Misbehavior, Suspensions, and Security Measures in High School: Racial/Ethnic and Gender Differences

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Abstract

This study used merged data from three national surveys to address questions about security measures in American high schools, suspension rates, and student misbehavior. First, the study identified the characteristics of schools that implemented the most extreme security measures and those with the highest levels of discipline. Second, the study used data on individual students to examine misbehavior and race and gender disparities in suspensions not attributable to misbehavior. The main findings were: (1) In-school suspensions serve a 'gateway' function with regard to out-of-school suspensions. They may provide a time and place to address behavior problems before they escalate or disproportionate out-of-school suspensions before they occur; (2) Out-of-school suspensions were more frequent among schools in higher-crime neighborhoods. Thus students suspended may be relegated to an environment not conducive to positive educational or social outcomes; (3) African-American students and Hispanic/Latino students were suspended at higher rates than were non-Hispanic whites, differences in most cases not attributable to different levels of misbehavior; (4) Overall, males were more likely to be suspended than were females, an effect above and beyond that explained by differences in behavior. There was little or no difference in the suspension rates of black males and females, however; (5) High degrees of school security were associated with increased suspension rates and increased black – white disparities in total suspensions. At the same time, most black students were enrolled in schools with high degrees of security; (6) Black males were suspended at higher and higher rates as school size increased.

All of these have implications for school policy and practice. These are discussed in the paper together with limitations of the investigation.

Misbehavior, Suspensions, and Security Measures in High School:

Racial/Ethnic and Gender Differences

Proponents of high security and strict disciplinary codes in American high schools argue that they make schools safer and create an orderly environment for learning. But the same practices can also create 'prison like' conditions that make some students feel ill at ease and others aware that serious misconduct may occur at any time (Brooks, Schiraldi, & Zeidenberg, 2000). The result can be feelings of defensiveness on the part of students, accompanied by emotional and physical disengagement from school. And some students may be affected more than others, for example, males, minorities, students who perceive teachers as unwelcoming or unfriendly, or students who have been disciplined for any major or minor infraction (see Ma, 2003; McNeely et al., 2002; Skiba, Michael, Nardo, & Peterson, 2002).

This research examined the relationships among student misbehavior, suspensions, and security measures in a nationwide sample of high schools. The purpose was two-fold: first, to identify the characteristics of schools that implemented the most invasive security measures. We asked whether these schools were the largest, had the highest proportion of at-risk students, and whether they were located primarily in urban or high-crime neighborhoods. We also asked if high security in a school was related to increased suspension rates, thus depriving students of continuous instruction and increasing their sense of alienation.

Next, we examined conditions related to racial/ethnic and gender inequities in suspensions, focusing on the role of school security and students' misbehavior. We asked whether two students who exhibit the same levels of misbehavior but one is black and one white, or one male and one female, would be more likely to be suspended because of race or gender.

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Further, we asked whether inequitable practices were more common in schools with certain characteristics, for example, larger or smaller schools, schools serving a large number of minority students or students from low-income families. Because in-school and out-of-school suspensions represent different exclusionary practices, we considered both.[1]

The study used national surveys of 10th grade students and their schools. The main findings were: [2]

- In-school suspensions serve a 'gateway' function with regard to out-of-school suspensions. They may provide a time and place to address behavior problems before they escalate or disproportionate out-of-school suspensions before they occur;

- Out-of-school suspensions were more frequent among schools in higher-crime neighborhoods. Thus students may be relegated to an environment not conducive to positive educational or social outcomes;

- African-American students and Hispanic/Latino students were suspended at higher rates than were non-Hispanic whites, *differences in most cases not attributable to different levels of misbehavior;*

- Overall, males were more likely to be suspended than were females, an effect above and beyond that explained by differences in behavior. There was little or no difference in the suspension rates of black males and females, however;

- High degrees of school security were associated with increased suspension rates and increased black – white disparities in total suspensions. At the same time, most black students were enrolled in schools with high degrees of security;

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[1] Out-of-school suspensions and total suspensions (in-plus-out) were considered in our analysis.
[2] Elaboration and policy recommendations in "Summary and Recommendations" section.

- Black males were suspended at higher and higher rates as school size increased. This finding is consistent with prior research showing behavioral and attitudinal benefits of small schools.

Suspensions, Race and Gender

In theory, suspending a student from class or school serves two purposes: as punishment for misbehavior intended to deter further misconduct on his/her part or that of others, and to preserve orderliness and safety in the school setting. In the extreme, suspending or expelling a student from school is necessary for the welfare of others. But suspending a student from a school is a discretionary act that often fails to deter—or may even encourage—further misconduct.

The educational consequences of suspensions can be serious. Absence for any reason interferes with learning, an effect accentuated among students having academic or behavior difficulty (Balfanz & Byrnes, 2012; Blum, Beuhring, & Rinehart, 2000; Fabelo et al., 2011; Finn & Rock, 1997). A suspended student is disengaged from the flow of instruction, and more likely to experience alienation from school altogether (Jessor, Turbin, & Kosta, 1998; Resnick et al., 1997; Stewart, 2003). The educational and personal support needs of suspended students when they return are great but the support they receive is likely to be minimal. This combination of factors can easily accelerate a downward trajectory of failure and disengagement. It is little wonder that suspensions, together with academic achievement and grade retentions, are the strongest student-level predictors of dropping out (Finn & Zimmer, 2011; Rumberger, 2011).

Disparities in the use of exclusionary discipline compound the problem further (see Gregory, Skiba, & Noguera, 2010). Studies showing racial/ethnic and gender differences in suspensions are legion. In a 2010 address, U.S. Secretary of Education Arne Duncan stated,

"African-American students without disabilities are more than three times as likely to be expelled as their white peers." Black males are particularly targeted for school suspensions, a factor that may itself account for the gender differences (Gregory, 1997; Losen & Skiba, 2010). Although Hispanic/Latino students are generally suspended at greater rates than are non-Hispanic white students, this finding and others related to misbehavior of Hispanic students have been less consistent (Gordon, Della Piana, & Keleher, 2000).

The Reasons for Racial/Ethnic (and perhaps Gender) Differences

There have been several attempts to describe the mechanisms that produce disproportion in the use of exclusionary discipline. These theories, however, do not provide sound educational rationale for the disparities or even for the use of suspensions generally. One explanation is that this disproportion, like the disproportionate placement of minorities in special education classes, is an attempt to resegregate schools that have become desegregated because of state or federal mandates (Heller, Holtzman, & Messick, 1982; Meier, Stewart, & England, 1989). A second explanation, the racial threat hypothesis (Blalock, 1967) suggests that racial minorities are perceived to present economic, political, and crime-related threats to the majority group. The imposition of social controls like punitive discipline (i.e., suspensions, expulsions) is designed to reduce the threat posed by racial minorities, particularly when minorities comprise a large proportion of the student population.

A third explanation, often forwarded by proponents of strict discipline, is the differential involvement hypothesis: that the racial/ethnic disparity in discipline is a proportional response to different levels of misbehavior, especially among African American students. Several studies attempted to address this argument empirically, but at the school level. For example, Eitle and Eitle (2004) included school-level measures of misconduct in their examination of

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disproportionate suspensions. This study concluded that disproportionate placements occurred in a school environment characterized by high overall levels of misbehavior. However, the misbehavior was not that of particular students or even particular racial/ethnic groups,

Several studies investigated the types of misbehavior that lead to suspensions in particular gender and racial/ethnic groups (Mendez & Knoff, 2003; Skiba, Michael, Nardo, & Peterson, 2002). Skiba et al. (2002) found that disciplinary consequences for African-American students tended to be more subjective behaviors (e.g., being disrespectful or threatening) but for white students tended to be more objective behavior (e.g., smoking or leaving the classroom). However, the study did not address whether students, given similar levels of misbehavior (either specifically or in general) are more likely to be suspended based on race/ethnicity. Likewise, Mendez and Knoff (2003) found that suspension rates of black males were disproportionately high for both minor and more serious infractions, and that black females were suspended at higher rates than were white or Latino females. These studies and others raised the possibility that punishment was a function of students' race and not just the degree of misbehavior. .

In all, the consensus of research is that disciplinary measures are based on students' race/ethnicity and gender above and beyond actual misbehavior. The present study expanded on this work by using multiple measures of misbehavior in a nationally representative sample of 10th grade students. Misbehavior was construed as a set of school-related behaviors, or else chronic misbehavior, rather than any one specific act that may or may not be exhibited by a particular student.

Focus of the Study

This study addressed four general questions, two concerned with schools' decisions to implement invasive security measures and two with suspensions of individual students.

School security measures and suspensions –

(1) *What types of high schools have the most invasive security measures?*

Security measures are discretionary acts on the part of administrators, based in part on student

behavior and the administration's capacity to deal effectively with misbehavior. The decision to

implement security measures can reflect characteristics of the school and the student population.

We asked whether these characteristics included school size (enrollment), the racial/ethnic and

socioeconomic composition of the student body, and the location of the school, that is, the region

of the country, whether it was in an urban, suburban, or rural community, and the level of crime

in the school's neighborhood.

(2) *What types of schools suspend greater or fewer percentages of students (for example,*

larger schools, schools in particular locations, schools with high levels of security)?

How high are the percentages?

Two policy manipulable features are especially germane, school size and levels of security. If

suspension rates are high in larger schools or high security schools, then the underlying reasons

for these connections need to be uncovered.

Suspensions of individual students and racial/ethnic or gender groups --

(3) *Are particular gender and racial/ethnic groups more prone to being suspended than*

others? How large are the disparities?

(3A) *Are differential suspensions administered in proportion to the degree of students'*

misbehavior?

Like other studies of suspensions, we asked whether disparities in suspensions were related to

race and gender. Unlike most prior research, we focused on the race, gender, and suspensions of

individual students rather than entire school populations, to see if a *particular student* is more

likely to be suspended for a certain level of misbehavior if s/he is minority and/or male than if s/he is white and/or female. .

