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The Relationship between Parent Volunteering in School and School Safety in Disadvantaged Urban Neighborhoods

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ABSTRACT

Schools located in disadvantaged urban neighborhoods report disproportionately high rates of crime and violence. Theoretical reasoning suggests that school-based parent participation may lead to improved school safety in these settings, but little empirical work has tested this relationship. This study examines the relationship between school-based parent volunteering and two measures of school safety by using data from five waves of the School Survey on Crime and Safety, Common Core Data, and the American Community Survey. Results from analyses of 12,698 schools indicated that school-based parent volunteering is associated with improved school safety, controlling for school organizational features, sociodemographic characteristics, and neighborhood-level crime. For schools in disadvantaged urban neighborhoods, this relationship persisted with parent volunteering being associated with less school crime and violence and student bodily harm. Findings establish a need for future research to determine whether parent volunteering may be a tool for enhancing school safety.

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Parent volunteering; school safety; school survey on crime and safety

School shootings occurring in recent years have elevated school safety to the forefront of national policy discussions. Heightened concern has led to a myriad of legislative proposals attempting to prevent these tragedies, ranging from arming teachers to expanding mental health supports for students (Brock, Kriger, & Miró, 2018; Rogers et al., 2018; Schwartz et al., 2016). While high-profile school shootings have been the catalyst for calls to action on school safety, school crime, violence, and bullying represent dangers that students encounter on a more regular basis in schools across the country (Eaton et al., 2012). Student victimization rates also underscore disparate patterns (Kann et al., 2018). For urban schools in neighborhoods with high rates of crime and poverty, school crime and violence have been pressing challenges, remaining disproportionately high in these settings (Hamlin, 2017; Robers, Zhang, Morgan, & Musu-Gillette, 2015). This school safety gap may also be one of the most alarming inequalities among students of different sociodemographic backgrounds (Lacoe, 2015; Musu, Zhang, Wang, Zhang, & Oudekerk, 2019; Voight, Hanson, O'Malley, & Adekanye, 2015). Exposure to crime and violence has consistently shown harmful effects on academic achievement, socioemotional development, and physical health (Hong & Espelage, 2012; Ozer & Weinstein, 2004).

Over the past three decades, policymakers at federal, state, and local levels have deployed substantial resources to combat school crime and violence (Brock et al., 2018). The primary strategy has been to expand visible school security by raising expenditures for police patrols, armed security officers, metal detectors, physical barriers, and surveillance (Addington, 2009; Tanner-Smith, Fisher, Addington, & Gardella, 2018). This trend is particularly evident in reports on the use of video surveillance, which has as grown by more than 300 percent since 1999 (National Center for Education Statistics [NCES], 2016). The

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utilization of advanced technology (e.g. facial recognition systems) to track students is also increasing rapidly while the school security industry as a whole has rocketed to nearly 3 billion dollars in annual revenue (Dearing, 2018). Along with these security measures, schools have turned to zero-tolerance policies and strict disciplinary practices (Curran, 2016). However, studies examining the effectiveness of heavy security and severe punishment to reduce school crime and violence are inconclusive (Na & Gottfredson, 2013; Tanner-Smith et al., 2018). At the same time, mounting evidence indicates that these approaches may have other unintended consequences, producing in students fear of victimization, negative perceptions of school, and feelings of alienation (Harding, 2009; Johnson, 2009; Mowen, 2017). These effects may exacerbate challenges faced by students in schools in high-poverty urban environments (Laoe, 2015; Ozer & Weinstein, 2004).

Potential adverse outcomes for conventional school safety strategies have motivated inquiry into alternatives. From this work, a number of researchers have theorized that parent participation in school may contribute to school safety by strengthening social ties, collective efficacy, and school climate (Jones et al., 2009; Kirk, 2009; Kupchik, 2016; Park, Stone, & Holloway, 2017; Westrich & Strobel, 2013). This presumed link between school-based parent participation and enhanced school safety could be of considerable importance to schools operating in challenging contexts. Yet, this relationship remains largely untested. A small body of work has been limited to small sample sizes, focus on a single setting, and a lack of controls for consequential school and neighborhood characteristics (Garcia, 2016; Lesneskie & Block, 2017; Sheldon & Epstein, 2002).

To address these limitations, this study uses five waves of nationally representative data from the School Survey on Crime Safety (SSOCS: 2003–04, 2005–06, 2007–08, 2009–10, 2015–16), Common Core Data (CCD), and the American Community Survey (ACS). The relationship between parent volunteering in school and two measures of school safety (i.e., school crime and violence and student bodily harm) is first estimated, controlling for school organizational features, student socio-demographic traits, security strategies, discipline and safety training for staff, community involvement in school, and perceived neighborhood crime rates. This study then examines whether the relationship between parent volunteering in school and school safety persists in schools located in disadvantaged urban neighborhoods with high crime rates.

