedy, 2018	The purpose was to study the relationship of suspensions and long-term outcomes to determine efficacy of exclusionary practices.	Quantitative Descriptive statistics Longitudinal regression, Data source was longitudinal administrative data on public school students in New York City Public Schools	"Students who experienced a suspension during the first three semesters were 18% less likely to graduate from high school in 4 years and 17% less likely to graduate in 5 years." "Black males had odds of suspension that were 2.5 times greater than White males attending the same high school."	"Rather than altering student behavioral trajectories, suspensions may actually exacerbate the negative behaviors they seek to address."
Dancy, 2014	The purpose of the article was to theorize how the school-to-prison pipeline leads to Black male over-incarceration.	Literature review to support theories about causes of over-incarceration.	Black males are not given the benefits of the innocence of childhood. Black males are underrepresented in AP (Advanced Placement) and gifted programs.	The article used the Trayvon Martin case as an example of Black males being scripted out of childhood.
Diem & Welton, 2020	The purpose of the book was to help educational leaders understand the racial implications and challenges in current policy while equipping them with the skills to navigate policy.	Policy analysis with a focus on equity	Only 5% of out-of-school infractions were for serious infractions such as drugs and weapons. 95% were for disruptive or other infractions.	Public policy is a constant battle amongst private interests. There are those who have the power and privilege to promote their interests. The purpose of zero tolerance policies was to address violence infractions; however, they are

			"Black students were almost 2.5 times more likely to receive exclusionary discipline than their White peers in the same grade for the same type of infraction." When controlling for poverty levels in schools, race matters most in discipline disproportionality.	primarily used to address minor, non-violent infractions.
Durr, 2019	The purpose was to research perceptions of Black males on fairness and reasons for exclusionary discipline they have experienced.	Qualitative Study Four Black males	Students perceived bias based on labeling and history.	A qualitative study of the perceptions of four Black males who had at least one suspension.
Goff et al., 2014	The purpose was to examine the possibility that the protections of childhood were diminished for Black children in contexts where they were dehumanized, such as being imprisoned as adults.	Quantitative- independent sample t- tests, 123 students at a large public university rated perceived innocence of children in White, Black, and General groups. Participants were randomly assigned to a group. A second study included Latinos and had participants determine age of subject. An additional study involved police offers in determining age and culpability.	The perceived innocence of Black children was equal to or less than the perceived innocence of non-Black children in the next oldest cohort. "Participants overestimated the age of Black targets and deemed Black targets more culpable for their actions than White or Latino targets, particularly when those targets were accused of serious crimes." Officers overrated the age of Black and Latino subjects. Blacks were miscategorized with an average age error of 4.59 years older.	"Dehumanize" was defined as "denial of full humanness to others." Tested the hypothesis that Black children were given fewer of the basic childhood protections as children of other races. Researchers expected that Black children would be seen as less innocent than children of other races. Black felony suspects were seen as 4.53 years older than they were, which resulted in a 13.5-year-old Black being seen as an 18-year-old adult.
Greenwald & Krieger, 2006	The purpose of this article was to examine the scientific foundations of implicit bias.	Law review of the scientific literature on implicit bias	For American respondents, response times were often faster when EA faces were paired with pleasant words than when AA faces were paired with pleasant words. 42% of the respondents on the explicit measure expressed exact or near exact neutrality; however, only 18% expressed sufficiently small enough bias to be determined implicitly neutral.	Described the recent development of the Implicit Association Test (IAT), which accelerated the study of implicit bias. (Implicit attitude) The most widely used IAT measure assessed attitudes towards African Americans (AA) and European Americans (EA). The test used a combination of pleasant and unpleasant words and faces of AA subjects and EA

			The implicit bias measures revealed greater favor towards the advantaged group (75%) versus explicit measure (33%). The disaggregated data showed that respondents who display implicit race bias vary little across the variables of age, gender, and educational attainment; however, they do across race. AA was the only subgroup who did not show substantial pro-EA bias.	subjects and the timing of responses. The review included a dozen data sets related to explicit and implicit bias regarding disadvantaged groups.
Gregory & Ripski, 2008	The purpose was to study the relationship between adolescent trust in teacher authority and discipline referral.	Descriptive statistics. Used teacher interviews, student interviews, discipline data, and surveys	Teachers who used a relationship approach to discipline had significantly fewer referrals for disruption and defiance.	A relational approach to discipline was a significant predictor of student trust in teacher authority. Student trust in teacher caring was a significant predictor of discipline.
Gregory, Skiba, & Mediratta, 2017	This article synthesizes research on disproportionality in discipline data and alternative methods to exclusion to develop a framework for increasing equity.	A review of research and emerging federal, state, and district reforms	Preventative measures to exclusionary discipline include supportive relationships, bias-aware classrooms and respectful environments, culturally relevant and responsive teaching, and opportunities for learning and correcting behavior.	This article provides a framework for prevention, intervention, and prevention and intervention strategies to address disciplinary issues that are alternative to exclusion and teach the social curriculum.
Gregory, Skiba, & Noguera, 2010	The purpose was to analyze the research on causes for disproportionality.	Literature Review	Discipline practices excluding students from school damaged the learning process in academics and connectedness. Students who were less bonded to school were more likely to be involved in law-breaking activities.	The article examined the possible correlation between the discipline gap and the achievement gap through a review of the research on both.
Gun-Free Schools Act of 1994	The purpose was to protect schools from violent crimes	Policy	This Act developed a direct connection between school discipline and law enforcement.	This legislation moved the Guns Free Schools policies from Crime Control Act of 1990 into educational policy. To receive federal funds (ESEA), LEA's must expel for one year any student bringing a firearm to school and refer to law enforcement any student bringing a firearm or weapon to school.
Halberstadt et al., 2018	The purpose was to assess racialized	Qualitative, 40 preservice teachers	Preservice teachers were less accurate at recognizing	Preservice teachers were shown images of 20 different adult actors

