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# A Multilevel Perspective on the Climate of Bullying: Discrepancies Among Students, School Staff, and Parents

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## Abstract

Although many bullying prevention programs aim to involve multiple partners, few studies have examined perceptual differences regarding peer victimization and the broader bullying climate among students, staff, and parents. The present study utilized multilevel data from 11,674 students, 960 parents, and 1,027 staff at 44 schools to examine the association between school-level indicators of disorder, norms regarding bullying and bullies, and students, parents, and staff perceptions of safety, belonging, and witnessing bullying. Results revealed several important discrepancies between adults and youth with regard to their perceptions. Moreover, results highlight the significance of normative beliefs about bullies, retaliation, and the influence of school contextual factors on students' risk for exposure to bullying.

In order for school-based prevention programs to be effective, considerable coordination and involvement is needed among all members of the school community, including students, staff, and parents (Jimerson & Furlong, 2006). While many bullying prevention programs aim to involve these multiple partners, few studies have examined the perceptual differences among students, staff, and parents with regard to peer victimization and the broader climate of bullying. The available research suggests there may be more discrepancies than similarities (Bradshaw, Sawyer, & O'Brennan, 2007; Mishna, Pepler, & Wiener, 2006). The current study examined the perceptual differences between students, staff, and parents in terms of school safety, feelings of belonging, and witnessing bullying. While the majority of bullying research relies solely on students' viewpoints, the current study integrates staff and parent perspectives, as well as school contextual factors, in order to get a comprehensive view of peer victimization. We hypothesized that these perceptions would vary as a function of school characteristics and the broader "climate of bullying" (Unnever & Cornell, 2003); therefore, a multilevel modeling approach was employed. This information will not only help tailor school-based bullying prevention programs, but also provide insight into factors influencing school climate and identify potential ways for enhancing communication across partners.

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## Bullying and School Contextual Factors

Bullying is a form of proactive aggression that is repeated, intentional, and involves a power imbalance between the perpetrator and victim (Olweus, 1997). It includes both overt behaviors (e.g., teasing, hitting, pushing) and less directly confrontational behaviors, termed indirect aggression, such as spreading rumors, excluding, and stealing. Bullying is one of the most common forms of aggression and victimization during childhood and adolescence, affecting approximately one-third of school age youth (Nansel et al., 2001). Although much of the research has focused on individual-level correlates of bullying, including gender and grade level, there is increasing interest in school-level factors, such as school climate (Bradshaw, Sawyer, & O'Brennan, 2009; Bradshaw & Waasdorp, 2009).

Social disorganization theory (e.g., Sampson & Groves, 1989) highlights the potential influence of contextual and organizational factors on the risk for involvement in aggression. There has been an increased interest in the application of this theoretical perspective to schools (e.g., Bradshaw et al., 2009; Bradshaw & Waasdorp, 2009; Plank, Bradshaw, & Young, 2009). For example, schools in urban neighborhoods are typically at a greater economic disadvantage, have less social cohesion, and have fewer resources for educating children than suburban schools. These factors may place students within these schools at an increased risk for aggressive behavior, retaliatory attitudes, and diminished perceptions of safety (Elliot, Wilson, Huizinga, & Sampson, 1996). Although several studies have demonstrated a link between urbanicity and perceptions of safety, the association between urbanicity and bullying is less clear (Nansel et al., 2001).

Related research has highlighted the link between a negative school climate and bullying, thereby suggesting that in schools where there are shared beliefs and attitudes supporting bullying, aggression, and peer victimization become the norm (Unnever & Cornell, 2003). Consistent with the social-cognitive perspective (Bandura, 1978; Huesmann, Guerra, Miller, & Zelli, 1992), these shared beliefs likely influence students', parents', and school-based staff members' responses to bullying (Unnever & Cornell, 2003). Therefore, the norms about bullying and the general perceptions of students who bully are important aspects of a school's culture of bullying. For example, when bullies are perceived to have high social status (i.e., popular), student bystanders may be less likely to intervene on behalf of the victim. Further, school staff typically perceive children who bully as having poor interpersonal and communication skills, low self-concepts, and being social isolates (Carney, Hazler, & Higgins, 2002), whereas students perceive bullies as being both socially influential and powerful (Bradshaw et al., 2007). Therefore, it is also important to examine discrepancies in student and staff perceptions of bullying. Yet few studies have examined how these norms about bullies relate to perceptions of safety, belonging, and witnessing bullying in schools. These general norms about bullying behavior, along with individual perceptions about the appropriateness of aggressive retaliation (Huesmann et al., 1992) are important factors to consider when altering a culture of bullying (Olweus, 1997).

