Multiple informants in the assessment of psychological, behavioral, and academic correlates of bullying and victimization in middle school

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Abstract

The present study assessed agreement between student self-report and teacher ratings of bullying and victimization relative to psychological, behavioral, and academic correlates. Middle school students (N = 1442) and teachers completed surveys evaluating peer relationships and psychosocial adjustment. Analyses of variance and logistic regressions were used to examine rater agreement on bullying/victimization and adjustment among groups (bullies, victims, bully/victims, and uninvolved) identified by rater (student self-report only, teacher-report only, concordant reports, and controversial reports). Concordant and controversial groups had among the greatest psychosocial and academic difficulties. Student learning difficulties and moodiness interacted with teacher reports of bullying and victimization, respectively, with agreement between teacher and student self reports of bullying greater at higher levels of learning problems and agreement for victimization lower at higher levels of moodiness. The results indicate biases in rater perspective of student behavior and continue to support the need for multiple raters of student functioning. © 2008 The Association for Professionals in Services for Adolescents. Published by Elsevier Ltd. All rights reserved.

Keywords: Bullying; Victimization; Peer aggression; Multiple informants; Student adjustment; Adolescent development

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Introduction

Bullying has been recognized worldwide as a prevalent and serious problem in schools that affects the psychosocial, health, and academic outcomes for a substantial portion of school children (Due et al., 2005; Nansel, Craig, Overpeck, Saluja, & Ruan, 2004; Smith-Khuri et al., 2004). Estimates of bullying problems, either experienced as the perpetrator or the victim, vary widely across nations and studies, with percentages ranging from 15–46% (Batsche & Knoff, 1994; Boulton & Underwood, 1992; Nansel et al., 2001; Olweus, 1997; Woods & Wolke, 2003). The highest rates were found for middle school students in grades sixth through eighth.

Unfortunately, the level of agreement between informants on the occurrence of bullying and victimization has been low \((r = .20 – .50)\) (Ladd & Kochenderfer-Ladd, 2002; Leff, Kupersmidt, Patterson, & Power, 1999); this is similar to student–teacher concordance on most issues \((r = .20)\) (Achenbach, 2006). Students fail to report almost one-half of all bullying incidents to school personnel (Fekkes, Pijpers, & Verloove-Vanhorick, 2005; Hunter, Boyle, & Warden, 2004). Correlations between peer and self reports \((.20 – .40)\) and peer and teacher reports \((.40 – .50)\) suggest there is no gold standard informant (Ladd & Kochenderfer-Ladd, 2002). In addition, there have been inconsistent associations between negative behavioral, academic, and psychological factors and bullying behaviors and being victimized. One primary reason for the variability in ratings is the difference in unique perspectives (varying knowledge about peer relationships, varying time observing the youth, varying saliency of the behavior to the teacher and student, personal biases/interpretations in identifying and reporting bullying, social desirability, and cognitive developmental limitations of youths) between those separate informants who observe child behavior, whether peers, teachers, or students themselves (Graham & Juvonen, 1998; Graham, Bellmore, & Juvonen, 2003; Leff et al., 1999; Liau, Flannery, & Quinn-Leering, 2004; Peets & Kikas, 2006), suggesting that caution must be exercised when choosing to use one rater’s viewpoint over another. Researchers have emphasized the importance of using assessments by multiple raters (e.g., Achenbach, 2006; Holmbeck et al., 2003), highlighting that no single rater’s assessment of bullying or victimization (i.e., teacher vs. student) is a better estimate than another (Ladd & Kochenderfer-Ladd, 2002). Too often students and teachers do not see eye to eye on the purpose, intentions, and definition of behavior because they are each most likely to report behaviors or incidents that are salient to them (Karver, 2006; Peets & Kikas, 2006). It is believed that what makes a student’s behavior salient to an informant may depend upon psychological, behavioral, and academic variables. Self reports may be more likely to tap into intrapersonal difficulties and psychological maladjustment, while teacher reports may tap into more observable academic and behavioral difficulties (Graham & Juvonen, 1998; Graham, Bellmore, & Juvonen, 2003). Leff et al. (1999) found that the simple correlations between teacher and peer reports for bullying \((r = .42)\) were greater than for victimization \((r = .28)\). Perhaps this should not be surprising as it would be apparently easier to agree on bullying, an observable behavior, whereas victimization includes an internalized component of whether or not the individual feels victimized and thus would be harder to judge from an observer standpoint.

Psychological correlates

Meta-analyses have found victimization to be correlated with internalizing problems, such as depression, anxiety, loneliness, and low self-esteem (Hawker & Boulton, 2000; Card, 2003).
Victims are more anxious, depressed, withdrawn, and have lower self-esteem in comparison with those who bully (Graham, Bellmore, & Mize, 2006; Haynie et al., 2001). Students who are victims often are isolated, shy, and uninvolved or uninterested in associating with others (Hazler, 1996). Bullies are generally more easily angered than other students and are more likely to use force in response to their anger (Bosworth, Espelage, & Simon, 1999). Bullies also tend to have higher levels of depressive symptoms than students not involved in bullying (Haynie et al., 2001; Nansel et al., 2001). Bully/victims, those who both engage in and receive bullying, also report higher levels of depressive symptoms and loneliness than other students (Nansel et al., 2001). In fact, the bully/victims have the poorest psychosocial profile, in which their psychosocial maladjustment, peer relationships, and health problems were similar to victims, and their school bonding and substance use were similar to bullies (Graham et al., 2006; Nansel et al., 2001).