	perceptions in preservice teachers in terms of emotion.	enrolled in a teacher education program in a large university in the Southeast region of the US	emotional facial expressions of adult Black faces than adult White faces. In terms of anger bias, preservice teachers mislabeled non-angry facial expressions as angry for Black faces more than for White faces Anger bias for White males was almost nonexistent. Racialized perceptions were strongest for male faces. Preservice teachers attributed more hostility to Black boys' behaviors than to those of White boys. This was true across varying levels of behavior severity. Black adult faces were four times more likely to be misidentified as angry than White faces.	of different races with different facial expressions For hostility attributions, they were shown 20 vignettes between an unseen boy and either a Black or White antagonist. These were filmed with elementary-aged actors.
Hancock, 2011	The purpose was to review the literature on school-to-prison pipeline causes and determine ways to change it.	Literature Review	"When teachers are critically aware of their personal culture as it relates to the culture of African American students, a consciousness is born that can combat discriminatory expectations in discipline and teaching."	The article identified three protective factors in schools that could stop the school-to-prison pipeline. First protective factor: Pedagogical strategies that create safe and positive environments (ensure that they are not culturally insensitive or alienating). Second protective factor: Setting high yet achievable academic and social exceptions and providing support for success. Third protective factor: Pedagogical strategies for the most effective instruction.
Healey, 2014	The purpose of this study was to present data that reveal educational inequities.	Mixed Methods, data from the state of Montana and interviews with displaced students and families.	The school-to-prison pipeline journey begins in racially and socioeconomically segregated schools.	Defined school-to-prison pipeline as a variety of systems designed to serve our youth that displace the most at-risk youth from schools into the juvenile justice system.

Howard, 2010	The purpose of the book was to examine the role that culture and race play in the process of teaching and learning in multicultural schools.	Literature review: Data included SAT data NAEP data and other student measures	Cultural differences are the cause of disproportionality.	Discussed the pervasiveness of deficit-based thinking and linked it to cultural mismatch theory. Contrasted "Cultural Deficit Theory" and "Cultural Difference Theory."
Imoukhuede, 2018	The purpose was to make the case that the school-to-prison pipeline undermines the right to a free and public education and should be dismantled.	Law Review Examined the right to a free and public education and that zero tolerance policies and the school-to-prison pipeline violated that right	The purpose of free public education is to develop individual talents and potential while inculcating civic values to aid students to function socially and integrate seamlessly in society. The school-to-prison pipeline distorts the very purpose of public education.	The author reviewed Constitutional law in making the argument for education as a fundamental right (*Brown v. Board of Education; Meyer v. Nebraska; Pyler v. Doe)*. An analysis of *Goss v. Lopez* in relation to zero tolerance policies reinforced the right for students to receive due process under the Due Process Clause of the Fourteenth Amendment.
Justice, 2018	The purpose of the essay was to review literature on the school-to-prison pipeline.	Bibliographic essay	The pipeline has many junctions: 1) School Failures 2) Office Referrals 3) Special Education 4) School Climate 5) Suspension and Expulsion 6) Contact with Police in School Juvenile Justice	On the school side, unforgiving and punitive measures pushed children out of school instead of teaching them social norms. On the criminal side, aggressive and unforgiving policies pushed these same children into the criminal justice system. Teachers remained instrumental in determining who gets referred and for what offenses. School climate referred to the quality of interpersonal relations and the implicit and explicit norms. As the school climate became more negative, suspension levels increased. The essay discussed the broken social contract with exclusionary practices and disproportionality as well as the curriculum theory of justice.
Justice Policy Institute, 2020	The purpose of this report was to analyze the costs of youth incarceration by state and the effectiveness of incarceration	Quantitative analysis; Data from the Department of Justice	In 40 states taxpayers pay at least $100,000 per year to incarcerate a single youth. 12 states spend over $250,000 per year; and four states spend over $500,000 per year to incarcerate one youth.	The average state cost for the secure confinement of a young person is now $588 per day, or $214,620 per year, a 44% increase from 2014. Black youth are incarcerated at a rate of five times that of White youth.

			Incarceration as a youth increases the probability of recidivism as an adult by 22-26%.	
Kirk & Sampson, 2013	The purpose was to analyze the educational trajectory of a student under two conditions: arrest & avoidance of arrest.	Quantitative, Propensity-matched design Data from Chicago Public Schools (CPS)	Correlation between entering juvenile justice and dropout rates	Of the CPS students who avoided arrest, 64% went on to graduate from high school. Of the CPS students who were arrested, 26% graduated from high school. Arrestees were more likely to be male and less likely to be White or Mexican, which aligned with data from Chicago Police Department.
Lewis et al., 2010	The purpose was to study the discipline patterns of African American male students and school district responses that impact their academic achievement on state assessments.	Quantitative, Data on 3500 African American males in large midwestern school district	Fewer than 48% of African Americans performed Proficient and Advanced (P&A) on the state reading assessment. Fewer than 19% met P&A for grade 8 science, and fewer than 7% of ninth and tenth grade students met P&A for math.	3587 African American males enrolled in the district, and African American males missed 3714 days (about 10 years) in one academic year due to suspension.
Losen, 2013	The purpose was to explore the implications of racial disparities in out-of-school suspensions in the framework of research on school discipline policy.	Policy review	Discipline issues were correlated with the skill level of teacher. According to disparate impact theory "a method of discipline that is racially neutral on its face but has a discriminatory effect may be found unlawful absent sufficient justification such as educational necessity." For each day public school was in session, 18,000 students (about the seating capacity of Madison Square Garden) were suspended.	Applied the disparate impact theory from Title VI to school discipline data. Proof of racial bias, conscious or unconscious is not required under disparate impact. CRDC showed that one out of every seven Black students were suspended v. one out of every 20 White students.
Losen & Gillespie, 2012	The purpose was to analyze CRDC data for disproportionality.	Quantitative Percentage calculations based on publicly available data from CRDC	Suspensions were the leading indicator of whether a child will drop out of school and future incarceration. "In fact, the research links suspensions with higher risk for retention in grade, dropping out, and involvement with the juvenile justice system, even after controlling for race,	Research showed that frequent suspension was not an effective educational practice, for it did not improve school safety or learning outcomes.

