# DISPROPORTIONATE DISCRETIONARY DISCIPLINE IN TEXAS SECONDARY SCHOOLS

A Record of Study

by

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ABSTRACT

The purpose of this study is to determine if and to what extent disparities in the referral of student subpopulations for discretionary discipline exist and if changes in disparity correlate with changes in campus academic achievement. In this study, 31 million observations of discipline data generated by reason code 21, violations of the student code of conduct, over 20 years in Texas secondary (grades 6-12) public schools were examined. Using a risk ratio to describe the likelihood that students from a subpopulation would receive a code 21 referral, an index was calculated by subtracting the smallest non-zero risk ratio for each subpopulation from the largest in each year to measure the size of disparity. The trend in disparity was then examined at the state level over time. Then at the campus level, the index was correlated to the percentage of students meeting the minimum standard on Texas accountability assessments using simple, partial, and semipartial correlations.

This study found that disparities in secondary discretionary discipline do exist in Texas between the 1999-2000 and 2019-2020 school years. On average, 9.33% of 5,220,197 secondary students receive a code 21 over the course of a school year. However, 15.22% of Black or African American secondary students and 7.41% of White secondary students receive a code 21 in the average year. The trend for indices increased in the first decade and then decreased after the 2009-2010 school year at the state level. At the secondary campus level, disparities are negatively correlated ($r = -0.1301$) with the campus percentage of students who pass Texas accountability assessments. This correlation is weak because it only explains about 1.7% of the variance ($r^2 = 0.0169$). The higher the disparity in discretionary discipline, the lower the campus passing rate tends to be over time; however, this does not mean that rising levels of disparity cause campus passing rates to decline. The annual campus level correlations were weakest in 2000 at -0.0060 and strongest in 2016 at -0.2002. In the final year under study, 2019, the correlation was -0.1709. This increasingly negative correlation is evidence that the strength of the relationship between disparities in discretionary discipline and campus passing rates has increased over the last two decades.

## DEDICATION

To my grandmother, Mildred P. Frary Bush, M.A., thank you for my love of stories and for the encouragement to look at every child I teach as someone with a gift to be developed. Your career as a school librarian in Los Angeles is an inspiration.

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To my students, thank you for being impressed. You can do this too.

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## Contributors

This work was supported by a thesis dissertation committee consisting of the Chair, Professor Daniel H. Bowen, Ph.D., and Professors Susan Holley, Ed.D. and Carl Fahrenwald, Ed.D. of the Department of Educational Administration and Human Resource Development and Professor Idean Ettekal, Ph.D. of the Department of Educational Psychology.

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Dr. Fahrenwald suggested the inclusion of additional authors and researchers for an expansion of the literature reviewed after the proposal for this study was successfully defended.

Dr. Bowen determined the method for quantifying disparity in this study using an index calculation for ethnic disparity from the California State Performance Plan Technical Assistance Project (SPPTAP) (California Department of Education, 2010), and Dr. Ettekal suggested the addition of partial and semipartial correlations for analysis.

All other work, including the calculations run in the Stata statistical software and the analysis of these outputs, conducted for the dissertation was completed by the student independently.

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# 1. INTRODUCTION

The Texas Legislature enacted the Federal Safe Schools Act of 1994 into the Texas Education Code (TEC) in 1995. This law allows students to be removed from class or excluded from campus when they interfere with instruction by being disruptive or violent. Chapter 37 of the TEC also requires Texas schools to publish a student code of conduct and appoint a campus discipline coordinator referred to in this study as a campus administrator.

The Texas Association of School Boards (TASB) provides districts with a boilerplate policy template. This template helps align district Codes of Conduct with State Law. For example, violent or criminal behaviors (reason codes) have mandatory disciplinary consequences (action codes) under the TEC, but minor infractions which are not criminal, have a range of consequences. There are 48 possible reason codes in the Texas Public Education Information Management System (PEIMS) Standards and 33 action codes which create 1,584 paths an administrator can choose when handling a discipline referral. The reason code examined in this study is called a "Violation of the Student Code of Conduct," referred to hereafter using the number assigned in PEIMS, reason code 21.

Texas Education Agency (TEA) publishes annual discipline totals on its website beginning with the 2007-2008 school year (TEA Annual State Summary, 2022). According to these data, the average disciplined population was 12.58%, or 655,855 students in the average annual enrollment of 5,220,197 in the State of Texas between the school years ending in 2008 and 2020. Violations of the local student code of conduct for this same period were 76.59% or 1,514,281 out of the 1,969,380 total infractions across the State.

In all cases where it is appropriate to code a student's misbehavior with reason code 21, the campus administrator has the opportunity to use their discretion. Reason code 21 is never appropriate when a student's conduct is violent, illegal, or criminal, such as when a threat, weapon, drugs, alcohol, sexual assault, harassment, or fighting is involved. There are specific codes that an administrator is obligated to use when recording discipline that is violent or criminal in PEIMS in order to be reported accurately to the State. Reason codes that deal with violent or criminal behavior also carry mandatory actions prescribed in the TEC. No mandatory actions exist for reason code 21; however, expulsion is not permitted according to The Texas Web-Enabled Data Standards (TWEDS) data chart. Anything else from a conference, lunch detention, corporal punishment, In School Suspension (ISS), Out of School Suspension (OSS), or District Alternative Placement (DAEP) is possible. Because there are no mandatory consequences or punishments (action codes) in the TEC that an administrator would be required to apply for a violation of the student code of conduct (reason code 21), all of the infractions included in this study are defined as discretionary discipline.

The use of discretionary, as opposed to discipline with mandatory consequences set forth in the law, is for the discipline of minor (non-violent, non-criminal) misbehavior that does not involve fighting, weapons, drugs, or alcohol. Infractions regarding minor misbehavior such as dress code violations, tardies, cell phone use, class disruptions, and the like comprise the majority of the infractions where campus administrators handle discipline. In the TASB boilerplate policy used to develop district codes of conduct, under "discretionary placement," there is a sentence that reads, "A student may be placed in DAEP for behaviors prohibited in the General Conduct Violations section of this Code." This statement is vague and allows a campus administrator to place a student in ISS, OSS, or DAEP for something as simple as "failure to follow a directive," A violation of the student code of conduct can result from almost any minor misbehavior deemed disruptive to the learning environment, which explains why these violations are about 75% of the total discipline in Texas reported to PEIMS.

Expulsions are not permitted in Texas at the discretion of an administrator. Expulsions are only permitted in situations where the TEC mandates them. There are no mandatory consequences or punishments (action codes) in the TEC that an administrator would be required to apply for violating the student code of conduct (reason code 21). Expulsions, therefore, are not permitted under reason code 21 (The Texas Web-Enabled Data Standards, 2023), but anything else from a conference, lunch detention, corporal punishment, ISS, OSS, or DAEP is possible. Excluding a student from class for at least half of a school day requires that a referral include a reason code describing the offending behavior and an action code describing the consequence and duration.

When misbehavior is minor (i.e., not dangerous, violent, or illegal), culturally-responsive teachers tend to avoid punitive actions, such as referring a student to the office when dealing with discipline, preferring to rely on relationships and mutual respect to change behavior, because discipline choices that exclude students from classrooms are merely punitive and do not hold students accountable to those they have harmed, nor do these exclusionary practices provide the student the opportunity to advocate for their needs and create the meaningful relationships necessary for academic success (Brown, 2004; Gonzalez, 2015). An office referral resulting in ISS, OSS, or DAEP means that an alternative or restorative form of discipline was not chosen by the administrator, even though these minor infractions are an ideal opportunity for administrators to use their discretion to keep students who struggle with the social norms of school engaged in their classrooms.

The number of minor misbehaviors and situations that can be dealt with under this code and the wide range of disciplinary action code choices and durations possible may create a situation where it is likely that the decisions of campus administrators could vary widely from district to district across the State of Texas, or within districts from campus to campus, and even between assistant principals at the campus level hindering equitable implementation. If decisions do vary widely, then disparities likely exist in the application of discretionary discipline between subpopulations as they persistently have for OSS and expulsion (Carter, Skiba, & Pollock, 2017; Skiba & Petersen, 2000).

ISS and DAEP allow the student to remain in a school setting; however, these interventions may have adverse effects on student outcomes (Anderson & Ritter, 2017; Gregory & Fergus, 2017; Skiba, Arredondo, & Williams, 2014). Lower grade point averages are associated with ISS (Cholewa, Hull, Babcock, & Smith, 2018). Additionally, suspended students have difficulty obtaining make-up work and struggle to catch up (Bell & Puckett, 2021). Like OSS and expulsion, ISS and DAEP exclude students from engaging in instruction with their teacher of record in their assigned classrooms, cutting them off from the opportunity to interact with their peers while they are learning (Gregory, Skiba, & Noguera, 2010; Scott, Moses, Finnigan, Trujillo, & Jackson, 2017; Skiba et al., 2014). Of the students in the disciplined population from 2016-2017 to 2020-2021, about 82% were assigned ISS, and about 3% were discretionary removals to DAEP (TEA Annual State Summary, 2021). It is reasonable to suppose that discretionary discipline may adversely affect achievement because office referrals negatively affect access to academic support (Vincent, Tobin, Hawken, & Frank, 2012).

A study describing the impact of implementing restorative justice in Denver Public Schools from 2008 to 2013 found that implementing restorative justice while revising policy reduced disproportionate disciplinary outcomes and was correlated to increased academic achievement (González, 2015). Therefore, past studies suggest that disparities in the application of discretionary discipline will negatively affect student achievement. If true, K-12 educators should be aware of their existence to prevent unintended harm to disproportionately affected subgroups as required by the Every Student Succeeds Act (ESSA) (Section §1112(b)(11)). To that end, the purpose of this study is to quantify disparities in the referral of subpopulations of students for discretionary discipline and determine if, or to what extent, changes in levels of disparity correlate with changes in campus academic achievement.

To investigate discipline disparities and their correlations to academic achievement, a public information request (PIR) was negotiated with TEA requesting discipline data for incidents with reason code 21 for grades six through twelve tied to the relevant demographic and achievement. Assembling a data set proved to be a challenging and time-consuming effort because TEA does not allow researcher access to raw data through a PIR to protect the privacy of students, and many of the reports available to the public are organized based on student consequences, as opposed to the type of incident that led to the consequence. For example, the Annual State Summary Data available on the TEA website, among others such as OCR used for percentage calculations above, are informative. However, they do not specifically describe (Skiba, Horner, Chung, Rausch, May, & Tobin, 2011) how many action codes, such as ISS, OSS, and DAEP, among others, are tied to the application of reason code 21. Additionally, without a campus ID, it is impossible to correlate the achievement of any campus to their discipline data. In response to the PIR, data sets (masked to protect student privacy) were provided, including campus and student demographic data about every referral in secondary schools with the reason code 21 from 1999 to 2019.

To quantify disparity such that changes can be measured over time, a risk ratio, or likelihood that a student from each subpopulation will receive a referral, was calculated for each subpopulation in each year. This calculation is limited to representing the rate at which a single subpopulation is disciplined compared to another population. The subpopulations under study include the ethnicity and race of the students disciplined - American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino (Latinx), White, two or more races, and Native Hawaiian or other Pacific Islander.

For this study, I have used the risk ratio and index calculation for ethnic disparity from California as described by the State Performance Plan Technical Assistance Project (SPPTAP). In the SPPTAP, schools are evaluated, in part, on their ability to decrease the range of risk ratios for each subpopulation, called an "index of ethnic disparity." A reduction in the index indicates a less disproportionate application of, in the case of this record of study, discretionary discipline. After calculating the risk ratio, the smallest non-zero ratio was subtracted from the largest in each year to create an index of the size of the disparity. For this study, the measure (index) of disparity describes the magnitude of the difference in the risk of receiving discretionary discipline between the least and most affected subpopulations in any given year and will be used to examine state level disparities over time.

I have investigated the extent of campus level variation, by year, in issued code 21s over time by repeating the calculations for disparity as described above for the state level data separately at the campus level. Variations in campus level racial/ethnic disparities, by year, in code 21 issuance were also examined over time. The index for each campus in each year was correlated to the percent passing (meeting the minimum standard) on Texas academic assessments as measured by the "all students all tests" category in each year to determine if changes in code 21 issuance disparities correlate with changes in academic achievement. To try and control for other student demographics that might also correlate to achievement or academic performance, I also included partial correlations to control for the percent of the population disciplined on each campus, the percent of the student body that qualifies for free and reduced lunch, and the total enrollment of the campus.

This study is significant because an analysis of the data regarding the extent to which discipline techniques are used at the discretion of individual administrators and not mandated by law in Texas to address reason code 21 violations of the student code of conduct is needed to fully understand the effect of any possible disparities in their application on student achievement. This research also contributes to the body of research by adding to studies (Cholewa et al., 2018) focusing on offenses that do not require a specific consequence prescribed by the State, as is the case in previous studies focusing on expulsion and OSS (Anderson, 2020; Anderson & Ritter, 2017; Baker-Smith, 2018; Barrett, McEachin, Mills, & Valant, 2021; Bell & Puckett, 2021). Moreover, this research looks at trends over time as opposed to a single year (Anderson, 2020; Anderson & Ritter, 2017; Baker-Smith, 2018; Barrett et al., 2021; Bradshaw, Koth, Thornton, & Leaf, 2009; Camacho, & Krezmien, 2020; Wun, 2016). This research, like previous studies (Anderson, 2020; Anderson, 2017; Baker-Smith, 2018; Barrett et al., 2021; Bradshaw, Mitchell, O'Brennan, & Leaf, 2010; Eddy, Huang, Cohen, Baker, Edwards, Herman, & Reinke, 2020; Erickson, & Pearson, 2021) is also quantitative, as opposed to qualitative (Bell & Puckett, 2020; Brown, 2004; Ferguson, 2020; Gage, Larson, Sugai, & Chafouleas, 2016; Wun, 2016), and measures disparities (Baker-Smith, 2018; Barrett et al., 2021; Bradshaw et al., 2010; Erickson & Pearson, 2021; Ferguson, 2002; Lacoe & Steinberg, 2018; Nowicki, 2018) in discipline.

Unlike other studies that correlate academic outcomes to all discipline actions (Cholewa et al., 2018; Erickson & Pearson, 2021; Kinsler, 2013; Noltemeyer, Ward & Mcloughlin, 2015; Sartain, Allensworth, Porter, Levenstein, Johnson, Huynh, & Steinberg, 2015), or disciplinary actions that exclude the student from attending class on their home campus in person (Anderson, 2020; Anderson & Ritter, 2017; Baker-Smith, 2018; Barrett et al., 2021; Bell & Puckett, 2020), this research examines the discretionary (reason code 21) discipline data in Texas over the last two decades and correlate the percent of students who "met standard" on the State assessments for accountability, as measured by all students, all tests, to a measure of the disparities in the discretionary disciplinary actions (ISS, OSS, and DAEP) taken by administrators as reported in the disaggregated PEIMS data.

The following paragraphs provide background about the legal requirements for reporting discipline to the State of Texas and the Federal Government, as well as calculations regarding significant disproportionality and the impact of these data on Title I funding under ESSA.

**Background**

The United States Department of Education Office of Civil Rights (OCR) collects data periodically about school discipline nationwide. The purpose of the OCR data collection is to understand if schools provide equal educational opportunities to students and prohibit discrimination based on race, color, national origin, sex, and disability. In the state and national estimations for a given school year, OCR publishes the disaggregated discipline data for expulsions with and without educational services, ISS and OSS, school-related arrests, referrals to law enforcement, and transfers to DAEP. Using OCR data, the Children's Defense fund first reported suspension rates for Black or African American students at two to three times those for White students in 1974. The disparity remains a consistent finding in the literature (Skiba & Peterson, 2000).

The last data collection year available on the OCR website is from the 2017-2018 school year and was released in June of 2021. In this report, OCR found that 31.4% of Black students received one or more ISS, and 38.2% were assigned one or more OSS. These rates are similar to the findings in 1974 at more than twice their share of total student enrollment (15.1%). American Indian or Alaska Native students are about 1.0% of the enrollment of students in the United States and were slightly overrepresented at 1.3% for ISS and 1.4% of the OSS placements. All other subpopulations under study by OCR, when counting non-disabled and students eligible for Special Education (SPED) services under the Individuals with Disabilities Education Act (IDEA) in one population, were assigned at least one ISS or OSS at a rate below their enrollment percentage in the 2017-2018 school year (Office of Civil Rights, 2021).

Additionally, when measuring DAEP assignments, in that same year, all races and ethnicities were transferred to DAEP at rates below their percent of the total enrollment, except for Black students. Black students accounted for 15.1% of the total student enrollment in the United States, but they represented 42.9% of all transfers to DAEP. Because the greatest disparity in the national aggregate has repeatedly been the Black student subpopulation over almost fifty years, emphasis is often drawn to these findings in the literature, even when other subpopulations are under study. Any discussion about discipline must address racial disparity (Carter, Skiba, Arrendondo, & Pollock, 2017).

The Texas Education Code (TEC) requires Local Education Agencies (LEAs) to report discipline data in compliance with two federal laws, the Individuals with Disabilities Education Act (IDEA) and the Every Student Succeeds Act (ESSA). Under the Individuals with Disabilities Education Act (IDEA), found in the United States Code of Federal Regulations, Title 34, local education agencies (LEAs) are required to collect data about disciplinary actions taken with SPED students, such as the incidence, duration, and type of disciplinary actions, including suspension and expulsions and determine if significant disproportionality is occurring in the State (34 CFR §300.646).

According to the Texas Education Agency (TEA) Division of Special Education Program Reporting, Texas applies the methods found in 34 CFR §300.647 to calculate significant disproportionality for SPED students. To do this, Texas first calculates a risk ratio. Risk is the likelihood of a particular outcome for a specified racial or ethnic group. IDEA requires several measurements, including the likelihood that a SPED student will be removed for discipline. First, the risk ratio is calculated by dividing the number of children from a specified group removed for discipline by the total number of students in the group enrolled in the LEA. Next, the risk ratio divides the risk for one racial or ethnic group within an LEA by the risk for children in all other racial and ethnic groups within the LEA. Texas then determines if any racial or ethnic groups have a risk ratio over a 2.5 threshold. The LEA has to exceed this threshold in the same category for three consecutive years before they will receive a determination of “significant disproportionality” from

TEA. These calculations are reported in the LEA's Results Driven Accountability (RDA) report each fall, which was formerly the Performance Based Monitoring and Analysis System (PBMAS) report; however, the only disproportionality calculations required for this report are for special programs, such as Bilingual Education/English as a Second Language (BE/ESL), SPED, students with parents serving in the Military, homeless students, and those students in foster care.

If significant disproportionality is determined, the LEA must take three actions under IDEA. First, the LEA must review its policies, procedures, and practices to ensure that they comply with the requirements of the IDEA (20 USC § 1418[d][1]). Second, the LEA must publicly report on the revisions to policies, procedures, and practices. Third, the LEA must reserve 15 percent of its IDEA grant funds to provide comprehensive Coordinated Early Intervening Services (CEIS) to children (including, but not exclusively) in the groups that were identified as significantly disproportionate (20 USC § 1418[d][2]).

While chapter 37 of the TEC does not require that the disproportionality calculations described above be performed for the LEA's student population as a whole, it does require that LEAs collect and report discipline data for all students annually through Public Education Information Management System (PEIMS) reports. These data include but are not limited to, each placement in a DAEP program (TEC Section 37.008), conduct violating the student code of conduct (TEC Section 37.001), conduct for which a student may be removed from class (TEC Section 37.002(b)), and suspensions (TEC Section 37.005). All of the discipline data for students, even if they are not SPED and are not served under a special program as prescribed by RDA, is collected annually.

ESSA is a federal law signed by President Obama in December of 2015, previously known as No Child Left Behind (NCLB), signed into law in 2002 by President George W. Bush, that funds state governments and local education agencies (LEAs) to improve outcomes for traditionally underserved students such as those of color, the disabled, and those living in poverty, among others. To be eligible for Title I funds in ESSA, districts must, among other requirements, "support efforts to reduce the overuse of discipline practices that remove students from the classroom by identifying and supporting schools with high rates of discipline, disaggregated by each of the subgroups of students" (ESSA Section §1112(b)(11)).