The analyses address the following two questions:

RQ 1: Is parent volunteering in school associated with greater school safety, controlling for student, school, and neighborhood characteristics?

RQ 2: Does the relationship between parent volunteering in school and school safety persist in disadvantaged urban neighborhoods?

Parent volunteering in school and school safety

There is a compelling theoretical basis for why parent volunteering in school might promote school safety (Jones et al., 2009; Kupchik, 2016; Park & Holloway, 2017; Westrich & Strobel, 2013). For example, when parents volunteer in school, they may strengthen a school's collective efficacy by increasing supervision of students and making more adults available to students experiencing bullying and other dangers in school (Bryk, Sebring, Allensworth, Easton, & Luppescu, 2010; Kirk, 2009; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). Empirical research has found that school violence and crime are more likely to occur in school when adult supervision is lacking so it is conceivable that parent volunteers may help to prevent delinquent activity on school grounds (Astor, Meyer, & Pitner, 2001).

In addition to a possible rise in collective efficacy, parent volunteering may bolster social ties among parents, teachers, and administrators. These home-school links may foster relational trust and facilitate cooperation on issues of safety (Bryk & Schneider, 2002; Forsyth, Adams & Hoy, 2011). Although ties between parents and school personnel may not necessarily have a direct influence on

student achievement (Morgan & Sørensen, 1999), evidence suggests that strong home-school bonds may produce greater commitment among students to social norms that help to support school safety (Valdimarsdottir & Bernburg, 2015). The presence of parent volunteers may also transmit influential symbolic cues that signify social control, thereby dissuading students from engaging in problem behaviors in school (Kirk & Sampson, 2011; Simons, Simons, Burt, Brody, & Cutrona, 2005). The overall strengthening of collective efficacy, connectedness of the school community, and perceived social control through school-based parent volunteering may create conditions and norms that contribute to student safety (Forsyth et al., 2011; Kirk & Sampson, 2011; Simons et al., 2005).

For urban schools located in neighborhoods with high crime and poverty, potential strategies that promote safety, such as parent volunteering in school, could have added significance as these schools tend to report pressures on school safety (Hamlin, 2019; Lacoe, 2015; Musu et al., 2019; Voight et al., 2015). Neighborhood crime, disorder, and gang activity may spread to school grounds, presenting challenges to maintaining a safe school environment (Author, 2017; Foster & Brooks-Gunn, 2013; McCoy, Roy, & Sirkman, 2013). In these neighborhoods, students may also perceive that they are less safe at school (Burdick-Will, 2018). A lack of financial and social resources may place further limitations on how schools can respond to safety concerns (Pauille, 2013).

While parent volunteering could help to improve school safety, low-income families may encounter barriers to school-based participation. Time and resource constraints, a lack of familiarity with schools, and socio-cultural differences may limit families' ability to volunteer at school (Baquedano-López, Alexander, & Hernández, 2013). Within high-poverty neighborhoods, analyses indicate that student sorting processes are also likely to be operative (Burdick-Will, 2018; Fleming, Cowen, Witte, & Wolf, 2015). Families with relatively greater social and financial resources may congregate in certain schools, so preexisting characteristics of families may partly explain school-based parent volunteering rates. Along with these parent-driven selection processes, school strategies may matter. To elicit parent volunteering, school approaches to families, safety strategies, and school climate may be consequential (Hamlin & Flessa, 2018; Shedd, 2015). For instance, relationship-building and responsiveness to parents' needs may enable greater parent volunteering while an overreliance on measures, such as heavy security and physical barriers, could discourage parent participation and decrease perceptions of safety (Mowen, 2015; Shedd, 2015). Complex factors appear to shape parent volunteering rates. Yet, whatever the precise mechanisms underlying parent volunteering may be, it remains uncertain whether parent volunteering is associated with enhanced safety in neighborhoods with high rates of crime and poverty given the lack of empirical research testing this relationship.

Methods

Study design, data, and sample

For this study, data were linked together from three sources. The primary data source was the School Survey on Crime Safety (SSOCS) – a nationally representative school-level survey administered to school principals by the National Center for Education Statistics (NCES). As the US Department of Education's main source of information on school safety, the SSOCS contains extensive data on school safety practices, violence prevention programs, staff training, school crime and violence rates, and school-based parental involvement. Five cross-sectional waves of the SSOCS (SSOCS: 2003–04; 2005–06; 2007–08; 2009–10; 2015–16) were pooled with the aim of improving statistical power, heterogeneity of the analytic school sample, and reliability of estimates (Curran et al., 2009, 2009; Micklewright, 2011). To generate controls for school organizational features and sociodemographic characteristics, responses to each wave of the SSOCS were linked to Common Core Data during the survey period. The total pooled sample comprising the five survey waves was 12,698 schools. [Table 1](#) provides descriptive statistics for the five pooled waves of the SSOCS. To identify schools in disadvantaged urban neighborhoods, a measure of neighborhood-level disadvantage at the census

Table 1. Descriptive statistics.

