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BULLY PERPETRATION AND SEXUAL HARASSMENT PERPETRATION AMONG
MIDDLE SCHOOL STUDENTS: THE IMPACT OF FAMILY-LEVEL FACTORS

BY

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THESIS

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Abstract

The aim of the present study was to examine to what extent family-level factors (i.e., family social support, parental supervision, family conflict and hostility, and sibling aggression perpetration) contributed to bully perpetration and sexual harassment perpetration, after controlling for known individual-level characteristics. Participants were 653 students from three middle schools (grade 5, 5.5%; grade 6, 30.8%; grade 7, 27.9%; and grade 8, 35.8%) in Illinois. Results indicated greater parental supervision was associated with less bully perpetration and greater sibling aggression perpetration was associated with more bully and sexual harassment perpetration. Despite bully perpetration predicting co-occurring sexual harassment perpetration, family-level variables did not moderate the relation between bully perpetration and sexual harassment perpetration. Study results suggest that the family environment influences the perpetration of aggressive acts among middle school students. It implies that research that has not included family-level factors might have overestimated the effects of individual characteristics on bullying.

To my mother who has always trusted me to make the right decisions

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Chapter 1

Introduction

The omnipresence of violence in middle schools has led to an increased focus on the prevention of school violence, including bullying and sexual violence and harassment. However, antibullying programs and efforts in elementary and middle schools have not proven effective in preventing school violence and aggression in general, but particularly bullying (Merrell, Gueldner, Ross, & Isava, 2008; Smith, Schneider, Smith & Ananiadou, 2004; Vreeman & Carroll, 2007) and sexual violence (Espelage & Swearer, 2004). Based on recent research, we know there is an overlap in individual and contextual risk and protective factors for bullying and sexual violence; however, there is a lack of research simultaneously investigating these factors for both bullying and sexual violence while providing empirical evidence for interrelationships across bully and sexual violence perpetration (Basile, Espelage, Rivers, McMahon, & Simon, 2009). As such, important factors that influence both bully and sexual harassment perpetration may have been overlooked when developing previous antibullying programs designed reduce bullying and sexual violence. Given that recent research on bullying and sexual violence has indicated that bully perpetration predicts later sexual harassment perpetration among middle school students, even after considering individual sex, race, and age (Espelage, Basile, & Hamburger, 2011), further investigating individual and contextual factors that predict bully and sexual harassment perpetration and what factors impact the relation between these behaviors can provide us greater insight into how to effectively alleviate and prevent bullying and sexual violence among middle school students in the U.S.

Although extant research begins to explicate individual factors (i.e., sex, anger disposition, empathy, and attitudes toward violence/aggression) that predict bullying and sexual

violence and harassment (Bosworth, Espelage, & Simon, 1999; Coie & Dodge, 1998; Dean & Malamuth, 1997; Endresen & Olweus, 2001; Malamuth, Linz, Heavey, Barnes, & Acker, 1995; Morris, Anderson, & Knox, 2002; Nansel et al., 2001; Olweus, 1993), it is less clear what contextual factors contribute to bullying behaviors and sexual violence among middle school students.

In particular, the familial context is an especially crucial milieu to investigate as middle school-aged individuals spend a significant amount of time in the family environment. Research studies have more clearly identified relations between various familial factors and co-occurring bullying behaviors among middle school students (e.g., Baldry, 2003; Bowers, Smith, & Binney, 1994; Dauvergne & Johnson, 2001) than relations between familial factors and co-occurring sexual violence and harassment. Research on familial factors and sexual violence indicates that violence and aggression in the home are associated with various long-term negative outcomes. For example, extant research has identified a link between violence and abuse in the home and later aggressive and antisocial behaviors by witnessing children (Farrington, 1993; Steinberg, 2000; Widom, 1989). In addition, abuse and neglect have been positively associated with later sexual violence and harassment perpetration (Lambie, Seymour, Lee, & Adams, 2002; Lisak, Hopper, & Song, 1996; Merrill, Thomsen, Gold, & Milner, 2001; Salter et al., 2003). Although these findings highlight the importance of the family environment at a young age for later sexual violence and harassment perpetration, they do not explicate the relation between familial factors and co-occurring sexual violence and harassment.

To address the current gap in research, the proposed research study elaborates on and clarifies the association between family-level factors (i.e., family social support, parental supervision, family conflict and hostility, and sibling aggression perpetration) and co-occurring

bully perpetration and sexual harassment perpetration among middle school students, while controlling for individual risk (i.e., sex, anger disposition, and attitudes toward bullying/sexual harassment) and protective factors (i.e., empathy). In addition, the current study investigates the relation between bully perpetration and sexual harassment perpetration and how family social support, parental supervision, family conflict and hostility, and sibling aggression perpetration moderate this relation.

Theoretical Frameworks of Bully and Sexual Harassment Perpetration

The present study employs the social-ecological (Espelage & Swearer, 2004) and social learning (Bandura, 1973) theoretical frameworks to exploring bully and sexual harassment perpetration. The social-ecological model posits that bullying behaviors are shaped by various interrelated contexts, including individual characteristics, family, peers, and the school environment. The social-ecological framework provides a theoretical model for investigating the combined influence of individual factors and various social contexts, including the family environment.

Additionally, Bandura's (1973) social learning theoretical framework emphasizes that the context in which individuals learn is influenced by the reciprocal relationship among the biological and psychological characteristics of the person, his/her behavior, and the environment. As such, it can be stated that children who experience or witness hostility or the perpetration of aggressive acts at home, whether it is physical, sexual, direct, or indirect, may learn that such behaviors are acceptable and appropriate to experience. Generally, children who witness or experience the perpetration of violence in the home may identify with the perpetrator and/or learn that violent and aggressive acts are appropriate behaviors, especially when the behavior goes unpunished (Baldry & Farrington, 1998). Additionally, an explanation consistent with

Bandura's social learning theoretical framework would posit that because students experience and witness certain behaviors in the familial setting, they are likely to perform those behaviors when motivated to do so in the school setting. Before hypothesizing the relation among bully perpetration, sexual harassment perpetration, individual risk and protective factors, and familial factors, it is necessary to discuss extant literature on bully and sexual harassment perpetration.

Bully Perpetration

Bullying and sexual violence in schools in the U.S. are serious problems that are gaining increased attention and exploration. Bullying is defined as occurring when an individual "is exposed, repeatedly and over time, to negative actions on the part of one or more students" (Olweus, 1993, p. 324). Across various countries, including the U.S., bullying affects between 7 and 35 percent of children and adolescents (Smith et al., 1999). More recently, 30 percent of American 6th to 10th grade students have been estimated to bully (13%), be victimized (11%), or be a bully/victim (6%; Espelage, Bosworth, & Simon, 2000; Nansel et al., 2001). Given the high prevalence of bullying behaviors in schools, it is important to investigate the factors associated with such behavior so that schools and families can work jointly to help alleviate this growing problem.

Bullying behaviors and risk and protective factors. Research has shown that various individual factors are related to increased bully perpetration. Particularly, boys are more likely to be bullies than girls (Nansel et al., 2001). Although very few research studies have investigated the influence of race on bullying, it has been found that Black students report less bully victimization than White or Hispanic youth (Nansel et al., 2001). Furthermore, research indicates that Black middle school students are more likely than their White counterparts to be labeled as bullies and bullies/victims (Juvonen et al., 2003).

Additionally, anger has been found to predict bully perpetration among middle school samples (Bosworth, Espelage, & Simon, 1999; Espelage, Bosworth, & Simon, 2001). Among middle school-aged children, it has also been found that attitudes toward bullying are positively associated with bully perpetration (Boulton, Trueman, & Flemington, 2002; Endresen & Olweus, 2001). In other words, children who held more positive attitudes toward bullying were more likely to engage in self-reported bully perpetration.

Research has also indicated that empathy acts as a protective factor against bully perpetration for both boys and girls. Specifically, emotional forms of empathy (i.e., empathic concern and personal distress) are more strongly negatively associated with bully perpetration than cognitive forms of empathy (i.e., perspective taking; Endresen & Olweus, 2001; Mehrabian, 1997).

When attempting to look at the relation between familial factors and bullying perpetration, it is important to note individual risk and protective factors so they can be controlled for and the influence of context can be looked at separately.

Bullying and familial factors. Research has suggested that bullying behaviors (bullying and bully/victim) and victimization are differentially associated with various family-level factors.

Specifically, among a European sample of middle school children, families of bullies displayed low cohesion compared to families of victims and bullies/victims, especially among siblings (Bowers et al., 1994). Moreover, bullies and bullies/victims report receiving less parental social support than their peers who are uninvolved in bullying (Demaray & Malecki, 2003).

Evidence also suggests an association between bullying and an authoritarian parental style and conflict/disagreement with parents (Baldry & Farrington, 2000), while others have cited associations between bullying and lack of warmth and parental indifference/permissiveness toward children (Olweus, 1994). Furthermore, an association has been found between increased parental involvement and lower levels of bullying (Roberts & Coursol, 1996).

Perceptions of family functioning are also related to bully perpetration. Among a sample of Australian 11 to 16 year olds, bullying was associated with poorer psychosocial family health, less positive relations with parents in families where both parents were present, and low parental emotional support (Rigby, 1994).

Siblings may also exert an influence on bully perpetration. For instance, in a sample of American middle-school children, significant differences were found in the prevalence of bullying of and victimization by siblings among bullies, victims, bullies/victims, and those not involved in bullying (Duncan, 1999). Nearly one-third of students who reported bullying their peers were also bullied by their siblings (29.03%). More than one-half of those who bullied their peers (56.45%) reported bullying siblings. In addition, research has shown that sibling conflict is associated with teacher ratings of aggression and high rates of received sibling conflict are associated with less social competence and more aggression (Stormshak, Bellanti, & Bierman, 1996). However, these findings have been demonstrated among first- and second-graders and are yet to be replicated among middle school-aged children.

