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Police Officers in Schools: Effects on School Crime and the Processing of Offending Behaviors

Chongmin Na and Denise C. Gottfredson

The use of police in schools has increased dramatically in the past 12 years, largely due to increases in US Department of Justice funding. This study used data from the School Survey on Crime and Safety to assess the extent to which the addition of police in schools is associated with changes in levels of school crime and schools responses to crime. We found that as schools increase their use of police, they record more crimes involving weapon and drugs and report a higher percentage of their non-serious violent crimes to law enforcement. The possibility that placement of police officers in schools increases referrals to law enforcement for crimes of a less serious nature and increases recording of weapon and drug offenses requires that more rigorous research be carried out to assess more carefully the school climate and school safety outcomes related to this popular and costly practice.

Keywords policing; school crime

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School resource officers (SROs)¹ are used extensively, especially in secondary schools, to maintain safe, orderly, and secure school environments. According to the most recent School Crime Supplement to the National Crime Victimization Survey (NCVS), the percentage of students aged 12-18 who reported the presence of security guards and/or assigned police officers at their schools was 69% in 2007 (Dinkes, Kemp, & Baum, 2009). Sixty-seven percent of teachers in majority-black or Hispanic middle and high schools reported armed police officers stationed in their schools, according to a 2004 national survey (Public Agenda, 2004). A recent *New York Times* article (4 January 2009) reported that more than 17,000 police officers are now placed in the nation's schools.

The use of police in schools has not always been so common. In 1975, principals in only 1% of the nation's schools reported police stationed in the schools (National Institute of Education, 1978). Non-city schools and elementary schools almost never had police stationed in them. Only between 10 and 20% of high schools had police officers assigned to the schools.² By 1997, principals in 22% of all schools reported having a police officer stationed at the school at least 1 h per week or available as needed (Heaviside, Rowand, Williams, & Farris, 1998). The School Survey on Crime and Safety (SSCS) data used in this report show that by the 2003-2004 school year, principals in 36% of schools reported police stationed in the schools, and by 2007-2008, the percentage had risen to 40%. Other data sources concur. Data collected from a nationally representative sample of local police departments (from the Law Enforcement Management and Administrative Statistics survey) show the number of SROs placed in public schools grew from 9,400 in 1997 to 14,337 in 2003 (Bureau of Justice Statistics, 2000, 2006), and the percentage of students aged 12-18 who reported the presence of security guards or assigned police officers at their schools increased from 54% in 1999 to 69% in 2007, according to the NCVS.

The increased use of police in schools is driven at least in part by increased federal funding. The Department of Justice Office of Community Policing Services (COPS) initiated the "COPS in Schools" (CIS) grant program in 1999, just

1. The SRO concept first emerged during the 1950s in Flint, Michigan, as part of the implementation of community policing (Girouard, 2001). The concept grew during the 1960s and 1970s, primarily in Florida, although did not spread nationally until the mid-1990s, when legislation such as the Safe Schools Act of 1994 and a 1998 amendment to the Omnibus Crime Control and Safe Streets Act of 1968 encouraged partnerships between schools and law enforcement. The US Department of Justice "COPS in Schools" grant program dramatically increased the use of SROs in schools beginning in 1999. SROs are typically uniformed, armed officers who have been trained for their role as school-based officers. Their duties typically involve patrolling the school, investigating criminal complaints, handling student rule/law violators, and trying to minimize disruptions. They are also often involved with educational and prevention-related programming, such as counseling students and providing DARE instruction. Although the specific goals of SRO programs may vary across time and space, the federal "COPS in Schools" program has two primary objectives: to "encourage working relationships between police and schools, thus bringing the principles and philosophy of community policing directly into the school environment," and to "assist communities in focusing leadership and resources on the issues related to creating and maintaining a safe school environment" (Girouard, 2001).

2. Principals in 10% of high school in smaller and 20% of high school in larger cities reported having police stationed in the schools.

after the highly publicized shootings at Columbine High School. As of July 2005, COPS has awarded in excess of \$753 million to more than 3,000 grantees to hire more than 6,500 SROs through the CIS program and more than \$10 million to hire approximately 100 SROs through the Safe Schools/Healthy Students program. In 2004 the CIS program provided an additional \$1.5 million in federal funding for SROs in conjunction with the Office of Justice Program's Gang Reduction Project (COPS in Schools, 2010). States also provide funding to support school security, sometimes requiring that schools employ SROs to qualify for certain state money (Addigton, 2009).

The increased funding for police in schools was a highly visible response to increasing rates of juvenile crime throughout the 1980s and the numerous school shootings that occurred during the 1990s, culminating in the Columbine event. Between 1984 and 1994, the homicide rate for adolescents doubled and nonfatal victimizations increased nearly 20% (Elliott, Hamburg, & Williams, 1998; see also Cook & Laub, 1998). Rates of victimization at school were also high during this period, with 56% of juvenile victimizations occurring at school in 1991 (Elliott et al., 1998). These realities created an urgency to do something about the problem. But why police in schools? Hirschfield (2008) places this response in larger historical, structural, and political context, tracing the origins of the trend toward "criminalization of school discipline." The placement of police in schools is but one element of a larger shift toward more formal treatment of student discipline. Legal reforms have mandated that certain offenses (such as drug and weapon possession) be referred to the police when they occur on school property. Other reforms have increased surveillance by using a variety of security technologies including metal detectors and security cameras, and have broadened the conditions under which student searches are conducted.

This trend, according to Hirschfield (2008), was in part a delayed response to the student rights movement during the 1960s and 1970s that resulted in several judicial rulings limiting the discretion of school personnel to exclude students from school for disciplinary reasons. Teachers unions and associations and the national school principals associations, seeking to limit their constituents' liability for disciplinary actions, strongly supported more defined roles for teachers and principals with respect to school discipline in general, and zero-tolerance policies in particular. With increasing youth violence and highly publicized school shootings, the passage of the Gun-Free Schools Act of 1994 requiring that schools adopt a "zero tolerance" approach to weapons in schools became politically feasible. Many schools extended zero-tolerance policies to apply also to the use of drugs and alcohol. As of 1998, 91% of school principals reported that their schools automatically or usually (after a hearing) expelled or suspended students for possession of a gun, drugs, alcohol, or a knife (Gottfredson & Gottfredson, 2001). This shift away from school personnel discretion and toward formalization of school responses to school discipline set the stage for the more widespread use of police in schools that would soon follow.

Kupchik and Monahan (2006) also discuss the increased use of police in schools within the broader context of shifts in social relations over the past

30 years, characterized by mass incarceration and post-industrialization. They state that the use of police officers and technological surveillance in schools has facilitated the link between schools and the criminal justice system. Similarly, Wacquant (2001) suggests that the constant presence of armed guards and high-technology security measures in today's urban schools creates a prison-like environment and has the effect of habituating lower income and minority youths to the treatment many are bound to eventually experience in prison.

Possible Explanations for and Consequences of Increased Police Presence

Increasing police presence in schools may have made sense as a reaction to increasing rates of youth violence and school shootings, but these events cannot explain why police continue to be stationed in school buildings today. Since 1993, schools have enjoyed a strong downward trend in crime of all types that mimics the downward trend in overall youth victimization. Based on the NCVS data, Cook, Gottfredson, and Na (2010) report that the victimization rates of youths aged 12-18 at and away from schools declined between 1992 and 2005. For theft and violence, the 2005 figures were about one-third of the peak in 1993.³ Yet the use of police in schools continued to rise as school crime rates declined.

In all likelihood, schools continue to use SROs because these officers are widely regarded as effective for maintaining school safety. Proponents believe that SROs contribute to school safety not only through their surveillance and enforcement functions, but also because they create bonds of trust with students, who are then more likely to report potential crimes to them (McDevitt & Panniello, 2005). SROs might also contribute to improved relations between youth and police (Jackson, 2002). Of course, the presence of police in schools also provides readily available first responders in the case of real emergencies, and they help school administrators determine if certain behaviors constitute law violations.

Others share a less optimistic view of the consequences of keeping police in schools. One of the most troubling consequences is that SROs can shape the school discipline climate in ways that could potentially harm students. The findings from qualitative analysis of SRO effectiveness (e.g. Kupchik, 2010) suggest that increased use of police officers facilitates the formal processing of minor offenses and harsh response to minor disciplinary situations. That is, school principals tend to rely on the officer as a legal adviser when there is an uncertainty about the relevant rules of law to apply.⁴ Police officers are more

3. This study analyzed the trend of in-school and out-of-school crimes of a more serious nature (e.g. homicide, violence, property, etc.), but did not include school incidents or disciplinary problems.

4. For example, a principal may be uncertain whether a Swiss Army knife qualifies as a deadly weapon or whether a student found with somebody else's prescription drugs should be reported as a drug offender (Kupchik, 2010).

likely to resort to legal definitions and formally processing, especially when they have an obligation to take legal action under the zero-tolerance policies. To the extent that minor behavioral problems are redefined as criminal problems and teachers are expected to rely on police in dealing with disciplinary problems, discipline responsibilities tend to be shifted away from teachers, administrators, and other school staffs to the SROs.