	Mean	S.D.	Min	Max
School crime and violence	23.302	42.769	0	2142
Student bodily harm	35.030	127.538	0	9689
Parent volunteering	.218	1.112	-1.858	3.074
Visible security measures	4.399	1.708	0	12
School safety practices	3.451	1.343	0	9
Formal school programs	6.313	1.743	0	11
Staff safety training	4.187	1.827	0	7
Community involvement	3.986	2.233	0	8
School enrollment	5.681	4.406	.010	53.360
Primary school	.592	.491	0	1
Middle school	.184	.388	0	1
High school	.144	.351	0	1
Combined school	.080	.271	0	1
Charter school	.042	.200	0	1
% Free/red. price lunch	47.820	27.789	0	100
% Limited English	10.399	17.493	0	100
% Special needs	13.203	8.869	0	100
% Low-achieving	13.888	14.757	0	100
% Black	15.172	24.068	0	100
% Hispanic	18.394	25.521	0	100
City	.258	.438	0	1
Suburban	.324	.468	0	1
Small Town	.118	.323	0	1
Rural	.300	.458	0	1
Low crime	.747	.435	0	1
Moderate crime	.187	.390	0	1
High crime	.065	.247	0	1

Data are weighted based on survey sampling design. Data represent summary statistics for 12,698 schools in five waves of the School Survey on Crime and Safety (SSOCS).

tract level was extracted from the American Community Survey (ACS:2008–2012, 5-Year Estimates) and, by using unique geographic information codes, linked to the SSOCS: 2009–2010 wave representing 2,638 schools. Only the SSOCS:2009–2010 overlapped sufficiently with the data collection period for the ACS:2008–2012, 5-Year Estimates.

Measures

School safety

Two measures of school safety were constructed using information reported on the SSOCS. A measure of *School Crime and Violence* ($M = 23$, $SD = 43$) was calculated based on the total number of recorded criminal incidents recorded at school during the academic year. This standard list of incidents comprised homicide, rape/attempted rape, sexual battery, robbery, physical attack or fight, threats with physical attack, theft/larceny, possession of firearm or explosive device, possession of a knife or sharp object, distribution, possession, or use of illegal drugs, inappropriate distribution, possession, or use of prescription drugs, distribution, possession, use of alcohol, and vandalism. Along with this indicator, *Student Bodily Harm* ($M = 35$, $SD = 128$) measured the total number of students involved in recorded offenses at a school. Reported on a separate section of the survey, these recorded offenses comprised use/possession firearm or explosive device, use/possession of a weapon, distribution, possession, or use of illegal drugs, distribution, possession, or use of alcohol, and physical attacks or fights. The two measures of school safety offer a comprehensive assessment of school crime and violence rates, but do not cover nonphysical forms of bullying, verbal and mental abuse, and other incivilities that may influence perceptions of school safety (Ripski & Gregory, 2009).

Parent volunteering in school

To measure parent volunteering in school, a standardized variable was generated from an SSOCS item indicating the estimated percentage of students with at least one parent/guardian who had volunteered or served on a committee in school during the academic year. The response options for this question were “School does not offer; 0–25%; 26–50%; 51–75%; and 76–100%.”

School characteristics

A school’s sociodemographic profile, safety practices, staff training, and organizational characteristics (e.g. school level or size) may affect the number of safety incidents occurring at school (Addington, 2009; Walsh, 2010). To account for these potential confounding factors, school-level controls were employed for visible security, safety and behavioral practices, staff training, community involvement in school, and violence prevention programs. Other controls for school enrollment, grade level, percentages of students eligible for free and reduced-price lunch, percentage of students with limited English proficiency, percentage of special education students, percentage of students achieving below the 15th percentile on standardized tests, school type (e.g. charter) were included in statistical models. A school’s neighborhood crime-level as assessed by respondents to the SSOCS was controlled, and standard geographic controls for residential area (i.e., suburban, town, rural, or city) were also used.

Disadvantaged urban neighborhoods

Schools located in disadvantaged urban neighborhoods were identified for analysis by using a well-documented composite measure of neighborhood concentrated disadvantage (Sampson, 2012; Simons et al., 2005). This measure was generated using factor analysis for the following tract-level variables from the ACS: family poverty rate, percentage of single female households, unemployment rate, percentage of African American households, percentage of households receiving public assistance, and percentage of people older than 25 years of age who hold less than a high school degree. Both Cronbach’s alpha of 0.75 and McDonald’s omega of 0.89 provide support for combining these items into a single scale. The measure also provides a comprehensive indicator of neighborhood-level economic and social conditions, collected independent of the SSOCS. Building on Sampson’s (2012) work, schools in disadvantaged urban neighborhoods were defined as one standard deviation above the mean on the neighborhood disadvantage scale, located in high/mid-crime urban areas, and one standard deviation above the mean for the percentage of students eligible for free/reduced price lunch.

