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Too Strict or Too Lenient?: Examining The Role of School Strictness With Educational and Juvenile Justice Outcomes

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ABSTRACT

Although there is research exploring how school punishment practices are influencing academic and juvenile justice outcomes, how strict or lenient school punishment practices are related to aspects of education such as grade retention and dropping out, as well as juvenile justice contact, remains unknown. This study draws from the Texas Education Agency's Public Education Information Management System to investigate the relationship between strict and lenient school punishment practices, academic progress or failure, and juvenile justice contact. Results indicate that schools with more strict punishment practices can contribute to higher grade retention and juvenile justice referral rates; however, it also appears that lenient punishment practices also exacerbate these same outcomes as well as higher referral rates. The importance of fair, just, and balanced school punishment practices is discussed.

Introduction

The school-to-prison pipeline is a highly debated social and educational problem. In essence, the school-to-prison pipeline process suggests that strict school policies, such as zero tolerance, detentions, suspensions, truancy policies, and the like, steer or funnel youth out of schools and increase the likelihood of contact with the juvenile or adult justice system (Gregory, Skiba, and Noguera 2010; Kim, Losen, and Hewitt 2012; Rios 2011, 2017; Rocque and Paternoster 2011; Shedd 2015). As a testament to the salience of the issue, the Departments of Justice and Education created a special joint initiative to tackle these issues (U.S. Department of Education 2011). Although the school-to-prison pipeline denotes a direct link between school punishment and adult incarceration, there are potential indirect pathways, such as educational failure or juvenile justice contact, through which school punishment could facilitate increased adult imprisonment risk for punished youth (Gregory et al. 2010; Rios 2011, 2017; Rocque and Paternoster 2011; Shedd 2015). There is some debate about the school-to-prison pipeline. For some, strict school punishment policies "criminalize" school misbehavior; however, there is also a counter narrative that strict punishment policies within schools are needed and warranted because of the violence that students face. Since the fatal shootings at Columbine High School and the like, the aftermath of highly publicized school shootings has resulted in a variety of policy proposals and changes across the United States to address the perceived "epidemic" of school violence (Addington 2009; Kupchik 2010; Monahan

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and Torres 2010; Muschert et al. 2013; Muschert and Peguero 2010). It also appears that the most common policies implemented toward making schools "safer" include the imposition of strict school punishment practices (Addington 2009; Kupchik 2010; Monahan and Torres 2010; Muschert and Peguero 2010; Rios 2011, 2017). Zero tolerance and other strict school punishment policies have increased and become a frequently utilized practice in responses to even minor forms of misbehavior (Kupchik 2010; Muschert and Peguero 2010; Rios 2011, 2017). Taken together, the debate over school punishment practices has, on the one hand, asserted that overly-strict or zero-tolerance policies facilitate educational failure or juvenile justice contact. On the other hand, there is an argument made that low social control within schools or lenient school punishment practices can also facilitate educational failure or juvenile justice contact (Gottfredson 2001; Welsh 2001; Wright et al. 2014; Zimmerman and Rees 2014).

Simon (2007) argued that crime control polices have become a dominant approach to govern insecurity and risk. Many have suggested (Gregory et al. 2010; Monahan and Torres 2010; Simon 2007) that the influence of governing through crime in nation-wide policies, such as a requirement of zero-tolerance policies, and the financial incentives to schools for police and other security measures, such as those provided in the Secure Our Schools Act of 2000 (Kim, Losen, and Hewitt 2010; Simon 2007), have made criminalizing school punishment a pervasive response to address the public concern and fear of youth violence and shootings within schools. Simon (2007) also illustrated how governing through crime has influenced rules and practices in schools across social strata; he stated that "the very real violence of a few schools concentrated in zones of hardened poverty and social disadvantage has provided a 'truth' of school crime that circulates across whole school systems" (Simon 2007:210). From a deterrence theoretical perspective, strict school punishment practices should improve student behavior as well as make schools safer, which in turn should promote educational progress. Deterrence through strict school punishment practices is arguably a default approach by school policymakers and administrators for ensuring safety, addressing misbehavior, and pursuing behavioral compliance in schools (Casella 2003; Zimmerman and Rees 2014). The effectiveness of strict school punishment practices toward deterring student delinquent and criminal conduct directly has been studied (e.g., Apel, Pogarsky, and Bates 2009; Cook, Gottfredson, and Na 2010; Gottfredson 2001; Welsh 2001); however, existing research has demonstrated that strict school punishment practices are mixed or do not prevent disorder and misconduct (see Cook et al. 2010). Moreover, strict school punishment policies may be derailing academic progress as well as facilitating juvenile justice contact (Gregory et al. 2010; Kim et al. 2010; Kupchik 2010; Rios 2011, 2017; Rocque and Paternoster 2011; Shedd 2015). A simultaneous examination of the comparative influence of strict and lenient school punishment practices on academic progress or failure and juvenile justice contact is yet to be studied.

Guided by prior research, it appears that schools with high levels of disorder and misbehavior, as well as strict punishment policies as a response to control that school disorder and misbehavior, can both have detrimental student outcomes. These findings, however, have not been tested in one study. Thus, the main contribution of this research study is to simultaneously investigate the relationship between strict and lenient school punishment practices, academic progress or failure, and juvenile justice contact. This study first reviews research that conceptualizes the link between school punishment practices, educational retention, dropping out, and juvenile justice contact. Data for this study are drawn from the Texas Education Agency's (TEA) Public Education Information Management System (PEIMS) to address three research questions proposed by this study that remain unanswered by the previous literature. First, how do strict and lenient school punishment practices contribute to grade retention rates? Second, how do strict and lenient school punishment practices contribute to dropout rates? Third, how do strict and lenient school punishment practices contribute to juvenile justice contact? Findings indicate that both strict and lenient school punishment practices have effects on retention and dropout rates as well as juvenile justice contact; however, there are important and distinctive nuances that are

presented and examined. Finally, this study discusses the policy implications for the complex relationship between school punishment practices, safety, education, and juvenile justice. In addition, the findings indicating the importance of fair, just, and balanced school punishment practices are discussed.

Social control and schools

Simon's (2007) "governing-through-crime" thesis proposes that addressing crime and violence are central aspects of governing in the United States. Schools also play an important part in the governing-through-crime process, as "the threat of criminal victimization of their children is at the heart of schooling experience for many parents" (Simon 2007:230). According to Simon's thesis, schools across the nation are increasingly using a punitive discourse and the public's, especially parents', fear of crime to justify a decidedly harsh and retributive governing style in schools. In turn, the popular and growing school policy approach of fortifying schools with heightened surveillance techniques, more security measures, increased presence of law enforcement officers, and strict punishment practices have become part of the common landscape within schools (Addington 2009; Kupchik 2010; Muschert et al. 2013; Muschert and Peguero 2010; Rios 2011, 2017; Rocque and Snellings 2017; Theriot 2009); however, there has also been an increasing level of scrutiny questioning and debate if this approach is appropriate.

On one side of the debating about school punishment practices, there is some evidence highlighting the importance of strict school punishment practices. Outside of the family, schools are often considered a fundamental social and educational institution where youth are socialized, taught, and instilled with the fundamentals of moral and civic norms, as well as establishing fundamental parameters of appropriate and inappropriate behaviors. Moreover, these parameters of social control are often associated with contributing to the likelihood of adolescent engagement in deviance or delinquency (Apel et al. 2009; Casella 2003; Cook et al. 2010; Zimmerman and Rees 2014). Across a number of theories (e.g., social learning, social control, general strain, social disorganization, life course, and deterrence), schools are avenues for learning, bonding, strain, access to educational and economic opportunities, and a potential turning point that can influence adolescents' risk for delinquency and adult criminality (Gottfredson 2001; Kirk 2009; Kirk and Sampson 2013; Maimon, Antonaccio, and French 2012; Peguero and Bracy 2015; Rios 2011, 2017). A number of studies have established and stressed the importance of social control within schools as a key mechanism toward ensuring safe learning environments, as well as placing youth on a trajectory toward prosocial behavior through adolescence and adulthood (May et al. 2016; Wright et al. 2014; Zimmerman and Rees 2014). It has been argued that school punishment practices deter misbehavior and are a central component of social control within schools. It is plausible that low levels of punishment or lenient punishment practices within schools may also be problematic and derail educational progress. There is evidence indicating that schools with high levels of disorder and misbehavior are associated with increased rates of educational failure, misbehavior, delinquency, and juvenile justice contact (Gottfredson 2001; Gottfredson et al. 2005; Payne, Gottfredson, and Gottfredson 2003; Stewart 2003; Welsh 2001; Welsh, Greene, and Jenkins 1999).