We also asked whether disparities—a concern under any circumstances—were even greater than students' misbehavior would lead us to predict. That is, are there groups for which the level of misbehavior can also be ruled out as a reason for disparities in punishment?

(4) *What types of schools have larger or smaller race or gender disparities in suspensions? In particular, are the disparities related to school size or security measures? In what types of schools are the race and gender differences even greater than would be predicted based on student behavior?*

Question (4) addressed the possibility that certain school characteristics accentuate racial disparities in suspensions, for example, schools with high minority populations, urban schools, larger schools, or schools with high levels of security.

Methods

Data for the study were drawn from national surveys of students and their schools. The main database consisted of students in public schools that participated in the Education Longitudinal Study of 2002 (ELS:2002) conducted by the National Center for Education Statistics (NCES). This was augmented by information from the Common Core of Data (CCD), also compiled by NCES, and by schoolwide suspension rates from the Civil Rights Data Collection (CRDC). The ELS:2002 data ('base year') and CCD data were from the 2001-2002 school year; the CRDC data were from 2000, when all U.S. public schools were targeted for inclusion.

The ELS:2002 survey collected data on a nationally representative sample of students when they were high school sophomores, and at additional time points not used in this study.[3] The data collection included surveys administered to school administrators, students, parents, and teachers. The sample for the present study consisted of 8,775 tenth grade students in 500 public schools (66.0% white, 16.1% black, 17.9% Hispanic).[4] The schools spanned all four major geographic regions of the U.S. (16.1% northeast, 24.6% Midwest, 38.6% south, 20.6% west) and were located in urban, suburban, and rural areas (25.6%, 51.0% 23.4%, respectively).[5] They had the full range of school enrollments and socioeconomic characteristics as public high schools in the country. Most of the schools (87.4%) had high school grades only; the remainder had some earlier grades as well (e.g, middle-plus-high school; K-12 schools). We controlled for this difference in analyses of other school characteristics.

Variables

Suspensions. The proportion of students in a school given out-of-school suspensions in the 1999-2000 school year, not including students with disabilities, was taken directly from the CRDC school-level files.[6]

Also, in ELS:2002, each student reported the number of times s/he received in-school[7] and out-of-school suspensions during the past school year. Responses were ordered from "never" to "10 or more times." Both questions had a high proportion of "nevers" (86.2% and 91.9% respectively). Although we suspected that students might underreport their own suspensions, these percentages were consistent with rates published by the U.S. Department of

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[3] Information about sampling is given in the Technical Appendix part A.

[4] Of these, 7,138 students in 448 schools had all variables and were used in the multivariate analyses.

[5] These are the actual percentage in our sample. Sampling weights were also provided by NCES so that the weighted sample had the same proportions as the national population of high schools.

[6] For 10 schools not included in the CRDC data for that year, the values were taken from the 2003-2004 survey.

[7] Student removed from some or all classes for various amounts of time, but remains in the school building.

Education. For example, 6.6% of all public school students were suspended one or more times in the year 2000 (Snyder & Tan, 2005, Table 144). Nevertheless, the self reports may have been underestimates of suspension rates since students absent, suspended or expelled at the time of the survey were among the nonrespondents.[8]

We analyzed student suspensions in two ways. The first was out-of-school suspensions alone, consistent with the data tabulated by OCR. The second was the total number of suspensions for each student (in-plus-out of school), which reflected the general disciplinary environment of the schools. Due to the high proportion of "nevers" and small proportion of multiple suspensions, each variable was classified as "never" or "one or more suspensions."[9]

In-school and out-of-school suspensions. We did not focus on in-school suspensions because of enormous variability from teacher to teacher and school to school in the types of behavior that result in them. But we did compare in-school with out-of-school suspensions to see their statistical connection. Of students who had not received an in-school suspension, very few received an out-of-school suspension (4.5%).[10] Of students who received one or more in-school suspensions, 36% received an out-of-school suspension the same year. The ELS:2002 survey did not indicate the behavior that resulted in any suspensions, nor the duration of suspensions. Nevertheless, in-school suspensions appeared to be a 'gateway' to out-of-school suspensions: for the most part, students given the more serious discipline (out) had also had the less serious form (in). This suggests that in-school suspensions can serve as a point of intervention or warning sign that more serious behavior and/or suspensions are coming.

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[8] Some students may have dropped out as well, but most dropping out occurs after 10th grade.

[9] We checked the reasonableness of this by performing a multinomial analysis to see if relationships were different for infrequent suspenders and frequent suspenders as compared to non-suspenders and found no difference in results between the two suspended groups.

[10] Percentages weighted to represent the national population of 10th graders.

School security measures. The ELS:2002 Administrator Questionnaire asked each principal whether, during the current school year, the school had each of 20 security measures in place, from some that were relatively innocuous (e.g., dress code; closed campus during lunch hours) to others that were more invasive.

For this study, seven measures were selected that would be most salient to all members of the school community: (1) metal detectors at the school entrance, (2) random metal detector checks on students, (3) drug testing, (4) random sweeps for contraband, (5) security cameras, (6) police or security guards during school hours, (7) random dog sniffs for drugs.[11]

The seven measures were used to obtain a score that represented the total security environment of the school. The score was obtained by means of Rasch scaling (Rasch, 1960) that weighs individual security measures according to the frequency with which they are used. Measures used less often and which were generally more invasive contributed more toward the total score than did frequently used security measures.[12]

Approximately 9% of schools reported having none of the seven security measures;[13] the largest number of measures in a single school was 5. The median number of security measures in the schools in our sample was 1. For some of our analyses, high and low security schools were defined as the upper 1/3 and lower 1/3 of the schools on the Rasch scale, respectively.

Student misbehavior. Our approach to misbehavior was based on assumption that the occurrence of a particular misbehavior is not as important as the 'whole' of a student's behavior.

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[11] Police or security guards were asked as two separate items. The other measures were require clear book bags, require students to wear badges or picture ID, student uniforms, security officers outside of school hours, controlled access to school grounds, telephones in classrooms, emergency call buttons in classrooms, dress code, controlled access to buildings during school hours, closed campus during lunch, security guards at school activities.

[12] The overall score accounted for 80.4% of the variability among schools; this value indicated that the single score was a good summary of schools' overall security environments. The score ranged from 5.6 (low security school) to 12.8 (high security school) with an average of 8.7. The scores on the scale do not indicate the number of measures in place but to the total invasiveness of security measures in the school.

[13] This was 17.3% weighted by sampling weights.

Indeed, adolescents who exhibit one misbehavior often exhibit others. Correlations among multiple misbehaviors have been found routinely in developmental research (e.g., Kelley et al., 1997; Loeber et al., 1993; Resnicow, Ross-gaddy, & Vaughan, 1995), and a single factor has been found to explain these relationships (Jessor, Donovan, & Costa, 1991; Loeber et al., 1998). Psychologists have proposed that an intrapersonal 'problem behavior syndrome' underlies the clustering of multiple misbehaviors.

In this study, we assessed multiple misbehaviors and the frequency of each. In ELS:2002, a student's misbehavior was self-reported by the student and rated by two of the student's teachers (English and math). The questions were combined into two behavior scales, self-reported and teacher-reported, respectively, using the Rasch method (Rasch, 1960; Wright & Masters, 1982).[14] Again, the scaling procedure weighted more severe (but less common) misbehaviors more heavily in the scale scores, compared to more frequent misbehaviors. Thus, the resulting scale is an assessment of the overall severity of a student's misbehavior.

The student questionnaire asked "How many times did the following things happen to you in the first term of this school year?" The list was: (1) getting into a physical fight; (2) coming late to school; (3) cutting or skipping classes; (4) being absent from school; (5) getting into trouble for not following rules. Response options for fighting were never, once or twice, or more than twice. Responses for the other behaviors were never, 1-2 times, 3-6 times, 7-9 times, and 10 or more times. Although students may have under-reported or over-reported their own misbehavior, the numerical response categories used in the ELS:2002 survey were intended to reduce the bias to some extent.

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[14] Additional information about the behavior scales is given in the Technical Appendix part B.

The teacher questionnaire asked both teachers to report: (1)-(2) whether s/he had communicated with the student's parents about disruptive behavior or absenteeism (two items: yes, no); (3) whether s/he had communicated with the student's guidance counselor about disruptive behavior (yes, no); (4) whether the student has fallen behind due to a disciplinary action (yes, no); (5)-(8) how often the student was absent from class, tardy to class, inattentive in class, disruptive in class (four items: never, rarely, some of the time, most of the time, all the time). Like the student self reports, there may have been some reporting bias in reporting on the part of the teachers. However, agreement between student and teacher reports on behaviors asked on both questionnaires (attendance) was good (see Technical Appendix part B). The fact that two teachers rated each student may have helped the accuracy of the overall scale.

ELS:2002 did not ask about some of the more serious behaviors (e.g., drug or alcohol use in school, bringing a weapon to school, theft, gang activities).[15] Thus the measures were seen as representing 'everyday' misbehavior that may be exhibited by many students. They also leave more room for teachers' and principals' discretion in the administration of discipline.

Other background information. School characteristics used in the study were: enrollment, the proportion of students eligible for free or reduced-price lunches,[16] and the extent of crime in the school's neighborhood as reported by the school principal; the ELS:2002 response categories were high, moderate, low, and 'mixed,' from which we created three categories, high (2% of schools), moderate/mixed (21%), and low (77%).[17]

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[15] Fighting was the most serious misbehavior included. Some information about fighting alone is given in the Technical Appendix part D.

[16] Used as a proxy for the socioeconomic level of the student body (SES).

[17] Schools in the high- and low-crime neighborhoods were clearly different on all characteristics, but moderate and mixed neighborhoods had similar values on most characteristics. Thus, we combined the mixed-crime neighborhoods with moderate, resulting in the three-part classification. Weighted percentages were 8%, 25%, and 67%, respectively.

