

## EXAMINING DEVELOPMENTAL DIFFERENCES IN THE SOCIAL-EMOTIONAL PROBLEMS AMONG FREQUENT BULLIES, VICTIMS, AND BULLY/VICTIMS

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Bullying poses a threat to children's social-emotional functioning and their perceptions of school climate, yet few studies have examined different types of social-emotional and behavior problems presented by children involved in bullying, as a bully, victim, or bully/victim across multiple school levels. The current study used data from 24,345 elementary-, middle-, and high-school students to examine the association between frequent involvement in bullying and aggressive impulsivity, attitudes toward aggressive retaliation, internalizing symptoms, peer relations, and perceptions of school climate. Logistic regression analyses indicated that bully/victims were most likely to display internalizing symptoms, problems in peer relationships, and have poorer perceptions of the school environment. Both frequent bullies and bully/victims displayed aggressive-impulsive behavior and endorsed retaliatory attitudes. High-school students frequently involved in bullying tended to display the greatest risk for internalizing problems, but less risk for aggressive impulsivity. Developmental trends and implications for prevention and early intervention are discussed. © 2008 Wiley Periodicals, Inc.

Over the past decade there has been increased concern about students' involvement in bullying and its associated effects for both the victims and perpetrators. Bullying is broadly defined as a class of intentional and repeated acts that take physical (e.g., hitting, theft), verbal (e.g., harassment, threats, name calling), and relational (e.g., spreading rumors, influencing social relationships) forms, and typically occurs in situations where there is a power or status difference (Olweus, 1993). Bullying continues to be one of the most common forms of aggression and victimization experienced by school-age children (Nansel et al., 2001; Spriggs, Iannotti, Nansel, & Haynie, 2007).

Although there is a growing body of research indicating that frequent involvement in bullying can have pervasive and long-lasting effects on children's social and emotional functioning (Hawker & Boulton, 2000; Nansel et al., 2004), relatively few large-scale, population-based studies have examined whether the types of social-emotional problems experienced by children frequently involved in bullying vary by the child's type of involvement in bullying, as a bully, victim, or as both a bully and victim (i.e., bully/victim). Additionally, few studies have examined these subgroup differences across multiple school levels (i.e., elementary, middle, and high school [ES, MS, HS]). Given that the potential negative effects of bullying on social-emotional functioning can persist into adulthood (Gladstone, Parker, & Malhi, 2006) and the proposed link between bullying and serious incidents of school violence (Leary, Kowalski, Smith, & Phillips, 2003), it is critical that we understand the types of social-emotional problems commonly observed among children involved in bullying.

The current study examined how children's type of involvement in frequent bullying, as bully, victim, or bully/victim relates to their aggressive-impulsive behavior, attitudes toward aggressive retaliation, internalizing symptoms, peer relations, and perceptions of safety and belongingness in the school setting. In addition, we analyzed data from elementary-, middle-, and HS students to explore

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potential developmental differences in the social-emotional correlates of frequent involvement in bullying. Having an enhanced understanding of the social-emotional factors associated with the different types of involvement in frequent bullying across school levels will help inform the selection of developmentally appropriate interventions and supports provided to at-risk youth.

### *Prevalence of Bullying*

Bullying represents a significant and worrisome problem for many school-age youth. A recent large, population-based study of bullying in more than 15,000 ES, MS, and HS students found that approximately 41% of students were “frequently” involved in bullying, with 23% as a victim, 8% as a bully, and 9% as a bully/victim (Bradshaw, Sawyer, & O’Brennan, 2007). The prevalence of frequent involvement in bullying appears to increase in late ES, peak during MS, and decline in HS (Olweus, 1993). With regard to gender differences in the type of involvement in bullying, prior research suggests that boys tend to be more likely than girls to be categorized as both bullies and bully/victims (Juvonen, Graham, & Schuster, 2003); however, there appear to be some gender differences in the specific forms of bullying experienced (e.g., relational vs. physical aggression) (see Crick, Bigbee, & Howes, 1996; Underwood, 2003).

### *Social-Emotional Problems Associated with Frequent Involvement in Bullying*

Despite its prevalence, bullying has traditionally been viewed by many adults and school personnel as a normative developmental experience (Bradshaw et al., 2007). However, there is emerging evidence that children who are frequently involved in bullying are at an increased risk for social and emotional problems. Furthermore, the types of social-emotional problems experienced appear to vary depending on the student’s type of involvement in bullying, as a bully, victim, or bully/victim (Nansel et al., 2004; Tobin, Schwartz, Gorman, & Abou-ezzedine, 2005). In the following sections, we consider prior research on specific social-emotional problems and how it may be related to different types of involvement in bullying.

*Retaliatory Attitudes.* Although few studies have specifically examined retaliatory attitudes among youth involved in bullying, a number of researchers have found that aggressive youth are more likely than nonaggressive children to display attitudes and beliefs supporting aggressive retaliation (Bradshaw, O’Brennan, & Sawyer, 2008; Guerra, Huesmann & Spindler, 2003). Such attitudes supporting violence, in turn, place youth at heightened risk for reacting aggressively in social situations (Huesmann & Guerra, 1997). The available research on school shootings also suggests a link between prior victimization and retaliatory violence (Leary et al., 2003), such that youth involved in bullying may be more likely than their peers to respond aggressively to interpersonal threats.

