

School Sense of Community, Teacher Support, and Students' School Safety Perceptions

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Highlights

- The association between school climate and students' perceptions of unsafety at school was examined.
- School climate (SoC and teacher support) was measured both at the individual and at the school level.
- At the individual level, sense of community and teacher support were negatively associated with unsafety.
- At the school level, sense of community was negatively associated with unsafe feelings.
- Findings support the need to implement interventions promoting a cohesive school climate.

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Abstract This study examined the association between two characteristics of school climate (sense of community and teacher support, measured both at the individual and at the school level) and students' feelings of being unsafe at school. The study involved a sample of 49,638 students aged 10–18 years who participated in the 2010–2012 California Healthy Kids Survey. Using hierarchical linear modeling (HLM), our findings revealed that, at the individual level, students perceiving higher levels of sense of community and teacher support at school were less likely to feel unsafe within the school environment. At the school level, sense of community was negatively associated with unsafe feelings, whereas there was no association between school-level teacher support and feelings of being unsafe at school.

Keywords School safety · Sense of community · Teacher support · Multilevel analysis

Introduction

In the last 10 years, school climate has received increasing attention in psychological research and practice.

Broadly defined, school climate includes the physical and social features of the school context and is represented by the aggregation of students', teachers', and other staff members' perceptions and behaviors. The focus on understanding and improving school climate derives from an asset-based approach stating that in highly cohesive and supportive schools, a wide range of negative outcomes (e.g., substance use and violent behavior) are less likely (Voight & Nation, 2016). At the same time, recent research showed the role of a positive school climate in promoting better students' education, health, and civic outcomes (e.g., Lenzi et al., 2014; Thapa, Cohen, Guffey & Higgins-D'Alessandro, 2013).

In a recent systematic review of key practices for improving school climate (Voight & Nation, 2016), school safety was identified as a key feature of the school environment. School safety concerns are critical because feeling unsafe in the school environment has been linked to several detrimental consequences, such as lower school achievement, increased likelihood of risk behaviors and lower levels of physical and mental well-being. For this reason, it is fundamental to understand what factors can promote feelings of safety in the school and use this empirical evidence to implement effective programs. Based on Mooij and Fettelaar's (2013) theoretical framework, which identifies the main individual and school-level factors associated with school safety, this study evaluates the role of two factors included in the *relationship* domain of school climate (sense of community in school and teacher support, operationalized and measured both at the individual and at the schoolwide levels), in predicting students' perceptions of school safety.

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Students' School Safety Perceptions, Sense of Community, and Teacher Support

The feeling that school is not a safe place can derive from multiple sources: for instance, students might be afraid of being bullied, getting into a fight, getting bad grades, or becoming a victim of violent crime. Concerns for violent crime at school are still very common among parents, teachers, and the general public (Addington, 2009), even if violent crimes in U.S. schools have decreased in recent years (Kupchik & Bracy, 2009). Notwithstanding this decrease in violent crime, students themselves continue to report having a fear of being attacked and thus avoiding specific areas in the school setting (Robers, Kemp, Rathbun, & Morgan, 2014). The paradox of fear of crime and feeling unsafe at school is that crime is uncommon—crime has been decreasing in recent years and in any given year most students do not directly experience violent victimization (Mayer & Furlong, 2010).

Regardless of the actual likelihood of victimization, and besides the specific object of fear, fear related to a perception of unsafe school campuses deserves attention because of its documented detrimental consequences. When the school environment is perceived as unsafe, students are more likely to avoid specific campus locations (e.g., stairwells and restrooms; Robers et al., 2014), skip school altogether (Hughes, Gaines, & Pryor, 2015), or carry weapons to protect themselves (Kakar, 1998). Perceptions of campus disorder have also been linked to gang affiliation, with some youths reporting that one reason for joining a gang is the need for safety and protection (Lenzi et al., 2015). When students worry about self-protection at school, their attention to schoolwork and overall academic performance decreases (Milam, Furr-Holden & Leaf, 2010). Students' perceptions of unsafe school conditions have also been negatively associated with their career aspirations in elementary, middle, and high schools (Barrett, Jennings, & Lynch, 2012). Furthermore, constant fear of victimization has detrimental effects on students' psychological and physical health (Lawrence, 2007). Given the numerous negative consequences of feeling unsafe at school, it should be a priority to foster students' sense of safety at school.

In the current literature, there is some empirical evidence regarding predictors of school safety, mostly deriving from the research on fear of crime and from research conducted in the school environment. Research related more generally to fear of crime has predominately focused on adult populations (e.g., Vieno, Roccato & Russo, 2013), but, since the 1990s, increasing attention has been given to adolescents' fear of crime (for a review, see Swartz, Reynolds, Henson, & Wilcox, 2011). In a recent

study, Vieno, Lenzi, Roccato and Russo (2016) showed that social capital, modeled at the individual, neighborhood, and regional levels simultaneously, is negatively associated with adolescents' fear of crime in their local community. Nonetheless, few studies have examined school factors associated with students' perceptions of school safety (Henry, Farrell, Schoeny, Tolan & Dymnicki, 2011), and even more rare are studies examining predictors of perceived lack of safety at the schoolwide versus the individual student level. Studies on both risk and protective factors at the individual student and schoolwide level are needed to strengthen the theoretical and practical relevance of research (Mooij & Fettleaer, 2013). In particular, school safety should be addressed as a collective challenge, also taking into account the role of social relationships between pupils and teachers (Fernández-Montalvo, López-Goñi, & Arteaga, 2012).

Similarly, research conducted in the school environment identified some individual predictors of school safety, such as gender, race, and ethnicity (e.g., Fan, Williams, & Corkin, 2011; Koth, Bradshaw, & Leaf, 2008). However, other social, emotional, and cognitive characteristics are likely to influence a feeling of safety in the school environment, thus shaping students' experience at school (Berg & Aber, 2015; Fan et al., 2011). Most notably, a meaningful portion of variation in students' perception of school safety lies between schools, with variance ranging from 4% to 27% (e.g., Koth et al., 2008). In a recent study, Berg and Aber (2015) showed that children perceived a worse interpersonal climate and felt more afraid when they were in schools where students, on average, reported poorer relationships among students and teachers. This means that school-level characteristics might contribute in explaining students' perceived safety within the school environment (Berg & Aber, 2015).

