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**A Multi-Informant Study of Peer Victimization, Children's Mental Health, and Academic
Achievement : The Moderating Role of Family Functioning**

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A multi-informant study of peer victimization, children's mental health, and academic
achievement: The moderating role of family functioning

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Thesis submitted to the
Faculty of Graduate and Postdoctoral Studies
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Abstract

In the present study parent and child concordance of peer victimization and associations with mental health (depression and anxiety), academic achievement, and family functioning was assessed using a multi-informant, multi-method approach. Parents and children completed assessments of peer victimization and mental health, parents completed a measure of family functioning, and grades were assessed by teachers. Children were classified into three peer victimization status groups and one non-victimization group on the basis of concordance of parent and child reports. Results indicate that children rated as victims by any informant (parent or self) scored higher on depression and anxiety and lower academic achievement than non-victims. Although differences in family functioning were not found between each of the victim and non-victim groups, family functioning moderated the association between peer victimization and mental health for boys. For boys who self-reported victimization but parents did not, a high functioning family environment was associated with lower depression and anxiety. Results highlight the need for greater home school communication about peer victimization and for schools to educate parents about ways to talk to children about bullying.

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A multi-informant study of peer victimization, children's mental health, and academic achievement: The moderating role of family functioning

Peer victimization (i.e., bullying) occurs when an individual repeatedly and intentionally exerts his/her power over another individual (Olweus, 1999). Peer victimization is a problem across continents; a multi-national study of adolescents indicated that bullying involvement (as a victim, bully, or both) ranged from 9% to 54% with 25% of Canadian students involved in bullying (Nansel et al., 2004). Similar results have been found at the provincial level. Recent reports indicated that at least a third of Ontario students in grades 4 to 12 are involved in bullying as either victims or perpetrators (Adlaf, Paglia-Boak, Beitchman, & Wolfe, 2007; Vaillancourt, Trinh et al., 2010).

The proportion of students involved in bullying is disconcerting because these actions are related to negative outcomes. Peer victimization has been linked with mental and physical health problems as well as poorer emotional, psychosocial, and school adjustment (Hawker & Boulton, 2000; McDougall, Hymel, Vaillancourt, Trach, & Darwich, 2010; Nansel et al., 2004). In a meta-analysis by Hawker and Boulton (2000), peer victimization was strongly linked to higher rates of depression and, to a lesser extent, anxiety, even after considering shared-method variance. Victims of bullying also report physical symptoms such as headaches, stomach aches, dizziness, difficulty sleeping, and feeling tired, in addition to psychological symptoms such as feeling nervous and having low self-esteem more often than non-victims (Due et al., 2005; McDougall et al., 2010; Swearer, Espelage, Vaillancourt, & Hymel, 2010). Poor academic achievement (Glew, Fan, Katon, Rivara, & Kernic, 2005) and school adjustment problems such as poor relationships with classmates and feeling left out have been related to peer victimization (Due et al., 2005; Nansel et al.,

2004), even after considering known correlates such as age, sex, ethnicity and socioeconomic status.

Although several studies have examined peer victimization in relation to poor mental health outcomes such as depression and anxiety, few have examined these links using a multi-informant approach and even fewer have examined the relationship between peer victimization and academic achievement using a multi-informant strategy (for exceptions see Graham, Bellmore, & Juvonen, 2003; Wienke Tatura, Green, Karver, & Gesten, 2009). Indeed, peer victimization has most often been assessed through self-reports; and to a lesser extent, by using peer nominations, teacher and parent ratings, and observations (Grillis-Taquechel, Polifroni, & Pane, 2010; Swearer, Espelage et al., 2010; Swearer, Siebecker, Johnsen-Frerichs, & Wang, 2010).