*Aggressive-Impulsive Behavior Problems.* Similarly, perpetrators of aggressive behavior have been found to display higher levels of aggressive-impulsive behavior than other youth (Olweus, 1993; Smokowski & Kopasz, 2005). The extant research suggests that students who bully display both proactive (i.e., instrumental, deliberate, goal-directed behavior) and reactive (i.e., defensive, protective response) forms of aggression (Crick & Dodge, 1994), whereas victims of bullying display reactive rather than proactive aggression (Camodeca & Goossens, 2005). Similar to bullies, students classified as bully/victims also tend to exhibit problems regulating their emotions and show a proclivity toward acting impulsively (Mynard & Joseph, 1997). A study by Schwartz (2000), for example, indicated that bully/victims were rated by their teachers as hyperactive and disruptive, and having difficulties controlling their anger when provoked by their peers.

*Internalizing Symptoms.* Peer rejection and frequent victimization have also been linked with children’s experience of internalizing symptoms, such as depression and anxiety (Bond, Carlin,

Thomas, Rubin, & Patton, 2001; Hawker & Boulton, 2000). Specifically, children who are victims of bullying have reported elevated levels of depression and anxiety (Juvonen et al., 2003; Kaltiala-Heino, Rimpela, Marttunen, Rimpela, & Rantanen, 1999), as well as feelings of insecurity and loneliness (Bond et al., 2001). In contrast, bullies tend to evince few symptoms of depression or anxiety (Juvonen et al., 2003; Nansel et al., 2004), whereas bully/victims appear to be at greatest risk for displaying a range of mental health problems including internalizing and psychosomatic symptoms (Kaltiala-Heino, Rimpela, & Rimpela, 2000).

*Peer Relationships.* Students who are frequently victimized tend to have poor relationships with their peers, which in turn can further increase their likelihood of being rejected or victimized (Dill, Vernberg, Fonagy, Twemlow, & Gamm, 2004; Hodges, Boivin, Vitaro, & Bukowski, 1999). For example, research by Nansel et al. (2004) suggests that victims experience poorer relationships with classmates than do children classified as bullies. Youth who bully or who are victims of bullying tend to lack appropriate social skills (Smokowski & Kopasz, 2005), which may further contribute to problems in their social relationships. Previous studies also suggest that bully/victims tend to provoke negative interactions with their peers, are often perceived as social outcasts (Andreou, 2001; Juvonen et al., 2003), and are more socially avoidant and have more negative peer interactions as compared to victims and bullies (Hess & Atkins, 1998).

*Perceptions of Belongingness and Safety.* An important but often overlooked factor that influences students' success in school is their perceptions of school safety and their feelings of "belongingness" or connectedness to others at their school (Glew et al., 2005). A study by Wilson (2004) found that youth who are aggressively victimized and perpetrate violent behavior are less likely to feel connected to others at their school. Similarly, Brockenbrough, Cornell, and Loper (2002) found that students who are victimized and feel unsafe at school are at an increased risk of bringing weapons to school. Despite the importance of perceptions of a positive school climate, few studies have examined children's perceptions of safety and belongingness in relation to their status as a victim, bully, or bully/victim across school types.

### *Overview of the Current Study*

Taken together, the extant research suggests that students frequently involved in bullying are at risk for displaying problems across a range of domains (Glew et al., 2005; Haynie et al., 2001; Tobin et al., 2005). The current study extends the prior research on types of involvement in bullying by examining a range of social-emotional factors (i.e., aggressive retaliatory beliefs, aggressive impulsivity, internalizing symptoms, and peer relationships) across all three school levels. The data for this study come from a large, diverse population-based sample of ES-, MS-, and HS-age children, thus providing sufficient power to explore differences between the bullying subgroups (i.e., bully, victim, and bully/victim) in relation to the various social-emotional factors.

Based on prior research, it was hypothesized that all three frequently involved groups (bully, victim, and bully/victim) would display more social-emotional and school-related problems than would uninvolved youth. Because children classified as bully/victims tend to experience both the negative effects associated with being a victim and the problems associated with bullying others, it was further hypothesized that bully/victims would display more problems with internalizing symptoms, peer relationships, and the school environment than would either bullies or victims (Tobin et al., 2005). It was also hypothesized that children classified as either bullies or bully/victims would be at greater risk for endorsing the impulsive aggression items than would both victims and non-involved youth, because of their general tendency toward the use of physical force to resolve conflict (Schwartz, 2000). In addition, it was predicted that victims would be at increased risk for

displaying internalizing symptoms as compared to bullies and non-involved youth, based on prior work suggesting that children who are victimized tend to display emotional problems (Hodges et al., 1999).

We also formulated two hypotheses regarding developmental differences. Because frequent bullying is less common among older students and thus may be more stigmatizing, we hypothesized that HS youth who are frequently involved in bullying would exhibit a greater risk for internalizing problems than would younger frequently involved students (elementary- and middle-school students). Lastly, we hypothesized that younger children (ES and MS students) who are frequently involved in bullying would more likely report impulsive aggressive behaviors than would HS students who are frequently involved in bullying because prior research suggests that aggressive-impulsive behavior becomes less common as children develop into adolescents (Barker, Tremblay, Nagin, Vitaro, & Lacourse, 2006; Underwood, 2003).

## METHOD

### Sample

Data were collected in December 2006 from 24,345 students (Grades 4–12) at 74 ES, 19 MS, and 12 HS in a large Maryland public school district that includes urban (58%), suburban (28%), and rural (15%) schools. The 105 schools were diverse with regard to size, student/teacher ratio, and student socioeconomic status. Sample demographic characteristics are reported in Table 1. Approximately 76% of the students in the targeted grades in the district participated in this study.

