

My School or Our School? The Effects of Individual versus Shared School Experiences on Teacher Perceptions of Safety

Staci D. Roberts
Pamela Wilcox
David C. May
Richard R. Clayton

ABSTRACT. While the research in the area of fear of criminal victimization among students at school continues to grow, few studies have focused on the prevalence or correlates of fear of crime at school among teachers. Using data from 1,438 teachers from 54 public high schools in Kentucky, we examined the individual- and school-level predictors of teacher perceptions of school safety using hierarchical linear regression models (HLMs) of teacher perceived safety. Overall, we found that teacher perceptions of school safety were largely a function of individual

Staci D. Roberts, MA (E-mail: sdrobe2@uky.edu), and Richard R. Clayton, PhD (E-mail: clayton@email.uky.edu), are affiliated with the Center for Prevention Research, University of Kentucky, 121 Washington Avenue, Suite 204, Lexington, KY 40536-0003.

Pamela Wilcox, PhD, is affiliated with the Division of Criminal Justice, University of Cincinnati, P.O. Box 210389, 600 Dyer Hall, Cincinnati, OH 45221-0389 (E-mail: pamela.wilcox@uc.edu).

David C. May, PhD, is affiliated with the Department of Correctional and Juvenile Justice Studies, Eastern Kentucky University, 110 Stratton Building, 521 Lancaster Avenue, Richmond, KY 40475-3102 (E-mail: David.May@EKU.EDU).

The authors are grateful for the contributions of Graham C. Ousey, Kimberly Reeder, Michelle Campbell-Augustine, Shayne Jories, and Jon Paul Bryan for their work on this project. This project was funded by NIDA grand DA-11317.

Journal of School Violence, Vol. 6(4) 2007
Available online at <http://jsv.haworthpress.com>
© 2007 by The Haworth Press. All rights reserved.
doi:10.1300/J202v06n04_03

experiences at school. Nonetheless, perceptions of safety did vary substantially across schools, and school-level characteristics accounted for part of this contextual variation. In particular, we found evidence that the incivility hypothesis—largely heretofore applied to understanding neighborhood variation in fear of crime—also extended to teachers nested within school settings. Presence of physical disorder (measured as both individual and within-school shared perceptions of incivility) decreased teachers' perceptions of school safety. doi:10.1300/J202v06n04_03 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2007 by The Haworth Press. All rights reserved.]

KEYWORDS. Teachers, safety perceptions, incivilities, school crime, victimization

American concerns about crime and personal safety have been important issues within social scientific literature for decades (see Warr, 2000 for review). There has been increasing attention given to concerns regarding violence and safety within the school context in particular. While research on school crime is still dominated by studies of its prevalence, character, and correlates (e.g., Campbell Augustine, Wilcox, Ousey, & Clayton, 2002; Gottfredson, 2001; Schreck, Miller, & Gibson, 2003; Stewart, 2003; Welsh, 2001; Welsh, Stokes, & Greene, 2000; Welsh, Green, & Jenkins, 1999), some studies have focused on the so-called consequences of school crime or “subjective experiences with school crime,” such as emotionally based fear of school crime and cognitive perceptions of risk and/or safety (Addington, 2003; Alvarez & Bachman, 1997; Bastian & Taylor, 1991; Hutchison Wallace & May, 2005; Kitsantas, Ware, & Martinez-Arias, 2004; Lee & Croninger, 1996; May, 2001; May & Dunaway, 2000; Sacco, 1993; Schreck & Miller, 2003; Sprague, Smith, & Stieber, 2002; Stretsky & Hogan, 2001; Wilcox, Campbell Augustine, Bryan, & Roberts, 2005). Many of these studies suggest that perceptions and/or fear of crime in schools often exceed actual crime risk, with clear negative implications for students well-being.

Despite the important contributions of previous studies on concerns about safety, risk perception and fear of crime at school, most of these literature focus primarily on student experiences. Few studies, in contrast, have examined fear and perceptions of safety in the school environment

among teachers. Nonetheless, teacher involvement in the school crime phenomenon is undeniable. According to the Bureau of Justice Statistics (2004), teachers were the victims of approximately 234,000 total reported nonfatal crimes at school between 1998 and 2002; the potential risk of victimization at school may cause teachers to worry about their safety and ultimately have an impact on their job performance. Indeed, the little work that has been done on teacher perceptions of safety and fear hints that teachers who are fearful in the workplace may become less committed to their educational mission thereby have a negative impact on the overall school climate (Vettenburg, 2002; Williams, Winfree, & Clinton, 1989). Given the important implications for maintaining committed teachers, more research is needed to determine the factors that contribute to perceptions of danger, risk, or fear among teachers at school.

The present study, therefore, extends the literature on school-based crime perceptions and fear by examining the correlates of safety perceptions among teachers a largely neglected research in population studies of school-based risk and fear considering the central role that teachers play in the school setting. Moreover, we examine correlates of teacher perceptions of school safety at both the individual and aggregate levels to discern the impact of both individual characteristics and job experiences and school-level characteristics—or shared experience among the teachers. For parceling such individual-versus school-level contextual effects, we estimated multilevel regression models using survey data from 1,438 teachers located in 54 secondary schools in the state of Kentucky.

BACKGROUND

Because a relatively small amount of research has been dedicated to examining the factors and consequences associated with teacher assessment, perception and/or feelings about crime, we begin by providing a brief overview of key findings in the adult fear-of-crime and risk/safety assessment literature as well as the literature on student safety, risk and fear. We then review the limited research that addresses teacher perceptions of the workplace and teachers' perceptions of school safety, the focus of the present analysis. Throughout our review of the literature, we refer to studies of cognitive personal risk perception and global safety assessment as well as studies of emotionally based fear of crime despite the sole focus on teachers' cognitive assessment of school safety in the models estimated herein. Though we think studies of such various cognitive and emotional subjective crime experiences are relevant in

addressing "reactions to crime" more broadly, we do not intend to treat these concepts as interchangeable, as previous literature has clearly shown important conceptual differences in these various "reactions to crime" (e.g., Ferraro, 1995; Wilcox Rountree & Land, 1996a).