Analysis

In the first set of analyses, negative binomial regression was performed to investigate the relationship between parent volunteering in school and school crime and violence and student bodily harm, using five pooled waves of the School Survey on Crime and Safety (SSOCS: 2003–04, 2005–06, 2007–08, 2009–10, 2015–16). Both school crime and violence and student bodily harm are count variables that are subject to overdispersion. Negative binomial regression permits analysis of skewed count-variables by including a parameter to account for overdispersion (Hilbe, 2011). Estimates were adjusted using the sampling design for the SSOCS. Table 2 presents the results of two negative binomial regression models for school crime and violence and student bodily harm for the pooled sample. The first model contained only dummy controls for survey year while the second model included full controls. The second model was specified as follows:

Table 2. Pooled cross-sectional negative binomial regression predicting school crime and violence and student bodily harm.

	School Crime & Violence				Student Bodily Harm			
	Model 1		Model 2		Model 3		Model 4	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Parent volunteering	-.343	(.021)***	-.142	(.023)***	-.433	(.024)***	-.201	(.028)***
<i>School Practices</i>								
Visible security measures			.015	(.013)			.023	(.018)
School safety practices			.081	(.015)***			.114	(.020)***
Formal school programs			.011	(.016)			.027	(.017)
Staff safety training			-.012	(.012)			-.037	(.015)*
Community involvement			.050	(.010)***			.048	(.012)***
<i>School Characteristics</i>								
School enrollment			.119	(.004)***			.126	(.006)***
Middle school			.631	(.042)***			.845	(.054)***
High school			.369	(.053)***			.564	(.076)***
Combined school			.253	(.076)***			.250	(.102)*
Charter school			-.013	(.142)			-.026	(.233)
% Free/red. price lunch			.005	(.001)***			.009	(.002)***
% Limited English			-.001	(.002)			-.007	(.002)***
% Special needs			.007	(.003)*			.005	(.003)
% Low-achieving			.005	(.001)***			.010	(.002)***
% Black			.002	(.001)			.004	(.002)*
% Hispanic			-.002	(.001)			-.004	(.001)*
Suburban			-.095	(.048)*			-.109	(.062)
Small Town			.108	(.073)			.096	(.090)
Rural			-.145	(.061)*			-.104	(.079)
<i>Neighborhood Characteristics</i>								
Moderate crime			.296	(.055)***			.283	(.074)***
High crime			.454	(.076)***			.588	(.133)***
<i>Survey Year</i>								
2005-2006	.036	(.047)	.013	(.055)	.016	(.072)	.066	(.068)
2007-2008	-.047	(.053)	-.092	(.061)	.159	(.077)*	.100	(.073)
2009-2010	-.166	(.048)***	-.226	(.056)***	-1.349	(.067)***	-1.217	(.075)***
2015-2016	-.488	(.054)***	-.596	(.068)***	-1.617	(.075)***	-1.658	(.091)***
Intercept	3.280	(.034)***	1.147	(.129)***	3.882	(.053)***	1.152	(.147)***
Pseudo R-square	.010		.054		.027		.072	

$N = 12,698$. Data are weighted. Robust standard errors are in parentheses. Primary school, low crime school neighborhood, urban area, and academic year 2003–2004 are reference categories.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

$$\begin{aligned}
 \mu_j &= E[y_j | \mathbf{X}_j, \varepsilon_j] \\
 &= \exp(\beta_0 + \beta_1(\text{Survey Year})_j + \beta_2(\text{Parent Volunteering in School})_j \\
 &\quad + \beta_3(\text{School Practices})_j + \beta_4(\text{School Characteristics})_j \\
 &\quad + \beta_5(\text{Neighborhood Characteristics})_j + \varepsilon_j)
 \end{aligned}$$

μ_j denotes the expected number of incidents of school crime and violence and student bodily harm for school j . y_j refers to the actual number of incidents of school crime and violence and student bodily harm. $\mathbf{X}_j$ refers to a vector of observed covariates. *Survey Year* represents five dummy variables for each of the five survey waves. The 2003–2004 survey wave is the reference year. *Parent volunteering in school* represents parent volunteering for school j . *School Practices* comprises controls for community involvement, visible security measures, school safety practices, formal safety programs, and staff safety training. *School Characteristics* refers to controls for school-level percentages for student race, free and reduce lunch status, special needs status, limited English language proficiency, and low-achieving (i.e. students performing below the 15th percentile on standardized tests). *School Characteristics* also denotes organization-specific controls for school level, total enrollment, charter school status, and geographic locale.

Table 3. Mean comparisons between schools in disadvantaged urban neighborhoods and other schools in sample (SSOCS: 2009–2010).

