



Adolescent school-based sexual victimization: Exploring the role of opportunity in a gender-specific multilevel analysis[☆]

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A B S T R A C T

Purpose: Most research on school-based adolescent sexual victimization has lacked an explicit theoretical focus. This study examined whether an opportunity framework is appropriate for understanding adolescent school-based sexual harassment and sexual assault victimization using gender-specific multilevel analysis. **Methods:** Using a sample of middle and high school adolescents, we examined the effects of individual-level indicators of opportunity on school-based sexual harassment and sexual assault victimization. In addition, we explored the relative influence of school factors on student sexual victimization, including the potential moderating influence the school environment may have on the effects of individual-level indicators of opportunity. Finally, we examined the potential differences in the correlates of sexual victimization across male and female adolescents.

Results: Several individual-level indicators of opportunity were associated with school-based sexual harassment and sexual assault for both males and females, though several important gender differences were observed. In addition, school factors directly and indirectly influenced sexual victimization.

Conclusions: Findings suggest that an opportunity framework is appropriate for understanding school-based sexual harassment and sexual assault victimization, and that important gender differences do exist. The implications of these results and directions for future research are discussed.

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Introduction

Adolescents in the United States are at greater risk for criminal victimization compared to most other age groups (Rand, 2009), with a substantial amount of this victimization occurring in school. For instance, recent data show that students are actually at a greater risk of theft victimization inside of school than away from school and that “no measurable difference” exists in adolescent rates of violent victimization at school versus away from school (Dinkes, Kemp, & Baum, 2009, p. 10). In light of such findings, a good deal of research over the past several decades has been devoted to understanding the correlates of adolescent school-based victimization risk. An especially promising framework in this endeavor is one that emphasizes the variation across adolescents in *opportunities* for victimization while at school. Such opportunities for victimization are thought to be a function of an individual's exposure/proximity to motivated offenders

at school, perceived “suitability” as a target of crime at school, and ineffectiveness of guardianship at school (e.g., see Campbell Augustine, Wilcox, Ousey, & Clayton, 2002; Garofalo, Siegel, & Laub, 1987; Schreck, Miller, & Gibson, 2003).

Despite general support for an opportunity-based approach to understanding adolescent school-based victimization, this framework is rarely applied to school-based *sexual* victimization. Most studies, instead, emphasize non-sexual violent victimization and/or property crime victimization (e.g., Campbell Augustine et al., 2002; Schreck et al., 2003; Wilcox, Tillyer, & Fisher, 2009). Yet, limited work on sexual harassment and sexual assault among secondary school students has shown them to be prevalent, especially in the school context. For example, the American Association of University Women (AAUW) reports reveal that 81 percent of students have experienced some type of sexual harassment in school, with almost 60 percent of those students reporting often or occasional harassment (1993, 2001). Thus, further etiological work on school-based sexual victimization specifically – including work from an opportunity perspective – is warranted. Is it distinct etilogically from other forms of school-based victimization of youth, or is it, too, correlated with indicators of opportunity? We believe this is an important empirical question. Studies of college students suggest that an opportunity framework holds considerable promise for understanding both sexual and non-sexual victimization of young adults in the

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campus environment (e.g., Fisher, Sloan, Cullen, & Lu, 1998; Mustaine & Tewksbury, 2002; Schwartz & Pitts, 1995; Ullman, Karabatsos, & Koss, 1999). Despite the evidence based on college-aged individuals, an opportunity perspective has received scant attention in relation to sexual victimization of secondary school students. It is the latter group, secondary school adolescents, to which we refer and upon which we focus our research efforts throughout this study.

In short, we address the question of whether opportunity is a relevant paradigm for understanding sexual victimization of middle and high school students. We do so through a gender-specific, multilevel analysis of sexual victimization among a large sample of middle and high school students drawn from public schools in Kentucky. More specifically, among this sample, we examine the relative influence and possible interdependency of individual-level and school-level indicators of opportunity for in-school sexual harassment and sexual assault victimization.¹ In the course of this analysis, we explore possible differences in multilevel influences on in-school sexual victimization across male and female students.

Opportunity and victimization

Beginning with their seminal piece in 1979, Cohen and Felson focused on the circumstances surrounding criminal events rather than the motivation of offenders. In doing so, they argued that crime is a function of opportunity. For a crime to occur there must be a convergence in time and space of motivated offenders, suitable targets, and the absence of capable guardians (Cohen & Felson, 1979). Although initially developed as a macro-level theory to explain crime rate trends (e.g., Cohen, Felson, & Land, 1980; Messner & Blau, 1987), Cohen and Felson's routine activity theory was later extended and reconceptualized into a micro-level explanation of criminal victimization risk (e.g., Miethe, Stafford, & Long, 1987; Miethe & Meier, 1990, 1994). In doing so, it was essentially merged with Hindelang, Gottfredson, and Garofalo's (1978) perspective suggesting that victimization risk was positively correlated with lifestyles that involve greater exposure to opportunistic situations (i.e., public spaces). For example, Cohen, Kluegel, and Land (1981) proposed that opportunity for victimization is a function of one's lifestyle and routine activities; thus, risk of victimization will vary depending upon an individual's exposure, guardianship, proximity to offenders, and target attractiveness. Collectively, these early studies formed the opportunity framework from which to study individual risk of victimization across different contexts.

Individual-level factors and student victimization

Garofalo et al. (1987) were among the first to study opportunity for victimization within the domain-specific context of schools. After reviewing the incident report narratives from the 1982 and 1983 National Crime Survey, they found that among the reports that contained information regarding the location of victimization, 54 percent occurred during daily school activities. They recognized that the highly patterned, routine activities of schools create ample opportunities for victimization during the school day. Since Garofalo et al.'s influential study, a good deal of research has identified specific school-based risky behaviors and lifestyles of victims. Without blaming these victims, this approach seeks to identify preventable risk factors or correlates of victimization. A number of studies, for instance, have found that students who associate with delinquent friends and engage in delinquent activities themselves experience elevated risks of school victimization (Burrow & Apel, 2008; Campbell Augustine et al., 2002; George & Thomas, 2000; Ousey, Wilcox, & Brummel, 2008; Schreck et al., 2003; Wilcox, May, & Roberts, 2006). Such findings have been interpreted as consistent with opportunity theory – greater exposure to motivated offenders, as indicated by peer delinquency and one's own delinquency, produces opportunity for victimization.

In contrast, pro-social ties at school – as measured by variables such as “attachment to teachers” or “school achievement” – have been negatively correlated with student victimization risk (Anderman & Kimweli, 1997; George & Thomas, 2000; Ousey et al., 2008; Wilcox et al., 2006, 2009). Students with such conventional attachments and commitments are presumably more often under the watchful eyes of adults and are, thus, better-guarded as potential targets.² However, research shows that ties to school in the form of extra-curricular involvement may sometimes increase risk, perhaps because participation in these types of activities increases exposure, particularly during times with minimal or no guardianship (Burrow & Apel, 2008; Peguero, 2009; Welsh, 2001; Wilcox et al., 2009).