Stemming from the conceptual tenets of rational choice and utilitarian philosophies, deterrence theory is a fundamental framework that has established the tactic of increasing support for securing prosocial behavior within schools via strict school punishment practices (Apel et al. 2009; Cook et al. 2010; Wright et al. 2014; Zimmerman and Rees 2014). According to deterrence theory, socially inappropriate behavior can be prevented by making noncompliance costly for individuals. Students choose to obey rules and teachers because they fear the consequences associated with misbehavior (Gibbs 1975). In other words, deterrence is an instrumental approach toward an effective means of social control and an efficient way to control youth misbehavior and ensure prosocial behavior within schools. Moreover, some have argued that strict school punishment

practices are directly associated with the deterrence approach within the juvenile and criminal justice system.

Strict school punishment practices attempt to ameliorate youth misbehavior and misconduct within schools by establishing clear and transparent guidelines of student punishment (Kim et al. 2012; Kupchik 2010; Rios 2011, 2017). In addition, strict school punishment practices are supposed to restrict discretion from school administrators and faculty to ensure unbiased application of student punishment for violent acts within school (Casella 2003; Gregory et al. 2010; Kim et al. 2012). Therefore, strict school punishment policies are based on the premise that potential youthful offenders will be deterred by punishment; however, studies reveal that a deterrence theoretical approach addressing misbehavior and strict punishment policies is, at best, having mixed results toward ensuring prosocial behavior (Apel et al. 2009; Cook et al. 2010). In fact, there is evidence that strict school punishment practices may actually derail academic progress and success, becoming a factor toward dropping out, and increasing the likelihood of juvenile and criminal justice contact (Gregory et al. 2010; Kim et al. 2012; Rocque and Snellings 2017; Shedd 2015). This unintended consequence of a deterrence approach of controlling youth within schools has been often referred to as the school-to-prison pipeline.

On the other side of the debate about school punishment practices, some argue that the educational and juvenile justice systems have become deeply interconnected as a consequence of imposing a deterrence theoretical framework toward addressing misbehavior. The phenomenon often referred to as the school-to-prison pipeline suggests that strict school punishment policies are facilitating direct and indirect youth pathways towards the juvenile and criminal justice systems (Casella 2003; Hirschfield 2008; Hirschfield and Celinska 2011; Kim et al. 2012; Rios 2011, 2017; Rocque and Snellings 2017; Sykes et al. 2015). Put another way, this pipeline can be understood as a set of punishment practices and social control policies in schools that make it more likely that youth will be excluded from the known educational and social benefits associated from involvement within the educational system as well as increase delinquency and criminal involvement. What has arisen from studies exploring the school-to-prison pipeline is that academic derailment, dropping out, and juvenile arrest are linked to school punishment.

Grade retention occurs when school faculty and administrators decide that a child should be held back a grade or not continue on to the subsequent grade. It is evident that the administrative decision to retain a student could be associated with a number of academic factors such as excessive absences, poor grades, and low scores on high-stakes standardized tests (Andrew 2014; Marchbanks et al. 2014; Martin 2011; Moller et al, 2006). It is argued that grade retention could have serious implications for academic progress and success. Grade retention could be detrimental toward a number of educational outcomes such as academic motivation and engagement, self-concept and self-esteem, sustain healthy peer relationships, achievement, and high school completion (Andrew 2014; Marchbanks et al. 2014; Martin 2011; Moller et al. 2006). Furthermore, there is research indicating the school punishment can also contribute to a student's educational progress by being withheld from advancing to next grade (Andrew 2014; Martin 2011; Moller et al. 2006). It remains unknown, however, if and how strict or lenient school policies are contributing to graduation retention rates.

As the United States becomes increasingly immersed in a globally competitive market, addressing the educational and social dilemma of dropping out is imperative. An estimated one third of the U.S. high school students fail to receive a regular high school diploma within 4 years (Cataldi and KewalRamani 2009; Rumberger 2011). Dropping out is a serious problem because those who fail to complete school have poorer general health over the span of the life course and are more likely to be unemployed, be delinquent and use drugs, and be incarcerated (Cataldi and KewalRamani 2009; Kirk and Sampson 2013; Rumberger 2011). Moreover, it is evident that school punishment increases the likelihood of a student dropping out of high school (Gregory et al.

2010; Peguero and Bracy 2015; Rios 2011, 2017). It remains unknown, however, if and how strict or lenient school punishment policies are contributing to dropout rates.

There are direct and indirect ways that school punishment can contribute to punished students having increased contact with the juvenile and criminal justice systems. First, researchers have suggested that youth misbehavior at school has become "criminalized" (Muschert et al. 2013; Muschert and Peguero 2010; Rios 2011, 2017; Shedd 2015; Sykes et al. 2015). The suggestion is that prior definitions of school misbehavior and misconduct are leading to youth being detained or arrested at the school because of the presence of School Resource Officers. Ironically, most School Resource Officers were initially established to enhance school and community relationships yet have transitioned into strictly law enforcement roles (Addington 2009; May et al. 2016; Theriot 2009). Thus, many contend that school punishment and juvenile arrest has become an intertwined, seamless process occurring on school campuses (Rios 2011, 2017; Shedd 2015; Sykes et al. 2015). Second, research also demonstrates that youth who are excluded and barred from attending school, as a result of school punishment, are more likely to engage in deviant and delinquent behavior, which translates into increased odds of being arrested (Kirk 2009; Maimon et al. 2012; Rios 2011, 2017; Shedd 2015; Sykes et al. 2015). It remains unknown, however, if and how strict or lenient school punishment practices are contributing to juvenile arrest.

Current study

As discussed in this study's conceptual argument, some contend that deterrence and strict school punishment practices are in part contributing toward positive outcomes (Wright et al. 2014; Zimmerman and Rees 2014), whereas others contend that strict school punishment practices are contributing to detrimental outcomes for students (Kim et al. 2012; Rios 2011, 2017; Shedd 2015). It also appears apparent that the premise of having a strict approach toward school punishment has had mixed results in terms of ameliorating the occurrence of student misbehavior and conduct; however, it is also arguable that a school-to-prison pipeline phenomenon has in part emerged as a result of strict school punishment practices. In response, there are current arguments or debates about dismantling the school-to-prison pipeline (Kim et al. 2012; Rios 2011, 2017; Shedd 2015; Sykes et al. 2015). But how do school policymakers and administrators attempt to do so? In addition, prior research has not simultaneously examined the relationship between strict and lenient school punishment practices, academic progress or failure, and juvenile justice contact. Furthermore, prior research has not simultaneously examined the relationship between strict and lenient school punishment practices, academic progress or failure, and juvenile justice contact.

Therefore, this study focuses on addressing three primary questions about the relationship between school punishment practices that remain unanswered by the previous literature. First, how do strict and lenient school punishment practices contribute to grade retention rates? Second, how do strict and lenient school punishment practices contribute to dropout rates? Third, how do strict and lenient school punishment practices contribute to juvenile justice contact? The focus of this article represents an essential contribution to recent research on the importance of school punishment practices, as well as to the debate about the complex relationship between school safety, education, and juvenile justice.

