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School Security: For Whom and With What Results?

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This study utilized school-level data from several combined national databases to address two questions regarding school security policy: (1) What are the school characteristics related to levels of security? (2) How does security relate to school suspension, dropout, and college attendance rates? Among the predictors of school security, having a high proportion of African American students was the strongest. This race/ethnicity effect remained significant when statistically controlling for socioeconomic status (SES), neighborhood crime, school indiscipline, urbanicity, and geographic region. Security was positively associated with school suspension rates but had no relationship to dropout or college attendance rates. Administrator roles and alternatives are discussed.

Since 1999, many schools have increased the use of security measures to reduce or prevent school violence and other forms of student misbehavior (Addington, 2009). Although the use of metal detectors and school security guards was relatively common since the 1980s in urban school districts in Los Angeles and Chicago, the 2000s saw a dramatic upsurge in the use of such measures in schools across the country, regardless of urbanicity. For example, between 1999 and 2010, the proportion of schools using security cameras to monitor the school increased from 19.4 percent to 61.1 percent, requiring faculty/staff to wear identification badges increased from 25.4 percent to 62.9, and the employment of dedicated school security guards or police officers increased from 54.1 percent to 69.8 percent (Robers, Kemp, Truman, & Snyder, 2013).

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Many speculate that this nationwide trend to increase school security measures was a response to high-profile shootings such as that at Columbine in 1999 (Addington, 2009). Others suggest that this trend is a manifestation of a more generic fear of crime and violence that pervades North American culture (Larsen, 2008). A third possibility is that security measures are implemented in response to student misbehavior (violent or otherwise), aspects of the community in which the school resides, or student demographic characteristics.

Regardless of the reasons for the increase in school security measures, and despite their pervasiveness, the effectiveness of these measures in reducing or preventing school violence and other forms of student misbehavior remains largely undocumented (Birkland & Lawrence, 2009; Greene, 2005). Indeed, there is concern that through invasions of privacy, betraying student trust, and by creating a punitive atmosphere, security measures may actually have the unintended effect of increasing student misbehavior and reducing student engagement in school (Hyman & Perone, 1998; Noguera, 1995). Students are likely to develop and maintain feelings of engagement to school when they feel physically and psychologically safe and that they are treated fairly and with respect (Voelkl, 2012). Feelings of engagement, affective engagement in particular, are a strong predictor of behavioral engagement—that is, the decision to complete school and to continue educational pursuits beyond high school (Rumberger, 2011). A high-security environment, accompanied by strict discipline, may have the opposite effect.

The purpose of this study was to determine (1) What types of high schools have adopted more extensive security measures and which schools have opted for less security? (2) How is school security related to engagement-related school outcomes, specifically overall suspension rates, dropout rate, and the percentage of graduates who attend a two- or four-year college?

These questions need to be answered in order for administrators to make informed decisions about this salient and potentially intrusive set of practices. If high degrees of high security are accompanied by positive school outcomes, or positive outcomes for some types of schools, they can be recommended to other similar schools. If high security is accompanied by negative outcomes, even for some types of schools or some groups of students (e.g., Black or Hispanic students), this needs to be addressed as well.

FACTORS ASSOCIATED WITH SCHOOL SECURITY

There has been little research on the types of schools most likely to have levels of high security. Nickerson and Spears (2007) offered one of the only existing investigations into school-level characteristics related to the use of certain security practices. In their analysis of the School Survey on Crime

and Safety (SSOCS), they characterized the use of paid security/police during school hours and random metal detector checks as authoritarian practices. Large schools and those with high proportions of students receiving free lunches, located in moderate-, high-, or mixed-crime neighborhoods and in urban areas were more likely to use paid security or police during school hours. And large schools with more students receiving free lunches were more likely to use random metal detector checks on students.

Although not a study explicitly on the extent of security or the likelihood to use specific security techniques, DeAngelis, Brent, and Ianni's (2011) examination of the security costs and spending tendencies of districts in the state of Texas provides much to inform the current investigation, as security spending is likely to be positively correlated with the extent of security within schools. They found that several school and demographic characteristics were related to overall security spending as well as security spending as a percentage of the district's overall operating budget. Schools in urban communities exhibited higher spending on both cost measures. District enrollment, the percent of low-income students in the district, and the proportion of minority students in the district were all positively related to security spending as a percentage of operating expenditures. These results suggest that the burden of security expenditures hit disproportionately harder for big, urban districts that serve largely disadvantaged student populations.

These studies underscore the importance of considering urbanicity, school size, neighborhood crime, school socioeconomic status (SES), and student race/ethnicity as potential predictors of the extent of security at a school. Many of these connections are corroborated by related research. School size and socioeconomic status are known to be related to the extent of misbehavior in schools (Finn & Kasza, 2009; Haller, 1992). In an analysis of data from public high schools that participated in the National Assessment of Educational Progress (NAEP), Finn and Kasza (2009) found these two features to be among the strongest correlates to an overall index of school misconduct. Large schools may increase administrators' perceptions that security measures would help control student behavior but, to date, no study has considered the role that the degree of indiscipline within schools plays in predicting security levels. Security measures are ostensibly implemented to reduce violence and other forms of misbehavior by creating an environment where such acts require more effort, involve greater risk, and offer decreased rewards (O'Neill & McGloin, 2007). Because of this connection, measures of student indiscipline were included as predictors of security in this investigation.

IMPORTANCE OF RACE/ETHNICITY

DeAngelis, Brent, and Ianni's (2011) finding that district security expenditures were positively related to the proportion of minority students in the district is consistent with work by Toldson (2011), who found that African

American students are about six times more likely than White students to walk through a metal detector when they enter school. Little is known about the relationship between security and race/ethnicity or the dynamics that underlie it, but because security and suspensions serve similar functions, it is possible that they run parallel to those that underlie disparities in the use of exclusionary discipline.

African-American students are about two-to-five times more likely to receive out-of-school suspensions than their White peers (Eitle & Eitle, 2004; Mendez & Knoff, 2011); Black males are particularly targeted for school suspensions (Gregory, 1997; Losen & Skiba, 2010). The disparity is found at the school level as well: overall suspension rates are substantially higher in schools with large proportions of Black students (Skiba, 2013). Efforts to discount Black–White disparities in suspensions as reflections of differences in SES have concluded that they are not attributable to differences in SES but are, in fact, race/ethnicity effects (e.g., Losen & Skiba, 2010; Skiba, Michael, Nardo, & Peterson, 2000). Hispanic students are more likely to be suspended than are non-Hispanic Whites but are suspended less disproportionately than are Black students (Gordon, Della Piana, & Keleher, 2000).