Much of the research on witnessing bullying has focused on the perceptions of the student, but less is known about factors that predict staff members' exposure to bullying. The witnesses' response likely varies by the form of bullying, such as whether the act was overt (e.g., teasing, name calling, hitting, kicking) or indirect (e.g., social exclusion, rumors, stealing). In fact, adults often underestimate how harmful students view indirect bullying behaviors (Mishna et al., 2006; Waasdorp & Bradshaw, 2009), which in turn influences how they intervene (Bauman & Del Rio, 2006). Recently studies have shown that witnessing indirect bullying is associated with feeling less safe and weapon carrying (Goldstein, Young, & Boyd, 2008; Kuppens, Grietens, Onghena, Michiels, & Subramanian, 2008). More work is needed to examine the contextual influences of schools with high rates of indirect bullying on student and staff perceptions of the school.

Parents' perceptions also are often overlooked in the research on bullying, however, they too contribute to the overall culture of bullying within a school (Espelage & Swearer, 2008). Parents' perceptions and attitudes toward bullying and aggression can influence a child's behaviors in school (Solomon, Bradshaw, Wright, & Cheng, 2008). For example, parent-child communication about bullying can shape how the child views and responds to these behaviors. Parents can also influence a child's perceptions of bullying by underestimating the harm associated with bullying (Waasdorp & Bradshaw, 2009) or not contacting the school when issues arise (Waasdorp, Bradshaw, & Duong, 2010). Although few studies have examined parents' perceptions of the bullying climate, it is important to determine the extent to which their opinions are related to student and staff perceptions. A potential disconnect between the three different perspectives would suggest a need for increased communication and prevention efforts that involve all members of the school community (Espelage & Swearer, 2008).

### Overview of the Current Study

Although multi-informant assessments of bullying and school climate are strongly encouraged, few studies have been able to marshal data from parents, students, and school staff in order to examine the variation in their perspectives. Research with large diverse samples of schools is needed to better understand the extent to which these views vary as a function of school contextual factors or school-wide norms about bullying. To address these gaps, the current paper examined the association between school contextual factors and student, staff, and parent perceptions related to bullying. We hypothesized that school-level factors would influence the way in which students and staff perceive safety, belonging at school, as well as their witnessing bullying. Consistent with the social cognitive perspective (e.g., Huesmann et al., 1992), we were particularly interested in how normative beliefs of bullies' social status (e.g., popularity), overall rate of indirect victimization in the school, parents' perceptions of the school bullying climate, and other school-level factors (student-teacher ratio, urbanicity) were associated with student and staff perceptions of safety, belongingness, and reports of witnessing bullying. Specifically, we hypothesized that in schools with higher levels of disorder (e.g., higher student-teacher ratios, higher levels of indirect victimization) perceptions of safety and belonging would be more negative, and the likelihood of witnessing bullying would be increased. In addition, we hypothesized that in schools where bullies are perceived as "popular," students and staff would feel less safe and less belongingness. Lastly, we predicted parents' perceptions of the school as caring and supportive would be associated with lower reports of youth having witnessed bullying.

## Method

### Sample

The participants were 11,674 students, 1,027 school staff, and 960 parents from 30 elementary, 9 middle, and 5 high schools in a large Maryland public school district (see Table 1 for sample demographics). Approximately 76% of the students and staff in the targeted grades participated in this study.

### Outcome Variables

**Perceptions of safety, belonging, and witnessing of bullying—**Students and staff responded to a set of parallel questions. Feeling safe was assessed by the question "*I feel safe at this school*" to which participants responded on a 4-point scale (*strongly disagree* to *strongly agree*). Feelings of belongingness were assessed by the item "*I feel like I belong at this school*," to which they responded on the same 4-point scale. Witnessing of bullying at school was assessed through the following question, "*Have you seen someone else being bullied in school in the past month?*" to which participants responded yes or no.

### Individual-level Predictor Variables

**Attitudes toward retaliation—**Participants responded to a single question, "*It is OK to hit someone if they hit me first*" (Huesmann et al., 1992), on a 4-point scale (*strongly disagree* to *strongly agree*).

**Victimization—**The survey provided a definition of bullying, which read "*Bullying is when a student or a group of student 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*" (Nansel et al., 2001; Olweus, 1997). Students were asked, "*Have you ever been bullied?*" whereas staff were asked, "*Have you been bullied at this school*?" to which they responded yes or no.