### Instrument

Students completed an anonymous Web-based survey regarding their experiences with bullying, aggressive retaliatory beliefs, aggressive-impulsive behavior, social-emotional functioning, and

Table 1  
Sample Demographic Characteristics

Demographics	Elementary School (%) <i>n</i>	Middle School (%) <i>n</i>	High School (%) <i>n</i>	Total Sample <i>n</i>
	(29.4) 7,147	(46.9) 11,408	(23.8) 5,790	24,345
Gender				
Male	(51.3) 3,666	(49.9) 5,688	(50.1) 2,899	12,253
Female	(48.1) 3,481	(50.1) 5,720	(49.9) 2,891	12,092
Ethnicity				
White	(63.9) 4,569	(60.8) 6,933	(69.9) 4,046	15,548
Black	(15.8) 1,128	(19.4) 2,215	(14.7) 853	4,196
Hispanic/Latino	(4.3) 309	(4.5) 517	(4.0) 231	1,057
Asian/Pacific Islander	(2.4) 174	(3.5) 401	(3.6) 207	782
Other	(13.5) 967	(11.8) 1,342	(7.8) 453	2,762
Frequent-Involvement Subgroup				
Victim	(25.6) 1,828	(18.9) 2,151	(11.9) 689	4,668
Bully	(3.5) 250	(9.9) 1,124	(14.9) 865	2,239
Bully/victim	(5.4) 387	(9.2) 1,053	(9.9) 573	2,013
No/low involvement	(65.5) 4,682	(62.1) 7,080	(63.3) 3,663	15,425

Note. Data were collected from 24,345 students attending 74 elementary, 19 middle, and 12 high schools.

perceptions of safety and belonging. These items were based on previously developed measures of aggression (see Dahlberg, Toal, & Behrens, 1998) and school climate (Institute of Behavioral Science, 1990), and on questions commonly used in research on bullying (Haynie et al., 2001; Nansel et al., 2001; Solberg & Olweus, 2003). The constructs are described in greater detail in the sections that follow. Because of ES students' developmental level and reading ability, some questions were only asked of MS and HS students. Prior to the district-wide data collection, the student survey was pilot tested on two classes of ES students and a class of MS students to ensure readability and sufficient comprehension of survey items (see Bradshaw et al., 2007).

*Prevalence of Bullying.* Consistent with the definition put forth by Olweus (1993) and other large-scale studies of bullying (Nansel et al., 2001; Spriggs et al., 2007), bullying was defined on the survey as occurring "when a person or group of people repeatedly say or do mean or hurtful things to someone on purpose. Bullying includes things like teasing, hitting, threatening, name-calling, ignoring, and leaving someone out on purpose." All participants' frequency of involvement in bullying was measured using one question assessing victimization ("How often have you been bullied during the last month?") and a second question assessing perpetration ("How often have you bullied someone else during the last month?"). Response options were *not at all*, *once a month*, *2–3 times during the month*, *once a week*, and *several times a week*. Based on the work of Solberg and Olweus (2003), a threshold of two or more incidents of bullying in the past month was used to determine "frequent" involvement.

*Retaliatory Attitudes.* Attitudes toward aggressive retaliation (Huesmann, Guerra, Zelli, & Miller, 1992) were assessed through three items. All students were asked one item ("It is OK to hit someone if they hit me first?"), but only MS and HS students also responded to two other items ("If people do something to make me really mad, they deserve to be beaten up"; "If I walk away from a fight, everyone will think I am a coward") (Cronbach's alpha [ $\alpha$ ]  $\alpha = .70$ ). Students indicated the extent to which they agreed with each statement on a four-point scale, from "strongly disagree" to "strongly agree."

*Aggressive Impulsivity.* Students responded to four items assessing their level of aggressive impulsivity. Specifically, ES, MS, and HS students all responded to one item ("I get mad easily"), whereas the MS and HS students also responded to three additional items ("I do things without thinking"; "I have trouble controlling my temper"; "I have threatened to hit or hurt someone") ( $\alpha = .80$ ). All students responded on a four-point scale from "strongly agree" to "strongly disagree."

*Internalizing Problems.* All participants responded to three items regarding symptoms of depression and anxiety ("I am lonely"; "I am sad"; "I am worried something bad is going to happen";  $\alpha = .80$ ) on a four-point scale from "strongly agree" to "strongly disagree" (Achenbach & Rescorla, 2001).

*Peer Relationships.* MS and HS students responded to two items regarding their social relationships ("It is important to have friends"; "I have a lot of friends at this school";  $\alpha = .68$ ) on a four-point scale from "strongly agree" to "strongly disagree."

*Safety and Belongingness.* All participants responded to two items related to school climate ("I feel safe at school"; "I feel like I belong at this school";  $\alpha = .68$ ) on a four-point scale, from "strongly disagree" to "strongly agree."

### Procedure

The anonymous on-line survey was administered by the students' language arts teacher over a three-week period in late November through December 2006. The survey was accessible through a password-protected Web site and was conducted by the district using a passive consent process. The survey was administered to students in group format (15–25 students) and was completed during school hours. The testing session was led by the teacher and proctored by the guidance counselor or school psychologist to ensure that students were not discussing their answers and to reduce student distractions and interruptions. The administering teachers read aloud the bullying definition provided above and indicated that the purpose of the anonymous survey was to understand students' attitudes toward bullying at their school. When administering the survey to fourth- and fifth-grade students, teachers read aloud the questions and response options to guarantee student comprehension of survey items. The survey required a mean of 10.26 minutes for students to complete (median = 9.0 minutes).

### Analyses

To compare frequently involved bullying subgroups, students were grouped into four subgroups (low involvement, bully, victim, and bully/victim) based on their responses to two items: "Within the last month, how often have you been bullied?" and "How often have you bullied someone else during the last month?" Students were categorized into one of the three frequently involved groups if they indicated that the bullying and/or victimization occurred at least twice during the past month (Solberg & Olweus, 2003). Students not meeting this threshold were categorized as "low involvement."