Correlates of Perceptions of Safety/Risk

Research on perceptions of global safety and personal risk focuses on the distribution and correlates both at the individual (e.g., gender, race, socioeconomic status) and aggregate levels (e.g., characteristics of neighborhoods, communities, and cities). Studies that focus on the individual-level predictors of crime risk have historically reported that perceived risk is highest among females, minority groups, the poor, and the elderly (Baumer, 1978; Braungart, Braungart, & Hoyer, 1980; Chiricos, Hogan, & Gertz, 1997; Clemente & Kleiman, 1977; Liska et al., 1988; Vettenburg, 2002). However, some studies have qualified the pattern regarding gender and risk perception, suggesting that women's greater risk perception is crime specific (Ferraro, 1995, 1996; Warr, 1985). Further, conventional wisdom regarding both greater perceived risk and emotional fear among the elderly has been questioned, as some work has revealed non-significant and/or contradictory effects (e.g., Ferraro, 1995; Haghghi & Sorensen, 1996; LaGrange & Ferraro, 1987, 1989; McCoy, Wooldredge, Cullen, Dubeck, & Browning, 1996; Wilcox Rountree, 1998).

The relationship between individual experiences with victimization and crime risk perception has also received considerable attention from social scientists. Previous research has produced mixed results in which some findings indicate that those individuals who have a prior victimization experience or know someone who is likely to be victimized, heightened the risk perception and/or fear of crime (Balkin, 1979; Ferraro, 1995; Garofalo, 1977; Lee & Ulmer, 2000; Liska et al., 1988; Kury & Ferdinand, 1998; Skogan, 1987), while other studies report a conditional relationship, a weak relationship or no relationship at all (Keane, 1995; McGarrell, Giacomazzi, & Thurman, 1997; Wilcox Rountree, 1998).

Given the mixed support for a linkage between previous victimization and risk perception and/or fear, scholars have suggested that individuals may draw more upon environmental cues about possible victimization (as opposed to actual victimization experiences) when forming cognitive assessments of safety/risk or emotional feelings about crime. In particular, community research has used the "incivilities thesis" as a guiding

framework for understanding perceptions of safety and fear of crime. Aimed at highlighting the unattended disorder, the incivilities thesis—or “broken windows thesis” (Wilson & Kelling, 1982)—posits that levels of perceived risk and fear are closely connected with social and physical incivilities in the environment such as litter, graffiti and disrepair, as these incivilities send cues to individuals about attenuated informal control and safety in the area (Ferraro, 1995; LaGrange, Ferraro, & Supancic, 1992; Lewis & Maxfield, 1980; Skogan, 1990; Taylor & Covington, 1993; Taylor, 2001; Taylor & Hale, 1986; Taub, Taylor, & Dunham, 1981; Wilcox Rountree & Land, 1996a, 1996b; Wilcox, Quisenberry, & Jones, 2003). Besides disorder, other structural or aggregate characteristics shown to elicit concern about safety in the community include population density, poverty, non-white population, and social cohesion (Chiricos et al., 1997; Covington & Taylor, 1991; Lee & Ulmer, 2000; Lewis & Salem, 1986; Liska, Lawrence, & Sanchirico, 1982; Skogan 1990; Taylor & Covington, 1993; Wilcox, Quisenberry, & Jones, 2003; Wilcox Rountree & Land, 1996a,b).

Increasingly, research on adult perceived risk and fear is integrating both individual and aggregate-level correlates into more comprehensive, multilevel risk interpretation models, with the realization that one interprets risk, based not only on individual characteristics and experiences but based upon characteristics of the collective in which the individual is immersed (Ferraro, 1995; Lee & Ulmer, 2000; Wilcox, Quisenberry, & Jones, 2003; Wilcox Rountree & Land, 1996a,b). These multilevel studies have the benefit of being able to disentangle individual, compositional and contextual effects—something traditional single-level models cannot do. All of the multilevel studies to date have indeed found significant effects of social context net of individual-level effects. In particular, characteristics of neighborhoods exhibit significant effects on individual perceptions of risk/safety, controlling individual differences in demographic characteristics, lifestyle, and previous victimization.

Despite a growing number of multilevel studies examining perceptions of risk and fear of crime in community contexts, there continues to be a dearth of multilevel research regarding risk and/or fear within the school environment, and there exists no multilevel research examining perceptions of safety *among teachers*. Thus, the question remains: What impact does the school context have on perceptions of safety among teachers' net of individual experiences?

Perceptions of Risk/Safety at School

Most of the previous works addressing subjective school crime experiences has focused on *emotional* fear of crime among *students* as opposed to cognitive perceptions of safety or risk (e.g., compare Addington, 2003; Bastian & Taylor, 1991; Hutchison Wallace & May, 2005; May, 2001; May & Dunaway, 2000; Nolin et al., 1996; Schreck & Miller, 2003 with Astor, Meyer, & Behre, 1999; Lee & Croninger, 1996; Wilcox, Campbell Augustine, Bryan, & Roberts, 2005), and these studies have typically not integrated individual-level covariates and variables tapping environmental influence (see Alvarez & Bachman, 1997; May & Dunaway, 2000; Schreck & Miller, 2003 for exceptions). The studies that examined environmental influence on student fear emphasize the theoretical importance of school disorder in generating feelings of fear (May & Dunaway, 2000; Schreck & Miller, 2003), hinting at support for the incivility thesis within the school context. Consistent with the incivility thesis, these studies have shown that students who perceived disorder in their schools worried about or were more fearful of crime (Alvarez & Bachman, 1997; May & Dunaway, 2000; Schreck & Miller, 2003). Similarly, Shneider, Marshall, Roch, and Teske (1999) showed that physical disorder characterizing school buildings significantly impacted parents' (of school children) perceptions of the school performance and safety.