One explanation for racial/ethnic disparities in exclusionary discipline that may apply to disparities in security is the racial threat hypothesis (Blalock, 1967). According to this hypothesis, racial/ethnic minorities present economic, political, and crime-related threats to the majority racial group. In the school context, the racial threat hypothesis contends that the tendency to use punitive school discipline as a method of control will rise as the relative proportion of minorities within a school setting rises, because the threat is greater with increasing numbers of minority group members. The imposition of social controls like punitive discipline (i.e. suspensions, expulsions) is designed to reduce the threat imposed by the relatively large proportion of minorities and to ensure the maintenance of dominance by the majority racial group. In support of this notion, Welch and Payne (2010) found that the use of punitive discipline in schools was positively related to the proportion of Black students in those schools. School security measures may constitute another form of social control consistent with this hypothesis.

With regard to disparities in exclusionary discipline, the differential involvement thesis (addressed in Losen & Skiba, 2010) suggests that minority students receive a disproportionate amount of suspensions due to their disproportionately high involvement in various forms of indiscipline. Inclusion of the indiscipline measures in the current investigation allows for a test of the race/ethnicity effect on security levels, controlling for levels of student indiscipline. This allows for the ruling out of the differential involvement thesis as an explanation for racial/ethnic differences in school security should they exist.

SCHOOL SECURITY AND SCHOOL OUTCOMES: A “MIXED, COMPLEX, AND SOMETIMES CONTRADICTIONARY PICTURE”

Research on the behavioral and attitudinal correlates of security focuses almost exclusively on individual measures, for example, metal detectors or a security officer (e.g., Gastic, 2011; McDevitt & Paniello, 2005; review by Hankin, Hertz, & Simon, 2011, which gave us the phrase “mixed, complex, and sometimes contradictory picture” [p. 104]); or multiple measures considered separately (e.g., Bachman, Randolph, & Brown, 2011; Brown, 2005; Kupchik & Ellis, 2008; Schreck & Miller, 2003) as they relate, generally, to student safety perceptions or various measures of indiscipline.

A number of studies have addressed the connection between individual security measures and various forms of indiscipline. May, Fessel, and Means (2004) found that school principals had positive impressions of school resource officers' effectiveness in reducing fights, drugs, and stealing at their schools. Similarly, McDevitt and Paniello (2005) found that students had favorable impressions of their school resource officers.

Hankin, Hertz, and Simon's (2011) review of the existing studies on the use of metal detectors to reduce school misbehavior showed limited effectiveness. Of the seven studies reviewed, one found a 6 percent decrease in the likelihood of students carrying a weapon while in school but no decrease in fighting. The other six studies reviewed showed no effect of metal detectors on any measure of misbehavior.

Multiple studies have found a positive relationship between individual security measures and forms of student indiscipline. For example, Schreck, Miller, and Gibson (2003) found that students were more likely to be victimized in schools that imposed locker searches on students. Cheurprakobkit and Bartsch (2005) found a positive association between schools that required students to wear uniforms and drugs crimes and found that more interpersonal crime was committed on closed campuses. Locked doors and closing the school for lunch were positively associated with property crimes while violent crime was not associated with any traditional security measure in O'Neill and McGloin's (2007) analysis of the 2000 SSOCS.

This research shows that individual security measures may not have a consistent, identifiable impact on student behavior. The present study is based on the premise that the effective environment of the school is defined by a set of characteristics and practices related to student behavior more than any single feature. Whether the security level of a school is related to behavior positively or negatively, it is due to the overall effect of multiple security measures and the total impact they engender.

To date, very few studies have documented the effect of the school security environment, as a whole, on levels of student victimization. Two studies take this more holistic approach. In a study of more than 2,000 schools that

participated in SSOCS, Nickerson and Martens (2008) found that security and enforcement practices were related weakly but positively to school disruption and school crime. The security/enforcement construct consisted of items regarding security procedures (cameras, law enforcement personnel) and punitive disciplinary actions (detentions, suspensions, transfers). And Mayer and Leone (1999) conducted a secondary analysis of interviews with 12- to 19-year-olds who participated in the National Crime Victimization Survey (NCVS). The authors constructed two composite security scores for each school: Personnel Based Security and Physical Security. Both composites were positively related to several types of school disorder (e.g., presence of gangs, the availability of drugs, personal attacks and property thefts), which in turn were related positively to attitudinal and behavioral indicators of student fear. This study did not consider other school outcomes, for example, the impact on suspensions or persistence.

On the whole, this research left us with a *suggestion* that security measures, considered together, may be associated with negative school outcomes.

SECURITY, SUSPENSIONS, AND ENGAGEMENT

We expended a great deal of effort to find previous research on school security to inform this aspect of the investigation. We found no research that explicitly connects security to suspensions. If effective, security should reduce indiscipline and the need for suspensions. If overly intrusive, extensive security might engender the sort of feelings that lead to increases in student misbehavior, as suggested by Hyman and Perone (1998). As indicated by one respondent in an investigation by Brooks, Schiraldi, and Ziedenberg (2000), “When I get up to go to school in the morning, I don’t want to feel like I’m going to a correctional facility” (p. 3). Similarly, previous efforts have not been made to connect security to measures of student engagement like dropping out and attending college. Arguably, successful security strategies should leave students feeling safe at school, a necessary precursor to affective engagement (Voelkl, 2012); on the other hand, if perceived as unwelcoming, offensive, and indicative of a lack of safety (see Ferraro’s 1995 theory of incivilities), security could be negatively related to measures of engagement.

THE APPROACH TAKEN IN THIS STUDY

The present study used merged school-level data from three national surveys to address two questions: (1) What types of high schools have adopted more extensive security measures and what schools have opted for less

security? The focus was on the racial/ethnic composition of the school (high Black; high Hispanic; low minority), school size, the level of crime in the neighborhood, and the severity of misbehavior in the school. (2) How is school security related to school outcomes, specifically overall suspension rates, dropout rate, and the percentage of graduates who attend a 2- or 4-year college? We also asked whether the relationship of security with these outcomes was different in schools with different racial/ethnic compositions or between smaller and larger schools.

For both questions, a composite score was derived that summarized the school's overall security environment based on 10 security measures, ranging from some that were fairly innocuous (dress code; security officers; security cameras) to others that were more invasive (metal detectors; dog sniffs for drugs; random sweeps for contraband). The Rasch (1960) technique used to scale the security measures goes beyond a simple summing of the number of measures present at a school to give extra weight to those security measures that are least common (e.g., daily metal detector screenings, random dog sniffs to check for drugs), much like extra points may be awarded for correct answers to more difficult questions on a test. To give a clear and more easily interpretable picture of the effect of race/ethnicity, schools were identified that had a high percentage of Black students (25% or more), high percentage of Hispanic/Latino students (25% or more), or had neither a high percentage of Black nor Hispanic/Latino students.

A series of multivariate regression analyses were performed to predict security from school characteristics and school outcomes from school characteristics including security, respectively. Although the analyses were both descriptive and inferential, the data files did not provide information to study the processes by which school characteristics translated into security measures or security into academic or behavioral outcomes. Nevertheless, the results are important for the descriptions they provide of particular types of schools.