The role of individual-level characteristics suggesting “target suitability” have also been considered in studies of victimization at school. Demographic characteristics, for example, are typically associated with school victimization in a manner consistent with “target suitability” and criminal opportunity. For instance, younger students (i.e., middle school aged as opposed to high school) are often reported to be at greater risk for victimization, presumably because their youth creates vulnerability (Burrow & Apel, 2008; Campbell Augustine et al., 2002; Welsh, 2001; Wilcox et al., 2009). Further, several studies have shown wealthier students (who presumably possess more “valuable goods”) are at heightened risk, especially for theft victimization (Burrow & Apel, 2008; Wilcox et al., 2009; but see Campbell Augustine et al., 2002 and Schreck et al., 2003 for contradictory findings).

In addition, low self-control is an individual-level characteristic identified as offering opportunity for in-school victimization (Finkelhor & Asdigian, 1996; Forde & Kennedy, 1997; Schreck, 1999). This line of reasoning suggests that individuals who have low self-control (or high levels of impulsiveness) are more likely to expose themselves to riskier situations and riskier peers, antagonize others, or place themselves in the company of less capable guardians. Empirical work has, indeed, found low self-control to be strongly related to adolescent victimization risk, including in-school risk (e.g., Campbell Augustine et al., 2002; Ousey et al., 2008; Schreck, 1999; Schreck, Wright, & Miller, 2002; Wilcox et al., 2009).

Contexts of opportunity: school-level factors and student victimization

Opportunity for victimization does not result solely from individual dispositions, lifestyles, or activities. Rather, opportunity is an inherently multi-level construct, and it can characterize individuals, as well as the broader contexts in which they are embedded (Wilcox, Land, & Hunt, 2003). In fact, school victimization research has pointed to a number of school-level characteristics that are consistent with the idea that schools vary in the extent to which they, as environmental contexts, provide opportunity for student victimization.

Research by Astor and colleagues has been particularly informative in this regard. For instance, Astor, Meyer, and Behre's (1999) examination of victimization in five Midwestern high schools highlights the critical guardian function of teachers and other school personnel. Based on interviews with students, Astor et al. (1999) found that, despite the demographic differences of the high schools, violent victimizations occurred in the same types of locations (e.g., hallways, stairwells, dining areas, and parking lots) and during the same times of the day (e.g., before school begins, during class transitions, and immediately after school ends). They suggested that the violent victimizations reported by students occurred in spaces “unowned” by teachers or other school personnel. In other words, places within schools that hosted the most crime were spaces not under the explicit care or within the unambiguous sphere of influence of a particular authority figure. According to students, the physical presence of a teacher, particularly one who truly cared about the students and was willing to intervene in any student conflict, was the most effective intervention for in-school violent victimization (see

also Benbenishty & Astor, 2005). Similarly, other studies contend that clearly articulated and consistently applied school rules can also serve as a form of school-level guardianship, thus lowering student victimization risk (Benbenishty & Astor, 2005; Burrow & Apel, 2008; Welsh, 2001). In fact, the “informal social control” suggested by the supervision/intervention of school personnel and the fairness and consistency of school rules appear more efficient than physical security forms of guardianship (i.e., metal detectors, security guards) offered by many schools today (Astor et al., 1999; Burrow & Apel, 2008; Schreck et al., 2003).

Other research suggests that certain school-level characteristics promote opportunity in the form of exposing targets (students) to potentially motivated offenders (other students). For instance, the likelihood of in-school victimization is greater when schools expose students to a student body that contains a relatively high proportion of juvenile delinquents. According to a number of studies, school-level characteristics like the presence of gangs at school, drug dealers on school property, and a relatively higher percentage of students armed with weapons, all make individual victimization at school more likely (Bauer, Guerino, Nolle, & Tang, 2008; Burrow & Apel, 2008; Schreck et al., 2003).

Sexual victimization at school

According to the AAUW, school-based sexual harassment is a pervasive issue, as four out of five students experience some form of sexual harassment during their school career (AAUW, 1993, 2001; Lee, Croninger, Linn, & Chen, 1996). Pinpointing precise prevalence rates has proven tricky, however, as many studies have utilized lifetime or annual prevalence estimates. Some, however, have relied on a much shorter reference period in order to gain more accurate measurements of harassment in schools. Walsh, Duffy, and Gallagher-Duffy (2007), for example, found that 57 percent of high school students experienced firsthand sexual harassment in school during the two weeks prior to the survey.³ Typically, studies find that the most common form of sexual victimization identified by students is non-physical in nature (AAUW, 2001) – consistent with our definition of “harassment” – such as being the victim of unwanted sexual comments, jokes, gestures, or looks (Petersen & Hyde, 2009). That being said, sexual victimization that involves some sort of physical contact – behavior that would fit our use of the term “sexual assault” – is not uncommon among adolescents. Getting a firm handle on prevalence of in-school sexual assault has also proven difficult due to cross-study methodological differences similar to those described above in relation to sexual harassment. For instance, a number of adolescent sexual assault studies survey students in school, yet the location of the victimization (in or out of school) remains unclear (e.g., Gover, Jennings, & Tewksbury, 2009; Maxwell, Robinson, & Post, 2003). Nonetheless, there are a few studies that specifically identified the school as the location for most or all of the sexual victimizations queried. As an example, the nationally representative School Survey on Crime and Safety (SSOCS) measured official reports of in-school rape and sexual battery through a survey of 2,270 public elementary, middle, and high school principals. Though only one percent of public schools in the survey experienced a rape or attempted rape, and two percent of the schools experienced a sexual battery other than rape during the 1999–2000 school year, almost 4,900 total incidents of sexual victimization were reported (Miller, 2003).

Higher incidence and prevalence rates are produced in studies that use broader definitions of “sexual assault” and utilize measurement strategies independent of official school reports. For instance, in their examination of sexual victimization by peers both within and outside of the school setting, Young, Grey, and Boyd (2009) found, among more than 1,000 students in grades 7 through 12, that 40 percent of middle school and 53 percent of high school female students reported peer-on-peer sexual assault and even higher percentages reported

sexual harassment victimization. For middle school students, more than half of their peer-on-peer sexual assaults occurred in or on school grounds, while nearly 40 percent of high school students reported the school as the location of their sexual assault. Although labeled as physical “sexual harassment,” AAUW (2001) found that roughly half of all students were touched, grabbed, or pinched in a sexual way while at school. Seven percent of students reported that they were forced to kiss someone and less than five percent were forced to do something sexual besides kissing while at or on school grounds (AAUW, 2001). When looking at Canadian adolescents in grades 7–12, Bagley, Bolitho, and Bertrand (1997) found that one in five females reported at least one instance of unwanted touching of “private areas” while at school.

In general, students who experience in-school sexual harassment or sexual assault are usually being victimized by other students (e.g., Lee et al., 1996). Both of the AAUW (1993, 2001) studies revealed that the majority of sexual victimization was committed by students. In addition, compared to male students, females were more likely to report that the perpetrator was a fellow student rather than an employee of the school (Walsh et al., 2007).