Which Factors Influence Perceived Safety Concerns at School?

Considering the negative impact of students perceiving their school as being unsafe, scholars are increasingly focusing on identifying the correlates of student fear (May & Dunaway, 2000; Welsh, 2001). Synthesizing recent empirical research on perceptions of school safety into a theoretical framework, Mooij and Fettleaer (2013) identified the main risk and protective factors for concerns about school safety at the individual and the schoolwide levels. In their conceptualization, the individual domain includes demographic characteristics, such as gender and age, as well as students' social and psychological attributes. At this level, Mooij and Fettleaer's framework

suggests, for example, that students who feel less confident in protecting themselves, such as females and younger students (Varjas, Hedrich, & Meyers, 2009), are more likely to feel unsafe at school due to their increased sense of vulnerability.

Mooij and Fottelaar's theoretical model (2013) suggests that students' feelings of safety are influenced at a second level by a range of educational, policy, social, and structural characteristics of the school itself. According to the model, and supported by empirical research, a number of school leadership characteristics play a role in students' perception of safety, including: teacher and instructional qualities (e.g., academic goal setting), social pedagogical policy (e.g., mutual respect), and school discipline (e.g., procedures to deal with or prevent violent incidents; Lim & Deutsch, 1996; Parker & Martin, 2009; Sorlie, Hagen, & Ogden, 2008). For example, qualitative studies have demonstrated that educational activities to promote students' involvement in school, high-quality trainings for teachers, and the collaboration with external educational institutions such as universities to supervise the social behavior of pupils in school are associated with higher levels of perceived safety in the school and in the school surroundings (Beauvais & Jenson, 2002; Carbin, Wyatt, & Robb, 2006; Mayer & Leone, 1999). Analogous characteristics such as engaging classes, hands on activities, and high expectations for student success have also been identified as important for students' overall level of engagement with school (Sharkey, Shekhtmeyster, Chavez-Lopez, Norris, & Sass, 2010).

Past studies on school features influencing perceived safety, as well as Mooij and Fottelaar's theoretical framework, have mostly focused on teaching strategies, educational curriculum, and school discipline. However, other aspects of school social climate might be particularly influential in determining students' perception of safety. School social climate refers to the specific values and norms to which the organization's members are expected to adhere and the type of social relationships established among its members. Only a few studies have tested how different aspects of school social climate are associated with students' perceptions of safety (e.g., Akiba, 2010; Skiba et al., 2004), and in these studies, social climate features have been operationalized at the individual level, not as characteristics of the school as a whole. Past studies examining the association between school-level characteristics and students' perceived safety were limited to the structural and compositional features of the school, such as school enrollment and attending private versus public schools (Fan et al., 2011). Relational characteristics of the school might be critical in shaping feelings of safety/unsafe in students. Indeed, a recent systematic review on practices for improving school climate (Voight & Nation,

2016) showed that, besides violence-prevention curricula, other program features are effective in promoting students' feelings of safety at school. In particular, programs focusing on developing social competences and improving school relationships demonstrated effectiveness in reducing students' feelings of fear within the school environment (e.g., Flay, Graumlich, Segawa, Burns, & Holliday, 2004).

Drawing from the literature on school climate, neighborhood social resources and fear of crime (e.g., Russo, Roccato, & Vieno, 2011), and integrating this evidence with Mooij and Fottelaar's theoretical framework (2013), we aimed to test the role of two characteristics of school social climate: sense of community and teacher support.

School Sense of Community, Teacher Support, and Students' Perceptions of Safety

Within the literature on fear of crime, there is strong evidence supporting the role of social connectedness (operationalized in various ways, such as sense of community, intergenerational closure, social capital) in protecting against fear of crime. The negative association between social connectedness and fear of crime is generally explained through the argument that social relationships characterized by trust and reciprocity reduce citizens' feelings of vulnerability, motivate them to guard against physical and social incivilities, and exercise social control over deviant behaviors (e.g., Perkins & Taylor, 1996; Sampson & Raudenbush, 1999). It is plausible that similar processes are at play in the school environment. Relational aspects of school social climate might represent a key protective factor against feeling unsafe in the school environment. In particular, we sought to examine student perceptions of school sense of community and teacher support in relation to perceptions of school safety.

Many scholars have used school sense of community to describe the relational aspects of school settings (Vieno, Perkins, Smith & Santinello, 2005). Broadly defined, sense of community is "a feeling that members have of belonging and being important to each other, and a shared faith that members' needs will be met by the commitment to be together" (McMillan & Chavis, 1986, p. 9). Past studies have linked school sense of community to a range of student outcomes, such as academic achievement (Rice, Kang, Weaver & Howell, 2008), physical and emotional well-being (Vieno, Lenzi, Santinello, & Scacchi, 2013; Vieno, Roccato et al., 2013), and decreases in substance use and violent behaviors (Botticello, 2009). However, only a few studies have examined the potential protective role that school sense of community might have on school safety perceptions (Akiba, 2010). Perceiving the

school environment as a supportive community of people is likely to decrease students' fear of violent victimization. In the neighborhood environment, a sense of membership and belonging has been shown to reduce unsafe feelings in the local community (Zani, Cicognani & Albanesi, 2001); the same processes might occur in the school environment, with students who perceive higher levels of school sense of community reporting lower levels of perceptions of being unsafe at school.

When students have strong ties with school professionals (especially teachers) and their classmates, and perceive that school members are willing to help each other, students might feel more confident that they can ask for help, support, and protection when they feel they are in danger. Past studies have shown how intergenerational closure (i.e., social relationships between parents, their children, and both sets of friends) and perceived social support reduce unsafe feelings in the local community (e.g., Baron, 2011) by providing a resource to regulate emotional reactions as well as concrete help in case of danger. Moreover, there is empirical evidence showing that school-level student–teacher connectedness is positively associated with students' achievement, through the creation of a social climate favoring the learning process (Konishi, Hymel, Zumbo & Li, 2010). Considering the teachers' role and authority within the school, they might be in a critical position to protect students from feeling unsafe.