Several researchers have recently called attention to issues concerning the accurate assessment of bullying; warning scholars about the overreliance of self-report measures alone to assess involvement with bullying and outcomes such as mental health (i.e., avoiding shared-method variance; Bovaird, 2010; Branson & Cornell, 2009; Cornell & Bandyopadhyay, 2010; Cross & Newman-Gonchar, 2004; Furlong, Sharkey, Felix, Tanigawa, & Green, 2010; Griffin & Gross, 2004; Leff, Power, & Goldstein, 2004; Swearer, Espelage et al., 2010; Vaillancourt, McDougall et al., 2008; Vaillancourt, Trinh et al., 2010). In the present study, we heeded this advice by using three sources of information. Peer victimization and mental health functioning (anxiety and depression) were assessed using child- and parent-reports while academic achievement was assessed using official school records. Parent- and child-reported internalizing symptoms were averaged to create

composite scores of depression and anxiety thus reducing individual errors (Youngstrom, Findling, & Calabrese, 2003).

Multi-Informant Approach to Studying Peer Victimization

Several researchers have combined ratings of victimization from multiple informants into a single measure of victimization to predict children's psychological symptoms. Using child-, parent-, and teacher-reports, researchers have classified children as victims, bullies, and bully-victims if the behaviours were rated as occurring frequently by at least one informant (Kumpulainen et al., 1998; Kumpulainen, Rasanen, & Henttonen, 1999; Sourander et al., 2007) or sometimes by two or more informants (Kumpulainen et al., 1998, 1999). A similar classification has been used on the basis of parent- and self-reports only (Kumpulainen, Rasanen, & Puura, 2001). Using these classifications, involvement in bullying (as a victim, bully, or bully-victim) has been shown to be related to self-reports of psychiatric symptoms (Kumpulainen et al., 1998, 1999) as well as teacher- and parent-reports of psychiatric disturbances (parent and teacher Rutter scales; Kumpulainen et al., 1998, 1999; Sourander et al., 2007). Children identified as victims in childhood through this approach were also found to have anxiety disorders in early adulthood at higher rates than non-involved children (Sourander et al., 2007). Furthermore, using the Isle of Wright Interview, children identified as involved in bullying by either self- or parent-report were found to be at greater risk of psychiatric disorders (attention deficit disorder, depression, anxiety) than non-involved children (Kumpulainen et al., 2001). Although the abovementioned researchers did take multiple informants of peer victimization and, in many cases, mental health into account, they did not look at the independent and combined contributions of different informants.

Ronning and colleagues (2009) examined the predictive value of different informants' knowledge of bullying and victimization in childhood on early adult psychiatric disorder and found each informant's assessment to be uniquely valuable. Specifically, self-, teacher-, and parent-reports of frequent bullying predicted later psychiatric disorder. A rating of frequent victimization using teacher- or self-reports or sometimes using teacher- or parent-reports predicted later psychiatric disorders. These associations did not hold after controlling for psychiatric symptoms at age eight. Although ratings of victimization and bullying by different informants independently predicted later psychiatric disorder, the authors did not look at the predictive value of informants' combined ratings (i.e., children rated as a victim by multiple informants compared to children rated by only one).

Moreover, participants were not provided with a definition of bullying. Students' definitions of bullying vary with age; younger children include general harassment and physical bullying in their definition more often than older children who include social bullying (i.e., rumour spreading, peer group exclusion) more often than younger children (Vaillancourt, McDougall et al., 2008). The same has been found in comparing students' and teachers' definitions; whereas teachers include social bullying, power imbalance, and intentionality, students more often limit definitions to verbal and physical bullying (Naylor, Cowie, Cossin, de Bettencourt, & Lemme, 2006). From these findings it is reasonable to assume that teachers, parents, and children may be assessing different concepts when not provided with a definition of bullying.

In the first study examining victimization reports across four informants (self, parent, teacher, and peers), Ladd and Kochenderfer-Ladd (2002) investigated how each informant's reports were related to measures of relational adjustment (self-reported loneliness, peer-

reported rejection, teacher- and parent-reported social problems). They found varying degrees of correlations between informants that depended on the grade and sex of the child ($r_s = .09 - .59$). Using path analyses estimating a relational adjustment latent variable from the four victimization measures, it was found that peer- and teacher-reported victimization contributed independent information across grade levels; self-reports added additional information in grade 4. It was also found that a latent variable composed of all informants' victimization scores yielded higher path coefficients than single measures alone. Thus, the combined assessments of victimization by multiple raters accounted for more information in relational maladjustment than any one informant. These results further highlight the importance of using multiple raters in the assessment of peer victimization and mental health symptoms.