Is it opportunistic?

Most existing studies of in-school sexual victimization examine prevalence rates and risk factors without a clear theoretical framework guiding analysis. Hence, few researchers to date have concluded that opportunity theory is supported in terms of understanding in-school sexual victimization risk. However, a number of previous findings are compatible with such a framework. Recall from above that key concepts consistent with an opportunity perspective include exposure to motivated offenders, target suitability, and absence of capable guardianship (Cohen & Felson, 1979). Specific individual-level characteristics that are presumed to measure such concepts include delinquent lifestyles and/or delinquent peer associations, low self-control, and pro-social ties.⁴

In terms of whether offending behavior is related to in-school sexual victimization, Fineran and Bennett (1999) found that 84 percent of high school students experienced sexually harassing behaviors from their peers at school, but that 75 percent of the students admitted to sexually harassing their peers as well. Hence, perpetration and victimization are clearly intertwined, though it is difficult to identify the true causal ordering of this relationship (see also Lee et al., 1996). This noted overlap, coupled with their finding that more sexual harassment perpetration occurred among adolescents with larger numbers of cross-gender friends, led McMaster, Connolly, Pepler, and Craig (2002) to propose that adolescent sexual harassment is likely occurring *within*, and not between, peer groups. Because they suggest this finding is the result of cross-gender peer groups having more opportunities for sexual harassment, this conclusion is consistent with the idea that exposure to potentially motivated offenders is positively correlated with sexual victimization risk. For some of these other indicators of exposure, the associated risk appears particularly acute for *female* students. For instance, Maxwell et al. (2003) and Miller (2008) both reported that female high school students who dated more frequently experienced more sexual victimization; taken together, these studies suggest dating increases risk for females regarding both in-school and outside-of-school victimization.⁵

In terms of other predictors of sexual victimization during adolescence, studies have shown that youth with more advanced pubertal status are more likely to be sexually harassed than those with less advanced pubertal status (McMaster et al., 2002; Petersen & Hyde, 2009). Physical attractiveness, especially in female students, has also been identified as a risk factor for harassment victimization (Petersen & Hyde, 2009). It should be noted that none of the studies highlighting such risk factors were specifically approached from an

opportunity perspective, but their findings are nonetheless consistent with the idea that some individual victim characteristics appear to define “target suitability,” and thus opportunity, on the part of the perpetrators.

Studies have also implied that guardianship in the form of pro-social ties can impact sexual victimization risk. Maxwell et al. (2003) found that the strongest predictor for high-school student sexual victimization (which, by the nature of the questioning, appears to have included in-school and outside-of-school victimizations) was a lack of plans to attend college, as this increased the likelihood of sexual victimization more than six fold.⁶

Beyond individual-level risk and protective factors, other research highlights or implies environmental (school-level) correlates of sexual victimization. For instance, research shows that there are particular areas of schools that experience a disproportionate share of overall sexual harassment, with “hot spots” including school hallways, classrooms, the gym, playing fields, or a pool area (AAUW, 2001; Walsh et al., 2007). A number of these spots overlap with the hot spots identified by Astor and colleagues (described above) in their study of general school violence (e.g., Astor et al., 1999; Benbenishty & Astor, 2005). Drawing upon the explanation provided by Astor and colleagues, perhaps certain micro spaces within larger schools appear to offer more opportunity for sexual violence due to the diminished guardianship available at those places (i.e., no teachers/staff with explicit control of the space).

Additionally, Lee et al. (1996) identified several contextual factors that were strongly linked to sexual harassment in secondary schools. In particular, harassment victimization was higher among students who perceived harassment throughout the school to be more prevalent. Such findings are compatible with the idea that school-level exposure to harassment can indicate risk above and beyond individual-level indicators of exposure (i.e., being an offender, having friends who offend, etc.). As part of a national survey on school violence, Miller (2003) examined in-school violent victimization, which included rape, sexual battery, threatened or actual physical attack, and robbery. In doing so, she found that violent victimization was related to the number of classroom changes and enrollment size. These findings seem particularly compatible with the notion of opportunity, as larger schools with more frequent class changes provide more exposure, especially during times with diminished guardianship capacity (class change-over). Miller's (2003) study also showed that schools with more violent victimization experienced more instances of other problems, including gang activities, racial tensions, acts of disrespect towards teachers, and widespread disorder in classrooms.

Finally, in her interviews with economically disadvantaged, inner-city minority students, Miller (2008) discovered that incidents of both verbal and physical sexual harassment were commonplace, often occurring out in the open, in front of school personnel. Based on student reports, Miller (2008) found that these victimizations can be explained, in part, by a general disrespect toward females that pervaded the culture of the school (and the larger community). More specifically, male students used physical and verbal sexual harassment as a gendered expression of their power and status, which was sometimes used to threaten female students or to demonstrate their gendered superiority when their romantic or sexual advances were spurned. Male students typically encouraged one another to harass females, and other students were usually discouraged from intervening during incidents (Miller, 2008). In short, Miller found evidence of a school-wide pervasiveness and an underlying cultural support for sexual victimization, particularly of female students. Though her study was focused on an inner-city sample, and she acknowledged that the behavioral expectations regarding sexual violence might be more pronounced in disadvantaged settings, she also noted that similarly harmful dynamics have been shown to occur in more privileged educational contexts (i.e., within fraternities on college campuses).

Gendered opportunity?

Miller's (2008) findings, as well as those from several other studies reviewed above, imply that opportunity structures for in-school sexual victimization might be gendered. In short, this gendered perspective suggests that the individual- and school-level indicators of exposure, target suitability, and guardianship might impact victimization risk differently for male versus female students (Wilcox et al., 2009).

The very occurrence of in-school sexual victimization has, historically, been heavily gendered. For the most part, studies consistently report that female students experience more sexual victimization than male students (AAUW, 1993, 2001; Fineran & Bennett, 1999; Roscoe, Strouse, & Goodwin, 1994; Young et al., 2009). Additionally, according to Lee et al. (1996), not only do female students experience a higher likelihood of being sexually harassed, but they are harassed more severely than male students. However, this gender gap in harassment victimization appears to have decreased over time (AAUW, 2001), and a few studies report male rates of in-school sexual victimization (particularly harassment) equal to or in excess of female rates (McMaster et al., 2002; Petersen and Hyde, 2009).

Gender's correlation with victimization notwithstanding, we explore whether the risk and protective factors for sexual victimization are similar for male and female students. We are aware of only one previous study that has explicitly addressed this issue. When examining risk factors for both victimization and perpetration of in-school sexual harassment, Fineran and Bolen (2006) found that different causal pathways seem to operate, depending on gender. For high school females, Fineran and Bolen (2006) found two direct paths to sexual harassment victimization: greater delinquency and family victimization.⁷ Unlike their female counterparts, for high school males, sexual harassment perpetration led to sexual harassment victimization.