The transparency required by ESSA works in concert with Section §300.646(d) of IDEA. When an LEA is determined to be significantly disproportionate, comprehensive Coordinated Early Intervening Services (CEIS) may be provided to children from age 3 through grade 12, regardless of whether they are children with disabilities. However, an LEA must identify and address the factors contributing to the significant disproportionality in order to use those funds to address those factors.

In *Stephens v. Trinity Independent School District (2012)*, the court held that removals to ISS and DAEP do not deprive a student of education, and due process is not required. ISS and DAEP placements are attractive because they allow districts to maintain attendance levels for funding purposes in Texas. These measures provide the appearance of a more inclusive form of discipline. Reforms by the Texas Legislature in 2003 and 2007 required that DAEPs ensure that certified teachers work with students on coursework required for credit or promotion. However, this setting may continue to fall short of regular classroom instruction (TASB, 2019), and there are no such requirements for ISS.

The following chapter is a review of the relevant literature including exclusionary discipline, the effect of discipline on achievement, school policy, theoretical frameworks, disproportionate discipline, and discipline practices.

# 2. A REVIEW OF THE LITERATURE

The purpose of this study is to quantify disparities in the referral of subpopulations of students for discretionary discipline and determine if, or to what extent, changes in levels of disparity correlate with changes in campus academic achievement. These subpopulations include American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino (Latinx), White, two or more races, and Native Hawaiian or other Pacific Islander.

In the 2016-2017 through 2020-2021 school years, about 6.6 million total discipline records were reported in the state of Texas. About 4.9 million were reason code 21 violations of the student code of conduct (TEA Annual State Summary, 2021). About 75% of the incidents on school campuses in Texas are minor offenses and discretionary discipline. COVID-19 reduced the discipline population by about half in 2020-2021 (TEA Annual State Summary, 2021). However, the percentage of students in the discipline population placed in ISS remained at about 83% for all five years (TEA Annual State Summary, 2021). Unsurprisingly, ISS is the most frequently used consequence reported in PEIMS by campus administrators for any discipline reason code. While these data give the number of students placed in ISS and not the reason code, frequency, or duration, they suggest that ISS and discretionary DAEP removals may also be the most widely used punishments for violations of the student code of conduct in Texas.

There is evidence to suggest that variations in discipline may influence educational outcomes (Anderson, 2020). The following topics - exclusionary discipline, the effect of discipline on achievement, school policy, theoretical frameworks, disproportionate discipline, and discipline practices - are reviewed to support the assertion that racial or ethnic disparities in the application of secondary discretionary discipline, and the exclusionary nature of the consequences assigned may adversely impact the achievement of the disciplined population and by extension depress campus passing rates as captured by State accountability assessments.

## Exclusionary Discipline

The literature overwhelmingly defines “exclusion” as OSS and expulsion. Supporters of exclusionary discipline argued in the 1970s that students who misbehave reduce the achievement of their peers (Kinsler, 2013; Neill, 1976). The biggest debates surrounding suspension and expulsion have truly come down to beliefs about how important they are (Neill, 1976) for running a school without disruption. Suspensions are administratively easy for schools because they require no staffing or resources on the part of the school (Garibaldi, 1979), unlike ISS and DAEP or other forms of alternative discipline.

Courts give schools much authority to make decisions about discipline as long as the intent is to keep students safe (Skiba, Ekes, & Brown, 2010). However, zero-tolerance policies did not reduce school violence, and exclusion has not ensured a safe and effective school climate (Skiba & Peterson, 2000, 2003). In fact, the exclusionary techniques used by this behaviorist approach have a negative effect on future behavior (Irby & Clough, 2015). Further, there is no significant evidence that the learning environment is improved by their absence (Skiba et al., 2010). The research does not support the ubiquitous belief that student behavior should be manipulated through a system of punishments and that rewards will ensure a safe environment conducive to learning (Irby & Clough, 2015). Nevertheless, punitive discipline remains the norm (Camacho & Krezmien, 2020).

When considering a campus as a whole, school discipline positively influences student performance (Kinsler, 2013). However, even in the most hostile and disorganized schools, exclusionary discipline negatively affects achievement over time (Perry & Morris, 2014). Traditionally, negative reinforcement is meant to teach learners “a lesson” and deter undesirable behavior (Skiba & Peterson, 2003; Irby & Clough, 2015). Unfortunately, the negative correlation it is found to have with graduation rates and student achievement makes it an ineffective tool for raising achievement for all students (Gregory et al., 2010; Scott et al., 2017; Skiba et al., 2014).

The term “exclusionary discipline” could include ISS and DAEP in addition to those traditional consequences which prevent students from attending school, such as OSS and expulsion, because ISS and DAEP may also depress achievement for the disciplined population. Unfortunately for the disciplined individuals, both ISS and DAEP, like OSS and expulsion, exclude students from engaging in instruction with their teacher of record in their assigned classrooms and deny them the opportunity to interact with their peers while they are learning. This learning loss could be equivalent to the negative effects absences have been shown to have on secondary achievement (Balfanz & Byrnes, 2012). While these interventions allow the student to remain in a school setting, ISS and DAEP may, though to a lesser degree, have similar negative effects on achievement as OSS and expulsion and should also be considered "exclusionary practices" for the purposes of this study. The need for more data regarding the extent to which administrators use ISS and DAEP in Texas to address reason code 21 violations of the student code of conduct and the effect of any disparities in their application on student achievement partially motivates the research for this study.

**Discipline and Achievement**

In 2015, a study in Australia found no negative causal impact on achievement associated with OSS (Cobb-Clark, Kassenboehmer, Le, McVicar, & Zhang, 2015). However, there is evidence in a more recent US-based article that a modest rise in test scores and a reduction in office referrals can be associated with a reduction in the use of OSS (Anderson, 2020). Research has established a strong negative association between OSS and expulsions on achievement, dropout rates, and the school-to-prison pipeline (Anderson & Ritter, 2017; Gregory & Fergus, 2017; Noltemeyer et al., 2015; Skiba et al., 2014), and there are calls for discipline reform in the United States.

Schools that have responded to this call for reform have focused on reducing the length of OSS or have replaced it with assignments to ISS for minor infractions (Wang, 2022). However, some studies show that these changes have not positively impacted student academic and discipline outcomes (Anderson, 2018; Craig & Martin, 2021; Lacoe & Steinberg, 2018; Nishioka, Stevens, Deutschlander, Burke, Merrill, & Aylward, 2020). For this reason, it is necessary to consider that it may be possible that ISS, and perhaps DAEP, affect student outcomes in ways similar to OSS.

The behavioral and academic effects of ISS are not well understood. ISS is understudied compared to OSS and expulsion (Lee, 2022). Given that access to academic support in secondary education is negatively affected by increasing numbers of office referrals (Vincent et al., 2012), and time spent out of class due to suspensions and expulsions has been found to be detrimental to the achievement (Cobb-Clark et al., 2015; Skiba & Rausch, 2006), it is important to note that that lower grade point averages and increased dropout rate are associated with ISS (Cholewa et al., 2018) even though ISS is often regarded as a lighter consequence than OSS (Troyan, 2003). Simply replacing OSS with ISS may be ineffective because of the cumulative disadvantage of school disciplinary practices (Rocque & Paternoster, 2011). ISS could still lead to OSS and expulsion (Cholewa et al., 2018; Hirschfield, 2008). While a school's suspension rate is predictive (inversely) of passing rates on state tests (Rausch & Skiba, 2004), there is less available in the literature about ISS as compared with OSS; however, where available, schools with high levels of achievement report lower levels of ISS (Noltemeyer etal., 2015).

LEAs may provide DAEP as a choice for students whose behavior interferes with their ability to function successfully in a traditional school setting in lieu of expulsion (Wilkerson, Afacan, Pezigian, Justin & Lequia, 2016). In the literature, alternative school outcomes do not parse the achievement of students with disciplinary placements from those placed for needed support or non-traditional schedules, as in a school of choice to reduce dropouts and increase graduation rates. To clarify, it is often the practice of a district to keep the student enrolled at their home campus while attending school in an alternative setting for disciplinary reasons. Much like ISS, the student is simply attending their regular school day in a different room, or in the case of some DAEP arrangements, in another building.

Practices vary from district to district and case by case across Texas. Some Texas school districts need more resources to fund a DAEP and contract with surrounding districts in a cooperative to share the financial burden. Alternative campuses may only enroll students of choice, not those placed temporarily for discipline, even though the staff and facilities serve both populations daily. Overall, research shows that students on DAEP campuses earn fewer credits than their peers in traditional school settings (Wilkerson et al., 2016). However, it is not known if these data are only for students of choice or if these data also describe students with disciplinary placements. Students with chronic problems in school experience fewer referrals to the office while in alternative settings, which may be due to the differences in teacher and administrator reactions to, or expertise with, behavioral problems (Wilkerson et al., 2016).

**School Policy**

Over the last forty years, researchers continue to find that discipline has more to do with school policies than student behavior (Anderson & Ritter, 2017; Lee, 2022; Skiba, Chung, Trachok, Baker, Sheya, & Hughes, 2014; Wu, S. C., Pink, W., Crain, R., & Moles, O., 1982).

Individual administrators implement school policy. How a teacher or an administrator interprets an infraction affects what discipline the behavior merits (Staats, 2016). An administrator's beliefs about the purpose of discipline as a preventative measure or for exclusion influence the consequences they select (Kennedy, Murphy, & Jordan, 2017; Skiba & Edl, 2004; Skiba et al., 2010). These interpretations and beliefs vary. The school students attend is a strong predictor of their likelihood of suspension (Sartain et al., 2015). If other students on campus have been suspended, then the likelihood of suspension increases (Wu et al., 1982). Overall rates of suspensions are higher in rural communities (Romney & Willis, 2019). Additionally, students of color are disproportionately assigned ISS (Cholewa et al., 2018; Costenbader & Markson, 1994; Hilberth & Slate, 2014).

Schools in the United States are becoming increasingly desegregated (Orfield, 2001). Majority-minority schools issue longer punishments, even after controlling for income (Anderson & Ritter, 2017). More-segregated schools have smaller differences in ISS rates between Black or African American and White students and between Hispanic or Latino (Latinx) and White students (Lee, 2022). However, attending a school with more Black or African American students, regardless of a child's gender, income, behavior, or achievement, increases the probability of getting suspended (Skiba et al., 2014). Diverse environments are not always more tolerant (Reese & Zalewski, 2015). However, minorities who attend integrated schools experience better outcomes than those who do not (Orfield, 2001).

There is strong evidence that "No Excuses" charter schools, which use extended days and employ very strict rules for behavior and dress, increase the achievement of urban minority students in a segregated population (Cheng, Hitt, Kisida, & Mills, 2017). No Excuses charter schools, such as Knowledge is Power Program (KIPP) that largely serve urban poor and minority students, focus their pedagogy on their students' math and literacy scores while instilling in each child the importance of going on to college through a pervasive school culture. In traditional schools, Black students who take mostly honors and Advanced Placement classes risk social isolation and ridicule for acting White (Ferguson, Ludwig & Rich, 2001). In a school where the entire culture is built around taking these courses, this oppositional culture may not exist.

Comparing niche charter school outcomes to traditional public schools is problematic beyond cultural differences. For example, application and transportation requirements may select for students who have parents who value education and have the means to move their child out of a "neighborhood public school." Additionally, requiring extra hours to focus on Math and Literacy, particularly in urban areas where unions often determine the length of the school day in negotiated contracts, is problematic for traditional public schools if not impossible, thus making comparisons in achievement misleading. Charter schools are also different because they do not have to accept every student that applies and can return students to their home campuses if the strict behavior code cannot be followed successfully, which is a side step that traditional schools cannot employ unless the student elects to attend, or is placed in, DAEP.

Policy-based reforms alone are ineffective in changing the use of suspension in schools (Bradshaw, Koth, Thornton, & Leaf, 2009; Lacoe & Steinberg, 2018; Sartain et al., 2015) because changes in discipline policy did not eliminate biases (Wang, 2022). Outcome data must be disaggregated and routinely assessed so that policies and procedures may be revised to improve equity (Morgan et al., 2014).

**Theoretical Framework**

I have used the literature about implicit bias, CRT, and CRE as a theoretical framework to support the assertion that disparities may exist in secondary discretionary discipline and explain the reason I have sought to find an area where such disparities are unknown because they are understudied. CRT and CRE, along with the possible implications of implicit bias, inform the purpose of my record of study. There is evidence in the literature that intentional discrimination exists in student discipline (Barrett et al., 2021). However, I do not suggest that educators are unknowingly racist or that their unconscious bias is the cause of discriminatory behavior (Mitchell, 2018).

Implicit bias could explain how associations with past experiences may shape an educator's interpretation of present behavior, especially when faced with incomplete information, time constraints, or fatigue (Staats, 2016). Implicit bias is an increasingly criticized body of research that explains the unconscious beliefs which may motivate behaviors and decisions. In educational psychology, implicit bias is accepted as pervasive and may result in outcomes contrary to what is intended, including racial disparity (Staats, 2016). Critics of implicit bias measures state two points to bear in mind. First, that context is fundamental for understanding the outcomes they describe (Gawronski, 2019). Second, the expectation of a strong unconditional relationship between implicit bias and behavior has no basis (Gawronski, 2019). Considering these criticisms carefully, it is important to understand that changes in implicit biases do not necessarily lead to a change in discriminatory behavior (Forscher, Mitamura, Dix, Cox, & Devine, 2017).

The lasting effects of racist practices and policies in the past, such as slavery, Indian reservations, anti-Semitism, segregation, and redlining, may have given some in the United States unearned opportunities and advantages socially and economically. Racial disproportionality exists in rural, suburban, and urban schools regardless of region (Smith & Harper, 2015). Critical Race Theory (CRT) provides perspective by exposing the social and economic benefits some groups enjoy to greater degrees than others when compared along racial lines. Conversely, it is necessary to understand that disparate outcomes exist for complex reasons in all areas of our society, given varied conditions, available resources, skills, and belief systems or information (Sowell, 2019).

One glaring problem with the application of CRT is the ease with which researchers reduce all members of a race or group to a monolithic subgroup or culture. Like CRT, Culturally Relevant Education (CRE) has also been interpreted to suggest that everyone in a subpopulation shares similar experiences and, by extension, interests or beliefs that should be used to make meaning in academic subject matter for minority students (Ladson-Billings, 1995). However, interpreting both CRT and CRE in this way ignores the variety of individual persons who comprise the group (Stangel-Plowe, 2022). Identifying a particular subpopulation does not guarantee that the experience, outcomes, or beliefs of individual group members are necessarily congruent with the summary descriptions and findings for the subpopulation at large.

CRT posits that racism is a normalized and inherent feature of American society (Picower, 2009). For over fifty years, the greatest disparity in the national aggregate has repeatedly been the Black or African American student subpopulation, and emphasis is often drawn to these findings in the literature, even when other subpopulations are under study. Any discussion about discipline must address racial disparity (Carter et al., 2017).

**Disproportionate Discipline**

Administrators and teachers with "color-blind" dispositions fail to consider power and culture and may further perpetuate disparities reinforcing notions of privilege (Gregory & Fergus, 2017). It has been argued that poverty, and not race, is the cause of misbehavior (National Association of Secondary Principals, 2000). However, being eligible for free and reduced lunch does not appear to affect the chances of being suspended (Skiba et al., 2014b). Race has been shown to be a factor in suspension independent of poverty or behavior (Ferguson, 2002; Wu et al., 1982).

Disproportionate interactions are consistent across all classrooms even when there is no difference in the behavior of black and White students (Scott, Gage, Hirn, & Han, 2019), and might be the result of subtler biases exhibited by the teacher (Girvan, Gion, McIntosh, & Smolkowski, 2017). Racialized narratives and stereotypes are internalized by school staff, and White teachers often see students of color as dangerous and at fault for the educational challenges they face (Ferguson, Jimerson, & Dalton, 2001; Picower, 2009). Additionally, Hirschfield (2008) raises the possibility that Black or African American male students are viewed as potential criminals. Black or African American males have an incarceration rate five times higher than White males, and there is a direct correlation between an unsuccessful school experience and incarceration (Howard, 2008). Four-year-old black males are identified by their Head Start teachers as having adjustment difficulties, as indicated by disobeying or ignoring rules and inattention at the rate of 15.9% and 11.7%, respectively, in urban settings (Barbarin, Murry, Tolan, & Graham, 2016). Black students are more likely than White students to be referred for discipline, and being assigned to a classroom with a black teacher does not reduce the risk for black students (Bradshaw et al., 2010).

Middle-class students who identify as Black or African American in the United States do experience racism, even if it is far more subtle today than in the 1930s or 1960s; however, it is important to question if these experiences prevent black students from doing well in school (McWhorter, 2001). Data in the literature also suggest that black students are treated differently in the classroom ( Erickson & Pearson, 2021; Skiba, Michael, Nardo, & Peterson, 2002). Barrett et al. (2021) found that black students are punished more severely for incidents that were more subjective than White students, even though there was no evidence that they misbehaved more often (Erickson & Pearson, 2021; Skiba et al., 2010). When examining teacher–student interactions specific to disruptive or off-task behavior, black students experience more negative interactions for equal behavior in comparison to their White peers (Bell & Puckett, 2020; Scott et al., 2019). Differences in how black and White students carry themselves may foster subtle differences in student-teacher relations for black and White students (Ferguson, 2020; Ferguson et al., 2001; Morris, 2016).

Teacher practices that remove black students from classrooms are sometimes viewed as a systemic effort supported by school and district disciplinary policies (Webster & Knaus, 2020). Black students may have modes of behavior that their teachers misinterpret (Ferguson, 2020; Morris, 2016; Webb-Johnson, 2003). It is likely that teachers view behaviors like overlapping speech, play fighting, and humor as disrespectful, aggressive, and insulting even if that is not the intention and are accepted modes of communication within their community (Monroe, 2005; Webb-Johnson, 2003; Weinstein, Tomlinson-Clarke, & Curran, 2004). ISS is more likely to be associated with aggressive or demonstrative behavior than it is to be assigned for possessing contraband like drugs and alcohol (Cholewa et al., 2018; Hilberth & Slate, 2014; Noltemeyer et al., 2015). Misinterpretations may explain the persistent disproportionate placement of African American students in disciplinary settings.

Latinx children are more segregated in schools than Black students by ethnicity, poverty, and language (Orfield, 2001). Research regarding the discipline experience of Latinx students is not as robust as that of Black students; however, one study found a very interesting intersection for Latinx females that supports the notion of perceived engagement as important. These young women were more likely to be suspended than their White peers. However, the difference was no longer significant when the study controlled for extracurricular participation and academic performance (Erickson & Pearson, 2021).

Discipline disparities concerning gender are well documented. OCR data show that male students are overwhelmingly disciplined across the United States at higher rates than females. Black female students are also assigned to ISS more often than their White peers (Jackson, Hatcher, & Jones, 2015), and there is evidence that this is associated with a reluctance to take advanced math courses (Ibrahim, Barnes, Butler-Barnes, & Johnson, 2021). In addition to gender, sexual orientation may also influence discipline decisions. Though the State of Texas does not track the gender identification or sexual orientation of the disciplined students, LGBTQ+A youth are up to three times more likely to experience harsh disciplinary treatment than their cisgender and straight counterparts (Morgan et al., 2014).

**Discipline Practices**

There is a significant gap between the best practices outlined in the literature and current discipline practice in our schools (Irby & Clough, 2015; Skiba et al., 2010). In *Goss v Lopez (1975)*, the Supreme Court required that suspending a student from school required due process and could not be arbitrary (Neill, 1976). Educators at that time turned to ISS and DAEP to exclude students who disrupt the mainstream learning environment for others without removing them from school (Garibaldi, 1979; Neill, 1976). Forty-six years later, taking students out of class is the most common way schools deal with behavior (Mergler, Vargas, & Caldwell, 2014). Over 30% of the disciplined population was suspended, and almost 85% served either ISS or DAEP in Texas (TEA Annual State Summary, 2021).