Similarly, Hirschfield (2008) regards the increased use of SROs in schools as part of a larger shift toward school accountability, a force that encourages schools to remove poorly performing and infrequently attending students from their rolls. Zero-tolerance policies and other exclusionary practices effectively increase school averages on standardized test scores and reduce truancy rates by removing problematic students from the pool of students for whom schools are held accountable. Perceptions of teachers and administrators about the future prospects of students also influence their use of SROs in schools. Limited job prospects and high rates of incarceration, especially in inner city areas, translate into lower expectations for student success, and make the use of exclusionary disciplinary responses for students with poor prospects a reasonable choice for school personnel. As youths lose more days of school to suspension, promotion to the next grade becomes less likely. And as youths fall farther behind grade, they become much less likely to graduate (Alexander, Entwisle, & Horsey, 1997; Entwisle, Alexander, & Olson, 1997; Jimerson et al., 2006; Lee & Burkam, 2003). To the extent that the presence of police in schools increases detection and formal response to disciplinary infractions, the increased use of police in schools supports this "push-out" process.

There are also civil liberties issues to be considered. A recent inquiry about civil rights violations related to the use of SROs highlighted another potential downside of the program. As reported in the *New York Times* (4 January 2009), an ACLU inquiry into school-based arrests in Hartford, Connecticut, found that the presence of SROs disproportionately affected minority youths. This accords with a larger body of research showing that the use of suspension, especially long-term suspension, has a disproportionate impact on minority and special education populations (Gregory, 1995; McFadden & Marsh, 1992), whose behavior places them more at risk for suspension. Civil liberties advocates have long argued that zero-tolerance policies rob youths of their right to a public education (Skiba, 2000). Unfortunately, these possible negative and positive consequences of increasing police presence in schools remain untested.

Prior Research on SROs

Here we summarize what has been learned from evaluations of SRO programs involving the placement of one or more sworn law-enforcement officers into a school. To assess the effect of placing SROs in schools on a range of outcome variables of interest, it is necessary to compare a reliable and objective measure of the outcome pertaining to a period during which SROs worked in the

schools to suitable measures representing the counterfactual condition—e.g. no SRO officers. The counterfactual measurement might be based on a reliable estimate of the outcomes taken from comparable schools with no SRO, or from a time period before placement of the SRO. In either case, the number of observations of both the treatment and control conditions must be sufficient to generate stable estimates for each condition, and the outcome measurement must not be influenced by the placement of the officers in the school as it would be, for example, if the officers' own incident reports were used.

No evaluation of SROs to date meets this standard. National assessments of SRO programs supported by the National Institute of Justice (e.g. Finn & McDevitt, 2005; Finn, Shively, McDevitt, Lassiter, & Rich, 2005; Travis & Coon, 2005) focus exclusively on the roles played by SROs, factors related to these roles, and how the SRO programs have been implemented. When they discuss the program effects, they either present descriptive statistics or simply rely on perceptions of campus safety as outcomes. Several other evaluations of SRO programs have also asked key stakeholders such as SROs or school administrators to report on their perceptions of the effectiveness of the SRO programs for increasing school safety. Not surprisingly, almost all (99%) SROs report that their presence has increased school safety (Trump, 2001) and most school administrators also report generally positive impressions of the SRO programs (e.g. May, Fessel, & Means, 2004). However, it is well known that positive impressions of the effectiveness of an intervention are often not corroborated with more objective measures (McCord, 1978). SROs tend to be welcomed by key stakeholders for many reasons other than their actual impact on school safety. For example, SROs help school administrators by lending legitimacy to a variety of school initiatives and policies—sometimes unpopular and coercive—while outsourcing legal and moral responsibilities to an officer (Kupchik, 2010).

Other studies rely on surveys of students in schools with SROs to assess the likelihood of reporting crimes to the SRO officer, perceptions of safety, opinions about the SRO officer, and frequency of interactions with SRO officers (e.g. McDevitt & Panniello, 2005). While providing useful information about youth impressions of SRO officers, these studies do little to inform us about program effectiveness because they cannot compare the experiences of students exposed to SROs with those of students not exposed. For example, McDevitt and Panniello (2005) report that students feel comfortable reporting crimes to SROs and that they feel safe at school. The important question, though, is whether students in schools with SROs feel safer than students in schools without SROs, and whether they are more likely to report crimes to an adult in schools with SROs than in schools without SROs.

The first published evaluation of an SRO program to go beyond stakeholder impressions (Johnson, 1999) also used cross-sectional self-report data collected from SROs, program administrators, and school principals in five schools in Birmingham, Alabama, all of which had SRO officers. But the evaluation also included a comparison of suspension counts from the year before the SROs

were placed in the city's schools until the semester after they were placed for all 18 schools that received SROs. Although the evaluation concluded that the placement of SROs into the schools was effective for reducing suspensions, the lack of a non-SRO comparison group, the reliance on a single time point of pre-treatment data for schools with SROs, and the use of suspensions counts rather than rates meant that the study was not sufficiently rigorous to enable confident conclusions to be drawn regarding the effectiveness of SRO programs on youth behavior.

Subsequent evaluations have also failed to meet the standard necessary for drawing causal conclusions about program effectiveness. Only two studies have compared SRO schools with non-SRO schools. One (Theriot, 2009) found that the presence of SROs increased rates of arrest for disorderly conduct but decreased rates of arrest for more serious assault and weapons charges. The other (Jackson, 2002) reported no effects of SRO presence on students' beliefs about the acceptability of offending or on their perceptions of the police, but students in the SRO schools were *less* likely than controls to report that they would be identified if they were to participate in delinquent activities. The contribution of these studies are limited because they were based on small numbers of non-representative schools and non-representative samples of students within the schools (Jackson, 2002), lacked comparable non-SRO schools or a sufficiently long pre-treatment assessment period (Jackson, 2002; Theriot, 2009), or lacked measures of actual student behaviors or perceptions of school safety (Jackson, 2002). Also, Theriot (2009) compared the SRO condition with non-SRO schools that employed law-enforcement officers who were not trained in school-based policing, making the results less interesting for our purposes. In short, there is a dearth of knowledge about the effectiveness of SRO programs on the main outcome they are designed to achieve: increased school safety.

In this study, we use a nationally representative sample of US public schools to assess the extent to which the addition of police in schools is related to change in crime-related outcomes during the same period. In contrast to prior evaluation research on SRO programs, our interests are not limited to school safety issues but also encompass other possible consequences of SRO programs as discussed in the previous section. We seek to answer four research questions:

- (1) Does adding police to schools reduce crime?
- (2) Does adding police to schools increase formal processing of offending behaviors?
- (3) Does adding police to schools increase the use of harsh discipline and exclusionary practices?
- (4) Does adding police to schools have a disproportionate effect on minority and special education students?

Outcomes include principal reports of the number of school crimes, the percentage of those school crimes that were reported to the police, and the

percentage of offenses for which the offending student was removed, transferred or suspended. If the presence of police in schools increases school safety, we would expect, all else equal, declining crime rates as the presence of police increases, and this should be true across all crime types.⁵ The percentage of crimes reported to the police is expected to increase with police presence, particularly for serious violent crimes and weapon- and drug-related crimes. Consistent with the expectation that police presence increases the formality of the school's response to misbehavior, the percentage of crimes for which the offender was removed, transferred or suspended from school would also be expected to increase with police presence.

Our study adds to existing research on the effects of police in schools by using a nationally representative sample, by including a comparison group of schools that did not experience an increase in the use of SROs, and by relying on principal reports of actual crimes rather than on perceptions of the effectiveness of SRO officers. This study also explores other possible consequences SRO programs, which has been neglected in the prior evaluations.

Methods

School Survey on Crime and Safety

In this study, we use data from the SSCS. This ongoing US Department of Education effort collects data from principals in a sample of approximately 3,000 public schools. Principals report the number of violent incidents and thefts that occurred in their schools⁶ each year, and indicate how many of these incidents were reported to the police. The SSCS survey is cross-sectional by design and is administered to a random sample of US schools every two years. The sample design is stratified⁷ and over-samples middle and high schools. Unweighted response rates for 2003-2004, 2005-2006, and 2007-2008 were approximately 75, 78, and 75%, respectively. When the responding schools were weighted to account for their original sampling probabilities, the response rate increased to approximately 77, 81, and 77% for each year. Reports from the project indicate that nonresponse bias is not an issue for any of the school years included in our

5. Of course, police presence might also be associated with increased opportunities to detect and record crimes, especially for specific types of crime under the zero tolerance policies (see "Limitations" section).

6. In the survey, principals were asked to record the number of incidents that occurred "at school" during each school year, which includes activities happening in school buildings, on school grounds, on school buses, and at places that hold school-sponsored events or activities. Unless otherwise specified, this refers to normal school hours or to times when school activities/events were in session.