In short, though few studies have explicitly examined school-based sexual victimization from an opportunity perspective, the existing research suggests that such a framework may prove useful in developing an understanding of this phenomenon. Further, the role of opportunity in defining victimization risk is not necessarily limited to the individual-level; the school environment might also serve to define opportunity for sexual victimization, both by directly influencing risk, as well as moderating the effects of individual-level opportunity victimization risk. Finally, it remains unclear as to whether the correlates of school-based victimization are consistent across gender, or if a gender-specific opportunity framework is in order.

The present study

The present study contributes to the existing literature on sexual victimization by exploring three lines of inquiry in gender-specific multilevel analyses. First, we estimate the effects of individual indicators of opportunity on school-based sexual harassment and sexual assault victimization for a sample of middle and high school adolescents. Second, we explore the relative influence of environmental factors on sexual victimization, including whether they moderate the effects of individual opportunity on sexual victimization. Finally, we examine possible differences in the influences of sexual victimization across male and female adolescents.

Data

The data for the present study are from the Rural Substance abuse and Violence Project (RSVP), a longitudinal study conducted in Kentucky from spring 2001 to spring 2004. We used all four waves of the student portion of the study, which includes annual surveys of

students enrolled in the 7th grade during the first year of the study. A multistage sampling procedure was used to select study participants. First, 30 of Kentucky's 120 counties were selected using a stratified sampling procedure. Second, all principals of public schools that were within the 30 selected counties and contained 7th graders were asked to participate; 65 of 74 principals agreed to participate. Third, all 9,488 7th graders within the 65 participating schools were eligible to be in the sample. Active parental consent was granted for 4,102 participants. Of those, 3,692 students completed surveys in 7th grade (wave 1), 3,638 in 8th grade (wave 2), 3,050 in 9th grade (wave 3), and 3,040 in 10th grade (wave 4). Across the four waves of data collection, one or more observations were recorded from 3,977 of the 4,102 students for whom parental consent had been granted. We pooled the individual data across years so that we could examine as many school environment and grade level contexts as possible. This resulted in 13,420 cases. Cases with invalid school codes or those who had moved during the current school year were removed from the sample to ensure that the individual data were properly nested within schools, resulting in 12,746 student-years within 111 school contexts. Listwise deletion of cases due to missing data resulted in 10,091 students-years nested within 107 schools for the analyses. Though the original study that funded the data collection emphasized rural substance use, it should be noted that the sample of schools in RSVP ranges from rural to inner-city urban.

In addition to the student data, we also made use of teacher survey data in order to construct two of the school-level variables. All teachers from each school containing sampled students in any year of the study were also targeted for survey data collection. On the same day that student surveys were administered, teachers in each school containing students in the sample were group-administered a faculty/staff survey focused largely on their perceptions of various aspects of the school climate, including their perceptions of disorder, crime, and social integration among and between students, parents, teachers, and administrators. In total, approximately 4,500 teacher surveys were completed over the course of the study. Teacher survey responses were not used as individual-level data. Rather, they were aggregated within the 107 schools for the creation of school-level contextual measures.

Measures of variables

Dependent variables

Sexual harassment victimization and sexual assault victimization during the current school year are the two dichotomous dependent variables for the present study. *Sexual harassment victimization* measures whether the respondent received unwelcome sexual remarks from someone during the current school year while at school. *Sexual assault victimization* measures whether the respondent was touched in a sexual manner without consent or against his or her will in the current school year while at school. Descriptive statistics for all variables are available in Table 1.⁸

Independent variables: individual-level measures

We operationalized 13 individual-level variables to measure adolescents' opportunity for sexual victimization.⁹ This included six items which measure respondents' attachment to and involvement in relationships and activities which might indicate guardianship from victimization and/or exposure to potential offenders. *Attachment to parents* is an index comprised of 24 items measured on a 5-point Likert scale (1 = Never to 5 = Always) which asked respondents about the nature of their relationship with their parents and the frequency of interaction, with higher values indicating the respondent is more attached to his or her parents ($\alpha = 0.93$). *Attachment to school* is an index comprised of 6 items measured on a 4-point Likert scale (1 = Strongly Disagree to 4 = Strongly Agree) which asked respondents about their feelings toward their teachers, education, and school

Table 1
Descriptive statistics for study variables

	Min.	Max.	Males		Females	
			N = 4,656		N = 5,435	
			Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Dependent Variables						
Sexual harassment victimization	0.00	1.00	0.29 (0.45)	0.57 (0.50)		
Sexual assault victimization	0.00	1.00	0.21 (0.41)	0.39 (0.49)		
Independent Variables						
<i>Level 1 (Individuals)</i>						
Attachment to parents	1.00	5.00	3.76 (0.74)	3.74 (0.78)		
Attachment to school	1.00	4.00	3.05 (0.57)	3.29 (0.50)		
Student GPA	1.00	5.00	3.90 (0.94)	4.17 (0.83)		
Attachment to peers	1.00	4.00	3.42 (0.66)	3.74 (0.45)		
School sports	1.00	5.00	2.77 (1.62)	2.64 (1.55)		
School activities	1.00	5.00	2.12 (1.47)	2.57 (1.56)		
Low self-control	1.00	4.00	1.84 (0.69)	1.76 (0.65)		
Delinquent peers	0.00	1.00	0.27 (0.27)	0.25 (0.26)		
Self-reported crime	1.00	5.00	1.18 (0.44)	1.07 (0.21)		
Tobacco/alcohol/marijuana	1.00	5.00	1.47 (0.79)	1.32 (0.58)		
Other drugs	1.00	5.00	1.10 (0.49)	1.04 (0.24)		
Race (non-white)	0.00	1.00	0.09 (0.29)	0.09 (0.29)		
Socioeconomic status	1.00	7.00	4.38 (1.52)	4.27 (1.56)		
Wave 2	0.00	1.00	0.28 (0.45)	0.28 (0.45)		
Wave 3	0.00	1.00	0.23 (0.42)	0.23 (0.42)		
Wave 4	0.00	1.00	0.22 (0.42)	0.22 (0.41)		
<i>Level 2 (Schools)</i>						
Self-reported sexual harassment (SH)	1.00	1.63	1.21 (0.12)			
Self-reported sexual assault (SA)	1.00	1.52	1.13 (0.10)			
Efficacy	2.72	4.54	3.82 (0.44)			
Delinquency	0.55	3.50	1.70 (0.54)			

($\alpha = 0.70$), with higher levels indicating stronger attachment to school. *Student GPA* is a single-item measure which reflects the respondent's typical grade (1 = mostly Fs to 5 = mostly As). *Attachment to peers* is an index comprised of 6 items measured on a 4-point Likert scale which asked respondents about the nature and extent of their relationships with their closest friends ($\alpha = 0.91$), with higher values indicating stronger attachment. *School sports* is a single-item measure which asked respondents how often they take part in school sports (1 = Never to 5 = Everyday). Similarly, *school activities* is a single-item measure which asked respondents how often they take part in other school activities (1 = Never to 5 = Everyday).