Educators often do not deeply understand best practices for implementing culturally responsive instruction (Griner & Stewart, 2013). Experience teaching diverse populations may require learning and using culturally responsive management techniques that might mitigate misconceptions about engagement and racial bias (Brown, 2004). Frustration and academic disengagement in the classroom can lead to misbehavior and result in office referrals. Black or African Americans and Hispanic or Latino (Latinx) self-report difficulty understanding lessons and low comprehension of required reading, and racial or ethnic differences in behaviors and homework completion rates may give teachers the impression that Whites and Asians are more interested in their studies and work harder, on average, than their Black or African American and Hispanic or Latino (Latinx) classmates (Ferguson, P. et al., 2001; Fergusion, R. F. et al., 2001). Effective teacher-student relationships may be important resources for motivating Black or African American and Hispanic or Latino (Latinx) students (Ferguson, 2002).

The amount of experience a teacher has could raise their competence in classroom management and mitigate the influence of internalized racial stereotypes. At least one study shows that ten-year veteran middle school teachers in a high-performing urban middle school under-suspend black students (Williams, Persky & Johnson, 2018). However, the relationship between teacher experience and suspension was not found to be statistically significant (Willaims, Persky & Johnson, 2018). In addition, teacher exhaustion and efficacy are associated with higher rates of ISS and office referrals but not increased rates of OSS (Eddy et al., 2020).

Generally, the exclusion of students from the classroom does not change behavior (González, 2015; González, 2016; González, Sattler, & Buth, 2019; Mergler et al., 2014). Exclusion is merely punitive and does not hold students accountable to those they have harmed, nor does it provide the student the opportunity to advocate for their needs and create the meaningful relationships necessary for academic success (González et al., 2019). For negative reinforcement to change behavior, control over the variables of a situation may be required that a school cannot achieve (Skiba & Peterson, 2003). A system of prevention and effective responses is needed to teach new behaviors instead of disciplinary removal (Camacho & Krezmien, 2020; Skiba & Peterson, 2003). Even though school is usually the safest place a young person can be away from home, high suspension rates for minor offenses often make students and staff feel unsafe or supported in their learning environment (Morgan et al., 2014). Less punitive discipline, such as SEL, PBIS, and Restorative Justice, increases students' respect for teachers, reduces students' infractions, and improves school climate and achievement on campuses where they are implemented (Bradshaw et al., 2009; Gage et al., 2016; Mergler et al., 2014; Okonofua & Eberhardt, 2015). By using alternatives to exclusionary placements, administrators can use their discretion with reason code 21 infractions and keep students engaged.

The following chapter describes the methods employed for this record of study.

# 3. METHODS

The purpose of this study is to assess whether and the extent to which there are disparities in the referral of subpopulations of students for discretionary discipline and determine if, or to what extent, changes in levels of disparity correlate with changes in campus academic achievement. This study used a risk ratio, defined as the likelihood that a student from each subpopulation will receive a referral, and an index calculation for ethnic disparity from California as described by the State Performance Plan Technical Assistance Project (SPPTAP) (California Department of Education, 2010). I determined the index by subtracting the smallest non-zero risk ratio for each subpopulation from the largest calculated risk ratio each year, creating an index to measure the size of any possible disparity. The subpopulations under study include the ethnicity and race of the students disciplined - including American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino (Latinx), White, two or more races, and Native Hawaiian or other Pacific Islander. This index is then correlated to the percent passing (i.e., meeting the minimum standard) on Texas academic assessments as measured by all students on all tests and plotted over time. This correlation is examined over time, from the 1999-2000 to 2019-2020 school years, separately at both the State and campus levels. Lastly, I calculated partial and semipartial correlations to control for the percent of the campus population disciplined, socioeconomic status, total enrollment, and the influence of the campus demographics.

## Research Questions and Calculations

**Research Question One.** The first research question is, do disparities exist between subpopulations in the referral of students for discretionary discipline from 1999 to 2019 at the state level, and to what extent has this disparity increased or decreased over that time in Texas? To answer this question, I quantify the rate of code 21 disciplinary actions by subpopulations of Texas by year to examine state level disparities. In order to quantify this disparity, I first calculate the subpopulation risk ratio for each subgroup and then use these ratios to create an index. The index is a single number that I can compare across campuses and years.

The California State Performance Plan Technical Assistance Project (SPPTAP) measures disproportionality in special education by making the following calculation for each race or ethnicity category. The SPPTAP formula divides the number of students receiving special education by the number of students in that race or ethnicity category in general education. Students in general education are not part of the SPED population; therefore, the number of SPED students is divided by the total number of students who are not. This formula returns a measure of the likelihood (or risk) that a student will be eligible for special education.

In this study, I have used a similar calculation that replaces special education with membership in the group of disciplined students, as shown below, to return the likelihood that a student from one racial subpopulation will be referred for discretionary discipline.

$$\text{Subpopulation risk ratio} = \frac{\text{Number of students in subpopulation disciplined}}{\text{Number of students in subpopulation not disciplined}}$$

I calculated the risk ratio of students receiving disciplinary infractions to students not receiving disciplinary infractions for each race or ethnicity category in each year under study. Subtracting the smallest non-zero risk percentage (statewide, this is always either Native American or Alaska Native or Native Hawaiian or other Pacific Islander) from the largest (statewide, this is always Black or African American), the difference is what I refer to as the "index." The index is a single number representing a range of risk ratios which made it possible to compare disparity over time and to maintain consistency in measurement across schools serving different student demographics.

$$\text{Index} = \text{Greatest non-zero risk ratio} - \text{Least non-zero risk ratio}$$

The index measures the range of the disparity in the assignment of discretionary discipline among race or ethnicity categories in the data set. In the Results chapter, the index will be plotted over time (20 years) for the State to describe if, or to what extent, these disparities are growing or shrinking over time.

The data set does not include the number of students in each subpopulation who did not receive a referral. These data include each referral and the demographic information for the campus (using a unique campus identification number) and the student who was disciplined (also assigned a unique student identification number). To flesh out the number of students who did or did not get a referral, I ensured that each unique student identification number was counted only once and subtracted that number from the demographic data totals for each subpopulation. Instead of using the number of referrals to calculate disproportionality or disparity as the raw data gives in each line of the set, the calculations change the unit of analysis from infraction to student and count these individuals only once, even if they had repeated infractions.

The demographic information in the data set for each campus and student is taken from the fall snapshot every school year. These snapshots are data that include the demographics of students enrolled on one particular day, and these are the numbers used for the total population and totals in each subpopulation. Students who move in and out of the state or campus attendance zone during the year may change these totals after the snapshot date, but there is no way to capture these changes with the data provided by the State because it is only collected once a year. Students who are not included in the campus snapshot may receive referrals creating variations in the data; however, some of these students who move in or out may also go the entire year without a referral or disciplinary action. Therefore, I conducted this research under the assumption that these variations are unlikely to substantially affect my findings.

**Research Question Two.** The second research question has two parts. The first is, to what extent are changes in campus level disparities correlated to changes in secondary academic achievement as measured by the percent meeting the minimum passing standard for each year for all students on all tests administered by the State of Texas for accountability - Texas Assessment of Knowledge and Skills (TAKS) or State of Texas Assessment of Academic Readiness (STAAR) and End of Course (EOC) exams - from 1999 to 2019? The state level calculations above for question one - involving the risk ratio for each subpopulation and the index in each year - are repeated in each year for every individual campus. The Pearson *(r)* determines the correlation coefficient between the index for each campus in each year and percent meeting the minimum passing standard on all students on all tests for each campus in each year.

The calculation is a simple correlation when only two variables are involved. While the calculation for this question provides the direction and strength of the correlation, it does not describe this relationship when other factors that may significantly impact achievement are also taken into account. Taking the effects of other variables into account is an important step because, for example, we already know that schools with fewer students on free and reduced lunch or lower percentages of minorities tend to score better on standardized tests. A simple correlation will not allow me to see how the variables under study correlate when these other influences on the relationship likely exist. For this reason, the second part of research question two uses partial and semipartial correlations to control for the influence other variables may have on the strength of the relationship between disparity and campus achievement.

The index is the independent variable ($x_1$) in discretionary discipline with the percentage of students on a campus who met standard on state accountability assessments as measured by the "all students on all tests" category, which is the dependent variable (y). In addition, the percent of the population disciplined on a campus ($x_2$), the percent of the student body that qualifies for free and reduced lunch ($x_3$), and the total enrollment or size of the campus ($x_4$), as well as the percent of the campus population that identifies as Black or African American ($x_5$), Latinx ($x_6$), or white ($x_7$), could bias the relationship between the index and campus passing rates and will therefore be controlled. Controlling these variables allows the relationship between the index and the passing rate to be examined beyond the confounding effects of school level factors that school administrators are working with and are likely unable to change or influence.

***Partial vs. Semipartial Correlations.*** Both squared correlations estimate the proportion of the variance of passing rates (y) that is explained by the index ($x_1$) and each of the other variables ($x_2$, $x_3$, ... $x_7$). A partial correlation controls for these additional school level factors and racial demographics by partialling out their influence on both the percent passing and the index. If I assume that campus passing rates (y) are determined by the index ($x_1$) and all of the school level factors

($x_2$, $x_3$, ... ($x_7$), then the partial correlation is an estimate of the correlation between the index and the passing rate if all of the other school level factors (percent disciplined, socioeconomic status, and size) and the racial demographics (percent Black or African American American, Latinx, or White) did not vary in either the index or the passing rate. In other words, the partial correlation finds the correlation between two variables when the influence, or effects, of all of the other variables, are removed or controlled.

If the partial correlation is smaller than the simple (two-variable) correlation but greater than 0, then the other variables partly explain the correlation between the index ($x_1$) and passing rates (y). The squared partial correlation between passing rates and the index represents the proportion of variance in passing rates, not associated with any other school level factors or demographics that is explained by the index. Thus, the squared partial correlation gives an estimate of how much of the variance in passing rates that cannot be explained by the other variables is explained by the index.

The semipartial correlation, also called part correlation, between passing rates (y) and the index ($x_1$) returns the correlation that I would observe if all of the school level effects were removed from the index but not from the passing rates. In other words, semipartial correlations will only control for school level factors and race variables in the index. The squared semipartial correlation represents the proportion of variance in passing rates that can only be explained by the index. This is different from the partial squared correlation, which quantifies how much of the variance could be explained by the index when the other variables are held equal because they were controlled. The partial squared correlation will tell me how much of all of the variation the index would be responsible for if all school level factors and demographics were the same, and the semipartial squared correlation will tell me what portion of the variance can only be attributed to the index.

**The Data Set**

The data set for this study was obtained through a Public Information Request (PIR) to TEA. In response to the PIR and subsequent negotiations, the Texas Education Agency provided files for each year from 1999 to 2019, which comprise the school years 1998-1999 to 2018-2019. The PIR omitted all reason codes other than 21 because they require specific disciplinary actions and therefore do not generate the possibility for discipline at the discretion of the administrator.

I chose to focus on a span of twenty years because the spring of 1998 was the first time that all of the end-of-course exams under the TAAS program were administered for the first time. Twenty years also should provide enough data to observe trends in three eras of high-stakes testing formats - TAAS, TEKS, and STAAR. In the 2019-2020, the Spring administration of State accountability assessments were canceled; therefore, campus passing rate data was unavailable and correlations for research question two the years ending 2000 to 2019.

Due to the increased absences for various quarantine recommendations by local health departments and local education agency requirements, school closures, and the expansion of online learning during the COVID-19 pandemic beginning in the Spring of 2020, the discipline numbers for that school year may be artificially low. In the 2018-2019 school year, the disciplined population was about 10%, or 591,447 students of the 5,574,620 enrolled in the State of Texas (TEA Annual Discipline Summary, 2020). The data for the 2021-2022 year were substantially different. That percentage fell to about 8% in the 2019-2020 school year and to 4.5% in 2020-2021 (TEA Annual State Summary, 2021). Based on this information the 2020-2021 has been excluded from the study, and I have noted the variation for the 2019-2020 school year with regard to research question one.

TEA sent the files in three groups. The first group included each infraction in Texas at every secondary campus from 1999-2019, including a masked campus ID reason code (exclusively 21 in this case), an action code (defining the consequence such as ISS, OSS, or DAEP, etc.), and the duration of the action/consequence while preserving demographic information about the student in each infraction such as their age, grade, gender, race, and socioeconomic status through a masked student ID number. The second group included files that provided demographic data for the campus in each year using the masked campus id. The third group also used the masked campus ID and provided the passing rates for each campus in each year.

The demographic information available to the public is published annually in either Texas Academic Performance (TAPR) or Academic Excellence Indicator System (AEIS) reports. These reports include total enrollment, total population, total economically disadvantaged or low socioeconomic status (SES), special education (SPED), English language learners (ELL), and the subtotals for each ethnicity and race for each campus, district, and region. In Texas, the TAPR reports (formerly AEIS) list race and ethnicity data in seven separate, self-identified categories. These include American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino (Latinx), White, two or more races, and Native Hawaiian or other Pacific Islander. In the data set, race and ethnicity were limited to five categories from 1999 to 2010. In the 2010-2011 school year, the Asian/Pacific Islander race category was split into two distinct subpopulations, Asian and Native Hawaiian or Other Pacific Islander, respectively, and the "two or more races' category was also added.

During the PIR negotiations, TEA representatives expressed concern that the data requested could be matched with specific campuses using the exact totals for subpopulations in the demographic data published annually in either TAPR or AEIS reports. To prevent the identification of a specific campus with so many data points for a specific year, and the possibility of violating the privacy of individual students who were disciplined on a specific campus, TEA required the data to be masked in order to have access to state-wide data. To mask the data, TEA took two actions when formatting their files. First, both student and campus IDs were scrambled. The scrambled campus IDs were held consistent across the files provided by TEA. Second, the campus demographic information provided is expressed as a range. The less than (<) symbol was removed from all of the rounded demographics data. TEA provided data that rounded every demographic total to the nearest five students to shape the campus demographic data. In removing the symbols, the subgroup total is rounded up to the nearest integer divisible by five. For example, a group listed by TEA as less than ten has a membership of five to nine people. The calculations run on this group were as if it had ten members. This rounding may affect the precision of the calculations for the study; however, given that this rule was applied consistently across each campus and subgroup, the rounded data is unlikely to introduce bias when performing campus calculations.

TEA files were uploaded to STATA-17 SE and merged. The first set, the student level files, one for each year, are formatted such that each row represents one infraction or disciplinary action. These infractions only include data for reason code 21, labeled "Violated Local Code of Conduct." In addition, these data only include Texas secondary (grades 6-12) public school students. Each row also contains the district enrollment size category (1A - 6A), masked/scrambled campus ID, and the following student level data: scrambled student ID, grade level, ethnicity, or race (five or seven categories depending on the year listed above), SES status (yes/no), special education status (yes/no), English language learner status (yes/no), disciplinary action code (indicating ISS, OSS, DAEP, etc.), and the number of school days or length of the student's disciplinary assignment.

For each of the research questions above, the "discipline population" refers to all secondary students (grades 6-12) who received a reason code 21, violation of the student code of conduct, from 1999 to 2019 in the State of Texas and were assigned an action code for that the infraction that was reported to TEA. The disciplined students were counted only once using masked student IDs for each campus, even if a student had multiple infractions in the data set within a given year.

When an infraction occurs on a campus and is referred to the campus disciplinarian, this administrator assigns a reason code. In this study, code 21, violation of the student code of conduct, is always the reason code under study. Once the reason code is assigned to a referral describing an incident, the campus disciplinarian must assign an action code to the infraction to describe the consequence the student received. If an administrator takes no action at the campus level, or the referral is deleted, the infraction is not reported to TEA; therefore, such cases are not included in these data. The codes that must be included in the PEIMS data reported to TEA are listed in Table 1. Codes 01 through 29 apply to all students. Codes 50 through 61 apply only to students with disabilities when a special education hearing officer, not employed or appointed by the district, finds the disciplinary action necessary to support a hearing officer order (20 USC 1415(k)(2),(10) and (CFR §300.521).

The action codes defined in Table 1 must be reported through PEIMS to TEA because they remove a student from their classroom teacher and peers for all or part of the day and, in many cases, for multiple days. All of the action codes that assign ISS, OSS, and DAEP or Juvenile

**Table 1**

*Action Code Descriptions*

| Code | Action | Description | Note |
|---|---|---|---|
| 01 | Expulsion | Without placement (TEC §37.007) | Hearing [TEC §37.009(f)] |
| 50 | | | SPED |
| 02 | | With placement in JJAEP | |
| 51 | | | SPED |
| 03 | | With placement on-campus DAEP | |
| 52 | | | SPED |
| 04 | | With placement off-campus DAEP | |
| 53 | | | SPED |
| 09 | | Continuation | Other district |
| 56 | | | SPED |
| 11 | | Continuation from previous year | Same district |
| 58 | | | SPED |
| 12 | | Continuation with placement in JJAPE | Same district |
| 59 | | | SPED |
| 15 | | | Other district |
| 61 | | | SPED |
| 05 | OSS | May not exceed three days | (TEC §37.005) |
| 25 | | Partial day | |
| 06 | ISS | May exceed three days (TEC §37.001) | (TEC §37.005) |
| 26 | | Partial day | |
| 07 | DAEP | On or off-campus (TEC §37.008) | Conference [TEC §37.009(a)] |
| 54 | | | SPED |
| 14 | | Court order | |
| 08 | | Continuation | Other district |
| 55 | | | SPED |
| 10 | | Continuation from previous year | Same district |
| 57 | | | SPED |
| 13 | JJAEP | Court order | |
| 60 | | | SPED |
| 16 | Truancy | | Fine |
| 17 | | | No Fine |
| 29 | | Complaint filed | |
| 27 | No Action | ARD | |
| 28 | | Mitigating circumstances | [TEC §37.001(a)(4)] |

Note. No codes assigned to numbers 30 through 49 (Texas PEIMS Standards. 2023).

Justice Alternative Education Placements (JJAEP) as a consequence are discretionary for reason code 21, and these were grouped according to each discipline setting and summarized in Table 2.

Action codes 01 through 04, 09, 11, and 15, as well as codes 50 through 53, 56, 58, 59, and 61 were also grouped by TEA because they all entail expulsions, as described in Table 1. Expulsions are not discretionary discipline actions in Texas.

**Table 2**

*Infraction Demographic Data Descriptions*

| Variable | Description | Values |
|---|---|---|
| Infraction number | Number assigned to each row representing one infraction reported to TEA | multiple digits |
| Student ID | Masked student ID, only for students who received a code 21, linkable to masked Campus ID | multiple digits |
| Ethnicx | Race/ethnicity of student | American Indian or Alaska Native, Hispanic or Latino or Latinx, Asian, Black or African American, White, Two or more races, Native Hawaiian or other Pacific Islander |
| English Language Learner | Students for whom English is a second language | 0/1 |
| Economically Disadvantaged | Students who qualify for free and reduced lunch | 0/1 |
| Special Education | Students with a disability | 0/1 |
| Campus ID | Masked Campus ID, linkable to STAAR EOC achievement and demographics year | multiple digits |
| Reason Code | Violation of the Student Code of Conduct | 21 |
| Action Code | Discipline Placement Setting | 01-29,50-61(SPED) |
| Duration | Number of days assigned to Action Code | 0-180+ |
| Year | The year in which the infraction occurred, linkable to STAAR EOC achievement and infraction year by campus ID | 1999-2020 |
| District Size | Classification based on enrollment | 1A2, 1A1, 2A2, 2A1, 3A2, 3A1, 4A2, 4A1, 5A2, 5A1, 6A |
| Grade | Grade student was enrolled in on the date of the infraction, secondary only | 6-12 |

Note. Sourced from TEA PIR Data Set student level files

The term “non-PEIMS” describes action codes are actions that an administrator can choose, such as a lunch or after-school detention, a conference in the office, or a phone call to a student’s parents. Any incident or infraction assigned a non-PEIMS action code is not in the data set obtained from TEA because school districts do not report them to the State.

Using the campus level files, I matched the campus ID in each row (infraction), merging the data. This merge added columns to the rows containing the region (TEA service center number) and the campus demographic information expressed as a range to protect student identity per TEA’s requirements. After the merge, this file had the student level incident and demographics in each row and the campus demographic information for the school where the incident occurred. This file is what I used to begin performing calculations for both research questions and to export totals to a spreadsheet allowing me to note and summarize data to observe and describe any observed trends over time. For a complete description of all variables defined in the data set, please refer to Table A1 in the Appendix.