Whereas several researchers have used multiple informants independently and in combination to predict concurrent and future adjustment (Ronning et al., 2009; Kumpulainen et al., 1998, 1999, 2001; Ladd & Kochenderfer-Ladd, 2002; Sourander et al., 2007), some researchers have taken the approach of classifying children into discrete categories based on multiple informants (Crick & Bigbee, 1998; Graham & Juvonen, 1998; Graham et al., 2003; Wienke Totura, Green et al., 2009). Using this approach researchers are able to take into consideration differences that might exist between children who only self-report victimization compared to those who are also identified by other informants.

Using self- and peer-reports of victimization researchers have examined how concordant and discrepant ratings of victimization are related to relational adjustment and mental health symptoms. Using self- and peer-reports, children have been classified into four victim groups: true victims (identified as a victim by both self and peers), self-perceived

only victims (identified as a victim by self-report and not by peers), peer-perceived only victims (identified as a victim by peer-report and not by self), and non-victims. True victims reported higher loneliness over self-perceived only victims (Crick & Bigbee, 1998; Graham & Juvonen, 1998; Graham et al., 2003), peer-perceived only victims (Crick & Bigbee, 1998; Graham et al., 2003), and non-victims (Crick & Bigbee, 1998; Graham & Juvonen, 1998; Graham et al., 2003). Furthermore, self-perceived only victims tended to report more loneliness than peer-identified victims (Crick & Bigbee, 1998) and non-victims (Crick & Bigbee, 1998; Graham & Juvonen, 1998; Graham et al., 2003). Significant differences have also been shown between peer-perceived only victims and non-victims (Crick & Bigbee, 1998; Graham et al., 2003). In terms of depression and emotional distress true victims scored the highest, followed by self-perceived victims who scored higher than peer-perceived and non-victims (Crick & Bigbee, 1998; Graham et al., 2003). Findings are mixed for anxiety; some researchers have found that true victims and self-perceived only victims reported higher anxiety than those identified by peers only and non-victims (Graham et al., 2003; Graham & Juvonen, 1998) whereas others have found no differences between victim groups (Crick & Bigbee, 1998). Also, girls had higher loneliness and anxiety scores than boys (Graham & Juvonen, 1998).

Those identified as true victims were found to have the highest peer-rated rejection scores (Crick & Bigbee, 1998; Graham et al., 2003). In addition, peer-perceived only victims were more rejected than self-perceived (Crick & Bigbee, 1998; Graham et al., 2003) and non-victimized children (Crick & Bigbee, 1998; Graham et al., 2003; Graham & Juvonen, 1998). Children identified as victims by peers (both true victims and peer-perceived only victims) had the lowest peer acceptance scores (Graham et al., 2003; Graham & Juvonen,

1998). Furthermore, girls had higher acceptance and lower rejection than boys (Graham et al., 2003). It has also been found that true victims and peer-perceived only victims had lower school engagement, grade point average (GPA) scores, teacher-reported popularity, and higher teacher-reported externalizing problems than non-victims and self-identified students (Graham et al., 2003). Had multiple informants not been used in this way, the patterns in loneliness, depression, rejection, and acceptance would not have been identified.