Five additional variables were constructed to measure risky characteristics or behaviors that likely expose respondents to opportunities for sexual victimization. *Low self-control* is an 11-item index which measures the respondent's frustration, temper, restlessness, and attention span ($\alpha = 0.91$). Higher values indicate that the respondent has lower self-control. *Delinquent peers* is comprised of 17 items which measure whether the respondent's closest friends were involved in a range of delinquent behaviors during the current school year, including drug and alcohol use, assault, being arrested, and truancy ($\alpha = 0.91$), with higher values indicating more delinquent peer exposure. *Self-reported crime* is comprised of 14 items which measure the frequency with which the respondent reports engaging in a range of criminal behaviors in the present school year ($\alpha = 0.90$). Two different variables were created to measure the respondent's substance use during the current school year. *Tobacco/alcohol/marijuana* is a 6-item index which measures the respondent's frequency of use of alcohol, marijuana, and tobacco products ($\alpha = 0.93$). *Other drugs* is a 4-item index which measures the frequency with which the respondent used inhalants, cocaine, speed, and crystal methamphetamines during the current school year ($\alpha = 0.91$). The items used to create the self-reported crime and substance use variables were coded in ordinal fashion as "Never" (1) to "Daily or Almost Daily" (5).

In addition, we also included measures for respondent race and socioeconomic status. *Race* was measured as white (0) or non-white

(1). *Socioeconomic status* is the average responses to two items which asked respondents about the educational attainment of their father and mother (1 = completed grade school or less to 7 = graduate or professional school). Finally, we controlled for wave of the study by including dummy variables for waves 2, 3, and 4, with wave 1 being the omitted reference category in the analyses.

Independent variables: school-level measures

We operationalized four school-level variables to examine the relative influence of environmental factors on sexual victimization risk. Two variables were created by aggregating self-reports of sexual offending at school by students. *Self-reported sexual harassment* is a single-item measure which asked respondents how often (1 = Never to 5 = Daily or Almost Daily) they have said unwelcome remarks to someone at school during the current school year. Responses were aggregated by school to create a school-level measure of sexual harassment offending. *Self-reported sexual assault* is a single-item which asked student respondents how often (1 = Never to 5 = Daily or Almost Daily) in the current school year they have touched someone in a sexual manner without their consent or against their will at school. Responses were aggregated by school to create a school-level measure of sexual assault offending.

In addition, two variables were created by aggregating teacher responses to various items to measure other aspects of the school environment. *Efficacy* is a 12-item index created by asking teachers the extent to which they disagree or agree (1 = Strongly Disagree to 5 = Strongly Agree) with statements regarding principal, teacher, and student cooperation and involvement at school ($\alpha = 0.93$), with higher values representing higher levels of efficacy. *Delinquency* is the average of six items which reflect the frequency that teachers report observing various delinquent behaviors on school grounds or during school activities, including physical fights, weapon possession, vandalism, theft, verbal assaults, and gang-related activities ($\alpha = 0.64$).

Data analysis

To assess the influence of individual opportunity on sexual victimization, the potential direct and moderating effects of environmental factors, and gender differences in risk factors, we estimated a series of gender-specific hierarchical logistic models that take into account the nested structure of data (i.e., students non-randomly distributed within schools). All models were estimated using HLM-6, which allows for the appropriate specification of the two-level error structure in the data (Raudenbush, Bryk, & Congdon, 2000).

For each sexual victimization dependent variable, we employed the following analytic strategy. First, unconditional (intercept-only) models were estimated for each gender to examine whether significant variation existed in the dependent variable across schools. Second, the individual-level predictors were introduced into the models to assess whether significant variation between schools remained unexplained by the measured compositional effects. Third, school-level predictors were added to estimate the effects of environmental factors on students' sexual victimization risk.¹⁰ Fourth, random slopes models were estimated. That is, the slope of each individual-level variable was allowed to vary randomly across schools. Those which did not significantly vary across schools were fixed for subsequent analyses. Fifth, we modeled cross-level interactions for each slope that varied significantly across schools to determine whether environmental factors moderate the influence of individual opportunity on sexual victimization risk. Only those cross-level interactions that were significant were included in the final model. However, all slopes that varied significantly across schools were allowed to vary randomly in the final models to ensure proper model specification. Finally, we conducted equality of coefficients tests (Paternoster, Brame, Mazerolle, & Piquero, 1998) to assess

whether the influence of the independent variables varied significantly by gender.

Results

Sexual harassment: males

Results for the gender-specific sexual harassment victimization final models are presented in Table 2.¹¹ The variance component for the unconditional model of sexual harassment victimization for males was significant ($u_{0j} = 0.09$; s.d. = 0.31; $\chi^2 = 203.30$; $p < 0.01$), suggesting that there is cross-school variation in the mean risk of sexual harassment victimization for male adolescents. When the individual-level predictors were introduced into the model, the variance component remained significant ($u_{0j} = 0.06$; s.d. = 0.25; $\chi^2 = 162.97$; $p < 0.01$), indicating that there is variation among schools in victimization risk beyond that which can be explained by the composition of the measured individual-level variables. When the three school-level variables were added to the model, the variance component remained significant ($u_{0j} = 0.05$; s.d. = 0.23; $\chi^2 = 147.82$; $p < 0.01$), suggesting that there is additional cross-school variation in the mean risk of sexual harassment victimization for males that remains unexplained by the measured individual- and school-level predictors. The random slopes models revealed that three slopes – attachment to parents, attachment to school, and socioeconomic status – varied randomly across schools. All other slopes were fixed in the final model.

Involvement in school sports and school activities significantly increased the likelihood of sexual harassment victimization at school for males, as did low self-control, associating with delinquent peers, and the adolescent's own self-reported criminal behavior. Attachment to school and attachment to peers significantly reduces the risk of school-based sexual harassment victimization for males. In addition, risk declines in later grades, as males in wave 3 and wave 4 were significantly less likely to report being victims relative to males in wave 1.

As for the influence of environmental factors on sexual harassment victimization, males in schools with higher levels of self-reported sexual harassment among students are at greater risk. Further, self-reported sexual harassment at the school-level moderates the effect of socioeconomic status on sexual harassment victimization. Though the positive relationship between socioeconomic status and sexual harassment victimization is non-significant, this effect is strengthened for males in schools with higher levels of self-reported sexual harassment.

Sexual harassment: females

Similar to male sexual harassment victimization risk, the variance component for female sexual harassment victimization risk was significant in the unconditional model ($u_{0j} = 0.09$; s.d. = 0.30; $\chi^2 = 227.73$; $p < 0.01$), and remained significant when individual-level predictors were introduced ($u_{0j} = 0.09$; s.d. = 0.30; $\chi^2 = 217.19$; $p < 0.01$), as well as when the school-level variables were added to the model ($u_{0j} = 0.08$; s.d. = 0.29; $\chi^2 = 204.61$; $p < 0.01$). The random slopes models indicated that six slopes – attachment to parents, student GPA, attachment to peers, low self-control, self-reported crime, and tobacco/alcohol/marijuana – varied randomly across schools. All other slopes were fixed in the final model.