**The Study Population**

In this section, I describe the population of interest for this study using the aforementioned TEA data. The total number of secondary campuses in the data increased by about 24% from 6,955 in the 1999-2000 school year to 8,598 in the 2019-2000 school year. During this time, the total number of students measured in the study from Texas secondary schools also increased. In the first year of the study, the total population was 4,546,145, which increased by about 32% to 5,834,440 secondary students. Every subpopulation measured in the study experienced an increase in population to varying degrees except White students, which declined by 17%. Asian students increased by the largest percentage over these 20 years, rising from 104,120 students statewide to 249,365. The students who identified as Asian in the 2019-2020 school year was almost two and a half times larger than in the 1999-2000 school year, even though a new category was added in 2009, Native Hawaiian or other Pacific Islander, which might have reduced the number of students categorized as “Asian” between 2009 and 2020. The ELL population increased by 41% during this time; however, it has not grown at the same rate as the Latinx population. The Latinx population increased by about 75%, making it the second most growing population in Texas secondary schools during the period under study. In 2009, a two or more races category was added, which increased by about 64% in just the last ten years of the study. The Black or African American population increased by about 18% from the 1999-2000 to 2019-2020 school years. In short, the overall population in Texas, over this time, became less White, less Black or African American, and more Asian and Latinx, coinciding with the population becoming more linguistically diverse.

**State Level Disciplinary Action Totals**

For the purposes of this study, I have assumed that every administrator empowered to discipline a secondary student understands and abides by the Texas Education Code and Federal law as it may apply to the civil rights of students and due process regarding discipline. I also assume that when assigning reason codes to any incident referred to the office, all administrators are competent and thus able to determine when a code 21 is the appropriate reason a student should receive discipline for an incident referred to the office. Measuring the quality of the judgment used by an individual administrator or the accuracy with which they follow policy to assign reason codes to a description of an incident is beyond the scope of this study; however, I have sought to use the data set to illuminate what PEIMS reportable consequences (ISS, OSS, DAEP, JJAEP, and expulsion) were assigned statewide between the school years 1999-2000 and 2019-2020 because this story has not been told for discipline in Texas secondary schools that is exclusively assigned at the discretion of an administrator. We simply did not know what consequences were assigned and to whom, nor did we know if there were any existing disparities until now.

When an infraction is assigned a reason code 21 for a violation of the student code of conduct, the campus disciplinarian must assign an action code (see Table 1 for action code definitions) and duration to describe how long the consequence the student is assigned will be served. Students who violate the student code of conduct are disciplined at the discretion of their campus administrator because there are no mandatory consequences or punishments (action codes) in the TEC that an administrator would be required to apply for a violation of the student code of conduct (reason code 21). Table 3 totals all action codes by consequence, showing that an average of over 1.5

million incidents every year require campus administrators to use their discretion when placing students in ISS, OSS, DAEP, JJAEP, or expulsion.

**Table 3**

*State Level Totals for Disciplinary Actions*

| Year | Total ISS | Total OSS | Total DAEP | Total JJAEP | Total Expulsions |
|---|---|---|---|---|---|
| 1999-2000 | 732,092 | 187,827 | 59,922 | 214 | 70 |
| 2000-2001 | 884,194 | 255,896 | 74,708 | 95 | 29 |
| 2001-2002 | 973,637 | 302,248 | 86,532 | 256 | 0 |
| 2002-2003 | 1,051,588 | 307,059 | 85,281 | 298 | 0 |
| 2003-2004 | 1,320,976 | 374,899 | 81,332 | 317 | 11 |
| 2004-2005 | 1,418,655 | 402,801 | 75,914 | 312 | 0 |
| 2005-2006 | 1,463,996 | 437,470 | 76,118 | 234 | 64 |
| 2006-2007 | 1,454,186 | 434,992 | 74,850 | 30 | 32 |
| 2007-2008 | 1,444,481 | 439,098 | 67,583 | 77 | 159 |
| 2008-2009 | 1,369,259 | 396,539 | 61,410 | 99 | 112 |
| 2009-2010 | 1,350,609 | 383,290 | 54,583 | 150 | 177 |
| 2010-2011 | 1,279,138 | 349,567 | 53,536 | 117 | 17 |
| 2011-2012 | 1,243,078 | 342,971 | 50,234 | 90 | 11 |
| 2012-2013 | 1,147,338 | 328,134 | 45,207 | 143 | 10 |
| 2013-2014 | 1,073,733 | 322,850 | 42,445 | 66 | 10 |
| 2014-2015 | 994,325 | 300,924 | 39,937 | 52 | 0 |
| 2015-2016 | 938,451 | 287,174 | 36,427 | 64 | 20 |
| 2016-2017 | 896,575 | 269,157 | 34,203 | 26 | 54 |
| 2017-2018 | 834,361 | 258,475 | 33,487 | 46 | 213 |
| 2018-2019 | 880,114 | 279,123 | 34,277 | 0 | 183 |
| 2019-2020 | 633,045 | 185,322 | 26,741 | 11 | 74 |
| Sum | 23,383,831 | 6,845,816 | 1,194,727 | 2,697 | 1,246 |
| Average | 1,113,516 | 325,991 | 56,892 | 128 | 59 |

**Expulsions and Alternative Education Placements**

A total of 1,246 expulsions appear in the data set (see Table 4). They average 59 per year and range from a high of 213 statewide in 2017-2018 to a low of zero in four different school years, 2001-2002, 2002-2003, 2004-2005, and 2014-2015. These cases call into question the administrative data coding process and execution because expulsions should not occur under reason code 21. This likely means that students have been expelled under this code improperly because the option to expel a student for violating the student code of conduct does not exist (Texas PEIMS Standards, 2019). In this data set, an average of 59 students have been expelled annually for an infraction coded 21 when they probably committed an additional offense that was not logged as a new infraction and coded correctly as behavior that would be an expellable offense.

Alternative education placements can be assigned at a district level, DAEP, or they can be assigned to be served at a juvenile justice detention facility, JJAEP. When interpreting these data, it seems excessive that a student should be sent to a JJAEP for violations of the student code of conduct because these code 21 offenses do not include violence, sexual offenses, fighting, drugs, alcohol, or weapons. Given that none of the infractions in the data set under study represent a crime of any kind, as defined by the penal code, it is difficult to understand why there have been 2,697 JJAEP placements between 1999-2000 and 2019-2020, representing an average of 128 placements per year. It is unlikely that students were actually placed in a detention facility for an offense that, by definition, is not criminal, violent, or illegal by a professional and licensed administrator. Like the expulsions described above, JJAEP placements are also likely to result from secondary behaviors that compound the consequences initially assigned to a less severe violation of the student code of conduct.

The existence and inexplicable nature of these assigned consequences suggest there is an opportunity for further research into the possible miscoding of discipline at the campus level. However, for this research, the total JJAEP and expulsion data points are 3,943 of 31,428,317 total actions and only represent approximately 0.01% of the data. Therefore, it is unlikely that these data have affected my findings.

**Assessments**

During the period under study, three different assessments have been used in the State of Texas to calculate this percent passing for all students on all tests. In the years 2013-2019, the assessment is the State of Texas Assessment of Academic Readiness (STAAR) for grades 6-8 and the End of Course Exams (EOC) for 9-12 in Algebra I, Biology, United States History, and English I and II.

For STAAR and EOC exams passing is defined as “Approaches Grade Level.” From 2003-2012 The Texas Assessment of Knowledge and Skills (TAKS) was used statewide, and passing was defined as “Met Standard.” Finally, from 1999-2002 the Texas Assessment of Academic Skills (TAAS) was the state assessment, and the passing rate was provided as “passing.” These files provide the percentage of all students who met the minimum standard, or passed, the Texas statewide academic assessments for that year on each campus. This level of achievement is expressed as a percent of all students on all tests for each campus and will be matched to each row in the data set by the scrambled campus ID. Over time, the tests and the scores considered passing have changed. Given that these changes affect every campus equally, these changes are not problematic in the examination of the correlations for this study.

The passing rate for each campus was provided in the PIR request from TEA, as described above. By matching the masked/scrambled campus ID number in the student level infraction file, as well as the campus level demographics file, I shaped the data set to allow the calculation of the correlation between a measure of the magnitude of the disparity in discretionary discipline, called the index, and the campus passing rate. The data file also contains each unique campus identification number merged with the data on passing rate for all students on all tests in that year, the index for that campus in that year, as well as the demographic information (race and ethnicity, region, size, percent SES, etc.) for each campus.

Total infractions per campus in each year were first calculated. Then, the total infractions for each subpopulation were calculated. When counting overall totals and the totals for each subpopulation (all seven calculated for each year) for each campus, each unique student ID must be counted only once. Thus duplicate scrambled student identification numbers were dropped. Next, for each year, the risk ratio was calculated in every subpopulation for each campus. Finally, the risk ratios were totaled and appended to the file by matching the campus ID.

**Non-Conforming Campus ID Numbers**

Unfortunately, there were 13,234 infractions in the data set from the 1999-2000 school year to the 2019-2020 school year that were assigned to a campus with “000000000” as the scrambled campus identification number. This number does not conform to TEA's other scrambled campus identification numbers. The PIR request data does not include an explanation for what these campuses are because these data are masked by TEA to specifically prevent the identification of any particular campus.

Each year, the students who are assigned to this campus number "00000000" are also assigned to schools with different district size designations. Because a particular campus can only be one size, this suggests that TEA removed any association between these infractions and the home campus. In the campus level file, when the data are sorted by campus identification number, year, and then region, it is clear that there is exactly one campus with this label for each of the twenty regional service centers in Texas.

The students also have widely varied punishments, including ISS, and therefore these campuses are unlikely to be alternative education or juvenile justice campuses. The infraction data with this campus code includes students who receive special education services and those who don't, which precludes a specialized school for the blind, for example. Additionally, not all of the students assigned to this "000000000" campus are SES, which means that this campus identification number is not an indicator of migrant or homeless students. Without a reason or definition for this code, I cannot find a pattern that would explain it.

Students with infractions assigned to campus "00000000" are included in the calculations for research question one because all students are grouped regardless of campus in the first part of the study; however, these data have been excluded from the calculations for research question number two because the campus index could not be correlated to any passing rate. No test scores for this campus identification number exist in any of the years under study.

**Missing Passing Rate Data**

The last year of data availability, with regard to campus passing rates, as measured by the percent met standard in the "all students all tests" category for the STAAR and EOC tests, is the 2018-2019 school year. However, there are years in this study's timeframe in which some campuses are missing passing rate data. Several reasons could explain this phenomenon. Some reasons include extreme weather events such as hurricanes, floods, and tornadoes. When the physical plant for a district or school is impacted for a significant amount of time, TEA recognizes that instruction may be impacted, and schools can be excused from testing in that year. Other reasons may include violence like the school shooting. Fires also destroy school buildings and can displace students for long periods of time. In this study, it is impossible to know the particular reasons for each of the missing passing rate data points because TEA has deliberately masked the campus from the researcher and will not provide information that would enable me to deduce what school that particular data point represents.

**Assumptions and Limitations**

There are limitations to this research design, and I have made two major assumptions. The first major assumption is that disproportionate outcomes are not randomly created by unobservable variables. I have assumed that because the violation of the student code of conduct can be applied subjectively to a wide variety of behaviors, disparity in the application of code 21, if it exists, results from inconsistencies that occur when administrators have the discretion to choose from a wide variety of disciplinary action codes and durations for the consequences they assign. This choice drives the focus on discretionary discipline for this research, as opposed to all types of discipline, and is the basis for only including reason code 21 in the data set.

The second assumption I make in designing this study is that the ability of administrators empowered to use their discretion in disciplining students to understand and abide by the Texas Education Code as well as Federal law as it may apply to the civil rights of students and due process regarding discipline is not correlated to demographics. This means that when assigning reason codes to any incident referred to the office, I assume campuses across the state have similar variations in the competence of administrators to determine when a code 21 is the appropriate description of the reason a student should receive discipline for an incident referred to the office. Because these variations in competence are likely evenly distributed, they are unlikely to skew the calculations produced by the very large number of observations in the data.

The study is most significantly limited by the data available as it is entered into the PEIMS database by human beings. The measurement of disparity between subpopulations will not allow for any generalizations to be made about the reasoning an administrator may use when exercising their discretion, and it will also be impossible to determine what the descriptive statistics mean with regard to bias or intent on the part of administrators assigning discipline. Given that the identity of any particular disciplinarian is not available in the data set, qualitative measurements regarding external forces that may influence the deliberative process like beliefs, faculty pressure, directives, lawsuits, manifestation determinations, personality conflicts, personal problems, mental illness, or parental influence cannot be captured. I assume that these external forces are not unique to any campus with regard to demographics, region, or size and are therefore unlikely to create bias.

Another limitation is the possibility of errors and omissions in the entry of discipline data. If any administrator on any campus failed to enter a reason or action code for an incident for which discipline was carried out in the district PEIMS database between 1999 and 2019, it would limit the study because the incident would not be appropriately reported to TEA and remain impossible to capture in the data set requested. It will remain unclear if or what restorative measures and assistance may have been offered to students in lieu of a disciplinary action code because these are also not reported to TEA. In cases where administrators may not have followed the law, either by error or omission, measurements on the data set might be skewed and could affect the accuracy of my calculations. It is not possible to estimate if, or how often, such omissions in data entry have been made; however, I am hopeful that this possible skewness is mitigated by the large number of incidents under study.

The research in this study is further limited by the accuracy of the data released from TEA in the PIR. First, the data are masked which means that verifying what was provided in the PIR with other published reports is intentionally made impossible. Second, some of the campus IDs do not conform to the masked/scrambled ID format creating confusion about what they mean. Because TEA will not provide me with the identity of any campus, the reason for this non-conformity remains hidden. Third, demographic data points are rounded to the nearest five students to deliberately prevent matching the data publicly available in TAPR reports to the data provided in response to the PIR request curtailing any effort to identify specific campuses or individuals during my research for this study. TEA made it clear during negotiations that this is intended on their part to protect the privacy of individual students. The rounding further presents a problem because the data released does not contain any information about students who were not disciplined under reason code 21; therefore, the subtraction from the rounded demographic totals calculating the number of students not disciplined used to complete the risk ratio calculations are not as accurate as they would have been if the exact totals had been provided by TEA in the PIR data set. Given that the masking and rounding of these data will be consistent across all of the campuses and subpopulations under study, and no bias should be introduced as a result. Lastly, the accuracy of the released data is called into question because there are missing passing rate data points for some campuses without explanation. I am unable to fill in these possible omissions with other publically available published data points due to the masked identity of each campus.

The study is also limited by the manner in which race and ethnicity data are collected from individuals who self-identify and by the way these data are categorized by the State of Texas. Texas public schools are required to report all students who identify as “mixed-race” in the “two-or-more races” category which removes them from all of the other subpopulation groups, such as “Black or African American” or “Asian” subpopulations in the PEIMS submission data. Likewise, if a student chooses to identify themselves as ethnically Hispanic or Latino (Latinx), even if they also identify their race as “Black or African American” or “Native American or Alaska Native”, only the Hispanic or Latino (Latinx) ethnicity will be reported. Additionally, the manner in which these data are collected may not recognize indigenous people from Central America as Native American and force them to be identified with their Colonial Conquerors as Hispanic or introduce bias by subsuming them under the monolithic Latinx label diminishing their visibility in ways other subpopulations like Pacific Islanders are not. These practices artificially reduce some subpopulations and underrepresentation could diminish the accuracy of calculations in this study. There are also holes and possible errors in the demographic data because data entered by clerks across the state, and the self-identification of race and other information that families provide to their schools, is imperfect.

Finally, the most important limitations of the study are that the data set does not include the achievement of individual students, thus an analysis of how the achievement of individuals disciplined under a code 21 may be directly affected is not possible. The examination of correlations between the level of disparity in code 21 disciplinary actions between subpopulations and achievement may show that they are associated; however, the ability to assert that any possible disparities measured are the cause of changes in achievement with any confidence will be limited.

The results from the calculations described here are reported in the following chapter.

# 4. RESULTS

The purpose of this study is to quantify disparities in the referral of subpopulations of students for discretionary discipline and determine if, or to what extent, changes in levels of disparity correlate with changes in campus academic achievement. The subpopulations under study are American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino (Latinx), White, Two or more races (added in the 2010-2011 school year), and Native Hawaiian or other Pacific Islander (added/split from Asian in the 2010-2011 school year).

## Research Question One

The first research question is, do disparities exist between subpopulations in the referral of students for discretionary discipline from 1999 to 2020 at the state level, and to what extent has this disparity increased or decreased over that time in Texas? For this question, I used population totals, specifically total students and total students disciplined and totals for each subpopulation, from the over 31 million observations provided in the PIR request, both for the 20 years under study and for each individual year.

**The Disciplined Population.** The average population of the total students in Texas secondary schools from the 1999-2000 school year to the 2019-2020 school year is 5,220,197. The average number of students disciplined over this same period is 486,813. This means that on average 9.33% of the total student population in Texas secondary schools, in a given academic year, were referred to the office and given a consequence that is required to be reported to the Texas Education Agency (TEA) under the reason code 21 as a violation of the student code of conduct. This percentage of the population disciplined with a violation of the student code of conduct trended upward from 8.27% in the 1999-2000 school year to 11.78% in 2005-2006 (see Table 4). Since then, these data have trended downward to 7.04% in 2017-2018.

The lowest percentage of students disciplined under reason code 21 is in the last year of the study, 2019-2020; however, because the 2019-2020 school year was truncated in March due to

**Table 4**

*State Level Totals for Students Disciplined and Not Disciplined*

| Year | Total Students | Total Students Disciplined | Percent Disciplined | Total Students Not Disciplined |
|---|---|---|---|---|
| 1999-2000 | 4,146,085 | 365,091 | 8.27% | 4,050,994 |
| 2000-2001 | 4,490,315 | 434,602 | 9.68% | 4,055,713 |
| 2001-2002 | 4,573,690 | 474,989 | 10.39% | 4,098,701 |
| 2002-2003 | 4,663,590 | 492,319 | 10.56% | 4,171,271 |
| 2003-2004 | 4,747,260 | 543,730 | 11.45% | 4,203,530 |
| 2004-2005 | 4,830,825 | 568,155 | 11.76% | 4,262,670 |
| 2005-2006 | 5,012,525 | 590,336 | 11.78% | 4,422,189 |
| 2006-2007 | 5,036,685 | 585,547 | 11.63% | 4,451,138 |
| 2007-2008 | 5,089,770 | 588,044 | 11.55% | 4,501,726 |
| 2008-2009 | 5,158,980 | 563,719 | 10.93% | 4,595,261 |
| 2009-2010 | 5,237,845 | 555,758 | 10.61% | 4,682,087 |
| 2010-2011 | 5,325,925 | 532,188 | 9.99% | 4,793,737 |
| 2011-2012 | 5,399,440 | 515,710 | 9.55% | 4,883,730 |
| 2012-2013 | 5,470,415 | 487,486 | 8.91% | 4,982,929 |
| 2013-2014 | 5,558,340 | 464,111 | 8.35% | 5,094,229 |
| 2014-2015 | 5,639,455 | 438,700 | 7.78% | 5,200,755 |
| 2015-2016 | 5,763,740 | 424,003 | 7.36% | 5,339,737 |
| 2016-2017 | 5,763,740 | 415,902 | 7.22% | 5,347,838 |
| 2017-2018 | 5,790,215 | 407,399 | 7.04% | 5,382,816 |
| 2018-2019 | 5,820,865 | 428,386 | 7.36% | 5,392,479 |
| 2019-2020 | 5,834,440 | 346,896 | 5.95% | 5,487,544 |
| Sum | 109,624,145 | 10,223,071 | | 99,401,074 |
| Average | 5,220,197 | 486,813 | 9.33% | 4,733,384 |

Note. When counting overall totals at the state level each unique student ID is counted once.

school closings related to the COVID-19 pandemic, it is likely that these data are artificially low. Many schools used virtual learning to complete the school year, making discipline under this code largely unnecessary for this unusual period of the pandemic.