### School-level Contextual Variables

**Prevalence of indirect victimization—**Students responded yes or no to a multiresponse format question ("*Within the last month, has someone repeatedly tried to hurt you or make you feel bad by…*"), which inquired about four different forms of indirect victimization experienced (i.e., *cyberbullying, rumor spreading, exclusion, stealing*). Since we did not assess teacher's own experience with distinct forms of victimization, we modeled the prevalence of students' indirect victimization as a school-level variable, thereby indicating the percentage of students within that school who reported experiencing one or more of the four forms of indirect victimization.

**Student and teacher perceptions of bullies—**To assess normative perceptions of bullies, students and teachers responded yes or no to the following two questions: "*Do you think the bullies at your school are … Popular with other students* and *Disliked by other students.*" An aggregate school-level variable was created for popular and disliked to indicate the percentage of individuals in the school who perceived bullies as popular and disliked, respectively.

**Parent perceptions—**Parents responded to parallel questions regarding their child's safety at school (*My child feels safe at school*), belongingness (*My child feels like he/she belongs*), and witnessing of bullying (*Has your child ever told you that she or he has seen other students being bullied during the last month?*; see descriptions above). Parents' responses on these items were aggregated into school-level variables (i.e., one parent score per school) and were modeled as school-level covariates.

**School demographics—**Archival data were obtained regarding the student-teacher ratio and the schools' urbanicity (i.e., suburban, urban, or rural). The student-teacher ratio was calculated by dividing the total number of students in the school by the total number of teachers. The school type (i.e., elementary, middle, high) was included in the analyses, and dummy coded to indicate elementary vs. secondary, given literature suggesting that bullying increases in late childhood and peaks in early adolescence (e.g., Bradshaw et al., 2007; Nansel et al., 2001).

### Procedure

The data came from a district-wide anonymous survey of bullying completed by students, staff, and parents. The survey was administered online by the school district over a three-week period in October through December of 2008 using a passive consent process. Students completed the web-based survey in a group format (15–25 students) administered by the teacher and proctored by the guidance counselor or school psychologist during school hours. Parents and staff were provided a web-link and password to complete the anonymous

survey. Only one parent per household was eligible to participate (for additional details, see Bradshaw et al., 2007, 2009). Limited demographic information was collected on participants to ensure their anonymity. The nonidentifiable data were obtained from the district and were approved for analysis by the researchers' Institutional Review Board.

### Analyses

Preliminary analyses were performed in SPSS 16.0 to compute correlations (see Tables 2 and 3) and to explore the potential for collinearity among the covariates; the VIF and tolerance indicated that collinearity among the final set of variables was not a concern (Tabachnick & Fidell, 2001). Two-level models were conducted in HLM 6.01 (Raudenbush, Bryk, Cheong, & Congdon, 2004) to examine the influence of individual-level variables (e.g., student vs. staff, being a victim) and school-level variables on student and staff reports of safety, belonging, and witnessing bullying. Both the safety and belonging variables were continuous, however, due to skew and kurtosis of these variables, we dichotomized the 4-point scale into strongly disagree/disagree = 0 and agree/strongly agree = 1 for each outcome. Witnessing bullying was a dichotomous outcome, coded 1 (*witnessed bullying in last month*) or 0 (*not witnessed*). For all outcome variables, we fit logistic hierarchical models and the results are reported in terms of covariate adjusted odds ratios.

Variables included at level-1 were: whether the participant was a student vs. staff member, whether the participant supported aggressive retaliation, and whether the participant reported being a victim of bullying. All variables at level-1 were tested for randomly varying slopes (Raudenbush & Bryk, 2002). School-level factors were modeled for the intercept at level-2 and included whether the school was urban, whether the school was an elementary school, the student-teacher ratio, the percent of students who reported having been victimized by indirect aggression, the percent of students and staff who reported that bullies are popular, the percent of students and staff who reported that bullies are disliked, and the parent ratings of the outcome variable (e.g., for safety and belonging, parents' average rating of safety and belonging at the school is included; for witnessing bullying, the percent of parents who responded that they believed their child had witnessed bullying).

We also tested cross-level effects between the level-1 indicator of whether the respondent was a student vs. staff member, and select school-level variables to examine the moderated effects of school context on student and staff discrepancies. Based on the aforementioned research, we focused on select school contextual factors in these interactions, including elementary schools, the normative belief that bullies are popular and disliked, and the parent ratings of the outcome variable. These interactions were tested and included in all three final models. As suggested by Raudenbush and Bryk (2002), the HLM models were built one variable and level at a time in order to be sensitive to potential concerns regarding collinearity as well as to ensure the stability of the findings with and without non-significant effects.