Although scholars increasingly are focused on correlates of unsafe feelings at school, studies examining factors related to perceived safety concerns at school are scarce, and more attention needs to be given to school-level factors of social climate in addition to individual student-level factors (Cowie & Smith, 2010; Henry et al., 2011). To our knowledge, no studies have simultaneously examined school-level and individual student-level perceptions of school climate in relation to perceived safety concerns at school. In one related study, students' sense of belonging and student–teacher bonding were negatively associated with fear of school violence (Akiba, 2010); however, these features of school social climate were conceptualized and measured only at the individual level. School sense of community and teacher support might also represent characteristics of the school community as a whole, influencing social processes at the school level above and beyond each individual's perceptions; research can benefit from modeling these schoolwide features as a shared contextual element that can affect feelings of safety at school (Vieno, Lenzi et al., 2013; Vieno, Roccato et al., 2013). Schools characterized by cohesive relationships among students and supportive ties with teachers might trigger processes that are also beneficial for students not personally included in big social networks within the

school. It is possible, for example, that even a few ties established in a highly connected school can provide access to the wider array of social resources at the school, thus decreasing unsafe feelings. Unfortunately, research evaluating protective factors that may reduce feelings of being unsafe are rather scarce, as compared to studies examining risk factors. At the same time, malleable characteristics related to school social climate have received less attention compared to educational, policy, and structural features.

Study Purpose

The main aim of this study was to evaluate the association between two characteristics of school climate (sense of community and teacher support) and students' unsafe feelings at school, while controlling for student demographics and school structural features (type of school, percent of students receiving reduced or free lunch, percent of minority students in the school). More specifically, we examined the role of sense of community and teacher support, operationalized at the individual and at the school levels, in protecting students from experiencing unsafe feelings at school. We expected that individual students reporting higher levels of sense of community and teacher support would be less likely to feel unsafe within the school environment (Akiba, 2010). Similarly, we hypothesized that a higher school-level sense of community and teacher support would also be associated with lower levels of student-reported perceptions of feeling unsafe at school.

Method

Participants

Data were drawn from an administration of the California Healthy Kids Survey (CHKS), which is used to provide information to develop prevention and intervention programs in schools and communities. The survey was developed by WestEd's Health and Human Development Program in collaboration with Duerr Evaluation Resources for the California Department of Education (CDE), and examines a range of youth health-related behaviors through a required core module and various additional modules that districts can select to tailor their data collection. The CHKS is administered in most California schools every 2 years (about half of the schools each year; Hanson & Kim, 2007). The data used in this study were collected during 2010–2012 with students in Grades 7, 9, and 11. Items were drawn from the core module and

the Resilience and Youth Development Module (RYDM). Thus, we only included participants from schools who completed the optional module ($n = 51,693$ of 619,562). Secondary analyses of survey data were exempt from the University Institutional Review Board on the use of human subjects.

Participants were 49,638 students (52% females; $M_{\text{age}} = 14.5$, $SD = 1.7$) because of missing data for some participants (4%) on one or more of the variables of interest. We compared the original sample (619,562) to the subsample included in the analyses (49,638 students) on gender and age distribution. The included sample differs slightly from the original sample in terms of gender distribution, $\chi^2(1) = 55.42$, $p < .001$, with a slightly higher percentage of males (49.8% vs. 48.0%) in the original sample. Furthermore, there is a slight difference in age distribution, with a slightly higher mean age in the included subsample compared to the original sample (respectively, 14.5 [$SD = 1.7$] and 14.4 [$SD = 1.8$], $F(1, 614091) = 69.58$, $p < .001$). To account for these differences in our analyses, these demographics were included as control variables.

Measures

The CHKS includes a set of assessment modules examining youth risks and resources. All instruments are available on the California Healthy Kids Website (<http://chks.wested.org/administer>). Items were selected from the Core module and the Healthy Kids Resilience Module (HKRM). The HKRM has undergone extensive psychometric testing and development (Hanson & Kim, 2007).

Perceived School Safety

Perception of school safety was measured with a single item asking students: “During the past 30 days, on how many days did you not go to school because you felt unsafe at school or on your way to or from school?” Responses were rated on a four-point scale (0, 1, 2 or 3, 4 or more) and then dichotomized (students who never skipped school versus students not going to school for unsafety reasons at least once). This choice was mostly made based on the distribution of the variable, which was skewed (never = 89.3%; 1 day = 5.0%; 2 or 3 days = 2.9%; 4 days or more = 2.8%). Dichotomization allowed us to use odds ratios, a more interpretable and realistic measure of strength of association than the percentage of variance explained. This CHKS item is the same one employed by the U.S. Center for Disease Control and Prevention as an indicator of generalized feelings of being unsafe at school (Kann et al., 2014).

School Sense of Community

Students’ sense of community was measured with a three-item scale (adapted from McMillan & Chavis, 1986; Vieno, Santinello, Pastore & Perkins, 2007) that included the following items: (a) “I feel close to the people at this school,” (b) “I am happy to be at this school,” and (c) “I feel like I am part of this school.” Participants responded on a five-point scale (1 = *strongly agree* to 5 = *strongly disagree*). The scale, developed for this study from available items, demonstrated good reliability ($\alpha = .81$); single items scores were averaged to obtain a single measure of school sense of community.

Teacher Support

Teacher support was measured with a six-item scale composed of the following items: (a) “At my school there is a teacher or adult who tells me when I do a good job,” (b) “At my school there is a teacher or adult who notices when I’m not there,” (c) “At my school there is a teacher or adult who wants me to do my best,” (d) “At my school there is a teacher or adult who believes I will be a success,” (e) “At my school there is a teacher or adult who really cares about me,” and (f) “At my school there is a teacher or adult who listens to me when I have something to say.” Students responded on a four-point scale (1 = *not at all true of me* to 4 = *very much true of me*). This scale has demonstrated strong psychometric properties including internal consistency reliability of .90 in a validation study of the RYDM (Hanson & Kim, 2007). In this study, the scale also demonstrated good reliability ($\alpha = .88$); responses to single items were averaged to compute a single score of teacher support.