7. The population of schools is stratified into four instructional levels, four types of locale settings, and four enrollment size categories. In order to obtain a reasonable sample size of lower enrollment schools while giving a higher probability of selection to higher enrollment schools, the sample is allocated to each subgroup in proportion to the sum of the square roots of the total student enrollment in each school in that stratum.

study (see Guerino, Hurwitz, Noonan, & Kaffenberger, 2006; Neiman & DeVoe, 2009; Nolle, Guerino, & Dinkes, 2007 for more detail).

Some schools are included in multiple years just by chance. By merging data from three consecutive cross-sectional surveys (from the 2007-2008, 2005-2006, and 2003-2004 surveys), we created a longitudinal sample containing records for 580 schools that had records in more than one year.⁸ However, 40 of these schools had multiple longitudinal records and were included in the sample three times, violating the assumption of independent observations. After omitting these records, the final longitudinal sample contained 470 schools.

Measures

All measures are taken from SSCS data files provided by the National Center for Education Statistics. These files contained school IDs to enable merging of records across multiple years.

The outcome variables of primary interest are as follows: number of crimes recorded by the school (converted to a rate using a measure of school enrollment); percentage of these crimes reported to law enforcement; and percentage of crimes for which the offending student was removed, transferred, or suspended for five or more days (labeled "percentage harsh discipline"). For each measure of crime or reporting to law enforcement, results are reported separately by type of offense. Offense types include violent crime, which is further broken down into serious and non-serious violent crime, property crime, and weapon and drug-related crimes that are subject to zero-tolerance policies in most schools. Serious violent crime includes rape, sexual battery other than rape, robbery with or without a weapon, physical attack or fight with a weapon, and threat of physical attack with a weapon. Non-serious violent crime includes physical attack or fight without a weapon and threat of physical attack without a weapon. Property crime includes theft and vandalism. Weapon/drug crimes include possession of a firearm or explosive device; possession of a knife or sharp object; and distribution, possession, or use of illegal drugs or alcohol.

Police presence and the increase of police presence were the primary predictors in cross-sectional and longitudinal analyses, respectively. Principals were also asked to report on police presence in their schools during 2003-2004, 2005-2006, and 2007-2008 school years. They were asked, "During the ___ school year, how many of the following (e.g. SRO or sworn law enforcement officers) were at your school at least once a week?" They were also asked how many were full-time and part-time. Officers who work full-time across various schools in the district were counted as part-time. We coded schools as having police

8. Unweighted sample size numbers rounded to nearest 10 to comply with IES requirements for restricted-use data.

present if the principal reported at least one full-time officer was present at least once a week during school year.⁹ This variable was coded to reflect increase in the use of police in schools during the period between the first and the second survey. Schools with police at time 2 and not at time 1 are coded "1". Schools that did not add police during the same period are coded "0".

The following variables are used as control variables: total enrollment; percent of students male; percent of students in special education; percent of students who are eligible for free or reduced-price lunch; percent of students who are members of racial/ethnic minority groups; average daily attendance percentage; crime level in the area where school is located (1=high, 2=moderate, and 3=low); and student/teacher ratio. Percent minority and percent free or reduced-price lunch were averaged to create an index of percentage low Socio-Economic Status (SES) because these two variables were too highly correlated to justify retaining them as individual measures ($r=0.73$). Dummy-coded measures of school location (urban fringe, town, and rural vs. city) and level (middle, high, and combined vs. elementary) were also included. All control variables were taken from the time 1 survey. In addition, a measure of the number of years elapsed between surveys and a time 1 measure of dependent variable were added as control variables.

In the SSCS data, missing responses were imputed for questionnaires in which at least 60% of all items and 80% of critical items had been completed.¹⁰ The overall weighted unit response rates were 77, 81, and 76% for 2003-2004, 2005-2006, and 2007-2008 school years, respectively. The imputation methods utilized were tailored to the nature of the survey item (see Ruddy, Neiman, Hryczaniuk, Thomas, & Parmer, 2010, pp. 35-38 for more detail).

Table 1 shows descriptive statistics for all study variables, both in the full SSCS 2007-2008 sample and in the longitudinal sample. The appendix table shows correlations among the study variables. Although the full cross-sectional sample is representative of US public schools, the longitudinal sample over-represents secondary schools, large schools, and schools in areas that are not located in rural areas. This is understandable considering that the longitudinal sample was created by merging *unweighted* cross-sectional samples, which over-sampled such schools by design (see Footnote 7). In addition, the schools included in the longitudinal sample have higher levels for all outcome variables except non-serious violence, which is also not surprising because large, urban, and secondary schools are more likely to experience crime problems and respond to them formally and harshly.

9. In the longitudinal sample, 70.5% of schools that had an officer also had at least one full-time officer.

10. Questionnaires that did not meet these imputation criteria were considered incomplete and were excluded from the data-set.

Table 1 Descriptive statistics for variables included in both cross-sectional (2007-2008) and longitudinal models^{a,b}

	Cross-sectional (2007-2008, weighted)			Longitudinal (unweighted) ^c		
	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD
<i>Dependent measures</i>						
<i>Crime rates recorded</i>						
Total	82,999	48.36	214.93	470	52.29	59.46
Serous violence	82,999	1.31	6.59	470	1.69	7.34
Non-serious violence	82,999	33.70	210.11	470	29.20	42.82
Property	82,999	9.55	19.97	470	13.78	19.69
Weapon/drug	82,999	3.80	8.84	470	7.62	8.26
<i>Percent of crimes reported to law enforcement</i>						
Total	70,959	33.44	35.30	440	50.53	34.03
Serious violence	14,283	65.62	44.53	130	82.01	35.04
Non-serious violence	61,785	21.97	33.87	430	41.32	38.83
Property	53,566	50.12	42.24	410	55.43	39.70
Weapon/drug	42,356	61.11	44.78	390	80.41	32.32
Percent of harsh discipline	66,304	20.29	30.06	450	33.54	32.67
<i>Independent variables</i>						
Police presence (t2)	82,999	0.21	-	470	0.51	-
Police presence (t1)	-	-	-	470	0.53	-
Police presence (neither t1 nor t2)	-	-	-	470	0.36	-
Police presence (both t1 and t2)	-	-	-	470	0.40	-
Addition of police (t1-t2)	-	-	-	470	0.11	-

(Continued)

Table 1 (Continued)

	Cross-sectional (2007-2008, weighted)			Longitudinal (unweighted) ^c		
	<i>n</i>	Mean	SD	<i>n</i>	Mean	SD
Crime rates recorded (t1)						
Total	-	-	-	470	54.84	63.38
Serous violence	-	-	-	470	1.40	5.49
Non-serious violence	-	-	-	470	34.07	53.22
Theft	-	-	-	470	11.81	14.05
Weapon/drug	-	-	-	470	7.57	7.90
Percent of crimes reported to law enforcement (t1)						
Total	-	-	-	460	52.71	34.38
Serious violence	-	-	-	150	84.83	32.51
Non-serious violence	-	-	-	440	44.04	39.82
Theft	-	-	-	420	60.89	40.40
Weapon/drug	-	-	-	390	84.47	29.69
Percent of harsh discipline (t1)						
Year between surveys	-	-	-	470	30.82	97.54
% Male	82,999	49.25	11.11	470	2.67	0.94
% Special education	82,999	13.32	9.22	470	49.77	7.20
% Low SES	82,999	42.76	27.80	470	12.89	7.47
% Reduced-price lunch	82,999	47.56	28.14	470	35.92	27.02
% Minority	82,999	37.96	33.45	460	36.57	26.93
(ln) Total enrollment	82,999	6.10	0.80	470	34.98	31.00
					6.85	0.64

(Continued)

Table 1 (Continued)

	Cross-sectional (2007-2008, weighted)			Longitudinal (unweighted) ^c		
	n	Mean	SD	n	Mean	SD
Level of crime where school is located	82,999	2.69	0.58	470	2.68	0.59
% Attendance	82,999	93.84	7.00	470	93.15	7.46
Student/teacher ratio	82,999	12.22	5.34	470	14.14	4.77
City	82,999	0.26	-	470	0.27	-
Urban fringe	82,999	0.34	-	470	0.42	-
Town	82,999	0.10	-	470	0.11	-
Rural	82,999	0.31	-	470	0.20	-
Elementary school	82,999	0.59	-	470	0.06	-
Middle school	82,999	0.18	-	470	0.37	-
High school	82,999	0.14	-	470	0.54	-
Combined school	82,999	0.08	-	470	0.02	-

^aFor the longitudinal sample, dependent variables are measured at time 2 and independent variables at time 1 (except "police presence," which uses data from both time points).

^bAs noted earlier, the sample design is stratified and over-samples middle and high schools. Because we cannot estimate weighted statistics for the longitudinal sample, elementary schools are substantially underrepresented in the longitudinal sample (6%) compared to the 2007-2008 sample (59%), which accounts for the discrepancies in other schools characteristics between two samples.

^cUnweighted sample size numbers rounded to nearest 10 to comply with Institute of Education Sciences (IES) requirements for restricted-use data.