Despite implicit support for the incivility thesis among previous studies of students and parents, it should be noted that these studies did not use multilevel models. As such, they were not able to appropriately disentangle whether it was disorder/incivility at the individual-level (i.e., individual perceptions of disorder) or the aggregate level (i.e., the aggregated perceptions of disorder—a characteristic of the broader environment) that was correlated with fear of school crime. The incivility thesis, however, potentially operates at multiple levels. While individual perceptions of disorder in the environment may certainly send cues to individuals about their risk or safety, *shared* perceptions among an *aggregate* may also be important in forming assessments about individual safety. As Perkins and Taylor (1996, p. 96) suggest in relation to incivilities within neighborhoods, "Community-level effects may emerge from residents having common perceptions of the surrounding physical and social milieu and/or communicating with one another about that milieu."

Yet, school incivility is most often measured as individual-level perceptions—through perceptions of students, for the most part. This method

precludes any statement about whether school disorder is having a truly contextual effect, net of individual respondent perceptions of disorder. The literature on the incivility thesis within neighborhood contexts has addressed this issue through multilevel analyses (e.g., Perkins & Taylor, 1996; Taylor, 2001), but research on the linkage between incivility and school-based perceptions of crime has yet to do so. Use of measures of not only disorder but other measures of the school environment (e.g., student misconduct, school efficacy) at both individual and school levels would allow researchers to more fully understand whether it is the individual perceptions or the shared aggregate meaning that matter more as a heuristic device in informing perceptions of school safety. Thus, combining individual-level and aggregate-level measures of perceptions of the school environment is an important gap to fill in the literature on safety, risk, and/or fear at school. Combining such measures in multilevel models (e.g., HLMs) that partition variance between levels of analysis, accounting appropriately for nonrandom clustering of individuals within school settings, is an optimal step in extending this literature.

Another important gap in the school-based fear literature is that very few school-based fear/risk studies have incorporated teacher fear or crime and/or perceptions of risk or safety. However, the few studies that have examined safety/risk perceptions and fear of crime among teachers have generally found that most teachers perceive their schools to be fairly safe and orderly (Everett & Price, 1997; Hutchison Wallace & May, 2006; Langdon & Vesper, 2000; Vettenburg, 2002). Despite overall feelings of safety, Vettenburg (2002) found that while a small percentage of teachers were very much afraid of being victimized by serious antisocial student behavior—such as physical violence and sexual offenses—a large number of teachers were somewhat afraid of being victimized by minor student offenses, such as theft, disruptive classroom behavior, vandalism, and verbal abuse.

Vettenburg (2002) found that the actual incidence of students' antisocial behavior was only mildly related to feelings of safety among teachers. Further, she found that personal characteristics, such as age, gender, training, and professional status, were *not* correlated with teacher perceptions of safety. Instead, Vettenburg (2002) reported that the best predictors of teachers' feelings of safety were their perceptions of their own risk of becoming a victim of school-related incidents (or subjective victimization risk) and their own school-related victimization experiences. It is important to note that these two factors, subjective victimization risk and victimization experiences, were also significantly related

to other factors of teacher well-being aside from perceptions of school safety. For example, Vettenburg (2002) found the following:

Teachers having a positive attitude toward their jobs (that is, teachers who like their job, are satisfied and think that their capacities are used to the full) and about their relationships with students, colleagues and the school board, tend to feel that the victimization risk is smaller and will report victimization less frequently than others. (p. 45)

Consequently, Vettenburg's (2002) study revealed that perceived risk of victimization and actual victimization were related to assessment of the overall safety of the school as well as concomitant attitudes, including job satisfaction and school cohesion.

In addition to Vettenburg's important work on teacher perceptions of risk and school safety, Astor and colleagues (e.g., Astor, Behre, Fravil, & Wallace, 1997; Astor & Meyer, 1999; Astor, Meyer, & Behre, 1999; Meyer & Astor, 2002) were involved in a series of studies examining incidents of crime and perceptions of safety/risk at specific locations and times within elementary and secondary schools. Their research—utilizing cognitive mapping and in-depth interviews with students, teachers, parents, and school professionals—is particularly important in that it is the only work on teacher perceptions of safety that addresses aspects of the social and physical environments of schools. They found that students and teachers alike tend to associate danger with “unowned” spaces within the school—areas that were lacking territoriality, supervision, and administrative/organizational support. However, Astor and colleagues could not determine whether such school-level factors were significantly correlated to teacher perceptions of danger net of individual-level characteristics and experiences.

THE PRESENT STUDY

Given the research reviewed in the previous section, we extended the literature on school-based fear/risk by (1) focusing on individual- and aggregate-level perceptions of the school environment as potentially important heuristic tools (individual perceptions versus shared meaning) and (2) focusing on teachers as opposed to students as subjects. More specifically, using a sample of teachers in Kentucky high schools, we examined a variety of perceptions of school environment (perceptions

of school efficacy, perceptions of disorder, perceptions of student misconduct, etc.) at both the individual level and the aggregate level (i.e., school level), controlling for individual- and school-level sociodemographic factors, to develop a more comprehensive multilevel model of teacher risk/safety interpretation. In our multilevel models, we discerned whether perceptions of safety varied across schools as well as individuals and disentangled individual and contextual correlates of variation in teacher perceptions of school safety.

Data

The data used for this study were collected as part of the Rural Substance Abuse and Violence Project (RSVP), a longitudinal study designed to examine individual and contextual factors that affect substance use, victimization, and offending among middle and high school students in the state of Kentucky (NIDA Grant DA-11317). While students' experiences were the focus of the study, we also surveyed teachers and school administrators to gain an understanding of how the school context influences various subjective and objective experiences with victimization. For purposes of this analysis, we focus on the third wave of teacher data, collected in 2003, when the participating students were in ninth grade and their teachers worked primarily with high school students.¹ We obtained completed surveys for 1,438 teachers in wave 3; this was 49% of all teachers in participating schools. Listwise rejection of cases with missing data on study variables resulted in 1,173 cases for analysis.