	Schools in Disadvantaged Urban Neighborhoods		Other Schools in Sample		T-test
	Mean	S.D.	Mean	S.D.	
School crime and violence	60.024	84.989	38.255	59.490	***
Student bodily harm	33.520	40.541	21.303	33.644	***
Parent volunteering	-.187	.898	.010	1.002	*
Visible security measures	5.672	2.166	5.226	1.740	**
School safety practices	4.136	1.334	3.934	1.311	
Formal school programs	6.944	1.303	6.439	1.647	***
Staff safety training	4.696	1.997	4.546	2.055	
Community involvement	4.432	2.237	4.290	2.232	
School enrollment	7.873	5.553	8.395	6.092	
Primary school	.416	.495	.251	.434	***
Middle school	.288	.455	.346	.476	
High school	.248	.434	.364	.481	**
Combined school	.048	.215	.040	.196	
Charter school	.096	.296	.030	.171	***
% Limited English	26.760	28.938	8.298	13.776	***
% Special needs	15.992	13.959	12.855	7.943	***
% Low-achieving	25.848	23.567	11.754	12.222	***
% Black	46.534	39.014	13.620	20.423	***
% Hispanic	43.809	37.296	17.652	23.692	***
Sample size	125		2513		

Schools in disadvantaged urban neighborhoods were those who were one standard deviation above the mean on the neighborhood disadvantage scale, located in high/mid-crime urban areas, and reported one standard above the mean for students eligible for free/reduced price lunch. Asterisks indicate a statistically significant difference of means between disadvantaged urban school and non-disadvantaged urban schools.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

Neighborhood Characteristics refers to the perceived crime rate in the area surrounding the school. To account for over-dispersion of the two dependent variables (i.e. school crime and violence and student bodily harm), the negative binomial regression model contains the error term ϵ_j .

For the second set of analyses, this study investigated how the relationship between school-based parent volunteering and school safety operates in disadvantaged urban neighborhoods. For descriptive purposes, mean comparisons were performed, contrasting schools in disadvantaged urban neighborhoods and to other schools in the sample on school crime and violence, student bodily harm, school-based parental volunteering, school safety practices, demographic characteristics, and neighborhood features. These descriptive mean comparisons are reported in Table 3. Then, to explore whether the relationship between parent volunteering in school and school safety persists for schools in disadvantaged urban neighborhoods, negative binomial regression models were performed on school crime and violence and student bodily harm for schools in disadvantaged urban neighborhoods. These models are presented in Table 4. As a nonlinear function, negative binomial regression analysis may be difficult to interpret. To facilitate interpretation of results, the predicted number of incidents based on results from negative binomial regression models are presented graphically in Figure 1.

Results

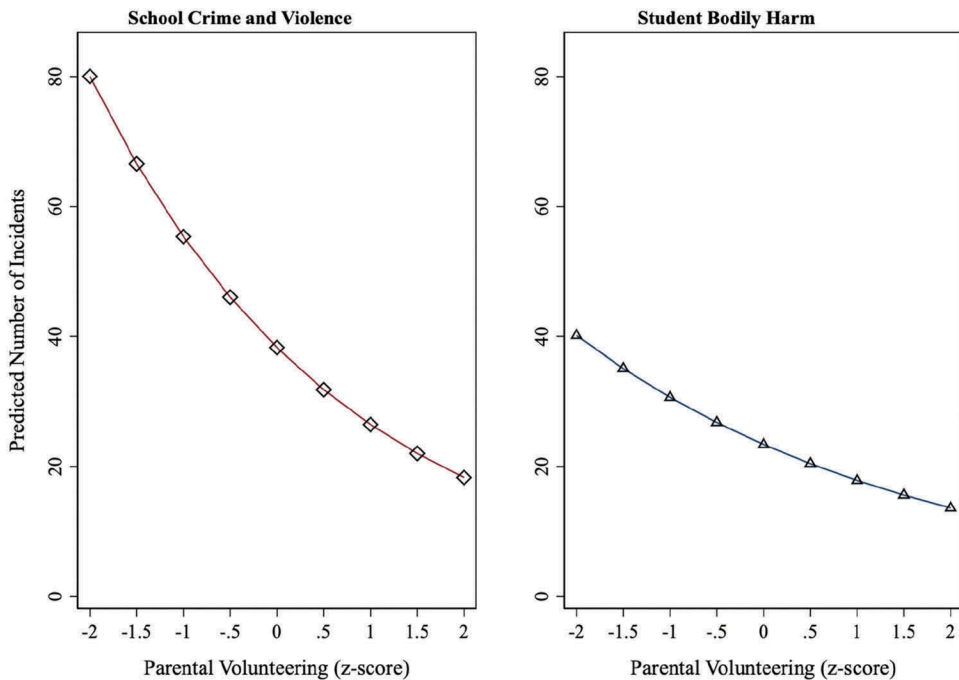
Table 2 presents the results of two negative binomial regression models predicting school crime and violence together with two additional models predicting student bodily harm. In Model 1, with controls for survey year, parent volunteering in school is associated with lower school crime and violence ($p < .001$). Dummy controls for survey year also indicate that incidents of school crime and violence have been declining since the first wave of the SSOCS survey in 2003–2004 to its most recent iteration in 2015–2016. In Model 2, extensive controls for school practices, school characteristics, and neighborhood crime are introduced. With these controls, the coefficient for parent

Table 4. Negative binomial regression model predicting school crime and violence and student bodily harm for schools in disadvantaged urban neighborhoods (2009–2010).