Nansel et al. (2004) demonstrated that victims and bully/victims have poorer emotional adjustment compared with bullies and those uninvolved in both bullying and victimization. However, other researchers found that bullies exhibit comparable levels of depression with victims (Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000). Incidentally, both studies utilized student self-report for measuring involvement in bullying and victimization and related internalizing difficulties. Several researchers (Graham et al., 2003; Liau et al., 2004) have identified a pattern of associations between student self reports of victimization and related psychological adjustment correlates.

**Behavioral correlates**

Studies have consistently shown bullying to be highly related to disruptive behaviors (Prinstein, Boergers, & Vernberg, 2001). Identification as a school bully has served as a marker for serious violent behaviors including weapon carrying, frequent fighting, and frequent violence-related injuries (Nansel et al., 2001). Additionally, behavioral problems including hyperactivity, conduct problems, and peer relationship difficulties along with engagement in few prosocial behaviors, are highest among perpetrators of bullying (Juvonen, Graham, & Schuster, 2003; Wolke, Woods, Bloomfield, & Karstadt, 2000). Bullies and their friends engage in more deviant and rule-breaking behaviors and have greater acceptance of misconduct than other students (Haynie et al., 2001; Nansel et al., 2001). Widespread theories affirm that aggressive students are often poor at reading social cues and possess limited accuracy in evaluating the behavior of others (Crick & Dodge, 1994). Conversely, investigators (Rose, Swenson, & Waller, 2004) recently demonstrated that many bullies use skilled forms of manipulation to exert their control over others. Both sets of researchers utilized multiple raters in their assessments, suggesting that a more comprehensive view of bullies and victims can be achieved by utilizing multiple sources of information.

Victims also report more behavioral misconduct, aggression, delinquency, and substance use, and acceptance of misconduct than students uninvolved in bullying, although not to the same degree as bullies (Card, 2003; Haynie et al., 2001; Sullivan, Farrell, & Kliewer, 2006). Student victims, instead, tend to have more interpersonal difficulties and poorer social skills than other students (Haynie et al., 2001). Bully/victims were found to have the greatest behavioral misconduct, including cigarette and alcohol use and truancy, and levels of verbal and physical aggression compared with bullies, victims, and uninvolved students (Haynie et al., 2001; Nansel et al., 2001; Solberg & Olweus, 2003).
Boxer, Musher-Eizenman, Dubow, Danner, and Heretick (2006) suggest that teachers may be most likely to identify students with aggression, especially beyond elementary school, because the behavior is perceived as more serious to teachers. In addition, deviations from what teachers may view as appropriate classroom behavior, such as inattention and engaging in distracting behavior, may increase the likelihood that teachers recognize students’ general problematic behavior (Liau et al., 2004). Previous studies have found that teacher reports are useful because their ratings of aggression tend to be stable over time and correlate significantly with other informants who observe aggressive youths (Elliott, Busse, & Gresham, 1993; Peets & Kikas, 2006). Liau et al. (2004) found in their study of students who threaten others (i.e., threateners) that the level of agreement between teacher- and student-reported threatening behavior was related to the predictability of behavioral correlates (i.e., aggression, delinquent behavior, and peer rejection). Concordance between teacher and student report for threatening behavior was highest for students with the lowest levels of associated difficulties and also for those with the highest levels of associated difficulties. Interestingly, when only teachers identified threatening behavior, student reports of correlates were lower than teacher reports of correlates. In the reverse situation, when only students identified threatening behavior, teacher reports of correlates were lower than student reports.

Academic correlates

Researchers have documented that children who are less accepted and/or victimized by peers are at risk for academic failure as victimization leads to school disengagement and avoidance, truancy, and lowered academic participation, often to avoid being bullied (Buhs, Ladd, & Herald, 2006; Juvonen, Nishina, & Graham, 2000; Kochenderfer & Ladd, 1996a, 1996b; Parker & Asher, 1987). School avoidance generally also has a negative association with students’ motivation and interest in school (Wentzel, 1998). Similarly, students identified as bullies are typically disengaged from schoolwork, and have poorer academic outcomes despite average intellectual abilities (Graham et al., 2006; Haynie et al., 2001; Nansel, Haynie, & Simons-Morton, 2003; Nansel et al., 2001; Simons-Morton, Crump, Haynie, & Saylor, 1999). Although both bullies and victims experience lower levels of school engagement and poorer academic outcomes than their socially adjusted peers, the pathways to these outcomes vary by bullying status with psychological maladjustment and self-blame serving as mediators for victims and perceived fairness of school rules mediating the relationship for bullies (Graham et al., 2006). Considering the aforementioned information, it is no surprise that students experiencing both bullying and victimization exhibit the poorest academic performance (Graham, et al., 2006; Juvonen et al., 2000; McCall, Beach, & Lau, 2000; Nansel et al., 2001; Schwartz, Chang, & Farver, 2001; Schwartz & Gorman, 2003).

It is believed that academic difficulties may play a special role in identification of bullying and victimization by teachers. When a teacher is reporting on the behavior of a student, the teacher is likely to be influenced by his/her accessible knowledge of that student (Renk, 2005). For example, prior knowledge of academic or other difficulties can create a negative expectation, perception, or stereotype for a teacher that a student may experience problems in other areas as well (Harris, 1991; Snyder & Uranowitz, 1978). In addition, there is some evidence, albeit, not strong, that teacher expectancies can lead to teacher behavior that creates a “self-fulfilling prophecy” (Jussim & Harber, 2005; Rosenthal & Jacobson, 1968) — that is, if a teacher believes a youth has...
problems, the teacher may treat the youth in a manner that increases the likelihood that the youth may demonstrate problematic behavior. This is important considering that teacher identification and response to bullying behaviors and associated difficulties has been found to be related to the degree to which teachers are empathetic toward victims of bullying, perceive bullying to be a serious problem, and feel efficacious in dealing with bullying (Yoon, 2004). One would suspect that the levels of academic correlates salient to classroom behaviors, such as learning difficulties and measures of achievement, would be related to the degree of concordance between teacher and student reports of bullying and victimization.