Existing research on bullying, risk and protective factors, and familial factors illuminates the important influence that individual and family-level factors have on bully perpetration. Inasmuch, the current study seeks to extend existing research findings by examining the association between family social support, parental supervision, family conflict and hostility, and

sibling aggression perpetration and bully perpetration among middle school students. In addition, investigating the ways in which bully perpetration and sexual harassment perpetration overlap in terms of known risk and protective factors and these family-level variables may better inform future sexual violence prevention in U.S. middle schools.

Sexual Harassment Perpetration

Similar to bullying behaviors, research investigating sexual violence (i.e., sexual harassment and sexual coercion) in the middle school context is beginning to underscore the increased prevalence and severity of these problem behaviors. In order to better understand the relation among sexual violence, bullying behaviors, and parental and familial factors, it is important to distinguish sexual harassment from bullying in schools.

The Centers for Disease Control define sexual violence as:

nonconsensual completed or attempted contact between the penis and the vulva or the penis and the anus involving penetration, however slight; nonconsensual contact between the mouth and the penis, vulva, or anus; nonconsensual penetration of the anal or genital opening of another person by a hand, finger, or other object; nonconsensual intentional touching, either directly or through the clothing, of the genitalia, anus, groin, breast, inner thigh, or buttocks; or nonconsensual non-contact acts of a sexual nature such as voyeurism and verbal or behavioral sexual harassment. (Basile & Saltzman, 2002, p. 17)

In addition, sexual harassment in school has been defined as:

Unwelcome sexual advances, requests for sexual favors, and other verbal or physical contact of a sexual nature when the conduct is sufficiently severe, persistent, or pervasive to limit a student's ability to participate in or benefit from the education program, or to create a hostile or abusive educational environment. Sexual harassment in schools is

behavior that interferes with the right to receive an equal educational opportunity (Davis v. Monroe County Bd of Education, 1999, as cited in Stein, 1999).

Adolescence is a critical time to investigate sexual violence, as it is a time when these individuals begin to form romantic relationships and the beliefs and attitudes about what constitutes a healthy relationship (Collins & Sroufe, 1999). It seems that sexual violence and harassment are becoming problems at younger ages and are manifested in more sexually violent ways, including forced sexual activities taking place in school (Stein, 2005). Nearly 5 percent of adolescent males report sexual violence perpetration (Borowsky, Hogan, & Ireland, 1997). Furthermore, in a sample of college-aged women, nearly one-third of women reported being raped between the ages of 11 and 17 (National Women's Study, 1992). Moreover, as schools act as a public forum in which students engage in, experience, and witness sexual harassment and violence (Stein, 1999, 2005), it is particularly important to identify the correlates of such behaviors in order to help alleviate this growing problem.

Research indicating that sexual violence and sexual harassment are pervasive problems in schools has focused primarily on high school students (e.g., American Association of University Women, 1993, 2001); however, research studies including middle school samples have indicated that this group of students not only faces sexual harassment and sexual violence (Meyer & Stein, 2004; Pelligrini, 2001), but does so at an increasing rate across middle school (Pelligrini, 2001). Moreover, nearly 40 percent of girls in a high school sample reported being sexually harassed in 6th grade (AAUW, 2001); this indicates the necessity for early prevention efforts that are successful in alleviating sexual violence among middle school students. In doing so, identifying individual risk and protective factors, as well as contextual factors that are related to these behaviors is important.

Sexual harassment and risk and protective factors. Sex has been found to be a risk factor for males in that males are more likely than their peers to be perpetrators of sexual harassment (AAUW, 1993, 2001) and sexual abuse (Borowsky et al., 1997). Furthermore, among middle school students, more African American girls report sexually harassing their peers as compared to their White and Hispanic counterparts. African American and White boys report similar rates of sexually harassing behaviors, while Hispanic boys report less sexual harassment perpetration than African American and White boys (AAUW, 2001).

In addition, research has indicated that anger toward women is positively associated with later sexual violence perpetration (Malamuth et al., 1995). Research findings have also indicated the more positive attitudes one holds with regards to aggression, the more likely s/he will be a sexual violence perpetrator. For example, among a sample of college men, it was found that men who had more positive attitudes about interpersonal violence toward women were more likely to have a history of sexual violence perpetration, specifically sexual coercion and rape (Muehlenhard & Falcon, 1990).

Similar to bully perpetration, empathy has been cited as a protective factor against sexual violence perpetration (Dean & Malamuth, 1997). Particularly, higher empathy is associated with lower rates of sexual violence perpetration and lower empathy is associated with higher rates of sexual violence perpetration; however, the link between empathy and sexual aggression has primarily been found for older men (Dean & Malamuth, 1997) and, particularly, incarcerated men and sexual offenders (Fernandez & Marshall, 2003).

Taken together, these findings indicate there are various individual risk and protective factors that may influence the association between familial factors and sexual harassment perpetration and bullying perpetration. However, much of the literature cites individual risk and

protective factors associated with sexual violence and harassment among older cohorts.

Therefore, identifying whether sex, anger disposition, attitudes toward violence and aggression, and empathy act as risk and protective factors for middle school students' co-occurring sexual harassment perpetration would add a great deal to the current research base on sexual violence perpetration.

Furthermore, when attempting to uncover the relation between familial factors and sexual harassment, it is vital to note individual risk and protective factors so they can be controlled for and the influence of context can be looked at separately. Additionally, when investigating the association between sexual harassment perpetration and bullying perpetration, controlling for the individual factors that are known to influence these variables is essential in order to uncover how they are related and if the relation is moderated by contextual variables, such as the familial factors included in this study.

Sexual harassment and familial factors. The association between family-level variables and sexual harassment perpetration among middle school students is less clear than with bully perpetration. Although the association between co-occurring familial factors and sexual harassment perpetration in middle school is not clearly explicated, various familial factors in childhood have been found to be associated with later sexual violence perpetration. Particularly, juveniles who were victims of sexual abuse, some of whom were also sex offenders, were less likely to later sexually abuse a younger child when they reported more family social support (Hunter & Figueredo, 2000) and parental involvement (Salter et al., 2003). Familial support has also been found to moderate the association between victimization and later perpetration for men (Lambie et al., 2002). However, it is not clear if family social support and parental supervision are similarly related to sexual harassment perpetration among middle school students.

The association between sexual harassment in middle school settings and familial-level factors has yet to be explicated; however, the relation may be similar to that of bullying and familial factors. Specifically, conflict, hostility, and aggression within the family context may be related to increased sexual harassment of peers and family support and increased parental supervision may be related to lower levels of sexual harassment (Baldry, 2003; Shields & Cicchetti, 2001).

Bullying Perpetration and Sexual Harassment Perpetration

Research exploring the association between bullying perpetration and sexual violence perpetration is scant. However, extant research has indicated a link between bully perpetration and sexual harassment perpetration. Specifically, among a sample of students in 5th through 8th grades, bully perpetration was positively associated with sexual harassment perpetration (Pepler, Craig, Connolly, & Henderson, 2002; Espelage et al., 2011). Similar results were found among a sample of 6th through 8th graders; those who bullied were more likely to sexually harass other students compared to those who did not bully (Pepler et al., 2006). Although research findings have yielded some overlap between bullying perpetration and sexual violence perpetration, examining the risk, protective, and familial factors and the way the relation between these two types of aggressive behaviors is moderated by familial factors will help delimit the similarities and differences between bullying perpetration and sexual violence perpetration.

Familial Factors. It is clear that various familial factors are linked to bully perpetration, but it is less clear how these factors are simultaneously related to sexual harassment perpetration. Family emotional and social support and cohesiveness (e.g., Demarary & Malecki, 2003; Hunter & Figueredo, 2000; Troy & Shroufe, 1987), parental supervision and involvement (e.g., Roberts & Coursol, 1996; Salter et al., 2003), and high conflict within families and among siblings (e.g.,

Baldry & Farrington, 2000; Duncan, 1999) are all associated with bullying behaviors and/or sexual harassment perpetration; however, the overlap among these correlates for co-occurring bullying behaviors and sexual harassment has yet to be investigated among a middle school sample while controlling for the identified risk and protective factors.

Theoretical Frameworks. Figure A1 represents the association that might be found between bully perpetration and sexual harassment perpetration when moderated by familial factors and taking into account (i.e., controlling for) the individual risk and protective factors associated with each behavior. Bandura's framework suggests that the association between bully perpetration and sexual harassment perpetration is stronger for students who experience and/or witness a greater frequency of behaviors and interactions at home associated with the perpetration of aggressive acts. Moreover, the individual risk and protective factors may exacerbate or buffer the relation between bully and sexual harassment perpetration in a similar way that the contextual, familial factors might; therefore, it is necessary to control for these effects. If the risk and protective factors were not controlled for, the moderating effect of familial factors may not be accurately represented.

The purpose of the current survey study is to elaborate on and clarify the relation between familial factors and bully perpetration and sexual harassment perpetration in the middle school context, while controlling for individual proposed risk and protective factors. In doing so, we sought to answer the following research questions:

- (1) Do family-level factors (i.e., family social support, parental supervision, family conflict and hostility, and sibling aggression perpetration) predict bully perpetration, even after controlling for individual risk and protective factors (i.e., sex, empathy, anger disposition, and attitudes toward bullying/aggression) in the middle school context?

- (2) Do family-level factors predict sexual harassment perpetration, even after controlling for individual risk and protective factors in the middle school context?
- (3) Do familial factors moderate the association between bully perpetration and sexual harassment perpetration among middle school students, even after controlling for individual risk and protective factors?

Chapter 2

Method

Design

Based on extant research and gaps in the literature, the current survey study used hierarchical multiple linear regression analyses to examine the intersection of family-level factors and bully perpetration and sexual harassment perpetration in the school context among middle school children, while controlling for individual proposed risk and protective factors (i.e., sex, empathy, anger disposition, and attitudes toward bullying/aggression).

Participants

This study is part of a larger, longitudinal research project investigating the intersection of bullying experiences and sexual violence perpetration and evaluating individual and contextual influences on these phenomena. The participants in the current study were 653 students from 3 middle schools (grade 5, 5.5%; grade 6, 30.8%; grade 7, 27.9%; and grade 8, 35.8%) in Illinois. The participants included 51.3% females and 48.7% males with approximately 62.6% identifying as African American and 37.4% as White. Sixty percent of the larger sample was considered low-income, defined as families receiving public aid or eligible to receive free or reduced-price lunch.