Methods

Data

The data utilized in these analyses come from a variety of sources. The three sources central to the set of data used in these analyses is represented in Figure 1. First, the Texas Academic

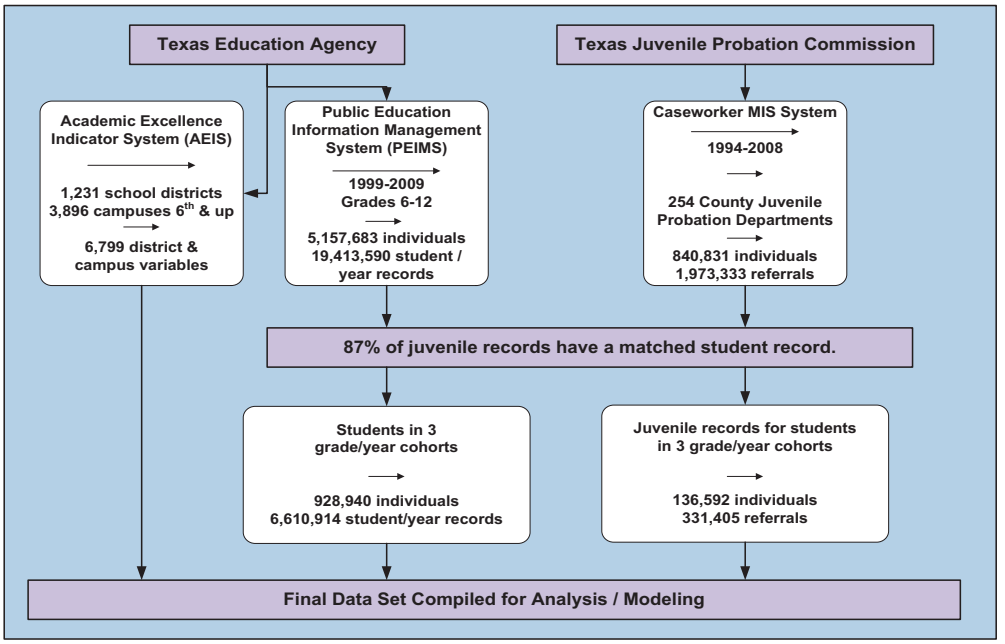

Figure 1. Overview of data sources and data matching protocols.

Excellence Indicator System (AEIS) includes many records that describe the environment of each public school in the state. Included in this data are district wealth, demographics of both students and teachers, student–teacher ratios, expenditure categories (e.g., special education, vocational gifted), and many others. The TEA website makes access to AEIS quite easy because their aggregate form does not compromise student confidentiality.

The PEIMS database is the second, more restricted data source utilized. PEIMS is also maintained by TEA. In lieu of aggregate data, PEIMS contains individual-level data for each public school student in the state of Texas and includes elements of virtually all facets of the student's academic experience—including performance on standardized tests, grade promotion, demographics and of great importance for this study, punishment history—in fact, every punishment encounter resulting in in-school suspension or more severe punishment is included in great detail in PEIMS. As previously mentioned, every student who attends a public school in Texas is recorded in this data set, making for a rich data source. Because of the extent of individual-level information included in PEIMS, access to the data set is highly controlled. Protective measures include an oversite board, random identification numbers in place of personal identifiers, and dedicated server terminals.

The PEIMS data set paints a remarkably detailed picture of students as they navigate through the education system in terms of their punishment and academic experiences. In limited areas AEIS data were unreliable—in particular, the percentage of students on free/reduced lunch. In these cases, PEIMS data from our cohorts are employed to produce accurate measures.

The last database utilized is provided by the then Texas Juvenile Probation Commission (TJPC), which has become part of the newly formed Texas Juvenile Justice Commission. TEA merged these data with the PEIMS and were able to locate 87% of the TJPC individuals in the PEIMS data—a rather remarkable match rate if one considers that individuals who were exclusively in private school or homeschool or who moved into the state and did not begin their education in Texas are unavailable to be matched in the PEIMS data set.

The work presented here centers on the seventh-grade cohorts of the 2000–01, 2001–02, and 2002–03 school years. Each cohort member is tracked through to the 2007–08 school year, to at least their expected graduation year. Nearly 900,000 individuals are present in the included cohorts, including virtually every public school student in the state of Texas from three cohorts followed for at least 6 years (see Fabelo et al. 2011), representing a powerful panel data set. Further, students who move in and out of the Texas public school system are able to be tracked. Also, the schools that these students attend in following years are recorded and used in the analyses presented next. The data collected here were originally used by Fabelo et al. (2011). The data are aggregated to the campus/year.

Dependent variables

The analyses presented here focus upon three separate dependent variables: Grade retention rate, dropout rate, and the juvenile justice referral rate for each campus/year. Except for instances where data are missing, any campus that has a member of the study cohort in any school year between 2000–01 and 2007–08 is included in the analyses. In instances in which students move during the year, the campus where they spent the plurality of their time in the year is designated as their home campus. The first measure—grade retention rate—is created by the researchers using the PEIMS data system. For each year, the grade a student in our cohort is enrolled in the fall is compared to his or her grade in the spring of the previous school year. Those individuals who were in the same grade were coded in the previous year as having been retained in grade. The findings were then aggregated for each campus/year to provide a grade retention rate.

The second dependent variable is the school's dropout rate. The ninth- to 12th-grade 4-year dropout rate for individual campuses is reported by TEA in the AEIS data set. Because the rate utilized includes only high school students, only high school campuses are included in the analyses. In addition, Texas altered its dropout definition in the 2005–06 school year to better align with the National Center for Education Statistics definition. This new definition classifies a dropout as a "student who was enrolled in a Texas public school in Grades 7–12, does not return to the public school the following fall within the school start window … , did not graduate, receive a GED, continue school outside the public school system, begin college or die" (Texas Association of School Boards 2016:5).

Prior definitions of dropout did not define many individuals as dropouts, whereas the current definition does. For instance, individuals who planned on enrolling in a GED program but did not complete the GED were not counted as dropouts. Such differences make prior year estimates incomparable (Texas Association of School Boards 2008). The new definition was included in the AEIS data beginning with the 2006–07 school year. Because of this, the analyses examine the 4-year dropout rate in Texas high schools in the 2006–07 and 2007–08 academic years. Although this represents a smaller portion of the data set, there is no theoretical reason to believe the link between school punishment and dropout was unique during these 2 years.

The last dependent variable of interest is referral rates to the juvenile justice system. When a juvenile is referred to TJPC, staff take action only if, in their view, reasonable cause exists. Only referrals resulting in administrative action are utilized. This approach accounts for jurisdictions where a large number of cases without basis are referred to TJPC.

This measure is calculated by simply taking the number of students from the study cohort with an actionable TJPC referral at a campus and dividing by the total number of students from the study cohort at the school. The resulting value serves as the dependent variable in the analyses.

Given that values for all three dependent variables are available on an annual basis, the school year serves as the unit of analysis in all models.

Independent variables

The operationalization of school strictness, the core predictor of interest, is guided by Booth et al.'s (2012) framework. The fundamental elements of Booth et al.'s work is as follows:

1. Estimate the probability that each student will be punished within the school year.
2. Utilize the individual estimates to form a predicted punishment rate for each campus.
3. Identify the actual punishment rate for each campus.
4. Examine the extent to which each campus punishment rate is greater (less) than predicted by the model (6–7).

Under this approach, a detailed individual-level logistic regression is performed predicting the likelihood that the student will encounter some form of exclusionary punishment (in-school suspension, out-of-school suspension, placement in an alternative education campus, or expulsion) in each academic year. In the next step, an expected punishment rate at the campus level is created by averaging the resulting probabilities for each campus/year. Following this, one creates a school strictness measure by subtracting the predicted punishment rate for the campus/year from the actual punishment rate. The final result is an objective measure of the level of punishment in a campus after giving consideration to the campus and student characteristics the administration is presented with.

This approach is preferable to simply using the actual punishment rate because it accounts for the variety of difficulties administrators are faced with in terms of school resources and the prior punishment history of their students. For instance, a poor inner-city school with underperforming students would be expected to have higher punishment rates than a wealthy suburban school with high-performing students. This approach takes into account the expected level of punishment at the various campuses and contrasts it with their actual punishment rate. First, virtually all aggregate measures simply report some summary of pooled individual-level data. Second, because the research is conducted at the school level, a campus-based measure of expected punishment rates is required. Booth et al. (2012) noted that this approach functions well by supplying an accurate prediction of the probability of punishment for a given child from the school if no other information is provided. Of course, more robust information would be found if we could go into each school and analyze their punishment policies; however, the sheer number of schools and privacy issues make this an approach problematic for the current study. Fabelo et al. (2011) utilized the same approach in their work highlighting the varying approaches to punishment that occur across campuses—even campuses within the same district.