Control Variables

At the individual level, students’ gender and age were included as predictors. At the school level, data obtained from the National Center for Education Statistics (NCES; <http://nces.ed.gov/>) were used to for the following predictors included in the analyses: type of school (regular vs. special education, vocational, or alternative school), school-level SES (measured by the percentage of students receiving free or reduced price lunch), and percentage of minority students in the school.

Analytic Approach

The data used in the present study are inherently clustered (i.e., adolescents sampled within schools); hence, we used the multilevel regression technique of hierarchical linear modeling (HLM; Raudenbush & Bryk, 2002). Multilevel

models are statistical models of parameters that vary at more than one level, and are particularly appropriate for research designs where data are organized at multiple levels (i.e., individuals who are nested within geographical units).

Due to the dichotomous nature of the dependent variable of perception of feeling unsafe at school (yes/no), the model was analyzed with hierarchical generalized linear model (HGLM) using a Bernoulli sampling model with the following logit link function:

$$\eta_{ij} = \log [\Phi_{ij}/(1 - \Phi_{ij})],$$

where η_{ij} is the log of the odds of feeling unsafe at school and Φ_{ij} is the probability of feeling unsafe.

Analyses began with the estimation of the unconditional model where γ_{00} represented the average log-odds of feeling unsafe at school in one of the schools included in the sample. Next, the analysis involved simultaneously fitting two regression models for the dependent variable: a within-class model and a between-class model. The within-class (level 1) model estimated the association between school sense of community and teacher support and feeling unsafe for student i in school j , controlling for gender and age. School sense of community and teacher support were centered around the school mean, so that the estimate of the school-mean measures were unadjusted for between school variation in these variables; this allowed us to examine the between-school influence of the aggregate scores of school sense of community and teacher support at level 2 (Raudenbush & Bryk, 2002). The individual-level model includes two predictors and two control variables:

$$\begin{aligned} \eta_{ij} = & \beta_{0j} + \beta_{1j}(\text{age}) + \beta_{2j}(\text{gender}) \\ & + \beta_{3j}(\text{school sense of community}) \\ & + \beta_{4j}(\text{teacher support}) + r_{ij} \end{aligned}$$

where η_{ij} is the log of the odds of feeling unsafe at school, β_{0j} is the intercept (that is, the mean outcome for unit j), β_{3-4j} are the parameters of the slopes for individual predictors, and r_{ij} is the level-1 error term. At level 2, the intercept was initially treated as random and the remaining coefficient as fixed, that is:

$$\beta_{0j} = \gamma_{00} + u_{0j}.$$

where γ_{00} represents the grand-mean outcome in the population and u_{0j} the random effect associated with unit j .

The next step in the analysis was to consider the possible school effects on feeling unsafe as a function of

school-level sense of community and teacher support, controlling for school structural features (i.e., type of school, percentage of students receiving reduced or free lunch, and percentage of minority students). We analyzed possible effects on the adjusted school log-odds of feeling unsafe at school, γ_{0j} ; school sense of community and teacher support were grand mean centered.

The school-level model includes two predictors and three control variables:

$$\begin{aligned} \beta_{0j} = & \gamma_{00} + \gamma_{01}(\text{school type}) + \gamma_{02}(\text{school SES}) \\ & + \gamma_{03}(\% \text{ minority}) \\ & + \gamma_{04}(\text{school sense of community}) \\ & + \gamma_{05}(\text{teacher support}) + u_{0j} \end{aligned}$$

where γ_{00} represents the grand-mean outcome in the population, γ_{04-5} are the parameters of the predictors at the school level (grand mean centered) and u_{0j} is the unique increment to intercept for school j .

Results

Preliminary Analyses

Descriptive statistics for the variables included in the study are shown in Table 1. There was wide variation in adolescents' reports of social climate characteristics of their schools, with standard deviations of 0.75 for teacher support and 0.95 for sense of community. In the general sample, 10.7% (50.6% male; mean age: 14.1 $SD = 1.9$) of students involved in the study reported that in the month preceding the study they skipped school at least once because they felt unsafe. However, there was a large range in the probability of feeling unsafe across schools; a preliminary step in HLM involves fitting an unconditional model without predictors and examining the variation among schools in perceived unsafe feelings. The population-average estimate γ_{00} represented the average logs odd of feeling unsafe in school ($\gamma_{00} = -0.86$). Given the estimate of $\tau_{00} = 1.95$, we expected 95% of the schools to have a log-odds between -3.60 and 1.88 , corresponding to a probability of feeling unsafe at school between 0.02 and 0.13. Reliability for the unconditional model was .65.

Within- and Between-School Analyses

The within- and between-school HLM models predicting unsafe feelings at school are shown in Table 2. Each individual-level predictor was significantly associated with students feeling unsafe—students who perceived higher

Table 1 Descriptive statistics for perceived unsafety at school, sense of community, teacher support, and control variables included in the study

	<i>N</i>	Mean	<i>SD</i>	Min	Max
Individual level					
Perceived unsafety	49,638	0.10	0.31	0	1
Age	49,638	14.49	1.69	10	18
Gender (female)	49,638	0.52	0.50	0	1
School sense of community	49,638	3.61	0.95	1.00	5.00
Teacher support	49,638	3.00	0.75	1.00	4.00
Aggregate level					
School sense of community	618	3.53	0.30	1.60	5.00
Teacher support	618	2.95	0.18	1.67	4.00
School type (regular)	618	0.84	0.37	0.00	1.00
School SES (% free and reduced lunch at school)	618	50.02	25.94	0.00	99.50
% Minority in school	618	0.27	0.44	0.00	1.00

Table 2 Multilevel logit regression estimates for “school unsafety” (*N* = 49,638)