Measures

Demographics.

Student Survey. Participants reported their sex and race/ethnicity.

Bully perpetration measurement.

University of Illinois Aggression Scales: University of Illinois Bully Scale. The current study used the University of Illinois Bully Scale (UIBS; Espelage & Holt, 2001) to assess bully

perpetration. The UIBS was developed through interviews with middle school students and has undergone extensive factor analytic investigation by the authors (Espelage et al., 2000; Espelage, Holt, & Henkel, 2003). Response options for the subscale are “No opportunity”, “Never”, “1 or 2 times”, “3 or 4 times”, and “5 or more times.” Higher scores indicated more bully perpetration.

The 4-item UIBS measures the frequency of teasing, name-calling, social exclusion, and rumor spreading within the last 30 days. For example, “I teased other students”. Cronbach’s alpha coefficients for the UIBS have ranged from $\alpha = .87$ to $\alpha = .90$ among middle school samples (Espelage & Holt, 2001, 2007; Poteat & Espelage, 2005). The construct validity of this scale has been supported via exploratory and confirmatory factor analysis (Espelage & Holt, 2001). In the development sample, factor loadings for these items ranged from .52 to .75 and this factor accounted for 31% of the variance in the factor analysis (Espelage & Holt, 2001) and a Cronbach’s alpha coefficient of $\alpha = .87$ was found. The Bullying Scale correlated with the Youth Self-Report Aggression Scale ($r = .65$; Achenbach, 1991) and was not significantly correlated with the Victimization Scale ($r = .12$). The scale consistently emerges as distinct from physical aggression scales (Espelage & Holt, 2001; Espelage et al., 2003). A Cronbach’s alpha coefficient of $\alpha = .86$ was found for the sample in the current research study.

Individual risk factors.

University of Illinois Aggression Scales: University of Illinois Anger Scale. The University of Illinois Anger Scale (UIAS; Espelage & Stein, 2006) was used to assess self-reported anger. Participants were asked how often the following things happened to them in the past 30 days: “I got in a physical fight because I was angry”; “I frequently get angry”; “I was mean to someone when I was angry”; “I was angry most of the day”; and “I took my anger out on an innocent person”. Response options included “No opportunity”, “Never”, “1 or 2 times”,

“3 or 4 times”, and “5 or more times.” Higher scores indicated more self-reported anger. A Cronbach’s alpha coefficient of $\alpha = .81$ was found for wave 1 of the current study.

Positive Attitude Toward Bullying Scale. The University of Illinois Positive Attitude Toward Bullying Scale (Espelage & Asidao, 2001) evaluates participants’ attitudes toward bullying and was developed from discussion with middle school students about bullying and victimization. This 4-item scale asks students how much they agree with statements indicating attitudes about bullying, such as “A little teasing doesn’t hurt anyone”. Response options are “Strongly Disagree”, “Disagree”, “Agree”, and “Strongly Agree”. Higher scores on the scale are interpreted as having a favorable or positive view of bullying. Among a sample of middle school students, the scale had a Cronbach’s alpha coefficient of $\alpha = .81$ (Espelage, Mebane, & Adams, 2004).

NIJ Survey of Attitudes and Behaviors Related to Sexual Harassment: Dismissal of Sexual Harassment. An adapted version of the National Institute of Justice Survey of Attitudes and Behaviors Related to Sexual Harassment (Taylor & Stein, 2007) was used to measure dismissive attitudes toward sexual harassment. The 4-item Inappropriate Attributions of Girls’ Fault in Sexual Harassment and 6-item Belief that Gender Violence/Harassment is Not a Problem subscales were used in the current study to measure dismissive attitudes toward sexual harassment. Taylor and Stein (2007) selected a large number of items from Ward’s (2002) evaluation of an adolescent gender violence prevention program to be included in a survey administered to 1,678 middle school students across three waves of data collection. Six underlying dimensions emerged from exploratory and confirmatory factor analyses and internal consistency estimates were calculated for each subscale at all three time points. Cronbach’s alpha coefficients ranged from $\alpha = .49$ to $\alpha = .64$ for Inappropriate Attributions of Girls’ Fault in

Sexual Harassment (4 items) and $\alpha = .55$ to $\alpha = .69$ for Belief that Gender Violence/Harassment is Not a Problem (6 items), which are the two subscales used in the current study.

Respondents were asked to indicate how much they agree or disagree with each statement on a scale from 1 indicating “Strongly Disagree” to 4 indicating “Strongly Agree”. Example items include, “Girls are asking to be harassed when they wear short skirts and tight clothes” and “Sexual harassment isn’t a serious problem in school”. Item responses were averaged to compute a score for dismissive attitudes toward sexual harassment. High scores reflect a higher level of dismissive attitudes. The psychometric properties of this 10-item adaptation of the NIJ Survey of Attitudes and Behaviors Related to Sexual Harassment will be evaluated in the current study. Students’ scores on both subscales decreased significantly after they participated in an intervention designed to teach students about sexual harassment laws and definitions (Taylor & Stein, 2007), which offers preliminary support for the validity of the measure.

Individual protective factors.

Teen Conflict Survey: Empathy. This 5-item subscale of the Teen Conflict Scale (Bosworth & Espelage, 2005) from the compendium for Measuring Violence-Related Attitudes, Behaviors, and Influence Among Youths (Centers for Disease Control, 2005) measured adolescents’ ability to listen, care, and trust others. Students were asked to indicate how often they would make statements, such as, “I can listen to others”, and “I get upset when my friends are sad”. Response options were recorded on a 5-point Likert-type scale with options ranging from 1 indicating “Never” through 5 indicating “Always”. Scores are calculated by adding all responses and higher scores indicate higher empathy. Internal consistency has been reported in Measuring Violence-Related Attitudes, Behaviors, and Influences Among Youths: A

Compendium of Assessment Tools as $\alpha = .62$. The current research study yielded Cronbach's alpha coefficients ranging from $\alpha = .67$ to $\alpha = .73$.

Familial Factors.

Vaux Family Social Support Record. The VSSR is a 9-item questionnaire that is an adaptation of Vaux et al's (1986) Social Support Appraisals (SSA) 23-item scale that was designed to assess the degree to which a person feels cared for, respected, and involved. The VSSR is comprised of three subscales containing 3 items each and measures the support available from family, peers and school. The family support subscale was used for the current study to assess perceived emotional advice, guidance, and practical social support from family. A sample item is "I have family I can talk to, who care about my feelings and what happens to me." Scores range from 0 indicating "Not at all" to 2 indicating "A lot", with higher scores indicating greater perceived support from family. The family subscale has shown good internal consistency across samples. The mean Cronbach's alpha coefficient for the family subscale was $\alpha = .90$ for the five student samples in the current study. Internal consistency reliability for the family social support scale was .82 for this current study.

Parental Supervision-Seattle Social Development Project. The Parental Supervision subscale from the Seattle Social Development Project (Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002) measured respondents' perceptions of established familial rules and perceived parental awareness regarding schoolwork and attendance, peer relationships, alcohol or drug use, and weapon possession. The subscale included 8 items measured on a 4-point Likert-type scale ranging from 1 indicating "Never" to 4 indicating "Always". Example items include, "My family has clear rules about alcohol and drug use" and "My parents ask if I've gotten my homework done". In *Measuring Violence-Related Attitudes, Behaviors, and Influences Among Youths: A*

Compendium of Assessment Tools (CDC, 2005), internal consistency was reported to be a Cronbach's alpha coefficient of $\alpha = .83$. At Wave 1 of the current study, a Cronbach's alpha coefficient of $\alpha = .86$ was found for the subscale.

Family Conflict and Hostility – Rochester Youth Development Study. The Family Conflict and Hostility Scale (Thornberry, Krohn, Lizotte, Smith, & Tobin, 2003) measured the level of perceived conflict and hostility in the family environment via parent report. The scale contained 3 items from a larger survey designed for the Rochester Youth Development Study. Respondents indicated on a 4-point scale how often hostile situations have occurred in their families in the past 30 days. Responses ranged from 1 indicating “Often” to 4 indicating “Never”. Responses were averaged to compute a total score ranging from 1 through 4, and higher scores indicated higher levels of family conflict and hostility. An alpha coefficient of $\alpha = .79$ was calculated for this current study.

University of Illinois Aggression Scales: Sibling Aggression Perpetration. A sibling aggression perpetration scale (Espelage & Holt, 2001) was created for this study and included five items that assessed the aggression between siblings. Items were selected from the University of Illinois Bullying Scale in order to parallel that scale. Five items emerged as a scale in factor analysis and are: “I upset my brother or sister for the fun of it”; “I got into a physical fight with my brother or sister”; “I started arguments with my brother or sister”; “I hit back when a sibling hit me first”; and “I teased my siblings for the fun of it”. A Cronbach's alpha coefficient of $\alpha = .81$ was found for this study.

Sexual harassment perpetration measurement.

American Association of University Women Sexual Harassment Survey (AAUW, 1993). Given its previous use with middle school students and its high reliability in a middle

school sample (Holt & Espelage, 2005; Espelage & Holt, 2007), the self-report AAUW Sexual Harassment Survey was used in the current study. The 26-item AAUW Sexual Harassment Survey measures the frequency of student victimization by, perpetration of, or witnessing of verbally or physically, sexually harassing behaviors (e.g., “Spread sexual rumors about them” and “Pulled their clothing off or down”) within the previous twelve months. The behaviors measured range in severity from non-physical behaviors, such as making sexual jokes or comments to more intrusive physical behaviors, such as forcing another student to do something sexual against his or her will. Response options range from 1 indicating “Not sure” to 5 indicating “Often”. Higher scores indicate a higher frequency of experience or perpetration of sexual harassment.

Numerous studies have provided empirical support for the reliability and validity of the AAUW. Among a sample of sixth and seventh grade students from three racially, ethnically, and economically diverse school districts (Taylor, Stein, Mack, Horwood, & Burden, 2008), Cronbach’s alpha coefficient ranged from $\alpha = .67$ to $\alpha = .72$ for perpetrating peer sexual harassment. Using a modified version of the AAUW in which a sample of 6th through 8th graders were asked to report behaviors as they occurred or were experienced in the past 6 weeks, McMaster, Connolly, Pepler, and Craig (2002) reported internal consistency estimates that were high for perpetration ($\alpha = .94$).