Schools that are overly punitive may lead to deleterious outcomes; however, there is also a possibility that children who attend overly lenient campuses are trying to learn in a chaotic environment that limits their opportunities. Given this, the absolute value of the strictness measure is utilized. Because both the actual and expected punishment rates are proportions, the absolute value of the difference is always constrained to lie between 0 and 1. Because it plausible that lenient campuses might have a different relationship to deleterious outcomes than strict campuses, an interaction between a less-punishment-than-expected dummy and the absolute strictness value is used. Under this approach, we can see if absolute deviations from expected punishment levels are associated with negative outcomes while seeing if the relationship differs (either higher or lower) for schools with less punishment than expected.

Control variables

Existing scholarship has shown that a number of school characteristics (i.e., proportion of racial/ethnic minority students, student poverty, campus size, student–teacher racial/ethnic congruence,

student–teacher ratio, teacher diversity, and classification) are linked with school climate, punishment practices, and a variety of negative outcomes such as dropout, grade retention, and juvenile justice contact (Davis and Sorensen 2013; Gottfredson 2001; Kim et al. 2012; Marchbanks et al. 2014; May 2014; May et al. 2016; Nicholson-Crotty, Birchmeier, and Valentine 2009; Peguero and Bracy 2015; Piquero 2008; Rios 2011, 2017; Rocque and Paternoster 2011; Rocque and Snellings 2017; Shedd 2015; Skiba et al. 2014; Skiba et al. 2011).

Proportion of racial/ethnic minority students

At the school level, the proportions of Black/African Americans, Latina/o Americans, Asian Americans, and Native Americans are included separately to examine the role of each racial/ethnic group's population within each school.

Proportion of students who receive free or reduced lunch

To account for the poverty in a given school, the percentage of students who receive free or reduced-price lunches is employed as a proxy for poverty.

Size

The number of students in a school can affect the amount of quality interaction a student has with teachers and principals and may be associated with eventual academic achievement. Therefore, we account for the student body size of the campus by utilizing the reported number of students enrolled at the school during the academic year.

Student–teacher ratio

Large classes can limit teachers' ability to forge strong bonds with students. These relationships can be helpful in preventing punishment and provide students with an adult with whom they can share sensitive matters. Student–teacher ratio is reported by TEA as simply the number of number of full-time equivalent teachers divided into the number of students at a campus.

Teacher diversity

The diversity of the faculty may also be related to the student experience and ultimately academic and punishment outcomes of students. The Greenberg diversity measure produces a consistent measure of teacher diversity. The value is calculated as $(1 - \%\ \text{Teachers}_{\text{Black/African American}}^{2} - \%\ \text{Teachers}_{\text{Latina/o American}}^{2} - \text{Teachers}_{\text{White}}^{2} - \%\ \text{Teachers}_{\text{Other Race}}^{2})$. Originally, this formula was used to describe the linguistic diversity of a region (Greenberg 1956). Racial/ethnic diversity, though, can also be depicted with this method quite well. Fully diverse schools receive a value of 0.75, whereas fully homogeneous campuses receive a 0.

Student–teacher racial/ethnic incongruence

The degree that a school's teachers reflect the race/ethnicity of its students has been shown to be related to school punishment (Blake et al. 2016). As such, we utilize a student/teacher racial incongruence variable defined in Blake et al. (2016). This figure is created by the following:

$$[(\%\ \text{Faculty}_{\text{Black/African American}} - \%\ \text{Students}_{\text{Black/African American}})^2 + (\%\ \text{Faculty}_{\text{Latina/o American}} - \%\ \text{Students}_{\text{Latina/o American}})^2 + (\%\ \text{Faculty}_{\text{Other Race}} - \%\ \text{Students}_{\text{Other Race}})^2]^{0.5} + (\%\ \text{Faculty}_{\text{White American}} - \%\ \text{Students}_{\text{White American}})^2.$$

Table 1. Descriptive statistics for study variables.

Variables	Range	Retention model *M* (*SD*)	Dropout model *M* (*SD*)	Justice model *M* (*SD*)
Retention rate	0–1	.07 (.12)	—	—
Dropout rate	0–1	—	.10 (.12)	—
Juvenile justice referral rate	0–1	—	—	.05 (.11)
Strict school punishment practices	0–.95	.10 (.11)	.09 (.09)	.10 (.11)
Lenient school punishment practices	0–.95	.06 (.11)	.05 (.09)	.06 (.11)
Black/African American	0–100	13.05 (18.27)	12.11 (16.94)	13.00 (18.17)
Latina/o American	0–100	36.88 (29.86)	37.36 (29.20)	37.05 (29.83)
Asian American	0–49.7	1.62 (3.58)	1.53 (3.69)	1.62 (3.60)
Native American	0 –27.8	.38 (.81)	.44 (.97)	.38 (.82)
Free or reduced lunch	0–100	49.04 (25.07)	43.97 (23.32)	48.49 (25.01)
Size	12–5,094	691.06 (697.23)	841.40 (901.02)	704.80 (721.11)
Student–teacher ratio	1.7–50	13.24 (3.89)	12.71 (3.98)	13.18 (3.94)
Diversity of teachers	0–.74	.23 (.19)	.24 (.19)	.23 (.19)
Student–teacher racial/ethnic incongruence	0–137.6	40.43 (24.69)	40.02 (23.91)	40.42 (24.61)
Junior high	0–1	.33 (.47)	—	.30 (.46)
Junior high & high school	0–1	.12 (.32)	.13 (.34)	.12 (.32)
Elementary–high school	0–1	.24 (.43)	.11 (.31)	.23 (.42)
Suburban county	0–1	.22 (.41)	.26 (.44)	.22 (.41)
Rural county	0–1	.09 (.29)	.11 (.31)	.09 (.29)

Classification

Schools that span multiple grade types likely present administrators with unique challenges. Among the types included are pure high school (Grades 9–12, base category), combination junior (Grades 6–8) and senior high school, and elementary (Grades K–5) through junior or high school.

Urbanicity

One element that is likely related to negative events is the school's urbanicity. The analyses utilize the U.S. Department of Agriculture's 2003 county classifications to control of campuses urbanicity.[1] We collapse the Department of Agriculture's categories into urban (metro), rural (nonmetro, not adjacent to metro area), and suburban (nonmetro, adjacent to metro area). Categories are mutually exclusive, so campuses appear in only one classification (e.g., one cannot be suburban and rural).

Analysis plan

The analyses proceed in several steps. Table 1 presents descriptive statistics for the variables examined in this study. Table 2 displays the regression results of the relationships and interactions between strict and lenient school punishment practices and grade retention rates. For the regression analyses, a logistic link function was used in generalized linear modeling (GLM) using Stata 13 with standard errors clustered on the campus (Franzese 2005). Because each of the dependent variables represents proportions, GLM was used instead of ordinary least squares regression because the method is not constrained by the same assumption of normality in the error term that ordinary least squares is. As Hardin and Hilbe (2011) stated,

> [the] traditional linear model is not appropriate when assuming that data are normally distributed is unreasonable or if the response variable has a limited outcome set. Furthermore, in many instance in which homoscedasticity is an untenable requirement, the linear model is again inappropriate. The GLM allows these extensions to the linear model. (P. 17)

[1] https://www.ers.usda.gov/webdocs/DataFiles/53251/ruralurbancodes2003.xls?v=38197

Table 2. Generalized linear model coefficients (logit link function) and standard errors for retention rates in Texas high schools.

	Model 1[a]			Model 2[b]		
	b	*OR*	*SE*	*b*	*OR*	*SE*
Strict school punishment practices	2.450***	11.593	0.268	1.222***	3.393	0.262
Lenient school punishment practices	1.379***	3.969	0.271	0.983***	2.673	0.255
Black/African American	—	—	—	0.014***	1.014	0.001
Latina/o American	—	—	—	0.012***	1.012	0.001
Asian American	—	—	—	–0.001	0.999	0.007
Native American	—	—	—	0.075**	1.078	0.028
Free or reduced lunch	—	—	—	0.001	1.001	0.001
Size	—	—	—	–0.000***	1.000	0.000
Student–teacher ratio	—	—	—	0.024***	1.025	0.006
Teacher diversity	—	—	—	0.481**	1.618	0.154
Student–teacher racial/ethnic incongruence	—	—	—	0.003***	1.003	0.001
Junior high	—	—	—	–1.909***	0.148	0.048
Junior high & high school	—	—	—	–0.333***	0.717	0.067
Elementary–high school	—	—	—	–0.458***	0.632	0.046
Suburban county	—	—	—	–0.738***	0.478	0.065
Rural county	—	—	—	–0.915***	0.400	0.098
Constant	–3.039***		0.031	–3.291***		0.110

Note. OR: odds ratio.
[a]$N = 14{,}264$.
[b]$N = 14{,}264$.
**$p \leq .01$. ***$p \leq .001$.