Analysis[18]

All analyses in this study used school and student sampling weights so that the weighted sample more closely approximated the national population of 10th graders and their schools.[19]

The questions about school-level security and suspensions (Questions 1 and 2) were performed using ordinary correlations, *t*-tests for independent samples and chi-square tests of independence in two-way tables. Schoolwide suspension rates were drawn from the CDRC files; other school characteristics were from the ELS:2002 and CCD surveys.

Questions (3) and (4) were answered using forms of regression analysis that allowed us to find out if the main independent variables (school characteristics including size and security measures; student gender and race) were related to suspension rates above and beyond the impact of other background characteristics. Questions (3A) and (4) also concerned suspensions above and beyond those predicted from misbehavior; these required that student misbehavior (student and teacher reports) be controlled statistically as well. These analyses used student-level data, including suspensions, from ELS:2002 and school characteristics from ELS:2002 and CCD.

The dependent variable for these analyses, suspensions, was a simple yes/no for each student. Thus a 'logistic' regression was used, appropriate for tests of significance with a dichotomous dependent variable. Tests of significance are not sufficient by themselves, however. They reveal whether a relationship is statistically reliable but tell little about whether effects are weak or strong. For this reason, all statistically significant findings were accompanied by a strength-of-effect measure. When the effect is a difference between two proportions (e.g., the proportion of black students suspended compared to the proportion of whites) the proportions themselves and the 'odds ratio' are the most common strength-of-effect measures. An odds ratio

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[18] Additional information about methods of analysis is given in the Technical Appendix part C.
[19] All results from this point forward are based on weighted data.

close to 1.0 indicates that two proportions are about equal; an odds ratio much below 1.0 or much above 1.0 indicates that the proportion in one group is less than or greater than the proportion in the other group, respectively.[20]

Results

What Types of High Schools have the Highest Levels of Security?

This question was answered in two ways, by computing correlations between security and other school characteristics (Table 1), and by comparing characteristics of the highest one-third of schools on the security scale (high security) to the lowest third (low security) (Table 2). The extent of school security was related significantly to all school characteristics studied. The association was strongest for percent black students (r=0.37) and weakest, but still significant, for percent of students eligible for free or reduced-price lunches (r=0.11).

Higher security was found in:

- larger schools (average enrollment in high security schools was 921; in low-security schools 521);

- schools with a higher proportion of black students (average percent black in high security schools was 21.5%; in low security schools 5.4%);[21]

- schools with higher percentages of students on free lunch (28.3% compared to 25.6%);[22]

- schools with higher percentages of students suspended. (14.0% compared to 7.5%)

The association of security with the percentage of Hispanic/Latino students in the school was negative. Although the correlation was weak (r= -0.16) there was a slight tendency for schools

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[20] See Appendix part C for further information.

[21] Student-level analysis showed that approximately 62% of all black 10th grade students were attending high security schools!

[22] The relationship with free lunches was weak at best. The correlation (Table 1) was significant at $p < .05$; the difference between schools with the highest and lowest security was not statistically significant.

with larger proportions of Hispanic students to have less security: the mean percentage of Hispanic/Latino students in high-security schools was only 6.8% compared to 11.9% in low-security schools. We did observe that schools with large percentages of Hispanic students were not as common as those with large percentages of black students. This could account for a reduced correlation with security measures but not the reverse correlation, which remains to be investigated further.

School security was also related significantly to the three indicators of school location – neighborhood crime, urbanicity, and geographic region (Table 2). About 90% of schools in high-crime neighborhoods had high security, compared to 27% of schools in low-crime neighborhoods. While not a surprise, this result indicates the importance of factors outside the school to what transpires inside.

In urban areas, there were about as many high security as low security schools; the same was found in suburban areas. It was not the case that urban communities had a high concentration of high security schools or that suburban communities had far more low-security schools. The percentages of high and low security schools in these communities were about the same. Rural areas stood out in comparison. A relatively small percentage of rural schools had high security (24%) and fully half had low security (50%). Indeed, the percentage of low-security schools in rural areas was greater than any of the other percentages in this analysis.

There were different patterns according to geographic region. In the western and northeastern U.S., only 17% to 19% of schools had high security according to our definition, much lower than the percentages with low security. In the southern U.S., however, 45% of schools were in the high-security category and only 26% had low security. At the same time, the south also had the highest rates of property and violent crime of the geographic regions, a finding

that not only holds true for the year of the ELS data collection, but also a consistent trend from the early nineties through present day (Bureau of Justice Statistics, 2012).

Individual security measures. The use of security measures in American schools is pervasive (Table 3): Approximately half of all public schools with 10th grade students used random dog sniffs to check for drugs and/or had police or paid security officers on duty during the school day. About one-third of schools had security cameras to monitor school areas, and over one-fourth of schools performed random checks for contraband. Smaller percentages – but many schools nevertheless[23] – required drug testing and/or perform personal metal detector checks on students. Approximately 1.4% of schools required students to pass through metal detectors each day. The average number of invasive security measures in schools in the U.S. serving 10th grade students was 1.6 out of the 7 measures we studied.

When schools were classified as high security (top 1/3 in the U.S. based on the overall security scale), a picture emerged of schools in which invasive security measures were even more common. Over three-fourths of high security schools had a police presence and used dogs to check for drugs; two-thirds had security cameras in our outside of school; over half performed random sweeps for contraband; and one third required drug testing. The median number of security measures in these schools was 3. That is, half of the schools in this group had three security measures or more of the 7 salient measures we studied (or 5, the actual maximum number).[24]

What Types of Schools Suspend Greater or Fewer Percentages of Students? How High are the Percentages?

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[23] At the national level, 14.3% of schools with 10th grade students is approximately 4000 schools.

[24] Their impact may be bigger than it appears, because these measures are not 'one-place' or 'one-time,' but are present or can be brought into play continually.

The schoolwide out-of-school suspension rates in our sample ranged from no students suspended to almost 80% (Table 1). The median suspension rate was 6.6%; that is half of the schools suspended fewer than 6.6% and half suspended more. Ten percent of schools suspended 20% or more of students in one school year – that is 1 out of 5 students or 5 in a typical class of 25. At the extreme, some schools in the sample suspended over half of their students, up to a maximum of 79.8%.

The same characteristics that were related to security levels were also correlated with suspensions. Schools with higher suspension rates were somewhat larger and had higher percentages of black students and students from low-income homes. The strongest correlation was the relationship with percent black students ($r = 0.40$).

In contrast, the correlation of suspension rates with percent of Hispanic/Latino students was small and not statistically significant.[25] This correlation encompassed all schools in the sample. When schools were selected that had the highest one-third of all suspension rates (high suspension) and the lowest one-third of suspension rates (low suspension), the percent of Hispanic students in the two groups of was significantly related to suspensions: high suspension schools had an average of 12.6% Hispanic students and low suspension schools averaged 5.0%.[26] That is, being of Hispanic origin was related to suspensions in the extremes, when suspension rates were very high and very low, but not in between.

The relationships of suspensions with school location paralleled those for security levels, especially the association with neighborhood crime. Over half (58.3%) of schools in high-crime neighborhoods were in the high suspension group and only 16.7% were in the low suspension group. At the other extreme, 28.4% of schools in low-crime neighborhoods were in the high

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[25] The other characteristics remained significantly related to suspension rates.
[26] Results not given in tables.

suspension group and 38.0% were in the low suspension group. Both urban and suburban areas had greater percentages of schools in the high suspension group than in the low suspension group, but the difference was more pronounced for rural schools: Only 21.2% of rural schools were in the high suspension group but 47.6% of rural schools were in the low suspension group. In general, rural schools were more characterized as having lower security and fewer suspensions compared to urban or suburban schools.

Are Particular Gender and Racial/ethnic Groups More Prone to Being Suspended than Others?[27]

The actual percentages of students suspended are shown in Table 4. Overall, males were suspended at a substantially higher rate than were females, considering both out-of-school suspensions (10.6% compared to 6.5%) and total suspensions (21.2% compared to 12.8%). The gender difference was also found in each racial/ethnic group. African-American students were suspended at a higher rate than were Hispanic/Latino students who, in turn, were suspended at higher rates than non-Hispanic white students. This same rank order was found for out-of-school suspensions (16.0%, 10.8%, and 8.5%, respectively) and total suspensions (31.6%, 21.5%, and 13.0%, respectively). The largest out-of-school percentage (16.0%) means that approximately one out of every six black 10th grade students was excluded from school one or more times during the year.

We examined whether race and gender differences in suspensions were statistically reliable and not explained by other school characteristics. A multilevel regression analysis controlled statistically for geographic region, school urbanicity, neighborhood crime, racial/ethnic and SES composition of the student body, school size, and the level of security.

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[27] Suspension and behavior data for this and all questions that follow were taken from individual student responses in ELS:2002.

The analysis was conducted twice, once for out-of-school suspensions and once for total suspensions. The results for race/ethnicity and gender are summarized in first and third columns of Table 5 (OSS and TS, not "controlled").[28] [29] Only statistically significant effects are shown.

In terms of gender, the odds of males being suspended out of school were significantly greater than the odds of females being suspended by a ratio of 2.0-to-1.0. This is a formal statistical test of the male – female difference of 10.6% compared to 6.5% in Table 4. The odds of males being given any suspension (TS), were even greater with an odds ratio of 2.1-to-1.0. This is a test of the male—female difference of 21.2% compared to 12.8% in Table 4. These odds ratios are large by any common standard.

In terms of race/ethnicity, the odds ratios for black students were 1.78 for out-of-school suspensions and 2.24 for total suspensions, when compared to whites. These correspond to the percentages suspended of 16.0% compared to 6.4%, and 31.6% compared to 13.0%, respectively in Table 4. The odds ratios were large, and the percentage of blacks suspended was the largest of all racial/ethnic groups -- approximately 2-1/2 times those of whites for both out-of-school and total suspensions.