In addition to comparing groups of children on the basis of self- and peer-reported victimization, researchers have also used self- and teacher-reports of bullying and peer victimization to create discrete groups. Wienke Totura, Green et al. (2009) arranged students into 11 subgroups based on self- and teacher- reported victim and bully status. Self-perceived only victims, true victims, and children who were discordant (bully or victim by teacher only and victim or bully by student only) reported higher rates of depression than non-involved children. Similarly, self-perceived only victims and those not in agreement reported higher anxiety than non-involved children and self-perceived only victims scored higher than teacher-perceived only victims. True victims had higher moodiness scores than self-perceived only victims and non-involved children; teacher-reported victims also had higher moodiness than non-involved students. Although researchers have shown that more boys have been classified as victims (e.g., Kumpulainen et al., 1998), Wienke Totura et al. did not report results specifically for boys and girls, thus it is unclear if analyses including sex would result in different outcomes. Additionally, ratings of anxious and depressive symptoms were only assessed by students themselves; assessments provided by multiple informants would have yielded additional information (Achenbach, McConaughy, & Howell, 1987; De Los Reyes & Kazdin, 2005).

Taken together, studies using a multi-informant approach have shown mixed results, owing in part to the fact that few studies have relied on the same informants and when similar informants were used, researchers have combined the data in dissimilar ways. Moreover, although several researchers have employed a multi-informant strategy to assess *peer victimization*, few have used such an approach to examine both peer victimization and mental health outcomes (for exceptions see Kumpulainen et al., 1998, 1999, 2001; Sourander et al., 2007). In a recent review of the literature, De Los Reyes and Kazdin (2005) urged researchers and clinicians to consider multiple viewpoints when assessing children's mental health; a recommendation also made by Achenbach et al. (1987) over two decades ago. As noted by these authors, in most ratings of behavioural and emotional problems, informants occupying different roles in the child's life are needed; in particular, parent-reports are almost always necessary.

In the peer victimization literature, parent-reports have rarely been used (for exceptions see Kumpulainen et al., 1998, 1999, 2001; Ladd & Kochenderfer-Ladd, 2002; Sourander et al., 2007), even though there are notable reasons to consider their perspective. First, parent-reports may provide information over and above self-reported victimization experiences. That is, children may discuss their peer relations with parents (Ladd & Kochenderfer-Ladd, 2002) who in turn may have advanced knowledge of what constitutes bullying (e.g., relational forms) and may accurately identify the child as being bullied in cases where the child does not. Second, parent-reports of victimization may signify family communication of the matter. Concordance of child- and parent-reports may thus indicate that bullying is discussed between family members and conversely, discordance may

indicate a lack of family discussion of the topic. For these reasons, considering informants outside of the school context, such as parents, is valuable.

In the present study, we used parent- and child-reports of peer victimization and mental health symptoms (combined into composite scores of depression and anxiety), and hypothesized that combinations of parent- and child-reported victimization status would be related to internalizing problems and poorer academic achievement such that dyads in agreement would score the highest on internalizing symptoms and lowest on academic achievement, followed by child-reported only, parent-reported only and dyads in agreement of non-victimization scoring the lowest on internalizing symptoms and highest on academic achievement (Hypothesis #1). This pattern was expected because we thought that the concordance on parent- and child-reports was an indicator of severity of peer victimization. Studies have consistently shown that children who are severely bullied by their peers suffer more (i.e., poorer mental health) than those who are bullied less (Vaillancourt, Hymel, & McDougall., in press) and children are more likely to report being bullied to their parents as frequency increases (Whitney & Smith, 1993).

Although studies have shown the benefits of utilizing a multi-informant strategy, they are not without limitations. In most of the abovementioned studies, researchers neglected to provide a definition of bullying to participants (e.g., Kumpulainen et al., 1998, 1999, 2001; Ronning et al., 2009; Sourander et al., 2007). The omission of a definition of bullying has been shown to influence prevalence rates and thus, according to Vaillancourt, McDougall et al. (2008), should always be included in the measurement of bullying as a way of increasing validity. Another issue with multi-informant studies is that none have really considered why discrepancies exist in the first place. In other words, "...no theoretically

relevant rationale has been provided to explain these discrepancies, and as a result, no tests have been conducted to examine the processes involved” (De Los Reyes & Kazdin, 2005, p.484). Some researchers have suggested that informant discrepancies are due to the fact that different people are privileged to different information (Achenbach et al., 1987) but as De Los Reyes and Kazdin (2005) suggest “informant discrepancies may relate to critical facets of parent, child, *and family functioning*” (p.484, our italics). These authors cite evidence concerning the discrepancy between mother and child perceptions and show that this discordance is predictive of future child behaviour problems and related to maternal stress, negative parenting practices, and mother–child conflict.