	School Crime and Violence		Student Bodily Harm	
	Coef.	S.E.	Coef.	S.E.
Parent volunteering	–.369	(.119)**	–.270	(.125)*
Visible security measures	.135	(.049)**	.146	(.048)**
School safety practices	.072	(.071)	.124	(.073)
Formal school programs	.080	(.063)	.126	(.060)*
Staff safety training	–.113	(.053)*	–.120	(.043)**
Community involvement	.094	(.048)*	.110	(.045)*
School enrollment	.113	(.020)***	.097	(.019)***
Middle school	.349	(.226)	.337	(.247)
High school	–.240	(.266)	–.252	(.264)
Combined school	–.395	(.267)	–.076	(.278)
Intercept	1.220	(.492)*	.228	(.522)
Pseudo R-square	.067		.059	

$N = 125$ for schools in disadvantaged urban neighborhoods. Primary school is reference category. Robust standard errors are in parentheses. In supplementary analyses, schools in disadvantaged neighborhoods ($N = 173$) were reclassified without considering free-reduced price lunch status. Results indicated consistent relationships between parent volunteering and school crime and violence ($B = -0.41$, $SE = 0.10$, $p < .001$) and student bodily harm ($B = -0.35$, $SE = 0.12$, $p < .01$).

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

**Figure 1.** Predicted number of safety incidents for schools in disadvantaged urban neighborhoods.

volunteering in school remains a statistically significant predictor of lower crime and violence in school. Holding all other variables at their sample means, when parent volunteering increases from one standard deviation below the mean to one standard deviation above the mean, predicted incidents of school crime and violence decrease by 26%. This percentage decline represents a predicted decrease from 19 to 14 incidents of school crime and violence.

None of the variables representing school practices, including visible security measures, are statistically associated with less school crime and violence. The percentage of students designated as free and reduced-price lunch, special education, and low-achieving are associated with increased school crime and violence. Furthermore, schools in non-urban locales report less school crime and violence while schools located in high to mid-crime neighborhoods exhibit statistically higher incidents of school crime and violence. Separate analyses by school level (i.e. primary, middle, high, and combined schools) show strong relationships between parent volunteering and lower school crime and violence in middle school (Results from authors available upon request). However, smaller associations are observed during high school.

For student bodily harm, patterns are largely similar to those observed for school crime and violence. In Model 3, parent volunteering in school is associated with less student bodily harm, controlling for survey year. In Model 4 with full controls, parent volunteering remains closely associated with fewer incidents of student bodily harm. When parent volunteering increases from one standard deviation below the mean to one standard deviation above the mean, predicted incidents of student bodily harm decrease by 33%, holding all other variables at their sample means. This percentage decline represents a predicted decrease from 21 to 14 incidents of student bodily harm. Separate models for each of the five survey waves exhibited patterns that were largely consistent with those observed for the pooled sample. However, the SSOCS:2015–16 wave indicated slightly smaller associations between parent volunteering in school and less school crime and violence and student bodily harm than those observed for the four other SSOCS waves (Results from authors available upon request). In additional analyses, the relationship between parent volunteering in school and school crime and violence and student bodily harm persisted for urban schools with a high proportion of students eligible for free and reduced priced lunch (see [Appendix Table A1](#)).

Results offer suggestive evidence that parent volunteering in school may be associated with greater school safety for urban schools in disadvantaged school settings, but the only neighborhood-level measure that these models use is based on survey respondents' assessment of crime rates in the area surrounding school. To investigate results for schools in disadvantaged urban neighborhoods more directly, a measure of neighborhood concentrated disadvantage derived from ACS:2008–2012 was linked to the SSOCS:2009–2010. [Table 3](#) presents descriptive mean comparisons for schools in disadvantaged urban neighborhoods and all other schools in the sample. Schools in disadvantaged urban neighborhoods report an average of 60 incidents of crime and violence and 34 incidents of student bodily harm, whereas these numbers decrease to 38 incidents of crime and violence and 21 incidents of student bodily harm for other schools in the sample ($p < .001$). In disadvantaged urban neighborhoods, schools indicate 26% of students achieving below the 15th percentile in math and reading, 47% of students are African American, and 44% are Hispanic students. On the whole, schools in disadvantaged urban neighborhoods exhibit comparatively lower school safety and less parent volunteering in school.