Measures of Variables

The dependent variable of interest in this analysis, *teacher perceptions of safety*, was measured with three survey items in which teachers indicated how safe their school was during school hours (1 = Very unsafe, 5 = Very safe) from: (1) vandalism, (2) personal attacks, and (3) theft. Responses to these items were averaged for each respondent ($\alpha = .86$), resulting in individual index scores ranging between 1 and 5. Table 1 provides a summary of all study variables; it reveals that the sample mean perception of safety index score was 3.63 (between average and safe).

We examined the impact of a number of individual and contextual (school-level) variables on the teachers' perceptions of safety at school. The individual-level variables include personal victimization experience,

TABLE 1. Descriptive Statistics for Study Variables

Variables	Metric	Descriptive Statistics		
		Mean	SD	Range
<i>Dependent variables</i>				
School safety	1 = Very unsafe . . . 5 = Very safe	3.63	.82	1.00-5.00
<i>Individual-level explanatory variables</i>				
Victimization	Number of incidents; 10 = 10+	3.33	3.46	0-10.00
Witnessed student misconduct	Number of incidents; 50 = 50+	21.90	5.95	0-50.00
Perceived school efficacy	1 = Weak . . . 5 = Strong	3.77	.68	1.44-5.00
Perceived physical disorder	1 = Low . . . 5 = High	1.83	.74	1.00-5.00
Witnessed teacher drug use	1 = 1+ incidents; 0 = No incidents	.04	.20	0-1.00
Gender	1 = Female; 0 = Male	.60	.49	0-1.00
Race	1 = White; 0 = Nonwhite	.96	.20	0-1.00
Household income	1 = LT \$20k . . . 10 = GT \$100k	5.97	2.47	1.00-10.00
Teaching experience	Number of complete years full-time	12.28	9.71	0-44.00
Tenure at current school	Number of complete years at present school	7.78	7.79	0-42.00
<i>School-level explanatory variables</i>				
Teacher victimization rate		3.38	1.00	1.32-5.15
Student misconduct		21.90	5.95	5.82-31.17
School efficacy		3.76	.34	2.93-4.31

School physical disorder	1.83	.36	1.20-2.85
Teacher drug use	.05	.04	0-.17
Teacher gender composition	.60	.10	.33-.81
Teacher race composition	.96	.05	.82-1.00
Average teacher HH income	5.98	.59	4.50-7.11
Average teacher experience	12.72	2.54	7.46-19.05
Average tenure at current school	8.07	2.18	4.47-13.10

Note: Descriptive statistics based upon 1,173 individuals within 45 schools.

observed victimization/misconduct, perceived school efficacy, perceived school physical disorder, and observed teacher substance use. We also controlled for background characteristics of the teacher, including gender, race, household income, teaching experience, and tenure at their current school. The operationalization of each of the individual-level variables is described in detail later.

To measure the teachers' personal victimization experience (hereafter referred to as *victimization*), teachers indicated how many times (0 = 0, 1 = 1 . . . 10 = 10+) in the current school year on school grounds or during school-related activities someone had (1) taken things from them by force, weapons, or threats, (2) stolen things of theirs (\$10 or less), (3) stolen things of theirs (more than \$10), (4) physically attacked them, (5) made obscene remarks or gestures to them, (6) threatened to hurt them, (7) made unwelcome verbal sexual advances or propositions to them, and (8) made unwelcome physical sexual advances or propositions to them. Responses to these eight items were summed up to create a continuous victimization scale ($\alpha = .67$) that ranged from 0 to 80 victimizations. This scale was then recoded to range from 0 = 0 victimizations to 10 = 10 or more victimizations.² As Table 1 shows, the average number of victimizations reported among teachers in the sample was 3.3.

Observed misconduct was measured by asking teachers to indicate how many times (0 = 0, 1 = 1 . . . 10 = 10+) in the current school year on school grounds or during school related activities they had witnessed any of the following: (1) physical fights, (2) students carrying or possessing a weapon, (3) verbal sexual advances or propositions, (4) physical sexual advances or propositions, (5) vandalism (including graffiti), (6) theft, (7) verbal insults, (8) gang-related activities, (9) students possessing illegal drugs, (10) students possessing alcohol, (11) students possessing tobacco or cigarettes, (12) students using or under the influence of illegal drugs, (13) students using or under the influence of alcohol, (14) students using tobacco or cigarettes, and (15) the sale of illegal drugs. Responses to these 15 items were summed to create a continuous observed misconduct scale ($\alpha = .83$) that ranged from 0 to 150. This scale was recoded to range from 0 (no observations) to 50 (50 or more observations).³ The average number of acts of misconduct witnessed by teachers was 22.0

In order to measure *perceived school efficacy*, we used survey items that indicated how strongly teachers agreed/disagreed (1 = Strongly disagree, 5 = Strongly agree) with the following statements about their school: (1) "administrators and teachers collaborate toward making the school run effectively," (2) "there is little administrator-teacher tension

in this school," (3) "our principal is a good representative of our school before the superintendent and the board," (4) "the principal encourages experimentation in teaching," (5) "teacher evaluation is used in improving teacher performance," (6) "the principal is aware of and lets staff members and students know when they have done something particularly well," (7) "teachers or students can arrange to deviate from the prescribed program of the school," (8) "teachers feel free to communicate with the principal," (9) "the administration is supportive of teachers," (10) "students here don't really care about the school," (11) "our problems in this school are so big that it is unrealistic to expect teachers to make much of a dent in them," (12) "teachers have a say about how this school is run," (13) "students have a say about how this school is run," (14) "parents have a say about how this school is run," (15) "the principal of this school shares decision-making," (16) "teachers and students get along well at this school," (17) "teachers and administrators get along well at this school," and (18) "parents and teachers get along well at this school."⁴ Scores on these 18 items were averaged for each respondent to create an index ($\alpha = .92$) indicating each teacher's overall perceptions regarding school efficacy, with individual index scores ranging from 1 to 5. The sample mean of 3.8 on this scale suggested that, overall, teachers rated their schools as above-average in terms of efficacy.