In a study of the relation among pubertal development, peer sexual harassment, and body consciousness in early adolescents (Lindberg, Grabe, & Hyde, 2007), criterion-related validity was demonstrated for the AAUW. Sexual harassment experience was significantly correlated with self-surveillance ($r = .39$) and body shame ($r = .33$). Scores on the Sexual Harassment Survey have also correlated with scores on the Bullying Scale ($r = .56$), Victimization in

Relationships Scale ($r = .42$), Abusive Behavior Inventory ($r = .43$) and Childhood Trauma Questionnaire ($r = .51$), further supporting concurrent validity of the measure (Espelage & Holt, 2001).

Procedure

Data for the larger study, which included a more comprehensive examination of the association between bullying experiences and co-occurring and subsequent sexual violence among middle school students, were collected from five middle schools beginning at the end of Spring 2008. Data collection continued with students in Fall 2008, Spring 2009, Fall 2009, and Spring 2010. The current study employs data from three of the middle schools at the Fall 2008 time point.

Consent/assent procedures. Parents were provided with consent forms for their child's participation and assent was obtained from students at each wave of data collection. Beginning in Spring 2008, a packet was sent by mail and via email to parents of students in the five middle schools. The packets included a description of the study and a consent form asking for consent to their child's participation in the five phases of data collection. In Fall 2008, Spring 2009, Fall 2009, and Spring 2010, the same packet was sent to parents. Parents of new students were also sent the packets in order to consent to their child's participation in the five waves of data collection. Parents returned the form only if they did not want their child to participate in the project.

In addition to sending information packets to parents, at each phase of student data collection, an assent script was read to students whose parents consented to their participation and who were willing to participate. Students had the opportunity to indicate that they did not want to participate in the project.

Survey administration. Students were administered self-report surveys during free periods or health/gym classes over one day. Survey administrations were approximately 38 to 42 minutes as it has been the investigators' experiences that this is the duration that students can sustain attention on this type of task. Each data collection was conducted with small groups of students ranging in size from 20 to 25 students; however, special education classes were smaller groups. Advanced undergraduate students were trained in two separate sessions by the investigators to read the survey and were accompanied by another advanced undergraduate student to assist with instructions, survey monitoring, and ensuring data integrity (specifically that students' names are legible). Students were informed about the general nature of the investigation. The researchers ensured confidentiality by making certain students sat far enough from one another and provided participants with a colored piece of paper to cover their answers. Students whose parents consented to their participation and wished to participate were then given survey packets and asked to answer all questions honestly. Once the surveys were distributed, students were read an assent script and asked to sign their name on the assent form located on the front of the survey packet. Researchers were available to answer questions during the completion of the survey. When students completed the survey they had the opportunity to have their data removed from analyses if they had not carefully considered each question and were given a list of phone numbers to call (e.g., community counseling agencies) in case they experienced an emotional reaction to the survey.

Students, who participated in the study, as well as those who did not, were given a highlighter and University of Illinois at Urbana-Champaign pencil at each of the five time points.

Chapter 3

Results

Means and standard deviations for all variables are presented in Table A1 and means and standard deviations for all variables by grade level are shown in Table A2. Correlations among variables are presented in Table A3. Individual-level control variables were related to bully and sexual harassment perpetration. In particular, bully perpetration was positively related to race ($r = .19, p < .01$), anger ($r = .64, p < .01$), positive attitudes toward bullying ($r = .21, p < .01$), and dismissive attitude toward sexual harassment ($r = .22, p < .01$). Bully perpetration was negatively related to empathy ($r = -.16, p < .01$). Sexual harassment perpetration was similarly related to race ($r = .10, p < .05$), anger ($r = .25, p < .01$), positive attitudes toward bullying ($r = .13, p < .01$), and dismissive attitude toward sexual harassment ($r = .25, p < .01$); however, sexual harassment perpetration was also negatively related to sex ($r = -.08, p < .05$) and was not significantly related to empathy ($r = -.05, ns$).

Family-level predictor variables were also related to bully and sexual harassment perpetration. Bully and sexual harassment perpetration were positively related to family conflict and hostility (bully: $r = .24, p < .01$; SH: $r = .12, p < .01$) and sibling aggression perpetration (bully: $r = .51, p < .01$; SH: $r = .21, p < .01$) and negatively associated with parental supervision (bully: $r = -.24, p < .01$; SH: $r = -.14, p < .01$). Family social support was not significantly related to bully perpetration ($r = -.03, ns$) or sexual harassment perpetration ($r = -.03, ns$).

Hierarchical linear multiple regressions for each of the two criterion variables were conducted to determine if family social support, parental supervision, family conflict and hostility, and sibling aggression perpetration predicted bully and sexual harassment perpetration,

above and beyond individual-level control variables. In step 1 of each regression, individual-level control variables were entered. In step 2, the family-level predictor variables were entered.

Predicting Bully Perpetration

In order to determine if the family-level variables predict bully perpetration above and beyond individual-level variables, we controlled for sex, race, anger, empathy, and positive attitudes toward bullying. As shown in Table A3, individual-level variables are related to bully perpetration. Table A4 shows that sex ($B = -.09$, $t(647) = -2.31$, $p < .05$) negatively predicted bully perpetration and anger ($B = .49$, $t(647) = 20.41$, $p < .001$) and positive attitudes toward bullying ($B = .07$, $t(647) = 2.31$, $p < .05$) positively predicted bully perpetration. This model was significant, $F(5, 647) = 98.77$, $p < .001$, and explained 43% of the variance in bully perpetration. After controlling for the individual-level variables, sibling aggression perpetration ($B = .22$, $t(643) = 9.30$, $p < .001$) positively predicted bully perpetration and parental supervision ($B = -.09$, $t(643) = -3.46$, $p < .01$) negatively predicted bully perpetration. Variables entered at step 2 significantly improved prediction, $\Delta R^2 = .08$, $F(4, 643) = 26.38$, $p < .001$. The overall model explained 51% of the variance in bully perpetration.

Predicting Sexual Harassment Perpetration

Individual-level variables are also related to sexual harassment perpetration as shown in Table A3. In order to determine if the family-level variables predict sexual harassment perpetration beyond what is predicted by the individual level variables, we controlled for sex, race, anger, empathy, and dismissive attitude toward sexual harassment. As shown in Table A5, anger ($B = .05$, $t(647) = 5.98$, $p < .001$) and dismissive attitude toward sexual harassment ($B = .07$, $t(647) = 4.49$, $p < .001$) significantly and positively predicted sexual harassment perpetration. Individual-level variables accounted for 11% of the variance in sexual harassment

perpetration and significantly predicted sexual harassment perpetration, $F(5,647) = 15.28, p < .001$.

After controlling for all individual-level variables, sibling aggression perpetration ($B = .03, t(643) = 2.78, p < .01$) was the only family-level variable to significantly predict sexual harassment perpetration. In addition, after entering the family-level variables, sex ($B = -.03, t(643) = -2.08, p < .05$) became a significant predictor of sexual harassment perpetration. Family-level variables entered in step 2 significantly added to the prediction of sexual harassment perpetration, $\Delta R^2 = .02, \Delta F(4,643) = 2.72, p < .05$. The overall model accounted for 12% of the variance in sexual harassment perpetration.

Moderator Effects of Family-Level Predictor Variables

To test whether family social support, parental supervision, family conflict and hostility, and sibling aggression perpetration moderate the association between bully perpetration and sexual harassment perpetration, four hierarchical multiple linear regressions were conducted on standardized scores. In the first step, five control variables were included: sex, race, anger, empathy, and dismissive attitude toward sexual harassment. In the second step, one of the family-level variables (i.e., family social support, parental supervision, family conflict and hostility, or sibling aggression perpetration) was entered along with bully perpetration. In the final step, an interaction term between the family-level variable entered in step 2 and bully perpetration was entered.

As shown in Tables A6 through A9, in the first step of the four hierarchical multiple regression analyses, anger ($B = .23, t(647) = 5.98, p < .001$) and dismissive attitude toward sexual harassment ($B = .18, t(647) = 4.49, p < .001$) positively predicted sexual harassment perpetration. These models significantly predicted sexual harassment perpetration, $F(5,647) =$

15.28, $p < .001$ and accounted for approximately 11% of the variance in sexual harassment perpetration.

At step 2, bully perpetration was the only variable that significantly predicted sexual harassment perpetration when added with family social support ($B = .48$, $t(645) = 10.48$, $p < .001$), parental supervision ($B = .48$, $t(645) = 10.29$, $p < .001$), family conflict and hostility ($B = .48$, $t(645) = 10.37$, $p < .001$), and sibling aggression perpetration ($B = .49$, $t(645) = 9.91$, $p < .001$). Nonetheless, the variables entered at step 2 in each of the four regression analyses significantly added to the amount of variance in sexual harassment perpetration accounted for when testing the moderating effect of family social support ($\Delta R^2 = .13$, $\Delta F(2,645) = 54.36$, $p < .001$), parental supervision ($\Delta R^2 = .13$, $\Delta F(2,645) = 54.30$, $p < .001$), family conflict and hostility ($\Delta R^2 = .13$, $\Delta F(2,645) = 54.39$, $p < .001$), and sibling aggression perpetration ($\Delta R^2 = .13$, $\Delta F(2,645) = 54.29$, $p < .001$). Family social support, parental supervision, family conflict and hostility, and sibling aggression perpetration did not significantly predict sexual harassment perpetration at this step. Moreover, anger did not remain a significant predictor of sexual harassment perpetration at step 2 in any of the four regression analyses. This may have been due to a strong correlation between bully perpetration and anger ($r = .64$, $p < .01$). However, anger was kept as an individual-level variable as it directly predicted both bully perpetration and sexual harassment perpetration.

At the final step, the interaction term in the four regression analyses did not significantly add to the amount of variance in sexual harassment perpetration accounted for.