Table 3. Generalized linear model coefficients (logit link function) and standard errors for dropout rates in Texas high schools.

	Model 3[a]			Model 4[b]		
	b	*OR*	*SE*	*b*	*OR*	*SE*
Strict school punishment practices	1.060***	2.886	0.469	0.686	1.986	0.408
Lenient school punishment practices	2.419***	11.229	0.470	1.373***	3.948	0.404
Black/African American	—	—	—	0.018***	1.018	0.002
Latina/o American	—	—	—	0.010***	1.010	0.002
Asian American	—	—	—	–0.032***	0.968	0.008
Native American	—	—	—	0.001	1.001	0.025
Free or reduced lunch	—	—	—	0.005**	1.005	0.002
Size	—	—	—	–0.000***	1.000	0.000
Student–teacher ratio	—	—	—	0.036***	1.037	0.008
Teacher diversity	—	—	—	1.039***	2.826	0.219
Student–teacher racial/ethnic incongruence	—	—	—	0.000	1.000	0.001
Junior high & high school	—	—	—	0.166	1.181	0.091
Elementary–high school	—	—	—	0.015	1.016	0.127
Suburban county	—	—	—	–0.276***	0.759	0.076
Rural county	—	—	—	–0.357***	0.700	0.098
Constant	–2.462***		0.041	–3.851***		0.128

Note. OR: odds ratio.
[a]$N = 2{,}775$.
[b]$N = 2{,}775$.
**$p \leq .01$. ***$p \leq .001$.

These practical characteristics of GLM make it appropriate for the current analyses. In the baseline Model 1 of Table 2, retention rate is regressed on strict and lenient school punishment practices. In Model 2 of Table 2, retention rate is regressed on strict and lenient school punishment practices and other control factors. In Model 3 of Table 3, dropout rate is regressed on strict and lenient school punishment practices. In Model 4 of Table 3, dropout rate is regressed on strict and lenient school punishment practices and other control factors. In Model 5 of Table 4, juvenile justice referral rate is regressed on strict and lenient school punishment practices. In Model 6 of Table 4, juvenile justice referral rate is regressed on strict and lenient school

Table 4. Generalized linear model coefficients (logit link function) and standard errors for juvenile justice rates in Texas high schools.

	Model 5[a]			Model 6[b]		
	b	*OR*	*SE*	*b*	*OR*	*SE*
Strict school punishment practices	4.376***	79.489	0.322	2.502***	12.206	0.318
Lenient school punishment practices	1.072**	2.922	0.326	1.288***	3.626	0.305
Black/African American	—	—	—	0.012***	1.012	0.002
Latina/o American	—	—	—	0.007***	1.008	0.002
Asian American	—	—	—	–0.016*	0.984	0.008
Native American	—	—	—	0.026	1.026	0.022
Free or reduced lunch	—	—	—	0.003*	1.003	0.002
Size	—	—	—	–0.000***	1.000	0.000
Student–teacher ratio	—	—	—	–0.048***	0.953	0.011
Teacher diversity	—	—	—	0.243	1.275	0.205
Student–teacher racial/ethnic incongruence	—	—	—	0.007***	1.007	0.001
Junior high	—	—	—	0.295***	1.343	0.057
Junior high & high school	—	—	—	0.855***	2.351	0.082
Elementary–high school	—	—	—	0.618***	1.856	0.063
Suburban county	—	—	—	–0.707***	0.493	0.076
Rural county	—	—	—	–0.964***	0.381	0.095
Constant	–3.713***		0.040	–4.004***		0.154

Note. OR = odds ratio.
[a]$N = 15{,}783$.
[b]$N = 15{,}783$.
*$p \leq .05$. ***$p \leq .001$.

punishment practices and other control factors. To allow for sufficient variations in the measures, schools with fewer than 10 students present in the year are removed from the analyses.

Results

Retention rates

Table 2 reports the estimates of the relationships between strict and lenient school punishment practices, race/ethnicity, relevant school factors, and grade retention rates. In the restricted Model 1 in Table 2, retention rates are predicted by school strictness. Race/ethnicity and school-level control variables are added in Model 2 of Table 2. The same approach for dropout rates and juvenile justice referral rates are presented in Tables 3 and 4, respectively.

The limited Model 1 examines the relationship between strict and lenient school punishment practices and grade retention. As a school's punishment becomes either more strict or lenient than expected, the retention rate increases as well ($\beta = 2.450$, $p \leq .001$). Of note, the effect was more dramatic for schools who were lenient where the coefficient was higher ($\beta = 1.379$, $p \leq .001$) after including the base coefficient ($\beta = 2.450$ for absolute difference).

In Model 2 of Table 2, school characteristics are added to the grade retention model. After adding the controls, deviation from the predicted level of punishment remained significant ($\beta = 1.222$, $p \leq .001$); lenient schools also faced an additional increase in grade retention ($\beta = 0.983$, $p \leq .001$). Increases in the percentage of students who are Black/African American were linked to increase grade retention ($\beta = .014$, $p \leq .001$) with similar results for the percentage of Latina/o American students ($\beta = .012$, $p \leq .001$). Increases in Native American students were also linked with higher retention rates ($\beta = .075$, $p \leq .01$). Even though school size achieves statistical significance, substantively it does not have a large relationship ($\beta = -.000$, $p \leq .001$). As expected, student–teacher ratio increases are associated with larger grade retention rates ($\beta = .024$, $p \leq .001$). As faculty diversity increases, grade retention increases as well ($\beta = .481$, $p \leq .01$). As the faculty looks less like the student body, grade retention increases as well ($\beta = .003$, $p \leq .001$). Junior highs have lower grade retention rates ($\beta = -1.909$, $p \leq .001$), as do schools that include

both junior high and high school ($\beta = -.333$, $p \leq .001$), and schools with students from elementary through junior or high school ($\beta = -.458$, $p \leq .001$). This finding is likely due to ninth grade being the typical "bottleneck" grade where students can continue to progress in other subjects they have passed while technically remaining in ninth grade. Compared to urban schools, suburban ($\beta = -.738$, $p \leq .001$) and rural ($\beta = -.915$, $p \leq .001$) schools both have lower grade retention rates.

School strictness and dropouts

Table 3 highlights the analysis of strict and lenient school punishment practices and dropout rates. The baseline Model 3 looks at the relationship between strict and lenient school punishment practices dropout rates. There is an effect for schools that are more strict ($\beta = 1.060$, $p \leq .001$) with an additional effect for schools that are more lenient than expected ($\beta = 2.419$, $p \leq .001$).

In Model 4 of Table 3, school characteristics are added. The results for school strictness are significant only for lenient schools, which see increases in dropout rates as they elevate their deviation from the expected punishment rate ($\beta = 1.373$, $p \leq .001$). Race/ethnicity plays an important role, with the percentage of Black/African American and Latina/o American students being associated with elevated dropout rates ($\beta = .018$, $p \leq .001$ and $\beta = .010$, $p \leq .001$, respectively). Asian American students, however, are related to lower dropout rates ($\beta = -.032$, $p \leq .001$). Schools with lower socioeconomic status as measured by free/reduced lunch participation had higher dropout rates ($\beta = 0.005$, $p \leq .01$). Like the grade retention findings, school size was linked to lower dropout rates statistically, but substantively there is little effect ($\beta = -.000$, $p \leq .001$). Also similar to the grade retention results, higher student–teacher ratios are related to higher dropout rates ($\beta = .036$, $p \leq .001$). Increased diversity among faculty was linked to elevated dropout rates ($\beta = 1.039$, $p \leq .001$). Last, we see that suburban ($\beta = -.276$, $p \leq .001$) and rural ($\beta = -.357$, $p \leq .001$) schools have lower dropout rates than their urban counterparts.

School strictness and juvenile justice referrals

Table 4 presents the examination of the relationship between strict and lenient school punishment practices and juvenile justice referrals. The baseline Model 5 includes only strict and lenient school punishment practices and finds that the more a campus has increased strictness, more students are referred to the juvenile justice system ($\beta = 4.376$, $p \leq .001$), which is especially pronounced in comparison to lenient schools. Although lenient schools also see an increased effect of more students being referred to the juvenile justice system ($\beta = 1.072$, $p \leq .01$), the strength of this effect is comparatively weaker than the impact of strict school punishment practices on juvenile justice contact.