Given the cross-sectional nature of the data used in this study, determining the causal order of effects is difficult. In reality, the relationship between the environment (i.e., school security) and representations of behavior (i.e., indiscipline, suspensions, dropout, college attendance) is likely reciprocal. Bandura (1978) coined the phrase reciprocal determinism to describe the continuous interaction among these aspects of psychological functioning. As an example, misbehavior may cause rules to tighten and security measures to be imposed, but inflexible environments and the perceptions that accompany them can also promote misbehavior. Nonetheless, the main policy focus of this investigation is school security, which is a malleable aspect of the school environment. Our perspective, although not the only one possible, is that school characteristics affect administrators' security policy decisions and that security levels may impact suspension, dropout, and college attendance rates.

METHODS

Data for the study were drawn from several national surveys of students and schools. The main database consisted of 500 public schools that participated in the Education Longitudinal Study of 2002 (ELS:2002) conducted by the National Center for Education Statistics (NCES). These data were augmented by school-level information from the 2000 Office of Civil Rights' Civil Rights Data Collection (CRDC), the 2001–2002 Common Core of Data (CCD) school universe survey, and the 2003–2004 CCD district-level dropouts and completers survey.

Data Sources

ELS:2002

The ELS:2002 survey collected data on a nationally representative sample of students when they were high school sophomores, two years later (when most were seniors), and again in 2006, two years after the usual age of graduation. The data collection included surveys administered to school administrators, students, parents, and teachers. Information gathered from the base year administrator questionnaire served as the primary data source for this study. Reports of college attendance rates were taken from the 2004 Administrator Questionnaire.

Sampling for ELS:2002 was conducted in two stages (see Ingels, Pratt, Rogers, Siegel, & Stutts, 2004 for details of sampling). Schools were sampled first followed by students within schools. The sampling frame for schools was comprised of those schools appearing in the 1999–2000 Common Core of Data (CCD) survey and Private School Survey (PSS). Schools were selected based on a probability proportional to size methodology stratified by U.S. Census division and metropolitan status (i.e. urban, suburban, and rural). At this stage, 1,221 eligible schools were identified out of the population of approximately 27,000 schools in the United States with tenth grade students. Of the list of eligible schools, 752 public and private schools chose to participate in the study. Administrator questionnaires were completed at nearly 99% of participating schools. Approximately 500 of these were public schools with White, African-American, and/or Hispanic/Latino students.

The sampling procedures produced a special consideration for the analysis. School weights were derived to account for differential sampling probabilities and to correct for nonresponse so that the weighted sample was representative of the national population of schools with tenth grade students. This was addressed in our analysis.

CRDC

Through the CRDC, the Office for Civil Rights monitors and reports on practices relevant to student rights including discipline, special education placements, school finances, and grade retentions. Although generally collected on a biannual basis from a sample of school districts and schools, in the year 2000, data were collected from 88,882 schools in 14,726 districts in the U.S., representing approximately 95% of all U.S. schools. School suspension rates were used in the current study. For 10 schools in the ELS:2002 sample not included in the 2000 CRDC, suspension information from the 2004 CRDC was used.

CCD

The CCD is the federal government's annual compilation of data from all public elementary and secondary schools as well as state and local education agencies. Each year, information is gathered on a number of school characteristics including enrollment, location, and grade range, as well as student and staff characteristics. Information on school grade levels, enrollments, and the racial/ethnic and socioeconomic composition of the student population was used in this study. District-level dropout rates from the 2003–2004 CCD Dropouts and Completers Survey were used.

Primary Measures

SCHOOL RACIAL/ETHNIC COMPOSITION

School racial/ethnic composition was determined based on data from the 2001–2002 CCD school universe file. The proportions of African-American, Hispanic/Latino, and White/non-minority students were calculated for each school in our sample. The frequency distributions of the proportions of African-American and Hispanic/Latino students among the schools were then examined. In the interest of identifying schools with high percentages of minority students, we chose schools at the 90th percentile of the distributions. For both groups, this proportion turned out to be approximately 25% minority enrollment. These classifications were termed “high-Black” (25% African-American students or more), “high-Hispanic” (25% Hispanic/Latino students or more), “high-both,” or “low-minority” (fewer than 25% of both African-American and Hispanic/Latino students). Because there were only eight “high-both” schools, they were not considered in the analysis. The three remaining classifications included 98.5% of all schools in the sample.

SCHOOL SECURITY

The ELS: 2002 Administrator Questionnaire asks each principal whether, during the current school year, the school had each of 21 measures in place. The study authors independently selected the security measures likely to be most salient to the daily experience of all members of the school community (see [Table 1](#)); agreement was 100 percent. The other measures were not included because they do not exclusively serve security functions or were likely less relevant to the daily experiences of school community members.

The 10 items were used to obtain a composite score that represented the total security environment of the school. The score was obtained by means of Rasch scaling (Rasch, 1960), a technique that weighs individual measures according to the frequency with which they are used. Item “infit” and “outfit” mean squares and z -scores indicated good fit relative to standard criteria (Bond & Fox, 2007). Additionally, the standard deviations of the standardized infit statistics were less than two, indicating good overall model fit (Bode & Wright, 1999). With regard to the unidimensionality of the measure, the overall security score accounted for 73.5% of the total item variability, with the largest residual component accounting for less than 5% of the total variance and no interpretable pattern of item loadings. These values indicated that the single security score was a good summary of schools’ overall security

TABLE 1 Security Comparisons by School Racial/Ethnic Composition.

Item	Overall %	High-Black %	High-Hispanic %	Low-Minority %
Percent of schools	98.5	13.0	6.7	80.4
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	56.7	69.0	46.7	55.6
Use police or paid security any time during school hours or during arrival or departure	50.8	67.2	86.2	45.3
Enforce a strict dress code	49.8	69.0	72.4	44.8
Use one or more security cameras to monitor the school	37.2	56.9	30.0	34.6
Perform one or more random sweeps for contraband	28.1	43.9	26.7	25.7
Require drug testing for any students	15.7	20.7	6.7	15.6
Require clear book bags/ban book bags	9.9	35.1	6.7	6.1
Require students wear badges/picture ID	8.5	24.1	20.7	5.0
Perform one or more random metal detector checks on students	7.6	38.6	10.0	2.5
Require students to pass through metal detectors each day	1.3	10.3	0.0	0.0
Security score				
Mean	8.3	9.6	8.6	8.0
Standard deviation	1.4	1.1	1.3	1.3

environments. Higher scores on this scale indicate that the school has higher degrees of security in general.

Security scores ranged from 5.42 to 13.8 with a mean of 8.27 (1.37). Schools in the lowest quintile of the security score distribution had no security measures whereas most schools in the second quintile had two security measures, guards/police and security cameras being the most common combination. By way of comparison, those schools in the top quintile tended to utilize at least five or six security measures: dog sniffs for contraband, enforcing a strict dress code, and police/guards being most common, often supplemented with mandatory drug testing, random metal detector checks, and security cameras.