Peer Victimization, Family Functioning, and Mental Health

In the present study, family functioning was examined in order to help explain informant discrepancies. The importance of including family functioning is highlighted by a recent study which showed that students involved in bullying who reported lower maternal support also reported higher anxiety and depression than those without this form of support (Holt & Espelage, 2007). Additional research indicates that this association is complicated by sex; for female middle school students, but not for boys, perceived parent support moderated the relationship between victimization and internalizing distress (Davidson & Demaray, 2007; Stadler, Feifel, Rohrman, Vermeiren, & Poustka, 2010). Other researchers have found no support for the moderating role of child-perceived family functioning in the prediction of bully/victim status from internalizing symptoms (teacher and child composite; Wienke Totura, MacKinnon-Lewis et al., 2009). Furthermore, family functioning has been shown to be related to bully/victim status such that bullying others (Stevens, De Bourdeaudhuij, & Van Oost, 2002) and being victimized (girls only; Rigby, 1993) is

associated with lower child-perceived family functioning. Holt, Kaufman Kantor, & Finkelhor (2009) found that child-reported victimization related to family functioning although parent reported victimization did not. Concordance and discordance between reports of peer victimization and family functioning was not investigated. The present study adds to the existing literature by examining the role of family functioning in the concordance and discordance of parent- and child-reports of peer victimization and academic and mental health outcomes. Specifically, we hypothesized that children and parents who are concordant on reports of peer victimization involvement (victimized or not) would report higher family functioning than those who were discordant (Hypothesis #2). We further hypothesized that family functioning would act as a moderator between victimization and mental health and academic achievement such that victims (self-reported victims, parent-reported victims, or self- and parent-reported victims) from high functioning families would have better mental health and better grades than those from lower functioning families (Hypothesis #3).

Sex Differences in Peer Victimization, Mental Health, and Academic Achievement

Researchers have examined sex differences in the proportions of students involved in bullying, the types of bullying they are subject to, and differences in outcomes by sex. Sex differences in victimization have consistently been found in the literature; however, some researchers reported higher proportions of boys classified as victims (Kumpulainen et al., 1998; Solberg & Olweus, 2003; Vaillancourt, McDougall et al., 2008; Whitney & Smith, 1993) whereas others reported higher number of girls (Vaillancourt, Brittain et al., 2010; Vaillancourt, Trinh et al., 2010). With regard to type of victimization, more boys reported being the victims of direct physical bullying than girls (Crick & Bigbee, 1998; Rigby, 2000;

Rivers & Smith, 1994; Vaillancourt, Trinh et al., 2010; Vaillancourt, Duku et al., 2008; Whitney & Smith, 1993) and more girls reported being victimized by indirect social bullying compared to boys (Crick & Bigbee, 1998; Rivers & Smith, 1994; Vaillancourt, Trinh et al., 2010; Whitney & Smith, 1993). Researchers have also reported that girls are more distressed by victimization than boys (Paquette & Underwood, 1999).

Sex differences have been illustrated in a number of child and adolescent mental health disorders (see Vaillancourt & Boylan, 2010). Prior to puberty boys have higher rates of depression than girls and after puberty this pattern is reversed (Kessler, Avenevoli, & Merikangas, 2001; Twenge & Nolen-Hoeksema, 2002). Angold, Costello, and Worthman (1998) found that the progression to mid-puberty (Tanner stage – III) corresponded with an increase in depressive symptoms for girls but not boys. A similar pattern has also been shown with anxiety. In a sample of adolescents (mean age 16.6), Lewinsohn, Gotlib, Lewinsohn, Seeley, and Allen (1998) found that significantly more females than males met (or previously met) criteria for an anxiety disorder. Using retrospective reports it was also found that girls developed anxiety disorders at an increased rate as compared to males.