For females, higher student GPAs, involvement in school sports, low self-control, delinquent peers, self-reported crime, tobacco/alcohol/marijuana use, and socioeconomic status all increase the risk of sexual harassment victimization at school. Conversely, attachment to parents and the use of other drugs are associated with lower risk of victimization. While sexual harassment victimization risk was significantly greater for females during wave 2 relative to wave 1, risk was significantly lower during wave 4.

In terms of school-level effects, females in schools with higher levels of efficacy are more likely to report sexual harassment

Table 2
Hierarchical logistic models of sexual harassment victimization risk by gender¹

Individual Fixed Effects	Model A: Males			Model B: Females			Z score ²
	Coefficient	SE	OR	Coefficient	SE	OR	
Attachment to parents	-0.10	0.06	0.90	-0.27*	0.06	0.76	2.13*
Attachment to school	-0.17*	0.08	0.85	-0.02	0.08	0.98	-1.29
Student GPA	0.05	0.04	1.06	0.12*	0.05	1.13	-1.05
Attachment to peers	-0.18*	0.06	0.84	-0.01	0.08	0.99	-1.59
School sports	0.10*	0.02	1.11	0.09*	0.02	1.10	0.24
School activities	0.08*	0.02	1.09	0.04	0.02	1.04	1.55
Low self-control	0.38*	0.05	1.46	0.36*	0.07	1.43	0.24
Delinquent peers	0.58*	0.15	1.79	1.77*	0.17	5.85	-5.20*
Self-reported crime	0.68*	0.14	1.97	1.74*	0.36	5.67	-2.73*
Tobacco/alcohol/marijuana	-0.12	0.07	0.89	0.35*	0.09	1.41	-4.18*
Other drugs	-0.11	0.11	0.90	-0.69*	0.23	0.50	2.25*
Race (non-white)	-0.04	0.16	0.96	-0.04	0.09	0.96	0.01
Socioeconomic status	0.04	0.03	1.04	0.08*	0.02	1.08	-1.23
Wave 2	0.03	0.08	1.03	0.17*	0.06	1.19	-1.39
Wave 3	-0.18*	0.09	0.84	0.02	0.09	1.02	-1.60
Wave 4	-0.33*	0.10	0.72	-0.27*	0.10	0.76	-0.40
<i>School Fixed Effects</i>	Coefficient	SE	OR	Coefficient	SE	OR	
Intercept	-0.97*	0.04	0.38	0.33*	0.04	1.40	
Self-reported SH	1.16*	0.54	3.19	0.66	0.45	1.93	
Efficacy	-0.04	0.10	0.97	0.16*	0.08	1.18	
Delinquency	0.11	0.07	1.12	0.19*	0.07	1.20	
<i>Cross-level Interactions</i>	Coefficient	SE	OR	Coefficient	SE	OR	
Low self-control x Self-reported SH				-0.86**	0.46	0.42	
Socioeconomic status x Self-reported SH	0.39**	0.20	1.47				
<i>Random Effects</i>	s.d.	variance component		s.d.	variance component		
Mean victimization risk	0.21	0.05*		0.31	0.10*		
Attachment to parents slope	0.27	0.07*		0.30	0.09*		
Attachment to school slope	0.39	0.15*					
Student GPA slope				0.28	0.08*		
Attachment to peers slope				0.42	0.17*		
Low self-control				0.34	0.12*		
Self-reported crime slope				1.78	3.19*		
Tobacco/alcohol/marij. slope				0.46	0.21*		
Socioeconomic status slope	0.09	0.01**					
Level 1 extra binomial error	0.98	0.96		0.98	0.95		

*p<.05, **p<.10.

¹Level 1: N = 4,656 males, N = 5,435 females; Level 2: N = 107 schools.²Test of equality of regression coefficients.

victimization, as are those in schools with higher levels of delinquency. Further, self-reported sexual harassment moderates the relationship between low self-control and sexual harassment victimization for females. Specifically, in schools with higher levels of self-reported sexual harassment among students, the positive relationship between low self-control and sexual harassment victimization for females is weakened.

Sexual harassment: gender differences

The results from the equality of coefficients tests suggest that there are significant gender differences in the influence of the independent variables on sexual harassment victimization. Specifically, attachment to parents is associated with lower risk for females, but not males. Though delinquent peers and self-reported crime significantly increase the risk of victimization for both genders, these effects are significantly greater for females. The use of tobacco, alcohol, and marijuana significantly increases risk for females, but not males. However, the use of other drugs by females is actually associated with lower risk of sexual harassment victimization, while the relationship is non-significant for males.

Sexual assault: males

Results for the gender-specific sexual assault victimization final models are presented in Table 3. The variance component in the unconditional model for sexual assault victimization for males was significant ($u_{0j} = 0.18$; s.d. = 0.42; $\chi^2 = 251.98$; $p < 0.01$), suggesting that there is cross-school variation in the mean risk for male adolescents. The variance component remained significant when the individual-level variables were included in the model ($u_{0j} = 0.15$; s.d. = 0.39; $\chi^2 = 216.44$; $p < 0.01$), as well as when the school-level variables were added ($u_{0j} = 0.11$; s.d. = 0.34; $\chi^2 = 183.09$; $p < 0.01$). The random slopes models indicate that the effects of attachment to school, student GPA, low self-control, and tobacco/alcohol/marijuana varied significantly across schools. All other slopes were fixed in the final model.

For males, involvement in school sports, low self-control, associating with delinquent peers, and self-reported crime all significantly increase the risk of sexual assault victimization risk at school. Conversely, attachment to parents, attachment to school, and attachment to peers significantly decrease the risk. In addition, males in wave 4 are significantly less likely to report being a victim relative to males in wave 1.

Table 3
Hierarchical logistic models of sexual assault victimization risk by gender¹