SCHOOL INDISCIPLINE

The level of indiscipline at each school was reported by the principals through the ELS:2002 Administrator Questionnaire. Each principal was presented with 19 problem behaviors in the school (e.g., class cutting, physical conflicts among students, verbal or physical abuse of teachers, racial tension, vandalism, robbery, bullying, and drug and alcohol use). Each behavior was rated on a 5-point scale from 1 = happens daily, to 5 = never happens. No prior information was available about the factor structure of these items so we conducted a principal components analysis using the schools in the study. After varimax rotation, the analysis gave a clear picture of the three factors: Misconduct (12 behaviors, $\alpha = 0.80$, e.g., fighting, robbery, vandalism, bullying, classroom disorder, verbal abuse, gang activity), Attendance (3 behaviors, $\alpha = 0.88$, e.g., tardiness, absenteeism, truancy), and Substance Use (4 behaviors, $\alpha = 0.90$, e.g., alcohol use, drug use, sale of drugs). Item responses in each dimension were averaged to provide three indices of school indiscipline.

SCHOOL SUSPENSION RATES

The proportion of students suspended in the 1999-2000 school year, calculated as the total number of suspensions at a school divided by the school enrollment, was taken from the CRDC school-level files. For 10 schools not included in the CRDC data for that year, the values were taken from the 2003-2004 survey. The appropriateness of using suspension data from different years was examined by correlating the 2000 and 2004 suspension rates for a sample of 2,200 schools included in the CRDC both years. The correlation was 0.63, which, although not ideal, indicates a reasonable level of stability among school suspension rates across time, particularly as this issue only applies to a small portion of the sample. Because the suspension rate variable was highly positively skewed, a logit transformation was conducted prior to its use as an outcome in regression analyses.

SCHOOL DROPOUT RATES

School dropout rates were not directly available in the ELS:2002 or CCD data. Because of the importance of this outcome, we derived an estimate of dropout rates using an empirical Bayes approach with the HLM7 software (Raudenbush, Bryk, Cheong, Congdon, & duToit, 2011). This procedure improved rough estimates of school-level rates by combining them with accurate reports of rates for the district. This school-level estimate was the proportion of students from a given school who had completed the ELS Dropout Questionnaire divided by the number of students from that school in the ELS dataset. This was considered approximate because it was based on relatively small samples within each school (approximately 20 students). A district-level dropout rate was drawn from the 2003–2004 CCD Dropouts and Completers Survey, collected two years after the ELS:2002 assessment of tenth graders. The ELS:2002 school-level dropout estimate served as the level-1 outcome variable while the CCD district-level dropout rate served as a level-2 predictor. Predicted dropout rates from the HLM procedure served as the school dropout variable for this study. To provide a partial check of the accuracy of these estimates, HLM-produced dropout rates were compared to CCD district-level rates for those districts where there was only one secondary school. The HLM-based dropout rates correlated at $r = 0.92$ with the rates in these districts, indicating that our values were dependable.

COLLEGE ATTENDANCE

College attendance rates for each school were developed from responses to two items from the ELS administrator questionnaire at the first follow-up in 2004. Administrators were asked to report the percentage of their last graduating class that went to 2-year colleges and 4-year colleges. Response choices were None, 1–10%, 11–24%, 25–49%, 50–74%, or 75–100%. These items were combined into a single measure of college attendance by assigning the midpoints of the intervals to the values and summing the two items. The distribution of responses was examined to eliminate any responses that were substantially greater than 100%. For example, three principals indicated that 50–75% of students went on to a 4-year college and 75–100% went on to a 2-year college. We took these responses to mean that the principals did not understand the pair of questions as intended.

OTHER SCHOOL VARIABLES

Several other school characteristics were used in the study: school enrollment, the proportion of students eligible for free or reduced-price lunches, used as a proxy for the SES level of the student body, school urbanicity (urban, suburban, rural), geographic region (Northeast, West, Midwest,

South), and the principals' perceptions of the extent of crime in the school's neighborhood from the ELS:2002 administrator's questionnaire.

School enrollment was the actual number of students in registered for the school, but some enrollment results were tabled in intervals of 300 students to make the findings clear. This allowed us to compare to prior research that considered schools of 300 or fewer students to be "small" (e.g., Lee & Smith, 1997) and a study using NAEP data that found a stronger relationship of size with misbehavior in schools of 900 students or more (Finn & Kasza, 2009).

Neighborhood crime was reported as high (2% of schools, moderate (11%), low (77%), or mixed (10%). We compared the schools on a number of variables including school size, minority enrollments, urbanicity, and SES. The high- and low-crime neighborhoods were clearly different on all characteristics, but moderate and mixed neighborhoods had similar (and non-significant) profiles on 5 of 6 characteristics. Thus, we combined the mixed-crime neighborhoods with moderate, resulting in a three-part classification: high, low, and moderate/mixed.

Analysis

All analyses in the study were conducted using school sampling weights to account for oversampling of schools with high proportions of Hispanic students and questionnaire nonresponse. The school weights were normed to the unweighted sample size ($n = 500$) to preserve the appropriate degrees of freedom for statistical hypothesis testing. All analyses were conducted using SPSS version 19.0.0.

Multiple regression analyses were utilized to examine predictors of the school security composite for research question 1, and separate models were used to predict school suspension rates, dropout rates, and college attendance (question 2). The regression analyses all followed the same general approach. All regression models included school type (high school or combined elementary/high school) as a control variable (block 1). Additional school characteristics were entered as blocks; each block's contribution was tested above and beyond preceding blocks.

Block 2 included indicators of the school's geographic region. Dummy variables compared the West, Northeast, and South, respectively, to the Midwest. Block 3 indicated urbanicity; dummy variables compared rural and suburban schools, respectively, to urban schools. Blocks 4 and 5 consisted of one numerical variable each: school enrollment and the proportion of students receiving free or reduced lunch, respectively. Block 6 consisted of the principal's perception of the level of crime in the neighborhood surrounding the school. Dummy variables were created to compare high and moderate/mixed-crime neighborhoods, respectively, to low-crime areas. Block 7 included the three numerical indicators of the level of indiscipline

within the school: Drugs, Attendance, and Misconduct. Block 8 was the racial composition of the school: high-Black, high-Hispanic, or low-minority. Dummy variables compared high-Black and high-Hispanic schools, respectively, to low-minority schools.

For research question 2, the school security composite was added as an additional predictor (block 9). Two interactions (security-by-school size and security-by-race/ethnicity) were added (block 10) to see if the relationship of security with school outcomes varied between smaller and larger schools or among high-Black, high-Hispanic, and low-minority schools.

For effects that included two or more predictors (region, urbanicity, crime), individual regression weights were tested only if the overall (“omnibus”) test was significant. This two-step procedure, referred to as Fisher’s protected *t*-test approach, provides additional protection against type 1 errors when several statistical tests are performed (Cohen, 2001, chapter 13).