## Results

### Individual- and School-Level Influences on Safety

Staff were 4.6 times as likely to report feeling safe, as compared to students (adjusted odds ratio [AOR] = 4.56, $p < .001$; see Table 4). Students and staff who supported aggressive retaliation (AOR = 0.90, $p < .01$) and those who had been victimized (AOR = 0.56, $p < .001$) were less likely to report feeling safe. Students and staff in elementary schools were nearly twice as likely to report feeling safe than those in middle and high schools (AOR = 1.91, $p < .01$). For every 1% increase in the (school-level) rate of indirect victimization, there was a 3% decrease in the odds of respondents feeling safe (AOR = 0.97, $p < .001$). The (school-

level) norm that bullies were disliked was positively associated with students' and staff safety (AOR = 1.04, $p < .001$). Neither the urbanicity of the school, student-teacher ratio, the norm that bullies are popular, nor the parent ratings of safety were significantly associated with student and staff perceptions of safety.

To further explore the discrepancies between staff and student perceptions of safety, we modeled interactions between the respondent (student vs. staff) and the five school-level variables (i.e., elementary school, perception that bullies are popular, perception that bullies are disliked, and parent ratings of the outcome variable, which in this case was safety). There was a significant interaction between the school-level general belief that bullies are popular and staff vs. student status (AOR = 1.04, $p = .02$), such that there was a greater discrepancy between students and teachers in their likelihood of feeling safe when a greater proportion of students and staff felt that bullies were popular. None of the other interactions were statistically significant (see Table 4).

### Individual- and School-Level Influences on Belonging

Staff were 2.4 times as likely to report that they felt a sense of belonging than students (AOR = 2.40, $p < .01$; see Table 4). Students and staff who supported aggressive retaliation (AOR = 0.89, $p < .01$) and those who had been victimized (AOR = 0.66, $p < .01$) were less likely to report a sense of belonging. Consistent with the findings for safety, elementary school, the rate of indirect victimization, and the norm that bullies are disliked were significant school-level predictors of belonging. Specifically, students and staff in elementary schools were more likely to report a sense of belonging than those in middle and high schools (AOR = 2.20, $p < .01$). In schools with a higher rate of indirect victimization, students and staff were less likely to report a sense of belonging (AOR = 0.97, $p < .01$). Finally, in schools where there was a general perception that bullies were disliked, students and staff were more likely to report a sense of belonging (AOR = 1.03, $p < .001$). Like in the safety model, the school-level urbanicity, the general belief that bullies are popular, and parent ratings of belonging were not related to student and staff ratings of belonging. Further, none of the other school-level variables were significantly related to belonging. Although we modeled the interactions between staff vs. student status and the five school-level variables, none of the interactions reached statistical significance (see Table 4).

### Individual- and School-Level Influences on Witnessing Bullying

Staff were nearly 5.7 times as likely as students to report witnessing bullying (AOR = 5.67, $p < .01$; see Table 4). Students and staff who supported aggressive retaliation were more likely to report witnessing bullying (AOR = 1.24, $p < .01$). Students and staff who had been victimized were nearly 3.8 times as likely to report witnessing bullying (AOR = 3.75, $p < .01$). The higher the student-teacher ratio, the greater the odds of witnessing bullying (AOR = 1.04, $p = .01$). Similarly, for every 1% increase in the (school-level) rate of indirect victimization, the odds of witnessing bullying increased 2% (AOR = 1.02, $p < .01$). Neither urbanicity nor the perception that bullies are disliked was associated with witnessing bullying. Elementary schools (AOR = 0.74, $p < .10$) and the perception of bullies as popular (AOR = 0.99, $p < .10$) were marginally associated with witnessing bullying. Finally, the school-level parents' report of their child witnessing bullying was marginally associated with the participants' report of witnessing bullying (AOR = 1.003, $p < .10$).

Finally, the same five school-level variables were modeled as cross-level interactions between staff vs. student status. There was a significant interaction between elementary school and student vs. staff respondent (AOR = 0.37, $p = .03$), such that in elementary schools, the discrepancy between student and staff reports of witnessing bullying was smaller than in middle and high schools (see Table 4 and Figure 1 for witnessing). There

was also a significant interaction between the school-level rate of indirect victimization and staff vs. student status (AOR = 1.03, $p = .04$), such that there was a greater discrepancy between students and teachers in their likelihood of witnessing bullying in schools where there were higher overall rates of indirect victimization (see Figure 2).

## Discussion

The aim of the current study was to develop a better understanding of how school climate and bullying are perceived by students, parents, and staff, and the potential influence of school contextual factors on these perceptions. The findings suggest that there are important discrepancies between adults and youth, and that school contextual factors are associated with perceptions of safety, belonging, and witnessing bullying. The results across all three sets of multilevel models generally suggested that all of the individual covariates explored (i.e., teacher vs. student, victim, retaliation) were significantly associated with the three outcomes. We also found that aspects of the school-level bullying climate (e.g., rate of indirect victimization, perceptions of bullies as disliked) were associated with individual perceptions of safety, belonging, and reports of witnessing bullying.