Data Analysis

The analyses were carried out as follows: first, principal reports (from the 2007-2008 SSCS survey) about how police are used are presented for schools in which police are stationed. Bivariate associations are presented next: the percentage of schools reporting at least one crime, percentage of crimes reported to the police, and percentage of offenses for which the offending student was removed, transferred or suspended for schools are shown for schools with and without police present in 2007-2008. These comparisons are provided for descriptive purposes and are reported for each crime separately.

As will be shown, schools reporting the presence of police in 2007-2008 are dissimilar in many respects from those who do not have police simply due to pre-existing differences that informed decisions about where to place police. To attempt to control for these selection artifacts, we focus not simply on the presence of police in a given period but also on *increase* in the use of police over the period between surveys. In the latter analyses, each school is used as its own control to examine the extent to which the outcomes of interest change coincidental with the increase in the use of police. We conduct a series of regression analyses, first using 2007-2008 cross-sectional data and then using the 2005-2006 and 2007-2008 outcomes as dependent variables, controlling for the level of crime measured in an earlier survey,¹¹ to examine the extent to which increase in the presence of police is related to change in the outcomes.¹² The outcome variables are grouped by offense category, and the control variables described earlier are included in the equation to help rule out the possibility that extraneous factors might be responsible for both an increase in change in police presence and a change in observed outcomes.

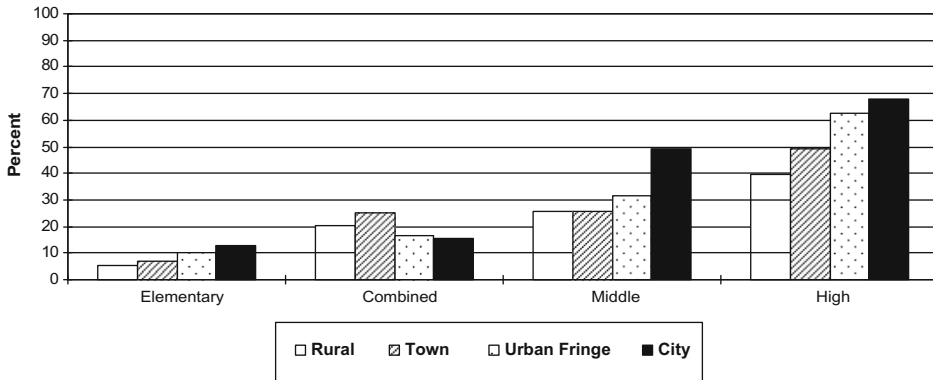
Also, we examine interactions of police presence and racial composition of the school as well as percentage of the students receiving special education services to assess evidence in support of the claim that police presence disproportionately affects minority and disabled youth. Because the longitudinal sample contains too few schools to support these exploratory tests for conditional effects, these analyses use cross-sectional data from the 2007-2008 school year.

Results

During the 2007-2008 school year, principals in 21.1% of the nation's schools reported that at least one full-time police officer was stationed at the school

11. Most often, the prior measure comes from the survey taken two years prior. In 160 cases, the prior measure comes from the survey taken four years prior. A control from number of years elapsed since prior survey is included.

12. Although the longitudinal sample has relatively fewer schools whose use of police increased ($n=50$) than whose use of police remained unchanged ($n=420$), the two groups were not significantly different in terms of the characteristics included in Table 1 ($p < 0.05$).



Source: Original tabulation from SCS 2007-2008.

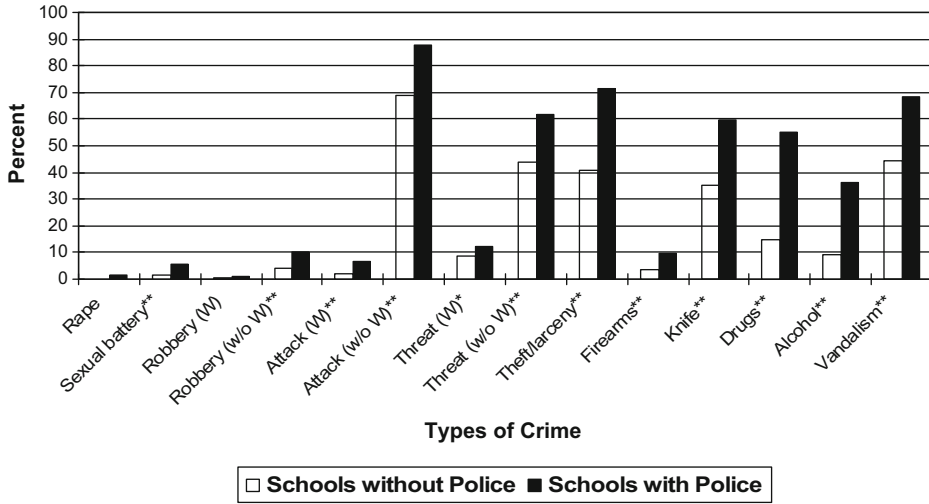
Figure 1 Percentage of schools with police by school level and location, 2007-2008.
Note. Percentage is calculated based on 82,999 (weighted) US public schools.

at least once a week. Among those with at least one officer, the breakdown by type of officer was as follows: 47.4% of schools had only part-time officers and are not coded as having an officer in this study. Among schools with a full-time officer, 27.9% also had at least one part-time officer as well. The modal number of full-time officers per school was one (mean 1.66) with over 2/3 of those schools having only one officer.

The use of police officers in school varies considerably by both level and location. Figure 1 shows this variation: it shows that the percentage of schools with full-time police assigned varies from 5% in rural elementary schools to 68% in urban high schools.

Principals reported that the vast majority of officers stationed in their schools wore uniforms or other identifiable clothing (93.7%),¹³ and carried a firearm (81.7%). Smaller percentages carried chemical sprays (63.5%) and stun guns (43.8%). SCS data indicate that most officers conduct security enforcement and patrol (90.8%). Principals reported that 76.0% were involved in maintaining school discipline, 77.5% in mentoring students, 45.8% in teaching law-related education courses of other direct student training, and 62.4% in training for teachers and staff related to security or crime prevention. These reported activities are consistent with data from other surveys which suggest that the typical police officer spends approximately half his or her time on law-enforcement activities, 25% on mentoring or counseling students, and 13% on teaching (Finn et al., 2005).

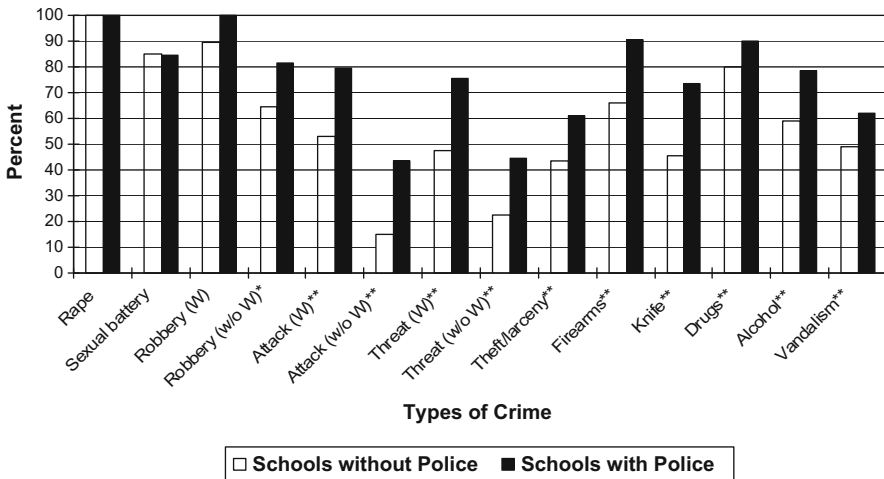
13. Percentages are calculated from the 2007-2008 SCS sample of schools that had at least one full-time officer, excluding schools that had only a security guard or part-time officer. Percentages are weighted.



Source: Original tabulation from SSCS 2007-2008.

Figure 2 Percentage of schools reporting at least one offense, by crime type and the presence of police officers, 2007-2008.

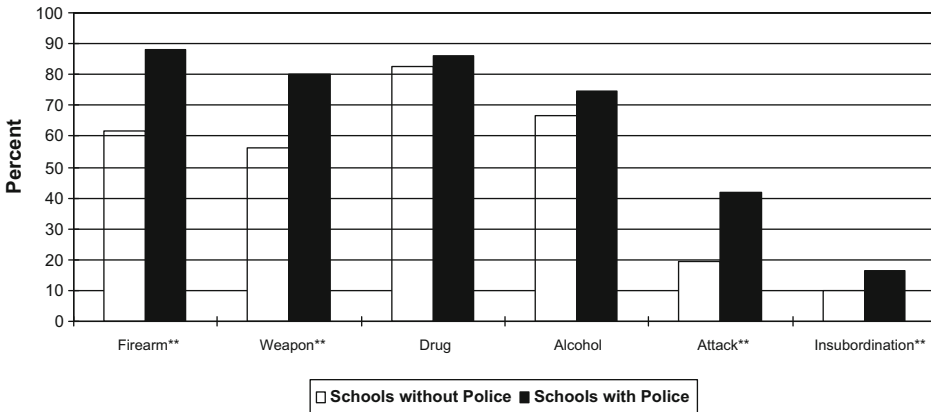
Note. Percentage is calculated based on 82,999 (weighted) US public schools—including schools without (65,494) and with (17,505) full-time police. * $p < 0.05$; ** $p < 0.01$ (two-tailed t -test).