Purpose of the present study

The present study is the first examining psychological, behavioral, and academic correlates of middle school-age adolescents and their relationship to agreement on identification of bullies and victims through student self- and teacher-report. Equally unique to this study is the dual-rater (teacher and student) examination of both bullying and victimization along with several relevant psychological, behavioral, and academic factors (depression, anxiety, moodiness, anger, acting-out, discipline referrals, and achievement/learning difficulties) that are believed based on previous literature to be among the strongest variables influencing observations of peer relationships at school.

Methods

Participants

A total of 1442 students \( (n = 715 \text{ boys and 655 girls; } n = 475 \text{ 6th, 468 7th, and 431 8th graders}) \) and their teachers \( (N = 57) \) from eleven middle schools in a rural/suburban school district (approximately 55,000 students) were randomly recruited by classroom to complete surveys. The majority of the sample was White/Caucasian (75.8%), while 10.0% was Latino (a)/Hispanic, 3.4% Black/African-American, 2.3% Asian/Indian, and 8.5% self-identified as other. Free and reduced lunch status across the 11 participant schools ranged from 23% to 66%. Ethical approval for the study was obtained from the University of South Florida Institutional Review Board and from the participant district’s departments of Student Services and Research and Evaluation.

Measures

Bullying and victimization

The Revised Olweus Bully/Victim Questionnaire (Olweus, 1996) is a student self-report scale of bullying and victimization. Students indicated that they have bullied others or been victimized “2–3 times a month” or more on either a bullying or victimization global item (score = 3–5). Bully/victims indicated a score of 3–5 on both items. Comparison uninvolved students are those who responded that they have been bullied/bullied others “only once or twice” or less (score = 1–2). Solberg and Olweus (2003) demonstrated the validity and reliability of the global items and cut
off scores in differentiating between types of students involved in bullying and victimization. Corresponding teacher-reported assessments were also conducted using the same measure modified to ask each teacher about each student’s involvement in bullying/victimization.

**Depression**

The *Center for Epidemiological Studies-Depression Scale* (CES-D; Radloff, 1977) is a 20-item youth-report scale (Cronbach’s alpha = .86) indicating self-reported depressive symptoms (a psychological correlate). The CES-D scale has shown adequate ability to identify youths with depressive symptoms and related psychosocial difficulties (Rushton, Forcier, & Schectman, 2002).

**Anxiety**

The *State/Trait Anxiety Inventory for Children-Trait Anxiety* (STAIC; Spielberger, 1973) is a 20-item youth-report questionnaire that assesses consistent and cross-situational levels of anxiety (psychological correlate; Cronbach’s alpha = .93). The STAIC has well-established convergent and discriminant validity (e.g., Carey, Faulstich, & Carey, 1994).

**Anger out**

The *State/Trait Anger Expression Inventory for Children and Adolescents* (STAXI-C/A; Spielberger, Jacobs, Brunner, & Lunsford, 2002) is a 53-item youth-report survey that assesses anger (a behavioral correlate). The 6-item Anger Out scale was used (Cronbach’s alpha = .77) as del Barrio, Aluja, and Spielberger (2004) demonstrated convergent and discriminant validity on measures of aggressiveness and socialization in children and adolescents.

**Acting-out, moodiness, and learning difficulties**

The *AML Behavior Rating Scale – Revised (AML-R)* is a 12-item teacher-report survey (Cowen, Pederson, Babigian, Izzo, & Trost, 1973) used to screen for student maladjustment and is comprised of 3 subscales: moodiness (psychological correlate; Cronbach’s alpha = .87), acting-out (behavioral correlate; Cronbach’s alpha = .91), and learning difficulties (academic correlate; Cronbach’s alpha = .93). The reliability and validity of the AML-R has been previously demonstrated (e.g., Gillespie & Durlak, 1995).

**Discipline referrals**

The number of disciplinary reports completed by school staff for the 2002–2003 academic year was obtained for each student (behavioral correlate). Irvin, Tobin, Sprague, Sugai, and Vincent (2004) demonstrate the reliability and validity of school discipline referrals.

**Academic achievement**

The standardized Florida Comprehensive Achievement Tests (FCATs) are a statewide measure of academic achievement in reading, writing, and mathematics. Internal reliabilities for the total test battery range from .86 to .91 for grades 4 through 10 (Florida Department of Education, 2002). Validity of the FCAT scales is determined by scoring directors and Florida Department of Education representatives who evaluate scores to be sure they fall within a range of accuracy.
**Student grades**

Grades, defined on a 5-point scale ($A = 4$, $B = 3$, $C = 2$, $D = 1$, $F = 0$), were obtained as another measure of academic achievement. Grades were aggregated and averaged for each student (i.e., grade point average, GPA).

**Procedure**

As part of a school district mandated needs assessment, students were administered survey packets within randomly selected classrooms by school psychologists, guidance counselors, and other school approved project assistants during the second half of the school year. Student and teacher surveys were coded to maintain confidentiality. Consent procedures were determined by the school administration to be consistent with district policy, which consisted of sending a letter to students’ guardians informing them of the survey and inviting them to decline their child’s participation by contacting the district.