Because the response options for all of the social-emotional variables were four-point ordinal Likert style (i.e., *strongly disagree* to *strongly agree*) rather than continuous, and not normally distributed (as indicated by inspection of histograms), the responses were dichotomized into agree (*strongly agree* and *agree*) and disagree (*strongly disagree* and *disagree*) prior to analyses. To examine the relationship between the type of involvement in bullying and social-emotional functioning, multivariate and binary logistic regressions were conducted using Stata 9.2 (Stata Corporation, College Station, TX). Multivariate logistic regression was selected for these analyses over univariate analyses for binary outcomes (e.g., chi-square) because it can be used to statistically control for potentially confounding variables (e.g., gender) and address concerns associated with the non-independence of observations (i.e., students clustered within schools), which are common in school-based studies (Raudenbush & Bryk, 2002). Multivariate logistic regression also produces an effect size estimate called an odds ratio (OR), which is a comparison of the odds of an outcome (e.g., feeling safe, having many friends) for those in a particular group (e.g., bully) to the odds for other individuals (e.g., non-involved youth). OR values > 1.00 indicate increased odds, whereas OR values < 1.00 indicate decreased odds of that outcome (Hosmer & Lemeshow, 2000).

In the present study, OR values were obtained to contrast students' responses to each of the questions by their membership in one of the bullying subgroups (bully, victim, and bully/victim), with the low-involvement group as the comparison group. In addition, because of the present study's focus on the social-emotional functioning of bully/victims, OR values were calculated to contrast the frequent bully and victim subgroups to the frequent bully/victim subgroup across all items. All analyses were stratified by school level (elementary, middle, and high) to explore developmental differences in the social-emotional symptoms exhibited across the bullying subgroups. All analyses controlled for gender and race (Juvonen et al., 2003; Spriggs et al., 2007), and robust standard errors were obtained to adjust for the clustering of students within schools (Raudenbush & Bryk, 2002). The alpha was set at .001 for statistical significance to adjust for the multiple tests.

## RESULTS

*Prevalence of Involvement in Frequent Bullying*

More than 36% of students reported being frequently involved in bullying. The reported rates of frequent involvement were relatively stable across all three school types, with 34.5% of ES students, 37.9% of MS students, and 36.7% of HS students reporting some type of involvement in frequent bullying. Participants were categorized into one of the four bullying subgroups (no/low involvement, bully, victim, or bully/victim) based on their responses to both the frequent perpetration and frequent victimization questions. Compared to girls, boys were significantly more likely to be categorized as a bully (10.5% vs. 7.8%, OR = 1.39,  $p < .001$ ), but only slightly more likely to be categorized as a bully/victim (9.2% vs. 7.3%, OR = 1.28,  $p < .05$ ). Approximately the same number of boys and girls were categorized as victims (19.8% vs. 18.5%, OR = 0.92,  $p < .05$ ). The percentages of students categorized into each bullying subgroup are reported by school level in Table 1.

*Retaliatory Attitudes*

As expected, frequent bullies across all three school levels were more likely than were non-involved youth to support the statement "It is OK to hit someone if they hit me first" (Table 2). Bully/victims showed a similar trend, except among HS youth, who were not significantly more likely than were low-involvement HS students to support the statement. Interestingly, among the victims, only ES students had increased odds of supporting hitting others. Attitudes supporting aggressive retaliation were also evident when youth were asked "If people do something to make me really mad, they deserve to be beaten up," such that both MS and HS bullies and bully/victims had increased odds of agreeing with the statement compared to their low-involvement peers. Upon examining differences among the three frequently involved subgroups for this item, victims were less likely than bully/victims to endorse this statement, whereas frequent bullies and bully/victims were equally likely to endorse the item. A similar trend emerged for the statement "If I walk away from a fight, everyone will think I'm a coward," whereby youth in all three frequently involved subgroups were significantly more likely than their uninvolved peers to endorse this statement, except HS victims who did not differ from the low-involvement group. However, among the three frequently involved subgroups, victims were less likely than bully/victims to endorse the item.

*Aggressive Impulsivity*

A consistent pattern emerged across all four of the aggressive impulsivity items, such that all three of the frequently involved subgroups were significantly more likely to report problems compared to low-involved youth (see Table 2). Although bullies did not differ from bully/victims on these items, victims were more likely than bully/victims to support the statements. With regard to developmental trends, somewhat surprisingly, the overall base rates of endorsing the aggressive impulsive behaviors tended to be highest among HS students, as indicated by the percentage of youth within each school-level strata that agreed with the statement (see Table 2). However, the odds of experiencing these symptoms tended to be higher for MS youth who were in a frequent-involvement group than for HS youth in a frequent-involvement group. For example, the odds of agreeing with the statement "I have threatened to hit or hurt someone" for MS bully/victims were increased 635% compared to their low-involvement MS peers, whereas the odds for HS bully/victims was increased 471% compared to their low-involvement HS peers. Although data for ES students is only available on one of these items ("I get mad easily"), these students tended to experience the lowest base rates of agreement with this item (i.e., actual percentage of students in each group that agreed with the