Source: Original tabulation from SSCS 2007-2008.

Figure 3 Percentage of crimes reported to law enforcement, by crime type and the presence of police officers, 2007-2008.

Note. Percentage is calculated based on 82,999 (weighted) US public schools—including schools without (65,494) and with (17,505) full-time police. * $p < 0.05$; ** $p < 0.01$ (two-tailed t -test).



Source: Original tabulation from SSCS 2007-2008.

Figure 4 Average percentage of offending students who were removed, transferred, or suspended, by crime type and the presence of police officers, 2007-2008.

Note. Percentage is calculated based on 82,999 (weighted) US public schools—including schools without (65,494) and with (17,505) full-time police.

* $p < 0.05$; ** $p < 0.01$ (two-tailed t -test).

Associations Between Police Use and Outcomes

Figure 2 shows the percentage of schools reporting at least one of each type of offense¹⁴ during the 2007-2008 school year, separately by type of offense and the presence of full-time police officers. Many types of crimes are exceedingly rare. Very few schools record crimes involving rape, robbery, sexual battery, attacks, and firearms. Simple assault without a weapon is the most common crime recorded by schools, followed by theft, vandalism, and possession of a knife. For all types of crime except the least common offenses (rape and robbery with a weapon), the percentage of schools recording at least one crime is higher in schools with at least one full-time SRO or other sworn law-enforcement officer.

Figure 3 shows the percentage of crimes recorded at the school in 2007-2008 that were reported to law enforcement, separately by type of offense and the presence of police officers. As expected, more serious crimes are more likely to be reported to the police, regardless of whether an officer is present. However, for almost all types of crime, the percentage reported to the police is higher in schools with at least one full-time SRO or other sworn law-enforcement officer. The presence of an officer in the school is associated with more than a doubling of the rate of referrals to law enforcement for the most common crime perpetrated by students in schools—simple assault without a weapon.

14. Regression analyses to be reported next examine crime rates. Crime rates vary considerably by type of crime and cannot be compared easily on a single graph. We therefore present bivariate associations with the percentage of schools reporting at least one of each crime type.

Principals also reported the consequences applied to students who committed a variety of crimes and other offenses. Figure 4 shows the percentage of offending students who were removed from the school, transferred, or suspended, by crime type and the presence of police officers. For all types of crime, the harsher response was more likely in schools with the presence of at least one full-time SRO or other sworn law-enforcement officer.

The differences between schools with and without police shown in Figures 2-4 reflect differences in the characteristics of the schools selected for placement of police. Table 2 demonstrates the selection artifact. It shows, using the longitudinal sample, that schools in which police were placed during the 2005-2006 or 2007-2008 school year had higher recorded rates of each type of crime than school without police, statistically significant for weapon/drug crimes and crimes overall. These schools also had significantly higher percentages of all crimes (except serious violent crimes) reported to law enforcement, and significantly greater use of harsh responses to offending behavior. But the table shows that differences in the same direction and of approximately the same magnitude existed prior to the 2005-2006 or 2007-2008 school year for most of the variables. To avoid confounding these selection artifacts with the effects of police placement, we focused our analysis on increase in the use of police officers. Specifically, we regressed each set of outcomes, grouped by offense category, on an earlier measure of the outcome as well as a measure of *increase* in the presence of police.¹⁵ Control variables related to each outcome were also included.

Table 3 reports results from regressions of the total number of recorded crimes during the 2005-2006 and 2007-2008 school years for serious, violent crimes, non-serious violent crimes, property, and weapon/drug crimes. The negative binomial regression model is used in these regressions because the dependent variables are over-dispersed counts of crimes. Following Osgood (2000), the natural log of school enrollment is also included to convert the

15. We first conducted regressions of each set of outcomes, grouped by offense category, on the presence of police as well as a set of control variables using 2007-2008 cross-sectional data. Analyses were run in which each outcome was regressed on time 2 police presence as well as on time 1 police presence. These analyses have more statistical power than do the change analyses reported in the text because a larger number of schools report using police in one or the other year (see Table 1) than report changing their use of police, and they are based on the full sample of schools, which is more representative than the longitudinal sample. On the other hand, these analyses do not control for selection effects as well as do the change analyses because although the control variables mentioned in the text were included in the equations, unmeasured factors are likely to influence both the placement of police in schools and the change in the outcome variables. Nevertheless, the results from these analyses mirrored the results reported in the paper for the most part. The only substantive differences in results were found in the regressions for crimes reported to the police (Table 4). In these analyses: (a) the association between police presence at time 1 and the percentage of non-serious violent crimes reported to law enforcement did not reach statistical significance and (b) the associations between police presence and percentage of property crimes and total crimes (which are driven primarily by property crimes) reported to law enforcement were significant in the analyses of time 1 police presence and time 2 police presence, but not in the analyses using increase in police. The direction of the association was the same in all analyses. Complete results from these cross-sectional analyses are available from the authors upon request.

Table 2 Outcome variables by police presence, time 1 and time 2, longitudinal sample

	Time 1			Time 2		
	Schools without police	Schools with police	Difference	Schools without police	Schools with police	Difference
Total incident rate recorded	53.9	55.8	1.9	46.4	57.8	11.4*
Serious violence rate recorded	1.1	1.7	0.6	1.0	2.3	1.3
Non-serious violence rate recorded	36.1	32.1	-4.0	26.3	31.9	5.6
Property rate recorded	10.5	13.0	2.5	13.7	13.9	0.2
Weapon/drug rate recorded	6.1	9.0	2.8**	5.3	9.8	4.4**
Total incident percent reported	44.7	60.0	15.3**	38.8	60.9	22.1**
Serious violence percent reported	79.2	88.6	9.3	76.5	86.2	9.7
Non-serious violence percent reported	35.5	51.4	15.9**	27.4	52.8	25.4**
Property percent reported	52.2	68.1	15.9**	42.8	65.4	22.6**
Weapon/drug percent reported	82.0	86.3	4.3	74.9	84.1	9.3**
Harsh discipline percent	26.9	39.6	12.8**	29.8	36.8	7.0*

Note. *N*'s are as reported in Table 1 for each outcome.

* $p < 0.05$; ** $p < 0.01$ (two-tailed *t*-test).

Source: original tabulation from SCS 2003-2004, 2005-2006, and 2007-2008.

Table 3 Crimes recorded regressed on police presence, longitudinal sample ($N=470$)

	Total			Serious violence			Non-serious violence			Property			Weapon/drug			
	<i>b</i>	SE		<i>b</i>	SE		<i>b</i>	SE		<i>b</i>	SE		<i>b</i>	SE		
Added police (t1 – t2)	0.180	0.116	.688	0.426	0.141	0.186	0.141	0.126	0.161	0.256*	0.123		0.256*	0.123		
(ln) Enrollment ^a (t2)	-0.032	0.077	0.196	0.291	0.093	-0.124	0.093	-0.082	0.109	0.186*	0.086		0.186*	0.086		
Prior crime rate (t1)	0.002**	0.001	0.072	0.041	0.003**	0.001	0.001	0.009*	0.004	0.039**	0.005		0.039**	0.005		
# Years between t1 and t2	0.004	0.039	-0.023	0.138	0.010	0.010	0.047	-0.010	0.055	0.014	0.042		0.014	0.042		
% Male (t1)	-0.005	0.005	-0.012	0.017	-0.004	0.006	0.006	-0.001	0.007	-0.013*	0.006		-0.013*	0.006		
% Special education (t1)	0.004	0.005	0.023	0.019	0.007	0.007	0.006	-0.000	0.007	0.001	0.005		0.001	0.005		
% Low SES (t1)	0.007**	0.002	0.013*	0.007	0.008**	0.002	0.002	0.008**	0.003	0.002	0.002		0.002	0.002		
Crime where school located (t1)	-0.028	0.078	-0.253	0.266	-0.097	0.094	0.094	0.155	0.108	-0.124	0.079		-0.124	0.079		
% Attendance (t1)	-0.010*	0.005	-0.010	0.030	-0.009	0.006	0.006	-0.013	0.007	0.006	0.006		0.006	0.006		
Student-teacher ratio (t1)	0.006	0.008	0.059	0.039	0.012	0.012	0.009	0.000	0.011	0.003	0.008		0.003	0.008		
Urban fringe (t1)	-0.146	0.098	-0.214	0.327	-0.138	0.120	0.120	-0.098	0.134	-0.311**	0.102		-0.311**	0.102		
Town (t1)	-0.162	0.142	0.994*	0.478	-0.192	0.173	0.173	-0.328	0.195	-0.103	0.147		-0.103	0.147		
Rural (t1)	-0.265*	0.119	-1.314**	0.436	-0.287*	0.146	0.146	-0.286	0.166	-0.142	0.124		-0.142	0.124		
Middle school (t1)	1.670**	0.176	3.268**	1.189	1.909**	0.217	0.217	1.218**	0.250	1.355**	0.292		1.355**	0.292		
High school (t1)	1.420**	0.190	2.552*	1.220	1.338**	0.233	0.233	1.269**	0.273	1.663**	0.301		1.663**	0.301		
Combined school (t1)	1.108**	0.316	-.101	1.944	0.884*	0.387	0.387	1.178**	0.448	1.709**	0.401		1.709**	0.401		
Constant	-3.416**	0.764	-10.420**	3.915	-3.538**	0.912	0.912	-4.292**	1.108	-7.731**	0.892		-7.731**	0.892		

Notes. * $p < 0.05$; ** $p < 0.01$ (two-tailed) Unweighted sample size numbers rounded to nearest 10 to comply with IES requirements for restricted-use data.