Likewise, being Hispanic was associated with increased suspensions. The odds ratios for comparing Hispanic to white students were 2.23 and 1.89 for out-of-school suspensions and total suspensions, respectively. These large effects correspond to the percentages suspended of 10.8% compared to 6.4%, and 21.5% compared to 13.0 percent, respectively, in Table 4. Both out-of-school and total suspensions were administered to Hispanic/Latino students disproportionately, although the percent suspended wasn't as high as for black students.

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[28] Complete regression table in Appendix part D.
[29] Some results are given in the Technical Appendix Part D for fighting alone, since this was the most extreme misbehavior we studied and most likely to result in an out-of-school suspension.

Gender-race combinations.   Our analysis also asked whether particular gender-race combinations were associated with higher suspensions. Only one "interaction" was statistically significant – the combined effect of gender and race for African-American males (bottom section of table 5). To understand this, we examined the gender difference for black and white students separately.[30]

The difference between male and female white students was statistically significant for out-of-school and total suspensions (odds ratios = 2.53 and 2.43, respectively). The difference between male and female black students was not statistically significant (odds ratios = 1.04 and 1.28, respectively). In sum, black students were suspended at a higher rate than were white students generally and in each gender group. Beyond that, the suspension rates for black students were found to be equally high for males and females.[31]

Are differential suspensions administered in proportion to the degree of students' misbehavior?

There is no question that students who are suspended have generally poorer behavior than those who are not. The correlations between out-of-school suspensions and reports of misbehavior were $r = 0.32$ (self reports) and $r = 0.27$ (teacher reports)**.** The correlations between total suspensions and misbehavior were higher, $r = 0.40$ (self reports) and $r = 0.37$ (teacher reports), probably reflecting that misbehavior results in disciplinary action other than excluding the student from school. All correlations were statistically significant at the .01 level.

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[30] In statistical terms, these are the 'simple main effects' of gender.

[31] This effect may not be totally apparent in Table 4, which contains only the observed proportions. The statistical tests were conducted in a model that controlled statistically for school characteristics, e.g., the differential enrollment of whites and blacks in large schools or schools in high crime neighborhoods.

In this analysis, gender and race differences were revisited controlling statistically for ratings of student misbehavior.[32] That is, if two students of different genders or racial/ethnic identities exhibited the same level of misbehavior, would one still be more likely to be suspended than the other? The results are summarized in the second and fourth columns of Table 5 (OSS and TS Controlling for Student Misbehavior).

In terms of gender, the answer was yes. Males were suspended at a higher rate than were females even after student- and teacher-reported misbehavior had been controlled statistically. That is the odds of a male being suspended out of school for exhibiting the average level of misbehavior were 1.64 times greater than the odds of a female being suspended for the same level of behavior; for total suspensions the odds are 1.86 times greater. Both were statistically significant at the .01 level.

In terms of race/ethnicity, the answers were mixed. Black students, who were subject to highly disproportionate suspensions in general, were not given out-of-school suspensions more than their behavior would predict. However, they were administered more total suspensions (TS) than their behavior would predict (odds ratio = 1.80). Total suspensions represent the overall tendency of teachers and administrators to discipline students. Of two students exhibiting the same level of misbehavior, one black and one white, the odds of the black student being excluded from the classroom or school were 1.80 times greater than that of the white student.

Hispanic/Latino students were also subject to disproportionate suspensions in general. This analysis examined suspensions relative to behavior. It showed that Hispanic students received disproportionate out-of-school suspensions even when behavior ratings were controlled statistically (odds ratio = 1.64). That is, if two students exhibited the average level of

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[32] The mean scores of the behavior scales are given in the Technical Appendix part D.

misbehavior, one Hispanic and one white, the odds of the Hispanic student being suspended from school were 1.64 times greater than that of the white student. Total suspensions for Hispanics were highly disproportionate in general, a phenomenon that remains to be explained. However, the difference was not greater than that predicted by differences in behavior ratings.

The contrast of results for black and Hispanic students was noteworthy. Both groups were subject to discipline differences related to race/ethnicity beyond their respective misbehavior. For black students, the race-related difference, above and beyond behavior, resulted in total suspensions, that is removal from the classroom or from school. For Hispanic students, the difference related to race/ethnicity but not to behavior was in out-of-school suspensions. That is, for a particular level of misbehavior, there was a stronger tendency of teachers and administrators to exclude black students from the classroom one way or another and to exclude Hispanic students from school.

Gender-race combinations controlling for student behavior. The one interaction that was statistically significant without controlling for behavior ("black males") remained statistically significant when misbehavior was controlled statistically. The same pattern of suspension rates also remained: The difference between male and female white students, controlling for misbehavior, was statistically significant for out-of-school and total suspensions (odds ratios = 2.12 and 2.22, respectively). The difference between male and female black students was not statistically significant (odds ratios = 0.79 and 0.97, respectively).

We also obtained estimated probabilities of suspension controlled for student misbehavior (not tabled); this is a way to examine the actual proportions that produced the odds ratios. Like the observed suspension rates in Table 4, these showed that overall suspension rates for black students of both genders were higher than the respective rates for whites.

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When we looked at gender, the same pattern was found for out-of-school suspensions and total suspensions. The suspension rates for white males, controlling for student behavior, were substantially higher than those for white females. The adjusted rates for black females were slightly higher (but not significantly higher) than those for black males. We concluded that black females are suspended far more frequently than their behavior would predict, bringing their adjusted suspension rates up to that of black males.[33]

What Types of Schools have Larger or Smaller Race or Gender Disparities in Suspensions? In Particular, are Disparities Related to School Size or School Security?

Six school characteristics were considered: the focus was on two policy manipulable features, the use of security measures (Rasch scale) and school size. Non-manipulable characteristics included the composition of the student body (percent black; percent Hispanic; percent free or reduced-price lunches), school urbanicity, and neighborhood crime.[34]

Security and racial disparities. The effect of security on the black-white disparity in *total suspensions* was statistically significant (Appendix Table A5). Greater black-white disparities occurred in schools that had higher degrees of security. Further, the disparity in high security schools was even greater than would be predicted from different levels of behavior (i.e., "controlled" for misbehavior).

To illustrate the relationship, we computed predicted probabilities of total suspensions of black and white students in the low- and high-security schools (Table 6). Whether controlling for misbehavior or not, the probability of suspension is similar for white students in low and high security environments (12.8% and 11.8%, respectively not controlled). However, the probability

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[33] The title in Table 5, "Black Male," actually refers to a male – female contrast. It could just as well have been labeled "Black Female" or, more completely, "The difference between the gender difference for black students and the gender difference for white students." For obvious reasons, we chose a brief label.

[34] Results given in the Technical Appendix part D.

of suspension for black students is greater high security environments (20.2%) than in lower security environments (16.3%).

To examine the disparities directly, we conducted a statistical test of the black – white difference in high and low security schools. The difference between suspensions of black students and white students in low-security schools was not significant, whether suspensions were or were not controlled for misbehavior. However, significantly more black students than white students were suspended in high-security schools, both when the suspensions were not controlled for misbehavior (odds ratio = 2.66) and when they were controlled (odds ratio = 2.23). The percentages in Table 6 show that this is due to the elevated suspension rate of blacks in high-security environments (20.2%), well above the other percentages in the table.

The relationship was not statistically significant for *out-of-school suspensions* but was in the same direction as for total suspensions (bigger disparities in high security schools). We also tested the black - white difference in out-of-school suspensions in high and low security schools.[35] Again, the black and white rates of suspensions were not significantly different in low-security schools. But in high security schools, significantly more blacks than whites were suspended when suspensions were not controlled for behavior (9.5% compared to 6.0%; odds ratio = 1.87). The black – white difference in suspensions controlled for misbehavior was in the same direction but not statistically significant (3.3% for black students, 2.7% for whites).

In sum, black students had the highest suspension rates generally, and are suspended at an even higher rate when security in a school is high. This was not the case for white students or for

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[35] We recognized that this was not consistent with our practice of testing specific effects only when the overall effect was significant (the interaction in this case). However, it seemed valuable since the percentages displayed the same pattern as did total suspensions.

students of Hispanic origin. Total suspensions were affected to a greater degree than were out-of-school suspensions.

School size and disparities in suspensions. One finding stood out in regard to school size – the trend for more black males to be suspended in larger schools relative to black females, white males and white females; the relationship was specific to total suspensions.[36] The suspension rates for all four gender-race groups are shown in Figure 1 for five school size categories (0-300, 301-600, 601-900, 901-1200, 1201+). Unlike total suspensions of black females, white males, or white females, black male students were suspended at increasingly higher rates as the school size increased. In sum, suspension rates (in-school plus out-of-school) are elevated in larger schools and are lower in smaller schools.

The same pattern was not found for out-of-school suspensions. While there was a clear racial disparity in suspensions, neither the suspension rate for black males nor the black-white difference increased in large schools. Larger schools may have more resources to keep students in school, for example, more study halls or teachers to serve as monitors so that students can be removed from the classroom without leaving school grounds. The relationship of out-of-school suspensions with school size requires further study.

Summary and Recommendations for Policy/Practice

The purpose of this study was to answer questions about student suspensions as related to misbehavior and security measures in American public schools. The study was motivated by the rapidly increasing use of invasive security measures in high schools and the disproportionate use of discipline measures with minority and male students. It is part of a multi-part investigation in response to the concern that the regulatory environment, while intended to make schools safer

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[36] Technically, this was the three-way interaction of school size, race and gender. The interaction was statistically significant for total suspensions whether or not they were controlled statistically for student behavior (Table A5).

and more orderly, does not always accomplish that purpose. Instead it may create a setting that is educationally harmful, especially to some groups of students.