### Individual-level Predictors of Safety and Belongingness

Both students and staff who had been the victim of bullying were less likely to report feelings of belongingness and safety, yet were more likely to witness bullying. These effects on belonging and safety are consistent with research indicating that being the victim of bullying is associated with a more negative view of the school climate (Brockenbrough, Cornell, & Loper, 2002; O'Brennan, Bradshaw, & Sawyer, 2009) and highlight the importance of addressing victimization among both students and staff. Although the effects for witnessing bullying are less clear, it is possible that individuals who are victimized are more sensitive to aggressive behaviors and, therefore, more likely to report witnessing bullying (Toblin, Schwartz, Gorman, & Abou-ezzeddine, 2005).

For both students and staff, attitudes supporting aggressive retaliation were inversely associated with belongingness and safety, but associated with a greater risk for witnessing bullying. One might expect that children who condone retaliation would feel safer, however, this was not the case. In fact, these findings suggest that retaliatory attitudes may be indicative of an underlying defensiveness that may be driven in part by feelings of physical insecurity (Huesmann et al., 1992). Social learning theory (Bandura, 1978) suggests that exposure to violence, such as bullying, influences ones beliefs about the acceptability of aggressive retaliation (Bradshaw & Garbarino, 2004). Alternatively, individuals who condone retaliation may self-select into social relationships and contexts characterized by higher levels of aggression, thereby increasing their likelihood of witnessing bullying (Bradshaw et al., 2009).

**Discrepancies among students, teachers, and parents—**Staff were more likely to report feeling safe and a sense of belonging than students; however, staff also were considerably more likely to report witnessing bullying than students. On one hand, it could be that staff report witnessing more bullying because they are in a role of supervision where they are expected to intervene with aggressive behaviors. It is also likely that the bullying staff witness is between students, and therefore witnessing this bullying does not influence their own feelings of safety and belongingness in the school environment.

Our findings also revealed that parents' perceptions of safety and belonging were not significantly related to student and staff reports of these outcomes. Notably, there was a high correlation between parents' perceptions of safety and belonging ($r = .91$, $p < .01$), suggesting that parents may not discriminate between feeling safe and the feelings of

belonging the way children and staff did. On the other hand, parents' reports of their child witnessing bullying were associated with an increase in the odds of students and staff witnessing bullying. It could be that in schools with high rates of bullying, children are more likely to communicate this to their parents.

## School-level Predictors of Safety, Belongingness, and Witnessing

We observed that a higher student-teacher ratio was associated with a greater likelihood of witnessing bullying. Furthermore, both students and staff in elementary schools were more likely to report feeling safe and a sense of belonging than those in secondary schools. Taken together these results provide additional support that school level and student-teacher ratio are related to bullying and perceptions of the school. Additional research is needed to better understand how these school-level characteristics shape the quality of student-teacher relationships or other aspects of the school climate (Bradshaw et al., 2009). Surprisingly, we did not find that students and staff in urban schools reported lower levels of belongingness, safety, or greater levels of witnessing bullying (Elliot et al., 1996). Additional research is needed to better understand the association among urbanicity, bullying, and school climate.

A novel aspect of this study was the focus on the shared beliefs about bullies, which is an important aspect of the climate of bullying (Unnever & Cornell, 2003). In schools where the bullies were generally disliked, students and staff were more likely to report feelings of safety and belongingness to their school community. Moreover, in schools where bullies were perceived as popular, students and staff were less likely to report witnessing bullying. Studies have shown that indirect forms of bullying are associated with increased popularity (Cillessen & Rose, 2005; Dijkstra, Lindenberg, & Veenstra, 2008), which suggests that the normative beliefs regarding bullies and their social status are important targets for preventive interventions.

The form of bullying may also influence these perceptions of bullies. Whereas prior studies have shown that students feel less safe in schools with high rates of direct bullying, there has been less research on how high rates of indirect victimization influence students' perceptions of the school (Goldstein et al., 2008). Our results extend prior work on direct victimization to suggest that high rates of indirect victimization can also signal to students and staff that the school is less safe and has a poorer climate among both students and staff. It also appears that the prevalence of indirect victimization may be associated with greater discrepancies between staff and students. More specifically, the discrepancy between staff and students' reports of witnessing bullying was greater in secondary schools than elementary schools. The relationship between staff and students is different in elementary school, as research suggests that elementary school staff are generally more emotionally supportive, warm, and positive than those in secondary schools (Feldlaufer, Midgley, & Eccles, 1988). Perhaps this suggests that secondary schools need to emphasize to both students and staff that indirect victimization is considered bullying, and to ensure that students and staff openly discuss bullying issues.