	OR	95% [CI]
Intercept γ_{00}	0.412	[0.346, 0.491]***
Individual level		
Age	0.978	[0.962, 0.996]
Gender (female)	0.942	[0.912, 0.973]**
School sense of community ^a	0.751	[0.733, 0.768]***
Teacher support ^a	0.762	[0.742, 0.783]***
Aggregate level		
School type (regular)	1.533	[0.933, 2.518]
School SES (% reduced or free lunch)	0.995	[0.988, 1.002]
% Minority at school	1.145	[0.795, 1.650]
School sense of community ^b	0.203	[0.072, 0.572]**
Teacher support ^b	1.342	[0.389, 4.634]

^aSchool-mean-centered; ^bgrand-mean-centered.

p* < .01; *p* < .001.

levels of sense of community and teacher support at school were less likely to feel unsafe in or on the way to school (OR = 0.75 and 0.76, respectively). Moreover, females were slightly less likely to report feeling unsafe at school (OR = 0.94), whereas there was no association between age and students' perception of feeling unsafe. In the between-school model, school-level sense of community was negatively associated with unsafe feelings (OR = 0.20); that is, students were five times less likely to report feeling unsafe within the school context for each one-unit increase in the schoolwide sense of community. In contrast, school-level teacher support was not significantly associated with students' unsafe feelings. Regarding school structural characteristics, none of the features showed an association with youth feeling unsafe at school.

Discussion

The current study examined if aspects of school social climate are associated with student reports of avoiding school because they feel unsafe at or on the way to or from school. Results of multilevel analyses indicated that, at the individual student level, higher levels of sense of community and teacher support were associated with a decreased likelihood of reporting feeling unsafe at school. At the aggregate level, students attending schools with higher levels of sense of community were less likely to experience feelings of being unsafe. These two findings were in line with the literature on social connectedness at the community level and fear of crime, by showing that a higher level of social connectedness at school (in terms of sense of community and teachers' support) was associated with a lower likelihood of feeling unsafe (Gibson, Zhao, Lovrich & Gaffney, 2002; Wikstrom & Dolmen, 2001).

In addition, our findings complement Mooij and Fetteelaar's (2013) theoretical framework, extending the model focused on educational, policy, social, and structural characteristics of schools related to students' unsafe feelings at school, by focusing on relational components of school social climate. In this study, we evaluated the association between two social aspects of school climate, school sense of community and teacher support, and students' feelings of being unsafe, which also extended previous investigations of the association between school social climate and students' perceived safety at the individual-level (e.g., Akiba, 2010; Cowie & Smith, 2010) to include school-wide aggregate indicators.

Individual-level Results

As hypothesized, students' individual perception of sense of community was associated with a decreased likelihood of feeling unsafe at school; for each one-unit increase in perceived sense of community, students were 25% less likely to have skipped school because of perceptions of being unsafe. Our results are consistent with previous studies linking school sense of community with a range of adolescents' educational, physical, and psychological outcomes (Rice et al., 2008; Vieno, Lenzi et al., 2013; Vieno, Roccato et al., 2013). Consistency was also found with Akiba's work (2010), which identified students' sense of belonging at school as one of the strongest predictors of school safety perceptions. That is, strong ties with people at school might provide students a sense of security reassuring them that, in case of need or danger, there will be someone within the school context to turn to for assistance. Our findings also corroborated the crime neighborhood effect literature by showing how cohesive relationships and a sense of belonging to the local

community are associated with reduced unsafe feelings at school (Zani et al., 2001).

Also consistent with our hypothesis, individual perceptions of teacher support were negatively associated with unsafe feelings at school. For each one-unit increase in perceived support from teachers, students were 24% less likely to report feeling unsafe, which is consistent with Akiba's (2010) findings that the student–teacher bonding protects students from fear of school violence. The negative association between teacher support and perceived lack of safety at school is consistent with parallel studies showing that intergenerational closure and perceived social support in the neighborhood are linked to reduced fear of crime in the local community (Baron, 2011). Social support provides adolescents with additional resources to regulate their emotional reactions to potentially fear inducing experiences, as well as providing help in case of danger; thus, social support might represent a critical protective factor against feeling unsafe at school. This impact may be particularly pronounced when the social support comes from the school's authority figures (i.e., teachers), who provide fundamental guidance for students and oversight of the school campus. Hence, perceiving that teachers at school listen and care for students seems to be critical in protecting youth from feelings of being unsafe.

School-Level Results—Sense of Community

At the aggregate level, our findings confirmed the expected relation between school-level sense of community and school safety (Vieno, Lenzi et al., 2013; Vieno, Roccato et al., 2013). Attending a school where, on average, students report close relationships and feel they are part of the school community, was associated with a lower likelihood of feeling unsafe at, or on the way to or from, school. According to our results, for each one-unit increase in school-level sense of community, students were five times less likely to feel unsafe within the school context. This finding further supports recent literature examining how aspects of social climate function as contextual features that influence students' well-being above and beyond their individual perceptions of the school environment.

The negative association between sense of community and feeling unsafe at school was stronger at the school level than at the individual level. School-level sense of community could reflect structural features of a particular school, such as average student socioeconomic circumstances (thus, partially reflecting the effect of school disadvantage and incivilities on feeling unsafe). However, as we controlled for school-level SES and other structural features, this explanation can plausibly be discarded.

Instead, the stronger association between school-level sense of community and students' perceived safety might be explained by the fact that each student's social relationships within the school contribute to the overall school social climate. In a highly cohesive school, where many students have close ties and feel part of a larger community, it might not be necessary for each student to personally establish many cohesive ties in order to feel safe. For instance, in a school that is perceived as a cohesive community by most students, students might feel that even a single, close relationship with a classmate provides the link to the broader array of social connections and resources at the school.