In addition to teachers' perceptions of school efficacy, we also measured teachers' attitudes about their school's physical environment. More specifically, an index of *perceived physical disorder* was created ($\alpha = .86$) by averaging, for each respondent, the extent to which the teacher agreed/disagreed (1 = Strongly disagree, 5 = Strongly agree) with the following statements: (1) "broken lockers are a problem at this school," (2) "broken windows are a problem at this school," (3) "peeling paint is a problem at this school," (4) "poor lighting is a problem at this school," (5) "graffiti/defacement is a problem at this school," (6) "trash/litter is a problem at this school," and (7) "unkempt exterior grounds are a problem at this school." A sample average of 1.8 (with a range from 1 to 5 on individual index scores) indicated that, overall, teachers rated the presence of physical disorder at their schools as relatively nonproblematic.

To measure *observed teacher substance use*, respondents were asked to indicate whether they had witnessed teachers using or under the influence of alcohol and/or illegal drugs (1 = Yes; 0 = No) during the current school year on school grounds. Four percent of teachers reported having witnessed such conduct.⁵

While the measures described above are the main independent variables of interest, we also include teacher sociodemographic characteristics as controls. *Gender* (0 = Male, 1 = Female) and *race* (0 = Non-white, 1 = White) are both measured dichotomously.⁶ To measure *income*, teachers were asked to indicate their total current household income (1 = Less than \$19,999, 10 = \$100,000 or more). With a sample mean of 6.0, the average household income ranges between \$60,000 and \$69,999. Finally, teachers' experience in the educational setting was operationalized using two separate variables. First, teachers were asked to indicate how many complete years they have been teaching full time (mean = 12.3), and second, how many complete years they have been *teaching in the present school* (mean = 7.8).

In order to attempt to disentangle whether school climate affects teacher fear above and beyond teacher-level experiences and perceptions, we aggregated within schools individual-level values on each of the variables discussed above for the purpose of creating school-level measures of various aspects of school climate, including average teacher victimization, rate of observed student misconduct, mean school efficacy, mean physical disorder, observed teacher drug use rate, faculty gender composition, faculty race composition, average teacher household income, average teacher experience, and average teacher tenure at the sampled school.⁷

RESULTS

Examining the teacher- and school-level predictors of teacher perceptions of school safety, with sampled teachers nested nonrandomly into school contexts, requires multilevel modeling techniques that take into account nonindependence of observations within groups (schools) and provide robust estimation of effects at multiple levels of analysis. To this end, we estimated hierarchical linear regression models (HLMs) of teacher perceived safety. The first step in the hierarchical linear modeling process was to estimate a "null model," in which only an intercept is included, with variation in mean perceived safety estimated at both level 1 (teacher level) and level 2 (school level). Findings from this model are presented in Table 2. The statistically significant level-2 error indicates that substantial variation in teacher perceived school safety existed at the school level, suggesting that studies that neglect school-level effects miss an important source of variation. The partitioning of the variance within the model depicted in Table 2 revealed, in fact, that 14.03% of the total

TABLE 2. Variation in Teacher Perceptions of School Safety (Null Model)

	Variance Component	SE
Level-2 Variance, u_{0j}	.09	.03
Level-1 Variance, e_{ij}	.57	.02

Note: N: 1,173 individuals, 45 schools; Intra-class correlation: $[\text{.09}/(\text{.09} + \text{.57})] = \text{.14}$.

variance in perceived school safety was between schools (level-2 variations) as opposed to between teachers (level-1 variation).

Having determined that there was significant variation at both the teacher and school levels, the next step in our analysis was to try to account for variation at each level with our teacher- and school-level variables. First, we estimated a model including only teacher-level explanatory variables, the results of which are shown in Model 1 of Table 3. The results presented in Model 1 show that teacher victimization and observed student misconduct (arguably, a type of vicarious victimization) were negatively related to perceived school safety; in other words, those teachers who had been victimized very often and had observed most of student misconduct at school had the lowest levels of perceived safety at school. Similarly, perceived physical disorder was negatively related to perceived school safety. Conversely, perceived school efficacy was positively associated with perceived school safety. So, net of their crime experiences—both in terms of direct victimization and observed student misconduct—teachers who perceived their schools to be disorderly also perceived lower school safety, while teachers who perceived their schools to be effective social organizations perceived greater school safety. Such findings suggest that teachers feel less vulnerable in settings they perceive to be more orderly, organized and cohesive, with strong potential for social control. In addition, female teachers exhibited lower levels of perceived safety than male teachers, while those teachers with more tenure at the current school experience higher levels of perceived safety.

Model 2 of Table 3 presents a model in which school-level predictors were included along with the individual-level factors examined in Model 1. The individual-level effects described above were found in this model as well. Hence, controlling for school-level effects did not diminish the effects of teacher victimization, perceived disorder, perceived efficacy, or gender; these effects all remained statistically significant. Nonetheless, several school-level variables were also found to be

TABLE 3. Random-Coefficient Regression Models for Teacher Safety Perception, with Individual- and School-Level Characteristics

Fixed Effects	Model 1		Model 2	
	Coefficient	SE	Coefficient	SE
Mean school safety perception	3.59	.05	5.69	1.01
Victimization	-.04*	.01	-.04*	.01
Witnessed student misconduct	-.01*	.00	-.01*	.00
Perceived school efficacy	.15*	.04	.15*	.04
Perceived physical disorder	-.23*	.03	-.23*	.03
Witnessed teacher drug use	.10	.11	.10	.11
Gender (female)	-.10*	.04	-.09*	.04
Race (white)	.03	.11	.03	.11
Household income	-.00	.01	-.00	.01
Teaching experience	-.01	.00	-.01	.00
Tenure at current school	.01*	.00	.01*	.00
Teacher victimization rate	-	-	-.05	.04
Student misconduct	-	-	-.02*	.01
School efficacy	-	-	.16	.11
School physical disorder	-	-	-.36*	.10
Teacher drug use	-	-	1.66	.88
Teacher gender composition (% female)	-	-	-.06	.34
Teacher race composition (% white)	-	-	-1.06	.80
Average teacher HH income	-	-	-.08	.08
Average teacher experience	-	-	.02	.02
Avg. tenure at current school	-	-	-.02	.02
Random Effects			Variance Component	SE
Mean school safety perception, u_{0j}	.09*	.02	.02*	.01
Level-1 Error, e_{ij}	.46*	.02	.46*	.02

* $p < .05$.