STRENGTH-OF-EFFECT

Tests of significance reveal whether a relationship is statistically reliable but tell little about whether effects are weak or strong. For this reason, every statistically significant finding was accompanied by a strength-of-effect measure. When the effect is a difference between two means, the most common measure is an effect size, namely, the number of standard deviations that separate the two means. Standardized regression coefficients were reported to indicate the strength of effect for continuous predictor variables. These are the predicted change in the dependent variable in standard deviation units given a one standard deviation change in the particular predictor variable.

RESULTS

How Much Security and to What Is It Related?

Overall, the schools in our sample had between none and 9 security measures in place, out of 10; two or three security measures (26 percent and 22 percent, respectively) were most common, although 28 percent of schools had four or more. Dog sniffs and security guards were the most common security measures, being used in over half of high schools (Table 1). But despite the considerable research on metal detectors, they were among the least common security measures in use when these data were collected, and remain so today (Robers et al., 2013). Metal detectors were used on occasion or regularly in fewer than 8 percent of high schools. When the security measures were scaled into a single weighted composite, the mean for the sample was 8.3 with a standard deviation of 1.4 (Table 1). The composite score was used for the remaining statistical analysis.

All ten security measures were more common in schools with over 25% black students than in low-minority schools (Table 1). The high-Black–low-minority differences on less common security measures included clear book bags, student IDs, and metal detectors. Schools with over 25% Hispanic/Latino students had varied patterns of security, depending on the specific measure. Similar or smaller percentages of high-Hispanic schools used dog sniffs, security cameras, random sweeps for contraband, or drug testing compared to low-minority schools. The percentage of high-Hispanic schools with paid security guards was the highest of all three school classifications, but the percentages that used metal detectors were almost as low as in low-minority schools. The dynamics that produced these varied patterns in high-Hispanic schools remain unclear.

The correlations among study variables (Table 2) revealed several patterns. The strongest correlate of high school security levels, of all characteristics studied, was the percentage of Black students in the school. In contrast, the correlation with the percentage of Hispanic students was weak and not statistically significant ($r = 0.04$). The correlation of security with percent of students eligible for free or reduced lunch ($r = 0.22$) was significant but not as strong as the correlation with percentage of Black students.

Also, school enrollment was significantly correlated with security levels ($r = 0.24$), as well as with misconduct ($r = 0.38$), drug usage ($r = 0.35$), moderate neighborhood crime ($r = 0.21$), suspensions ($r = 0.21$), and the percentage of minority students, especially of Hispanic origin ($r = 0.38$). Indeed, larger schools appeared to have more misbehavior in general and implemented higher levels of security compared to smaller schools.

Finally, security levels, related substantially to the racial/ethnic composition of the school and to school size, were weakly but significantly correlated with neighborhood crime as perceived by the principal, but *not to school indiscipline*. The correlations with drug, attendance, and misconduct problems were all small and non-significant. The multivariate analyses examined these relationships in greater depth, controlling for other school characteristics.

Question 1: Which Types of High Schools Have Adopted More Extensive Security Measures and Which Schools Have Opted for Less Security?

Multiple regression was used to predict the scaled security score from school demographics, crime in the neighborhood and indiscipline inside the school, and racial/ethnic composition of the student population (see Table 3). Together, the predictor variables accounted for 37.3% of variation among schools in their security levels. Security means by school characteristics appear in Table 4.

TABLE 2 Descriptive Statistics and Correlations Among Main Study Variables.

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
School security (1)	1														
Suspension rate (2)	.24**	1													
Dropout rate (3)	.17**	.11	1												
College (4)	.04	-.14**	-.11	1											
Enrollment (5)	.24**	.21**	.08	.08	1										
% Black (6)	.42**	.26**	.30**	-.03	.19**	1									
% Hispanic (7)	.04	.12**	.13*	.01	.38**	-.03	1								
% Free lunch (8)	.22**	.18**	.33**	-.21**	-.08	.50**	.30**	1							
Urbanicity															
Rural-other (9)	-.19**	-.26**	-.08	.00	-.49**	-.22**	-.24**	.00	1						
Suburb-other (10)	.09	.20**	-.22**	-.05	.23**	.03	.09	-.07	-.80**	1					
Crime															
ModMix-other (11)	.14**	.24**	.22**	-.03	.21**	.36**	.21**	.37**	-.23**	.02	1				
High-other (12)	.15**	.06	.17**	-.02	.08	.20**	.04	.11*	-.14**	.06	-.08	1			
Drugs (13)	.08	.28**	.00	-.18**	.35**	.02	.12*	.02	-.31**	.20**	.15**	.07	1		
Attendance (14)	-.07	.19**	.03	.01	.11*	-.13*	.01	-.12*	-.17**	.13**	.06	-.03	.11*	1	
Misconduct (15)	.03	.13**	.11	-.17**	.38**	.15**	.14**	.09	-.21**	.05	.19**	.07	.52**	.07	1
Median	8.3	6.5	5.9	74	532	1.2	1.7	19.4	0	0	0	0	2	5	1.8
Mean	8.3	9.8	6.3	70.6	744.8	10.6	6.6	22.9	0.48	0.41	0.02	0.20	2.0	4.9	1.8
Standard deviation	1.4	11.0	2.3	23.3	667.5	20.1	15.0	16.0	0.50	0.49	0.2	0.4	0.6	0.4	0.3

Note. * $p < .05$; ** $p < .01$. Percent Black, Hispanic, and free lunch are continuous percentages of each characteristic rather than indicator variables.

TABLE 3 Standardized Regression Coefficients Predicting School Security.

Predictor Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Grades 9–12 only	.238***	.269***	.231***	.207***	.226***	.225***	.244***	.231***
Region (Midwest)								
West		-.135**	-.157**	-.160**	-.170**	-.175**	-.204***	-.185***
Northeast		-.118*	-.140**	-.149**	-.144**	-.153**	-.179***	-.190***
South		.337***	.313***	.306***	.256***	.267***	.239***	.201***
Urbanicity (Urban)								
Rural			-.212**	-.131	-.090	-.062	-.085	-.032
Suburban			-.096	-.049	-.016	-.004	-.023	.014
Enrollment/300				.107*	.123*	.125*	.176**	.168**
% free lunch/5					.155**	.138**	.153**	.081
Neighborhood crime (Low)								
High						.143**	.148**	.129**
Moderate/mixed						-.012	.005	-.033
Indiscipline								
Drugs							.029	.048
Attendance							-.023	-.02
Misconduct							-.190***	-.202***
Race/ethnicity (Low minority)								
High-Black								.217***
High-Hispanic							.344***	.014
Total R^2	.057***	.250***	.270***	.277***	.298***	.318***	.344***	.373***
ΔR^2	.057***	.193***	.020**	.007*	.021**	.020**	.026**	.029***

Note. Reference category in parentheses. * $p < .05$; ** $p < .01$; *** $p < .001$

TABLE 4 Security Means and Standard Deviations by School Characteristics.