School-Level Results—Teacher Support

Contrary to what we hypothesized based on previous research (Baron, 2011; Berg & Aber, 2015), teacher support was not associated with students' feelings of being unsafe at the aggregate level. It is possible that school-level teacher support has an impact only on school-related outcomes, as shown by Konishi et al. (2010), but might not be enough to increase students' perception of safety. Considering the association we found between individual perception of teacher support and feeling unsafe, it is possible that teacher support acts as a protective factor against unsafe feelings only when the student personally perceives the support. Students might have very different definitions of what they considered to be supportive, based on their educational needs and their relationships with teachers. This might partly explain why this social climate feature did not have an effect when operationalized as a contextual characteristic of the school. When considering the school community as a whole, the level of sense of community among all the members of the school (between students, between students and teachers, between students and other school professionals) seems to be the critical aspect of social climate that protects students from feeling unsafe.

Study Limitations

The current study has limitations that need to be considered when interpreting its findings. First, the cross-sectional nature of these data makes causal inferences impossible. Longitudinal studies evaluating how school social climate predicts later feelings of safety at school are needed to draw conclusions about the directionality of the effects. Moreover, the outcome variable was measured through a single item; a validated scale composed by multiple items would improve the reliability of the measurement of perceived safety in the school environment. Another limitation derives from the use of

a unique source of information (adolescent self-report questionnaire). This approach is vulnerable to same-source bias, or the possibility that the outcome affects the perception or report of school social climate (Diez-Roux, 2007); this might have an impact especially on the reliability of findings at the individual level. For instance, adolescents who feel very safe at school might also be involved in fewer aggressive behaviors or tend to report better relationships within the school environment, irrespectively of the actual characteristics of their relationships with people at school. The same-source bias might partly explain why an association between teacher support and feelings of safety was only found at the individual level. However, this limitation was partially addressed by also operationalizing sense of community and teacher support at the school level. At the individual level, relevant potential confounders (e.g., eligibility for free/reduced lunch and ethnicity) were not taken into account because they were not included in the CHKS (although they have been included at the school level). In addition, potential cross-level moderation effects have not been taken into account, being beyond the scope of the current work. Past studies have demonstrated that the perception of school features might depend on students' individual characteristics. For example, Berg and Aber (2015) found that in schools with lower teacher cohesion, less engaged students perceived a more negative climate, and interpreted this finding as a lack of fit between individual and school-level characteristics. Future research should focus on analyzing these cross-level interactions between students' perception and school characteristics and even consider the person-context dissimilarity model where challenges of individuals who deviate from the social norms of a context (e.g., classroom or school) are exacerbated. Finally, because our sample was drawn from only schools within the U.S. State of California, the findings might not generalize to adolescents outside of California.

Implications for Practice and Research

This research supports a rationale for implementing multi-tiered strategies designed to foster positive relationships between all students, their teachers, and other school staff. Advisory programs can provide a set time during each day specifically designated for teachers to develop relationships with all students. In one study, when such an advisor was rated by their students as being part of their "attachment network" (>40% of the sample), these students also demonstrated greater gains in student engagement, academic achievement, and hope (Van Ryzin, 2010). An example of a second-tier approach schools

could implement is a targeted mentor–student relationship program, which has been shown to help students develop positive attitudes about their relationships with teachers and resulting improvements in academic and social functioning (Goldner & Mayseless, 2009). School professionals could also implement targeted interventions such as relationship-focused reflection, which focuses on teachers' relationships with specific students who are more difficult to bond with and has demonstrated promise at building teacher–child relationships with a simultaneous improvement in behavior (Spilt, Koomen, Thijs, & van der Leij, 2012).

Our results also suggest that efforts to increase students' sense of school safety is enhanced by increasing the proportion of students who adopt the self-schema that they are members of the general school community. School professionals can use strategies that foster students' identification with the school as a community such as developing cross-age mentoring programs that pair high school students with younger students with a specific focus on fostering connectedness. In one such program, participating students demonstrated improvements in self-esteem, social skills, and behavior skills (Karcher, 2005). Another example for students with more complex challenges is the Families and Schools Together (FAST) approach, which has been related to improvements in behavior, academic performance, and school connectedness (Terrion, 2006).

Our study identifies the potential role of social, malleable characteristics of the school in protecting students from global feelings of being unsafe at school. These findings are critical to identify and disseminate as the most popular school safety measures have included deterrence strategies such as hiring security guards, installing security cameras, and/or using metal detectors. Recent research has found that these common sense security approaches have no or even iatrogenic effects (Cornell, 2015; Gardella, Tanner-Smith & Fisher, 2016; Perumean-Chaney & Sutton, 2013). School-level strategies to address school unsafety should be integrated with interventions at the individual level, such as threat assessment strategies (Cornell, 2015). Threat assessment is an effective process through which individuals who threaten to harm other people are evaluated in order to understand whether their behavior represents a serious danger. Intervention plans include student engagement activities along with more traditional consequences.

The results of our study highlight the importance of school professionals working together to improve school climate. School psychologists can engage in prevention efforts, working with teachers and students to change the school and classroom environments to positively engage students (Chory-Assad & Paulsel, 2004; Vieno, Lenzi

et al., 2013; Vieno, Roccato et al., 2013). Teachers play a critical role in developing social cohesion within the school environment, by providing collaborative learning and social activities for students that can nurture their sense of belonging to the school community (Akiba, 2010). School administrators can provide support to teachers in developing a cohesive school climate where students and family are involved in the decisions that shape the school context. Ultimately, ongoing research is needed to investigate the educational, structural, and policy characteristics that promote a cohesive social climate at school in order to develop effective interventions that foster students' global sense of security at school and, thus, their overall sense of well-being.