**State Level Risk Ratios.** The risk ratio is the likelihood that a student from one group will be referred for discretionary discipline to the likelihood that a student from another group will be referred.

$$\text{Subpopulation risk ratio} = \frac{\text{Number of students in subpopulation disciplined}}{\text{Number of students in subpopulation not disciplined}}$$

The ratio of students receiving disciplinary infractions to students not receiving disciplinary infractions was calculated for each race or ethnicity category in each year under study across the entire population without regard to region or campus. This calculation quantifies the risk that a student will be given a code 21 at least once. The index quantifies the range between the largest and the smallest risk and provides a data point useful for comparing the magnitude of the disparity from year to year. The risk ratio for the entire population was calculated for each year to serve as an additional measure of comparison in this analysis with the index.

When the risk ratios were compared for each subpopulation in each year across the state a pattern emerged as shown in Figure 1 below. In every single year under study, the risk ratio for African Americans is the highest of all of the subpopulations. The next highest risk ratio was Latinx followed by the White subpopulation. Native American or Alaska Native, Asian, two or more races, and Native Hawaiian or Other Pacific Islander subpopulations are all under the White risk ratio. The smallest risk ratio for any subpopulation in the data was found for the Native American or Alaska Native group from the 1999-2000 school year to the 2008-2009 school year. Beginning in the 2009-2010 school year, this changed to the Native Hawaiian or Other Pacific Islander subpopulation when the group was split with the addition of the new category.

The average risk ratio for the entire population is 0.1046 over the life of the study. Looking at the relationships between the annual risk ratio measurements for each subpopulation illustrated by Figure 1, it follows that the average risk ratios over the life of the study had the same relationship with one another. The average risk ratio for Black or African American students over the twenty years under study is 0.1805. The average risk ratio for Latinx is 0.1095 and in contrast, the average risk ratio for the White subpopulation over the 20-year study is only 0.0795. Table 5 below lists these average risk ratios and also provides values for the range and standard deviations for the entire population and the three subpopulations that comprise about 94% of the total secondary student population - Black or African American, Latin, and White. Additionally, Table 5 also shows that the data is more varied for the African American subpopulation than for the Latinx or White subpopulations.

**Figure 1**

*Subpopulation Risk Ratios by Year*

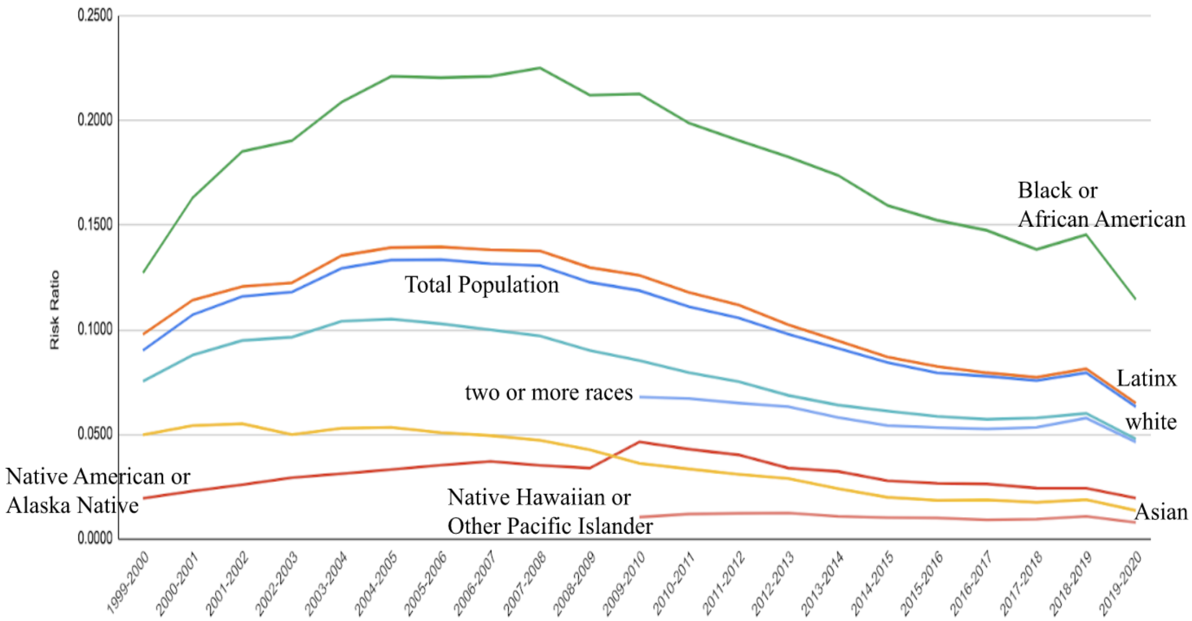



**Table 5**

*Average Risk Ratios*

| Population | Average Risk Ratio | Range | Standard Deviation |
|---|---|---|---|
| All | 1.046 | 0.0703 | 0.0223 |
| Black or African American | 1.805 | 0.1106 | 0.0340 |
| Latinx | 0.1095 | 0.0746 | 0.0240 |
| White | 0.0795 | 0.0574 | 0.0184 |

The average risk ratio for the Black or African American subpopulation was not only the highest out of all the race or ethnicity groups, but it is more than double that of the White subpopulation.

**State Level Indices.** While the risk ratios are a measure of the likelihood that a member of a particular subpopulation will receive a code 21, the index is the difference between the largest and smallest risk ratio. This means that the index measures the distance between the population most at risk and the population least at risk. This index, for the purposes of this study, is the measure of disparity in discretionary discipline in Texas secondary schools from the 1999-2000 school year and the 2019-2020 school year.

Given that both the Native American or Alaska Native and Native Hawaiian or Other Pacific Islander populations are such a small portion of the total population in Texas, the data for these groups could potentially have been misleading in the calculation of the index. Measuring disparity by removing a risk ratio representing 0.5% of the population from a risk ratio representing 14% for every single year could be more stable. Therefore, I test the robustness of this finding by investigating whether there are substantial differences when removing potentially more volatile subpopulation data. I calculate the index in two ways. First, I calculated the index with all of the racial subpopulations. Then, I recalculated the index including only the White, Latinx, and Black or African American groups, which comprise 94% of the total population. Every single year in this method effectively subtracts the smallest risk ratio belonging to the White subpopulation from the Black or African American subpopulation which had the largest risk ratio every year.

The results of both of these methods are summarized in Table 6. The second column lists the risk ratio calculations for the entire statewide population for each year. The index listed in the fifth column is calculated by the second method listed above which subtracts the data in column four from column three. The last column lists the index when calculated using risk ratios from only the White, Latinx, and Black or African American subpopulations.

When the averages for these three calculations were compared using summary statistics, I found that the summary data for the second method described a more tightly clumped data set. The average index calculated with all subpopulations at the state level was 0.1605 with a range of 0.0956 and a standard deviation of 0.0273, and the average index for just the African American, White, and Latinx subpopulations was 0.1010 with a range of 0.0763 and a standard deviation of 0.0210. Overall, the trend, regardless of how it was calculated, rises until a peak is reached in 2009-2010, and since then the index has trended downward as shown below in Figure 2. This suggests that disparities in discretionary discipline increased in the first decade of the 21st century and that disparities in the risk of receiving a code 21 have decreased since then through the 2019-2020

**Table 6**

*State Level Risk Ratios and Index*

| Year | Risk Ratio for Total Population | Largest Subpopulation Risk Ratio | Smallest Subpopulation Risk Ratio | Total Population Index | Black, White & Latinx Index |
|---|---|---|---|---|---|
| 1999-2000 | 0.0901 | 0.1272 | 0.0195 | 0.1077 | 0.0518 |
| 2000-2001 | 0.1072 | 0.1630 | 0.0229 | 0.1401 | 0.0751 |
| 2001-2002 | 0.1159 | 0.1852 | 0.0259 | 0.1593 | 0.0904 |
| 2002-2003 | 0.1180 | 0.1903 | 0.0293 | 0.1610 | 0.0939 |
| 2003-2004 | 0.1294 | 0.2088 | 0.0312 | 0.1775 | 0.1047 |
| 2004-2005 | 0.1333 | 0.2211 | 0.0332 | 0.1879 | 0.1160 |
| 2005-2006 | 0.1335 | 0.2204 | 0.0353 | 0.1851 | 0.1176 |
| 2006-2007 | 0.1315 | 0.2210 | 0.0371 | 0.1839 | 0.1211 |
| 2007-2008 | 0.1306 | 0.2250 | 0.0352 | 0.1898 | 0.1281 |
| 2008-2009 | 0.1227 | 0.2121 | 0.0339 | 0.1782 | 0.1219 |
| 2009-2010 | 0.1187 | 0.2127 | 0.0105 | 0.2022 | 0.1274 |
| 2010-2011 | 0.1110 | 0.1987 | 0.0120 | 0.1867 | 0.1192 |
| 2011-2012 | 0.1056 | 0.1904 | 0.0122 | 0.1782 | 0.1152 |
| 2012-2013 | 0.0978 | 0.1826 | 0.0124 | 0.1702 | 0.1140 |
| 2013-2014 | 0.0911 | 0.1738 | 0.0108 | 0.1630 | 0.1098 |
| 2014-2015 | 0.0844 | 0.1594 | 0.0102 | 0.1492 | 0.0983 |
| 2015-2016 | 0.0794 | 0.1523 | 0.0100 | 0.1422 | 0.0937 |
| 2016-2017 | 0.0778 | 0.1474 | 0.0092 | 0.1383 | 0.0903 |
| 2017-2018 | 0.0757 | 0.1384 | 0.0095 | 0.1289 | 0.0805 |
| 2018-2019 | 0.0794 | 0.1454 | 0.0109 | 0.1345 | 0.0854 |
| 2019-2020 | 0.0632 | 0.1145 | 0.0079 | 0.1066 | 0.0667 |

school year for the overall population.

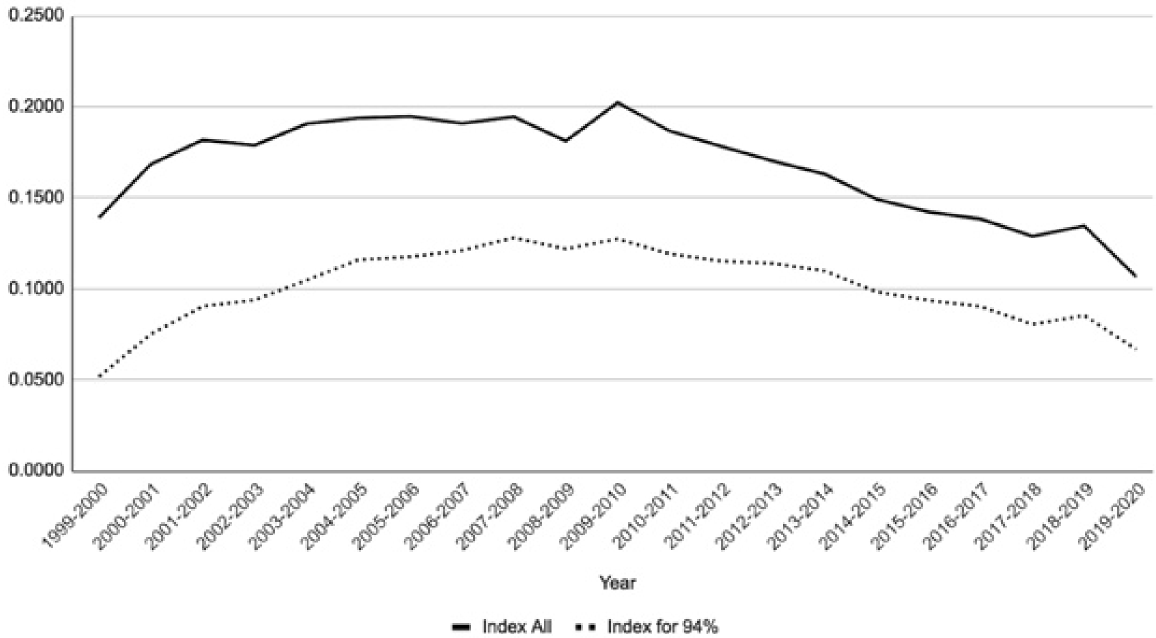
### Research Question Two

To what extent are changes in campus level disparities correlated to changes in secondary academic achievement as measured by the percent meeting the minimum passing standard for each year for all students on all tests administered by the State of Texas for accountability from the 1999-2000 school year to the 2018-2019 school year?

Research question two seeks to illuminate the possible effect of those discipline decisions and moves the analysis of over 31 million infractions over 20 years to the campus level. With 73,600 campus level observations, I summarize the correlation between the code 21 risk ratio index scores

**Figure 2**

*Statewide Index*




and percent passing rate both over the life of the study and by year.

Table 7 shows the number of passing rate scores, or the number of campuses observed, in the data for use in the correlation calculation. It also lists the average percent passing for all of the campuses along with the standard deviation. These summary statistics and the maximum and minimum passing rates in the data for campuses statewide in each year provide information about the spread of the data, or how varied the passing rates are in the data set.

The average campus passing rate, which is the dependent variable under study, for all of the years combined is about 71.9%. This means that on average, just over 18% of secondary students on Texas campuses do not pass all of their accountability assessments. The standard deviation here is 16.2861, and this means that 68% of the 73,599 campus passing rates observed over 20 years have fallen between 55.6% and 88.2%. In Table 8 the column titled "Observations" shows the number of campuses for which an index was calculated in each year for use in the correlation calculation with the campus passing rate data (see Table 7). It also reports the average index for all

**Table 7**

*Summary Statistics Campus Passing Rate by Year*

| Year | Observations *(n)* | Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| 1999-2000 | 2,842 | 79.4665 | 13.3134 | 0 | 100 |
| 2000-2001 | 3,262 | 80.4272 | 13.8528 | 0 | 100 |
| 2001-2002 | 3,418 | 84.3074 | 11.8887 | 7 | 100 |
| 2002-2003 | 3,495 | 54.0916 | 18.1707 | 2 | 99 |
| 2003-2004 | 3,631 | 64.3060 | 17.2002 | 3 | 99 |
| 2004-2005 | 3,673 | 58.9709 | 17.7036 | 4 | 99 |
| 2005-2006 | 3,707 | 63.9852 | 17.8715 | 2 | 99 |
| 2006-2007 | 3,658 | 66.8557 | 17.2486 | 5 | 99 |
| 2007-2008 | 3,661 | 68.7372 | 16.8918 | 4 | 99 |
| 2008-2009 | 3,686 | 70.7884 | 16.2365 | 3 | 99 |
| 2009-2010 | 3,802 | 72.8840 | 15.2540 | 6 | 99 |
| 2010-2011 | 3,849 | 72.6287 | 14.6091 | 2 | 99 |
| 2011-2012 | 3,822 | 75.7470 | 12.5170 | 3 | 100 |
| 2012-2013 | 3,858 | 75.1374 | 12.7471 | 11 | 100 |
| 2013-2014 | 3,854 | 75.6635 | 12.8827 | 14 | 100 |
| 2014-2015 | 3,875 | 76.1776 | 12.6979 | 22 | 100 |
| 2015-2016 | 3,888 | 73.2629 | 13.3376 | 9 | 100 |
| 2016-2017 | 3,896 | 73.9859 | 12.8609 | 8 | 100 |
| 2017-2018 | 3,766 | 76.1277 | 11.4085 | 37 | 100 |
| 2018-2019 | 3,956 | 76.5071 | 12.2548 | 0 | 100 |
| All Years | 73,59 | 71.9455 | 16.2861 | 0 | 100 |

of the campuses along with the standard deviation to describe the data over time.

The average index for the campus level data, which is the independent variable under study, for all of the years combined, is 0.3091. The mean index score at the state level was 0.1605. This means that calculating indices by campus provides a different view of the disparity in secondary discipline than looking statewide. The standard deviation of the indices by campus is 0.54, whereas the standard deviation at the state level is only 0.0268. There were 9,435 schools in the data where the index was equal to zero over the life of the study (12.8% of the index scores). Reluctant to throw these data out, I ran the simple, partial, and semipartial correlations with and without these data points. My purpose was to determine if the elimination of these 9,435 campus data points radically changed the outcome of the calculations. The simple correlation coefficient went from

**Table 8**

*Summary Statistics for the Index by Year*

| Year | Observations *(n)* | Index Mean | Standard Deviation | Minimum | Maximum |
|---|---|---|---|---|---|
| 1999-2000 | 2,842 | 0.2567 | 0.4357 | 0 | 6 |
| 2000-2001 | 3,262 | 0.2789 | 0.5190 | 0 | 13 |
| 2001-2002 | 3,418 | 0.3109 | 0.5464 | 0 | 9 |
| 2002-2003 | 3,495 | 0.3188 | 0.5637 | 0 | 9 |
| 2003-2004 | 3,631 | 0.3471 | 0.6137 | 0 | 15 |
| 2004-2005 | 3,673 | 0.3538 | 0.7080 | 0 | 15 |
| 2005-2006 | 3,707 | 0.3676 | 0.5619 | 0 | 9 |
| 2006-2007 | 3,658 | 0.3639 | 0.6610 | 0 | 19 |
| 2007-2008 | 3,661 | 0.3253 | 0.6351 | 0 | 14 |
| 2008-2009 | 3,686 | 0.3564 | 0.4858 | 0 | 9 |
| 2009-2010 | 3,802 | 0.3398 | 0.6410 | 0 | 19 |
| 2010-2011 | 3,849 | 0.3161 | 0.6573 | 0 | 14 |
| 2011-2012 | 3,822 | 0.3061 | 0.5263 | 0 | 13 |
| 2012-2013 | 3,858 | 0.2809 | 0.4939 | 0 | 8 |
| 2013-2014 | 3,854 | 0.2706 | 0.4679 | 0 | 14 |
| 2014-2015 | 3,875 | 0.2628 | 0.4360 | 0 | 5 |
| 2015-2016 | 3,888 | 0.2648 | 0.4243 | 0 | 9 |
| 2016-2017 | 3,896 | 0.2389 | 0.4341 | 0 | 4 |
| 2017-2018 | 3,766 | 0.2550 | 0.3904 | 0 | 4 |
| 2018-2019 | 3,956 | 0.3091 | 0.4069 | 0 | 9 |
| All Years | 73,59 | 0.3546 | 0.5400 | 0 | 19 |
| No Zero Index | 64,164 | 0.3546 | 0.5643 | 0.0000275 | 19 |

-0.1310 on the original data to -0.1521 in the data when the campuses with index values of zero were removed. The percent of the variance explained by the correlation coefficient changed from 1.7% ($r^2 = 0.0169$) to 2.3% ($r^2 = 0.0231$). The change in both the partial and semipartial squared calculations accounted for a change of less than 0.0027 which represents an increase of less than 0.27% in the total percent of the variance that the index explains for passing scores. In short, the data were not radically changed and analyzing each of the 9,435 campus data points for some type of inclusion and exclusion criteria is not necessary. I am confident, after this exploration, that inclusion of these data do not bias the results.

**Correlation (Pearson *r*) for All Campus Level Index and Passing Rate Data.** The correlation coefficient (*r*) represents the direction and strength of the relationship between two variables.

The closer this coefficient ($r$) is to 1 or -1, the stronger the relationship between the dependent and independent variables. The sign of the coefficient ($r$) tells us the direction of the relationship. A value of 0 would mean that the two variables do not have any correlation. The dependent variable here is the campus passing rate. This number is the percentage of students who met standard on the state accountability assessments in the category "all students all tests" on each campus in each year. The independent variable in this study is the index. The index measures the level of disparity by subtracting the highest nonzero campus subpopulation risk ratio and the lowest. The index is the range of risk ratios calculated for each campus in each year. Table 9 describes the data for both variables, not as an average for each year as they were in Tables 7 and 8 above, but over the life of the study.

**Table 9**

*Campus Correlation of the Campus Passing Rate with the Index*

| Variable | Pearson *(r)* | Mean | Standard Deviation | Minimum | Maximum | Covariation |
|---|---|---|---|---|---|---|
| Passing Rate | -0.1310 | 71.94549 | 16.28608 | 0 | 100 | 265.236 |
| Index | | 0.309123 | 0.540019 | 0 | 18.75 | 0.29162 |

For context, the correlations between some of the other variables in the data set and the campus are shown below in Table 10.