In addition to sex differences in mental health symptoms, evidence also exists illustrating that girls outperform boys on academic achievement and engagement (Bodkin et al., 2009; Connolly, Hatchette, & McMaster, 1998; Graham et al., 2003). For example, in a sample of 1188 Canadian 10-11 year old children drawn from the National Longitudinal Study of Children and Youth, Connolly et al. (1998) found that a composite score of teacher rated skills (overall ability, ability in math, reading, and writing) was higher for girls than boys. Furthermore, in a recent report prepared for the Ontario Ministry of Education, Bodkin and colleagues (2009) reported that in the 2007-08 school year, more girls than boys

achieved at or above the provincial standard on the EQAO standardized tests in grades 3 and 6 in both reading and writing. Similar results have been found using the Ontario Secondary School Literacy Test in grade 10 with girls passing at a rate of 88% compared to 80% of boys (Bodkin et al., 2009). Interestingly, despite the fact that notable sex differences have been found with respect to peer victimization, mental health, and academic achievement, sex is often not taken into consideration (e.g., Wienke Totura, Green et al., 2009). In the present study, the moderating role of sex was examined in all analyses in attendance to these findings.

Method

Recruitment

Following school board approval, 50 randomly selected elementary schools with grade-5 classrooms in a large southern Ontario public school district were contacted to participate in a study titled “Understanding Stability and Change in Social Experiences from Childhood into Early Adolescence (The MAC-Teen Bullying Study)”. In total, 17 schools declined participation and were replaced through further random selection. In 41 schools, trained research assistants delivered in-class presentations describing the study and distributing consent forms to students. At the request of school principals, in 9 schools principals were given information packages including consent forms and a summary of the study for teachers to discuss with students. Of the 1922 consent forms distributed, 79.9% were returned by students (68.5% were returned from schools where consent forms were dropped off and 81.9% were returned from schools where research assistants delivered presentations). In total, 903 parents consented to participate and 1121 parents provided

consent for their children's participation. Sixty-four students were absent on the day of survey administration and 34 declined assent.

Participants

Overall, 1023 students and 775 parents participated in the study. Since not all parents participated and some students were absent on the day of testing or declined participation, in the current study data from a subset of complete student and parent/guardian dyads ($n = 716$) were analyzed. Approximately equal numbers of girls ($n = 382, 53.4%$) and boys participated. Their mean age was 10 years 11 months ($SD = 4.75$ months). Students were predominantly European-Canadian (69.1%; Middle-Eastern-Canadian, 1.7%; African/West-Indian-Canadian, 2.8%; Asian-Canadian, 1.7%; South-Asian-Canadian, 2.0%; Native-Canadian, 1.8%; South/Latin American-Canadian, 1.5%; Other, 3.6%; Did not know, 13.3%; Did not answer, 2.5%). Parent/guardian respondents were predominantly biological mothers ($n = 610, 85.2%$; biological fathers = 73; 10.2%; other = 33, 4.6%), approximately half were over age 40 (55.0%; did not answer, 0.7%), and most reported incomes over \$70,000 (52.8%).

Children who had versus did not have participating parents did not statistically differ on sex, self-reported depression and anxiety, general, physical, relational, and cyber victimization, and all types of bullying; however, they reported verbal victimization at higher rates than those without parent participation, $t(1014) = 11.57, p = .040$. Children with a participating parent and those without differed on ethnicity, $\chi^2(8, N = 988), p = .006$; the parents of Asian-Canadian and South-Asian-Canadian students participated the least.

Parents with participating children, as compared to those without, did not statistically differ on ethnicity, relationship to child, education, income, parent age, parent-reported

victimization, depression, anxiety, or family functioning. The sex of the participating student did differ for parents with participating children and those without, $\chi^2(1, N = 775), p = .006$; a higher proportion of girls participated (53.4%; boys = 46.6%) than did not (35.6%; boys = 64.6%).