Chapter 4

Discussion

The aim of the present study was to examine the extent to which family-level variables were associated with co-occurring bully perpetration and sexual harassment perpetration among middle school students, after controlling for individual-level variables. Finding significant associations could have important implications for theorizing about and designing prevention/intervention programs for bully perpetration and sexual harassment perpetration among middle school students, as it would mean that conceptual models that only include individual-level variables would be limited by ignoring the effects of contextual influences, specifically family-level influences. The current study is among the first to investigate co-occurring bully and sexual harassment perpetration while considering both individual-level and family-level factors.

The findings in the current study underscore the importance of individual factors and the family context as both are significantly related to bully perpetration and sexual harassment perpetration among middle school students. Consistent with previous research, boys were significantly more likely to be bullies than girls (e.g., Nansel et al., 2001). Boys are at an increased risk for being perpetrators of bullying, as compared to girls. Furthermore, positive attitudes toward bully perpetration were also predictive of bully perpetration. Particularly, students who felt teasing did not hurt anyone, did not care if mean things were said to their peers, and did not care if others were being teased too much, were more likely to engage in bullying. Extant literature has also demonstrated a link between positive attitudes toward bully perpetration and bully perpetration (see Boulton et al., 2002).

Contrary to previous research findings, empathy did not predict bully perpetration (e.g.,

Endresen & Olweus, 2001; Mehrabian, 1997). Based on previous research, more empathy should have predicted less bully perpetration. It may be possible that differentiating between emotional and cognitive forms of empathy could have yielded different results. For instance, assessing emotional empathy versus cognitive empathy or empathy in general, may have produced a stronger negative association with bully perpetration (e.g., Endresen & Olweus, 2001).

In support of the importance of the familial context on bully perpetration, after taking into consideration the individual risk and protective factors, we found that parental supervision and sibling aggression perpetration significantly predicted bully perpetration. These findings indicate that the more parental supervision students reported, the less likely they were to be bullies. This extends previous research citing associations between parental permissiveness/indifference and parental involvement and increased bully perpetration (Olweus, 1994; Roberts & Coursol, 1996). The more children felt that familial rules were clearly established and there was parental awareness regarding schoolwork and attendance, peer relationships, alcohol or drug use, and weapon possession, the less likely they were to bully in the middle school context.

Moreover, middle school students who reported more engagement in aggressive behaviors with their siblings were more likely to engage in bullying. These findings are consistent with existing research on sibling relationships, as they have shown some association between bullying among siblings and bullying peers (Duncan, 1999) and between low cohesion among siblings and bullying others (Bowers et al., 1994). Also, the current results expand on previous findings among first- and second-graders that indicate an association between sibling conflict and teacher reports of aggression. Sibling conflict may similarly influence self-reported bully perpetration among middle school students. Research has also shown that violence and aggression from parents is associated with increased bullying perpetration among children (Shields & Cicchetti,

2001; Olweus, 1994). Experiencing sibling aggression may have a similar influence as that experienced from parents, since both have been found to lead to increased bullying among children. Taken together, the current findings on family-level factors and bully perpetration provide empirical support for the possible effectiveness of targeting family-level factors in anti-bullying intervention/prevention programs to help alleviate bully perpetration among middle school students.

Similar to individual-level variables predicting bully perpetration, sex, anger, and dismissive attitude toward sexual harassment predicted sexual harassment perpetration. As previous research suggests, boys were significantly more likely to be perpetrators of sexual harassment (e.g., AAUW, 1993, 2001). Also, students who reported greater levels of anger were more likely to be perpetrators of sexual harassment. Finding co-occurring increased anger and sexual harassment perpetration adds to previous research indicating an association between anger at young ages and later sexual harassment perpetration (Malamuth et al., 1995). Additionally, dismissive attitudes toward sexual harassment predicted sexual harassment perpetration such that the more students believed that gender violence and harassment was not a problem and inappropriately blamed girls for sexual harassment, the more likely they were to engage in sexual harassment perpetration. These findings add to existing research on sexual violence among college men citing that positive attitudes toward aggression against women were related to previous sexual violence perpetration (e.g., Muehlenhard & Falcon, 1990).

Consistent with the current findings on bully perpetration, empathy did not predict bully perpetration as previous studies have demonstrated (e.g., Dean & Malamuth, 1997). Higher levels of empathy were not associated with decreased sexual harassment perpetration among the current middle school sample.

Although bully perpetration was significantly predicted by parental supervision and sibling aggression perpetration, sexual harassment perpetration was significantly predicted by only sibling aggression perpetration. The more participants reported physical and verbal aggression with siblings, the more likely they were to engage in sexual harassment perpetration within the middle school context, which is consistent with the current findings on bully perpetration. After taking the individual-level risk and protective factors into consideration, the family-level variables, taken together, significantly predicted sexual harassment perpetration. This provides further empirical evidence for the importance of considering family-level factors when attempting to target bully and sexual harassment perpetration among middle school students.

Upon testing the moderating effect of family social support, parental supervision, family conflict and hostility, and sibling aggression perpetration, the findings were not consistent with the hypothesis that family-level factors moderate the association between bully perpetration and sexual harassment perpetration. In the case of family-level factors, the interaction of family social support, parental supervision, family conflict and hostility, or sibling aggression perpetration and bully perpetration did not significantly predict sexual harassment perpetration. However, bully perpetration significantly predicted sexual harassment perpetration, such that those who reported increased engagement in bully perpetration were also likely to engage in sexual harassment perpetration. These findings corroborate previous research among middle-school students indicating a relation between bully perpetration and sexual harassment perpetration (Espelage et al., 2011; Pepler et al., 2002; Pepler et al., 2006). Furthermore, the connection between bully perpetration and sexual harassment perpetration may be explained by attitudes toward females and traditional ideas about masculinity. Particularly, the feminist socio-cultural theory suggests that the socialization of males is centered on promoting masculinity and

related characteristics, usually requiring the rejection of anything that is feminine (Chodorow, 1978; Sanday, 1990). This may promote aggression and violence toward females through various cognitive and affective mechanisms, such as the acceptance of rape myths, hostility and anger toward women, and a need for power and dominance in relationships (Murnen, Wright, & Kaluzny, 2002; Lonsway & Fitzgerald, 1994). Moreover, homophobia is linked to traditional ideologies about masculinity and femininity (e.g., Mandel & Shakeshaft, 2000) and those who depart from these traditional ideologies tend to be victims of homophobic comments. Similarly, bullying is also used as a means to regulate masculine and feminine behaviors among boys and girls (Epstein, 2001). Therefore, it may be that much of the bullying experienced by students is sexual harassment and may be homophobic in nature.

The current study highlights the importance of family-level factors relative to individual risk and protective factors. The results provide additional support that family-level factors are as important as individual factors in predicting bully perpetration. In general, studies have indicated that the family environment exerts an influence on bully perpetration (e.g., Bowers et al., 1994). Even after considering individual risk and protective factors, parental supervision and sibling aggression perpetration, were related to the potential to bully. Bullies may exhibit individual characteristics, such as anger and positive attitudes toward aggression and violence, which impact their propensity to aggress. However, beyond those individual characteristics, the family environment may act to buffer or exacerbate bullying, indicating that these types of aggressive behaviors are, in fact, shaped by various interrelated contexts (Espelage & Swearer, 2004).

Although sibling aggression perpetration was the only significant predictor of sexual harassment perpetration, the demonstrated link between bully perpetration and sexual harassment perpetration indicates that other family-level factors may still indirectly impact sexual

harassment perpetration. Despite our findings seeming to suggest family-level variables do not moderate the relation between bully perpetration and sexual harassment perpetration, longitudinal studies are necessary to assess actual moderation and to describe any causal relationships.

There are various mechanisms whereby family-level factors could influence an individual's behaviors. As suggested by Bandura's (1973) social learning theory, observation of or engagement in behaviors within the familial context may impact the likelihood of engaging in aggressive acts. Individuals who witness or experience aggression and hostility within their households may learn that such behavior is acceptable, especially when there are not consequences (Baldry & Farrington, 1998). As a result, adolescents may bully or display aggression within the middle school setting when motivated to do so. In other words, behaviors within the home environment may act as a template for interactions in other settings for middle school students, especially aggressive interactions with siblings.

As adolescence is the time when individuals begin to form their attitudes and beliefs about what constitutes healthy relationships (Collins & Sroufe, 1999), it is vital to investigate and understand the factors that might lead to maladjustment. Identifying not only individual factors, but also contextual factors that might curb negative outcomes of bully and sexual harassment perpetration is necessary as both increase throughout the middle school years (e.g., Pelligrini, 2001). Based on this study's results, families should ensure adequate parental supervision and minimize aggression and conflict among siblings. The findings also bring to light the importance of considering the family environment when designing anti-bullying and anti-sexual violence programs and interventions for middle school students.

Study Limitations

A limitation of the current study is that self-reports were used to assess all variables, except family conflict and hostility. It is unclear whether the same results would have been obtained if we also included teacher, parent, and peer-reports. Perhaps, parent reports of the social support they provide their children and the levels of family conflict and hostility within the family may be different from participant self-reports, leading to increased prediction of bully and sexual harassment perpetration. Additionally, teachers and peers may give a more accurate representation of aggressive behaviors in the school context. Obtaining multiple assessments of the predictor and criterion variables may have allowed for a more accurate representation of the target behaviors. Similarly, the current study did not assess physical forms of bullying. Including physical forms of bullying in our assessment of bully perpetration would have provided a more thorough understanding of how all forms of bully perpetration are impacted by individual- and family-level factors.

Additionally, the current study only looked at the perpetration of bullying and sexual harassment. Bully and sexual harassment victimization are equally as serious of problems among middle school students (e.g., Nansel et al., 2001; Espelage et al., 2000). Including victimization in the current study may have provided a more thorough picture of bullying and sexual harassment among middle school students. Moreover, investigating both perpetration and victimization may have provided more insight into the circumstances under which family-level factors influence bullying and sexual harassment behaviors.

An additional limitation of the current study is that it looked at data from only one time-point. As such, we were not able to determine if the findings from the current study persist over time. As bullying and aggression increase across middle school, the influence of individual and

family-level factors may change over time.