Note: N: 1,173 individuals, 45 schools.

significant. More specifically, school-level observed student misconduct and school-level physical disorder were negatively related to teacher perception of school safety, net of individual-level differences in observed student misconduct and perceived physical disorder. As such, school-level student misconduct and school-level physical disorder operate as significant contextual effects, helping account for a 78% reduction, in the between-school variation in teacher perceived safety (compared with level-2 variation in Model 1—a model without school-level effects). These effects can be interpreted as “contextual effects” as opposed to merely being compositional effects; individual-level differences in observed misconduct and perceptions of disorder were controlled. As such, the shared perceptions of the school environment (among teachers aggregated within schools) yield important effects on school mean teacher perceptions of safety, above and beyond the effects of individual perceptions of that environment.

DISCUSSION

The purpose of this paper is to provide a more comprehensive understanding of teacher perceptions of school safety by examining both individual- and school-level factors that contribute to those perceptions of safety. Consistent with previous research, our findings indicate that teacher perceptions of school safety are largely a function of individual experiences and perceptions at school, with individual perceived school efficacy and individual perceived disorder having some of the stronger effects. Furthermore, even though experiences with school-related crime and victimization were important for understanding perceptions of safety, the perceptions of the social, physical and organization climate in which the teachers work—such as how much support they feel from administration, the quality of their relationships with students, parents, colleagues, and administrators, their ability to give input into how the school is operated on a daily basis, and the incivilities they encounter within the school—were especially important for understanding how teachers assessed safety in their school.

Though individual (teacher-level) variation was important, our multilevel models revealed that safety perceptions also varied substantially across schools—with 14% of the variation at the school level in our sample. In particular, school disorder had a strong contextual effect. Net of individual perceptions of disorder, school-level disorder (within-school aggregated perceptions of disorder) was negatively related to

mean perceptions of school safety. This finding is consistent with community research that has incorporated perceptions of disorder at multiple levels of analysis (Perkins & Taylor, 1996). The implication is that perceptions of incivility *among the collective* of teachers is important in understanding cross-school differences in teacher perceptions of safety. Teachers may share information and feelings about disorder, thus allowing a contextual effect to exist above and beyond the effect of individual perceptions of incivility.

We recognize that our findings are not necessarily generalizable to teacher perceptions of safety across U.S. schools given our single-state sample. Further, with a teacher response rate of 49%, it is very possible that those teachers who chose not to participate are quite different from the obtained sample in their experiences at school—specifically in terms of how they perceive safety and the social, physical, and organizational environment in which they must work. Finally, it is important to keep in mind that our findings do not reflect teachers' feelings of their own personal safety at school. Instead, our analyses reveal how safe teachers perceive their *school* to be as a whole. Future work in this area may need to consider examining teachers' evaluations of their own personal safety as well as their school safety perceptions in a multilevel framework. Notwithstanding, we feel our findings make a meaningful contribution to the school-based fear/risk literature with a focus on teachers as opposed to students, as well as highlighting the importance of distinguishing between individual and school-level variation regarding factors that contribute to perceptions of safety.

In conclusion, measures to enhance feelings of safety among teachers should strongly consider the environment and professional situation in which teachers must work. Environmental conditions related to incivility, school efficacy, student misconduct, and other contextual factors provide important cues to teachers, informing them about the school's overall safety regarding crime. Moreover, teachers, in all likelihood, share information with one another about these cues, creating an aggregate perception of the environment that exists above and beyond any individual teacher and that can inform teacher perceptions of safety independent of individual perceptions of the environment. Such findings hint that effective strategies for addressing teacher perceptions of safety might include improving school efficacy, through team-building and teacher support programs, and optimizing the school physical environment, possibly through, Crime Prevention Through Environmental Design (CPTED) techniques. Improving the social and physical environmental conditions of schools through such measures should

reduce teacher fear or risk in a bimodal fashion—by enhancing individual perceptions of the environment and by enhancing the collective image of the school shared by all teachers.

NOTES

1. Teacher data used in the present study represent teachers in 54 high schools in 2003. Of 54 high schools, all except 7 served grades 9-12. These 7 schools come from independent districts in which the teachers in 2 schools served 6-12 graders, 4 schools served 7-12 graders, and 1 school served 8-12 graders. Though we collected data on teachers for 3 of the 4 years of the overall study (while student subjects were in 7th, 8th, and 9th grades), we do not have longitudinal data. Since teacher surveys were anonymous, we have annual cross-sectional surveys for 3 consecutive years. We chose to analyze teacher surveys in Wave 3 only because of an interest in fear among high school teachers. Our findings are not necessarily generalizable to middle school teachers (not examined herein).

2. Only 10% of the sample reported they had been victimized more than 10 times. As a result we truncated the responses such that teachers reporting more than 10 victimizations were recoded to 10.

3. Only 10% of the sample reported witnessing more than 50 victimizations or delinquent acts. As such, we again truncated responses so anything more than 50 was recoded to 50.

4. Items 10 and 11 were reverse coded.

5. Originally, continuous measures were obtained tapping the total number of incidents of teacher substance use witness. However, less than 5% of respondents had witnessed teachers under the influence of illegal drugs or alcohol. As a result, the scale was dichotomized such that 0 = 0 incidents witnessed and 1 = 1 or more witnessed incidents of teacher substance use.

6. Race was not originally measured dichotomously. Respondents were able to choose from several categories, including African-American, American Indian, Asian-American, Hispanic-American, and Other. Less than 5% of the sample identified other than white. Therefore, race was recoded into a dummy variable.