Of the 716 student parent dyads, a number of students did not complete all scales; 5 depression, 9 anxiety, 1 overall victimization, and an additional 2 parents did not complete family functioning or victimization. After removing cases with missing values on depression, anxiety, and victimization 702 cases remained. In addition, we did not have permission to access the Ontario School Records (OSR) data for 53 students.

Compensation

Every participating teacher received a signed copy of the book *M is for Maple* by Mike Ulmer to be shared by the class. Each student was offered a package of sugar-free gum for returning his/her signed consent form to the homeroom teacher (regardless of whether parental consent was attained or not). Parents were offered a \$5 gift certificate (choice of either Chapters or Tim Horton's) for participation in a telephone interview.

Measures

The current study utilized data collected as part of the longitudinal MAC-Teen Study. Students completed questionnaire packages including the Self-Reports of Bullying Experiences (Vaillancourt, McDougall, et al., 2008; Vaillancourt, Trinh et al., 2010) and the Behaviour Assessment System for Children – Second Edition, Child Self-Report of Personality (BASC-II; Reynolds & Kamphaus, 2004) among other measures. Parents completed The Brief Child and Family Phone Interview-3 (BCFPI-3; Cunningham, Pattinglill, & Boyle, 2004). Both the BASC-II and the BCFPI-3 have shown to be well

validated measures of children's mental health functioning (Reynolds & Kamphaus, 2004; Cunningham et al., 2004).

Peer Victimization. To assess bullying experiences, students were provided with a standard definition of bullying: "There are lots of different ways to bully someone but a bully wants to hurt the other person (it's not an accident), and does so repeatedly and unfairly (the bully has some advantage over the victim). Sometimes a group of students will bully a student. It is not bullying when two students of about the same strength quarrel or fight". They were then asked to respond to the question "Since the start of the school year (September)... How often have you been bullied at school?" using a 5-point scale (Vaillancourt, McDougall et al., 2008; Vaillancourt, Trinh et al., 2010; not at all = 0, only a few times this year = 1, every month = 2, every week = 3, many times a week = 4). In addition to the general question, students were also provided with examples of each type of bullying and asked to report on the frequency of physical, verbal, social, and cyber bullying. Parents/guardians were provided with the same standard definition and were asked if his/her child was currently being bullied at school (no = 0, yes = 1).

Recent research has shown that the overall question of victimization lacks sensitivity (Vaillancourt, Trinh et al., 2010). In the current study many students ($n = 278$) endorsed one or more different types of victimization at a greater frequency than general victimization. Students who reported victimization of any type (general, physical, verbal, social, and cyber) several times a month, every week, or several times per week were classified as victims and all others were classified as non-victims (Solberg & Olweus, 2003). Concordance between reports was indicated by affirmation by parents and a rating of victim by students, and

disconcordance was indicated if one informant reported victimization had occurred and the other did not.

Depression. Self-reported depression was assessed with the child version (ages 8-11) of the BASC-II (Reynolds & Kamphaus, 2004). The depression subscale of the BASC-II included 13 items and measured feelings of sadness, hopelessness, and loneliness (e.g., “I just don’t care anymore.” and “No one understands me.”). Four questions were rated on a 4-point frequency scale (Never = 0, Sometimes = 1, Often = 2, Almost always = 3) and the remaining were rated True (= 2) or False (= 0). In the current sample the scale had good internal consistency ($\alpha = .90$). Sub-scores were calculated as the sum over the 13 items; allowing up to two missing items (Reynolds & Kamphaus, 2004). Parents participated in the BCFPI-3 and reported on 6 items regarding managing mood, an approximation of major depressive disorder (Boyle et al., 2009; e.g., “Do you notice that your child gets no pleasure from usual activities?”). This scale was shown to be reliable in the current sample ($\alpha = .83$).