In Model 6 of Table 4, control variables are included. While accounting for other school factors, the findings from Model 6 are consistent with strict school punishment practices being associated with increased juvenile justice contact ($\beta = 2.502$, $p \leq .001$) and lenient schools also having increased odds students being referred to the juvenile justice system ($\beta = 1.288$, $p \leq .001$). Both Black/African American ($\beta = .012$, $p \leq .001$) and Latina/o American ($\beta = .007$, $p \leq .001$) students are related to elevated juvenile justice referral rates. Asian American students, however, are related to lower referral rates ($\beta = -.016$, $p \leq .05$). Consistent with expectations, poverty is related to juvenile justice. Higher rates of free/reduced price lunch students at a campus are related to higher referral rates ($\beta = .003$, $p \leq .05$). Campus size continues to play a statistically significant yet substantively small role in predicting juvenile justice ($\beta = -.000$, $p \leq .001$). Surprisingly, higher student–teacher ratios are linked to lower juvenile justice rates ($\beta = -.048$, $p \leq .001$). Of interest, as faculty looks less like the students, the more likely their students are to encounter juvenile justice ($\beta = .007$, $p \leq .001$).

In terms of school type, junior highs ($\beta = .295$, $p \leq .001$), junior highs with high schools ($\beta = .855$, $p \leq .001$), and elementary through junior and/or senior high ($\beta = .618$, $p \leq .001$) campuses are linked with higher juvenile justice rates than are pure high schools. This finding is likely due to the fact that in Texas an individual is criminally an adult at age 17, which makes a substantial portion of high school students ineligible for juvenile justice. Both suburban ($\beta = -.707$, $p \leq .001$) and rural ($\beta = -.964$, $p \leq .001$) campuses are linked to lower juvenile justice referrals.

Discussion

The current study set out to address three questions about the relationship between strict and lenient school punishment practices on distinct schooling or educational outcomes. First, how do strict and lenient school punishment practices contribute to grade retention rates? The results do suggest that there is a relationship between punishment practices and retention rates. In general, it appears that schools with strict or lenient school punishment practices have higher retention rates; however, the results also could suggest that lenient school punishment practices could result in even higher retention rates. Second, how do strict and lenient school punishment practices contribute to dropout rates? The findings indicate a relationship between school punishment practices and dropout rates. It appears that schools with lenient school punishment practices have higher dropout rates. Third, how do strict and lenient school punishment practices contribute to juvenile justice contact? The findings also clearly demonstrate an association between school punishment practices and retention rates. It is evident that schools with strict and lenient school punishment practices have higher juvenile justice referral rates; however, the findings also suggest that strict practices have a stronger relative effect on the association between school punishment practices and juvenile justice referral rates. These findings demonstrate complexities about the relationships between safety, education, and juvenile justice with how social control is implemented within schools. The results also suggest how fair, just, and balanced school punishment practices warrant further research and policy pursuit.

Having an overly strict and overly lenient punishment practices can not only create tense and negative outcomes but also affect even those students who were not retained, at risk of dropping out, or at risk of entering juvenile and criminal justice system (Kupchik 2010, 2016; Peguero and Bracy 2015; Perry and Morris 2014; Rios 2011, 2017). Moreover, there is evidence to the argument that overly strict or overly lenient punishment practices have other hidden costs, among them the possibility of fracturing important social relationships, including relationships among students and between students and teachers (Kupchik 2010, 2016; Peguero and Bracy 2015; Perry and Morris 2014; Rios 2011, 2017). Although school punishment practices are often argued to be necessary for preserving school safety by ensuring that nonmisbehaving students can learn without disruption, school punishment practices have the potential to harbor anxiety, distrust, and fear among all students (Kupchik 2010, 2016; Peguero and Bracy 2015; Perry and Morris 2014; Rios 2011). Therefore, this study suggests that strict and lenient school punishment practices could be detrimental toward sustaining academic and justice outcomes (Kupchik 2010, 2016; Peguero and Bracy 2015; Perry and Morris 2014; Rios 2011, 2017). With that noted, these arguably contradicting results also highlight the complexities of the social and educational policy debate about safe schools, school punishment practices, and the school-to-prison pipeline. Moreover, this study's findings can also arguably suggest the importance of finding a balance between strict and lenient school punishment practices by pursuing a "fair and just" approach with school punishment. For instance, a number of researchers have denoted that a restorative justice approach would allow students to make amends to those they harmed without criminalizing them in the process (May 2014; Portillos et al. 2012; Rios 2011, 2017; Shedd 2015). A restorative justice approach could also utilize a number of formats to meet the needs of students and communities and develop solutions

agreeable to all parties involved (Kupchik 2016, 2016; May 2014; Portillos et al. 2012; Rios 2011, 2017; Shedd 2015).

In addition, we also set out to simultaneously examine the relationship between strict and lenient school punishment practices, academic progress or failure, and juvenile justice contact. The debate about the degree of crime control within schools is highly contested, as well as rooted in the fundamental notions of what schools represent in U.S. society. For some, school safety is paramount and social control is also a fundamental development mechanism for students (Casella 2003; Wright et al. 2014; Zimmerman and Rees 2014). As denoted in this study, there is a conceptual argument that strict school punishment practices that are founded on a rational choice and deterrence approach are effective toward reducing violence occurring within schools (Apel et al. 2009; Casella 2003; Wright et al. 2014; Zimmerman and Rees 2014). Having clear and swift punishment and sanctions in response to youth who misbehave socializes youth that there are detrimental consequences associated with misconduct at school (Wright et al. 2014; Zimmerman and Rees 2014). These findings, in part, support this perspective that lenient school punishment practices also contribute to school-level problems such as dropout and juvenile justice referral rates. Some have also argued that the overall decline of school crime over the past two decades results from the increasing deterrence or control with punishment practices (Casella 2003; Wright et al. 2014; Zimmerman and Rees 2014). In other words, punishment is a fundamental developmental mechanism that socializes students from engaging in misconduct, as well as deters and controls crime at the school level and reflects how order is an important aspect of a healthy school environment. Others, however, do indicate that there are unintended consequences from having punishment practices that may also be problematic, as schools continue to be a site of socialization and education.

From another theoretical standpoint, schools are first and foremost a site of learning. Having schools with high levels of crime control or strict school punishment practices are disruptive to the educational process. The school environment, which can be understood as a sum of the experiences, norms, values, relationships, practices, and structures of a school, is a manipulatable school-level factor that shapes school experiences for students and teachers alike (Kupchik 2016, Peguero and Bracy 2015; Rios 2011; Shedd 2015). A positive or healthy school environment helps facilitate educational progress (Kupchik 2016, 2016; Peguero and Bracy 2015; Rios 2011, 2017; Shedd 2015). This is where many argue that increasing measures of crime control and strict punishment practices are eroding the learning environment and having negative impacts on students (Kupchik 2016, 2016; Peguero and Bracy 2015; Rios 2011, 2017; Shedd 2015). Concerns about the expanding use of strict school punishment practices within schools have sparked investigations about the possible unintended consequences for youth. Research denotes that zero-tolerance punishment practices create a "prison-like" institutional atmosphere or environment (Kupchik 2016, 2016; Peguero and Bracy 2015; Rios 2011, 2017; Shedd 2015). High levels of crime control within schools could socialize youth to believe that accusation or vulnerability of "all students [are being] treated as if they were either sources or targets of potential danger" (Erikson 2001:119). This type of highly controlled school environment may foster fear, resentment, and other negative reactions that can interfere with promoting an effective learning environment (Kupchik 2016; Peguero and Bracy 2015; Rios 2011, 2017; Shedd 2015). The suggestion is that prison-like schools are funneling youth into a school-to-prison pipeline by the means of facilitating educational failure and juvenile justice referrals (Kupchik 2016, 2016; Peguero and Bracy 2015; Rios 2011, 2017; Shedd 2015). As a result, policymakers are divided about this debate between how to provide effective learning environments while keeping students safe.