Table 2  
Self-reports of Retaliatory Attitudes and Aggressive Impulsivity

Survey Items	School Level	Low-level	Frequent	Frequent	Frequent
		Involvement (%)	Victim (%) OR	Bully/Victim (%) OR	Bully (%) OR
<b>Retaliatory Attitudes</b>					
It is OK to hit someone if they hit me first	ES	(26.8)	(31.8) 1.34* [0.62*]	(45.5) 2.12* —	(57.6) 2.78* [1.35]
	MS	(61.7)	(57.7) 0.91 [0.41*]	(77.6) 2.20* —	(86.0) 3.49* [1.66*]
	HS	(77.8)	(75.2) 0.86 [0.58*]	(84.1) 1.37 —	(88.9) 2.15* [1.54]
If people do something to make me mad, they deserve to be beaten up ±	ES	±	±	±	±
	MS	(32.5)	(31.2) 1.01 [0.35*]	(57.2) 2.87* —	(66.1) 3.81* [1.36]
	HS	(36.3)	(38.5) 1.04 [0.27*]	(71.7) 3.81* —	(66.8) 3.26* [0.85]
If I walk away from a fight, everyone will think I'm a coward ±	ES	±	±	±	±
	MS	(57.0)	(65.0) 1.47* [0.62*]	(75.2) 2.31* —	(77.4) 2.40* [1.08]
	HS	(58.1)	(64.0) 1.29 [0.62*]	(74.9) 1.99* —	(73.3) 1.89* [0.95]
<b>Aggressive Impulsivity</b>					
I get mad easily	ES	(37.5)	(56.0) 2.15* [0.59*]	(69.0) 3.61* —	(70.0) 3.42* [1.01]
	MS	(41.0)	(54.2) 1.80* [0.54*]	(69.0) 3.25* —	(65.4) 2.55* [0.80]
	HS	(44.0)	(55.0) 1.59* [0.48*]	(71.7) 3.23* —	(65.6) 2.43* [0.75]
I have trouble controlling my temper ±	ES	±	±	±	±
	MS	(32.0)	(43.0) 1.70* [0.47*]	(62.6) 3.62* —	(61.2) 3.12* [0.90]
	HS	(34.6)	(46.2) 1.63* [0.51*]	(63.0) 3.08* —	(60.2) 2.80* [0.89]
I do things without thinking ±	ES	±	±	±	±
	MS	(49.7)	(57.3) 1.37* [0.40*]	(76.7) 3.36* —	(76.1) 3.18* [0.97]
	HS	(56.4)	(61.8) 1.23* [0.44*]	(77.7) 2.70* —	(73.5) 2.15* [0.79]
I have threatened to hit or hurt someone ±	ES	±	±	±	±
	MS	(27.2)	(34.2) 1.49* [0.23*]	(69.5) 6.35* —	(72.2) 6.58* [1.07]
	HS	(40.8)	(48.5) 1.37* [0.27*]	(77.7) 4.71* —	(73.5) 3.88* [0.80]

Notes. Percentages of respondents in each bullying subgroup who indicated “agree” or “strongly agree” on the item are reported in parentheses. Odds ratio (OR) values without brackets were computed comparing the three frequently involved groups to the low-level involvement group. OR values within brackets contrast victims and bullies with bully/victims as the base group. —Indicates base group for OR values. Data reported in rows are by school level, such that ES = elementary school students, MS = middle school students, HS = high school students. ± Indicates item not asked of elementary school students. All analyses were adjusted for race and sex, and standard errors were adjusted to account for the clustering of students within schools. \**p* < .001.

statement). Regardless, the ES students in the three frequently involved groups had greater odds of endorsing this statement than did the MS and HS frequently involved youth.

*Internalizing Symptoms*

Compared to the other social-emotional factors examined in the current study, far fewer students endorsed the internalizing problems (i.e., sadness, loneliness, and worry); however, students in the victim and bully/victim subgroups were more likely to display these symptoms than were non-involved youth (Table 3). The findings for the bullies were less consistent, as ES bullies differed from their non-involved peers on being sad and worried, but not on being lonely. The MS bullies did not differ from their non-involved peers on these three items, whereas HS bullies differed on just being worried. With regard to comparisons across the three frequently involved subgroups, bully/victims tended to be at the greatest risk for displaying each of the three internalizing symptoms. Additionally, there was a developmental trend whereby victims and bully/victims’ propensity for

Table 3  
*Internalizing Symptoms, Peer Relationships, and Perceptions of the School Environment*

Survey Items	School Level	Low-level Involvement (%)	Frequent Victim (%) OR	Frequent Bully/Victim (%) OR	Frequent Bully (%) OR
<b>Internalizing Symptoms</b>					
I am sad	ES	(10.4)	(30.3) 3.81* [0.90]	(32.0) 4.19* —	(22.0) 2.48* [0.60]
	MS	(9.6)	(31.5) 4.31* [0.81]	(36.0) 5.25* —	(13.7) 1.51 [0.29*]
	HS	(12.5)	(37.9) 4.28* [0.80]	(44.3) 5.45* —	(17.2) 1.46 [0.27*]
I am lonely	ES	(11.0)	(23.9) 2.57* [0.80]	(28.2) 3.22* —	(17.2) 1.72 [0.54]
	MS	(8.5)	(24.9) 3.57* [0.81]	(29.2) 4.38* —	(11.2) 1.34 [0.31*]
	HS	(11.1)	(35.0) 4.25* [0.81]	(41.9) 5.36* —	(14.1) 1.27 [0.24*]
I am worried something bad is going to happen	ES	(22.6)	(46.1) 2.97* [0.93]	(47.8) 3.18* —	(35.6) 1.83* [0.58*]
	MS	(17.5)	(42.7) 3.60* [0.87]	(46.5) 4.11* —	(20.9) 1.22 [0.30*]
	HS	(15.4)	(40.6) 3.78* [0.72]	(50.4) 5.32* —	(21.0) 1.44* [0.27*]
<b>Peer Relationships</b>					
It is important to have friends ±	ES	±	±	±	±
	MS	(93.2)	(92.7) 0.86 [2.13*]	(84.7) 0.41* —	(88.1) 0.62* [1.45]
	HS	(92.3)	(86.4) 0.49* [1.63]	(77.3) 0.30* —	(87.9) 0.62 [2.01*]
I have a lot of friends at this school ±	ES	±	±	±	±
	MS	(90.4)	(76.5) 0.33* [0.84]	(78.9) 0.40* —	(88.9) 0.89 [2.17*]
	HS	(86.1)	(72.9) 0.41* [0.89]	(73.1) 0.46* —	(86.9) 1.09 [2.35*]
<b>Safety &amp; Belongingness</b>					
I feel safe at school	ES	(88.8)	(73.1) 0.33* [1.40]	(64.9) 0.24* —	(76.8) 0.49* [1.99*]
	MS	(78.9)	(59.3) 0.37* [1.31]	(51.8) 0.29* —	(68.4) 0.62* [2.12*]
	HS	(76.1)	(56.5) 0.40* [1.17]	(52.0) 0.34* —	(67.5) 0.64* [1.89*]
I feel like I belong at this school	ES	(89.6)	(78.4) 0.41* [1.35]	(72.1) 0.31* —	(77.6) 0.48* [1.50]
	MS	(83.1)	(66.1) 0.37* [1.00]	(65.1) 0.38* —	(77.1) 0.74 [1.91*]
	HS	(80.3)	(64.0) 0.41* [1.00]	(63.2) 0.41* —	(74.2) 0.70 [1.67*]