To determine whether the relationship between parent volunteering in school and school safety persists among schools in disadvantaged urban neighborhoods, negative binomial regression analyses were performed. In [Table 4](#), parent volunteering in school is associated with less school crime and violence ($p < .01$) and student bodily harm ($p < .05$) for schools in disadvantaged urban neighborhoods. To illustrate these results, predicted incidents of school crime and violence and student bodily harm at varying rates of parent volunteering in school are presented in [Figure 1](#). By holding all other covariates at their sample means, predicted incidents of school crime and violence for schools in disadvantaged urban neighborhoods decrease from 55 incidents to 26 incidents when moving from one standard deviation below the mean to one standard deviation above the mean. This difference represents a 53% decline in incidents of school crime and violence. Similarly, predicted incidents of student bodily harm decrease from 31 to 18 incidents, amounting to a predicted reduction of 42% when the rate of parent volunteering in school moves from one standard below the mean to one standard deviation above the mean.

Discussion

School safety has become one of the nation's foremost priorities (Federal Commission on School Safety, 2018). For many schools located in impoverished urban areas with high crime rates, maintaining a safe learning environment is an ongoing challenge. Official responses to school safety concerns have led to the growth of visible security in schools, and more recently, increases in the use of violence prevention programs, staff training, and advanced technology (Schwartz et al., 2016; Tanner-Smith et al., 2018). As an alternative to these approaches, scholars have reasoned that parent participation in school may have a positive influence on school safety (Park & Holloway, 2017), but empirical evidence for this relationship has remained weak. In this study, initial analyses of 12,698 schools represented in five nationally representative school survey waves indicated that parent volunteering in school is associated with lower school crime and violence and student bodily harm. For schools in disadvantaged urban neighborhoods, this relationship persisted. In these settings, predicted incidents of school crime and violence were associated with a 53% decline when parent volunteering rose from one standard deviation below the mean to one standard deviation above the mean. A similar decline of 42% was observed for student bodily harm.

In this study, the analyses build on the literature by adding empirical support to a mostly theoretical body of scholarship indicating that parent participation in school may promote school safety (Garcia, 2016; Sheldon & Epstein, 2002; Westrich & Strobel, 2013). Prior research also points to mechanisms that may be underlying this relationship (Jones et al., 2009; Kirk, 2009; Kupchik, 2016; Park & Holloway, 2017). One of these mechanisms is a potential rise in collective efficacy, in which parent volunteers help to enhance safety by increasing adult supervision and availability of adults at school (Astor et al., 2001; Bryk et al., 2010; Kirk, 2009; Thapa et al., 2013). Another mechanism may come from a strengthening of home-school ties that fosters cooperation, trust, and common social norms among school personnel, parents, and students (Bryk & Schneider, 2002; Forsyth et al., 2011; Valdimarsdottir & Bernburg, 2015). When parents volunteer in school, they may also become a symbol of social control, helping to discourage students from delinquent activity at school (Kirk & Sampson, 2011; Ripski & Gregory, 2009; Simons et al., 2005).

In addition to empirical support for existing theory, the finding of a relationship between parent volunteering in school and school safety among schools situated in urban neighborhoods with high crime and poverty warrants attention. In the sample, schools in disadvantaged urban neighborhoods reported comparatively high school crime and violence and student bodily harm but low rates of parent volunteering in school. Given these descriptive patterns, there may then be underdeveloped opportunities to increase safety in schools in disadvantaged urban neighborhoods by facilitating parent volunteering. A well-developed strand of scholarship finds that large numbers of low-income parents face different barriers to school-based parental involvement (Author, 2018; Baquedano-López et al., 2013; Park & Holloway, 2017). Yet, this literature also suggests that school personnel can undertake strategies to reduce barriers among low-income families if they are able to cultivate a school culture that seeks to build relationships with parents, is responsiveness to parent needs, and internalizes families' input (Adams, Forsyth, & Mitchell, 2009; Baquedano-López et al., 2013; Ishimaru, 2013). Results from this study also indicated that the relationship between parent volunteering and school safety may vary by school level. For instance, during middle school, large associations between parent volunteering and school safety were observed. This difference is notable since summary reports published by the federal government show that middle schools experience higher rates of school crime and violence than both elementary and high schools (Diliberti, Jackson, Kemp, & Hansen, 2017). Comparatively smaller associations found for high schools seem to cohere with trends reported in previous research that the effects of specific parental involvement activities tends to decline as children progress into later stages of adolescence (Bhargava & Witherspoon, 2015). The influence of school-based parent participation on safety may also differ based on the type of activity. School-based parent participation activities that can be experienced in a collective manner, such as parent volunteering, may contribute to school safety, whereas other forms may not.