The findings here present a middle ground between the two polar opposite views: Schools with higher-than-expected punishment are linked to higher levels of grade retention and juvenile justice referrals. At the same time, schools that are more lenient than expected are linked to these same negative outcomes and to higher dropout rates. In essence, our findings provide empirical

support to both sides of the argument. However, this is not a "nonfinding"; rather, it represents a conceptualization that both theoretical constructs have merit and that schools should pursue a "middle ground" where students are held accountable for their actions yet in an environment that is not overly punitive. The results here indicate that such a strategy is associated with the best outcomes for students across a wide variety of outcomes that are of great social and educational importance. As noted throughout this study, having fair, just, and balanced school punishment practices could have behavioral and educational benefits.

Limitations and future directions

This study is not without limitations. First, there is an increasing social and public concern that zero tolerance and/or strict school punishment practices reproducing racial/ethnic inequalities by funneling youth out of the educational system and into the juvenile and criminal justice system, especially in urban schools (Hirschfield 2008; Hirschfield and Celinska 2011; Pantoja 2013; Rios 2011, 2017; Shedd 2015; Skiba et al. 2014; Sykes et al. 2015). Investigating the direct and indirect ways that strict school punishment practices are potentially facilitating students, particularly racial/ethnic minority and urban disadvantaged youth, toward increased probability with educational failure and juvenile justice contact is needed. On a related note, though not the central focus of the study, future research should explore the role of faculty diversity in association with school punishment policies and other academic outcomes. As student diversity increases across U.S. schools, future teacher diversity may not be keeping pace with the ever-changing student population. As reported in this study, as well as suggested by prior research (Kim et al. 2012; Marchbanks et al. 2014; Rios 2011, 2017; Shedd 2015), teacher diversity can moderate student–teacher relationships and student behavior, which warrants further research in school punishment practices.

Second, the data did not allow for a complete examination of the difference in school strictness between the different types of schools, in terms of referral type. During the period from which the data used in this study was taken (2000–07), the Texas Education Code outlined two categories of punishment actions available to school officials: mandatory and discretionary punishment action (Fabelo et al. 2011). Mandatory punishment action listed specific, mostly criminal behaviors that qualified as felony offenses (e.g., use of firearms on school grounds, aggravated assault, and sexual assault), which triggered mandatory school removal. Discretionary punishment action, on the other hand, listed several less severe offenses including felony criminal mischief, misdemeanor drugs, alcohol, and fighting, which gave school district officials discretion to remove (or not remove) a student from the classroom or school. In addition, school districts are also required to adopt a student "code of conduct," which is locally designed to outline what is considered acceptable student behavior for that school district. This requirement gave districts the authority to include additional offenses (as innocuous as chewing gum) that could require punishment action and as such, allow a great deal of leeway to broaden which offenses can fall under the mandatory and discretionary punishment action categories; however, very few referrals to the juvenile justice system come from the schools (about 6%; Fabelo et al. 2011). Because of the way in which we constructed the "referral" variable in this study, this study was not able to capture these differences in the analyses.

Third, further data limitations include the individuals who were in the juvenile justice data but not identified in the education data. Potential reasons for this include students who were in home or private school or those who moved into Texas without enrolling in school. However, only 13% of individuals in the juvenile justice data were not matched with the education data, making the available data largely complete. In addition, more leverage would be gained if Texas did not change its definition of dropout during the period for which data were available. However, there is little theoretical reason to believe that the relationship between school strictness and dropout

varies by year. Despite the limitations associated with this study, this study does provide evidence to set forth an agenda for the continued exploration of the connections between strict and lenient school punishment practices on juvenile justice referrals across distinct school locations.

Implications and conclusion

It appears that schools with more strict school punishment practices can contribute to higher grade retention and juvenile justice referral rates, but it also appears that lenient school punishment practices also exacerbate these same outcomes as well as higher referral rates. As suggested by prior research (Apel et al. 2009; Rocque and Paternoster 2011; Rocque and Snellings 2017), there is a complex negotiation between strict or lenient approaches toward punishment practices in association with school safety and education. Without a doubt, the serious debate about the complexities with strict school punishment practices, although administrators are entrusted with ensuring the safety of their students, is reflected in this study's findings. Thus, it is important to consider that organizational or structural factors, such as having fair, just, and balanced school punishment practices, can matter in students' advancing through the educational system.

In general, this study makes it clear that school punishment practices have a role in safety, as well as education, but the fair and justice balance between strict and lenient school punishment practices should be pursued by administrators and policymakers. This study suggests that researchers should broaden their focus on investigations about school safety, education, and juvenile justice to include alternative school safety policies, practices, and approaches. In other words, more attention should be extended to exploring the success of fair and balanced school justice practices in order to assess how school punishment is effective in comparison to other approaches.

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References

Addington, Lynn A. 2009. "Cops & Cameras: Public School Security as a Policy Response to Columbine." *American Behavioral Scientist* 52 (10):1426–46.

Andrew, Megan. 2014. "The Scarring Effects of Primary-Grade Retention? a Study of Cumulative Advantage in the Educational Career." *Social Forces* 93 (2):653–85.

Apel, Robert, Greg Pogarsky, and Leigh Bates. 2009. "The Sanctions-Perception Link in a Model of School-Based Deterrence." *Journal of Quantitative Criminology* 25 (2):201–26.

Blake, J. J., Smith, D. A., Marchbanks, M. P., Wood, S. and Seibert, A. 2016. "Does Teacher Student Racial/Ethnic Congruence Predict Black Students' Discipline Risk?" In *Inequality in School Discipline: Research and Practice to Reduce Disparities*, edited by R. Skiba, K. Mediratta, and R. Karega. Palgrave.

Booth, Eric A., Miner P. Marchbanks, Dottie Carmichael, and Tony Fabelo. 2012. "Comparing Campus Discipline Rates: A Multivariate Approach for Identifying Schools with Significantly Different than Expected Exclusionary Discipline Rates." *Journal of Applied Research on Children: Informing Policy for Children at Risk* 3 (2):1–23.

Casella, Ronnie. 2003. "Zero Tolerance Policy in Schools: Rationale, Consequences, and Alternatives." *Teachers College Record* 105 (5):872–892.

Cataldi, Emily Forrest, and Angelina KewalRamani. 2009. *High School Dropout and Completion Rates in the United States: 2007 (NCES 2009-064)*. Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Cook, Philip J., Denise C. Gottfredson, and Chongmin Na. 2010. "School Crime Control and Prevention." *Crime and Justice: A Review of Research* 39 (1):313–440.

Davis, J., and Sorensen, J. R. 2013. "Disproportionate Minority Confinement of Juveniles: A National Examination of Black-White Disparity in Placements, 1997–2006." *Crime and Delinquency* 59:115–39.

Erikson, W. H. 2001. "The Report of Governor Bill Owens' Columbine Review Commission." Retrieved June 3, 2015 from http://www.state.co.us/columbine/Columbine_20Report_WEB.pdf.

Fabelo, Tony, Michael Thompson, D. Martha Plotkin, Dottie Carmichael, Miner P. Marchbanks, I. I. I. Eric, and A. Booth. 2011. *Breaking School Rules: A Statewide Study of How School Discipline Relates to Students' Success and Juvenile Justice Involvement*. New York, NY: Council of State Governments Justice Center.

Franzese, Robert J. 2005. "Empirical Strategies for Various Manifestations of Multilevel Data." *Political Analysis* 13 (04):430–446.

Gibbs, J. P. 1975. *Crime, Punishment, and Deterrence* (p. 58). New York: Elsevier.

Gottfredson, Denise C. 2001. *Schools and Delinquency*. New York: Cambridge University Press.

Gottfredson, Gary D., Denise C. Gottfredson, Allison Ann Payne, and Nisha C. Gottfredson. 2005. "School Climate Predictors of School Disorder: Results from a National Study of Delinquency Prevention in Schools." *Journal of Research in Crime and Delinquency* 42 (4):412–444.

Gregory, Anne, Russell J. Skiba, and Pedro A. Noguera. 2010. "The Achievement Gap and the Discipline Gap: Two Sides of the Same Coin." *Educational Researcher* 39 (1):59–68.

Hardin, J. W., and Hilbe, J. M. 2011. *Generalized Linear Models and Extensions* (2nd ed.). College Station, TX: Stata Press.

Hirschfield, Paul J. 2008. "Preparing for Prison?" *The Criminalization of School Discipline in the USA. Theoretical Criminology* 12 (1):79–101.