Individual Fixed Effects	Model C: Males			Model D: Females			Z score ²
	Coefficient	SE	OR	Coefficient	SE	OR	
Attachment to parents	-0.17*	0.07	0.84	-0.17*	0.05	0.85	-0.02
Attachment to school	-0.24*	0.09	0.79	0.03	0.08	1.03	-2.26*
Student GPA	0.01	0.05	1.01	-0.02	0.05	0.98	0.40
Attachment to peers	-0.25*	0.05	0.78	0.05	0.07	1.05	-3.39*
School sports	0.12*	0.03	1.13	0.12*	0.02	1.12	0.06
School activities	0.05	0.03	1.05	0.00	0.02	1.00	1.39
Low self-control	0.38*	0.07	1.46	0.42*	0.08	1.52	-0.39
Delinquent peers	0.86*	0.17	2.37	1.49*	0.16	4.42	-2.70*
Self-reported crime	0.58*	0.13	1.79	1.75*	0.35	5.74	-3.11*
Tobacco/alcohol/marijuana	-0.05	0.07	0.95	0.53*	0.08	1.69	-5.47*
Other drugs	-0.09	0.10	0.92	-1.06*	0.20	0.35	4.30*
Race (non-white)	0.04	0.15	1.04	0.12	0.13	1.13	-0.44
Socioeconomic status	0.03	0.03	1.04	0.07*	0.03	1.07	-0.94
Wave 2	0.14	0.10	1.15	0.10	0.09	1.11	0.24
Wave 3	-0.06	0.10	0.94	0.01	0.11	1.01	-0.47
Wave 4	-0.31*	0.13	0.73	-0.39*	0.13	0.68	0.45
<i>School Fixed Effects</i>	Coefficient	SE	OR	Coefficient	SE	OR	
Intercept	-1.49	0.06	0.23	-0.50*	0.05	0.60	
Self-reported SA	1.98*	0.50	7.28	0.99*	0.45	2.69	
Efficacy	0.03	0.13	1.03	0.03	0.09	1.03	
Delinquency	0.28*	0.09	1.33	0.13	0.09	1.14	
<i>Cross-level Interactions</i>	Coefficient	SE	OR	Coefficient	SE	OR	
Student GPA x Self-reported SA x Efficacy	0.85**	0.45	2.33	-0.26*	0.08	0.77	
Low self-control x Self-reported SA Socioeconomic status x Delinquency	-1.02*	0.53	0.36	0.10*	0.05	1.10	
<i>Random Effects</i>	s.d.	variance component		s.d.	variance component		
Mean victimization risk	0.35	0.12*		0.34	0.12*		
Attachment to school slope	0.44	0.19*					
Student GPA slope	0.23	0.06*		0.21	0.04*		
School activities slope				0.11	0.01*		
Low self-control	0.30	0.09*		0.42	0.17*		
Self-reported crime slope				1.95	3.79*		
Tobacco/alcohol/marij. slope	0.23	0.05*		0.38	0.14*		
Race slope				0.67	0.46*		
Socioeconomic status slope				0.12	0.02*		
Level 1 extra binomial error	0.96	0.92		0.98	0.95		

*p<.05, **p<.10.

¹Level 1: N = 4,656 males, N = 5,435 females; Level 2: N = 107 schools.

²Test of equality of regression coefficients.

In terms of school-level effects, males in schools with higher levels of self-reported sexual assault among students and higher levels of delinquency are significantly more likely to be victimized. Further, self-reported sexual assault among students moderates the effects of student GPA and low self-control on sexual assault victimization for males. In schools with higher levels of self-reported sexual assault among students, the positive relationship between student GPA and victimization is strengthened, while the positive relationship between low self-control and victimization is weakened.

Sexual assault: females

Similar to male sexual assault victimization risk, the variance component for female sexual assault victimization risk was significant in the unconditional model ($u_{0j} = 0.12$; s.d. = 0.35; $\chi^2 = 268.01$; $p < 0.01$), and remained significant when individual-level predictors were introduced ($u_{0j} = 0.12$; s.d. = 0.35; $\chi^2 = 245.46$; $p < 0.01$), as well as when the school-level variables were added to the model

($u_{0j} = 0.10$; s.d. = 0.31; $\chi^2 = 212.10$; $p < 0.01$). The random slopes models indicate that the effects of student GPA, school activities, low self-control, self-reported crime, tobacco/alcohol/marijuana, race, and socioeconomic status vary significantly across schools. All other slopes were fixed in the final model.

For females, involvement in school sports, low self-control, delinquent peers, self-reported crime, tobacco/alcohol/marijuana use, and socioeconomic status are associated with a higher likelihood of sexual assault victimization. Conversely, attachment to parents and the use of other drugs are associated with lower risk. Finally, females in wave 4 were significantly less likely to report being a victim of sexual assault at school relative to females in wave 1.

As for the school-level effects, females in schools with higher levels of self-reported sexual assault among students were significantly more likely to report being victims of sexual assault at school. In addition, school-level efficacy and delinquency moderate the effects of individual-level factors on female sexual assault victimization. In schools with higher levels of efficacy, the positive relationship

between student GPA and female victimization risk is weakened. In schools with higher levels of delinquency, the positive relationship between socioeconomic status and female victimization risk is strengthened.

Sexual assault: gender differences

The equality of coefficients tests revealed significant gender differences in the influence of the independent variables on sexual assault victimization. Specifically, both attachment to school and attachment to peers serve as protective factors for males, but not females. The remaining four significant gender differences mirror the findings from the sexual harassment models. Delinquent peers and self-reported crime significantly increase the risk of victimization for both genders, but the effects are significantly greater for females. Tobacco, alcohol, and marijuana use significantly increases risk for females, but not males. The use of other drugs by females is related to lower risk of sexual assault victimization, while the relationship is non-significant for males.

Discussion and conclusions

Several studies of school-based victimization have been grounded in an opportunity perspective (Cohen & Felson, 1979), though such a framework has not been applied to sexual victimization specifically. In the present study, we explored whether an opportunity perspective was appropriate for explaining school-based sexual victimization among a sample of middle and high school students, and if indicators of opportunity influence male and female students similarly. Our gender-specific multilevel analyses reveal that several indicators of individual- and environmental-opportunity influence the likelihood of school-based sexual victimization risk, thus supporting the idea that opportunity is central to developing an understanding of school-based sexual victimization. Further, equality of coefficients tests indicate several differences across gender regarding the predictors of both sexual harassment and assault, suggesting that gender may shape perceived opportunities for sexual victimization.

Consistent with routine activities theory (Cohen & Felson, 1979), measures of exposure to motivated offenders, such as associating with delinquent peers and self-reported criminal behavior, increased victimization risk, while measures of guardianship, including attachment to parents, school, and peers, generally served to protect students. Similar to other school-based victimization studies, sports and school activities tended to increase risk, suggesting that such involvement may actually expose students to motivated offenders during times when guardianship at school is minimal (e.g., Peguero, 2009; Wilcox et al., 2009). Finally, and consistent with research on other forms of victimization, low self-control significantly increased victimization risk across gender and crime type, indicating that students with low self-control may be perceived by offenders as being particularly suitable targets (e.g., Campbell Augustine et al., 2002; Ousey et al., 2008; Schreck, 1999; Schreck et al., 2002; Wilcox et al., 2009).

These findings suggest that efforts to prevent sexual victimization at school should be aimed at fostering pro-social ties that promote guardianship. In addition, educating students about the victimization opportunities that accompany a delinquent lifestyle may be an important step in helping to reduce sexual victimization risk at school. Further, although it is commonly believed that participation in school sports and activities will keep students out of trouble, the present study suggests that schools need to do a better job of supervising these activities to ensure that they do not represent “unowned” times and places which allow motivated offenders to take advantage of unguarded targets.

At the school-level, there is some evidence to suggest that environmental opportunity influences the likelihood of school-based

sexual victimization. In general, and consistent with routine activities theory, measures of exposure (i.e., school-level rates of delinquency and self-reported sexual offending) maintained positive and significant relationships with sexual victimization risk. Our measure of school efficacy, however, was non-significant across three of the four models, and was actually associated with higher levels of sexual harassment victimization for female students.