Two general questions were addressed. First, what are the characteristics of schools that have implemented the most extreme security measures and those that have the highest suspension rates in general? Second, is discipline in general, or the disproportionate discipline of males or minorities, related to the characteristics of schools (e.g., size or security measures) or to the misbehavior of the students disciplined?

Data for the study were drawn from three national databases that included information on 10th grade students and their schools. The use of these databases allowed us to focus on the behavior and discipline of individual students and also draw conclusions about school-level practices and policies.

The measures used were a strength of the study. Rather than focusing on one particular security measure, we characterized the school environment by an overall measure of the extent of security present. The seven security measures in the scale were all salient to students but ranged from some that were used infrequently (e.g., drug testing) to others that were more common (e.g., police or security guards). The scaling procedure produced a security score for each school that accounted for the different frequencies of use.

The misbehavior variables were based on two teachers' ratings of each student plus the student's self report. The measures spanned a number of educationally relevant behaviors from missing school and classes to being inattentive and/or disruptive in class to not following rules or getting into fights. These were combined into a teacher rating and student rating that gave more weight to more severe forms of misbehavior. This was consistent with research showing that problem behaviors often 'cluster' (e.g., Jessor, Donovan, & Costa, 1991).

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Individual discipline was the number of out-of-school suspensions and total suspensions (in-school plus out-of-school) during the past school year, as reported by the students; few if any previous studies have considered both. School discipline rate was the percentage of students given out-of-school suspensions as reported to the Office for Civil Rights in the CRDC data collection.

Suspensions[37]

Absenteeism for any reason, including suspension, has a consistent adverse impact on learning and, further, students who are absent for reasons other than health tend to be denied the academic support needed when they return. Suspensions and absenteeism are recognized precursors to dropping out. Our study examined suspension rates and the context in which they arose.

The Office for Civil Rights collected schoolwide suspension data indicating that between zero and 80% of students received out-of-school suspensions in one school year. Ten percent of schools suspended 20% or more of students in one year, that is, 1 out of every 5 students.

Neighborhood crime was related to school suspension rates. When schools were classified as high suspension schools or low suspension schools (leaving out the middle 1/3), over half of schools in high-crime neighborhoods were in the high suspension group. It is not clear whether out of school students contribute to creating a high-crime neighborhood or whether they are being sent by the school into a neighborhood that already has high crime levels. It is clear, however, that out-of-school suspensions in these communities can be harmful to the students suspended. This may explain in part why suspensions are less than effective in remediating poor behavior or low academic motivation.

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[37] Main points in the findings and recommendations in Italics.

At the same time, the percentage of black students in a school was the strongest single correlate of suspension rates of those characteristics studied.[38] *Thus, the impact of high-crime neighborhoods may be felt disproportionately by black students suspended from school.*

Recommendation: Because there can be harmful educational consequences due to out-of-school suspensions and because suspensions may be ineffective in controlling student behavior, it is recommended that *to the extent feasible, educators should avoid the use of out-of-school suspensions for students who do not misbehave continually or who are not a threat to property or to others.*

Student misbehavior of the relatively common types examined in this study (absenteeism, moderate disruptiveness, and even fights among students) is inevitable. Alternative approaches to discipline should be encouraged that do not exclude students from the school community. Programs for doing this have been developed and tested with positive results, for example, the Positive Behavioral Interventions and Supports program (PBIS), tested in a number of schools (Muscott et al., 2004; Sugai & Horner, 2002), and others (see Osher, Bear, Sprague, and Doyle, 2010).

High and low security schools

Schools with high levels of security had significantly higher suspension rates than did schools with lower security levels. High security schools were larger than low security schools, with enrollments averaging 921 students (and many larger still). They had substantially higher percentages of African-American students (averaging about 20%); in fact, over 60% of all black students were attending high security schools. High security schools were located in neighborhoods with moderate to high crime ratings.

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[38] Suspension rates were not found to be correlated with the percent Hispanic/Latino students enrolled.

Despite this, about 35% of suburban schools were classified as high security, almost as high a percentage as urban schools (40%). The prevalence of security measures is not uniquely an urban phenomenon but affects suburban areas as well.[39] . Indeed, intended or not, security measures have become a significant part of the discipline system of many schools.

Few studies have asked about students' perceptions of security measures in their schools and their reactions to them. In a limited study, Bracy (2011) found that students may view the security measures as useless or else designed for administrators to exercise their authority. Certainly, when students view schools rules as too harsh or applied inequitably, misbehavior can increase and attitudes toward school and sense of school belonging can suffer (Bryk & Thum, 1989; Hyman & Perone, 1998; Rumberger, 1995). Further research is needed to understand the full impact of security measures on students and school staff.

Recommendation: Security measures are widespread and their use is growing. *Schools implementing security measures should explain clearly to students, parents, and teachers the reasons for the measures and the disciplinary action to be taken for all students if infractions are detected.* State or federal policies requiring that the information be provided should be considered.

Differential suspensions by gender and race/ethnicity

This study confirmed large, statistically significant gender and race disproportions in suspensions:

- odds of 2-to-1 for males compared to females (out of school) and 2.1-to-1 (total suspensions). The gender differences remained significant even when students' behavior was controlled statistically;

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[39] Rural schools were mostly in the low-security category.

- odds of 1.78-to-1 (out of school) and 2.24-to-1 (total suspensions) for black students compared to whites. The difference for total suspensions remained significant even when students' behavior was controlled statistically;

- odds of 2.23-to-1 (out of school) and 1.89-to-1 (total suspensions) for Hispanic/Latino students compared to white students. The difference in out-of-school suspensions remained significant even when students' behavior was controlled statistically.

These results refuted the differential involvement hypothesis clearly. For males, for blacks (total suspensions), and for Hispanic/Latino students (out-of-school suspensions), suspension rates were high even when their behavior was controlled statistically. *Different levels of behavior, as reflected in our behavior measures, were not sufficient to explain differential discipline.* Other gender- and race-related factors were at work.

The data also revealed a surprising gender-race 'interaction.' For white students, males were given significantly more suspensions (of both types) than were females. Black students were suspended at a higher rate than white students in general, but there was no significant difference between black males and black females. That is, the rates were equally high for black males and females. When student behavior was controlled statistically, the analysis showed that black females were given harsher treatment relative to their behavior than were black males.

Recommendation: Disproportions in school suspensions require attention because of the inequities being meted out by publically supported schools, and also because of the potential for hindering academic performance and persistence (Gregory, Skiba, & Noguera, 2010; Hyman & Perone, 1998). *Schools should monitor in-school and out-of-school suspensions as they occur. The data should be reviewed to see if racial or gender disparities are occurring.* If so, the

teachers and/or administrators involved should be consulted to understand 'why' and to see if alternative approaches to discipline are feasible. As electronic data systems become more common in schools, monitoring suspensions on an ongoing basis should be relatively straightforward. The aggregate data can be automatically forwarded to government agencies (as they are from some districts at present).

School security, school size, and disproportionate suspensions

We examined two policy-manipulable characteristics of schools that may impact disparities in suspensions, the degree of security in the school and school enrollments.

Security. The degree of security in American high schools, related to suspension rates generally, was also related to racial disparities in total suspensions. *The proportion of black students suspended from high security schools (20.2%) was significantly greater than the proportion of white students suspended (11.8%) – a disparity not explained by greater misbehavior on the part of students suspended.* The proportion of total suspensions of black students in low security schools was similar to the proportion of whites.

The same pattern was also found for out-of-school suspensions, but was not statistically significant in all aspects. The mechanism connecting security to suspensions of black students is unclear. It is possible that both suspensions and security measures are reactions to large proportions of black students in the school (the racial threat hypothesis) or other race-related phenomena, but is not related to different levels of misbehavior as reflected in our measures.

No connection between security and suspensions was found for Hispanic students. In fact, no school feature we studied was systematically associated with the suspension of Hispanics as compared to non-Hispanic whites.

Recommendation: These findings underscore the need for *discipline practices that are clear, proportional to the student misbehavior and administered fairly.* This may involve efforts of teachers and school and district administrators to create conduct codes consistent with these principles; they should be communicated clearly to teachers, students, and parents, and monitored to assure that the principles are implemented.

The difference between the results for black students and Hispanic/Latino students convinced us that further study is needed of the behavior and school discipline policies with regard to students of Hispanic origin. It might begin with consideration of the national origins of Hispanic/Latino students and regional differences in the U.S. Unfortunately, the surveys we used did not provide this information in any direct way.

School size. School size was associated with suspensions of black males. As enrollment increased, the proportion of black males suspended relative to black females and to white males and females, increased monotonically – from an average of 16.6% in schools of 300 students or fewer, to an average of 38.4% in schools with over 1200 students. Further, increased suspensions in larger schools were not attributable to poorer behavior in those settings as reflected in our behavior measures. Again, the explanation lies in other race- and/or gender-related factors.

Recommendation: *Educators should take advantage of the multiple benefits offered by small schools, including improved student behavior and fewer suspensions of black males.* Small high schools have been shown repeatedly to have lower rates of misbehavior and thus less need for disciplinary measures (Haller, 1992; Lee & Smith, 1997; NCES & BJS, 2006).[40] The present

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[40] Despite many studies, there is still uncertainty about the relationship of school size with academic achievement.

study found that security levels were lower in smaller schools. Administrators in larger schools may feel compelled to implement more security measures.

Alternately, small learning communities (SLCs) in the form of academies, house plans, schools-within-a-school, and other models can produce small school dynamics even if housed in large schools (Kemple & Snipes, 2000; U.S. Department of Education, 2001). We agree with Fine and Powell (2001) that "Size is a means, not an end" (p. 47). Small schools facilitate but don't guarantee closer contact between adults and students and permit behavior problems to be addressed before they become unmanageable. The advantages of small schools or SLCs are likely to impact students at risk in particular.