Limitations and future research

By using a rigorous set of demographic, school, and neighborhood controls from three data sources, this study's analyses seek to reduce bias in estimating the relationship between parent volunteering in school and school safety. Nevertheless, the analytical approach used in this work is unable to make casual claims about the effect that parent volunteering in school may have on school safety. Even when employing extensive controls, parent-driven self-selection bias may be salient. It is possible, for instance, that parents who volunteer in school may be those who are more likely to undertake parenting practices that promote pro-social behavior in children (El Nokali, Bachman, & Votruba-Drzal, 2010). Parent volunteering may be emblematic of parental commitment to education and advantageous approaches to child development, thereby leading to fewer problem behaviors and safety-related issues in schools with high rates of parent volunteering (Author, 2017; Jones et al., 2009). Such unobserved parent characteristics could lead to overestimating the influence of parent volunteering on school safety and diminish its potential utility as a lever for schools to improve safety. Analyses that address selection bias through causal designs would provide valuable insight into determining whether parent volunteering could generate enhanced school safety.

Another limitation of this study is that it may exclude other features of schools that are related to parent volunteering and school safety. School climate is one factor that is thought to be linked to safety (Thapa et al., 2013). Positive school climate may also create conditions that enable parent volunteering (Mowen, 2015). If this is the case, a strong parent presence in schools may be a product of positive school climate. Even though this study does control for many school features that are considered to be interrelated with school climate, a direct indicator of school climate may offer a more precise control (Benbenishty, Astor, Roziner, & Wrabel, 2016; Forsyth et al., 2011). In future research, qualitative work can deepen understanding of the processes through which parent volunteering in school supports improved school safety. Since parent volunteering in school may take shape in different ways, descriptive work could unearth important interactions and organizational structures underlying parent volunteering that statistical studies are unable to explain.

Furthermore, measures of school crime and violence and student bodily harm do not cover all dimensions of student safety. Student perceptions of the prevalence of incidents may be higher than that of incidents reported by school staff (Low, Van Ryzin, Brown, Smith & Haggerty, 2014). Underreporting of incidents could also be an issue. Although principals are ensured confidentiality when responding to the SSOCS, underreporting by school officials could lead to inaccurate estimates of the relationship between parent volunteering in school and school safety. While these limitations necessitate cautious interpretation of the analyses presented in this work, this study makes an important empirical contribution to the literature that advances previous scholarship theorizing a relationship between parent volunteering in school and school safety. In particular, patterns demonstrating a positive relationship between parent volunteering in school and school safety among schools in disadvantaged urban neighborhoods establish a need for future research to determine if this relationship in these contexts is causal.

Conclusion

A safe learning environment is a fundamental expectation for schools. Use of effective approaches to school safety may be amplified in socioeconomically distressed communities where students tend to encounter substantial barriers to academic and life success (Ozer & Weinstein, 2004). At present, officials across the country are searching for ways to ensure students are safe at school. Policy responses to school crime and violence have led to considerable expansion of costly security measures in schools (Schwartz et al., 2016). However, it is unclear whether schools have become safer as a result of these initiatives while growing evidence has raised questions about the potential negative influence of heavy security on perceptions of school quality and climate (Author, 2019; Mowen, 2017). Unlike many current proposals for safer schools, parent volunteering in school appears to have a low financial cost and few conceivable unintended negative

consequences. Future studies will be key to determining whether parent volunteering may be a tool for enhancing safety in schools operating in disadvantaged urban neighborhoods.

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Appendix

Table A1. Pooled cross-sectional negative binomial regression predicting school crime and violence and student bodily harm, disadvantaged urban school sample.

	School Crime and Violence		Student Bodily Harm	
	Coef.	S.E.	Coef.	S.E.
Parent volunteering	-.269	(.061)***	-.296	(.081)***
<i>School Practices</i>				
Visible security measures	.052	(.028)	.116	(.039)**
School safety practices	.085	(.037)*	.082	(.045)
Formal school programs	-.025	(.036)	.018	(.038)
Staff safety training	-.065	(.031)	-.105	(.038)**
Community involvement	.058	(.024)*	.115	(.027)***
<i>School Characteristics</i>				
School enrollment	.108	(.013)***	.130	(.018)***
Middle school	.408	(.108)***	.541	(.160)***
High school	.053	(.153)	-.208	(.175)
Combined school	-.723	(.233)**	-.924	(.250)***
Charter school	.174	(.211)	.211	(.249)
% Limited English	-.008	(.003)**	-.009	(.003)**
% Special needs	.002	(.007)	.007	(.007)
% Low-achieving	.006	(.002)*	.007	(.003)*
% Black	-.001	(.003)	-.001	(.003)
% Hispanic	-.002	(.003)	-.007	(.004)
<i>Survey Year</i>				
2005-2006	.105	(.147)	.036	(.188)
2007-2008	-.012	(.152)	.302	(.211)
2009-2010	-.090	(.132)	-1.274	(.161)***
2015-2016	-.544	(.163)**	-1.423	(.187)***
Intercept	2.534	(.375)***	2.396	(.453)***
Pseudo R-square	.039		.059	

$n = 903$. Disadvantaged urban schools were those who were located in high/mid-crime urban areas, and reported one standard above the mean for students eligible for free/reduced price lunch. Robust standard errors are in parentheses. Primary school and academic year 2003–2004 are reference categories.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).