7. We also obtained teacher gender composition and race composition "census data" for each sampled school from Kentucky's Department of Education. Fortunately, no evidence of systematic survey nonresponse existed according to race or gender of teachers. The descriptive statistics for gender and race composition were identical whether using aggregated survey respondents or KDE census data.

REFERENCES

- Addington, L. A. (2003). Students' fear after Columbine: Results from a randomized experiment. *Journal of Quantitative Criminology*, 19, 367-387.
- Alvarez, A. & Bachman, R. (1997). Predicting the fear of assault at school and while going to and from school in an adolescent population. *Violence and Victims*, 12, 69-85.

- Astor, R. A., Behre, W., Fravil, K., & Wallace, J. (1997). Perceptions of school violence as a problem and reports of violent events: A national study of school social workers. *Social Work, 42*, 1-20.
- Astor, R. A. & Meyer, H. A. (1999). Where girls and women won't go: Female students', teachers', and social workers' views of school safety. *Social Work in Education, 21*, 201-219.
- Astor, R. A., Meyer, H. A., & Behre, W. J. (1999). Unowned places and times: Maps and interviews about violence in high schools. *American Educational Research Journal, 36*, 3-42.
- Balkin, S. (1979). Victimization rates, safety and fear of crime. *Social Problems, 26*, 343-357.
- Bastian, L. D. & Taylor, B. M. (1991). *School crime: A national crime victimization survey report*. Washington, DC: U.S. Government Printing Office.
- Baumer, T. L. (1978). Research on fear of crime in the United States. *Victimology: An International Journal, 3*, 254-264.
- Braungart, M. M., Braungart, R. G., & Hoyer, W. J. (1980). Age, sex, and social factors in fear of crime. *Sociological Focus, 13*, 55-66.
- Bureau of Justice Statistics. (2004). *Indicators of school crime and safety: 2004* (U.S. Department of Justice Publication No. NCJ 205290). Washington, DC: U.S. Government Printing Office.
- Campbell Augustine, M., Wilcox, P., Ousey, G. C., & Clayton, R. R. (2002). Opportunity theory and adolescent school-based victimization. *Violence and Victims, 17*, 233-253.
- Chiricos, T., Hogan, M., & Gertz, M. (1997). Racial composition of neighborhood and fear of crime. *Criminology, 35*, 107-131.
- Clemente, F. & Kleiman, M. B. (1977). Fear of crime in the United States: A multivariate analysis. *Social Forces, 56*, 519-531.
- Everett, S. A. & Price, J. H. (1997). Teachers' perceptions of violence in the public schools: The MetLife Survey. *American Journal of Health Behavior, 21*.
- Ferraro, K. F. (1995). *Fear of crime: Interpreting victimization risk*. Albany, NY: SUNY Press.
- Ferraro, K. F. (1996). Women's fear of victimization: Shadow of sexual assault? *Social Forces, 75*, 667-690.
- Garofalo, J. (1977). Victimization and the fear of crime. *Journal of Research in Crime and Delinquency, 16*, 80-97.
- Gottfredson, D. C. (2001). *Schools and delinquency*. New York, NY: Cambridge.
- Haghighi, B. & Sorensen, J. (1996). America's fear of crime. In T. J. Flanagan & D. R. Longmire (Eds.), *Americans view crime and justice: A national public opinion survey* (pp. 16-30). Thousand Oaks, CA: Sage.
- Hutchison Wallace, L. & May, D. C. (2005). The impact of parental attachment and feelings of isolation on adolescent fear of crime at school. *Adolescence, 40*(159), 457-474.
- Hutchison Wallace, L. & May, D. C. (2006). A new perspective on aggression in the schools: Exploring parental aggression towards teachers. *Kentucky Justice and Safety Research Bulletin, 8*(1), 1-15.

- Keane, C. (1995). Victimization and fear: Assessing the role of offender and offense. *Canadian Journal of Criminology*, 431-455.
- Kitsantas, A., Ware, H. W., & Martinez-Arias, R. (2004). Students' perceptions of school safety: Effects by community, school environment, and substance use variables. *Journal of Early Adolescence*, 24, 412-430.
- Kury, H. & Ferdinand, T. (1998). The victim's experience and fear of crime. *International Review of Victimology*, 5, 93-140.
- LaGrange, R. L. & Ferraro, K. F. (1987). The elderly's fear of crime: A critical examination of the research. *Research on Aging*, 9, 372-391.
- LaGrange, R. L. & Ferraro, K. F. (1989). Assessing age and gender differences in perceived risk and fear of crime. *Criminology*, 27, 697-719.
- LaGrange, R. L., Ferraro, K. F., & Supancic, M. (1992). Perceived risk and fear of crime: Role of social and physical incivilities. *Journal of Research in Crime and Delinquency*, 29, 311-334.
- Langdon, C. A. & Vesper, N. (2000). The sixth Phi Delta Kappa poll of teachers' attitudes toward the public schools. *Phi Delta Kappan*, 607-611.
- Lee, V. E. & Croninger, R. G. (1996). The social organization of safe high schools. In K. M. Borman, P. W. Cookson, Jr., & J. Z. Spade (Eds.), *Implementing educational reform: Sociological perspectives on educational policy* (pp. 359-392). Norwood, NJ: Ablex Publishing Corporation.
- Lee, M. S. & Ulmer, J. T. (2000). Fear of crime among Korean Americans in Chicago communities. *Criminology*, 38, 1173-1206.
- Lewis, D. A. & Maxfield, M. G. (1980). Fear in the neighborhoods: An investigation of the impact of crime. *Journal of Research in Crime & Delinquency*, 17, 160-189.
- Lewis, D. A. & Salem, G. (1986). *Fear of crime: Incivility and the production of a social problem*. New Brunswick, NJ: Transaction.
- Liska, A. E., Lawrence, J., & Sanchirico, A. (1982). Fear of crime as a social fact. *Social Forces*, 60, 760-770.
- Liska, A. E., Sanchirico, A., & Reed, M. D. (1988). Fear of crime and constrained behavior: Specifying and estimating a reciprocal effects model. *Social Forces*, 66, 827-837.
- May, D. C. (2001). The effect of fear of sexual victimization on adolescent fear of crime. *Sociological Spectrum*, 21, 141-174.
- May, D. C. & Dunaway, G. R. (2000). Predictors of fear of crime among adolescents. *Sociological Spectrum*, 20, 149-168.
- McCoy, H. V., Wooldredge, J. D., Cullen, F. T., Dubeck, P. J., & Browning, S. L. (1996). Lifestyles of the old and not so fearful: Life situation and older persons' fear of crime. *Journal of Criminal Justice*, 24, 191-205.
- Meyer, H. A. & Astor, R. A. (2002). Child and parent perspectives on routes to and from school in high crime neighborhoods. *Journal of School Violence*, 1, 101-128.
- Nolin, M. J., Davies, E., & Chandler, K. (1996). Student victimization at school. *Journal of School Health*, 66, 216-222.
- Perkins, D. D. & Taylor, R. B. (1996). Ecological assessments of community disorder: Their relationship to fear of crime and theoretical implications. *American Journal of Community Psychology*, 24, 63-107.