^aBecause the coefficient for enrollment is estimated rather than fixed at one to test if schools with larger enrollment have higher per capita crime rates, the coefficients were recalculated by subtracting the value of one from the original coefficients estimated by negative binomial regression model. Accordingly, the test statistics were drawn by $(b - 1)/SE$ instead of usual b/SE (see Osgood, 2000, pp. 39-40 for more detail).

Table 4 Crimes reported to police regressed on police presence, longitudinal sample

	Total		Serious violence		Non-serious violence		Property		Weapon/drug	
	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE	<i>b</i>	SE
Added police (t1 – t2)	6.008	4.508	-2.927	21.038	12.496*	5.465	6.581	6.052	5.308	5.052
(ln) Total enrollment (t1)	12.534**	2.810	21.815	11.663	13.562**	3.470	11.116**	3.883	8.319*	3.453
Prior % crime reported (t1)	0.255**	0.047	-0.219	0.193	0.222**	0.047	0.216**	0.051	0.218**	0.060
# Years between t1 and t2	2.396	1.525	-5.946	5.654	1.265	1.883	4.261	2.052	2.005	1.712
% Male (t1)	0.104	0.020	-0.479	0.720	0.079	0.249	-0.079	0.283	0.132	0.232
% Special education (t1)	0.298	0.197	0.644	0.640	0.502*	0.240	0.163	0.263	0.058	0.219
% Low SES (t1)	0.038	0.069	0.290	0.230	0.099	0.084	0.037	0.097	0.079	0.079
Crime where school located (t1)	-0.989	2.929	-7.320	8.153	1.088	3.516	-2.042	4.048	-2.851	3.244
% Attendance (t1)	-0.033	0.187	0.382	1.215	-0.125	0.224	0.094	0.240	0.059	0.326
Student-teacher ratio (t1)	-0.618	0.328	-1.577	1.473	-0.626	0.392	-1.031	0.429	-0.582	0.348
Urban fringe (t1)	-1.058	3.759	-8.972	11.494	-2.524	4.587	-2.86	4.975	-1.430	4.090
Town (t1)	-1.313	5.399	28.827	19.593	-3.324	6.579	5.339	7.305	4.521	6.117
Rural (t1)	1.524	4.595	-10.747	16.145	6.076	5.622	1.136	6.186	4.778	5.156
Middle school (t1)	-4.189	7.940	-28.209	40.828	18.974	12.896	-1.408	12.028	-3.849	17.760
High school (t1)	12.647	8.320	-10.593	38.320	36.031**	13.232	7.858	12.290	0.245	17.885
Combined school (t1)	8.557	13.310	(dropped)		22.640	18.010	25.665	18.639	-14.315	21.794
Constant	-57.658	29.765	-18.433	158.367	-91.352*	37.344	-40.411	40.309	-0.186	43.569
		<i>n</i> = 440		<i>n</i> = 70		<i>n</i> = 420		<i>n</i> = 380		<i>n</i> = 350

Notes. **p* < 0.05; ***p* < 0.01 (two-tailed).

Unweighted sample size numbers rounded to nearest 10 to comply with IES requirements for restricted-use data.

model from a model of crime counts to one of per capita crime rates. Also, to test the possibility that crime rates vary with population size, the coefficient for enrollment is estimated rather than fixed at 1. The table shows that increasing presence of police in schools is positively and significantly related to increases in per capita weapon/drug crimes. It is not significantly related to increases in any other crime type. To interpret the regression coefficients, we must take into account the logarithmic transformation in the negative binomial regression model. Osgood (2000, p. 39) suggests that a relatively straightforward approach is to report that an increase of x in an explanatory variable will multiply the fitted mean crime rate by the $\exp(bx)$. Because increasing presence of police in schools is coded as a dummy variable, an increase of one in this variable corresponds to the contrast between increase and no-increase schools. Thus, the statistically significant coefficient of 0.256 indicates that schools with added SROs have a 29% higher rate of weapon/drug crimes than those that did not add SROs [$\exp(-0.256 * 1) = 1.29$].

As expected, higher crime rates are reported for schools that reported higher levels of crime earlier, in schools serving lower SES student populations, and in secondary schools. Crime rates overall are also lower in schools located in rural areas (compared with urban areas) and in schools with higher attendance rates. Table 4 reports results from Ordinary Least Squares (OLS) regressions of the percentage of recorded crimes reported to law enforcement during the 2005-2006 and 2007-2008 school years for the same categories of offenses. The table shows that schools with added SROs have a 12.3% higher percentage of reporting non-serious violent crime to law enforcement than those that did not add SROs. Recall that these crimes include physical attack or fight without a weapon and threat of physical attack without a weapon. This finding is consistent with our prediction that increased use of SROs facilitates the formal processing of minor offenses. The reporting of other crime types,¹⁶ and the reporting of crime overall, are not influenced by the addition of SRO officers. Few of the control variables predict change in the percentage of crimes reported to law enforcement. Larger schools report a higher percentage than do smaller schools, and schools that reported a higher percentage of crimes to the police in a previous year continue to do so. A higher percentage of non-serious violent crimes are reported in high schools, but the same is not true for other crime types.

Table 5 reports results from OLS regressions of the percentage of offenses for which the offending student was removed, transferred or suspended during the 2005-2006 and 2007-2008 school years. The table shows that increase in the use of police in schools is not significantly related to changes in the use of harsh discipline, which is contrary to the prediction that the increased use of police in schools facilitates the "push-out" process of problematic students. High schools and schools reporting the use of harsh discipline in a previous year are more likely to report harsh discipline in the later year.

16. The test for the percentage of serious violent crimes lacks sufficient statistical power because relatively few crimes of this type were reported by the principals ($N = 70$).

Table 5 Harsh discipline regressed on police presence, longitudinal sample ($N=440$)

	Harsh discipline	
	<i>b</i>	SE
Add police	1.770	4.812
(ln) Total enrollment (t1)	5.612	2.954
Prior % crime reported (t1)	0.195**	0.050
# Years between t1 and t2	-4.267**	1.626
% Male (t1)	-0.215	0.207
% Special education (t1)	0.154	0.214
% Low SES (t1)	0.080	0.074
Crime where school located (t1)	-3.153	3.122
% Attendance (t1)	0.213	0.200
Student-teacher ratio (t1)	-0.207	0.358
Urban fringe (t1)	2.512	4.013
Town (t1)	1.697	5.798
Rural (t1)	6.160	4.959
Middle school (t1)	17.154*	8.739
High school (t1)	22.492*	9.134
Combined school (t1)	24.144	13.835
Constant	-24.910	31.525

Finally, we conducted interaction tests to ascertain whether the association between police presence/increased use of police and harshness of response to offending behaviors differed as a function of the percentage of the student population in special education and the percentage ethnic minority. Reports that police in schools have a disproportionate effect on outcomes for disadvantaged groups suggest that we should observe a stronger association between police presence/increased use of police and harsh responding in schools with greater representation of these groups. These tests regressed each outcome on police presence/increased use of police, percentage minority students or percentage students in special education, and an interaction term computed by multiplying police presence/increased use of police by the percentage minority or special education. Across 14 tests (six for percentage reported to the police and one for removal, transfer or suspension for each of the two interaction terms) for each of cross-sectional and longitudinal samples, only one interaction term reached nominal significance levels ($p < 0.05$). A significant interaction was observed in the cross-sectional sample only for total crime reported to the police by percentage racial and ethnic minority: the presence of police was more highly related to the reporting in schools with lower percentages of minorities. This direction is opposite to what was anticipated. We conclude that the results of our tests of interaction with percent in special education and percentage minority do not suggest a pattern of disproportionate impact of police use on socially or educationally disadvantaged populations. However,

finer-grained analyses conducted at the individual-level might uncover patterns that our school-level analysis could not.