In-school, out-of-school, and total suspensions

This study considered out-of-school suspensions and total suspensions (in-school plus out-of-school). Out-of-school suspensions are administered for more serious offenses than in-school suspensions,[41] resulting in the student being removed from the school campus entirely. Until recently, they were the only suspension rates tabulated by OCR in its CRDC school and district surveys. Total suspensions were used in the study to reflect teachers' and administrators' disciplinary predispositions generally.

The two types of suspensions were administered differently to Hispanic and black students. Overall disparities were significant for both groups on both types of suspensions, but were smaller for students of Hispanic origin. For black students, the disparity in total suspensions was greater than would be expected from their misbehavior. For Hispanic/Latino students, the disparity in out-of-school suspensions (but not total suspensions) was greater than would be expected by their misbehavior. That is, *black students were excluded from the classroom one*

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[41] In theory, at least.

way or another for race-related reasons other than misbehavior, and the same was true for Hispanic students when it came to out-of-school suspensions.

We found that *in-school suspensions appeared to lead the way to out-of-school suspensions*. Of students who did not receive any in-school suspensions, fewer than 5% received an out-of-school suspension. Of students who received one or more in-school suspensions, about one-third received an out-of school suspension the same year. It is well established that misbehavior 'tracks,' that is, that early forms of misbehavior often lead to more serious forms (Finn, 1989; 1993). The administration of in-school and out-of-school suspensions may reflect that same principle.

Recommendation: In-school suspensions may offer the opportunity to identify elevated suspension rates and disproportionate suspensions before students are removed from school altogether. *They should be monitored and reviewed regularly*. Because students are still in school and can interact with teachers and administrators, they offer an opportunity for alternative approaches to discipline to be attempted and misbehavior prevented from escalating.

Limitations of the Study

Large scale survey data presented us with certain inescapable limitations; these included characteristics of the sample and the measures in particular. The student response rate for the ELS survey was 87%, quite good by conventional standards. However, the non-responders would have included students currently skipping school, suspended, incarcerated, or in the process of dropping out (together with those out of school for health reasons and others who refused to participate). Dropouts in 10th grades were probably a small group, but non-response due to these reasons could create a downward bias in measures of suspension and misbehavior.

Although it was a limitation inherent in the data, the suspension rates we obtained appeared to be in line with those reported elsewhere.

Of the measures in the current study student self-reports of misbehavior and suspensions and the teacher reports of student misbehavior may be prone to respondent bias in one direction or the other. For example, students may wish to 'paint a better picture of themselves,' thus lowering their reports of misbehavior, or may wish to portray themselves as 'confidently misbehaving,' thus increasing their reports. Teachers may have negative attitudes toward particular students for a variety of reasons (including gender or race bias), thus perceiving and/or judging those students' misbehavior to be worse.

While we acknowledge these limitations, some procedures were put into place that could reduce bias. For one, all of the surveys were conducted anonymously so that social desirability bias may have been reduced. Also, as many questions as possible were asked with numerical answers (e.g., none, 1 or 2, etc.) rather than judgment-laden categories (few, some, etc.), including items in our behavior scales.

We took additional steps to reduce reporting bias. Student suspensions were dichotomized into none--any to reduce the effect of students over-reporting disciplinary consequences. Two teacher reports were considered and weighted for each student to reduce the impact of one potentially biased teacher. Furthermore, student self-reports were compared to teacher reports of misbehavior with significant agreement between sources, suggesting that, although not perfect, bias based in misbehavior assessment was minimal.

Other features of ELS:2002 presented us with limitations that could not be overcome. For one, the frequency of suspensions was reported but not the length. Thus, we were unable to examine the relationship between other variables and the school and student characteristics of

interest and the severity or duration of suspensions. Also, the misbehavior items were asked separately so it was not possible to study a particular suspension in relationship to a particular misbehavior. This even allowed the possibility that a particular suspension was not in response to any of the misbehaviors reported.[42]

Finally, due to increasing public pressure plus changing government regulations, the ELS:2002 survey did not ask about more severe or violent types of misbehavior, for example, drug/alcohol use in school, bringing or using weapons in school, or violent assaults on teachers/other students. These misbehaviors may lead automatically to out-of-school suspensions in many schools. Although this is a limitation of the current study, other research indicates that many suspensions occur due to common and relatively mild misbehaviors like those we examined (e.g., Mendez & Knoff, 2003).

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[42] The multiple-misbehavior (overall misbehavior) scales may have helped address this limitation.

Author Note

This study was a collaborative effort of the two authors. Both have conducted prior research in this area and both participated in planning and carrying out the study. The development of measures of school security and student misbehavior is an outgrowth of work presented in Servoss's doctoral dissertation, chaired by Finn. The remainder of the report represents the authors' combined work in this area.

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Table 1. Descriptive Statistics and Correlations Among School-Level Variables

Variable	(1)	(2)	(3)	(4)	(5)	(6)
School-Level						
School Security (1)	1					
Enrollment (2)	.29**	1				
%Black (3)	.37**	.18**	1			
%Hispanic (4)	-.16**	.21**	-.02	1		
%Free Lunch (5)	.11*	-.13**	.52**	.40**	1	
Suspension Rate (6)	.24**	.12*	.40**	.04	.23**	1
Minimum	5.59	42	0	0	0	0
Maximum	12.82	4364	100	99.03	93.75	79.84
Median	8.47	502	1.27	1.79	19.83	6.62
Mean	8.19	723.17	11.00	8.25	25.20	10.00
Standard Deviation	1.56	663.78	20.56	18.23	19.53	11.12

Note: * indicates $p < .05$; ** indicates $p < .01$.

Table 2. School Characteristics Related to High Security

School Characteristic	Security	
	High	Low
Means		
Total Enrollment	921	521[**]
% Black[a]	21.5	5.4[**]
% Hispanic[a]	6.8	11.9[*]
% Free Lunch	28.3	25.6
Suspension Rate[a]	14.0	7.5[**]
Percentages		
Neighborhood Crime[**b]		
High %	90.9	9.1
Moderate/Mixed %	36.3	34.3
Low %	27.3	43.9
Region[**b]		
West %	19.6	60.8
Northeast %	16.9	59.2
South %	45.1	25.8
Midwest %	27.1	27.5
Urbanicity[**b]		
Urban %	39.7	39.7
Suburban %	34.9	31.6
Rural %	24.2	50.2

Notes: Row percentages generally do not add to 100% as only the extreme high and low security groups are compared, excluding the mid-level group. * indicates $p < .05$; ** indicates $p < .01$.

a. These figures derived from CRDC data.

b. X^2 tests of association significant at $p < .01$

Table 3. Comparing Individual Security Measures Between High and Low Security Schools

Item	Overall %	High-Security %	Low-Security %
During this school year, is it a practice of your school to do the following . . .			
Use one or more random dog sniffs to check for drugs	52.5	80.5	27.1
Use police or paid security any time during school hours or during arrival or departure	52.0	83.8	24.0
Use one or more security cameras to monitor the school	35.0	67.1	7.5
Perform one or more random sweeps for contraband	27.8	56.1	3.0
Require drug testing for any students	14.3	33.6	3.5
Perform one or more random metal detector checks on students	7.9	25.5	0.0
Require students to pass through metal detectors each day	1.4	4.7	0.0
Number of Security Measures			
Mean	1.6	2.8	0.6
Median	1	3	1
Standard Deviation	1.2	.78	.50

Table 4. Suspensions by Race and Gender

	Male	Female	Total
% Suspended (Out of School)			
White	8.5	4.4	6.4
African-American	17.5	14.6	16.0
Hispanic/Latino	13.3	8.4	10.8
Total	10.6	6.5	8.5
% Suspended (Total Suspensions)			
White	17.0	8.9	13.0
African-American	35.7	27.3	31.6
Hispanic/Latino	26.4	16.7	21.5
Total	21.2	12.8	17.1

Note: Total suspensions based on both in- and out-of-school suspensions

Table 5. Student-Level Predictors of Suspensions Adjusted for School Characteristics

Predictor	Out of School Suspensions (OSS)		OSS Controlling for Student Misbehavior		Total Suspensions (TS)		TS Controlling for Student Misbehavior	
Student Characteristics	*Odds Ratio*	*p-value*	*Odds Ratio*	*p-value*	*Odds Ratio*	*p-value*	*Odds Ratio*	*p-value*
Misbehavior								
Self-Report	N/A		2.53	<.001	N/A		2.43	<.001
Teacher-Report	N/A		1.44	<.001	N/A		1.70	<.001
Gender and Race								
Male-Female	2.00	<.001	1.64	.004	2.14	<.001	1.86	<.001
Black-White	1.78	<.001			2.24	<.001	1.80	.003
Hispanic-White	2.23	<.001	1.64	.019	1.89	.001		
Interactions								
Black Male	0.41	.002	0.33	.001	0.51	.003	0.38	<.001
Hispanic Male								

Note: Blank spaces indicate non-significant relationships.