Participants were classified into groups based on bully/victimization status from the Revised Olweus Bully/Victim Questionnaire (bully, victim, and bully/victim) and rater agreement (student self-report only, teacher-report only, concordant, and controversial; see Table 1). Student self-reported groups (bully, victim, and bully/victim) consisted of those who met criteria on only student items. Teacher-reported groups (bully, victim, and bully/victim) were those who met criteria on only teacher items. Concordant groups (bully, victim, and bully/victim) consisted of students who met criteria on both student self- and teacher reports. Students for whom teachers and students did not agree on type of bullying/victimization status were categorized as controversial. Students who did not meet any criteria were categorized as uninvolved comparison.

**Results**

**Agreement on bullying and victimization**

Cohen’s kappas (Cohen, 1960) were used to assess the degree of agreement between teacher and student self ratings of bullies, victims, and bully/victims. For bully (kappa = .13) and victim (kappa = .12) status, the level of agreement was minimal. Agreement for bully/victim status was the lowest (kappa = .05). In general, teachers identified more bullies and bully/victims than students did through self-report (see Table 1), while more students perceived themselves as victims than teachers did ($\chi^2 [5, N = 479] = 123.02, p = .00$). To further assess teacher and student self reports, the controversial group was examined. The largest portion of the group (36%) consisted of students rated as bully/victims by teachers but only as victims by self-report. The second largest portion (34%) consisted of students rated as bully/victims by teachers but only as bullies by

<table>
<thead>
<tr>
<th>Bullying and victimization group sizes by rater.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student self-reported</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>Bully</td>
</tr>
<tr>
<td>Victim</td>
</tr>
<tr>
<td>Bully/victim</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
self-report. Finally, 18% consisted of teacher-reported bullies but student self-reported victims. Results suggest that the majority of the students in this group viewed themselves as victims, while teachers viewed them as involved in bullying others.

**Correlate comparisons by reporter-specific bullying group**

One-way analyses of variance (ANOVAs) were performed to determine whether significant differences were present between bullying/victimization classification by reporter group for each psychological, behavioral, and academic correlate (see Tables 2-4). Tukey’s Honestly Significant Differences (HSD) post hoc tests revealed significant mean differences among the eleven rater categories. Consistent with expectations, victims had greater levels of psychological distress than bullies, with student self-reported victims exhibiting greater rates on self-reported measures (depression, $F(10, 1341) = 11.40$, $p < .001$, and anxiety, $F(10, 1241) = 9.18$, $p < .001$) while teacher-reported victims experienced greater teacher-rated levels of psychological stress (moodiness, $F(10, 1431) = 39.58$, $p < .001$). Specifically, self-reported victims and the controversial group (which has many victims by self-report) had significantly higher levels of depression than uninvolved comparison students and teacher-reported bullies and victims. For the concordant categorizations of bullying/victimization on depression, means were elevated ($\text{effect sizes} = .15-.95$) but not significantly for some due to limited numbers of concordant cases. For ratings of anxiety, self-reported victims and controversial students had significantly higher levels of anxiety than the uninvolved comparison group. Student self-reported victims exhibited greater anxiety than any teacher-reported groups. Students in the teacher-rated, concordant, and controversial groups had significantly higher levels of moodiness than uninvolved students and those in self-reported bullying groups.

On the three behavioral variables, as expected, student self-reported bullying status was associated with higher levels of behavioral problems on self-reported measures while teacher-reported bullying status was associated with greater teacher-rated levels of behavior problems (see Table 3). Self-reported bullies, concordant bullies and bully/victims, teacher-reported bully/victims, and controversial students (which is almost all bully/victims by teacher-report) all had significantly greater difficulties on anger out than uninvolved comparison students ($F(10, 1425) = 24.08$, $p < .001$). Self-reported bullies exhibited more anger than self-reported victims and teacher-reported bullies and victims. Similarly, concordant bullies had significantly higher levels of self-reported anger than all victim groups and teacher-reported bullies. Teacher-reported and concordant bully and controversial groups reported greater levels of acting-out than self-reported bullies and victims and teacher-reported and concordant victim groups ($F(10, 1431) = 69.90$, $p < .001$). Similarly, teacher-reported and concordant bullies and bully/victims exhibited more discipline referrals than uninvolved comparison students and self- and teacher-reported victims ($F(10, 1431) = 18.85$, $p < .001$).

For academic correlates, as expected, teacher-reported and concordant bullies and bully/victims were most likely to experience learning difficulties ($F(10, 1431) = 24.12$, $p < .001$; see Table 4). For both FCAT reading ($F(10, 1392) = 6.05$, $p < .001$) and FCAT math scores ($F(10, 1394) = 8.06$, $p < .001$), comparison uninvolved students and student self-reported victims had significantly better FCAT scores than those in the teacher-reported bullying/victimization groups. Similarly, GPAs were lower for teacher-reported bullies and bully/victims and concordant bullies than for uninvolved students ($F(10, 1425) = 13.59$, $p < .001$). However, self- and teacher-reported victims had better grades than teacher-reported bully/victims and concordant bullies.
Table 2
Bullying group univariate tests for psychological correlates (depression, anxiety, and moodiness).