*Notes.* Percentages of respondents in each bullying subgroup who indicated “agree” or “strongly agree” on the item are reported in parentheses. Odds ratio (OR) values without brackets were computed comparing the three frequently involved groups to the low-level involvement group. OR values within brackets contrast victims and bullies with bully/victims as the base group. —Indicates base group for OR values. Data reported in rows are by school level, such that ES = elementary school students, MS = middle school students, HS = high school students. ± Indicates item not asked of elementary school students. All analyses were adjusted for race and sex, and standard errors were adjusted to account for the clustering of students within schools. \*  $p < .001$ .

reporting feeling sad, lonely, or worried tended to increase as the school level increased (i.e., odds for HS students tended to be higher than for MS).

### *Peer Relationships*

An overwhelming majority of the students agreed with the two peer relationships items; however, across both MS and HS students, bully/victims were less likely than their uninvolved peers to support these statements (Table 3). With regard to the importance of having friends item, MS bullies differed significantly from uninvolved MS youth, but not the MS bully/victims. For HS students, the victims were significantly less likely to endorse this item compared to their low-involvement peers, but did not differ significantly from bully/victims. Although HS bullies did not differ from their low-involvement peers on this item, they were more likely than the bully/victims to agree that “It is important to have friends.” With regard to the other peer relationship item, “I have a lot of friends

at this school,” both MS and HS victims were significantly less likely than their uninvolved peers to endorse this item, whereas the bullies did not differ significantly from their uninvolved peers. Moreover, the MS and HS bullies were more likely than their bully/victim peers to indicate that they had a lot of friends at the school. No clear developmental trends emerged for this item.

### *Safety and Belongingness*

As hypothesized, all three frequently involved subgroups were significantly less likely than their uninvolved peers to report feeling safe at school (see Table 3). Furthermore, victims did not differ from bully/victims in their perception of safety, but bullies were more likely to report feeling safe than were bully/victims. Similarly, both victims and bully/victims were less likely than uninvolved youth to feel like they belonged at their school. ES bullies also had reduced odds of feeling this way, but this was not true for MS or HS students. In contrast, MS and HS bullies were more likely than bully/victims to feel that they belonged at the school, whereas ES bullies did not differ from bully/victims. Although no clear developmental trends emerged for perceptions of safety or belongingness across the bullying subgroups, there was an overall trend whereby the percentages of students who reported feeling safe and connected to their school decreased slightly as the school level increased.

## DISCUSSION

The current study examined a variety of social-emotional attitudes and behaviors in relation to children's type of involvement in bullying—as a bully, victim, or bully/victim—across ES, MS, and HS. Students' reports of aggressive impulsivity, internalizing symptoms, peer relationships, and perceptions of safety and belongingness varied by their type of involvement in bullying. As hypothesized, bully/victims tended to be at the greatest risk for displaying aggressive-impulsive behavior and social-emotional problems. As predicted, victims also evinced an increased risk for internalizing symptoms. Our hypothesis that frequently involved HS students would be at greater risk for displaying internalizing problems than frequently involved ES and MS students was largely supported. Similarly, our hypothesis that younger children (ES and MS students) who are frequently involved in bullying would be more likely to report impulsive aggressive behaviors than would HS students who are frequently involved in bullying was supported by the data.

### *Relation between Involvement in Bullying and Social-Emotional Functioning*

*Aggressive Impulsive Behavior and Retaliatory Attitudes.* The regression analyses indicated rather consistently across all school levels that all three frequently involved groups were at an increased risk for aggressive-impulsive behavior. The responses of bully/victims did not differ significantly from those of bullies on any of the four items assessing aggressive impulsivity. Although the victims were at an elevated risk compared to their non-involved peers, they were significantly less likely than bully/victims and bullies to endorse these items. **Thus, the proposed combination of poor emotion-regulation skills and aggressive-impulsive behavior puts both bullies and bully/victims at risk for future maladjustment and involvement in violence (Smokowski & Kopasz, 2005).** A similar pattern emerged for the retaliatory aggression items, such that the bully/victims and bullies were more likely to support aggressive responses to threat and provocation than were their peers who were uninvolved and victims. However, compared to their non-involved peers, the victims (except for ES students) were no more likely to support retaliation. It appears that although the victims experienced some of the emotions of anger and hostility, they were not at increased risk for displaying beliefs supporting retaliation.