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Table 6. Predicted Probabilities of Suspension by Race/Ethnicity in High vs. Low Security Schools With and Without Controlling for Student Misbehavior

	Not Controlling for Misbehavior		Controlling for Misbehavior	
	Low Security	High Security	Low Security	High Security
Out of School Suspensions %				
White	6.5	6.0	2.8	2.7
Black	8.5	9.5	2.9	3.3
Total Suspensions %				
White	12.8	11.8	6.2	5.8
Black	16.3	20.2	5.9	8.2
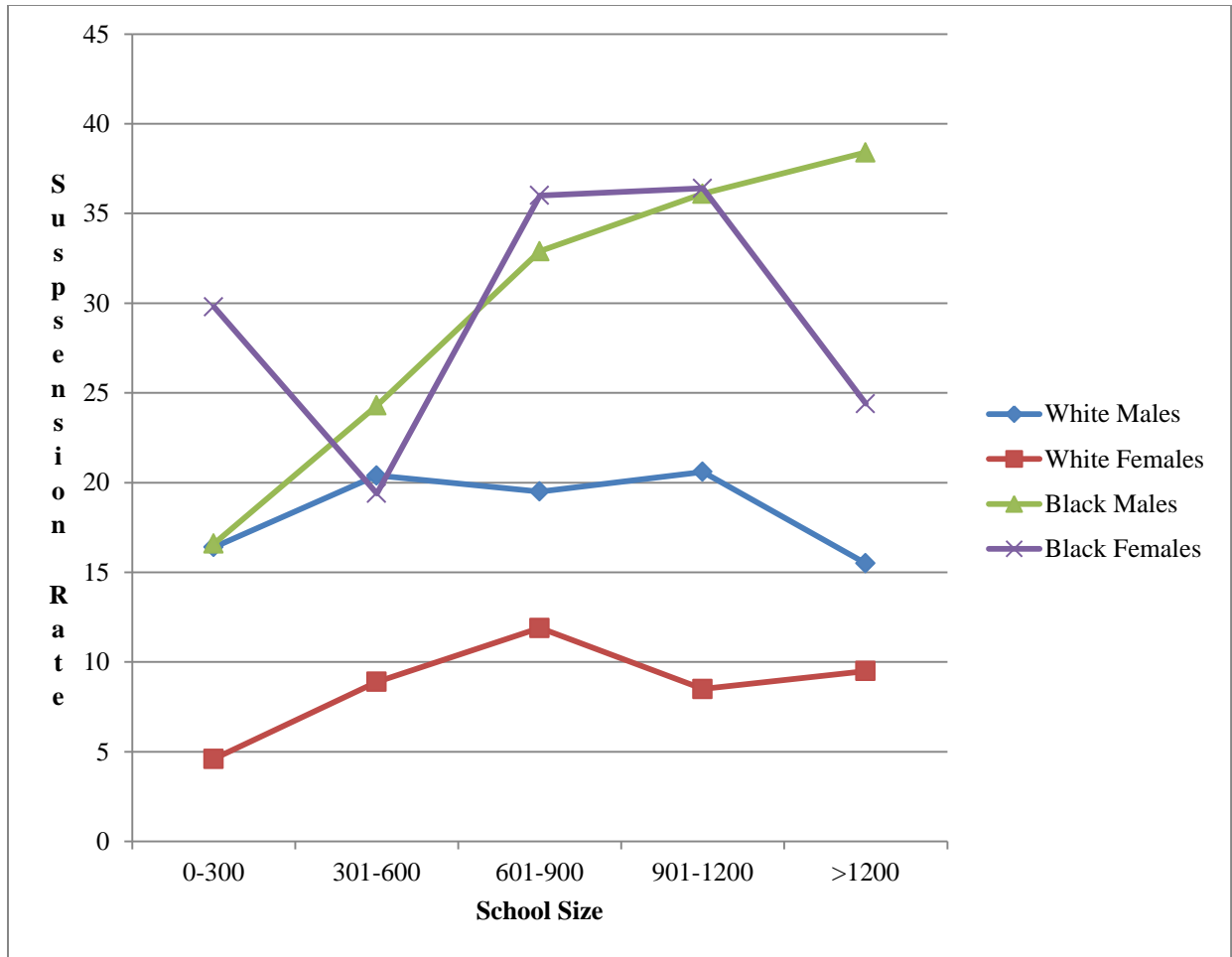
Figure 1. Total Suspensions by Race, Gender, and School Size

Technical Appendix

(A) Sampling of Students and Schools in ELS:2002.

Sampling for ELS:2002 was conducted in two stages (see Ingels et al., 2004 for details). Schools were sampled first followed by students within schools. Schools were selected based on a probability proportional to size, stratified by U.S. Census division and metropolitan status (i.e. urban, suburban, and rural). Ultimately, 752 schools chose to participate in the study, including 502 public schools with white, black, and/or Hispanic students. Twenty-six students were targeted for selection from each school (although the actual number varied with an actualized mean of about 20). Hispanic and Asian students were oversampled to allow for precision in statistical analyses involving these groups of students. The participation rate for students was approximately 87%. The sample for the present study consisted of 8,775 tenth grade students in 500 public schools.

(B) The Misbehavior Measures

This study used two constructed behavior scales, one based on student self reports (5 items) and one based on two teachers' ratings of each student (8 items). Both scales consisted of a set of misbehaviors related to the school setting, e.g., attendance, getting in trouble, disrupting the class.

The correlations among the items in the self reported behavior scale ranged from 0.14 to 0.45. The Rasch analysis indicated that a single score accounted for 85.3% of variation among students in their self reported behavior; that is, the single score represented the overall misbehavior level of a student well. This was consistent with prior research showing that multiple misbehaviors tend to 'cluster.' The internal consistency reliability of the 5-item set (coefficient alpha) was 0.69, which is adequate or better for large scale research.

The correlations among the items in the teacher reports ranged from 0.07 to 0.61. The eight-question teacher scale accounted for 79.5% of variation among students in their behavior. The internal reliability of the 8-item set was 0.85, which is considered to be high. This too was consistent with the concept of a single factor underlying multiple misbehaviors.

As a rough check on reporting bias, we examined the extent of agreement between student reports and teacher reports for two items that were most similar: number of times absent from school (student) with number of times absent from class (English and math teachers), and number of times late to school (student) with number of times late to class (teachers). The response categories for the two scales were somewhat different. Students reported the actual number of instances of each, and teachers reported "never," "sometimes," and so on. Thus, we counted responses that agreed within one category of the parallel response on the other scale, for example "never" (student) with "never" or "rarely" (teacher), "1-2 times" (student) with "rarely" or "sometimes" (teacher), and so on.

On absence, the extent of "agreement" was 69% to 70%. Of the "disagreements," somewhat more teachers gave higher ratings (more absences) than did students (approximately 17% compared to 13%). This might be expected if students attend school but skip a class. On lateness, the extent of agreement was 67% to 68%. Of the disagreements, more students gave *higher* ratings (more lateness) than did teachers rather than lower ratings (approximately 19% compared to 13%). In all, the level of agreement appeared high and there was no conspicuous evidence of students exaggerating their responses in a socially desirable direction or of teachers reporting excess absences or lateness.

The correlation between the two behavior scales ($r = 0.49$) was substantial and statistically significant, suggesting further that they were measuring the same or similar constructs.

(C) Details of the Analysis

All analyses were conducted using sampling weights for schools and students provided in the ELS:2002 data files. This corrected for oversampling of certain groups (e.g., Hispanic students) and for questionnaire nonresponse.

The school level analyses (Question 1) were performed using SPSS version 19. The program requires the sampling weights to be normed to the unweighted sample size beforehand in order to produce correct degrees of freedom for statistical tests. Questions (2) – (4) were addressed through a series of multilevel logistic regression models using the HLM 6.06 program (Raudenbush, Bryk, Cheong, & Congdon, 2004). The levels of analysis were schools and students within schools. Each analysis described here was performed twice, once with out-of-school suspensions as the dependent variable and again with total suspensions.

All regressions for questions (2) – (4) included school type (high school or combined elementary/high school) as a control variable (block 1). The remaining predictor variables were entered as blocks in a predetermined (fixed) order. The effect of each block was tested above and beyond all preceding blocks, followed routinely in most regression analyses; this was shown by Anderson (1962) to provide uniformly most powerful tests. Block 2 included geographic region, school urbanicity, and the rating of neighborhood crime. Block 3 included characteristics of the student population: percent of students on free lunch, percent Hispanic, and percent black students. Blocks 4 and 5 had one variable each, school enrollment and the numeric security scale.

Some of the predictor variables in these analyses were categorical, specifically, geographic region, urbanicity, neighborhood crime, student gender and race. Special variables ("dummy codes") were entered into the regression analysis in order to compare one group to another. For regions, we compared the west, northeast and south to the midwest, respectively; for

urbanicity, we compared rural and suburban schools to urban schools; for neighborhood crime, we compared high and moderate/mixed areas to low-crime areas, respectively; for gender, we compared male suspension rates with those of females; for race/ethnicity, suspension rates for black students and Hispanic/Latino students were compared to those of whites, respectively. These particular comparisons were chosen for convenience; the "overall tests" (e.g., test of different suspension rates among all four regions) are unchanged regardless of the specific comparisons chosen.

For questions about suspensions being proportional to student misbehavior (3A and 4), the student and teacher misbehavior ratings were entered as the first predictors. Thus all other results were controlled statistically for misbehavior and we asked whether there were relationships between the predictors and suspensions above and beyond that explained by student behavior.

For question (3), additional student characteristics were added to the regressions. These comprised two blocks. Block 6 included the gender effect and the two dummy variables for race/ethnicity (black – white and Hispanic – white). This allowed us to test for gender and race differences in suspensions. Block 7 included two race-by-gender interaction dummy variables; these allowed us to test whether suspension rates were especially high or low for particular gender-race combinations.

Question (4) concerned the school characteristics related to gender or racial/ethnic differences in suspension rates. To answer this, a set of cross-level interactions were added to the regressions, that is, school characteristics-by-student characteristics interactions. A significant interaction indicated that higher values on the school characteristic (e.g., school size) were associated with greater gender or racial disproportion in suspension rates.

Blockwise tests of significance. For effects that included two or more predictors (region, urbanicity, crime, race/ethnicity and all interactions with these), individual predictors were tested only if the overall ("omnibus") test of the block was significant. This two-step procedure, referred to as "Fisher's protected *t*-test approach," provides additional protection against type I errors when several statistical tests are performed (Cohen, 2001, chapter 13).

More about odds ratios. Odds ratios are used to indicate how large a difference is between proportions when there are two separate groups of participants (e.g., males and females). They are also used in the regressions to show the change in odds associated with a given change in a numeric predictor variable. For example, the odds of a student being suspended (in total) when a school has 5% additional black students went up by a factor of 1.03 (Table A3); this was a small difference.