			poverty, and school characteristics."	
Losen & Martinez, 2020	The purpose was to explore educational data to measure how suspension impacts students in two ways: the rate of loss of instructional time and the disparate impact when administrators suspend students.	Quantitative; Nationwide school data	In secondary schools, Black boys lost 132 days (about 4-and-a-half months) of instruction per 100 enrolled students. The next highest group was Black females at 77 days (about 2-and-a-half months). In an analysis of large districts where secondary students lost at least one academic year due to suspension, Virginia had six districts included out of the 28 and two out of the top six. Richmond City was second in the nation.	No established body of evidence supports the use of exclusionary discipline practices on creating a safer and more effective learning environment. White boys lost 32 days (about 1 month) of instruction due to exclusionary discipline practices. In 43 states, Black students' days lost were higher than any other subgroup, and in 13 states they exceeded White students by 100 days (about 3 and a half months) or more.
Losen & Whitaker, 2018	The purpose was to raise awareness about new data and the discrepancies in lost instructional time.	Descriptive Summary of discipline data from the 2015-16 academic year from the CRDC	Nationally students lost 11,360,004 days (about 31,000 years) due to suspensions. That equated to 66,000,000 hours (about 7529 years) of lost instruction or 63,000 school years. Black students lost 66 days (about 2 months) per 100 students compared to Whites, who lost 14 days (about 2 weeks) per 100 students. Serious negative economic outcomes related to exclusionary discipline practices.	2015-2016 was the first year schools were required to collect and report data about the number of instructional days lost to out-of-school suspension. The report examined this data by state. The report then questioned using scarce resources to put more police in school instead of using those resources for more counselors and support personnel.
Martin et al., 2016	The purpose was to examine the extent to which various levels of punitive consequences are accrued by students of different races and genders.	Quantitative; Data was the 2012, CRDR	African American students were twice as likely to receive in-school suspension than White students.	African American students were 3.5 times more likely to receive out-of-school suspension. Except for Native American subgroup, boys were more likely to receive punishments that removed them from school.
McCray et al., 2015	The purpose was to operationalize two specific issues associated with the disproportionate suspension and expulsion rates of African American males.	Literature Review	Relationship of multiple suspensions to unemployment Subjective v. Objective infractions Cultural collision and collusion exclusionary discipline	Subjective v. objective infractions
Morris & Perry, 2016	The purpose was to determine the impact of exclusionary disciplinary	Quantitative; Using existing data from NWEA MAP and	Used NWEA MAP data from 2008-2011	Determined that approximately one-fifth of difference in Black-White school performance was

	practices on the academic achievement of African American males	discipline data for students in grades 6 through 10 in a targeted school district	Used end-of-year NWEA MAP data to reduce concerns about reverse causation.	accounted for by school suspension. Black students were found to be estimated to be six times as likely to be suspended as White students; after controlling for socioeconomic status, special education services, and gender, Black students were predicted to have approximately three times the odds of being suspended as White students. Those who had been suspended each year of the study were predicted to have NWEA MAP reading score over 15 points lower than those students who have never been suspended. Those suspended each year were predicted to have a 16.21-point lower score on NWEA MAP for math.
Nance, 2016	The purpose was to use data to determine if zero tolerance and other such policies helped reduce discipline issues or had negative implications. Secondly, the purpose was to examine alternatives to exclusionary practices.	Law Review, Descriptive statistics using School Survey on Crime and Safety for the 2009–2010 school year ("2009–2010 SSOCS") published by the US Department of Education's National Center for Education Statistics ("NCES").	More contact with SRO increased the odds of student referral to law enforcement.	All the models but one showed that having a School Resource Office (SRO) in regular contact with the school was predictive of a greater likelihood of a student being referred to law enforcement. This predictive relationship existed for lower-level offenses.
Peguero & Bracy, 2014	The purpose was to examine the effect of school climate, order, and justice on dropping out.	Quantitative Data from Educational Longitudinal Study of 2002	"School personnel are instrumental in establishing a learning climate that fosters academic excellence and shapes the school's cultural attitude toward learning. For students to 'buy into' these philosophies, they must trust, respect, and feel respected by their teachers and school administrators."	Controlling for other variables such as race and poverty level, having experienced school discipline was the overall strongest predictor of dropping out. Student perceptions of a positive student-teacher relationship were found to be protective against dropping out.
Pesta, 2018	This study modeled the pathways from school exclusion to drop out, delinquency, and criminal	Quantitative Data from the National Longitudinal Study of Adolescent and Adult Health	Being male in the Black group increased the odds of being suspended or expelled by 99%.	For Black students, being suspended or expelled increased the odds of dropping out by 3.16%.