With regard to developmental trends, examination of the percentage of youth who agreed with the statements reported in Table 2 suggests that the base rates for endorsing the aggressive-impulsivity items tended to be slightly higher for HS students than for ES or MS students. A similar trend occurred for some of the retaliation items (e.g., OK to hit). This finding was somewhat surprising, given prior research suggesting a general downward trend for rates of parent- and teacher-reported physical aggression (Barker et al., 2006; Broidy et al., 2003). It is possible, however, that the HS students may be experiencing the emotional and cognitive components of aggression (anger, hostility) at a higher rate, but not necessarily acting on them. Alternatively, the older students may be more aware of these emotions than are younger students, and thus are more likely to self-report these experiences. Despite the potential developmental trend regarding the base rates of aggressive impulsivity, as anticipated, the younger students (i.e., ES or MS youth) who were frequently involved in bullying tended to have greater odds of endorsing aggressive-impulsive attitudes than was observed among the HS youth. Additional research should examine these behaviors among ES-age youth, because the current study did not assess all aspects of aggressive impulsivity within this age group.

Taken together, these findings suggest that it would be advantageous for clinicians, teachers, and school administrators to focus on establishing social norms of nonviolence and reducing the stigma associated with backing down from a fight. It may also be helpful to teach students prosocial ways of handling conflictual situations and nonaggressive strategies for expressing their negative emotions. The most effective bullying prevention efforts appear to be whole-school prevention programs, such as the Olweus Bullying Prevention Program (Olweus et al., 2007), which establish school-wide rules and expectations related to bullying, thereby altering the social norms regarding bullying behavior, bullies, and bystanders. In addition, several social-emotional curricula have been developed to help younger children develop effective skills for responding to provocation (for a review, see Orpinas & Horne, 2006); however, there is a paucity of such programs for students on the secondary level. Additional research is needed to develop skills-based bullying prevention programs for older students.

*Internalizing Problems.* Both victims and bully/victims evinced a similarly elevated risk for experiencing internalizing symptoms compared to their non-involved peers. This finding is likely because of bully/victims' suggested lack of sufficient interpersonal resources to effectively cope with others' aggressive behavior (Camodeca & Goossens, 2005). Likewise, the finding that victims reported high levels of internalizing symptoms is consistent with prior research suggesting that youth subject to peer victimization are at a heightened risk for depression and anxiety (Juvonen et al., 2003; Kaltiala-Heino et al., 1999). Prior research has also suggested that, over time, frequent victims continue to display these internalizing symptoms, and some even begin to believe that bullying is legitimate and warranted; this belief in turn may increase the victims' likelihood of being subject to future victimization (Dill et al., 2004). These findings suggest that school psychologists should be aware of both victims' and bully/victims' tendency toward internalizing problems, as it places them at an increased risk for future emotional maladjustment. The findings for bullies, however, were less consistent. For example, HS and ES bullies reported feeling worried that something bad might happen. These feelings of anxiety may translate into a hypervigilance, which, when coupled with their support for the use of aggression to resolve perceived conflict, suggests that the bullies may have a "hair trigger" for responding aggressively in ambiguous situations (Huesmann & Guerra, 1997).

The analyses also showed an interesting developmental trend whereby students' risk for reporting internalizing symptoms appeared to increase with age, with HS victims and bully/victims having greater odds of experiencing internalizing symptoms compared to younger students. This finding is consistent with prior research indicating increased prevalence of internalizing disorders

such as Major Depressive Disorder or Generalized Anxiety Disorder among adolescents (Ialongo, Edelson, & Kellam, 2001). These findings suggest, albeit very tentatively, that younger children who are frequently involved in bullying may be at greater risk for experiencing externalizing problems, whereas adolescents may be more likely to experience internalizing problems. Future research should explore this developmental hypothesis using longitudinal data.

These findings also emphasize the importance of early detection of internalizing symptoms among youth involved in bullying, particularly those youth classified as victims or bully/victims, as effective intervention efforts can aid in preventing an onset of Major Depressive Disorder or Generalized Anxiety Disorder (Ialongo et al., 2001). Because children's internalizing symptoms are often more difficult for adults to detect than are externalizing symptoms, there tends to be a greater delay in students' receipt of school-based mental health services for internalizing symptoms than for externalizing symptoms (Bradshaw, Buckley, & Ialongo, 2008). Therefore, it is important for school psychologists and other mental health professionals to provide professional development to teachers, school staff, and parents regarding the signs and symptoms of depression and how to refer at-risk children for services.

*Peer Relationships.* The regression analyses revealed several significant differences in the perceived importance of peer relationships among the three frequently involved bullying subgroups. MS bullies and bully/victims were significantly less likely to report that having friends was important. For HS students, however, it was victims and bully/victims who were less likely to perceive friendships as important. Across both school levels, bully/victims appeared to struggle the most with friendships, which is consistent with prior research showing that bully/victims have poor social skills (Juvonen et al., 2003) and experience difficulties in their social relationships (Arseneault et al., 2006; Hodges et al., 1999). This, in turn, likely hinders bully/victims' abilities to form strong prosocial bonds with other children and limits their opportunities for developing social skills, both of which may increase their risk for further involvement in bullying.

The bullies' tendency to report having many friends was, however, a somewhat surprising finding. Although it is impossible to determine the quality of these friendships or ascertain whether the friendships are mutual, prior research on bullies suggests that they tend to be perceived as "popular" by both other students and school staff (Bradshaw et al., 2007; Juvonen et al., 2003); however, bullies' power and status may not translate into positive social skills and prosocial interactions with their peers. Therefore, caution should be taken when interpreting these results. In fact, some researchers have observed that bullies develop the ability to manipulate or control others through social relationships. Other researchers have argued that bullies even have a "superior theory of mind," which enables them to identify vulnerable youth who are potential victims, hone in on sensitive issues that could be targeted, and influence other children for self-gain (Sutton, Smith, & Swettenham, 1999). Bullies' perceived "popularity" can also make it more challenging to intervene effectively. Therefore, school psychologists should be careful not to inadvertently reinforce bullies' power status or perceived control among students when conducting primary prevention programs or intervening between bullies and victims.