Summary and Conclusions

This study adds to research on the effects of police in schools by using a nationally representative sample, by comparing schools that increased their use of police during the study period to a comparison group of schools that did not, and by relying on principal reports of actual crimes rather than on perceptions of the effectiveness of SRO officers. Unlike studies that have reported on key stakeholders' perceptions of the effectiveness of the SRO programs for increasing school safety, this study found no evidence suggesting that SRO or other sworn law-enforcement officers contribute to school safety. That is, for no crime type was an increase in the presence of police significantly related to decreased crime rates. The preponderance of evidence suggests that, to the contrary, more crimes involving weapons possession and drugs are recorded in schools that add police officers than in similar schools that do not. The analyses also showed that as schools increase their use of police officers, the percentage of crimes involving non-serious violent offenses that are reported to law enforcement increases. These findings are consistent with the conclusions from a previous qualitative research (Kupchik, 2010, p. 115) which found that the presence of police officers helps to redefine disciplinary situations as criminal justice problems rather than social, psychological, or academic problems, and accordingly increases the likelihood that students are arrested at school. Adding police, however, does not increase the reporting of serious violent crimes or crimes involving weapons and drugs to law enforcement, probably because the rates of reporting of these crimes to law enforcement are already very high (see Figure 3). Contrary to speculations that the presence of SRO officers may unjustly rob students of their right to a public education through increased use of suspension and expulsion or may contribute to civil rights violations by disproportionately impacting minority or special education youth, our study found that students in schools that add police officers are no more likely to be removed, transferred or suspended from school as a result of an offense than are students in schools that do not. Last but not least, no evidence of adverse impact of police officer presence on minority groups or on special education populations was observed.

Limitations

Although this study uses more rigorous methods than prior studies of the effects of police officer presence in schools, several limitations must be noted. The most important limitation is that the measurement of school crime may be influenced by the placement of a police officer in the school. That is, the number of

crimes reported by the principal may reflect the level of crime in the school, the accuracy of the recording of school crime, or both. In general, principals may be less willing to report school violence at their schools due to the fear of being labeled as a school with a crime problem. To the extent that police officers increase the accuracy of reporting in the school in which they are stationed, or to the extent that police officers redefine ambiguous situations to conform to legal definitions of law violations, the observed increase in recorded school crime due to increased police officer presence in our study may reflect a change in measurement practices rather than an increase in actual crime. Another possible explanation is that, as SROs increase surveillance and befriend students who provide information about crime, more crimes are detected and recorded officially than before regardless of the actual change in the number of crimes committed at schools. In these cases, the addition of SROs may make it appear as though crime is increasing even if it is in fact decreasing or staying steady. Future studies of the effects of police officer presence on school crime should use crime measures that cannot be influenced by changes in official recording, such as student self-reports of victimization and offending in school.

Second, the longitudinal data-set used in our paper is not a representative sample of the nation's schools. Although the larger SSCS sample is representative, our sample included schools that happened to fall in the representative cross-sectional sample more than once. As shown in Table 1, the longitudinal sample over-represents secondary schools, large schools and schools in areas that are not located in rural areas due to over-sampling of these schools.

A final limitation is that the addition of police officers to a school may be confounded with the installation of other security devices (e.g. security cameras, metal detectors) or security-related policies (e.g. limiting access to school building, limiting weapons on campus, increased surveillance of students, reacting to a crisis or violent incident: Addigton, 2009, p. 1430). To the extent this is true, our study is incapable of disentangling the effects of these activities. For example, the increased recording of weapon or drug-related crimes we observed may be due to the installation of security cameras or some other security practice that was implemented simultaneously with the addition of the SRO. Future evaluations of the effects of placing police in schools should randomly assign schools to have police officers stationed therein or not, thus uncoupling the decisions to add police and to implement other security devices and policies.

Recommendations

Any intervention strategy that adds new personnel to a system is bound to be very costly. Programs that station police in schools are no exception. In the US, federal and local tax dollars pay these costs. In addition to the apparent costs of the program are hidden costs related to increases in the formal processing of youthful offending in the schools in which police are placed. Note

that in our study, less serious crime (but not serious violent and weapons or drug-related crimes) were more likely to be reported to law enforcement in schools in which police were added.

The use of police in schools has increased dramatically in the past 12 years, largely due to increases in US Department of Justice Office of COPS funding for these programs. Compared to 1975 when only 1% of the nation's schools had police stationed in them, as of the 2007-2008 school year, 40% of schools had police stationed in them. The percentages are twice the national average for urban secondary schools.

Like many social programs that are motivated by a sense of urgency to do something about a perceived crisis situation, this program has grown dramatically without the benefit of scientific evaluation. No rigorous study to date has demonstrated that placing police in schools promotes school safety. Our study finds no evidence that increased use of SROs decreases school crime. The only statistically significant association with school crime was in the opposite direction: more crimes involving weapons and drugs were recorded in schools where SROs were added than in schools with no such change.

How likely is it that this finding reflects an actual increase in weapons and drug use as a result of increasing police presence in schools? Scholars have suggested a number of mechanisms through which increased police presence might have the unintended effect of increasing school crime. For example, the school's capacity to exercise effective informal social control might be reduced when responsibility for maintaining order is shifted from the teachers to police. Increased reliance on surveillance and an emphasis on formal controls may create an environment of fear and distrust, weakening the school's sense of community and diminishing students' willingness to confide in school staff when they are experiencing problems (e.g. Brotherton, 1996; Devine, 1996; Noguera, 1995). Kupchik (2010, p. 115) also claims that SROs affect the overall school climate. Our finding that the increasing presence of police increases referrals to law enforcement for less serious crimes suggests that there is indeed a shift toward more formal processing of youthful offending in these schools, which may provide a basis for reduced perceptions of school as a cohesive, caring community. A third possible mechanism through which increased police presence may increase crime is that the counseling services provided by the police may be, on average, less effective than those provided by trained counselors. As noted earlier, the typical police officer spends approximately 25% of his or her time mentoring or counseling students (Finn et al., 2005). The findings from qualitative research concur (Kupchik, 2010, pp. 105-114). By shifting responsibility for counseling troubled youth to police, problems may be exacerbated rather than resolved. Finally, police presence may result in role confusion regarding school disciplinary procedures, which may undermine the school's ability to administer discipline in a fair, consistent way.

None of these mechanisms have been tested in studies of SRO effectiveness, and they seem to be contradicted to some extent by evidence suggesting that police contribute to a more positive school climate by encouraging student

trust (McDevitt & Panniello, 2005), and that enhanced security may increase students' and teachers' sense of safety and ability to concentrate on academics. Further, these mechanisms seem unlikely to explain the pattern of results reported in this paper because the only category of crime that was significantly and positively related to increased police presence was the category involving weapon and drug offenses. The mechanisms outlined in the previous paragraph would influence all types of crime. Therefore, we conclude that the most likely explanation for the observed pattern of results is that the *recording* of crimes involving weapons and drugs is influenced by the presence of police. That is, police officers may increase the accuracy of school records of these crimes, or they may redefine ambiguous situations to conform to legal definitions of weapon or substance possession.

The main conclusion from our research is that more rigorous research on this topic is absolutely essential. The possibility that placement of law-enforcement officers in schools increases referrals to law enforcement for crimes of a less serious nature, and results in systematic construal of ambiguous situations as law-violating behavior requires us to assess more carefully the school climate and school safety outcomes related to this popular and costly practice. Studies involving enough schools to provide sufficient statistical power to detect important differences on the outcomes of interest, using a research design that can effectively rule out selection effects, and using objective measures that are not likely to be influenced by the presence of police in the schools are needed. It would also be desirable if the studies had sufficient statistical power to detect differences by type of school or community in the effectiveness of SRO programs. Hirschfield (2008), for example, provides a rationale for anticipating that the functions of SROs will differ in suburban and urban schools. The effectiveness of SRO programs may also differ depending on the perceived level of crime in the school and community.

In the meantime, a more cautious approach to maintaining order in schools would be to rely on approaches that have been demonstrated in research to reduce school crime. As Addigton (2009) noted, the belief that the use of enhanced security measures ensures school safety as well as the comparatively high cost of these measures contribute to a reduced likelihood that schools will adopt policies and practices whose effectiveness for promoting school safety is better established. There is no shortage of such evidence-based practices. Several narrative reviews and meta-analyses of school-based interventions aimed at reducing conduct problems and delinquent behavior have been published in the last 10 years (e.g. Gottfredson, 2001; Gottfredson, Wilson, & Najaka, 2002; Hahn et al., 2007; Wilson & Lipsey, 2007; Wilson, Gottfredson, & Najaka, 2001). All of these sources identify numerous school-based programs and practices that have been demonstrated in high-quality research to enhance school safety. Many of these effective practices are also known to be cost-effective (Drake, Aos, & Miller, 2009). Until the effectiveness of the practice of placing police officers in schools can be demonstrated, schools are encouraged to make more extensive use of these non-SRO programs.