<table>
<thead>
<tr>
<th>Group</th>
<th>Depression</th>
<th>Anxiety</th>
<th>Moodiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison</td>
<td>790</td>
<td>350</td>
<td>440</td>
</tr>
<tr>
<td>Self-report bully</td>
<td>52</td>
<td>29</td>
<td>23</td>
</tr>
<tr>
<td>Self-report victim</td>
<td>89</td>
<td>50</td>
<td>39</td>
</tr>
<tr>
<td>Self-report bully/victim</td>
<td>8</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Teacher-report bully</td>
<td>102</td>
<td>61</td>
<td>41</td>
</tr>
<tr>
<td>Teacher-report victim</td>
<td>66</td>
<td>37</td>
<td>29</td>
</tr>
<tr>
<td>Teacher-report bully/victim</td>
<td>131</td>
<td>74</td>
<td>57</td>
</tr>
<tr>
<td>Concordant bully</td>
<td>16</td>
<td>9</td>
<td>7</td>
</tr>
<tr>
<td>Concordant victim</td>
<td>22</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>Concordant bully/victim</td>
<td>8</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Controversial</td>
<td>68</td>
<td>39</td>
<td>29</td>
</tr>
</tbody>
</table>

<sup>F</sup> values:  
- Comparison: $F(10, 1341) = 11.40, p < .001$  
- Self-report bully: $F(10, 1241) = 9.18, p < .001$  
- Self-report victim: $F(10, 1431) = 39.58, p < .001$  

<sup>Note</sup>. Tot. = total sample. Sig. = significance in Tukey’s HSD post hoc tests at $p < .005$ level (alpha adjusted for family wise error). Group means within correlate categories are significantly different from the first group with a matching superscript (e.g., controversial group is significantly different from comparison group on depression).
Table 3
Bullying group univariate tests for behavioral correlates (anger out, acting-out, referrals).

<table>
<thead>
<tr>
<th>Group</th>
<th>Anger out</th>
<th>Acting-out</th>
<th>Referrals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison</td>
<td>834</td>
<td>375</td>
<td>459</td>
</tr>
<tr>
<td>Self-report bully</td>
<td>57</td>
<td>32</td>
<td>25</td>
</tr>
<tr>
<td>Self-report victim</td>
<td>94</td>
<td>53</td>
<td>41</td>
</tr>
<tr>
<td>Self-report bully/victim</td>
<td>9</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Teacher-report bully</td>
<td>109</td>
<td>65</td>
<td>44</td>
</tr>
<tr>
<td>Teacher-report victim</td>
<td>72</td>
<td>40</td>
<td>32</td>
</tr>
<tr>
<td>Teacher-report bully/victim</td>
<td>136</td>
<td>78</td>
<td>58</td>
</tr>
<tr>
<td>Concordant bully</td>
<td>17</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Concordant victim</td>
<td>22</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>Concordant bully/victim</td>
<td>9</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Controversial</td>
<td>77</td>
<td>45</td>
<td>32</td>
</tr>
</tbody>
</table>

Note. Tot. = total sample. Sig. = significance in Tukey’s HSD post hoc tests at p < .005 level (alpha adjusted for family wise error). Group means within correlate categories are significantly different from the first group with a matching superscript (e.g., controversial group is significantly different from comparison group on anger out).
<table>
<thead>
<tr>
<th>Group</th>
<th>Learning difficulties</th>
<th>FCAT reading</th>
<th>FCAT math</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N tot.</td>
<td>N boys</td>
<td>N girls</td>
<td>M (SD)</td>
</tr>
</tbody>
</table>
| Comparison                    | 837    | 377   | 460     | 7.43 (3.55)
|                               |         |        |         |        | 815    | 370   | 445     | 1782.70 (271.78)
|                               |         |        |         |        |        |        |         |        | 814    | 369   | 445     | 1791.11 (194.28) |
|                               |         |        |         |        | 55     | 30    | 25      | 1750.56 (264.02)
|                               |         |        |         |        |        |        |         |        | 55     | 30    | 25      | 1758.33 (218.27)  |
|                               |         |        |         |        | 90     | 52    | 38      | 1789.26 (290.51)
|                               |         |        |         |        |        |        |         |        | 90     | 52    | 38      | 1792.33 (223.95)  |
|                               |         |        |         |        | 8      | 3     | 5       | 1800.13 (307.42)
|                               |         |        |         |        |        |        |         |        | 8      | 3     | 5       | 1690.13 (314.24)  |
| Self-report bully             | 57     | 32    | 25      | 8.53 (4.21)
|                               |         |        |         |        | 55     | 30    | 25      | 1750.56 (264.02)
|                               |         |        |         |        |        |        |         |        | 55     | 30    | 25      | 1758.33 (218.27)  |
| Self-report victim            | 95     | 54    | 41      | 7.81 (3.74)
|                               |         |        |         |        | 90     | 52    | 38      | 1789.26 (290.51)
|                               |         |        |         |        |        |        |         |        | 90     | 52    | 38      | 1792.33 (223.95)  |
| Self-report bully/victim      | 9      | 3     | 6       | 9.78 (4.84)
|                               |         |        |         |        | 8      | 3     | 5       | 1800.13 (307.42)
|                               |         |        |         |        |        |        |         |        | 8      | 3     | 5       | 1690.13 (314.24)  |
| Teacher-report bully          | 109    | 65    | 44      | 10.50 (3.87)
|                               |         |        |         |        | 108    | 64    | 43      | 1685.66 (264.76)
|                               |         |        |         |        |        |        |         |        | 107    | 64    | 43      | 1734.05 (230.09)  |
| Teacher-report victim         | 73     | 40    | 33      | 8.18 (4.04)
|                               |         |        |         |        | 72     | 40    | 32      | 1725.74 (284.23)
|                               |         |        |         |        |        |        |         |        | 73     | 40    | 33      | 1757.03 (200.00)  |
| Teacher-report bully/victim   | 136    | 78    | 58      | 11.67 (4.16)
|                               |         |        |         |        | 132    | 75    | 57      | 1620.14 (339.86)
|                               |         |        |         |        |        |        |         |        | 136    | 78    | 58      | 1649.70 (263.93)  |
| Concordant bully              | 17     | 10    | 7       | 10.76 (5.02)
|                               |         |        |         |        | 17     | 10    | 7       | 1851.29 (238.37)
|                               |         |        |         |        |        |        |         |        | 17     | 10    | 7       | 1829.59 (138.53)  |
| Concordant victim             | 23     | 20    | 3       | 10.90 (4.61)
|                               |         |        |         |        | 22     | 19    | 3       | 1697.91 (345.92)
|                               |         |        |         |        |        |        |         |        | 22     | 19    | 3       | 1765.64 (226.79)  |
| Concordant bully/victim       | 9      | 3     | 6       | 10.33 (3.64)
|                               |         |        |         |        | 9      | 3     | 6       | 1467.78 (309.45)
|                               |         |        |         |        |        |        |         |        | 9      | 3     | 6       | 1528.44 (152.65)  |
| Controversial                | 77     | 45    | 32      | 10.97 (4.39)
|                               |         |        |         |        | 75     | 44    | 31      | 1702.99 (315.11)
|                               |         |        |         |        |        |        |         |        | 75     | 44    | 31      | 1712.20 (260.22)  |
|                               |         |        |         |        | 24.12, p < .001
|                               |         |        |         |        | 6.05, p < .001
|                               |         |        |         |        | 8.06, p < .001
|                               |         |        |         |        | 13.59, p < .001