	offense for White, Black, and Hispanic youth,		Higher parental income decreased the odds of exclusionary discipline. Across races, exclusionary discipline increased the risk of dropping out.	Suspension increased the odds of being involved in criminal behavior by 28%.
Poe-Yamagata & Jones, 2007	The purpose was to analyze data to determine occurrences of overrepresentation, disparity, and discrimination in the justice system.	Quantitative; Data sources were the FBI's Uniform Crime Reports (OCR), data from the Office of Juvenile Justice and Delinquency Prevention (OJJDP), and *Juveniles Taken into Custody Program*	"For offenses against persons, White youth were 57% of cases petitioned but only 45% of cases waived to adult court. African American youth charged with similar offenses were 40% of cases petitioned but rose to 50% of cases waived to adult court. " "In every offense category, minority youth were more likely than White youth to be placed out-of-home." In all offense categories waived to adult courts, African American youth were overrepresented and White youth were underrepresented. In all offense categories, African American youth were overrepresented in commitment to a locked institution. This was most pronounced in drug cases. African Americans were more than six times as likely to be sentenced than Whites for the identical crime. This study documented a juvenile justice system that is separate and unequal.	This data supported the concept of the loss of the protection of innocence. Minority youth were one-third of the juvenile population but were two-thirds of the incarcerated juvenile population. In 1997, 7,400 new admissions to adult prison involved youth. Three out of four of those were minority. "Overrepresentation" existed when the proportion of a certain population exceeded its proportion in the general population. "Disparity" occurred when distinct groups had different probabilities of an outcome in similar situations. "Discrimination" referred to differential decision-making based on gender, race, and/or ethnicity. Nationwide, minorities were detained at a rate of 1.8 times greater than their representation in the general population. Nationally custody rates for African American youth were five times higher than for White and were higher than for any other minority (Latino and Native American). African American youth received harsher penalties even when the offenses were similar.
Rangel et al., 2020	The purpose was to review the literature related to student reentry to school after	Literature Review	The article reinforces all the layers and institutions involved in a student's reentry into	The article described *instructional embeddedness* as referring to the fact that "each institutional context involved with the school

	involvement with the Juvenile Justice System		school from the juvenile justice system.	reentry process has multiple levels, and the layered nature of those contexts acts to constrain the behavior of each level." *Institutional complexity* refers to "the overlap of multiple institutional contexts with which returning JJ-involved youth have contact."
Rasheed et al., 2019	The purpose was to answer three research questions related to how teacher-child race/ ethnicity matching differs across levels of classroom diversity to determine implications for policy and practice.	Quantitative study. the study involved 224 teachers with a mean age of 41.5 and 5200 children with a mean age of 7.7 in 36 New York City elementary schools; these data were collected through the Cultivating Awareness and Resilience in Education (CARE) professional learning program	Teacher–child racial/ethnic match was associated with children's improved engagement, motivation, social skills, and attendance. Children paired with same race/ethnicity teachers showed higher engagement, motivation, and had fewer absences than children paired with different race/ethnicity teachers. The results did not support that teacher–child race/ethnicity match was related to better reading or math competence. The study found that White teachers reported higher levels of closeness with White students and Black teachers reported more conflict with Black students compared to Latino teachers' reports of Latino students.	Though teacher–child match was protective for Latinos, poorer ratings of Black children (i.e., those who received lower ratings in low-diversity classrooms) improved in diverse classrooms. These results highlight the importance of classroom diversity among children and teachers and suggest racially/ethnically diverse classrooms may be particularly beneficial for Black children in classrooms of non-Black teachers. Based on the results, the researchers recommend that schools employ policies that increase child and teacher racial/ethnic diversity at the classroom level. In classrooms of teacher–child racial/ethnic mismatch, diverse classrooms may attenuate the negative effects of teacher–child race/ethnicity mismatch for some children.
Rausch & Skiba, 2004	The purpose was to examine national and state-level data to determine correlations between discipline and outcomes.	Quantitative examination of national and state school data	95% of out-of-school suspensions were for disruptive behavior and Other. 51% were for disruptive behavior. Controlling for demographics, schools with higher suspension rates had lower performance on state assessments.	Principals felt that teachers should handle most of the disruptions in their classrooms but felt that teachers were ill-prepared.
Schott Foundation for Public Education, 2012	The purpose was to analyze national data on four-year graduation rates for Black males as compared to other populations.	Quantitative analysis of data from CRDC	There were notable disparities in enrollment in AP classes and identification for gifted and talented programs.	Opportunity gap for on-time high school graduation continues to be greatest for Black males. Black males tend to be denied access to academic opportunities.

			There was a trend of overrepresentation in special education and exclusionary discipline.	
Sealey-Ruiz, 2011	The purpose was a literature review and subsequent ways of dismantling the school-to-prison pipeline.	Literature Review	Teacher preparation programs need to develop racial literacy in their programs.	The focus was on the need to increase racial literacy with educators in schools.
Skiba et al. 2002	The purpose was to explore the phenomenon of Black disproportionality in school discipline in greater detail.	Quantitative study, Extant middle school discipline data from a large midwestern public school division	Racial stratification Disproportionality in exclusionary discipline was due to higher rates of office referral. Socio-economic status was not significant in disproportionality. Racial differences in behavior were not significant. African American students who committed the same infractions as White youth were more likely to be suspended and expelled	Whether disproportionality was due to racial bias or not, it led to racial stratification. Most discipline referrals originated in the classroom. Low- and high-income students perceived low-income students being unfairly targeted by discipline practices.
Skiba & Peterson, 2003	The purpose was to examine the role of the social curriculum and a model of explicit instruction.	Comparison of discipline data in 8 Indiana schools after implementing Safe and Responsive Schools (SRS) for one year	Education has the purpose of teaching a social curriculum so that students can be productive members of society.	Suspension data from year prior to implementation and after one year was disaggregated by subgroups. Implementation of SRS had a significant positive effect on suspension rates.
Skiba et al., 2011	The purpose was to describe a national investigation into the extent of racial and ethnic disparities in school discipline data, as well as any patterns in these data.	ODR data submitted by elementary and middle school administrators in the Web-based School-wide Information System (SWIS) for 364 schools in the 2005-2006 academic year: Quantitative study using descriptive data and logistic regression	At the K-6 and 6-9 levels African American students were overrepresented in comparison to White students across all types of infractions, and particularly in infractions such as tardy/ truancy, disruption, and noncompliance. African American elementary students were more likely to receive out-of-school suspension than White elementary students for minor infractions. "Nevertheless, the overall pattern of results indicates that both initial referral to the office	The study focused on five research questions: 1.To what extent does racial/ethnic status contribute to rates of ODR in elementary or middle schools? 2.In which categories of ODRs are racial or ethnic disparities evident? 3. To what extent does racial/ethnic status contribute to administrative decisions concerning disciplinary con-sequences in elementary or middle schools? 4. In which categories of disciplinary consequence are racial or ethnic disparities evident?