References

- Addington, L.A. (2009). Cops and cameras: Public school security as a policy response to Columbine. *American Behavioral Scientist*, *52*, 1426–1446.
- Akiba, M. (2010). What predicts fear of school violence among U.S. adolescents? *Teachers College Record*, *112*, 68–102.
- Baron, S.W. (2011). Street youths' fear of violent crime. *Deviant Behavior*, *32*, 475–502.
- Barrett, K.L., Jennings, W.G., & Lynch, M.J. (2012). The relation between youth fear and avoidance of crime in school and academic experiences. *Journal of School Violence*, *11*, 1–20.
- Beauvais, C., & Jenson, J. (2002). *Social cohesion: Updating the state of the research. CPRN discussion paper*. Ottawa, ON: Canadian Policy Research Networks. Available from: http://rcrpp.org/documents/29271_en.pdf [last accessed September 26 2017].
- Berg, J.K., & Aber, J.L. (2015). A multilevel view of predictors of children's perceptions of school interpersonal climate. *Journal of Educational Psychology*, *107*, 1150–1170.
- Botticello, A.L. (2009). Social contextual influences on the risk for adolescent alcohol misuse. *American Journal of Community Psychology*, *43*, 85–97.
- Carbines, R., Wyatt, T., & Robb, L. (2006). *Encouraging tolerance and social cohesion through school education* (Report to the Australian Government Department of Education, Science and Training). Available from: http://www.curriculum.edu.au/verve/_resources/Encouraging_Tolerance_Final_Report.pdf [last accessed September 26 2017].
- Chory-Assad, R.M., & Paulsel, M.L. (2004). Classroom justice: Student aggression and resistance as reactions to perceived unfairness. *Communication Education*, *53*, 253–273.
- Cornell, D. (2015). Our schools are safe: Challenging the misperception that schools are dangerous places. *American Journal of Orthopsychiatry*, *85*, 217–220.
- Cowie, H., & Smith, P. K. (2010). Peer support as a means of improving school safety and reducing bullying and violence. In B. Doll, J. Charvat, J. Baker & G. Stoner (Eds.), *Handbook of prevention research* (pp. 179–195). Mahwah, NJ: Lawrence Erlbaum.
- Diez-Roux, A.V. (2007). Environnement résidentiel et santé: état de la question et perspectives pour le futur. *Revue d'Epidémiologie et de Santé Publique*, *55*, 13–21.
- Fan, W., Williams, C.M., & Corkin, D.M. (2011). A multilevel analysis of student perceptions of school climate: The effect of social and academic risk factors. *Psychology in the Schools*, *48*, 632–647.
- Fernández-Montalvo, J., López-Goñi, J.J., & Arteaga, A. (2012). Violent behaviors in drug addiction: Differential profiles of drug-addicted patients with and without violence problems. *Journal of Interpersonal Violence*, *27*, 142–157.
- Flay, B.R., Graumlich, S., Segawa, E., Burns, J.L., & Holliday, M.Y. (2004). Effects of 2 prevention programs on high-risk behaviors among African American youth. *Archives of Pediatric and Adolescent Medicine*, *158*, 377.
- Gardella, J.F., Tanner-Smith, E.E., & Fisher, B.W. (2016). Academic consequences of multiple victimization and the role of school security measures. *American Journal of Community Psychology*, *58*, 36–46.
- Gibson, C.L., Zhao, J., Lovrich, N.P., & Gaffney, M.J. (2002). Social integration, individual perceptions of collective efficacy, and fear of crime in three cities. *Justice Quarterly*, *19*, 537–564.
- Goldner, L., & Maysel, O. (2009). The quality of mentoring relationships and mentoring success. *Journal of Youth Adolescence*, *38*, 1339–1350.
- Hanson, T.L., & Kim, J.O. (2007). *Measuring resilience and youth development: The psychometric properties of the Healthy Kids Survey*. (Issues & Answers Report, REL 2007–No. 034). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West. Available from: <http://ies.ed.gov/ncee/edlabs> [last accessed December 2015].
- Henry, D.B., Farrell, A.D., Schoeny, M.E., Tolan, P.H., & Dymnicki, A.B. (2011). Influence of school-level variables on aggression and associated attitudes of middle school students. *Journal of School Psychology*, *49*, 481–503.
- Hughes, M.R., Gaines, J.S., & Pryor, D.W. (2015). Staying away from school: Adolescents who miss school due to feeling unsafe. *Youth Violence and Juvenile Justice*, *13*, 270–290.
- Kakar, S. (1998). Schools: Criminal activity and security measures administration. *Journal of Security Administration*, *21*, 55–73.
- Kann, L., Kinchen, S., Shanklin, S.L., Flint, K.H., Hawkins, J., Harris, W.A., . . . & Zaza, S. (2014). Youth risk behavior surveillance survey—United States, 2013. *Morbidity and Mortality Weekly Report (MMWR)*, *63*(SS04), 1–169.
- Karcher, M.J. (2005). The effects of developmental mentoring and high school mentors' attendance on their younger mentees' self-esteem, social skills, and connectedness. *Psychology in the Schools*, *42*, 65–77.
- Konishi, C., Hymel, S., Zumbo, B.D., & Li, Z. (2010). Do school bullying and student–teacher relationships matter for academic achievement? A multilevel analysis. *Canadian Journal of School Psychology*, *25*, 19–39.
- Koth, C.W., Bradshaw, C.P., & Leaf, P.J. (2008). A multilevel study of predictors of student perceptions of school climate: The effect of classroom-level factors. *Journal of Educational Psychology*, *100*, 96–104.
- Kupchik, A., & Bracy, N.L. (2009). The news media on school crime and violence. *Youth Violence and Juvenile Justice*, *7*, 136–155.
- Lawrence, R. (2007). *School crime and juvenile justice* (2nd edn). New York: Oxford University Press.
- Lenzi, M., Sharkey, J.D., Vieno, A., Mayworm, A., Dougherty, D., & Nylund-Gibson, K. (2015). Adolescent gang involvement: The role of individual, family, peer, and school factors in a multilevel perspective. *Aggressive Behavior*, *41*, 386–397.
- Lenzi, M., Vieno, A., Sharkey, J., Mayworm, A., Scacchi, L., Pastore, M., & Santinello, M. (2014). How school can teach civic engagement besides civic education: The role of democratic