Future Directions

Most studies on bullying and aggression have demonstrated individual characteristics of children and adolescents as predictors of perpetration. Our study reveals that individual characteristics are important and remain significant, but the influence of the various contexts within which middle school students find themselves should also be included in order to obtain a more complete understanding of these complex phenomena. An important next step in bullying and sexual violence research would be to assess the impact of family-level factors using a longitudinal design so that we can better understand how they impact bullying and sexual violence over time. Moreover, future research should compare the effects of individual characteristics and contextual influences and behavior across age groups and across the transition to middle school and to high school.

To more fully understand bullying and sexual violence, future research might also include the role of schools and peer groups. The current study explicates the importance of the family as a social context, so schools and peer groups may also constitute important social contexts that influence aggressive behaviors. Looking at the way in which various contexts act in concert with individual factors to influence bullying and sexual violence will provide a more comprehensive picture of risk and protective factors as they are related to these behaviors.

The current study also has important implications for intervention and prevention programs. A great deal of bullying intervention programs focus on individual student characteristics and attitudes toward bullying and aggression. Although it is clear that individual factors influence bullying and sexual violence behaviors, our findings indicate a wider scope is necessary. Since our study suggests that parental supervision and sibling aggression perpetration

influence and predict bullying and sexual harassment, intervention and prevention programs should not limit their prevention efforts to individual student characteristics. The current findings are a first step in understanding the overlap in factors that influence both bully perpetration and sexual harassment perpetration and providing empirical evidence for the interrelationships across bully and sexual violence perpetration.

Researchers highlight bullying and sexual violence as a growing problem among middle school students. The current study sought to clarify the relation between individual- and family-level factors and bully and sexual harassment perpetration. Furthermore, the findings of this study suggest that the family context is a crucial milieu to consider when attempting to alleviate aggressive behaviors among middle school students. Targeting individual characteristics, attitudes, and beliefs has not proven successful in reducing bullying and aggressive behaviors; therefore, including families in prevention and intervention efforts may result in improved success at preventing and intervening in bullying and sexual violence problems within the middle school context.

References

- Achenbach, T. M. (1991). *Manual for the Youth Self-Report*. Burlington: University of Vermont Department of Psychiatry.
- American Association of University Women Educational Foundation. (1993). *Hostile hallways: The AAUW survey on sexual harassment in America's schools* (No. 923012). Washington, DC: Harris/Scholastic Research.
- American Association of University Women Educational Foundation. (2001). *Hostile hallways: Sexual harassment in bullying in schools* (No. 923012). Washington, DC: Harris/Scholastic Research.
- Arthur, M. W., Hawkins, J. D., Pollard, J., Catalano, R. F., & Baglioni Jr., A. J. (2002). Measuring risk and protective factors for substance use, delinquency, and other adolescent problem behaviors: The communities that care youth survey. *Evaluation Review*, 26(6), 575-601.
- Baldry, A. C. (2003). Bullying in schools and exposure to domestic violence. *Child Abuse & Neglect*, 27, 713-732.
- Baldry, A. C., & Farrington, D. P. (1998). Parenting influences on bullying and victimisation. *Criminal and Legal Psychology*, 3, 237-254.
- Baldry, A. C., & Farrington, D. P. (2000). Bullies and delinquents: Personal characteristics and parental styles. *Journal of Community and Applied Social Psychology*, 10, 17-31.
- Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, NJ: Prentice Hall.

- Basile, K. C., Espelage D. L., Rivers, I., McMahon, P. M., & Simon, T. R. (2009). The theoretical and empirical links between bullying behavior and sexual violence perpetration. *Aggression and Violent Behavior, 14*(5), 336-347.
- Basile, K. C., & Saltzman, L. E. (2002). *Sexual violence surveillance: Uniform definitions and recommended data elements*. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
- Borowsky, I. W., Hogan, M., & Ireland, M. (1997). Adolescent sexual aggression: Risk and protective factors. *Pediatrics, 100*(6), e7-e14.
- Bosworth, K., & Espelage, D. L. (2005). Teen conflict survey. In L. L. Dahlberg, S. B. Toal, & C. B. Behrens (Eds.), *Measuring violence related attitudes, beliefs and behaviors among youths: A compendium of assessment tools* (p. 140). Atlanta, GA: Division of Violence Prevention, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.
- Bosworth, K., Espelage, D. L., & Simon, T. R. (1999). Factors associated with bullying behaviors in middle school students. *Journal of Adolescence, 19*, 341-362.
- Boulton, M. J., Trueman, M., & Flemington, I. (2002). Associations between secondary school pupils definitions of bullying, attitudes towards bullying, and tendencies to engage in bullying: Age and sex differences. *Educational Studies, 28*, 353-370.
- Bowers, L., Smith, P. K., & Binney, V. (1994). Perceived family relationships of bullies, victims, and bully/victims in middle childhood. *Journal of Social and Personal Relationships, 11*, 215-232.

- Centers for Disease Control and Prevention. (CDC; 1998). *Measuring violence-related attitudes, beliefs, and behaviors among youths: A compendium of assessment tools*. Atlanta, GA: Author, National Center for Injury Prevention and Control.
- Chodorow, N. (1978). *The reproduction of mothering: Psychoanalysis and the sociology of gender*. Berkeley: University of California Press.
- Coie, J. D., & Dodge, K. A. (1998). Aggression and antisocial behavior. In N. Eisenberg (Ed.), *Handbook of Child Psychology, Vol. 3* (pp.779-862). New York: Wiley.
- Collins, W. A., & Sroufe, L. A. (1999). Capacity for intimate relationships: A developmental construction. In W. Furman, B. Brown, & B. Bradford (Eds.), *The development of romantic relationships in adolescence: Cambridge studies in social and emotional development* (pp. 125-147). New York: Cambridge University Press.
- Dauvergne, M., & Johnson, H. (2001). *Children witnessing family violence* (p. 21). Juristat, Statistic Canada.
- Dean, K., & Malamuth, N. M. (1997). Characteristics of men who aggress sexually and of men who imagine aggressing: Risk and moderating variables. *Journal of Personality and Social Psychology, 72*, 449-455.
- Demaray, M. K., & Malecki, C. K. (2003). Perceptions of the frequency and importance of social support by students classified as victims, bullies, and bully/victims in an urban middle school. *School Psychology Review, 32*, 471-489.
- Duncan, R. D. (1999). Peer and sibling aggression: An investigation of intra- and extra-familial bullying. *Journal of Interpersonal Violence, 14*(8), 871-886.

- Endresen, I. M., & Olweus, D. (2001). Self-reported empathy in Norwegian adolescents: Sex differences, age trends, and relationship to bullying. In A. C. Bohart & C. Arthur, & D. J. Stipek (Eds.), *Constructive and destructive behavior: Implications for family, school, and society* (pp.147-165). Washington, DC: American Psychological Association.
- Epstein, J. L. (2001). *School, family, and community partnerships: Preparing educators and improving schools*. Boulder, CO: Westview Press.
- Espelage, D. L., & Asidao, C. (2001). Conversations with middle school students about bullying and victimization: Should we be concerned? *Journal of Emotional Abuse, 2*(2), 49-62.
- Espelage, D. L., Basile, K. C., & Hamburger, M. E. (2011). *Bullying perpetration and subsequent sexual violence perpetration among middle school students*. Manuscript submitted for publication.
- Espelage, D. L., Bosworth, K., & Simon, T. R. (2001). Short-term stability and prospective correlates of bullying in middle school students: An examination of potential demographic, psychosocial, and environmental influences. *Violence & Victims, 16*, 411-426.
- Espelage, D. L., Bosworth, K., & Simon, T. R. (2000). Examining the social context of bullying behaviors in early adolescence. *Journal of Counseling and Development, 78*(3), 326-333.
- Espelage, D. L., & Holt, M. K. (2001). Bullying and victimization during early adolescence: peer influences and psychosocial correlates. *Journal of Emotional Abuse, 2*(2/3), 123-142.

- Espelage, D. L., & Holt, M. K. (2007). Dating violence & sexual harassment across the bully-victim continuum among middle and high school students. *Journal of Youth & Adolescence, 36*(6), 799-811.
- Espelage, D. L., Holt, M. K., & Henkel, R. R. (2003). Examination of peer-group contextual effects on aggression during early adolescence. *Child Development, 74*(1), 205–220.
- Espelage, D. L., Mebane, S. E., & Adams, R. S. (2004). Empathy, caring, and bullying: Toward an understanding of complex associations. In D. L. Espelage & S. M. Swearer (Eds.), *Bullying in American schools: A social-ecological perspective on prevention and intervention* (pp. 37-61). Mahwah, New Jersey: Lawrence Erlbaum.
- Espelage, D. L., & Stein, N. D. (2006). *The University of Illinois and Wellesley College: Student Behavior Survey*. Champaign, IL: University of Illinois at Urbana-Champaign, Department of Educational Psychology.
- Espelage, D. L., & Swearer, S. (Eds.). (2004). *Bullying in American schools: A social ecological perspective on prevention and intervention*. Mahwah, NJ: Erlbaum Publishers.
- Farrell, A. D., Danish, S. J., & Howard, C. W. (1992). Risk factors for drug use in urban adolescents: Identification and cross validation. *American Journal of Community Psychology, 20*, 263–286.
- Farrell, A. D., Kung, E. M., White, K. S., & Valois, R. (2000). The structure of self-reported aggression, drug use, and delinquent behaviors during early adolescence. *Journal of Clinical Child Psychology, 29*, 282-292.