The correlation between the percent of a school's enrollment that is SES and the campus passing rate is -0.4681 as shown above in Table 10. In this case, the negative sign means that an increase in the number of SES students is correlated to a decrease in the passing rate. The strength of the relationship between these two variables is between no correlation (0) and a perfect correlation (-1). In the field of education, this relationship would be considered strong because the percentage of SES students explains 21.9% of the variance in campus passing rates. Total enrollment on the other hand has a weak positive correlation to the passing rate. At 0.0418, larger enrollments are technically correlated to higher pass rates, but this is so close to zero that it explains less than 1%

**Table 10**

*Correlation (Pearson r) of the Campus Passing Rate with Additional Variables*

| Variable | Passing Rate | Percent of the Variance |
|---|---|---|
| Passing Rate | 1 | * |
| Index | -0.1310 | 1.7% |
| Percent Disciplined | -0.3047 | 9.3% |
| Percent SES | -0.4681 | 21.9% |
| Total Enrollment | 0.0418 | 0.17% |
| Percent Black or African American | -0.2354 | 5.5% |
| Percent Latinx | -0.2895 | 8.4% |
| Percent White | 0.3739 | 14.0% |

of the variance in campus passing rates and is not likely to be meaningful.

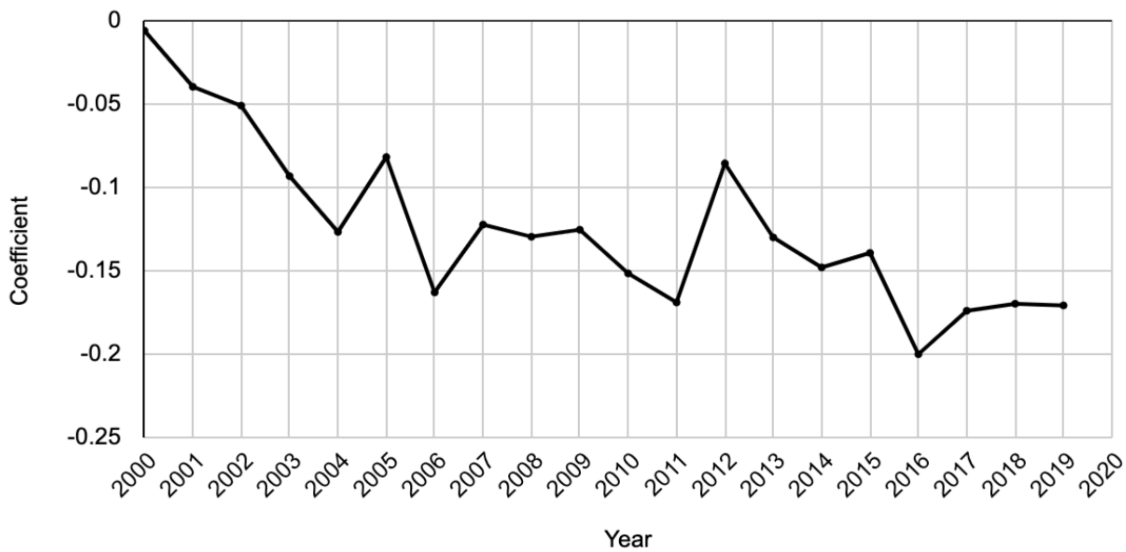
The correlation between the passing rate and the index is -0.1310 (see Table 10), this is interpreted to mean that the higher the disparity in discretionary discipline, the lower the passing rate for the campus tends to be over the 20 years under study. This relationship is not as strong as the relationship between the number of SES students and the campus passing rate or the percent of students disciplined and passing rate. The index, or disparity, only explains 1.7% of the variance in campus pass rates; however, when we consider that there are many, many factors that contribute to the achievement of an entire campus, the index is worth examining more deeply. The following sections examine changes in this correlation over time and the influence of other variables that may affect the amount of the variance in campus passing rates that the index might explain.

**Correlations for All Campus Level Index and Passing Rate Data by Year.** When we look at how these variables compare between individual school years, a downward trend appears as we plot the correlation coefficient for the relationship between the index measuring disparity (independent variable) with campus passing rates (dependent variable) over time. Below, the increasingly negative $r$ values for the Pearson $r$ correlation coefficient are plotted over the life of the study in Figure 3.

As time passes over the life of the study, the r value appears to become increasingly negative. This suggests that the strength of the correlation has increased over the last two decades and the

**Figure 3**

*Correlation Coefficient (Pearson r) for Passing Rate with the Index by year*




index explains an increasing percentage of the variance in passing rates as shown in Table 11.

**Partial and Semipartial Correlations by School Level Factors.** Partial correlations control for the effects of other variables by partialling them out of both the dependent and independent variables. In this dataset, I controlled for three school level factors. The percent of the population disciplined on a campus, the campus percentage of SES students, and the total enrollment (size) of the campus were controlled to further explore the correlation between disparities in discipline and campus achievement.

As shown in Table 12, the partial correlation coefficient between the passing rate and the index is 0.0151 with the influence of these variables removed from both the passing rate and the index. The semipartial correlation coefficient is 0.0128 with the influence of the percentage of students disciplined, the percentage of SES students, and the campus size variables removed from the index.

The percentage of SES students had a strong negative correlation to campus passing rates when the simple correlation was calculated at -0.4681 (see Table 10). The strength of this relationship is still true when the partial and semipartial correlations were calculated at -0.4439 and -0.4213 respectively explaining the largest percentage of the variance in passing rates at nearly 20%. The

**Table 11**

*Campus Correlation (Pearson r) Values*

| Year | *r* | Percent of Variance Explained | Number of Observations |
|---|---|---|---|
| All | -0.1310 | 1.7% | 73,599 |
| 1999-2000 | -0.0060 | 0% | 2,842 |
| 2000-2001 | -0.0397 | 0.15% | 3,262 |
| 2001-2002 | -0.0510 | 0.3% | 3,418 |
| 2002-2003 | -0.0933 | 0.9% | 3,495 |
| 2003-2004 | -0.1268 | 1.6% | 3,631 |
| 2004-2005 | -0.0819 | 0.7% | 3,673 |
| 2005-2006 | -0.1631 | 2.7% | 3,707 |
| 2006-2007 | -0.1224 | 1.5% | 3,658 |
| 2007-2008 | -0.1297 | 1.7% | 3,661 |
| 2008-2009 | -0.1255 | 1.6% | 3,686 |
| 2009-2010 | -0.1517 | 2.3% | 3,802 |
| 2010-2011 | -0.1691 | 2.9% | 3,849 |
| 2011-2012 | -0.0857 | 0.7% | 3,822 |
| 2012-2013 | -0.1301 | 1.7% | 3,858 |
| 2013-2014 | -0.1481 | 2.2% | 3,854 |
| 2014-2015 | -0.1394 | 1.9% | 3,875 |
| 2015-2016 | -0.2002 | 4.0% | 3,888 |
| 2016-2017 | -0.1741 | 3.0% | 3,896 |
| 2017-2018 | -0.1699 | 2.9% | 3,766 |
| 2018-2019 | -0.1709 | 2.9% | 3,956 |

correlation between the disparity in discretionary discipline, however, is reduced to less than 1% when all of the influences that the variables listed in Table 12 are removed.

The simple correlation of passing rates with the index was -0.1310 (see Table 10), but Table 12 the partial and semipartial correlations show the change to a positive relationship; however, at about 0.1 for both the partial and semipartial correlations these numbers are so close to zero, the change of direction is likely not important. The semi partial squared correlations in Table 12 show that 22.3% of the variance in campus passing rates can be attributed only to the percent disciplined, percent SES, and total enrollment. This leaves 77.7% of the variance in campus passing rates left to be explained by something else. The index only accounts for 0.02% of this something else after the other variables listed in Table 12 are controlled, but interestingly, the same percentage can be attributed exclusively to the index as shown by the semipartial squared value. Unlike the other three variables, the amount of the variance in passing rates explained by the index isn't diminished when the effects of the controls are not partialled out of the passing rate. Specifically, the index only explains 0.02% of the variance that can't be explained by the percent of students disciplined at about 5.6%, the percentage of students on free and reduced lunch at 19.7%, or total enrollment at 0.18%.

**Table 12**

*Partial and Semipartial Correlations of the Campus Passing Rate with School Level Factors*

| Variable | Simple | Partial | Semi | Partial$^2$ | Semi$^2$ |
|---|---|---|---|---|---|
| Index | -0.1310 | 0.0151 | 0.0128 | 0.0002 | 0.0002 |
| Percent Disciplined | -0.3047 | -0.2373 | -0.2078 | 0.0563 | 0.0432 |
| Percent SES | -0.4681 | -0.4439 | -0.4213 | 0.1970 | 0.1775 |
| Total Enrollment | 0.0418 | 0.0423 | 0.0353 | 0.0018 | 0.0012 |

If the absolute value of the partial correlation is smaller than the simple correlation, but greater than zero, then one or more of these variables partially explains the correlation between the independent and independent variables. This is the case here for the index as the measure of disparity of discretionary discipline (independent variable) and campus achievement (dependent variable).

Because the socioeconomic status of the school has such a strong correlation to passing rates and did not change very much when the other variables were considered in the partial and semipartial calculations, I decided to repeat the partial and semipartial calculations without the percent disciplined and total enrollment variables. In Table 13 the correlation between the passing rate and the index is shown with the effect that the percent of SES students enrolled has on the passing rate taken into account.

This calculation shows that when the percentage of SES students on the campus is taken into account over the life of the study, there is a weak negative correlation between the index and passing rate. The percentage of SES students continues to have a stronger negative correlation

**Table 13**

*Partial and Semipartial Correlations of the Campus Passing Rate with School Level Factors*

| Variable | Simple | Partial | Semi | Partial$^2$ | Semi$^2$ |
|---|---|---|---|---|---|
| Index | -0.1310 | -0.1346 | -0.1190 | 0.0181 | 0.0142 |
| Percent SES | -0.4681 | -0.4689 | -0.4648 | 0.2199 | 0.2161 |

with the passing rate at -0.4689 and the socioeconomic status of the campus explains about 22% of the variance in the passing rate. The index only explains about 1.8 of the variance in passing rate when we control for the percent of SES students on the campus.

A simple correlation between the campus passing rate and the percentage of SES students is -0.4681. This is about the same as the partial calculation, showing that the more wealthy the community, the higher their campus achievement tends to be; however, this is not what really interested me about this calculation. In the first partial and semipartial calculations, the index correlation coefficient was weakened when I added the controls, but so was the strength of the relationship of the passing rate with poverty. The simple correlation between the campus percent passing and the index was -0.1310, and the partial correlation here with just the percentage of SES students controlled is -0.1346. The correlation here didn't drop to almost zero and change direction the way it did in Table 12. Additionally, the partial correlation is slightly larger than the simple correlation suggesting that socioeconomic status does not explain part of the relationship between the index and the passing rate. This means that either the campus percent disciplined or the size of the campus influences the relationship between disparity in discretionary discipline and passing rates, and for the purpose of this study, I can set the socioeconomic level of the campus aside even though it is strongly correlated to campus passing rates.

When the total enrollment of the campus is taken into account over the life of the study, there is almost no change in the correlation between the index and the passing rate. In Table 13 the simple correlation between the campus percent passing and the index was -0.1310, and here in Table 14 the partial correlation is -0.1335. Again, the partial correlation is slightly larger than the simple correlation. This means that the size of the campus does not explain part of the relationship between the index and the campus passing rate.

**Table 14**

*Partial and Semipartial Correlations of the Campus Passing Rate and Campus Enrollment*

| Variable | Simple | Partial | Semi | Partial$^2$ | Semi$^2$ |
|---|---|---|---|---|---|
| Index | -0.1310 | -0.1335 | -0.1334 | 0.0178 | 0.0178 |
| Enrollment | 0.0418 | 0.0491 | 0.0487 | 0.0024 | 0.0024 |

It is important to note that multiple unnamed factors that could influence the relationship between the index and the passing rate; however, the next variable that will be explored is the percentage of students on a campus that are disciplined with a code 21. When the percentage of students disciplined is taken into account, as shown in Table 15, the correlation of the passing rate with the index changes direction from -0.1310 to 0.0426. The percentage of students who are disciplined on the campus; however, is negatively correlated with the passing rate at -0.3047.

When the SES and size variables are both set aside in Table 15, because they don't have a large influence over the relationship between the index and passing rates, and partial and semipartial correlations are run for the campus passing rate with the index controlling for the percent of students disciplined, the index explains about 0.18% of the variance that is not explained by the percentage of students disciplined alone at about 7.7%. Likewise, the semipartial squared correlation shows that the index alone explains under 0.2% of the variance. The partial squared correlation also shows that the index explains under 0.2% of the variance in campus passing rates that can't be explained by the percentage of the students on campus disciplined with a code 21.

**Table 15**

*Partial and Semipartial Correlations of the Campus Passing Rate and Percent Disciplined*

| Variable | Simple | Partial | Semi | Partial$^2$ | Semi$^2$ |
|---|---|---|---|---|---|
| Index | -0.1310 | 0.0426 | 0.0406 | 0.0018 | 0.0016 |
| Percent Disciplined | -0.3047 | -0.2808 | -0.2781 | 0.0787 | 0.0773 |

The absolute value of the partial correlation for the index is smaller than the simple correlation, but greater than zero, which means that the percentage of students disciplined on a campus partially explains the correlation between the disparity of discretionary discipline and campus achievement. In light of these findings, it is important to state that there is a strong positive correlation of the index with the percent disciplined at 0.5419. This means that the index explains 29.4% of the variance in the percentage of students disciplined on a campus. Both the index and the percent disciplined are negatively correlated to campus passing rates; therefore, these data suggest that higher rates of disparity in secondary discretionary discipline on a campus are correlated with higher percentages of students disciplined and lower campus passing rates.

**Partial and Semipartial Correlations by Race.** Latinx, White, and Black or African American students represent about 94% of the population in Texas secondary schools. In research question one, I found that Black or African American students always had the highest risk ratio out of the race or ethnicity subpopulations, both over the life of the study and in every single year. Because the index is calculated using the risk ratios based on race, I felt it was important to run partial correlations that take the percentage of Latinx, White, and Black or African American students into account the same way we examined the effect that the percent of students disciplined, percent SES, and the size of the campus has on the correlation between the index and the passing rate.

I found that the racial demographics of a campus also affect the correlation between the campus passing rate and the index. In Table 16 below, the simple correlation values show that the higher the percentage of White students, the higher the campus passing rate tends to be because these variables are positively correlated at 0.3739. The percentage of white students enrolled explains 14% of the variance in campus passing rates. Conversely, the percentage of Latinx and Black or African American students in the campus population are negatively correlated to campus passing rates at -0.2354 and -0.2895 accounting for 5.5% and 8.4% of the variance in passing rates respectively. Higher percentages of Black or African American and Latinx students are correlated to lower campus passing rates. Unlike the relationship between the index and the percent disciplined, there is almost no correlation between the index and these race variables. The index is correlated with Black or African American students at 0.0827, which is interesting because it is positive unlike Latinx at -0.0184 and White students at -0.0216. Additionally, the index explains less than 0.7% of the variance when correlated with each of the race variables.

The partial and semipartial correlations for race are also summarized below showing the relationship between the passing rate and the index when the percentage of these subpopulations is controlled.

**Table 16**

*Partial and Semipartial Correlations of the Campus Passing Rate with Race*

| Variable | Simple | Partial | Semi | Partial$^2$ | Semi$^2$ |
|---|---|---|---|---|---|
| Index | -0.1310 | -0.1167 | -0.1032 | 0.0136 | 0.0107 |
| Percent Black or African American | -0.2354 | -0.2748 | -0.2510 | 0.0755 | 0.0630 |
| Percent Latinx | -0.2895 | -0.2748 | -0.2510 | 0.0755 | 0.0630 |
| Percent White | 0.3739 | -0.2076 | -0.1864 | 0.0431 | 0.0347 |

In the case of the partial calculations here, the absolute value of the partial correlation for the index is smaller than the simple correlation, but greater than zero, which means that one or more of the race variables partially explain the correlation between the disparity of discretionary discipline and campus passing rates. If all of the campuses under study had the same racial demographics, the index would explain about 1.4% of the variance in the campus passing rate. Additionally, about 1.1% of the variance can only be explained by the index when three of the race variables are partialled out of the index.

**Summary of Results**

Disparities in secondary discretionary discipline do exist, and the overall trend for state level indices show that the level of disparity increased in the first decade of the 21st century and has decreased since then through the 2019-2020 school year. The average risk ratio for the entire population is 0.1046 over the life of the study. The risk ratio for Black or African Americans is the highest of all of the subpopulations in every year under study averaging 0.1805. This average risk ratio for the Black or African American subpopulation is more than double that of the White subpopulation which averaged 0.0795. The average index calculated with all subpopulations at the state level was 0.1605 with a range of 0.0956 and a standard deviation of 0.0273. In contrast, the average campus level index is 0.3091 with a range of 19 and a standard deviation of 0.5400. The campus calculations are more highly varied than the average annual index calculated at the state level.

The higher the disparity in discretionary discipline, the lower the passing rate for the campus tends to be over the 20 years under study with a correlation coefficient of -0.1310. This correlation explains 1.7% of the variance in passing rates. When calculated for each individual year and plotted over time, the correlation becomes increasingly negative, and the percentage of the variance in campus passing rates that can be explained by the index increases over time. When the correlation of the index with the passing rate was controlled for campus level variables and race, campus size and the percentage of SES students enrolled were not found to influence the relationship between the index and campus passing rates; conversely, the percentage of students disciplined on a campus and race was influential.

When the percentage of students disciplined is taken into account, the correlation of the passing rate with the index changes direction from -0.1310 to 0.0426, and the percentage of students who are disciplined on the campus, however, is negatively correlated with the passing rate at -0.3047. The index explains about 0.18% of the variance that is not explained by the percentage of students disciplined alone at about 7.7%. The absolute value of the partial correlation for the index is smaller than the simple correlation, but greater than zero; therefore, the percentage of students disciplined on a campus partially explains the correlation between the disparity of discretionary discipline and campus achievement. There is a strong positive correlation of the index with the percent disciplined at 0.5419 that explains 29.4% of the variance. Both the index and the percent disciplined are negatively correlated to campus passing rates; therefore, these data suggest that higher rates of disparity in secondary discretionary discipline on a campus are correlated with higher percentages of students disciplined and lower campus passing rates. However, when the campus SES variable and the size of the campus are set aside, and the percentage of students disciplined is controlled, the index explains under 0.2% of the variance in campus passing rates. The racial demographics of a campus also affect the correlation between the campus passing rate and the index. When the correlation of campus passing rates with the index is controlled for race, the index explained just under 2% of the variance in campus passing rates.

The following chapter contains the conclusion as a result of carrying out the calculations described above as the results for this record of study. The conclusion includes a summary of the literature review and the main findings, a discussion of the results, a description of the limitations of this study, implications for policymakers, and suggestions for further research.

# 5. CONCLUSIONS

Texas schools are required by Chapter 37 of the TEC to publish a student code of conduct enforced by a campus administrator. A violation of the student code of conduct (reason code 21) can result from almost any minor behavior deemed disruptive to the learning environment. Disciplinary actions taken by the administrator to address violations of the student code of conduct under code 21 are discretionary because unlike incidents that involve a crime, violence, weapons, drugs, or sexual impropriety, office referrals coded with a 21 do not carry mandatory consequences set forth in the law. Campus administrators may choose any consequence from a conference, lunch detention, corporal punishment, ISS, OSS, or DAEP for something as simple as "failure to follow a directive." The variety of minor incidents and the wide range of disciplinary consequences that an administrator can choose from may create a situation where disparities in the application of discretionary discipline likely exist between subpopulations as they persistently have for OSS and expulsion (Carter et al., 2017; Skiba et al., 2000).