			and administrative decisions made as a result of that referral significantly contribute to racial and ethnic disparities in school discipline." Analysis of data showed that regardless of the type of infraction, race made a significant contribution to the type of consequence chosen for a specific infraction. Data showed that differential decision-making at the classroom and at the administrative levels significantly contributed to disproportionate representation of African American students in school discipline. Data showed that African American students received more severe punishment in the category of "minor infractions." "Opportunity to remain engaged in academic instruction is the single most important predictor of student success." The differential removal of African American students from the opportunity to learn represents a violation of the civil right protections developed in the US since *Brown v. Board of Education.*	5. What are the racial disparities in the interaction of infraction types and administrative decisions regarding consequence? In which infraction/consequence pairs do such disparities occur? In terms of administrative decisions, African Americans were underrepresented in the use of detention in k-6 and underrepresented in all administrative consequences except suspension/ expulsion. At the 6-9 level African Americans were overrepresented in referrals and Whites were under-represented. Hispanic was proportionate. African American students were overrepresented in the k-6 office referral data in proportion to their enrollment. They made up 25.8% of the enrollment and 35.5% of the office referrals. This was not true for Whites or Latinos. A discrepancy between individual and overall referrals pointed toward a higher rate of multiple referrals for African Americans than Whites and Hispanics at both elementary and middle.
Skiba, Choong-Geun et al., 2014	The purpose was to explore the contributions and interactions of behavior, student characteristics, and school variables to racial disproportionality in school discipline data.	Quantitative hierarchical linear approach using existing database on discipline records from all public schools in a Midwestern state from 2007-2008 academic year, information from a Disciplinary Practices Survey (DPS)	Principal perspective on discipline as a factor. Poverty proved an inconsistent predictor of exclusion. Race remained a significant predictor of OSS. African Americans were far more likely to receive exclusionary discipline for minor infractions. Attending a school with more Black students increased the likelihood of suspension	In examining the contributions of various variables to racial disproportionality, race and gender were significant. Poverty was inconsistent. School factors such as principal perspective toward race and equity were significant contributors. School's average level of achievement was a contributing factor.

			regardless of race, gender, achievement level, or severity of behavior. Attending a school with more Black students increases a student's risk of OSS as much as fighting or battery. This is true even after controlling for behavior and demographics. This data continues to support the role of implicit bias.	
Skiba, Arredondo, & Williams, 2014	The purpose was to examine the strength of these data related to the short- and long-term effects of exclusionary discipline practices.	Literature review to examine the empirical evidence of a relationship between exclusionary practices and STPP.	The researchers found substantial empirical evidence for the four themes that run through the definition of STPP.	The use of out-of-school suspension increased over the years and was used for a variety of minor infractions. Four themes were identified in a review of the STPP literature: School exclusion is widely used and increasing in usage. School exclusion falls disproportionately on a certain group of students. School exclusion is a risk factor for other negative outcomes. Is there directionality or intentionality?
Smolkowski et al., 2016	The purpose was to identify patterns in school discipline that would support the Vulnerable Decisions Point (VDP) theory.	Quantitative, 483,686 Office Discipline Referrals (ODR) for 2011-2012 year as taken from elementary schools using School-wide Information System (SWIS)	African American males were more likely to receive subjective ODRs than White males. African American students were more likely to receive subjective ODRs in the classroom than in other settings when the ODR was considered a minor offense. African Americans were more likely than White students to receive a subjective ODR in the first 90 minutes (about 1 and a half hours) of the day.	It examined subjective v. objective ODRs in terms of VDP. On average African American students were 1.2 times more likely to receive a subjective ODR than a White student from the same teacher in the same school. Males received three-fourths of the ODRs in the sample.
Starck et al., 2020	The purpose was to investigate implicit and explicit bias in teachers.	Qualitative, Data from Project Implicit and the American National	Teachers' racial attitudes were reflective of their broader society.	No statistical difference in bias between teachers and non-teachers.