- Sacco, V. F. (1993). Social support and the fear of crime. *Canadian Journal of Criminology*, 187-196.
- Schneider, M., Marschall, M., Roch, C., & Teske, P. (1999). Heuristics, low information rationality, and choosing public goods: Broken windows as shortcuts to information about school performance. *Urban Affairs Review*, 34, 729-741.
- Schreck, C. J. & Miller, J. M. (2003). Sources of fear of crime at school: What is the relative contribution of disorder, individual characteristics, and school security? *Journal of School Violence*, 2, 57-77.
- Schreck, C. J., Miller, J. M., & Gibson, C. L. (2003). Trouble in the school yard: A study of the risk factors of victimization at school. *Crime & Delinquency*, 49, 460-484.
- Skogan, W. G. (1987). The impact of victimization on fear. *Crime and Delinquency*, 33, 135-154.
- Skogan, W. G. (1990). *Disorder and decline: Crime and the spiral of decay in American neighborhoods*. New York, NY: The Free Press.
- Sprague, J. R., Smith, S., & Stieber, S. (2002). Principal perceptions of school safety. *Journal of School Violence*, 1, 51-64.
- Stanko, E. A. (1992). The case of fearful women: Gender, personal safety and fear of crime. *Women & Criminal Justice*, 4, 117-135.
- Stewart, E. A. (2003). School social bonds, school climate, and school misbehavior: A multilevel analysis. *Justice Quarterly*, 20, 575-604.
- Stretesky, P. B. & Hogan, M. J. (2001). Columbine and student perceptions of safety: A quasi-experimental study. *Journal of Criminal Justice*, 29, 429-433.
- Taub, R. D., Taylor, G., & Dunham, J. D. (1981). Neighborhoods and safety. In D. A. Lewis (Ed.), *Reactions to crime* (pp. 103-119). Beverly Hills, CA: Sage.
- Taylor, R. B. (2001). *Breaking away from broken windows: Baltimore neighborhoods and the nationwide fight against crime, grime, fear, and decline*. Boulder, CO: Westview.
- Taylor, R. B. & Covington, J. (1993). Community structural change and fear of crime. *Social Problems*, 40, 374-395.
- Taylor, R. B. & Hale, M. (1986). Testing alternative models of fear of crime. *The Journal of Criminal Law and Criminology*, 77, 151-189.
- Vettenburg, N. (2002). Unsafe feelings among teachers. *Journal of School Violence*, 1, 33-49.
- Warr, M. (1985). Fear of rape among urban women. *Social Problems*, 32, 238-250.
- Warr, M. (2000). Fear of crime in the United States: Avenues for research and policy. In D. Duffee (Ed.), *Measurement and analysis of crime and justice: Criminal justice 2000* (pp. 451-489). Washington, DC: US Department of Justice.
- Warr, M. & Stafford, M. (1983). Fear of victimization: A look at the proximate causes. *Social Forces*, 61, 1033-1043.
- Welsh, W. N. (2001). Effects of student and school factors on five measures of school disorder. *Justice Quarterly*, 18, 911-947.
- Welsh, W. N., Greene, J. R., & Jenkins, P. H. (1999). School disorder: The influence of individual, institutional, and community factors. *Criminology*, 37, 73-115.
- Welsh, W. N., Stokes, R., & Greene, J. R. (2000). A macro-level model of school disorder. *Journal of Research in Crime & Delinquency*, 37, 243-283.

- Wilcox, P., Campbell Augustine, M., Bryan, J. P., & Roberts, S. (2005). The "reality" of middle-school crime: Objective vs. subjective experiences among a sample of Kentucky youth. *Journal of School Violence, 4*, 3-27.
- Wilcox, P., Quisenberry, N., & Jones, S. (2003). The built environment and crime risk interpretation. *Journal of Research in Crime and Delinquency, 40*, 1-23.
- Wilcox Rountree, P. (1998). A reexamination of the crime-fear linkage. *Journal of Research in Crime and Delinquency, 35*, 341-372.
- Wilcox Rountree, P. & Land, K. C. (1996a). Perceived risk versus fear of crime: Empirical evidence of conceptually distinct reactions in survey data. *Social Forces, 74*, 1353-1376.
- Wilcox Rountree, P. & Land, K. C. (1996b). Burglary victimization, perceptions of crime risk, and routine activities: A multilevel analysis across Seattle neighborhoods and census tracts. *Journal of Research in Crime and Delinquency, 37*, 147-180.
- Williams, L. E., Winfree Jr., L. T., & Clinton, W. (1989). Trouble in the schoolhouse: New views on victimization, fear of crime, and teacher perceptions of the workplace. *Violence and Victims, 4*, 27-44.
- Wilson, J. & Kelling, G. (1982). Broken windows. *The Atlantic Monthly*, March, 29-38.

RECEIVED: 04/19/06

ACCEPTED: 06/29/06

doi:10.1300/J202v06n04_03

Copyright of Journal of School Violence is the property of Haworth Press and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.