It is reasonable to suppose that discretionary discipline placements in ISS and DAEP may adversely affect achievement (Anderson & Ritter, 2017; Gregory & Fergus, 2017; Skiba et al., 2014). Like OSS and expulsion, ISS and DAEP exclude students from engaging in instruction with their teacher of record in their assigned classrooms cutting them off from the opportunity to interact with their peers while they are learning (Gregory et al., 2010; Scott et al., 2017; Skiba et al., 2014). Access to academic support in secondary education is negatively affected by increasing numbers of office referrals and lower grade point averages are associated with ISS (Cholewa et al., 2018; Vincent et al., 2012).

In *Stephens v. Trinity Independent School District (2012)*, the court held that removals to ISS and DAEP do not deprive a student of education, and due process is not required. ISS and DAEP placements allow districts to maintain attendance levels for funding purposes in Texas. Reforms by the Texas Legislature in 2003 and 2007 required that DAEPs ensure that certified teachers work with students on coursework required for credit or promotion. However, this setting may continue to fall short of regular classroom instruction and there are no such requirements for ISS (TASB, 2019).

The TEC requires LEAs to report discipline data in compliance with two federal laws, IDEA and ESSA. While chapter 37 of the TEC does not require that the disproportionality be calculated for the entire student population, it does require that all of the discipline data for all students is collected annually and submitted through PEIMS reports. To be eligible for Title I funds in ESSA, districts must, among other requirements, "support efforts to reduce the overuse of discipline practices that remove students from the classroom by identifying and supporting schools with high rates of discipline, disaggregated by each of the subgroups of students" (Section §1112(b)(11)). Calculating levels of disparity for the entire population will help identify schools in need of support. However, it is also important to identify significant disproportionality in discipline in order to be able to use CEIS funds to address them.

The purpose of this study is to quantify disparities in the referral of subpopulations of students for discretionary discipline and determine if, or to what extent, changes in levels of disparity correlate with changes in campus academic achievement. Additionally, this study is significant because an analysis of the data regarding the extent to which discipline techniques are used at the discretion of individual administrators and not mandated by law in Texas to address reason code 21 violations of the student code of conduct is needed to fully understand the effect of any possible disparities in their application on student achievement.

Unlike other studies that correlate academic outcomes to all discipline actions (Cholewa et al., 2018; Erickson & Pearson, 2021; Kinsler, 2013; Noltemeyer et al., 2015; Sartain et al., 2015), or disciplinary actions that exclude the student from attending class on their home campus in person (Anderson, 2020; Anderson & Ritter, 2017; Baker-Smith, 2018; Barrett et al., 2021; Bell & Puckett, 2020), this research examines the disparities (index) in the discretionary (reason code 21) discipline data in Texas over the last two decades and correlates the percent of students on campuses who "met standard" on Texas accountability assessments.

## Summary of Reviewed Literature

Research has established a strong negative association between OSS and expulsions on achievement, dropout rates, and the school-to-prison pipeline in multiple studies, and there are calls for discipline reform in the United States (Anderson & Ritter, 2017; Skiba et al., 2014; Gregory & Fergus, 2017; Noltemeyer et al., 2015). Schools that have responded to this call for reform have focused on reducing the length of OSS or have replaced it with assignments to ISS for minor infractions (Wang, 2022). Some studies show that these changes have not positively impacted student academic and discipline outcomes (Anderson, 2018; Craig & Martin, 2021; Lacoe & Steinberg, 2018; Nishioka et al., 2015). ISS is understudied compared to OSS and expulsion (Lee, 2022). ISS is often regarded as a lighter consequence than OSS (Troyan, 2003). However, lower grade point averages and increased dropout rates are associated with ISS (Cholewa et al., 2018). Simply replacing OSS with ISS may be ineffective due to the cumulative disadvantages of school disciplinary practices (Rocque & Paternoster, 2011). Schools with high achievement levels report lower ISS levels (Noltemeyer et al., 2015). Overall, research also shows that students on DAEP campuses earn fewer credits than their peers in traditional school settings (Wilkerson et al., 2016).

The literature overwhelmingly defines "exclusion" as OSS and expulsion. Supporters of exclusionary discipline argued in the 1970s that students who misbehave reduce the achievement of their peers (Neill, 1976; Kinsler, 2013). However, there is no significant evidence that their absence improves the learning environment (Skiba et al., 2009). The biggest debates surrounding suspension and expulsion have come down to beliefs about how important they are for running a school without disruption (Neill, 1976).

Over the last forty years, researchers have continued to find that discipline has more to do with school policies than student behavior (Anderson & Ritter, 2017; Lee, 2022; Skiba et al., 2014; Wu, 1982). How a teacher or an administrator interprets an infraction affects what discipline the behavior merits (Staats, 2016). An administrator's beliefs about the purpose of discipline as a preventative measure or for exclusion influence the consequences they select (Kennedy et al., 2017; Skiba & Edl, 2004; Skiba et al., 2009). If other students on campus have been suspended, then the likelihood of suspension increases (Wu, 1982). Students of color are disproportionately assigned ISS (Cholewa et al., 2018; Costenbader & Markson, 1994; Hilberth & Slate, 2014). Racial disproportionality exists in rural, suburban, and urban schools regardless of region (Smith & Harper, 2015). Schools in the United States are becoming increasingly desegregated (Orfield, 2001). Majority-minority schools issue longer punishments, even after controlling for income (Anderson & Ritter, 2017). There needs to be more accountability for the decisions an administrator has the power to make when disciplining students (Baker-Smith, 2018).

In educational psychology, implicit bias is accepted as pervasive and may result in outcomes contrary to what is intended, including racial disparity (Staats, 2016). However, changes in implicit biases do not necessarily lead to a change in discriminatory behavior (Forscher et al., 2017). There is evidence in the literature that intentional discrimination exists in student discipline (Barrett et al., 2021). However, I do not suggest that racism or implicit bias is the cause of discriminatory behavior (Mitchell, 2018). Instead, understanding implicit bias could explain how associations with past experiences may shape an educator's interpretation of present behavior, especially when faced with incomplete information, time constraints, or fatigue (Staats, 2016).

CRT posits that racism is a normalized and inherent feature of American society (Picower, 2009). Like CRT, CRE has also been interpreted to suggest that everyone in a subpopulation shares similar experiences and, by extension, interests or beliefs that should be used to make meaning in academic subject matter for minority students (Ladson-Billings, 1995). Interpreting both CRT and CRE in this way ignores the variety of individual persons who comprise the group (Stangel-Plowe, 2022). Administrators and teachers with "color-blind" dispositions fail to consider power and culture (Gregory & Fergus, 2017). This failure may further perpetuate disparities reinforcing notions of privilege.

It has been argued that poverty, and not race, is the cause of misbehavior (National Association of Secondary Principals, 2000). However, being eligible for free and reduced lunch does not appear to affect the chances of being suspended (Skiba et al., 2014). Race has been shown to be a factor in suspension independent of poverty or behavior (Ferguson, 2002; Wu, 1982).

Black students are more likely than White students to be referred for discipline, and being assigned to a classroom with a black teacher does not reduce the risk for black students (Bradshaw et al., 2010). Black students experience more negative interactions for similar behavior in comparison to their White peers (Bell & Puckett, 2020; Scott et al., 2019). Data in the literature also suggest that black students are treated differently in the classroom (Barrett et al., 2021; Erickson & Pearson, 2021; Skiba et al., 2002) and that Black or African American students are punished more severely for incidents that were more subjective than White students, even though there was no evidence that they misbehaved more often (Erickson & Pearson, 2021; Skiba et al., 2009). Disproportionate interactions are consistent across all classrooms, even when there is no difference in the behavior of Black or African American and White students (Scott et al., 2019).

Black or African American students may have modes of behavior that their teachers misinterpret (Ferguson, 2020; Morris, 2016; Webb-Johnson, 2003). ISS is more likely to be associated with this aggressive or demonstrative behavior like overlapping speech, play fighting, and humor as disrespectful, aggressive, and insulting (Monroe, 2005; Weinstein et al., 2004) than for contraband like drugs and alcohol (Cholewa et al., 2018; Hilberth & Slate, 2014; Noltemeyer et al., 2015). Teacher practices that remove black students from classrooms are sometimes viewed as a systemic effort supported by school and district disciplinary policies (Weber & Knaus, 2020).

Latinx children are more segregated in schools than Black students by ethnicity, poverty, and language (Orfield, 2001). OCR data show that male students are overwhelmingly disciplined across the United States at higher rates than females. Black female students are also assigned to ISS more often than their White peers (Jackson et al., 2015). Though the State of Texas does not track the gender identification or sexual orientation of the disciplined students, LGBTQ+ youth are up to three times more likely to experience harsh disciplinary treatment than their cisgender and straight counterparts (Morgan et al., 2014).

There is a significant gap between the best practices outlined in the literature and current discipline practice in our schools (Irby & Clough, 2015; Skiba et al., 2007). Generally, exclusion does not change behavior (González, 2015; González, 2016; González et al., 2019; Mergler et al., 2014). For negative reinforcement to change behavior, control over the variables of a situation may be required that a school cannot achieve (Skiba et al., 2003). To teach new behaviors, a system of prevention and effective responses instead of disciplinary removal is needed (Camacho & Krezmien, 2020; Skiba et al., 2003). High suspension rates for minor offenses often make students and staff feel unsafe or supported in their learning environment (Morgan et al., 2014). Less punitive discipline, such as SEL, PBIS, and Restorative Justice, increases students' respect for teachers, reduces students' infractions, and improves school climate and achievement (Bradshaw et al., 2009; Gage et al., 2016; Mergler et al., 2014; Okonofua & Eberhardt, 2015).

**Summary of Findings**

A risk ratio, or likelihood that a student from each subpopulation - American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino (Latinx), White, two or more races, and Native Hawaiian or other Pacific Islander - will receive a referral, was calculated for each subpopulation in each year both statewide and by campus. The smallest non-zero ratio was subtracted from the largest in each year to create an index in each year both at the state and campus levels. The average risk ratio for the entire population is 0.1046 over the life of the study. The data is more varied for the African American subpopulation than for the Latinx or White subpopulations. The average risk ratio for the Black or African American subpopulation was not only the highest out of all the race or ethnicity groups, but it is more than double that of the White subpopulation.

In every single year under study, the risk ratio for African Americans was the highest of all of the subpopulations. Next was the risk ratio for Latinx and then followed by the White subpopulation. Native American or Alaska Native, Asian, two or more races, and Native Hawaiian or Other Pacific Islander subpopulations are all under the risk ratio for White students. The smallest risk ratio for any subpopulation in the data was found for the Native American or Alaska Native group from the 1999-2000 school year to the 2008-2009 school year. Beginning in the 2009-2010 school year, this changed to the Native Hawaiian or Other Pacific Islander subpopulation when the group was split with the addition of the new category.

The index quantifies the level of disparity, thus describing the magnitude of the difference in the risk of receiving discretionary discipline between the least and most affected subpopulations in any given year, both for the State as a whole and for each campus under study. These indices were used to identify trends in state level disparities in secondary discretionary discipline over time. The indices at the secondary (6-12) campus level were also correlated to the percentage of students who met standard on the State of Texas accountability assessments to examine if or to what extent disparities in secondary discretionary discipline were correlated to campus achievement and those trends were also examined over time.

Disparities, as measured by the index in secondary discretionary discipline, do exist. State level disparities trended upward through 2009-2010 to 0.2022. They have since trended downward to 0.1066 in 2019-2020, which is below the 1999-2000 level at 0.1077. This trend in indices shows that the level of disparity regarding the risk of receiving a code 21 increased in the first decade of the 21st century and then decreased through the 2019-2020 school year for the overall state level population. The average index calculated with all subpopulations at the state level was 0.1605, with a range of 0.0956 and a standard deviation of 0.0273. In contrast, the average campus level index is 0.3091, with a range of 19 and a standard deviation of 0.5400. The campus calculations are more highly varied than the average annual index calculated at the state level.

Changes in campus level disparities are negatively correlated to changes in secondary academic achievement as measured by the percent of students meeting the minimum passing standard for each year for all students on all tests administered by the State of Texas for accountability from the 1999-2000 school year to the 2018-2019 school year. I found that the correlation between the independent variable (index) and the dependent variable (campus passing rate) is -0.1310. This suggests that the higher the disparity in discretionary discipline, the lower the passing rate for the campus tends to be over the 20 years under study. When the correlation is calculated separately for each year and plotted over time, it becomes increasingly negative, which indicates that the strength of the negative correlation between the index and campus passing rates increased over time.

When the variables representing the percentage of students disciplined on a campus in each year, the percentage of SES students enrolled, and the total enrollment were controlled, the index explained less than 0.02% of the variance in campus passing rates; however, the campus enrollment and the percentage of SES students variables were not found to influence the relationship between the index and campus passing rates. When the campus SES variable and the size of the campus are set aside, and the percentage of students disciplined were controlled, the index explains just under 0.2% of the variance in campus passing rates.

Lastly, the study finds that the racial demographics of a campus also affect the correlation between the campus passing rate and the index. When I controlled for race, the index explained just over 1% of the variance in campus passing rates, and the percentage of Black or African American students had the highest residual squared values at 0.0872 and 0.0736 for the partial and semipartial correlations, respectively. The percentage of Black or African American students in a campus population explains about 8.8% of the variance that is not explained by the index or other race variables. The percentage of African American students alone explains about 7.4% of the variance in campus passing rates when correlated with the index and controlled for race.

**Limitations**

The first limitation of this study is that correlations can not be generalized as a causal relationship. Statistics about school punishment detail who was punished, but they do not provide insight into the process of discipline (Ferguson, 2020). No inferences about the cause of variations in campus passing rates can be made based on the results of this study with any confidence.

I have assumed that disparities in discretionary discipline are created by the wide variety of choices available to administrators. I have also assumed that the competence of administrators across the state varies in ways that are not correlated to demographics and thus unlikely to introduce bias into the calculations due to the large number of observations in the data set. Generalizations can not be made about the reasoning, bias, external pressures, or intent on the part of administrators assigning discipline, and they are not unique to any campus with regard to demographics, region, or size; therefore, they are unlikely to create bias or affect the results of the calculations.

The study is most significantly limited by the data available as it is entered into the PEIMS database by human beings, including the possibility of errors and omissions in the entry of discipline data. It is impossible to estimate if or how often such omissions in data entry happen; however, this is mitigated by the large number of incidents under study. How race and ethnicity data are collected from individuals who self-identify and the way the State of Texas categorizes these data are also limitations because these practices artificially reduce some subpopulations and underrepresentation, along with imperfect data entry by human clerks across the state, the accuracy of my calculations could be diminished in this study.

The research in this study is further limited by the accuracy of the masked and rounded data released from TEA in the PIR. The masking and rounding of these data will be consistent across all of the campuses and subpopulations under study; thus, no bias should be introduced as a result. However, the accuracy of the released data could be called into question because there are missing passing rate data points for some campuses without explanation from TEA.

Finally, the most important limitation of the study is that the data set does not include the achievement of individual students. Therefore, analyzing how the achievement of individuals disciplined under reason code 21 may be masked when confined to school-level analyses.

**Discussion**

Analyzing this data set was eye-opening for me as a twenty-two-year veteran of Texas public education. Although the duration of disciplinary actions was not part of this study, I feel that it is important to state that 80 million days were served by 10,223,071 students (9.33% of the population) for minor, non-violent, non-criminal violations that did not involve drugs, alcohol, or sexual misconduct over the 20 years under study excluding them from their assigned classrooms. This fact adds value to the work I undertook for this record of study. I had hoped that I would conduct this research and find a large number that might motivate educators to devote their limited time and scarce financial resources to use discretionary discipline to improve educational outcomes. Unfortunately, I did not find a big motivational number. That being said, in the paragraphs to follow, I will frame my findings in a way that speaks to the value of improving what we can control in our schools and does not let the overwhelming statistical influence of what we will never be able to change to discourage us in the effort to improve educational outcomes for our students, both those that are disciplined and those that are not.

There are many factors in education over which administrators have no control. We do not choose the socioeconomic status of our students. We do not choose the behaviors they learn at home or the trauma responses they bring to school. Teachers and administrators can, however, improve our future responses to minor misbehaviors if we understand what our responses have been in the past and how (positively or negatively) they have affected outcomes for students and the campus. The problem is that we have not been looking at this factor. Because this is something we can control and improve, this study is an opportunity to understand more deeply how public secondary schools in Texas have been dealing with minor misbehavior.

For example, administrators can use these data to help all of us understand how students get assigned action codes for OSS, DAEP, JJAEP, and expulsion under reason code 21 when that code is strictly for minor, non-violent, non-criminal violations that did not involve drugs, alcohol, or sexual misconduct. Parents, school boards, and taxpayers should demand to know how 1,246 students were expelled under this code when that is not an allowable option in law. Research has established a strong negative association between OSS and expulsions on achievement, drop-out rates, and the school-to-prison pipeline in multiple studies (Anderson & Ritter, 2017; Gregory & Fergus, 2017; Noltemeyer et al., 2015; Skiba et al., 2014). With these negative effects well established, I am still curious about why there were 279,123 OSS placements in 2018-2019 for minor misbehavior and 185,322 the following year, even with the COVID pandemic (see Table 3).

Not being aware of the number of incidents, duration, and possible disparities in the application of discretionary discipline is a blindness that I think should make educators uncomfortable. For example, ISS was assigned 23,383,831 (see Table 3) times over the life of this study. This placement excludes students from class for minor misbehaviors. If administrators use this placement so often, educators should demand to know if these placements are disproportionate, given that this study shows that disparity negatively correlates to campus achievement. Now that I have calculated that an average of over 1.5 million incidents every year in this data set required campus administrators to use their discretion when making decisions about which action codes to use and the durations for those placements, I am more and more curious about the impact of these decisions on campus performance as well as outcomes for our students.

I used risk ratios to quantify the likelihood of being disciplined for reason code 21, which is a violation of the student code of conduct. I calculated these risk ratios by race. There are many other subpopulations on a campus that could also be studied, but I chose to study race as a place to begin understanding who was disciplined and how often over the life of the study. In every single year under study, the risk ratio for African Americans is the highest of all of the subpopulations at the state level. The average risk ratio for Black or African American students is 0.1805. When this number is compared to the average risk ratio for the entire population (0.1046), the average risk ratio for Latinx (0.1095), and the average risk ratio for White students (0.0795), the risk ratio for Black or African Americans was more than double that of White students.

The index is the difference between the highest and lowest non-zero risk ratios. The index measures the level of disparity. The index for the entire population in the 1999-2000 school year was 0.1077, and at the end of the study in 2019-2020, the index was 0.1066. If we were only to look at the data beginning in the 2009-2010 school year (see Table 6), when the index was at its peak, we would observe a downward trend from the high at 0.2022 to the low (0.1066) in 2019-2020. This might lead us to conclude that we are witnessing a very promising reduction in disparity with regard to discretionary discipline in Texas secondary schools; however, when we go back to the 1999-2000 school year, we see that the index is largely the same in 2019-2020.

We should conclude that, though there was a rise and fall in the index over the 20 years under study, the level of disparity in 2020 is much the same as it was in 2000. It is a good sign that disparities were under the twenty-year average in 2019-2020. However, with the global COVID-19 pandemic and virtual learning models, it is likely to be essential to conduct more research to examine these trends and the extent to which they are increasing or decreasing over the next decade to determine if this downward trend in disparity will continue.

The average index calculated with all subpopulations at the state level was 0.1605, with a range of 0.0956 and a standard deviation of 0.0273. In contrast, the average campus level index is 0.3091, with a range of 19 and a standard deviation of 0.5400. The campus calculations are more highly varied than the average annual index calculated at the state level. I did not expect these averages to be so different, and I am also surprised by the range of index values. The range of the index values at the state level was 0.0956 (see Table 6), but at the campus level, it was rounded to 19 (see Table 8). This is such a significant difference that I am led to conclude that levels of disparity between campuses are inconsistent across the state.