Variable	<i>M</i>	<i>SD</i>
Region		
West	7.76	1.25
Northeast	7.56	1.44
South	8.99	1.14
Midwest	8.13	1.28
Urbanicity		
Urban	8.89	1.35
Rural	8.00	1.28
Suburban	8.42	1.40
Enrollment		
0–300	7.77	1.40
301–600	8.27	1.27
601–900	8.41	1.28
> 900	8.74	1.26
Free lunch/5		
0–25%	8.08	1.28
26–50%	8.38	1.37
> 50%	9.56	1.50
Neighborhood crime		
High	9.66	1.09
Moderate/mixed	8.66	1.26
Low	8.13	1.36
Indiscipline		
Drugs		
Low 1/3rd	8.13	1.38
Mid 1/3rd	8.36	1.35
High 1/3rd	8.26	1.35
Attendance		
Low 1/3rd	8.52	0.88
Mid 1/3rd	8.35	0.64
High 1/3rd	8.24	1.42
Misconduct		
Low 1/3rd	8.35	1.14
Mid 1/3rd	7.90	1.55
High 1/3rd	8.54	1.39
Racial/ethnic composition		
Low minority	8.03	1.28
High Black	9.58	1.12
High Hispanic	8.58	1.33

SCHOOL LOCATION

The overall test of differences among geographic regions was statistically significant ($\Delta R^2 = 0.19$, $p = .001$). Schools in the West and Northeast had less security than did schools in the Midwest, while schools in the South had the most. The South was the most different from the Midwest, with scale means of 8.99 and 8.13, respectively, yielding an effect size of 0.68σ ($p < .001$). The overall test of urbanicity was also significant ($\Delta R^2 = 0.02$, $p = .005$). Rural schools implemented considerably less security

than did urban schools, but suburban schools were not statistically different from urban schools; the mean security level for urban schools was 8.89, and the means for suburban and rural schools were 8.42 and 8.00, respectively.

SCHOOL SIZE

The relationship of school size with security was significant at the .05 level ($p = .046$) when the effects of location were controlled statistically.¹ In terms of size categories, the mean security scores increased monotonically as school size increased. The biggest gap was the difference between small schools (300 students or fewer) and moderately sized schools, but large schools had the highest security levels of all.

BEHAVIOR OUTSIDE AND INSIDE SCHOOL

The relationship of security with principals' perceptions of neighborhood crime was statistically significant ($\Delta R^2 = 0.02$, $p = .004$), with security in high-crime neighborhoods being substantially higher than that in moderate/mixed neighborhoods (and thus low-crime neighborhoods). The mean security levels in high-crime and moderate-crime neighborhoods were 9.66 and 8.66, respectively, an effect size of 0.79σ (large).

The relationship of security with student indiscipline gave different results. The zero-order correlations (Table 2) showed no significant relationship between security and any indiscipline measure. The blockwise test of indiscipline (Table 3) indicated overall significance ($\Delta R^2 = 0.03$, $p = .002$), but neither drug use nor attendance was related significantly when tested individually. The school-wide misconduct variable (physical conflicts, disorder in classrooms, class cutting, and so on) was related significantly to security in the regression analysis but the coefficient was negative. This is undoubtedly a result of holding constant variables including school enrollment, percentage of black students, school urbanicity, and neighborhood crime, all of which were correlated with security and school misconduct. We concluded that there is no consistent relationship between security levels and indiscipline.

RACIAL/ETHNIC AND SOCIOECONOMIC COMPOSITION OF THE STUDENT BODY

The percentage of Black students in a school was the strongest correlate of security levels of all variables studied (Table 2). We entered the racial/ethnic composition of the school into the regression as the last block of predictors so that all other characteristics including SES and misbehavior in the neighborhood and in school were controlled statistically. The regression compared high-Black schools and high-Hispanic schools, respectively, to low-minority schools.

Overall, the race/ethnicity block was related significantly to security levels even when all else was held constant ($\Delta R^2 = 0.03$, $p < .001$). The contrast of high-Black schools with low-minority schools was significant at the .001 level but the contrast of high-Hispanic schools with low-minority schools was not. The mean levels of security for low-minority, high-Black, and high-Hispanic schools were 8.03, 9.58, and 8.58 respectively. Effect sizes for the high-black– low-minority comparison was 1.23σ , considered large by any standard. The effect size for the high-Hispanic– low-minority comparison was 0.44σ (but not significant). In sum, a high proportion of Black students in a school is related to the degree of security the school implements above and beyond all other characteristics we studied.

The results for SES underscored the primacy of race/ethnicity. The correlation of percent Black students with security was substantially higher than that of SES (Table 2). And in the regression analysis (Table 3), the percentage of black students remained a significant predictor when SES was controlled statistically (block 8) but not the other way around. The association of free-and-reduced lunches with security was not significant when racial/ethnic composition was controlled statistically; this is shown by the non-significant “full model” test of block 5.

Question 2: How Is School Security Related to Overall Suspension Rates, Dropout Rate, and the Percentage of Graduates Who Attend a 2- or 4-Year College?

Three multiple regressions were performed in parallel for the three school outcomes (Table 5). The same predictor variables were included in the models, in the same order as in the analysis for question 1. In addition, the school security composite was entered as a separate step in the analysis (block 9) to see if security measures contributed to the three outcomes.² As a last step in the analysis, the interactions of security with the racial/ethnic composition of the student body and with school size were entered as a block (block 10) to see if the relationship of security with outcomes—whether or not it’s significant—is the same in high-minority compared to low-minority schools or in smaller and larger schools.

SCHOOL DEMOGRAPHICS, AND BEHAVIOR OUTSIDE AND INSIDE SCHOOL

Geographic region of the country was related to suspension rates but not to the other outcome variables. On average, high schools in the West (11.2%) and the South (10.6%) had higher suspension rates than did schools in the Northeast (8.2%) or Midwest (8.5%). In contrast, school urbanicity was not discernibly related to suspension rates but was related to dropout rates and college attendance. Not surprisingly, both rural (6.0%) and suburban schools

TABLE 5 Standardized Regression Coefficients Models Predicting Outcomes.

Predictors	Suspension Rate		Drop-out Rate		College Attendance	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Block 1	.126**		.013		.008	
Grades 9–12 only		.355**		-.114		-.088
Block 2	.070**		.013		.020	
Region						
West		.278**		.116		-.134
Northeast		.117*		-.003		.034
South		.235**		.072		-.022
Midwest (Ref)						
Block 3	.012		.133**		.019*	
Urbanicity						
Urban (Ref)						
Rural		. - .090		-.434**		-.067
Suburban		.030		-.495**		-.189*
Block 4	.000		.001		.009	
Enrollment/300		-.005		-.036		.119
Block 5	.062**		.084**		.048**	
Free lunch/5		.270**		.293**		-.235**
Block 6	.026**		.007		.001	
Neighborhood crime						
High		.019		.081		.022
Moderate/mixed		.188**		.052		.028
Low (Ref)						
Block 7	.044**		.007		.037**	
Indiscipline						
Drugs		.134*		-.061		-.101
Attendance		.184**		.067		-.013
Misconduct		-.065		.038		-.153*
Block 8	.011*		.005		.021*	
Racial composition						
Low minority (Ref)						
High–Black		.054		.089		.152*
High–Hispanic		-.094		.007		-.063
Block 9	.022**		.000		.002	
Security		.186**		.024		.060
Block 10	.005		.003		.005	
Security \times Race						
Sec \times High–Black		-.072		-.149		.202
Sec \times High–Hispanic		-.053		-.075		-.098
Security \times Enrollment		-.450		-.156		-.062

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

Betas in this table represent blockwise regression coefficients, the relationship between predictors controlling for all variables in the preceding blocks of predictors.