Note. Tot. = total sample. GPA = grade point average. FCAT = Florida Comprehensive Achievement Test. Sig. = significance in Tukey’s HSD post hoc tests at p < .005 level (alpha adjusted for family wise error). Group means within correlate categories are significantly different from the first group with a matching superscript (e.g., controversial group is significantly different from comparison group on learning).
Correlates associated with teacher–student concordance

Four logistic regression analyses were conducted to examine correlates theorized to predict the following: (1) teacher identification of student self-reported bullying, (2) teacher identification of student self-reported victimization, (3) student self identification of teacher-reported bullying, and (4) student self identification of teacher-reported victimization. Psychological, behavioral, and academic correlates were standardized and entered into the models as main effects. The association of these correlates with teacher–student concordance was evaluated by entering interaction terms between each correlate and the other informant’s (not the informant in the dependent variable of the model) bullying/victimization report into each model. The overall fit was significant for each model: $\chi^2 [21, N = 1198] = 160.10, p < .001$ for predicting self-reported bullying, $\chi^2 [21, N = 1188] = 132.72, p < .001$ for self-reported victimization, $\chi^2 [21, N = 1198] = 430.87, p < .001$ for teacher-reported bullying, $\chi^2 [21, N = 1188] = 228.66, p < .001$ for teacher-reported victimization. As seen in Table 5, reports of expressing anger, discipline referrals, and standardized reading scores positively increased the likelihood that students identified themselves as bullies (OR = 2.97, 1.27, 1.43, respectively). Additionally, the interaction between teacher-reported bullying and learning difficulties was significantly associated with self-reported bullying status. Upon examination of this interaction at the learning difficulty mean (OR = 1.25) and one standard deviation above (OR = 1.69) and below (OR = .917), it is evident that teachers were best at identifying student self-reported bullies when teachers also reported greater levels of learning problems in students.

Also in Table 5, reports of depression, anxiety, and teacher-reported victimization positively related to the likelihood that students viewed themselves as victims (OR = 1.62, 1.53, 1.54, respectively). Teacher-reported moodiness, however, was negatively associated with the likelihood that students reported victimization, suggesting that teachers are not identifying emotionality in these students (OR = .66). The interaction between teacher-reported victimization and moodiness was also significantly associated with self-reported victimization. Upon further examination at the moodiness mean (OR = 1.54) and one standard deviation above (OR = 1.24) and below (OR = 1.91), it is evident that teachers were most likely to identify student self-reported victims when teachers reported lower levels of moodiness.

Table 5 also shows that rates of acting-out, referrals, and self-reported bullying were each positively associated with the likelihood that teachers viewed students as bullies (OR = 3.55, 1.34, 2.47, respectively). Rates of moodiness, acting-out, referrals, and student self-reported victimization were each positively related to the likelihood that teachers rated students as victims (OR = 2.14, 1.35, 1.21, 1.47, respectively). However, none of the correlates interacted with self reports of bullying or victimization to predict teacher-reported rates of bullying or victimization.

Discussion

This is the first study of middle school-age adolescents examining psychological, behavioral, and academic correlates and their relationship to teacher–student agreement on identification of both bullying and victimization. The results indicate that specific psychological and academic variables are associated with teachers’ agreement with student self-reports of bullying and victimization. Overall, and consistent with prior findings (Ladd & Kochenderfer-Ladd, 2002; Leff et al., 1999),
Table 5
Logistic regression statistics for models examining agreement between student self- and teacher-reported bullying and victimization.