Beyond these direct effects, the school environment also served to moderate some of the individual-level effects. Further, the number of slopes that varied significantly across schools was considerable. Our rather exploratory findings indicate that in terms of research and practice, it is important to consider that individual factors indicate risk differentially across contexts. For the most part, we were not able to explain this variability with the school-level variables included in the analysis, but the present study clearly demonstrates that additional theoretical and empirical work is needed to determine if these patterns can be replicated and what they suggest in terms of sexual victimization prevention. Future research should explore additional school-level factors that might explain the variation in the effects of individual factors across schools.

Despite the general support for an opportunity model of school-based sexual victimization, several important gender differences emerged, indicating that perceived opportunity for victimization does not operate uniformly for males and females. Notably, seven of the ten statistically significant gendered effects indicate that being female enhances the influence of risk factors and weakens the benefits of protective factors. Such findings are consistent with the scant work on the notion of gendered opportunity and victimization to date (Wilcox et al., 2009). In particular, the role of a delinquent lifestyle in exposing students to opportunities for school-based sexual victimization is especially important for females. Across both sexual harassment and assault victimization, the effects of associating with delinquent peers, self-reported criminal behavior, and the use of tobacco, alcohol, and marijuana were significantly stronger for females.

The present study demonstrates the need for additional theoretically grounded research in school-based sexual victimization. Potential avenues for future research include comparing school-based sexual victimization perpetrated by students versus victimization perpetrated by faculty and/or staff members. Given faculty and staff members' responsibility to provide guardianship for students, the extent to which such individuals instead act as motivated offenders has important implications for both theory and policy.

Regardless of the form of sexual victimization that occurs at school, students are routinely adversely affected by the victimization they experience. Prior studies suggest that almost half of the students that reported sexual harassment experienced some form of academic trouble (such as decreases in class participation, paying less attention during class, difficulty studying, and receiving lower grades), while over one-fourth experienced psychological problems, such as difficulties sleeping and eating (Lee et al., 1996). While sexual victimization has deleterious effects on victims in general, female victims seem to be particularly sensitive to the consequences of victimization (Young et al., 2009). For example, not only were female students twice as likely as male students to be afraid of sexual harassment (AAUW, 2001) and to be more emotionally disturbed by their harassment experiences (AAUW, 2001; Ashbaugh & Cornell, 2008; Walsh et al., 2007), but they were also more likely to engage in avoidance behaviors (Lee et al., 1996). Implications such as these intensify the need for researchers to find reliable predictors of sexual victimization while also recognizing the possibility of important gendered patterns. Disrupting the opportunity structure of sexual victimization seems to be a promising preventative option, though the opportunity structure may be defined somewhat differently depending upon gender.

In conclusion, the present study represents an important step in school-based sexual victimization research by grounding analyses in a

promising theoretical framework that considers both individual and environmental factors *and* examining the potential role of gender in moderating the effects of such factors. Despite these advances, there are several limitations to the present study which should be considered when interpreting our findings. First, analyses were based on a sample of students and schools from Kentucky; future studies are needed to determine whether such results can be replicated across other samples of middle and high school students. Second, our analyses were cross-sectional nature, raising the question of whether the temporal order of variables can be established. Finally, though we use an opportunity framework to interpret our results, we were not able to directly test this explanation from an offender perspective. While our results are generally consistent with an opportunity model, we cannot definitively conclude that such perceptions drive offender decision making. Despite these limitations, the present study offers an important step in applying a theoretical framework to school-based sexual victimization among adolescents.

Notes

1. For the purposes of this study, “sexual harassment victimization” is defined as receiving unwelcome sexual remarks from someone. “Sexual assault victimization” is defined as being touched by someone in a sexual manner without consent or against one’s will.

2. Schreck et al. (2003) examine the converse relationship. Their analysis of middle and high school students found that those who perceived the rules as unfair or who thought they were ineffectively implemented, as well as those who felt alienated toward school, had a higher risk of in-school victimization. They suggest that this reflects the loss of faith that some students have in the school’s ability to adequately protect students from victimization, as well as the reluctance of students to seek assistance or protection from the school.

3. Since it is possible that not all victims of sexual harassment are equally bothered by the harassing behaviors they experience, Walsh et al. (2007) used a much more stringent criteria and focused only on students who claimed to be somewhat or very upset by the unwanted harassing behaviors. With this restrictive criterion, the amount of firsthand sexual harassment that occurred in school in the last two weeks and that was more than minimally upsetting to victims dropped to 15 percent (Walsh et al., 2007).

4. Unlike the research on sexual victimization in secondary schools, a good deal of the research on college sexual assault and victimization is framed within an opportunity perspective, focusing on the risky lifestyles and behaviors of students. This research has highlighted, in particular, the risk associated with a lifestyle involving alcohol and/or drug use. Such a lifestyle is argued to increase vulnerability while also exposing users to settings with motivated offenders (i.e., other students) in places and times without capable guardianship (e.g., Fisher et al., 1998; Mustaine & Tewksbury, 2002; Schwartz & Pitts, 1995; Ullman et al., 1999).

5. Though not focusing on in-school sexual victimization, Gover et al.’s (2009) found that gang membership was associated with a 266 percent increase in risk of sexual victimization, thus also consistent with the idea that exposure to motivated offenders is victimogenic.

6. While pro-social ties can enhance guardianship, drug and alcohol use is typically thought to reduce guardianship, though it is less relevant to victimizations within the school context specifically. Still, it should be noted that sexual assault of adolescents that occurs after school hours often involves alcohol or drugs. When examining the medical records of adolescent victims, Jenny (1988) found that one-fourth of sexual assault victims were under the influence of alcohol or drugs at the time of their victimization. However, she argues this is a very conservative estimate, as victims were not specifically asked whether drugs or alcohol were involved in their victimization; instead, only those who volunteered information regarding drug and alcohol use were counted. Also consistent with an opportunity perspective, half of these victims were assaulted after socially interacting in unprotected environments (e.g., cars, apartments, or houses) with people they did not know well (Jenny, 1988).

7. In terms of indirect effects on sexual harassment victimization, Fineran and Bolen (2006) found that delinquency mediated the relationship between family violence and sexual harassment victimization. Also, they found that greater dating frequency and initially dating at a younger age led to greater alcohol use, which led to greater drug use and then to greater involvement in delinquency, which ultimately increased victimization risk.

8. For a fuller description of the data and measures used, see Wilcox et al. (2009).

9. Responses were averaged for all multiple-item measures.

10. Note that *school-level sexual harassment* was only included in the sexual harassment victimization models and *school-level sexual assault* was only included in the sexual assault victimization models due to the high correlation between these two variables.

11. Due to the small sample size at Level 2 (N=107 schools), we report significance at both $p < 0.10$ and $p < 0.05$ for Level 2 variables.

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