## Study Limitations

Although we were fortunate to have access to multi-informant data on bullying and perceptions of the schools, the nature of the data collection process precluded administration of multi-item measures of safety, belonging, or perceptions of bullies. Relatively few demographic variables were assessed in order to ensure anonymity; the availability of other variables, such as parents' relationship to the child (e.g., mother vs. father, married vs. single) and staff members' form of victimization experienced may further inform these findings. The parent participation rate was lower than the students and staff; therefore, we are cautious in our interpretation of the findings for parents. Additional research is needed to

further examine parents' perceptions of bullying and school climate, as they have been largely overlooked in the empirical literature. The data are cross-sectional, and thus we cannot determine causality. It is also unknown the extent to which these findings will generalize to other samples.

### Implications for Future Research and Prevention

This study provides support for the importance of examining how a climate that is supportive of bullying relates to discrepancies in student, parent, and staff perceptions of safety, belonging, and witnessing bullying. The findings regarding the discrepant views also have important implications for prevention and early intervention efforts. Specifically, universal prevention programs could aim to create a school climate where bullying and aggression are not supported (Olweus, 1997) or one where bullying is believed to be associated with being popular or liked, while ensuring that adults understand the potential impact of their own beliefs about bullies and aggressive retaliation. Moreover, given the potential discrepancy in beliefs about the school environment, it would be beneficial to include students, parents, and staff in school-based prevention efforts in order to increase communication and enhance engagement to prevent bullying. One such strategy may be to include parents in the typically teacher-led classroom meetings and class lessons, which are often included in bullying prevention programs (see Olweus, 1997).

These findings also illustrate the important influence of school contextual factors on students' risk for witnessing bullying and highlight the significance of normative beliefs about bullies and retaliation. Programs that aim to change the bullying climate by altering the social norms about bullying and providing students and staff with consistent antibullying messages hold the greatest promise (Baldry & Farrington, 2007; Olweus, 1997). Parents are also important members of the school community (Espelage & Swearer, 2008) and may be influential in shifting the norms about bullies and how children respond to bullying. In fact, a recent study suggested a link between the school climate and parents' willingness to contact the school when their child is victimized (Waasdorp et al., 2010). Therefore, schools are encouraged to actively involve parents in prevention efforts and increase communication with parents. Opening the lines of communication may help parents feel more comfortable contacting the school when their child is victimized or they have other concerns about their child's safety or witnessing bullying.

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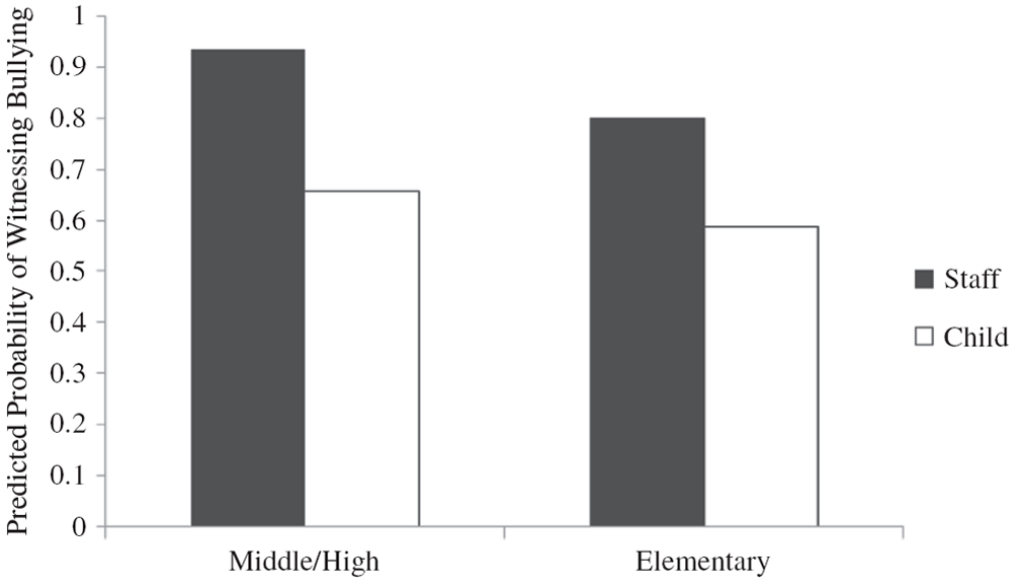


**Figure 1.**
Cross-level interaction between school type (elementary) and respondents' witnessing bullying. Staff were more likely than students to report witnessing bullying, however, this discrepancy was greater in middle and high schools than elementary schools.