- school climate. *American Journal of Community Psychology*, 54, 251–261.
- Lim, Y. Y., & Deutsch, M. (1996). *Examples of school-based programs involving peaceful conflict resolution and mediation oriented to overcoming community violence*. New York, NY: Columbia University, Teachers College, International Center for Cooperation and Conflict Resolution.
- May, D.C., & Dunaway, R.G. (2000). Predictors of fear of criminal victimization at school among adolescents. *Sociological Spectrum*, 20, 149–168.
- Mayer, M.J., & Furlong, M.J. (2010). How safe are our schools? *Educational Researcher*, 39, 16–26.
- Mayer, M. J., & Leone, P. E. (1999). A structural analysis of school violence and disruption: Implications for creating safer schools. *Education and Treatment of Children*, 22, 333–386.
- McMillan, D.W., & Chavis, D.M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14, 6–23.
- Milam, A.J., Furr-Holden, C.D., & Leaf, P.J. (2010). Perceived school and neighborhood safety, neighborhood violence and academic achievement in urban school children. *Urban Review*, 42, 458–467.
- Mooij, T., & Fottelaar, D. (2013). School and pupil effects on secondary pupils' feelings of safety in school, around school, and at home. *Journal of Interpersonal Violence*, 28, 1240–1266.
- Parker, P. D., & Martin, A. J. (2009). Coping and buoyancy in the workplace: Understanding their effects on teachers' work-related well-being and engagement. *Teaching and Teacher Education*, 25, 68–75.
- Perkins, D. D., & Taylor, R. B. (1996). Ecological assessment of community disorder: Their relationship to fear of crime and theoretical implications. *American Journal of Community Psychology*, 24, 63–107.
- Perumean-Chaney, S.E., & Sutton, L.M. (2013). Students and perceived school safety: The impact of school security measures. *American Journal of Criminal Justice*, 38, 570–588.
- Raudenbush, S.W., & Bryk, A.S. (2002). *Hierarchical linear models* (2nd edn). London: Sage.
- Rice, M., Kang, D., Weaver, M., & Howell, C.C. (2008). Relationship of anger, stress, and coping with school connectedness in fourth-grade children. *Journal of School Health*, 78, 149–156.
- Robers, S., Kemp, J., Rathbun, A., & Morgan, R.E. (2014). *Indicators of school crime and safety: 2013* (NCES 2014-042/NCJ 243299). Washington, DC: National Center for Education Statistics, U.S. Department of Education, and Bureau of Justice Statistics, Office of Justice Programs, U.S. Department of Justice.
- Russo, S., Roccato, M., & Vieno, A. (2011). Predicting perceived risk of crime: A multilevel study. *American Journal of Community Psychology*, 48, 384–394.
- Sampson, R.J., & Raudenbush, S.W. (1999). Systematic social observation of public spaces: A new look at disorder in urban neighborhoods. *American Journal of Sociology*, 105, 603–651.
- Sharkey, J.D., Shekhtmeyster, Z., Chavez-Lopez, L., Norris, E., & Sass, L. (2010). The protective influence of gangs: Can schools compensate? *Aggression and Violent Behavior*, 16, 45–54.
- Skiba, R., Simmons, A.B., Peterson, R., McKelvey, J., Forde, S., & Gallini, S. (2004). Beyond guns, drugs and gangs: The structure of student perceptions of school safety. *Journal of School Violence*, 3, 149–171.
- Sorlie, M.-A., Hagen, K. A., & Ogden, T. (2008). Social competence and antisocial behavior: Continuity and distinctiveness across early adolescence. *Journal of Research on Adolescence*, 18, 121–144.
- Spilt, J. L., Koomen, H. M., Thijs, J. T., & van der Leij, A. (2012). Supporting teachers' relationships with disruptive children: The potential of relationship-focused reflection. *Attachment & Human Development*, 14, 305–318.
- Swartz, K., Reyns, B.W., Henson, B., & Wilcox, P. (2011). Fear of in-school victimization: Contextual, gendered, and developmental considerations. *Youth Violence and Juvenile Justice*, 9, 59–78.
- Terrion, J. L. (2006). Building social capital in vulnerable families: Success markers of a school-based intervention program. *Youth Society*, 38, 155–176.
- Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research*, 83, 357–385.
- Van Ryzin, M. (2010). Secondary school advisors as mentors and secondary attachment figures. *Journal of Community Psychology*, 38, 131–154.
- Varjas, K., Hedrich, C.C., & Meyers, J. (2009). Urban middle school students' perceptions of bullying, cyberbullying, and school safety. *Journal of School Violence*, 8, 159–176.
- Vieno, A., Lenzi, M., Roccato, M., & Russo, S. (2016). Social capital and fear of crime in adolescence: A multilevel study. *American Journal of Community Psychology*, 58, 100–110.
- Vieno, A., Lenzi, M., Santinello, M., & Scacchi, L. (2013). Sense of community, unfairness, and psychosomatic symptoms: A multi-level analysis of Italian schools. *Journal of Adolescent Health*, 53, 142–145.
- Vieno, A., Perkins, D.D., Smith, T.M., & Santinello, M. (2005). Democratic school climate and sense of community in school: A multilevel Analysis. *American Journal of Community Psychology*, 36, 327–341.
- Vieno, A., Roccato, M., & Russo, S. (2013). Is fear of crime mainly social and economic insecurity in disguise? A multilevel multinational analysis. *Journal of Community and Applied Social Psychology*, 23, 519–535.
- Vieno, A., Santinello, M., Pastore, M., & Perkins, D.D. (2007). Social support, sense of community in school, and self-efficacy as resources during early adolescence: An integrative model. *American Journal of Community Psychology*, 39, 177–190.
- Voight, A., & Nation, M. (2016). Practices for improving secondary school climate: A systematic review of the research literature. *American Journal of Community Psychology*, 58, 174–191.
- Welsh, W.N. (2001). Effects of student and school factors on five measures of school disorder. *Justice Quarterly*, 18, 911–947.
- Wikstrom, P., & Dolmen, L. (2001). Urbanization, neighborhood social integration, informal social control, minor social disorder, victimisation and fear of crime. *International Review of Victimology*, 8, 121–140.
- Zani, B., Cicognani, E., & Albanesi, C. (2001). Adolescents' sense of community and feeling of unsafety in the urban environment. *Journal of Community and Applied Social Psychology*, 11, 475–489.