*Safety and Belongingness.* Not surprisingly, students who were frequently involved in bullying perceived the school environment differently from those not involved in bullying. Both victims and bully/victims tended to feel equally unsafe and disconnected to their school. A similar trend was reported by Nansel et al. (2001) whereby victims of bullying were found to be at greater risk for reporting a less favorable school climate as compared to bullies and uninvolved youth. It is important to note, however, that bullies also reported diminished perceptions of safety, which suggests that some of their aggressive behavior may be defensiveness or hypersensitivity to perceived threats.

Although there were no clear developmental differences in the pattern of responses on these items, it is important to note that students tended to feel less safe and connected to their school as the school level increased. Future research should further examine these trends to better understand the most developmentally appropriate strategies for increasing students' feelings of safety and belongingness, particularly among victims and bully/victims.

Prior research indicates that positive perceptions of school climate are associated with a reduced risk for displaying both externalizing (e.g., aggression, disruptive behavior) and internalizing symptoms (e.g., depression, anxiety) (Espelage & Swearer, 2003; Wilson, 2004); therefore, it would be advantageous for schools to attempt to create and sustain positive atmospheres for their students, particularly for those students at greatest risk (i.e., victims and bully/victims). As noted above, schoolwide prevention models, like the Olweus Bullying Prevention Program, have been shown to reduce bullying and improve students' perceptions of the school environment (Olweus et al., 2007). Other schoolwide prevention programs—such as Positive Behavior Supports (Sugai & Horner, 2006), which aims to improve student behavior through the promotion of positive behavioral expectations—also hold great promise as effective strategies for preventing bullying and improving schools' overall climate (Bradshaw, Koth, Bevans, Ialongo, & Leaf, in press).

### *Limitations*

Because the current study was cross-sectional in design, a causal relationship cannot be inferred from these data. It is possible that several of the social-emotional problems preceded the children's involvement in bullying. For example, children with poor social skills and emotion-regulation problems are often rejected by their peers and may, therefore, be targeted by bullies because of their social-emotional problems (Dill et al., 2004). Similarly, aggressive youth may lack social skills and rely on manipulative and antisocial strategies for interacting with other children. Thus, it is unclear whether the social-emotional factors examined in this study are causes or consequences of the children's involvement in bullying. Additional longitudinal research is needed to better understand the directionality of these associations. Similarly, conclusions cannot be drawn regarding the developmental trends because the data are cross-sectional. Future research should further examine the relationship between these social factors and involvement in bullying among ES-age youth because the ES students were not asked to respond to all of the social-emotional questions. The cross-sectional design also precludes examination of causal mechanisms. Longitudinal studies are needed to examine possible mediating and moderating effects, such as the influence of genetic factors, personality, and family environment, on youths' social-emotional functioning in relation to their involvement in bullying.

With regard to measurement, social-emotional factors were assessed through single-item indicators. Given the overall scope of the study, it was not feasible to include multi-item indicators of these symptoms. Rather, specific items were used to assess the prevalence and propensity for victims, bullies, and bully/victims to report social and emotional maladjustment at a subclinical level. Although single-item indicators are commonly used in epidemiological studies, additional research is needed to determine the concurrent and predictive validity of these items. Additionally, data for the study were collected through self-report measures, and thus social desirability or poor self-perceptions may have influenced the participants' responses. Although most researchers continue to use self-report measures of bullying, others question the validity of these measures as opposed to peer and teacher reports (Juvonen et al., 2003). The use of the term "bully" in the definition provided on the survey may have biased some children's responses to the frequent involvement questions (Sawyer, Bradshaw, & O'Brennan, 2008). Moreover, it is unclear whether the students fully understood and consistently applied the provided definition of bullying when answering the

individual questions. The current study did not specifically examine race or gender; however, these variables were included as covariates. Further research is needed to explore possible cultural differences in the association between involvement in bullying and social-emotional functioning (Spriggs et al., 2007; Storch, Nock, Masia-Warner, & Barlas, 2003). Last, although the sample was large and diverse, it was not a nationally representative sample, and thus the findings may not generalize to all children.

#### CONCLUSIONS

Findings from this study further document the significance of bullying and indicate that students' social-emotional functioning, attitudes toward retaliation, aggressive-impulsive behavior, and perceptions of safety and school belongingness vary depending on whether the child is involved in bullying as a perpetrator, a victim, or both. Although the cross-sectional design of the current study precludes conclusions regarding causality, it appears that bullies may be more likely to experience aggressive behavior, whereas victims may be more likely to experience emotional distress and possibly internalize their negative emotions. Bully/victims, however, appear to have a combination of aggressive and emotional symptoms (e.g., aggressive victims) (Schwartz, 2000; Tobin et al., 2005). Findings from the current study suggest that students classified as bully/victims present the greatest risk and should receive prevention services to help them feel safe and develop alternative strategies for interacting with peers and resolving interpersonal conflict. The social-emotional needs of children perpetrating the aggressive behavior should also be addressed, as these results indicated that bullies tended to feel unsafe, harbor retaliatory attitudes, and in some cases feel worried. These emotions, coupled with their aggressive-impulsive behavior, could trigger defensive aggressive responses in ambiguous situations.

Although the prevalence of involvement in bullying decreases by HS, the current study provides further evidence that involvement in bullying is associated with social-emotional problems in students across school levels. In fact, frequently involved HS students tended to display higher levels of internalizing problems, whereas frequently involved ES and MS students tended to display more aggressive behaviors. Thus, it would be advantageous for mental health professionals, school personnel, and parents to be knowledgeable about the co-occurring social-emotional problems associated with bullying across grade levels to prevent the development of subsequent behavioral and mental health problems.

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