		Election Study 2008		Both teachers and non-teachers showed statistically significant amount of Pro-White/ Anti-Black.
Starratt, 1991	The purpose was to study ethical issues that are at the core of the educational process and require proactive responsibilities from educational leaders.	Scholarly article	To violate the respect and dignity of another human being is to violate their humanity.	Defined domains of ethical responsibility for school leaders. Part of the domain *Responsibility as a Human Being*, there is a basic level of respect and dignity with which other humans should be treated.
Tienken, 2020	The purpose was to educate stakeholders on how to evaluate, interpret, and enact policies that will maximize the positives for student outcomes and minimize the negatives.	Evaluation of public policy	Public schools are the only places that are universally accessible where students can be taught the social curriculum for citizenship. Justice and caring are linked, for there cannot be justice without caring. Both require access to the social curriculum and membership in the community.	The idea of the ethic of justice deals with the idea that it is through community life that individuals can understand their role in the community. The idea of the ethic of caring is that to be a whole person, an individual must be able to participate in community relationships.
Unites States Department of Education's Office of Civil Rights' Civil Rights Data Collections	The purpose was to provide data concerning equity for investigation, developing policy, and identifying areas of concern.	Data was collected from schools	Disproportionality	Provided discipline, attendance, and course enrollment data by state and disaggregated by race.
Wallace et al., 2008	The purpose was to examine national patterns of racial and ethnic similarities and differences in how high school students experience school discipline.	Quantitative study, data used from University of Michigan Monitoring the Future project	The study found that socio-economic level had negligible impact on racial and ethnic differences in data.	This study looked at four areas in which not much research had been done: extent of differences in less severe discipline consequences, the extent to which other racial or ethnic groups were more likely to experience discipline than Whites, changes in race/ethnicity in discipline data over time, and the effects of key socio-demographic factors of race/ethnicity and school discipline.
Warnick & Scribner, 2020	The purpose was a review of the history of punishment and public education in the United States and examines schools as moral communities.	A literature review exploring the use restorative justice as a discipline practice in schools	The public interest in education in terms of academic knowledge is to develop "citizens who are free and equal, who can make positive contributions to the public good." The vocational goal of education is to develop citizens	School discipline has become integrated with the juvenile justice system. Schools have special characteristics as institutions, and they are as follows: Educational purposes: vocational, liberal, and civic

			who can participate in the economy. Vocational skills include not only technical skills, but also "soft skills." Soft skills include such skills as communication, teamwork, responsibility, and critical thinking. Liberal education is to develop autonomy and personal responsibility.	The age of students and developmental ethos School association: the blurring lines of moral responsibility Public accountability and legitimacy

Legend:

The Role of Public Education

School to Prison Pipeline

Zero Tolerance Policies

Disproportionality in Exclusionary Discipline

Possible Causes of Disproportionality in Exclusionary Discipline Practices Impact of

Exclusionary Discipline Practices

Appendix B: NWEA MAP Range Table

Grade Level	Mid-Year Math Grade Level Range	Mid-Year Reading Grade Level Range
3	184.91 – 211.49	180.46 – 210.74
4	194.43 – 222.97	188.64 - 218.56
5	201.87 – 232.53	195.15 - 224.45
6	206.10 – 238.10	199.67 - 228.73
7	209.03 – 243.17	201.92 - 231.88
8	210.79 – 247.41	203.73 - 234.47

Note: Ranges developed using 2015 Student Status Norms Tables. The standard deviations for each mid-year norm were added and subtracted from the mean to determine the range.

Appendix C: Permission Request to Conduct Research

Dear XXX,

I am emailing to request your permission to conduct a quantitative research study using student data from XXXXX for grades 3-8 for the academic years of 2016-2020. The research is entitled, "The Correlation Between Academic Ability and Discipline Referral for Disruption and Defiance for African American Males in Public Education." The study will be a quantitative, correlational design using descriptive statistics to explore the possible connection between African American males' academic ability and school discipline referral for disruption or defiance.

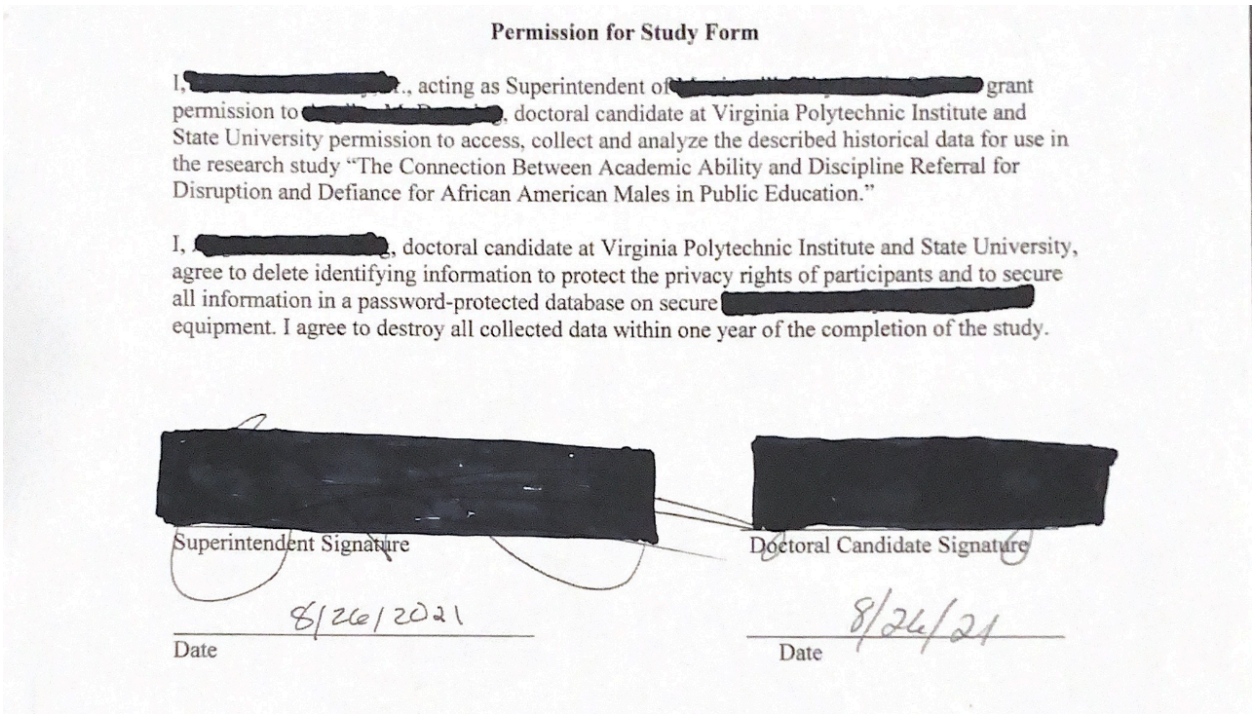
This study will analyze existing office discipline referrals for disruption and defiance, demographic information for gender and race, and NWEA MAP assessment data on academic ability in reading and math for the academic years between 2016-2020 to identify the sample. Participants meeting the criteria would be assigned a pseudonym to protect against any identifying information. These data would be entered into the password-protected, statistical software SPSS, which is provided by Virginia Polytechnic Institute and State University. The primary endpoint is to provide research to assist in planning professional development for creating a more culturally responsive learning environment for African American males. The secondary endpoint is to provide educators the research to assist administrators in developing a framework of alternative methods for discipline that help to eliminate disproportionality in student outcome data and close opportunity gaps among marginalized student groups, all of which align with the priorities in the Virginia Department of Education's *Navigating EdEquityVa-Virginia's Roadmap to Equity*.