<table>
<thead>
<tr>
<th>Self-reported bullying</th>
<th>Self-reported victimization</th>
<th>Teacher-reported bullying</th>
<th>Teacher-reported victimization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Correlate</strong></td>
<td><strong>β</strong></td>
<td><strong>Odds ratio</strong></td>
<td><strong>Correlate</strong></td>
</tr>
<tr>
<td>Anger out</td>
<td>1.09**</td>
<td>2.97</td>
<td>Depression</td>
</tr>
<tr>
<td>Depression</td>
<td>-0.02</td>
<td>0.99</td>
<td>Anxiety</td>
</tr>
<tr>
<td>Anxiety</td>
<td>0.03</td>
<td>1.03</td>
<td>Anger out</td>
</tr>
<tr>
<td>Acting-out</td>
<td>0.11</td>
<td>1.12</td>
<td>Moodiness</td>
</tr>
<tr>
<td>Referrals</td>
<td>0.24*</td>
<td>1.27</td>
<td>Acting-out</td>
</tr>
<tr>
<td>Moodiness</td>
<td>-0.06</td>
<td>0.94</td>
<td>Referrals</td>
</tr>
<tr>
<td>Learning difficulties</td>
<td>0.06</td>
<td>1.07</td>
<td>Learning difficulties</td>
</tr>
<tr>
<td>GPA</td>
<td>-0.16</td>
<td>0.86</td>
<td>GPA</td>
</tr>
<tr>
<td>FCAT reading</td>
<td>0.36*</td>
<td>1.43</td>
<td>FCAT reading</td>
</tr>
<tr>
<td>FCAT math</td>
<td>-0.11</td>
<td>0.89</td>
<td>FCAT math</td>
</tr>
<tr>
<td>TR bullying</td>
<td>0.22</td>
<td>1.25</td>
<td>TR victimization</td>
</tr>
<tr>
<td>TR bullying × anger out</td>
<td>-0.03</td>
<td>0.97</td>
<td>TR victimization × depression</td>
</tr>
<tr>
<td>TR × depression</td>
<td>0.13</td>
<td>1.14</td>
<td>TR × anxiety</td>
</tr>
<tr>
<td>TR × anxiety</td>
<td>-0.24</td>
<td>0.79</td>
<td>TR × anger out</td>
</tr>
<tr>
<td>TR × acting-out</td>
<td>-0.13</td>
<td>0.88</td>
<td>TR × moodiness</td>
</tr>
<tr>
<td>TR × referrals</td>
<td>0.15</td>
<td>1.16</td>
<td>TR × acting-out</td>
</tr>
<tr>
<td>TR × moodiness</td>
<td>0.17</td>
<td>1.18</td>
<td>TR × referrals</td>
</tr>
<tr>
<td>TR × anxiety</td>
<td>-0.31*</td>
<td>0.74</td>
<td>TR × learning</td>
</tr>
<tr>
<td>TR × FCAT reading</td>
<td>-0.06</td>
<td>0.94</td>
<td>TR × GPA</td>
</tr>
<tr>
<td>TR × FCAT reading</td>
<td>-0.07</td>
<td>0.93</td>
<td>TR × FCAT</td>
</tr>
<tr>
<td>TR × FCAT math</td>
<td>0.12</td>
<td>1.13</td>
<td>TR × FCAT</td>
</tr>
</tbody>
</table>

it was found that agreement between self and teacher ratings of bullying status were low, indicating limited concordance on these behaviors. As expected, student self-reported bullying groups exhibited poorer outcomes on student self-reported correlates. Similar results were noted for teacher-reported groups and correlates. Results further demonstrated that psychological and behavioral difficulties were greatest when students and teachers agreed that there was involvement of some type in bullying and/or victimization (concordant and controversial groups).

Notably, teachers were significantly more likely to report bully and bully/victim status than students while students were more likely to report victimization, suggesting that observation of bullying is more salient to teachers and perception of victimization is more salient to students. This may indicate a greater sensitivity to these behaviors and experiences for their respective reporters (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). Saliency, however, does not guarantee accuracy in reporting behaviors. Students may be either less willing to report or less apt at perceiving their behavior as bullying given the potential negative consequences of admitting bullying on a school survey or cognitive biases toward viewing themselves as the injured party in peer altercations (e.g., Crick & Dodge, 1994). Whereas teachers may be better able to recognize or more likely to identify behaviors as bullying since they tend to be disruptive to school climate, some teachers may misidentify “true” victims as bullies or bully/victims because they misinterpret their responses to peer aggression as bullying (e.g., Jussim & Harber, 2005). These possible explanations for the inconsistent reporting between students and teachers suggest the need for further multi-informant assessment and universal definitions of bullying and victimization.

It is not surprising that psychosocial difficulties were considerable for students identified by both teacher- and student self reports as involved in bullying or victimization (Liau et al., 2004). These students are involved in bullying and victimization to such a degree that all of their problem areas readily come to the attention of teachers. However, for students that fall in the controversial group and are not easily distinguishable as bullies, victims, or both, psychological, behavioral, and academic profiles tend to be elevated despite rater perspective. This group is comprised primarily of students who view themselves as victims and for whom teachers view them as either bullies or bully/victims. Given these findings, it is important to consider the impact of teacher misidentification of behaviors as bullying on students’ functioning (Jussim & Harber, 2005; Rosenthal & Jacobson, 1968). It is quite possible that students may exhibit more psychological and behavioral difficulties as a consequence of teachers’ incongruent beliefs about student-peer relationships. Alternatively, young adolescents, particularly those with social difficulties, may not be the most accurate reporters of their interactions with others (Fekkes et al., 2005; Hunter et al., 2004). Their actions, and their reports of these interactions, may be a response to skewed perceptions of their environment (Crick & Dodge, 1994). Interestingly, student self- and teacher-reported bullies had greater levels of teacher-rated moodiness than victims. Contrary to expectations, it appears that teachers more readily assign emotional difficulties to bullies. Notably, moodiness was measured by the frequency of students needing to be encouraged to play with peers, feeling hurt when criticized, and appearing unhappy, all characteristics associated with bullies as well as victims (e.g., Kaltiala-Heino et al., 2000; Nansel et al., 2004).