(5.9%) had lower average dropout rates than did urban schools (8.3%). Considering both 2- and 4-year college attendance, urban schools had a higher rate of college attendees (75.7%) than did suburban schools (69.1%).

School enrollment was not related significantly to any of the three outcome variables. In contrast, the percentage of students eligible for free or

reduced price lunches was strongly related to all three outcomes. Schools with lower SES student populations had higher suspension rates ($\beta = 0.27$, $p < .01$), higher dropout rates ($\beta = 0.29$, $p < .01$), and lower rates of college attendance ($\beta = -0.23$, $p < .01$) compared to schools with higher SES populations.

The principal's perceptions of the extent of crime in the neighborhood were related to suspension rates but not to dropout or college attendance. The average percentage of students suspended in moderate-crime neighborhoods (15.9%) was higher than that in low-crime neighborhoods (8.0%). It is possible that suspended students spend their time in unhealthy neighborhood environments, or else students who come to school from those neighborhoods are being disproportionately returned to them. In either case, these possibilities contribute to the argument against out-of-school suspensions (see, for example, Balfanz & Byrnes, 2012; Fabelo et al., 2011; Stewart, 2003).

The extent of indiscipline in school is related to the school's suspension rates and the percentage of students who attend a two- or four-year college. In particular, drug use ($\beta = 0.13$, $p < .05$) and attendance problems ($\beta = 0.18$, $p < .05$) are related positively to suspension rates. Schools with a high degree of misconduct in general tended to have fewer students attend college after graduation ($\beta = -0.15$, $p < .05$).

RACIAL/ETHNIC COMPOSITION OF THE STUDENT BODY

The correlations of the percentage of Black and Hispanic students with suspension rates and dropout rates (Table 2) were statistically significant;³ the percentage of Black students had stronger associations with these outcomes than did the percentage of Hispanic/Latino students. In the regression, controlling for other characteristics including SES, the relationship of racial/ethnic composition with suspensions remained marginally significant ($\Delta R^2 = 0.01$, $p < .05$). Although neither contrast was individually significant, the average suspension rate of high-Black schools (19.2%) was appreciably greater than that of high-Hispanic schools (11.9%) and low-minority schools (8.0%).

SECURITY AND SCHOOL OUTCOMES

The main focus of question 2 was the relationship of security to school outcomes. The correlations showed that the extent of security in a school was related to suspension rates and dropout but not to college attendance (Table 2). In the regression, we asked whether security predicted these outcomes above and beyond other characteristics of the schools including school location, the composition of the student body, and student behavior. The tests of significance (block 9) showed that security was positively

related to suspensions at $p < .01$ ($\beta = 0.19$) but not to dropout rates or percent of students going to college. The interactions (block 10) were all non-significant; the relationship of security with suspensions was characteristic of high- and low-minority schools alike and for smaller as well as larger schools. Further, the lack of association of suspensions with dropout and college attendance applied to all schools regardless of racial/ethnic composition or size.

The relationship of security with school suspensions suggests that the two go hand-in-hand as hallmarks of a punitive school regulatory environment. Despite its correlation with a negative outcome (suspensions), security was not directly related to high school graduation or college attendance rates. Although these data do not support causal conclusions, the lack of correlation does imply non-causation. Specifically, the data showed that security is not an effective means for reducing student dropout or for increasing college attendance.

SUMMARY AND DISCUSSION

The purpose of this study was to answer two questions about school security policies: first, what types of schools tend to have the most extensive security measures and second, how does school security relate to school suspension, dropout, and college attendance rates? Data for the study were drawn from several national databases. Rather than focusing on particular security measures separately like most previous research, we quantified the school security environment with an overall measure of the extent of security present. The scaling procedure produced a security composite score for each school that accounted for the different frequencies with which each security measure is used.

Main Findings

PREDICTORS OF SECURITY

Several findings on the school characteristics related to overall school security mirror those found by Nickerson and Spears (2007) for two individual security measures (paid security officers, random metal detector checks). Namely, large urban schools in high-crime neighborhoods tended to have higher levels of security, and schools in the southern United States tended to have the highest levels of security. Interestingly, measures of indiscipline within the school (drugs, attendance problems, and misconduct) were not positively related to security. This suggests that security policies are generally not implemented as a response to rampant misbehavior in schools, or possibly that misbehaving students adapt to their schools' security climate and find ways to circumvent security measures.

Having a high proportion of African-American students was the strongest predictor of school security level, even when controlling for region, urbanicity, enrollment, neighborhood crime, student misbehavior, and school SES. In fact, the effect of SES on security level became non-significant when school racial/ethnic composition was considered. These results suggest that the racial/ethnic composition of the student population, either explicitly or implicitly, strongly impacts decisions about school security policies. This finding supports the racial threat hypothesis (Blalock, 1967) that has been used to explain inequalities in exclusionary disciplinary practices (Welch & Payne, 2010) but, to date, has not been applied to school security policies.

SECURITY AND SCHOOL OUTCOMES

School security was positively related to schools' suspension rates, suggesting that the security measures may work in tandem with discipline to produce a punitive school environment. Indeed, students may be suspended for breaches of security (although our data did not address this connection) as well as other infractions. Other significant predictors of suspension rates included principals' perceptions of crime in the neighborhood and their reports of misconduct in school (particularly drug use and attendance problems). The notion of forcibly excluding a truant student from school through out-of-school suspension may worsen the effects it is intended to help.

Research abounds on the negative effects of punitive schools in general, and out-of-school suspensions in particular. Suspensions can have serious educational consequences for students. Absence for any reason interferes with learning, an effect accentuated among students having academic or behavior problems (Balfanz & Byrnes, 2012; Blum, Beuhring, & Rinehart, 2000; Fabelo et al., 2011; Finn & Rock, 1997). Suspended students are disengaged from the flow of instruction, are more likely to experience alienation from school altogether, and to drop out (Resnick, Harris, & Shew, 1997; Rumberger, 2011; Stewart, 2003). Moreover, suspension rates were significantly higher in schools in moderate/mixed-crime neighborhoods than in low-crime neighborhoods. Students excluded from school may be left to spend their days in relatively unsafe community environments and may even contribute to them. The degree of security—in schools of all sizes and all racial/ethnic compositions—may exacerbate these effects.