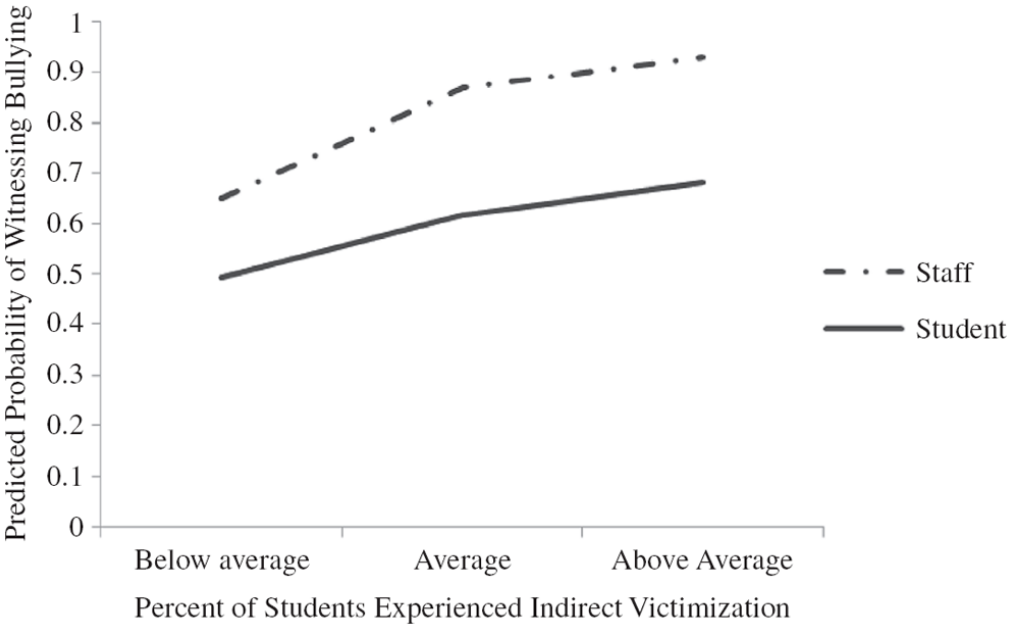


**Figure 2.**
Cross-level interaction between school-level rate of indirect victimization and respondents' witnessing bullying. Staff were more likely than students to report witnessing bullying, however, this discrepancy was greater in schools with higher rates of indirect victimization.

## Table 1

Student, Staff, Parent, and School Demographic Characteristics

| Characteristics | *N* (%) |
|---|---|
| *Students* (*N* = 11,674) | |
| Gender (Male) | 5898 (50.5) |
| Elementary School | 3634 (31.1) |
| Middle School | 5724 (49.0) |
| *Staff* (*N* = 1,027) | |
| Elementary School | 660 (64.3) |
| Middle School | 159 (15.5) |
| *Parents* (*N* = 960) | |
| Gender of Child (Male) | 498 (51.9) |
| Parent of Elementary School Student | 697 (72.6) |
| Parent of Middle School Student | 196 (20.4) |
| *School* (*N* = 44 schools) | |
| Urban | 19 (43.2) |
| Student-Teacher Ratio[a] | 20.2 (2.5) |

[a]Numbers represent means with standard deviations in parentheses.

**Table 2**

Correlations among Individual-Level Variables

| Staff- Level Factors | Belongingness | Safe | Witness | Retaliation | Victim | Staff |
|---|---|---|---|---|---|---|
| School | 3.18 | | | | | |
| Belongingness[a] | (0.91) | | | | | |
| Feel Safe[a] | .53* | 3.05 (0.90) | | | | |
| Witness Bullying[a] | −.07* | −.13* | .63 (0.48) | | | |
| Support Retaliation | −.11* | −.17* | .09* | 2.54 (1.17) | | |
| Victim of Bullying | −.08* | −.12* | .29* | −.01 | .67 (0.47) | |
| Staff (1) vs. Student (0) | .08* | .14* | .10* | −.26* | −.03* | .08 (0.27) |

*Note.* Means and standard deviations (reported in parentheses) are displayed on the diagonal

[a]These variables are outcomes and were not included in the same multilevel models.