Two teacher-reported correlates were associated with student reports of bullying and victimization, learning difficulties and moodiness. Results that teacher reports of bullying corresponded with self reports when students also exhibited greater levels of teacher-reported learning difficulties are consistent with expectations that academic difficulties make the behavior of students more salient
to teachers (Elliott et al., 1993; Graham & Juvonen, 1998; Graham et al., 2003; Peets & Kikas, 2006). The finding that teachers were most likely to identify student self-reported victims when they are less moody is interesting. Perhaps when students act out and demonstrate emotional difficulties that are disruptive, this catches the teacher’s attention. Teachers may then be more likely to make dispositional attributions about youth — that is, assuming emotional and behavioral difficulties are due to something done by the student (such as being a bully). When a student is minimally emotional despite a negative interaction with a peer, only then is a teacher able to not “blame” the youth, see the situation as uncontrollable, and thus identify victimization. This would be consistent with early research on teacher attributional beliefs about students (Brophy & Rohrkemper, 1981). Markedly, no psychological, behavioral, or academic correlates interacted with self reports of either bullying or victimization in explaining agreement with teacher reports. While some proposed factors were salient to teachers, it is possible that additional factors not measured in the present study, such as relationships with teachers and school personnel, intervention strategies, and supervision of students, may be associated with student’s ability to perceive a teacher’s perspective (e.g., Crothers, Kolbert, & Barker, 2006).

**Limitations**

Despite the large sample, most participants were Caucasian students reporting generally low rates of bullying and victimization. Thus, samples sizes within the student self-reported bully/victim groups were small, potentially limiting power to detect significant differences among groups. The calculation of effect sizes was an important measure to accommodate this limitation, although perhaps meta-analytic studies might be necessary to see what findings are truly significant. However, the large sample allowed for adequate evaluation of 11 groups of students involved in bullying — bullies, victims, and bully/victims — across two raters. Utilizing a middle school sample may have impacted teacher ratings of behavior. On the one hand, middle school students transition among multiple classrooms potentially hampering teachers’ observations of student interactions. On the other hand, bullying and victimization is a serious problem in middle school (Nansel et al., 2001; Parkhurst & Asher, 1992; Unnever & Cornell, 2004) and thus it is important for research to occur with this challenging population to identify teacher and student reporting biases.

In addition, although a definition of bullying behavior was included with the Olweus (1996) survey, respondents may have been reluctant to categorize behavior as bullying or victimization on the global items. Rather, utilizing a scale of items that require respondents to report on a variety of behaviors may reduce some reporter bias. Further, while teachers and students both completed surveys of psychological and behavioral correlates providing a more accurate view of student functioning, they were not parallel measures. It is possible that participants may have rated different underlying constructs. This may explain some group differences between teacher-reported (i.e., moodiness) and student self-reported (i.e., depression) psychological correlates. This study also did not include a self-report measure for academic performance; however, objective measures that were utilized are the “gold” standard. Nonetheless, a strength of the study was that both teachers and students completed parallel bullying and victimization items from the widely utilized Olweus survey, which has well-established psychometric properties (Solberg & Olweus, 2003).
Implications and future directions

Previous research demonstrates the importance of the teacher—student relationship in student development and school functioning (Felner, Aber, Primavera, & Cauce, 1985; Wentzel, 1998; Wentzel & Asher, 1995; Wentzel & Caldwell, 1997). If students feel as if teachers do not understand their experiences, they may become disengaged from school activities and academics (Barth, Dunlap, Dane, Lochman, & Wells, 2004; Wentzel, 1997). Misidentification of victimization status on the part of teachers or students has implications for the effectiveness of interventions. Teachers may perceive a student one way and misapply intervention techniques, while students may refuse to cooperate in intervention activities that they see as irrelevant. Teacher perspectives can have repercussions on students’ overall performance (Jussim & Harber, 2005; Rosenthal & Jacobson, 1968). Teachers who have biases in reporting bullying, potentially by gender as was not assessed in the present study, may unknowingly influence their students’ peer relationships, and therefore, their social and academic performance at school. Evidence for this is supported by the controversial group’s exhibition of psychological and behavioral problems across student and teacher reports. Implications of these reporter perceptions suggest the need for future research to examine the characteristics of teachers observing adolescent boys’ and girls’ experiences. This is especially relevant given that almost sixty different teachers participated in the present study, each likely with a unique view of student behaviors.

Given that students and teachers do not readily agree on bullying and victimization, the need for multiple informants in evaluating student functioning becomes much more apparent. Variables associated with teacher reports require teachers to make attributions about students’ academic and emotional functioning. Teachers’ views of academic and emotional functioning have a considerable relationship with their ability to identify bullying and victimization. Utilizing multiple informants helps to bypass biases that are inherent to rater perceptions. Further research is needed on how to educate teachers on their attributional biases and on becoming more attuned to youth perspectives. Further research should also continue to identify factors salient to increasing student awareness of teacher perspectives on bullying and victimization. Such findings may help to empower youths in gaining assistance from teachers in coping with bullying and victimization.

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References