Hirschfield, Paul J., and Katarzyna Celinska. 2011. "Beyond Fear: Sociological Perspectives on the Criminalization of School Discipline." *Sociology Compass* 5 (1):1–12.

Kim, Catherina, Daniel J. Losen, and Damon T. Hewitt. 2010. *The School-to-Prison Pipeline: Structuring Legal Reform*. New York: New York University Press.
Kim, C., Losen, D., and Hewitt, D. 2012. *The School-to-Prison Pipeline: Structuring Legal Reform*. New York: New York University Press.
Kirk, David S. 2009. "Unraveling the Contextual Effects on Student Suspension and Juvenile Arrest: The Independent and Interdependent Influences of School, Neighborhood, and Family Social Controls." *Criminology* 47 (2):479–520.
Kirk, David S, and Robert J. Sampson. 2013. "Juvenile Arrest and Collateral Educational Damage in the Transition to Adulthood." *Sociology of Education* 86 (1):36–62.
Kupchik, Aaron. 2010. *Homeroom Security: School Discipline in an Age of Fear*. New York: New York University Press.
Kupchik, Aaron. 2016. *The Real School Safety Problem: The Long-Term Consequences of Harsh School Punishment*. Berkeley, CA: University of California Press.
Maimon, David, Olena Antonaccio, and Michael T. French. 2012. "Severe Sanctions, Easy Choice? Investigating the Role of School Sanctions in Preventing Adolescent Violent Behavior." *Criminology* 50 (2):495–524.
Marchbanks, Miner P., III, Jamilia J. Blake, Eric A. Booth, Dottie Carmichael, Allison L. Seibert, Tony Fabelo. 2014. "The Economic Effects of Exclusionary Discipline on Grade Retention and High School Dropout." Pp. 59–74 in *Closing the School Discipline Gap: Research to Practice*, edited by D. J. Losen. New York: Teachers College Press.
Martin, Andrew J. 2011. "Holding Back and Holding behind: Grade Retention and Students' Non-Academic and Academic Outcomes." *British Educational Research Journal* 37 (5):739–63.
May, David C., Raymond Barranco, Ethan Stokes, Angela A. Robertson, and Stacy H. Haynes. 2016. "Do School Resource Officers Really Refer Juveniles to the Juvenile Justice System for Less Serious Offenses?" *Criminal Justice Policy Review* 1–17.
Moller, Stephanie, Elizabeth Stearns, Judith R. Blau, and Kenneth C. Land. 2006. "Smooth and Rough Roads to Academic Achievement: Retention and Race/Class Disparities in High School." *Social Science Research* 35 (1):157–180.
Monahan, Torin, Rodolfo D. Torres. 2010. *Schools under Surveillance: Cultures of Control in Public Education*. New Brunswick, NJ: Rutgers University Press.
Muschert, Glenn W., and Anthony A. Peguero. 2010. "The Columbine Effect and School anti-Violence Policy." *Research in Social Problems & Public Policy* 17:117–148.
Muschert, Glenn, W. Henry, Stuart Nicole L. Bracy, Anthony, and A. Peguero. 2013. *Responses to School Violence: Confronting the Columbine Effect*. Boulder, CO: Lynne Reinner Publishers.
Nicholson-Crotty, S., Birchmeier, Z., and Valentine, D. 2009. "Exploring the Impact of School Discipline on Racial Disproportion in the Juvenile Justice System." *Social Science Quarterly*, 90:1003–18.
Payne, Allison Ann, Denise C. Gottfredson, and Gary D. Gottfredson. 2003. "Schools as Communities: The Relationships among Communal School Organization, Student Bonding, and School Disorder." *Criminology* 41 (3):749–777.
Peguero, Anthony A., and Nicole L. Bracy. 2015. "School Order, Justice, and Education: Climate, Discipline Practices, and Dropping out." *Journal of Research on Adolescence* 25 (3):412–426.
Perry, B. L., and Morris, E. W. 2014. "Suspending Progress: Collateral Consequences of Exclusionary Punishment in Public Schools." *American Sociological Review* 79 (6):1067–87.
Piquero, A. R. 2008. "Disproportionate Minority Contact." *The Future of Children* 18:59–79.
Portillos, Edward L., Juan Carlos Gonzalez, and Anthony A. Peguero. 2012. "Crime Control Strategies in School: Chicanos/as Perceptions and Criminalization." *The Urban Review* 44 (2):171–88.
Rios, Victor M. 2011. *Punished: Policing the Lives of Black and Latino Boys*. New York: New York University Press.
Rios, Victor M. 2017. *Human Targets: Schools, Police, and the Criminalization of Latino Youth*. Chicago: University of Chicago Press.
Rocque, Michael, and Paternoster Raymond. 2011. "Understanding the Antecedents of the "School-to-Jail" Link: The Relationship between Race and School Discipline." *Journal of Criminal Law and Criminology* 101 (2):633–665.
Rocque, Michael, and Snellings Quincy. 2017. "The New Disciplinology: Research, *Theory, and Remaining Puzzles on the School-to-Prison Pipeline. Journal of Criminal Justice*.
Rumberger, Russell W. 2011. *Dropping out: Why Students Drop out of High School and What Can Be Done about It*. Cambridge, MA: Harvard University Press.
Shedd, Carla. 2015. *Unequal City: Race, Schools, and Perceptions of Injustice*. New York, NY: Russell Sage Foundation.
Simon, Johnathan. 2007. *Governing through Crime: How the War on Crime Transformed American Democracy and Created a Culture of Fear*. New York: Oxford University Press.

Skiba, R. J., Horner, R. H., Chung, C. G., and Rausch, M. K. 2011. "Race is not Neutral: A National Investigation of African American and Latino Disproportionality in School Discipline." *School Psychology Review* 40:85–107.

Skiba, R. L., Arredondo, M. I., and Williams, N. T. 2014. "More than a Metaphor: The Contribution of Exclusionary Discipline to a School-toprison Pipeline." *Equity & Excellence in Education* 47:546–64

Stewart, Eric A. 2003. "School Social Bonds, School Climate, and School Misbehavior: A Multilevel Analysis." *Justice Quarterly* 20 (3):575–601.

Sykes, Bryan L, Alex R. Piquero, Jason P. Gioviano, and Nicolas Pittman. 2015. *The School-to-Prison Pipeline in America, 1972-2012. Oxford Handbooks Online*.

Texas Association of School Boards 2008. *Dropout Rate in Texas*. Austin, TX: Texas Association of School Boards. Retrieved from https://www.tasb.org/Legislative/Issue-Based-Resources/documents/Dropouts.aspx.

Texas Association of School Boards 2016. *The Dropout/Completion/Graduation Rates*. Austin, TX: Texas Association of School Boards. Retrieved July 20, 2016 from https://www.tasb.org/legislative/documents/completion_1008.pdf.

Theriot, Matthew T. 2009. "School Resource Officers and the Criminalization of Student Behavior." *Journal of Criminal Justice* 37 (3):280–287.

U.S. Department of Education 2011. *Secretary Duncan, Attorney General Holder Announce Effort to Respond to School-to-Prison Pipeline by Supporting Good Discipline Practices*. Washington DC: U.S. Department of Education. Retrieved July 16, 2017 from http://www.ed.gov/news/press-releases/secretary-duncan-attorney-general-holder-announce-effort-respond-school-prison-p.

Welsh, Wayne N. 2001. "Effects of Student and School Factors on Five Measures of School Disorder." *Justice Quarterly* 18 (4):911–947.

Welsh, Wayne N., Jack R. Greene, and Patricia H. Jenkins. 1999. "School Disorder: The Influence of Individual, Institutional, and Community Factors." *Criminology* 37 (1):73–116.

Wright, John P., Mark Alden Morgan, Michelle A. Coyne, Kevin M. Beaver, and J. C. Barnes. 2014. "Prior Problem Behavior Accounts for the Racial Gap in School Suspensions." *Journal of Criminal Justice* 42 (3):257–266.

Zimmerman, Gregory M., and Carter Rees. 2014. "Do School Disciplinary Policies Have Positive Social Impacts? Examining the Attenuating Effects of School Policies on the Relationship between Personal and Peer Delinquency." *Journal of Criminal Justice* 42 (1):54–65.