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Appendix. Correlations Among all Study Variables

	a	b	c	d	e	f	g	h	i	j	k	l	m
a. All rate	1	0.077**	0.992**	0.109**	0.231**	-0.057**	-0.080	-0.023	-0.095**	-0.087**	-0.015	0.019	0.155**
b. SV rate	0.354**	1	0.034	0.083**	0.096**	-0.040	-0.291**	-0.021	-0.073*	-0.044	0.053*	0.036	-0.027
c. NSV rate	0.928**	0.218**	1	0.031	0.118**	-0.069**	-0.089	-0.038	-0.076**	-0.098**	-0.031	-0.003	0.150**
d. Property rate	0.710**	0.146**	0.460**	1	0.286**	0.116**	0.079	0.139**	-0.073*	0.047*	0.130**	0.130**	0.036
e. Weapon/drug rate	0.381**	0.183**	0.205**	0.217**	1	0.065*	0.092	0.088**	-0.047	-0.049*	0.082*	0.214**	0.076**
f. All reported	-0.115*	-0.004	-0.189**	-0.026	0.227**	1	0.589**	0.867**	0.655**	0.697**	0.276**	0.272**	0.002
g. SV reported	-0.116	-0.227**	-0.056	-0.155	0.069	0.500**	1	0.420**	0.433**	0.400**	0.165**	0.237**	0.028
h. NSV reported	-0.072	0.003	-0.134**	-0.007	0.193**	0.879**	0.336**	1	0.424**	0.410**	0.226**	0.339**	0.000
i. Property reported	-0.103*	0.016	-0.119*	-0.086	0.073	0.773**	0.368**	0.535**	1	0.396**	0.109**	0.142**	0.001
j. Weapon/drug reported	-0.015	0.041	-0.019	-0.011	-0.022	0.515**	0.373**	0.350**	0.380**	1	0.216*	0.276**	-0.027
k. H discipline	0.129**	0.109*	0.074	0.107*	0.190**	0.187**	0.099	0.193**	0.132**	0.060	1	0.197**	0.007
l. Police added/presence	0.062	0.061	0.032	0.042	0.128**	0.035	-0.018	0.085	0.027	0.020	0.024	1	0.007
m. % Male	-0.035	0.039	-0.021	-0.027	-0.116*	-0.008	-0.119	-0.006	0.000	-0.020	-0.066	0.018	1
n. % Special education	0.113*	0.101*	0.121**	0.036	0.008	0.012	-0.018	0.061	0.015	0.012	0.031	0.070	0.094*
o. % Low SES	0.264**	0.186**	0.263**	0.117*	0.097*	-0.011	0.030	0.023	0.046	0.121*	0.064	0.073	-0.003
p. (ln) Enroll	0.015	0.033	-0.041	0.026	0.228**	0.374**	0.317**	0.326**	0.236**	0.182**	0.157**	-0.030	0.013
q. School crime	-0.211**	-0.172**	-0.213**	-0.040	-0.165**	-0.030	-0.091	-0.028	-0.060	-0.112*	-0.057	-0.025	-0.016
r. % Attendance	-0.109*	-0.007	-0.092*	-0.114*	-0.032	-0.022	-0.017	-0.037	-0.017	0.070	0.023	0.012	0.030
s. s/f Ratio	0.023	0.065	-0.008	0.029	0.082	0.029	0.167	0.009	-0.027	-0.044	0.042	-0.008	-0.041
t. Urban fringe	-0.068	-0.022	-0.059	-0.008	-0.147**	0.011	0.064	-0.042	0.013	-0.044	-0.030	-0.028	0.009
u. Town	-0.039	0.031	-0.050	-0.037	0.038	-0.023	-0.146	-0.034	0.033	-0.002	-0.025	0.038	0.032
v. Rural	-0.091*	-0.101*	-0.078	-0.061	-0.020	-0.078	-0.063	-0.011	-0.098*	-0.013	0.042	-0.020	-0.081
w. Middle	0.223**	0.131**	0.297**	0.062	-0.194**	-0.355**	-0.217*	-0.286**	-0.193**	-0.107*	-0.123**	0.004	0.062
x. High	-0.129**	-0.090	-0.212**	-0.013	0.284**	0.388**	0.244**	0.345**	0.183**	0.159**	0.166**	0.041	-0.099*
y. Combined	-0.037	-0.033	-0.056	0.017	0.009	0.004	0.045	-0.017	0.060	-0.054	0.048	-0.004	-0.022

(Continued)

	n	o	p	q	r	s	t	u	v	w	x	y
a. All rate	0.228**	0.105**	-0.097**	-0.053**	-0.022	-0.046*	-0.049*	0.003	0.020	0.032	0.013	0.087**
b. SV rate	0.016	0.137**	-0.047*	-0.164**	-0.008	0.011	-0.062**	0.028	-0.023	0.025	-0.004	-0.034
c. NSV rate	0.211**	0.090**	-0.099**	-0.036	-0.009	-0.044*	-0.040*	0.003	0.023	0.016	-0.015	0.085**
d. Property rate	0.038	0.045*	0.079**	-0.091**	-0.056**	0.001	-0.062**	0.000	0.034	0.171**	0.231**	0.046*
e. Weapon/drug rate	0.191**	0.101**	-0.026	-0.089**	-0.106**	-0.027	-0.055**	0.000	-0.029	0.081**	0.169**	0.022
f. All reported	0.042	-0.031	0.158**	-0.021	-0.024	0.061**	-0.012	0.009	-0.003	0.047*	0.294**	0.020
g. SV reported	0.024	-0.065	0.204**	0.062	-0.111*	0.011	0.016	-0.040	-0.017	0.093	0.258**	0.185**
h. NSV reported	0.052*	-0.028	0.226**	-0.009	-0.065**	0.055*	-0.040	0.042	-0.009	0.090**	0.361**	0.034
i. Property reported	0.011	-0.003	0.098**	-0.042	-0.064*	0.021	-0.024	0.024	-0.033	-0.022	0.130**	0.027
j. Weapon/drug reported	0.022	0.031	0.191**	-0.047	-0.012	0.060*	0.014	-0.001	-0.046	0.054*	0.204**	-0.046
k. H discipline	0.010	0.071**	0.160**	-0.076**	-0.023	0.037	-0.006	0.015	-0.029	0.079**	0.232**	0.081**
l. Police added/presence	0.035	0.080**	0.344**	-0.072**	-0.070**	0.86**	0.009	-0.007	-0.081**	0.145*	0.339**	-0.012
m. % Male	0.044*	-0.049*	0.050*	0.067**	-0.011	0.023	0.015	0.020	-0.009	0.009	-0.005	-0.010
n. % Special education	1	0.043*	-0.013	-0.053**	-0.031	-0.136**	-0.063**	0.003	0.032	0.020	0.023	0.087**
o. % Low SES	0.176**	1	0.036	-0.600**	-0.062**	0.034	-0.174**	-0.033	-0.237**	-0.026	-0.085**	-0.085**
p. (ln) Enroll	-0.082	-0.005	1	-0.077**	0.026	0.324**	0.221**	-0.021	-0.339**	0.117**	0.268**	-0.169**
q. School crime	-0.077	-0.554**	-0.042	1	0.051*	-0.072**	0.113**	0.052**	0.252**	-0.003	0.017	0.080**
r. % Attendance	-0.025	-0.063	-0.030	0.055	-0.013	0.042*	0.073**	-0.008	0.042*	0.004	-0.122**	-0.015
s. s/t Ratio	-0.184**	0.012	0.313**	0.005	0.060	1	0.095**	-0.041*	-0.175**	0.006	0.132**	-0.124**
t. Urban fringe	-0.111*	-0.230**	0.164**	0.132**	0.014	0.072	1	-0.231**	-0.476**	0.044*	-0.023	-0.139**
u. Town	0.049	-0.046	-0.135**	0.067	0.002	0.022	-0.293**	1	-0.216**	0.049*	0.043*	-0.052**
v. Rural	0.015	-0.098*	-0.289**	0.109*	0.025	-0.126**	-0.430**	-0.174**	1	-0.052*	0.009	0.265**
w. Middle	0.123**	0.093	-0.282**	-0.053	-0.009	-0.096*	-0.006	-0.005	-0.002	1	-0.195**	-0.140**
x. High	-0.121**	-0.176**	0.403**	0.056	-0.137**	0.103*	0.018	0.035	-0.031	-0.840**	1	-0.120**
y. Combined	0.044	0.003	-0.067	0.005	-0.131**	0.044	-0.096*	-0.003	0.183**	-0.115*	-0.162**	1

Notes.

1. Correlations for the cross-sectional sample (2007-2008) appear above and those for the longitudinal sample below the diagonal.
2. Pairwise deletion of missing cases. Number of cases for correlations with percentage of crimes reported to law enforcement and responded by harsh discipline ranges from 450 to 2,190 for cross-sectional (2007-2008) sample and from 130 to 450 for longitudinal sample. Number of cases for correlations among other variables is 2,560 for cross-sectional (2007-2008) sample and 470 for longitudinal sample. Unweighted sample size numbers rounded to nearest 10 to comply with IES requirements for restricted-use data.
3. For longitudinal sample, dependent variables are measured at time 2 and independent variables at time 1.
4. "Police added/presence" reflects addition of police for the longitudinal sample and 2007-2008 police presence for the cross-sectional sample.
5. Time 1 outcome variables, which are included as control variables for longitudinal models, are excluded for simplicity.