If you agree, I have included a consent form for permission to conduct this study using existing data from XXXXXXXX. A copy of the signed form will be provided to you. I thank you in advance for your consideration and look forward to hearing from you.

Respectfully,

Angilee M. Downing
Doctoral Candidate
Virginia Polytechnic Institute and State University

Appendix D: Signed Permission Form to Conduct Research



Permission for Study Form

I, [redacted], acting as Superintendent of [redacted] grant permission to [redacted], doctoral candidate at Virginia Polytechnic Institute and State University permission to access, collect and analyze the described historical data for use in the research study "The Connection Between Academic Ability and Discipline Referral for Disruption and Defiance for African American Males in Public Education."

I, [redacted], doctoral candidate at Virginia Polytechnic Institute and State University, agree to delete identifying information to protect the privacy rights of participants and to secure all information in a password-protected database on secure [redacted] equipment. I agree to destroy all collected data within one year of the completion of the study.

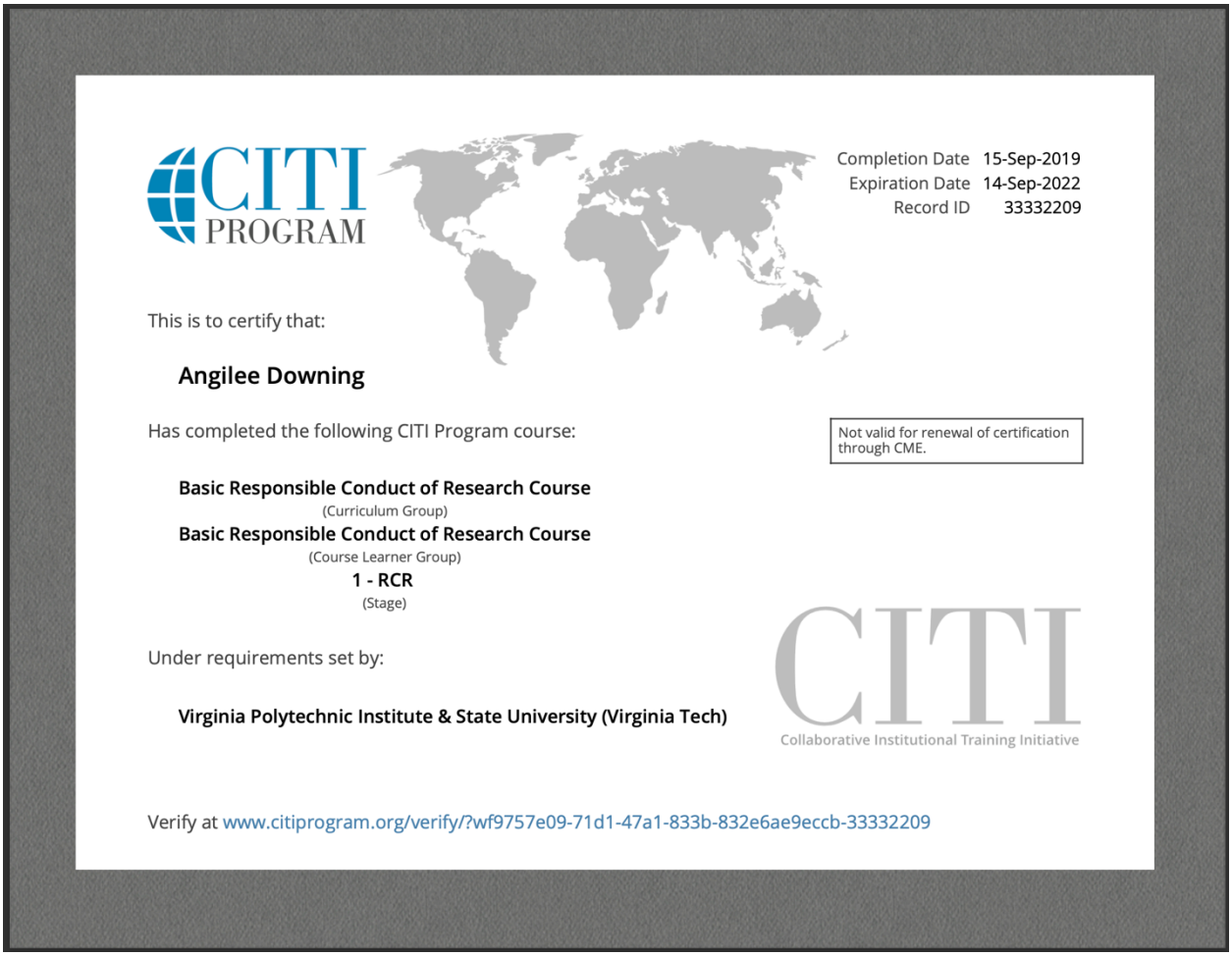
[redacted]
Superintendent Signature

8/26/2021
Date

[redacted]
Doctoral Candidate Signature

8/24/21
Date

Appendix E: CITI Certification



CITI PROGRAM

Completion Date 15-Sep-2019
Expiration Date 14-Sep-2022
Record ID 33332209

This is to certify that:

Angilee Downing

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Basic Responsible Conduct of Research Course
(Curriculum Group)
Basic Responsible Conduct of Research Course
(Course Learner Group)
1 - RCR
(Stage)

Under requirements set by:

Virginia Polytechnic Institute & State University (Virginia Tech)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wf9757e09-71d1-47a1-833b-832e6ae9eccb-33332209

Appendix F: Virginia Polytechnic Institute and State University IRB Approval 21-784

VIRGINIA TECH

Division of Scholarly Integrity and Research Compliance
Institutional Review Board
North End Center, Suite 4120 (MC 0497)
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-3732
irb@vt.edu
http://www.research.vt.edu/sirc/hrpp

MEMORANDUM

DATE: October 11, 2021

TO: Carol Ann Mullen, Angilee Mills Downing

FROM: Virginia Tech Institutional Review Board (FWA00000572)

PROTOCOL TITLE: Disproportionality of African American males in office referrals for disruption and defiance in public education: A quantitative study

IRB NUMBER: **21-784**

Effective October 11, 2021, the Virginia Tech Institution Review Board (IRB) approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

https://secure.research.vt.edu/external/irb/responsibilities.htm

(Please review responsibilities before beginning your research.)

PROTOCOL INFORMATION:

Approved As:	**Expedited, under 45 CFR 46.110 category(ies) 5,7**
Protocol Approval Date:	**October 11, 2021**
Progress Review Date:	**October 11, 2022**

ASSOCIATED FUNDING:

The table on the following page indicates whether grant proposals are related to this protocol, and which of the listed proposals, if any, have been compared to this protocol, if required.

Appendix G: Frequencies and Chi-Square Results for In Range MAP Math and Race

(N=289)

		In Range MAP Math					
		No		Yes		Total	
		N	%	N	%	N	%
Race	Black	91	79.8%	128	73.1%	219	75.8%
	Non-Black	23	20.2%	47	26.9%	70	24.2%
Total		114	100.0%	175	100.0%	289	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.679[a]	1	.195		
Continuity Correction[b]	1.335	1	.248		
Likelihood Ratio	1.706	1	.191		
Fisher's Exact Test				.209	.124
N of Valid Cases	289				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 27.61.

b. Computed only for a 2x2 table

Appendix H: Frequencies and Chi-Square Results for In Range MAP Reading and Race

(N = 256)

		In Range MAP Reading					
		No		Yes		Total	
		N	%	N	%	N	%
Race	Black	56	73.7%	134	74.4%	190	74.2%
	Non-Black	20	26.3%	46	25.6%	66	25.8%
Total		76	100.0%	180	100.0%	256	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.016[a]	1	.899		
Continuity Correction[b]	.000	1	1.000		
Likelihood Ratio	.016	1	.899		
Fisher's Exact Test				.877	.508
N of Valid Cases	256				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.59.

b. Computed only for a 2x2 table

Appendix I: Frequencies and Chi-Square Results for In Range MAP Math and Gender

(N = 289)

		In Range MAP Math					
		No		Yes		Total	
		N	%	N	%	N	%
Gender	Female	38	33.3%	63	36.0%	101	34.9%
	Male	76	66.7%	112	64.0%	188	65.1%
Total		114	100.0%	175	100.0%	289	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.216[a]	1	.642		
Continuity Correction[b]	.115	1	.735		
Likelihood Ratio	.217	1	.642		
Fisher's Exact Test				.705	.368
N of Valid Cases	289				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 39.84.

b. Computed only for a 2x2 table

Appendix J: Frequencies and Chi-Square Results for In Range MAP Reading and Gender

(N = 256)

		In Range MAP Reading					
		No		Yes		Total	
		N	%	N	%	N	%
Gender	Female	21	27.6%	61	33.9%	82	32.0%
	Male	55	72.4%	119	66.1%	174	68.0%
Total		76	100.0%	180	100.0%	256	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.961[a]	1	.327		
Continuity Correction[b]	.695	1	.404		
Likelihood Ratio	.976	1	.323		
Fisher's Exact Test				.380	.203
N of Valid Cases	256				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 24.34.

b. Computed only for a 2x2 table

Appendix K: Frequencies and Chi-Square Results for In Range MAP Math and Race/Gender

(N = 188)

Race/Gender * In Range MAP Math Crosstabulation

		In Range MAP Math					
		No		Yes		Total	
		N	%	N	%	N	%
RG	BM	60	78.9%	78	69.6%	138	73.4%
	NBM	16	21.1%	34	30.4%	50	26.6%
Total		76	100.0%	112	100.0%	188	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.008[a]	1	.156		
Continuity Correction[b]	1.560	1	.212		
Likelihood Ratio	2.046	1	.153		
Fisher's Exact Test				.180	.105
N of Valid Cases	188				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 20.21.

b. Computed only for a 2x2 table

Appendix L: Frequencies and Chi-Square Results for In Range MAP Reading and Race/Gender

(N = 174)

Race/Gender * In Range MAP Reading Crosstabulation

		In Range MAP Reading				Total	
		No		Yes			
		N	%	N	%	N	%
R/G	Black Male	41	74.5%	86	72.3%	127	73.0%
	Non-Black Male	14	25.5%	33	27.7%	47	27.0%
Total		55	100.0%	119	100.0%	174	100.0%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.099[a]	1	.753		
Continuity Correction[b]	.017	1	.896		
Likelihood Ratio	.100	1	.752		
Fisher's Exact Test				.855	.452
N of Valid Cases	174				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 14.86.

b. Computed only for a 2x2 table