Security was not related to lower dropout rates or higher proportions of students attending college following high school. Although security and misbehavior were closely connected to a school's suspensions, the connections were weaker or nonexistent with a school's dropout and college attendance rates.⁴

The relationship of security with suspensions, and absence of obvious benefits, should intensify the call for alternatives to high levels of security as well as exclusionary discipline. To date, these efforts have taken three general forms:

1. Programs designed to modify students' behavior and re-engage them in school such as the Positive Behavioral Interventions and Supports program (PBIS). This has been tested in a number of schools (Muscott et al., 2004; Sugai & Horner, 2002).
2. Restorative justice initiatives in which students talk with the victims of their misbehavior and are given guidance from justice professionals and educators in the school setting (Schiff, 2013).
3. Attempts to create a positive school environment in which teachers and principals are supportive rather than adversarial and discipline is seen as a result of the interplay of student behavior and school responses (Mukuria, 2002; Skiba et al., 2003; Steinberg, Allensworth, & Johnson, 2013).

All of these need further evaluation. Research is also needed to monitor and understand schools' "regulatory environments" comprised of security, discipline policies, and school-level misbehavior.

Additional Findings

In the course of conducting this study, two additional issues became apparent: the role of school administrators in establishing and maintaining a school's regulatory environment, and the apparent inconsistencies regarding practices and outcomes in high-Hispanic schools. Both of these have important implications for policy and further research.

ADMINISTRATORS' ROLES IN DECIDING SECURITY AND DISCIPLINARY POLICIES

We were reminded constantly of the ways in which school administrators impact the policies and practices studied in this investigation. But surprisingly little research has been done on superintendents' and principals' roles in establishing the tone of the school environment or in designing and implementing discipline and security policies. This is despite the fact that discipline and safety issues confront principals on a daily basis.

Several studies suggest that principals' attitudes toward their students and their administrative functions help shape their behaviors. Mukuria (2002) compared the approaches of principals in two low-suspension schools to those of principals in two high-suspension schools. The principals in the low-suspension schools viewed district policies on discipline as an overarching framework within which they had flexibility to make suspension decisions rather than as rigid strictures that had to be followed absolutely. They valued teacher and parental input and viewed them as partners in the joint effort of appropriate student discipline. In high-suspension schools, the principals acted as the sole arbiter of a rigidly defined disciplinary process.

Also, Skiba et al. (2003) and Skiba and Edl (2004) developed an instrument specifically intended to assess principals' attitudes toward discipline and misconduct, the Disciplinary Practices Scale. The attitudes assessed by the 60-item scale were: discipline as a means to maintain system efficiency, suspension as ineffective and unnecessary, willingness to make adaptations in discipline, support of zero-tolerance policies, support of prevention policies, and discipline as a tool to teach appropriate behavior. The initial study found that principal attitudes were correlated with school suspension rates above and beyond what might be predicted by student and school characteristics. It also raised an additional issue: suspension rates were higher in schools where the principal endorsed the statement, "I need additional resources." This suggests that some principals may resort to exclusionary discipline (or extensive security) in schools where they feel overwhelmed by the competing demands on their time, for example, large schools, schools with high proportions of Black students, and schools in high-crime neighborhoods. All of these were significant predictors of school security in the present study. Little or no research has documented the resources and supports that may assist administrators in dealing with discipline and security issues, or other conditions that may impact the decisions they make.

HIGH-HISPANIC SCHOOLS

Like some previous studies (e.g., Gordon et al., 2000), the results for schools with large Hispanic populations diverged from those of the other large minority population, African Americans. They are particularly significant because Hispanic/Latino students comprise the largest minority group in American schools, and Hispanic/Latino students often experience academic problems.

The primary differences between predominantly African-American and Hispanic/Latino schools in the current study were on security levels and suspension rates. The average security score for high-Hispanic schools was 8.58 compared to 9.58 for high-Black and 8.03 for low-minority schools. Moreover, the overall suspension rates were 19.2% for high-black schools, 11.9% for high-Hispanic schools, and 8% for low-minority schools.

These findings may be explained in part by the unique characteristics of schools attended by Hispanic students. For example, 53.3% of high-Hispanic high schools were located in neighborhoods classified as low crime, and only 3.3% were in high-crime neighborhoods. In comparison, 69% of high-Black schools were located in moderate- or high-crime neighborhoods. To the extent that community climate filters into and influences schools (Booth & Crouter, 2001; Nash, 2002), this could help explain differences between the experiences of African-American and Hispanic/Latino students.

Additionally, Hispanic students were not as concentrated in certain schools as were Blacks. Approximately 13% of all high schools had over

25% black students, compared to 7% of schools with over 25% Hispanic students. In general, the percentage of Hispanic students in a school was lower. This may lead to different dynamics in the schools serving these different student populations. Nevertheless, the policies and practices of schools that serve Hispanic/Latino students, and the processes that accompany them, need further study.

Limitations

Like all secondary analyses, our study was limited by the nature and content of the survey questions. Some of the measures in the study, particularly reports of crime in the neighborhood and misbehavior in the school, were provided by the principal and may have been prone to personal bias; these were the same administrators who were often responsible for suspending students. Suspension rates, however, were taken from the OCR school survey, which for a variety of reasons is considered to be accurate

The ELS data may seem to be out of date and more recent national data sets that address suspensions, indiscipline, and security will likely become available in the near future. The timing of the collection of the suspension data from CRDC along with the security and college attendance variables from ELS and the dropout data from CCD offers perhaps the best data currently available to address the relationships examined in this study. Moreover, despite its age, the types of security measures assessed as well as their frequency of use are quite similar to the most recent national school security assessments. (Robers et al., 2013).

The cross-sectional nature of the data posed a significant limitation. Despite the multivariate analyses and statistical controls for a range of school characteristics, there remains the possibility of reciprocal determinism (Bandura, 1986). The relationships among misbehavior, suspensions and security, in particular, are likely bi-directional or, as described by Bandura (1989), “behavior, cognition and other personal factors, and environmental influences all operate as interacting determinants that influence each other bi-directionally (p. 1).” This may be addressed partially in future research by documenting the timelines that separate events, or by considering the simultaneous effects of all aspects of the regulatory environment on student and school outcomes.

Finally, the data set did not contain in-depth process information needed to explain the connections between student characteristics, discipline, and security. Even teacher race/ethnicity was not available in the NCES data sets, not to mention teachers’ and principals’ attitudes, the events and attitudes that lead to the implementation of security measures, students’ and teachers’ reactions to being in a high-security environment, the specific behavior infractions committed by students, and the connection of security measures to specific disciplinary practices. All of these need further study.

NOTES

1. This is consistent with the correlations in Table 2 that show rural schools stood out as having less security than either suburban or urban schools.
2. Security, followed by racial composition and school size, are the main foci of this part of the study; other aspects of the regressions are discussed only briefly.
3. Using the full 0–100% scales of percent minority.
4. Note that this finding applies to schools and not necessarily to individual students.

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