*$p < .01$

**Table 3**

Correlations among School-Level Covariates (N = 44 schools).

| School-Level Factors | S-T Ratio | Urban | Elementary | Indirect | Popular | Disliked | Belong | Witnessing | Safety |
|---|---|---|---|---|---|---|---|---|---|
| Student-Teacher (S-T) Ratio | 20.20 (2.55) | | | | | | | | |
| Urban School | −.39* | .43 (0.50) | | | | | | | |
| Elementary School | −.31* | −.09 | .68 (0.47) | | | | | | |
| Rate of Indirect Victimization | .04 | .12 | .23 | 40.8 (8.19) | | | | | |
| Bullies Are Popular | .39* | .07 | −.75* | .17 | 36.04 (13.04) | | | | |
| Bullies Are Disliked | .21 | .00 | −.18 | .52* | .55* | 51.9 (10.19) | | | |
| Parent-Rating of Belonging[a] | −.30 | .02 | .54* | .10 | −.49* | −.10 | 3.38 (0.28) | | |
| Parent-Rating of Child's Witnessing Bullying[a] | .23 | −.08 | −.52* | .11 | .49* | .16 | −.61* | 36.04 (17.13) | |
| Parents Rating of Safety[a] | −.32* | −.02 | .59* | .10 | −.58* | −.18 | .91* | −.55* | 3.27 (0.34) |

*Note*. Means and standard deviations (reported in parentheses) are displayed on the diagonal. Though correlation between elementary and popular are elevated VIF and tolerance diagnostics did not indicate collinearity concerns.

* $p < .05$.

[a] Parent ratings of their child's belonging, witnessing, and safety were not included in the same multi-level models. Each parent variable was included in the model with the corresponding student and staff outcome.

**Table 4**

Multilevel Results Predicting Student and Staff Reports of Safety, Belonging, and Witnessing Bullying

| Predictor Variables | Safety[A] | | Belonging[A] | | Witnessing[A] | |
|---|---|---|---|---|---|---|
| | Odds Ratio | Confidence Interval | Odds Ratio | Confidence Interval | Odds Ratio | Confidence Interval |
| **Individual Level** | | | | | | |
| Retaliation | 0.88** | 0.83–0.94 | 0.89** | 0.81–0.97 | 1.24*** | 1.19–1.30 |
| Victim of Bullying[a] | 0.55*** | 0.49–0.62 | 0.66*** | 0.61–0.72 | 3.75*** | 3.51–4.01 |
| Staff[a] | 4.30*** | 2.22–8.32 | 2.40** | 1.37–4.18 | 5.67*** | 2.45–13.12 |
| **School Level** | | | | | | |
| S-T Ratio | 1.00 | 0.95–1.05 | 0.98 | 0.94–1.02 | 1.04* | 1.01–1.08 |
| Urban[a] | 0.86 | 0.68–1.05 | 0.84 | 0.68–1.05 | 1.03 | 0.90–1.18 |
| Elementary[a] | 1.89** | 1.17–3.05 | 2.20** | 1.27–3.81 | 0.74[b] | 0.53–1.03 |
| Rate of Indirect Victimization | 0.97** | 0.96–0.99 | 0.97** | 0.95–0.98 | 1.02** | 1.01–1.03 |
| Bullies Are Popular[a] | 1.00 | 0.98–1.02 | 1.01 | 0.99–1.03 | 0.99[b] | 0.98–1.00 |
| Bullies Are Disliked[a] | 1.04*** | 1.02–1.05 | 1.03*** | 1.02–1.05 | 1.00 | 0.99–1.00 |
| Parent Perception of Outcome Variable | 1.03 | 0.78–1.36 | 1.08 | 0.74–1.57 | 1.00[b] | 1.00–1.01 |
| **Cross-Level Interactions** | | | | | | |
| Elementary X Staff | 1.33 | 0.49–.3.61 | 0.90 | 0.44–.186 | 0.37* | 0.15–0.90 |
| Indirect X Staff | 0.99 | 0.93–1.07 | 1.03 | 0.99–1.07 | 1.03* | 1.00–1.06 |
| Popular X Staff | 1.05** | 1.01–1.10 | 1.00 | 0.97–1.03 | 0.99 | 0.96–1.02 |
| Disliked X Staff | 0.99 | 0.94–1.04 | 1.00 | 0.97–1.03 | 1.00 | 0.97–1.03 |
| Parent Perception of Outcome X Staff | 1.99 | 0.57–6.67 | 0.80 | 0.47–1.37 | 1.01 | 1.01–1.02 |
| Proportion of between school variance explained | 67.9% | | 54.1% | | 81.4% | |

*Note*. S-T Ratio indicates student to teacher ratio. Indirect indicates the percent of students in the school who reported that they were the victim of one or more forms of indirect aggression. Popular and disliked indicates the percent of staff and students who reported that bullies were popular or disliked.

[a]Indicates a dichotomous variable.

[b]Indicates marginally significant at $p<.10$.

*$p < .05$

** $p < .01$

*** $p < .001$.