- Farrell, A. D., Sullivan, T. N., Esposito, L. E., Meyer, A. L., & Valois, R. (2005). A latent growth curve analysis of the structure of aggression, drug use, and delinquent behaviors and their interrelations over time in urban and rural adolescents. *Journal of Research on Adolescence, 15*, 179-204.
- Farrington, D. P. (1993). Understanding and preventing bullying. In M. Tonry (Ed.), *Crime and justice. A review of research* (pp. 381-458). Chicago, London: The University of Chicago Press.
- Fernandez, Y. M., & Marshall, W. L. (2003). Victim empathy, social self-esteem, and psychopathy in rapists. *Sexual Abuse: Journal of Research and Treatment, 15*(1), 11-26.
- Haynie, D. L., Nansel, T., Eitel, P., Crump, A. D., Saylor, K., Yu, K., et al. (2001). Bullies, victims, and bully/victims: Distinct groups of at-risk youth. *The Journal of Early Adolescence, 21*(1), 29-49.
- Holt, M., & Espelage, D. L. (2005). Peer victimization among adolescents: A preliminary perspective on the co-occurrence of sexual harassment, dating violence, and bully victimization. In K.A. Kendall-Tackett, & M. Giacomoni (Eds.), *Child victimization: Maltreatment, bullying and dating violence, prevention and intervention* (pp. 13.11-13.16). Kingston, NJ: Civic Research Institute.
- Hunter, J. A., & Figueredo, A. J. (2000). The influence of personality and history of sexual victimization in the prediction of juvenile perpetrated child molestation. *Behavior Modification, 24*, 241-263.
- Jeffrey, L. R., Miller, D., & Linn, M. (2001). Middle school bullying as a context for the development of passive observers to the victimization of others. *Journal of Emotional Abuse, 2*(2/3), 143-156.

- Jessor, R., & Jessor, S. L. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Juvonen, J., Graham, S., & Schuster, M. (2003). Bullying among young adolescents: The strong, the weak, and the troubled. *Pediatrics, 112*(6), 1231-1237.
- Lambie, I., Seymour, F., Lee, A., & Adams, P. (2002). Resiliency in the victim-offense cycle in male sexual abuse. *Sexual Abuse: A Journal of Research and Treatment, 14*, 31-48.
- Lindberg, S. M., Grabe, S., & Hyde, J. S. (2007). Gender, pubertal development, and peer sexual harassment predict objectified body consciousness in early adolescent. *Journal of Research on Adolescence, 17*(4), 723-742.
- Lisak, D., Hopper, J., & Song, P. (1996). Factors in the cycle of violence: Gender rigidity and emotional constriction. *Journal of Traumatic Stress, 9*, 721-743.
- Lonsway, K. A., & Fitzgerald, L. F. (1994). Rape myths: In review. *Psychology of Women Quarterly, 18*, 133-164.
- Malamuth, N. M., Linz, D., Heavey, C. L., Barnes, G., & Acker, M. (1995). Using the confluence model of sexual aggression to predict men's conflict with women: A ten-year follow-up study. *Journal of Personality and Social Psychology, 69*, 353-369.
- Mandel, L., & Shakeshaft, C. (2000). Heterosexism in middle schools. In N. Lesko (Ed.), *Masculinities at school* (pp. 97-130). New York: Plenum.
- Mehrabian, A. (1997). Relations among personality scales of aggression, violence, and empathy: Validation evidence bearing on the risk of eruptive violence scale. *Aggressive Behavior, 23*(6), 433-445.

- Merrell, K. W., Gueldner, B. A., Ross, S. W., & Isava, D. M. (2008). How effective are school bullying intervention programs? A meta-analysis of intervention research. *School Psychology Quarterly, 23*(1), 26-42.
- Merrill, L. L., Thomsen, C. J., Gold, S. R., & Milner, J. S. (2001). Childhood abuse and premilitary sexual assault in male Navy recruits. *Journal of Consulting and Clinical Psychology, 69*, 252–261.
- McMaster, L., Connolly, J., Pepler, D., & Craig, W. (2002). Peer-to-peer sexual harassment among early adolescents: A developmental perspective. *Developmental Psychopathology, 14*, 91–105.
- Meyer, H., & Stein, N. (2004). Relationship violence prevention education in schools: What's working, what's getting in the way, and what are some future directions. *American Journal of Health Education, 35*, 198–204.
- Morris, R. E., Anderson, M. M., & Knox, G. W. (2002). Incarcerated adolescents' experiences as perpetrators of sexual assault. *Archives of Pediatric Adolescent Medicine, 156*, 831-835.
- Muehlenhard, C. L., & Falcon, P. L. (1990). Men's heterosocial skill and attitudes toward women as predictors of verbal sexual coercion and forceful rape. *Sex Roles, 23*(5-6), 241-259.
- Murnen, S. K., Wright, C., & Kaluzny, G. (2002). If "boys will be boys," then girls will be victims? A meta-analytic review of the research that relates masculine ideology to sexual aggression. *Sex Roles, 46*(11/12), 359-375.
- Nansel, T. R., Overpeck, M., Pilla, R. S., Ruan, W. J., Simons-Morton, B. G., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association, 285*, 2094-2100
- National Women's Study, (1992). *Rape in America: A Report to the Nation*.

- Olweus, D. (1993). Bully/victim problems among schoolchildren: Long-term consequences and an effective intervention program. In S. Hodgins (Ed.), *Mental Disorder and Crime* (pp. 317-349). Thousand Oaks, CA: Sage Publications.
- Olweus, D. (1994). Annotation: Bullying at school: Basic facts and effects of a school-based intervention program. *Journal of Child Psychology and Psychiatry*, 35, 1171-1190. *developments in research and practice* (248-263). Oxford, England: Walter De Gruyter.
- Pellegrini, A. D. (2001). A longitudinal study of heterosexual relationships, aggression, and sexual harassment during the transition from primary school through middle school. *Journal of Applied Developmental Psychology*, 22, 119-133.
- Pepler, D. J., Craig, W. M., Connolly, J.A., Yulie, A., McMaster, L., & Jiang, D. (2006). A developmental perspective on bullying. *Aggressive Behavior*, 32(4), 376-384.
- Pepler, D. J., Craig, W. M., Connolly, J.A., & Henderson, K. (2002). Bullying, sexual harassment, dating violence, and substance use among adolescents. In C. Wekerke & A.-M. Wall (Eds.), *The violence and addiction equation: Theoretical and clinical issues in substance abuse and relationship violence* (pp. 153-168). New York: Brunner-Routledge.
- Poteat, V. P., & Espelage, D. L. (2005). Exploring the relation between bullying and homophobic verbal content: The Homophobic Content Agent Target (HCAT) Scale. *Violence and Victims*, 20, 513-528.
- Prentky, R. A., & Knight, R. A. (1993). Age of onset of sexual assault: Criminal and life history correlates. In G. C. Nagayama Hall, R. Hirschman, J. R. Graham, & M. S. Zaragoza (Eds.), *Sexual aggression: Issues in etiology, assessment, and treatment* (pp. 43-62). Washington, DC: Taylor & Francis.

- Rigby, K. (1993). School children's perceptions of their families and parents as a function of peer relations. *Journal of Genetic Psychology, 154*(4), 501-513.
- Rigby, K. (1994). Psychosocial functioning in families of Australian adolescent schoolchildren involved in bully/victim problems. *Journal of Family Therapy, 16*, 173-187.
- Roberts, W. B., & Coursol, D. H. (1996). Strategies for intervention with childhood and adolescent victims of bullying, teasing and intimidation in school settings. *Elementary School Guidance and Counseling, 30*, 204-212.
- Salter, D., McMillan, D., Richards, M., Talbot, T., Hodges, J., Bentovim, A., et al. (2003). Development of sexually abusive behavior in sexually victimized males: A longitudinal study. *The Lancet, 361*, 471-476.
- Sanday, P. R. (1990). *Fraternity gang rape: Sex, brotherhood, and privilege on campus*. New York: New York University Press.
- Shaw, J. A., Campo-Bowen, A. E., Applegate, B., Perez, D., Antoine, L. B., Hart, E. L., et al. (1993). Young boys who commit serious sexual offenses: Demographics, psychometrics, and phenomenology. *Bulletin of the American Academy of Psychiatry and the Law, 21*(4), 399-408.
- Shields, A., & Cicchetti, D. (2001). Parental maltreatment and emotion dysregulation as risk factors for bullying and victimization in middle childhood. *Journal of Clinical Child Psychology, 30*(3), 349-363.
- Smith, P. K., Morita, Y., Junger-Tas, J., Olweus, D., Catalano, R., & Slee, P. (Eds.). (1999). *The nature of school and bullying. A cross-national perspective*. London: Routledge.

- Smith, J. D., Schneider, B. H., Smith, P. K., & Ananiadou, K. (2004). The effectiveness of whole- school antibullying programs: A synthesis of evaluation research. *School Psychology Review, 33*(4), 547-560.
- Stein, N. (1999). *Classrooms and courtrooms: Facing sexual harassment in K-12 schools*. New York: Teachers College Press.
- Stein, N. (2005). A rising pandemic of sexual violence in elementary and secondary schools: Locating a secret problem. *Duke Journal of Gender Law and Policy, 12*, 33-52.
- Steinberg, L. (2000). Youth violence: Do parents and families make a difference? *National Institute of Justice Journal, 2*, 30-38.
- Stormshak, E. A., Bellanti, C. J., & Bierman, K. L. (1996). The quality of sibling relationships and the development of social competence and behavioral control in aggressive children. *Developmental Psychology, 32*(1), 79-89.
- Taylor, B., Stein, N., Mack, A. R., Horwood, T. J. & Burden, F. (2008). *Final Report to the National Institute of Justice: Experimental Evaluation of Gender Violence/Harassment Prevention Programs in Middle Schools*. Fairfax, VA: ICF International.
- Thornberry, T. P., Krohn, M. D., Lizotte, A. J., Smith, C. A., & Tobin, K. (2003). *Gangs and delinquency in developmental perspective*. New York: Cambridge University Press.
- Troy, M., & Sroufe, L. A. (1987). Victimization among preschoolers: Role of attachment relationship history. *Journal of the American Academy of Child and Adolescent Psychiatry, 26*(2), 166-172.
- Vaux, A., Phillips, J., Holly, L., Thomson, B., Williams, B., & Stewart, D. (1986). The Social Support Appraisals (SS-A) Scale: Studies of Reliability and Validity. *American Journal of Community Psychology, 14*(2), 195-219.