I conclude that between the school years ending 2000 and 2019, higher rates of disproportionality, as measured by the index, in discretionary discipline (violations of the student code of conduct) are correlated to lower passing rates at the campus level in Texas secondary schools. Over the life of this study, the correlation coefficients trend downward. I have interpreted this to mean that the strength of the correlation between the measure of disparity in discretionary discipline, the index, and campus academic performance is increasing over time. The assessment paradigm has moved from a minimum skills assessment model in the 1980s under TEAMS to a much more complex assessment of student growth under STAAR. STAAR, when compared to the TEAMS, TAAS, or TAKS era tests, may more accurately describe how well students are learning in the aggregate. More research is needed to determine if it is possible that the revision of state assessments can partly explain this increasingly negative correlation; however, I think that this may mean that when more time is spent out of class serving disciplinary consequences, the more demanding tests, more strongly correlate with missed instruction causing the correlation to explain more of the variance in campus passing rates.

As mentioned above, I did not find that the index explains a large percentage of the variance in campus passing rates. In fact, when the correlations were controlled for the percentage of students disciplined on a campus in each year, the percentage of SES students enrolled, and the total enrollment were controlled, the index explained less than 0.02% of the variance in campus passing rates. When the campus SES variable and the campus size are set aside, and the percentage of students disciplined is controlled, the index explains just under 0.2% of the variance in campus passing rates. When I controlled for race, the index explained just over 1% of the variance in campus passing rates.

While I found a negative correlation between campus passing rates and the level of disproportionate discipline on secondary campuses in Texas, the relationship is weak. It is possible that the measure of percent passing on state accountability assessments is too blunt an instrument to measure campus success alone, and multiple measures are needed. Because the index is so highly varied at the campus level, the campuses might need to be grouped or stratified in some way. Given all of the factors that influence the success of individual students on all of their tests, from attendance to mood, teacher quality, campus culture, curriculum, materials, socioeconomic status, and the like, it might be fair to say that campus passing rates are so complex that even a tiny share of the explanation of the variance or a weak correlation could be crucial.

I believe that the totals and averages at the state level and the trend in the index over time, along with the correlation of the index at the campus level to passing rates, are valuable information. I am most hopeful that understanding the discretionary discipline, which is the most common form of discipline - representing 75% of the discipline incidents in Texas reported to PEIMS from 2016 to 2021 (TEA Annual State Summary, 2021) - will be seen as essential as a result of my record of study.

**Implications**

One important implication of the disparities found in discretionary discipline at the secondary level is related to the probable learning loss associated with the exclusionary nature of the settings where discretionary discipline consequences are served. There are no requirements for ISS to be staffed by professional teachers, and at the secondary level, even with highly qualified educators assigned to staff ISS and DAEP (which is required), a teacher's secondary certification does not ensure that they have the expertise to deliver lessons and assist disciplined students with the assignments provided by a student's teachers of record in other content areas, because secondary certifications are highly specialized. This learning loss could be equivalent to the negative effects absences have been shown to have on secondary achievement (Balfanz & Byrnes, 2012). Because I found that ISS is the consequence used most in secondary discretionary discipline (representing about 74% of the placements), the adverse effects of this learning loss on 9.33% of the population likely reduces campus level achievement.

If the ubiquitous use of ISS adversely affects campus level achievement, then the effect that disparities in discretionary discipline could have on campus and district accountability ratings is an additional implication of the findings in this study. The State of Texas Accountability System measures the achievement and growth measures for each subpopulation in addition to overall achievement on the State accountability assessments used for this study. If one or more subpopulations is at higher risk for discretionary discipline, then the cumulative effect of the learning loss for these groups could prevent campuses and districts from either attaining or improving their desired A-F ratings.

The 2015 federal law ESSA funds state governments and local education agencies (LEAs) to improve outcomes for traditionally underserved students, such as those of color, the disabled, and those living in poverty. To be eligible for Title I funds in ESSA, districts must, among other requirements, "support efforts to reduce the overuse of discipline practices that remove students from the classroom by identifying and supporting schools with high rates of discipline, disaggregated by each of the subgroups of students" (Section §1112(b)(11)). Because discipline for minor behaviors, code 21, is the largest portion of discipline on a campus, and ISS is most often used to address these violations, which like OSS, removes students from classrooms, reducing the disproportionate application of discretionary discipline in an opportunity to reduce, as stated above the "overuse of discipline" and overall levels of disparity in discipline.

When an LEA is determined to be significantly disproportionate, comprehensive Coordinated Early Intervening Services (CEIS) may be provided to children from age 3 through grade 12, regardless of whether they are children with disabilities. However, an LEA must identify and address the factors contributing to the significant disproportionality in order to use those funds to address those factors. LEAs should not wait until they are found to be significantly disproportionate. Texas educators at all levels must be aware of the existence of disparities to prevent unintended harm to disproportionately affected subgroups.

Individual districts can calculate risk ratios, tie their inquiries to administrator identities, and qualitatively evaluate the words written in the teachers' referrals, examining their practice to determine an intervention plan. For example, if one group of students is at double the risk of failure in a core curriculum, educators would agree that the group has an unmet need, and the teacher would be expected to intervene. Minor misbehavior may be no different, and we should hold administrators accountable for changing, not just punishing, minor misbehavior behavior to improve climate and culture.

If a rise in the disparity of the application of discretionary discipline is negatively correlated to achievement, and it is a school-level factor that, with information and training, an administrative team can influence, if not control, it stands to reason that districts should be acquainted with their discretionary discipline data. This might lead to improvements in the delivery of the social curriculum. Such improvements would support teachers in building the skills that students need to participate in classroom activities agreeably. Administrators often teach students how to advocate for their needs without resorting to behavior that might be interpreted as disruptive or defiant. The efficacy of administrative teams could be improved if they understand the patterns in their discipline data.

Administrators may only be held accountable for the quality or equity of the decisions they make with regard to discipline if a parent files a grievance and the decision is found to be erroneous, arbitrary, or illegal in some way. Given the power that administrators have to affect the educational placement of students, it is not unreasonable that an examination of the risk ratios for student groups in their care should be part of their evaluation and used as an opportunity for growth or improvement.

Reforms by the Texas Legislature in 2003 and 2007 required that DAEPs ensure that certified teachers work with students on coursework required for credit or promotion. However, this setting may continue to fall short of regular classroom instruction (TASB, 2019), and there are no such requirements for ISS. An average of 1,113,516 (see Table 3) ISS placements per year for code 21 violations exist in the data set under study. It seems that requiring certified teachers to work with students in ISS, especially for extended placements of more than three days, would be an appropriate policy to explore. This is particularly reasonable in light of the data used in this study that show the average number of placements to DAEP were only 56,892 (see Table 3) per year.

Lastly, a safeguard must become available to prevent minor misbehaviors under code 21 from resulting in action codes that place students in DAEP or JJAEP or cause them to be expelled because violations of the student code of conduct are minor misbehaviors that are non-violent. These non-criminal violations do not involve drugs, alcohol, or sexual misconduct. The existence of 1,198,670 total placements in DAEP, JJAEP, and expulsions combined over the life of this study calls us to create safeguards in our educational policy concerning discretionary discipline for minor misbehavior.

**Recommendations for Further Study**

In this record of study, the purpose only sought to determine if, and to what extent, disparities in secondary discretionary discipline were correlated to the percentage of students who passed accountability assessments at the campus level. There was no attempt to regress these variables to predict outcomes or achievement at either the state or campus level. One possible area of future research might consider measuring the magnitude to which a measurable change in the index correlates to a measurable change in the percentage of students who pass any assessment. Further, the individual scores of disciplined students were not available for this study. In the future, a researcher might correlate the academic achievements of disciplined students to levels of disparity. This might illuminate the possible effects of discretionary discipline.

Another important area of further study might be to repeat this investigation of possible disparities using one or more of the reason codes that have mandatory actions required by law and do not allow individual administrators to use their discretion or judgment. Comparing the results of such a study to these might tell researchers something about how administrators are trained to follow policy when assigning consequences for the same behavior. Further, qualitative research in this area might also reveal the subjectivity inherent in defining degrees of behavior within codes.

Measuring disparities in the duration of disciplinary placements between subpopulations and correlating that to achievement is worthy of further investigation. Some brief and informal calculations involving the duration of disciplinary placements in the data set revealed several things that would be interesting to research more deeply in the future. For example, the total number of days missed for code 21 violations over the last 20 years was 80 million. It would be fascinating to correlate the days missed by campus to passing rates in the same way this study used the index measure. Some strong work could be done examining trends in the duration of placements over time. In particular, examining some of the outliers in these data could inform us about what behaviors some administrators might be trying to cope with. For example, one outlier in the data showed a discretionary discipline placement with a duration of 5 years. Conversely, it was comforting to find that over the life of the study, the vast majority of ISS placements for a code 21 were one to three days in duration. There may be some evidence to be found that assures the profession that assistant principals across the State of Texas are doing a good job of being consistent or equitable with regard to the duration of each type of disciplinary placement.

I found that ISS is the consequence used most in secondary discretionary discipline (representing about 74% of the placements), the adverse effects of this learning loss on 9.33% of the population likely reduces campus level achievement. If the ubiquitous use of ISS adversely affects campus level achievement, then the effect that disparities in discretionary discipline could have on campus and district accountability ratings is an additional implication of the findings in this study. The State of Texas Accountability System measures the achievement and growth measures for each subpopulation in addition to overall achievement on the State accountability assessments used for this study. If one or more subpopulations is at higher risk for discretionary discipline, then the cumulative effect of the learning loss for these groups could prevent campuses and districts from either attaining or improving their desired A-F ratings.

The percentage of the student population disciplined with a violation of the student code of conduct influenced the relationship between the campus passing rate and the level of disparity. This is an exceedingly logical situation and deserves further study. The extent to which the use of discretionary discipline influences or affects measures of disparity and the relationship both variables have with student achievement would be useful information for disciplinarians and policymakers. It would also be valuable to study the degree to which this kind of discretionary discipline is applied in districts that link the identity of administrators to their placements and to study the consistency or the accuracy of the administrative team's application of disciplinary policy qualitatively. Finally, measuring the equity of the application of discretionary disciplinary policy across disciplinarians and student subpopulations might be meaningful information for evaluations, training, and possibly to combat misinformation or false assumptions on social media.

Additionally, the term non-PEIMS describes action codes that do not have to be reported to TEA, such as a lunch or after-school detention, a conference in the office, or a phone call to a student's parents. Because these codes do not specifically exclude a student from their classroom for at least half of a school day, they were not used for calculations dealing with the duration of a consequence that excludes a student from attending class with their peers in a classroom with their teacher of record. Any incident or infraction assigned a non-PEIMS action code was not part of the data set obtained from TEA and could not be captured for this study. Research regarding these non-PEIMS action codes in a case study where possible disparities can be explored at the distinct level qualitatively could provide meaningful insight into the decision-making efforts of campus administrators and possibly reveal how their training supports or hinders the equity of their application of district level discipline policies.

Given that none of the infractions in the data set under study represent a crime of any kind, as defined by the penal code, it is difficult to understand why there have been 2,697 JJAEP placements between 1999-2000 and 2019-2020. This is an average of 128 placements per year. SES students represent 72% of the placements to JJAEP. Black or African American students comprise 28%, and Latinx is 55% of the JJAEP action group. I suggest this topic as an area for further qualitative research because it would be interesting to explore what behaviors create these placements when the code implies that no crime has been committed.

A total of 1,246 expulsions appear in the data set (see Table 3). They average 59 per year and range from a high of 213 statewide in 2017-2018 to a low of zero in four separate school years, 2001-2002, 2002-2003, 2004-2005, and 2014-2015. Expulsions should not occur under reason code 21 because the law does not allow for discretionary expulsions. Expulsions are always mandatory actions. Code 21 violations do not have any mandatory consequences in the TEC. This does not mean that students have not been expelled under this code improperly. Students initially assigned punishment for reason code 21 could have compounded their infraction with violent or persistent misbehavior and were expelled. A new referral is not always issued for this secondary situation. If this is the case, it would appear that a student has been expelled for a code 21, when in reality, this infraction was an improperly coded additional offense. As an issue for further research, it is important to explore if this is the case and qualitatively determine why such mistakes occur.

Even though the data for expulsions likely represent an error or oversight, as explained above, it is notable that three groups are expelled at high rates in the data set. First, SES students account for 64% of the expulsions. Second, 59% of the expulsions are students who identify as Latinx. Third, though they are underrepresented because they are 33% of the population, White students represent the third largest group in the expulsion action group at 24%. Aside from these three groups, as is consistent with all of the findings in this study, Black or African American students are overrepresented in the expulsion action group. Black or African American Students only make up 17% of this action group, but they are overrepresented because they are only 14% of the population under study. As an issue for further research, exploring what creates these disparities in expulsions would be interesting.

Another area of potential research is the representation of different subpopulations at the State level concerning action groups. Finally, in light of the information I share in the following three paragraphs, which resulted from some brief exploratory calculations on the existing data set, I may be interested in studying disparity in discretionary discipline by action group or, put another way, by the setting where the consequence is served.

Suppose a researcher wanted to explore the risk ratios for Black or African Americans and the persistence with which they continue to be the highest of all the subpopulations. In that case, they might look into this data set for evidence of over or underrepresentation. For example, Black or African American students are overrepresented in each action group compared to their 14% representation in the total population. Over the life of this study, an infraction involving a Black or African American student was assigned to ISS 5,440,402 times, OSS totals 2,232,884 assignments, and DAEP was assigned to 300,318 infractions. This represents 23% of the observations in the ISS action group, 33% in the OSS action group, and 25% in the DAEP action group. Latinx students are about equally represented in each action group, and every other subpopulation under study (White, Native American or Alaska Native, Asian, White, two or more races, and Native Hawaiian or Other Pacific Islander) is underrepresented in these data.

A researcher interested in studying subpopulations other than race might see, as I did, that SES students are also overrepresented in the ISS, OSS, DAEP, and JJAEP action groups. Additionally, SES students represent 72% of the placements to JJAEP and 67% of the DAEP placements in the data set, even though these students are only about 59% of the total population averaging about 3,078,623 students enrolled per year.

The largest subpopulation risk ratio was for SPED students. This study did not take the special education population into account. However, given that the risk ratio calculations for this group were higher than those for Black or African American students from the 1999-2000 school year to the 2008-2009 school year, it seems that this subpopulation deserves some attention in research regarding discretionary discipline.

Finally, there is evidence in these findings that the strength of the relationship between disparities in discretionary discipline and campus passing rates has increased over the last two decades. Future research might explore possible explanations for this increasingly negative correlation.

**Summary of Conclusion**

This study found that disparities in secondary discretionary discipline do exist in Texas between the 1999-2000 and 2019-2020 school years. Disparities in discretionary discipline also exist at the state level. Though the state level indices trended upward through 2009-2010 to 0.2022, they have since trended downward to 0.1066 in 2019-2020, which is below the 1999-2000 level at 0.1077. On average, 9.33% of 5,220,197 secondary students receive a code 21 over the course of a school year. However, 15.22% of Black or African American secondary students and 7.41% of White secondary students receive a code 21 in the average year. In every year under study, the risk ratio for African Americans is the highest of all subpopulations. The next highest risk ratio was Latinx, followed by the White subpopulation, which was less than half the risk ratio for Black or African Americans.

At the secondary campus level, disparities are negatively correlated (r = -0.1301) with the campus percentage of students who pass Texas accountability assessments over the life of the study. This correlation is weak; however, the higher the disparity in discretionary discipline, the lower the campus passing rate tends to be over time. This does not mean that rising levels of disparity cause campus passing rates to decline.

When the variables representing the percentage of students disciplined on a campus in each year, the percentage of SES students enrolled, and the total enrollment were controlled, the index explained less than 0.02% of the variance in campus passing rates; however, the campus enrollment and the percentage of SES students variables were not found to influence the relationship between the index and campus passing rates. When the campus SES variable and the campus size are set aside, and the percentage of students disciplined is controlled, the index explains just under 0.2% of the variance in campus passing rates. When the correlation of campus passing rates with the index is controlled for race, the index explained just under 2% of the variance in campus passing rates.

The strength and direction of the relationship between disparity in secondary discretionary discipline, as measured by the index, and the percentage of students who met standard, or campus passing rate, becomes increasingly negative (see Table 10) over the life of the study. The annual campus level correlations were weakest in 2000 at -0.0060 and strongest in 2016 at -0.2002. The index does not explain any of the variance in passing rates in the 1999-2000 school year; however, the percentage that is explained in 2016 grew to 4%.

In the final year under study, 2019, the correlation was -0.1709, and this explains 2.9% of the variance in campus passing rates. This increasingly negative correlation is evidence that the strength of the relationship between disparities in discretionary discipline and campus passing rates has increased over the last two decades.

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APPENDIX

**Table A1**

*Variable Descriptions*

| Variables and Descriptions used in STATA for Calculations | | |
|---|---|---|
| Variable | Description | Values |
| year | The year in which the demographic data was collected, linkable to STAAR/EOC achievement year and infraction year by campus ID | Four–digit year 2000–2019 |
| scrambled_campus | Masked Campus ID, linkable to STAAR/EOC achievement and demographics year | nine alpha numeric digits |
| passing_rate | Percentage of students who passed the state accountability assessments as measured by all students all tests | Three digits rounded to a tenth of one percent |
| index_range | Smallest nonzero subpopulation risk ratio subtracted from the largest nonzero subpopulation risk ratio | decimal rounded to seven decimal places |
| sub_rr_max | Largest nonzero subpopulation risk ratio | decimal rounded to seven decimal places |
| sub_rr_min | Smallest nonzero subpopulation risk ratio | decimal rounded to seven decimal places |
| campus_risk_ratio | Risk ratio for the entire campus population | decimal rounded to seven decimal places |
| campus_risk_ratio | Risk ratio for the entire campus population | decimal rounded to seven decimal places |
| campus_tot_disciplined | Total number of students issued a code 21 | whole number |
| campus_tot_not_disciplined | Total number of students not issued a code 21 | whole number |
| region | TEA region number designation | whole number 1–20 |
| district_size_category | UIL size designation | 1A–6A2 |
| total_students | Total campus enrollment | whole number |
| native_american_alaska_native | Campus Total students who identify as Native American or Alaska Native | whole number |

| Variables and Descriptions Continued | | |
|---|---|---|
| Variable | Description | Values |
| asian | Campus total students who identify as Asian | whole number |
| black_african_american | Campus total students who identify as Black or African American | whole number |
| latinx | Campus total students who identify as Latinx | whole number |
| white | Campus total students who identify as White | whole number |
| two_or_more_races | Campus total students who identify as two or more races | whole number |
| native_hawaiian_pacific_islander | Campus total students who identify as Native Hawaiian or Other Pacific Islander | whole number |
| economic_students | Campus total students qualified to receive free or reduced lunch | whole number |
| sped_students | Campus total students receiving special education services | whole number |
| ell_students | Campus total English language learners | whole number |
| campus_rr_w | Campus risk ratio for students who identify as White | decimal rounded to seven decimal places |
| campus_rr_baa | Campus risk ratio for students who identify as Black or African American | decimal rounded to seven decimal places |
| campus_rr_lx | Campus risk ratio for students who identify as Latinx | decimal rounded to seven decimal places |
| campus_rr_a | Campus risk ratio for students who identify as White | decimal rounded to seven decimal places |
| campus_rr_nhpi | Campus risk ratio for students who identify as Native Hawaiian or Other Pacific Islander | decimal rounded to seven decimal places |
| campus_rr_naan | Campus risk ratio for students who identify as Native American or Alaska Native | decimal rounded to seven decimal places |
| campus_rr_two | Campus risk ratio for students who identify as two or more races | decimal rounded to seven decimal places |
| diff_rr_index | The difference between the index and the risk ratio | decimal rounded to seven decimal places |

| Variables and Descriptions Continued | | |
|---|---|---|
| Variable | Description | Values |
| percent_economic | Percent of campus enrollment identified as a student on free or reduced lunch | Three digits before the decimal truncated at seven total digits |
| percent_baa | Percent of campus enrollment identified as Black or African American | Three digits before the decimal truncated at seven total digits |
| percent_lx | Percent of campus enrollment identified as Latinx | Three digits before the decimal truncated at seven total digits |
| percent_w | Percent of campus enrollment identified as White | Three digits before the decimal truncated at seven total digits |
| percent_ell | Percent of campus enrollment identified as an English language learner | Three digits before the decimal truncated at seven total digits |
| percent_disciplined | Percent of the campus enrollment that received at least one code 21 | Three digits before the decimal truncated at seven total digits |
| End of Table | | |