(D) Detailed Results

Fighting and suspensions. The relationship of fighting in school with out-of-school suspensions was substantially stronger than the relationship of the total misbehavior scale with suspensions. Of students who reported getting into a physical fight once or twice, 29% had been suspended; of those who reported getting into a fight more than twice, 45.1% had been suspended.

The suspension rates for the three racial/ethnic groups also differed for fighting. Of students who reported being in a fight once or twice, 24.4% of whites had been suspended during the year, 31.0% of Hispanic/Latino students, and 39.2% of black students. Of those who had been in a fight more than twice, similar percentages had been suspended: 43.4% of whites, 47.6% of Hispanic/Latino students, and 47.1% of black students.

We must emphasize, however, that our data do not indicate if the suspensions were connected to instances of fighting. The reports of fighting and the report of suspensions were separate questions in the ELS:2002 survey.

Misbehavior ratings. The means for gender and racial/ethnic groups are given in Table A1. According to teachers and the students, males exhibited more misbehavior than did female students.[43] According to the teachers, black students exhibited more misbehavior than did Hispanic/Latino students, and white students exhibited substantially less than both minority groups. According to student self reports, black students did not misbehave as much as Hispanic/Latino students did although the difference is relatively small. White students reported less misbehavior than either minority group. The pattern of racial/ethnic differences was the same both for male and female students.

Table A1. Misbehavior by race and gender

	Male	Female	Total
Misbehavior-Self Reported			
White	7.96	7.78	7.87
African-American	8.26	8.00	8.14
Hispanic/Latino	8.35	8.13	8.24
Total	8.07	7.87	7.97
Misbehavior-Teacher Reported			
White	7.28	6.77	7.02
African-American	7.94	7.51	7.72
Hispanic/Latino	7.62	7.27	7.44
Total	7.43	6.96	7.19

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[43] We did not perform statistical tests on these means. However, the standard deviations can be used to derive strength-of-effect measures for the differences. For example, the male – female difference on self-reported misbehavior is 0.20 points (8.07 – 7.87) and the standard deviation of the measures is 1.52 points. Thus the effect size for the difference is 0.20/1.52 = 0.13, which represents a small difference. Foe teacher reported behavior, the gender effect size is (7.42 – 6.96)/1.61 = 0.29, which represents a small-to-moderate difference.

Note: Standard deviations are 1.52 for self-reported and 1.61 for teacher-reported misbehavior.

Question 3 and 3A: Full regression results for out-of-school and total suspensions

Table A2. Predictors of Out of School Suspensions

Predictor	Out of School Suspensions (OSS)		OSS Controlling for Student Misbehavior	
Characteristics	*OR*	*p*	*OR*	*p*
Block 0			$X^2(2) = 218, p = <.001$	
Misbehavior				
Self-Report	N/A		2.53	<.001
Teacher-Report	N/A		1.44	<.001
Block 1	$X^2(1) = 0.13, p > .50$		$X^2(1) = 0.55, p > .50$	
Grades 9-12 Only				
Block 2	$X^2(7) = 22.58, p = .002$		$X^2(7) = 23.38, p = .002$	
Region				
West-Midwest				
Northeast-Midwest			1.47	.041
South-Midwest				
Urbanicity				
Rural-Urban				
Suburban-Urban				
Neighborhood Crime				
High-Low	1.98	.006		
Moderate/Mixed-Low	1.72	<.002	21.81	.001
Block 3	$X^2(3) = 6.15, p = .103$		$X^2(3) = 5.61, p = .131$	
% Free Lunch/5				
% Hispanic/5				
% Black/5				
Block 4	$X^2(1) = 0.13, p > .50$		$X^2(1) = 0.54, p > .50$	
Enrollment/300				
Block 5	$X^2(1) = 0.26, p > .50$		$X^2(1) = 0.02, p > .50$	
Security				
Student Characteristics				
Block 6	$X^2(3) = 52.88, p < .001$		$X^2(3) = 24.22, p < .001$	
Male-Female	2.00	<.001	1.64	.004
Black-White	1.78	<.001		
Hispanic-White	2.23	<.001	1.64	.019
Block 7	$X^2(2) = 10.25, p = .006$		$X^2(2) = 11.21, p = .004$	
Black Male	0.41	.002	0.33	.001
Hispanic Male				

Note: Blank spaces indicate non-significant relationships.

Table A3. Predictors of Student Total Suspensions

Predictor	Total Suspensions (TS)		TS Controlling for Student Misbehavior	
Characteristics	*OR*	*p*	*OR*	*p*
Block 0			$X^2(2) = 550, p = <.001$	
Misbehavior				
Self-Report	N/A		2.43	<.001
Teacher-Report	N/A		1.70	<.001
Block 1	$X^2(1) = 0.56, p > .50$		$X^2(1) = 2.03, p = .15$	
Grades 9-12 Only				
Block 2	$X^2(7) = 28.76, p < .001$		$X^2(7) = 48.63, p < .001$	
Region				
West-Midwest				
Northeast-Midwest				
South-Midwest				
Urbanicity				
Rural-Urban				
Suburban-Urban				
Neighborhood Crime				
High-Low	1.97	.022		
Moderate/Mixed-Low	1.82	<.001	2.11	<.001
Block 3	$X^2(3) = 12.28, p = .007$		$X^2(3) = 4.18, p = .24$	
% Free Lunch/5				
% Hispanic/5				
% Black/5	1.03	.059		
Block 4	$X^2(1) = 2.98, p = .08$		$X^2(1) = 0.85, p > .50$	
Enrollment/300				
Block 5	$X^2(1) = 0.38, p > .50$		$X^2(1) = 0.02, p > .50$	
Security				
Student Characteristics				
Block 6	$X^2(3) = 78.28, p < .001$		$X^2(3) = 31.35, p < .001$	
Male-Female	2.14	<.001	1.86	<.001
Black-White	2.24	<.001	1.80	.003
Hispanic-White	1.89	.001		
Block 7	$X^2(2) = 9.14, p = .01$		$X^2(2) = 9.14, p = .002$	
Black Male	0.51	.003	0.38	<.001
Hispanic Male				

Note: Blank spaces indicate non-significant relationships.

Question 4: School characteristics related to disproportionate suspensions.

Besides school security and school size, several non-manipulable characteristics of schools were associated with greater or smaller disparities in suspensions. These are summarized in Tables A4 and A5 for out-of-school and total suspensions, respectively. In these tables, the rows are the school characteristics (composition of student body, urbanicity, and neighborhood crime) and the columns are the specific types of disparity (male – female differences; black – white differences; Hispanic – white differences; specific disparities for black males compared to black females and all white students). The entries in the tables are the odds ratio for the effect of the particular school characteristic on the particular disparity in suspensions. Two entries are shown for each effect (No/Yes), showing whether the effect was statistically significant without considering different degrees of student misbehavior, and with statistical control for the extent of misbehavior, respectively. No entry is made for effects that were not statistically significant.

In terms of the composition of the student body, there was a small but significant tendency for males to be suspended at *lower* rates than females as the percentage of black students attending the school increased (odds ratio= 0. 94 and 0.93 for out-of-school suspensions and 0.93 and 0.91 for total suspensions). Similar trends were found for the percentage of Hispanic/Latino students and the percentage of free-lunch students in the school: fewer males compared to females were suspended in schools with higher percentages of Hispanic students or higher percentages of free-lunch students. And, in terms of out-of-school suspensions, fewer males were suspended compared to females in schools in high-crime neighborhoods. In contrast,

males were suspended at higher rates than were females in suburban schools relative to urban

schools, where the male-female difference was smaller.

Table A4. Odds Ratios of Significant Cross-Level Interactions Predicting Out of School Suspensions

School Characteristic	Student-Level Effect							
	Male		Black		Hispanic		Black x Male	
	Adjusted for Misbehavior?							
	No	Yes	No	Yes	No	Yes	No	Yes
Security								
Enrollment/300			1.13*	1.19*				1.39*
% Black/5	0.94**	0.93**						
% Hispanic/5	0.93*	0.93*						
% Free Lunch/5	0.92**							
Urbanicity								
Suburban-Urban	1.93*	2.17*						
Rural-Urban	2.86**	3.05*		0.35**			0.14*	0.09*
Crime								
High-Low	0.30**	0.32*						
Mod/Mixed-Low	0.50*	0.49*	1.91*			2.40*		

Note: * indicates p < .05; ** indicates p < .01. Blank spaces indicate non-significant results. The Hispanic x Male column was excluded because this term did not interact significantly with any of the school-level variables.

All of these effects are consistent; they may be indicative of higher suspension rates for

females in high minority schools, high free-lunch schools, schools in high crime neighborhoods,

and urban schools. The higher rate for females would approach that for males, resulting in a smaller gender disparity. No other school characteristic was consistently related to the degree of racial/ethnic or gender disparities in suspensions.

Table A5. Odds Ratios of Significant Cross-Level Interactions Predicting Total Suspensions

School Characteristic	Student-Level Effect							
	Male		Black		Hispanic		Black x Male	
	Adjusted for Misbehavior?							
	No	Yes	No	Yes	No	Yes	No	Yes
Security			1.32^{**}	1.39^{**}				
Enrollment/300		0.90^{*}					1.28^{*}	1.54^{**}
% Black/5	0.93^{**}	0.91^{**}						
% Hispanic/5		0.95^{*}						
% Free Lunch/5	0.93^{**}							
Urbanicity								
Suburban-Urban	1.62^{**}	1.95^{*}						
Rural-Urban				0.35^{**}				
Crime								
High-Low					0.30^{*}			
Mod/Mixed-Low								

Note: * indicates $p < .05$; ** indicates $p < .01$. Blank spaces indicate non-significant results. The Hispanic x Male column was excluded because this term did not interact significantly with any of the school-level variables.