- Vreeman, R. C., & Carroll, A. E. (2007). A systematic review of school-based interventions to prevent bullying. *Archives of Pediatric Adolescent Medicine*, 161, 78-88.
- Ward, K. J. (2002). *Making the invisible visible: A feminist evaluation of an adolescent gender violence prevention program*. Unpublished doctoral dissertation, Cornell University, Ithaca, NY.
- Widom, C. (1989). The cycle of violence. *Science*, 244, 160-166. *Psychology International*, 18, 81-89.

Appendix A
Tables and Figures

Table A1

Means and Standard Deviations for Control, Predictor, and Criterion Variables

Variable	Mean	Standard Deviation
Individual-level control variable		
Sex	0.51	0.50
Race - African American	0.63	0.48
Anger	1.58	0.83
Empathy	2.32	0.84
Positive attitudes toward bullying	2.34	0.70
Dismissive of sexual harassment	2.01	0.47
Family-level predictor variable		
Family social support	2.62	0.50
Parental supervision	3.27	0.77
Family conflict and hostility	2.32	1.09
Sibling aggression perpetration	1.76	0.86
Criterion variable		
Bully perpetration	1.50	0.65
Sexual harassment perpetration	2.07	0.18

Note: $N = 653$.

Table A2

Means and Standard Deviations for Control, Predictor, and Criterion Variables by Grade

Variable	Grade 5		Grade 6		Grade 7		Grade 8	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Individual-level control variable								
Sex	0.47	0.51	0.57	0.50	0.49	0.50	0.48	0.50
Race - African American	0.64	0.49	0.63	0.48	0.63	0.48	0.62	0.49
Anger	1.53	0.82	1.52	0.82	1.64	0.82	1.60	0.84
Empathy	2.50	0.91	2.70	0.87	2.60	0.81	2.74	0.82
Positive attitudes toward bullying	2.02	0.76	2.28	0.76	2.46	0.69	2.30	0.61
Dismissive of sexual harassment	1.87	0.41	1.96	0.48	2.07	0.47	2.02	0.46
Family-level predictor variable								
Family social support	2.44	0.54	2.68	0.49	2.60	0.51	2.61	0.50
Parental supervision	3.09	0.94	3.33	0.80	3.31	0.74	3.22	0.74
Family conflict and hostility	2.36	1.12	2.18	1.11	2.36	1.05	2.41	1.10
Sibling aggression perpetration	1.55	0.71	1.79	0.90	1.89	0.92	1.68	0.78
Criterion variable								
Bully perpetration	1.27	0.38	1.43	0.62	1.59	0.68	1.52	0.66
Sexual harassment perpetration	1.99	0.20	2.05	0.16	2.08	0.16	2.09	0.21

Note: Grade 5, $n = 36$; grade 6, $n = 201$; grade 7, $n = 182$; grade 8, $n = 234$. $N = 653$.

Table A3

Correlations Among Individual-Level Control Variables, Family-Level Predictor Variables, and Criterion Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
Individual-level control variable												
1. Sex	1											
2. Race - African American	-.01	1										
3. Anger	.14**	.19**	1									
4. Empathy	.21**	-.37**	-.10**	1								
5. Positive attitudes toward bullying	-.18**	.23**	.16**	-.34**	1							
6. Dismissive of sexual harassment	-.24**	.07*	.12**	-.15**	.30**	1						
Family-level predictor variable												
7. Family social support	-.01	.01	-.06	.18**	-.06	-.07	1					
8. Parental supervision	.10**	-.19**	-.17**	.26**	-.13**	-.20**	.32**	1				
9. Family conflict and hostility	.13**	.06	.31**	.06	.07	.09*	-.16**	-.19**	1			
10. Sibling aggression perpetration	.11**	.05	.42**	-.07	.12**	.13**	-.02	-.13**	.34**	1		
Criterion variable												
11. Bully perpetration	-.01	.19**	.64**	-.16**	.21**	.22**	-.03	-.24**	.24**	.51**	1	
12. Sexual harassment perpetration	-.08*	.10*	.25**	-.05	.13**	.22**	-.03	-.14**	.12**	.21**	.46**	1

* $p < .05$. ** $p < .01$.

Table A4

Regression Analyses Predicting Bully Perpetration from Family-Level Predictor Variables

Variable	Bully Perpetration B	
	Step 1	Step 2
Individual-level control variable		
Sex	-.09*	-.11**
Race - African American	.04	.05
Anger	.49***	.40***
Empathy	-.03	-.01
Positive attitudes toward bullying	.07*	.06*
Family-level predictor variable		
Family social support		.05
Parental supervision		-.09**
Family conflict and hostility		-.02
Sibling aggression perpetration		.22***
R ²	.43***	.51**

* $p < .05$. ** $p < .01$. *** $p < .001$.

Note: Girls were coded as 1 and boys as 0. Race was coded as 1 for African American and 0 for White.

In Step 1 of the regression, the individual control variables were entered. In step 2, the family-level predictor variables were entered.

Table A5

*Regression Analyses Predicting Sexual Harassment Perpetration from Family-Level Predictor**Variables*

Variable	Sexual Harassment Perpetration	
	Step 1	Step 2
Individual-level control variable		
Sex	-.03	-.03*
Race - African American	.02	.02
Anger	.05***	.04***
Empathy	.01	.01
Dismissive of Sexual Harassment	.07***	.06***
Family-level predictor variable		
Family social support		.00
Parental supervision		-.01
Family conflict and hostility		.00
Sibling aggression perpetration		.03**
R ²	.11***	.12*

* $p < .05$. ** $p < .01$. *** $p < .001$.

Note: Girls were coded as 1 and boys as 0. Race was coded as 1 for African American and 0 for White.

In Step 1 of each regression, the individual control variables were entered. In step 2, the family-level predictor variables were entered.

Table A6

Moderator Effect of Family Social Support on the Association Between Bully Perpetration and Sexual Harassment Perpetration

Variable (z-score)	Step 1			Step 2			Step 3		
	<i>B</i>	<i>SE B</i>	<i>R</i> ²	<i>B</i>	<i>SE B</i>	<i>R</i> ²	<i>B</i>	<i>SE B</i>	<i>R</i> ²
Sex	-.07	.04		-.05	.04		-.05	.04	
Race - African American	.06	.04		.04	.04		.04	.04	
Anger	.23***	.04		-.07	.05		-.07	.05	
Empathy	.03	.04		.06	.04		.06	.04	
Dismissive of sexual harassment	.18***	.04	.11***	.12**	.04		.12**	.04	
Family social support				.02	.04		-.02	.04	
Bully perpetration				.48***	.05	.24***	.48***	.05	
Family social support X Bully perpetration							-.02	.04	.24

p* < .05. *p* < .01. ****p* < .001.

Table A7

Moderator Effect of Parental Supervision on the Association Between Bully Perpetration and Sexual Harassment Perpetration

Variable (z-score)	Step 1			Step 2			Step 3		
	<i>B</i>	<i>SE B</i>	<i>R</i> ²	<i>B</i>	<i>SE B</i>	<i>R</i> ²	<i>B</i>	<i>SE B</i>	<i>R</i> ²
Sex	-.07	.04		-.05	.03		-.05	.04	
Race - African American	.06	.04		.04	.04		.03	.04	
Anger	.23***	.04		-.07	.05		-.07	.05	
Empathy	.03	.04		.06	.04		.06	.04	
Dismissive of sexual harassment	.18***	.04	.11***	.12**	.04		.11**	.04	
Parental supervision				-.02	.04		-.02	.04	
Bully perpetration				.48***	.05	.24***	.49***	.05	
Parental supervision X Bully perpetration							.04	.03	.24

p* < .05. *p* < .01. ****p* < .001.

Table A8

Moderator Effect of Family Conflict & Hostility on the Association Between Bully Perpetration and Sexual Harassment Perpetration

Variable (z-score)	Step 1			Step 2			Step 3		
	<i>B</i>	<i>SE B</i>	<i>R</i> ²	<i>B</i>	<i>SE B</i>	<i>R</i> ²	<i>B</i>	<i>SE B</i>	<i>R</i> ²
Sex	-.07	.04		-.05	.04		-.05	.04	
Race - African American	.06	.04		.04	.04		.03	.04	
Anger	.23***	.04		-.07	.05		-.06	.05	
Empathy	.03	.04		.06	.04		.05	.04	
Dismissive of sexual harassment	.18***	.04	.11***	.12**	.04		.12**	.04	
Family conflict and hostility				.02	.04		.03	.04	
Bully perpetration				.48***	.05	.24***	.49***	.05	
Family conflict X Bully perp							-.05	.03	.24

p* < .05. *p* < .01. ****p* < .001.

Table A9

*Moderator Effect of Sibling Aggression Perpetration on the Association Between Bully Perpetration and Sexual Harassment**Perpetration*

Variable (z-score)	Step 1			Step 2			Step 3		
	<i>B</i>	<i>SE B</i>	<i>R</i> ²	<i>B</i>	<i>SE B</i>	<i>R</i> ²	<i>B</i>	<i>SE B</i>	<i>R</i> ²
Sex	-.07	.04		-.05	.04		-.05	.04	
Race - African American	.06	.04		.04	.04		.03	.04	
Anger	.23***	.04		-.07	.05		-.07	.05	
Empathy	.03	.04		.06	.04		.06	.04	
Dismissive of sexual harassment	.18***	.04	.11***	.12**	.03		.12**	.04	
Sibling aggression perpetration				-.02	.04		-.01	.04	
Bully perpetration				.49***	.05	.23***	.50***	.05	
Sibling aggression X Bully perpetration							-.02	.03	.24

p* < .05. *p* < .01. ****p* < .001.

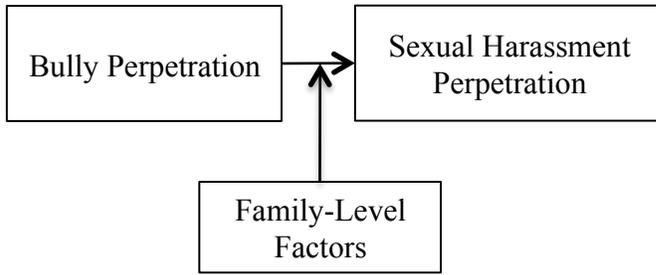


Figure A1. Model for Family-Level Factors as Moderators.