Utilizing a multi-informant strategy, self- and parent-reports of depression were combined following a compensatory model (Youngstrom et al., 2003). Individual scores were created through equally weighting standardized scores of parent and child composite measures (Piacentini, Cohen, & Cohen, 1992; Rowe & Kandel, 1997). This composite allowed the inclusion of both sources of information while reducing measurement error (Youngstrom et al., 2003).

Anxiety. Anxiety was also assessed by the self-report child version of the BASC-II (Reynolds & Kamphaus, 2004). The anxiety subscale of the BASC-II measures feelings of generalized fears and nervousness; sample items include “I often worry about something bad happening to me” and “I get nervous.” Two of the items had a true/false response option and

the remaining items were multiple choice. Students responded to 12 of the 13 items on the scale. One item, “I am bothered by thoughts of death”, was excluded at the request of the school board. In the current sample the anxiety subscale scale had good internal consistency ($\alpha = .88$). According to Reynolds and Kamphaus (2004), up to two missing items are allowed. As such sub-scores were calculated as the sum over the 12 items allowing up to one missing item; one was added to all scores due to the omitted item (“I am bothered by thoughts of death”) and an additional one was added to scores with a single missing value (see Reynolds & Kamphaus, 2004). Parents reported on 6 items regarding managing anxiety (e.g., “Do you notice that your child worries about things in the future?”) in the BCFPI-3. The scale provides a reasonable approximation to general anxiety disorder (Boyle et al., 2009) and was reliable in the current sample ($\alpha = .81$). Similar to depression, child- and parent-reported anxiety composites were standardized and averaged into a single composite score.

Family Functioning. Parents were asked to report on family functioning by rating how much they agreed or disagreed about six statements about his/her family (Cunningham et al., 2004; Strongly agree = 4, Agree = 3, Disagree = 2, Strongly disagree = 1). A composite score was created from the 6 items (reverse scoring 1 item). In the current sample, the family functioning scale had good internal consistency ($\alpha = .81$).

Academic achievement. Grades were assessed by classroom teachers in Term 3 of the concurrent year (grade-5) and were obtained from students’ Ontario Student Record. An academic achievement score was created by taking an average across the Term 3 subjects English, French, math, and science and technology. Reliability for academic achievement was excellent ($\alpha = .90$).

Procedure

Researchers worked closely with the participating school board in the development of survey packages and design of collection procedures. The study was granted approval by the participating school board and McMaster University's Research Ethics Board. Over a 10-week period in spring 2008, trained research assistants returned to each school to administer questionnaires. Before providing assent, students were notified that their surveys would remain confidential with one exception; those scoring high on depression or "very sad" would be followed up on with a call home from the lead researcher. Questionnaires of students who declined assent were destroyed following the questionnaire period. Students without parental consent completed a mock survey to maintain anonymity. Each student was provided with a folder to place upright around the survey as to maintain confidentiality from classmates. The survey periods lasted approximately 45 minutes and were co-supervised by classroom teachers. At the end of the survey, students were provided with the phone number for Kids Help Phone as well as a business card of the lead researcher.

Parents consenting to participate were contacted by trained research assistants at a requested time; each telephone interview lasted approximately 20 minutes. At the end of the interview parents were provided with a list of services to contact if they had any concerns about their child's psychological functioning or development.

Results

Descriptive Statistics. Three-hundred and sixty-eight students were classified as non-victims by both parent and child (52.4%), 98 were classified as victims by both parent and child (14.0%), 183 reported being victimized by self only (26.1%), and 53 were reported to be victimized by their parents only (7.5%). Agreement between child- and parent-reports of

peer victimization was fair, $\kappa = .24, p < .001$. Sex differences were not found in the number of students who self-reported victimization, $\chi^2(1, 702) = 1.34, p = .247$, parent-reported victimization, $\chi^2(1, 702) = 0.56, p = .448$, or in the number of students classified as victims or non-victims in concordant or discordant groups, $\chi^2(3, 702) = 3.42, p = .331$. Similarly, boys and girls did not differ in reports of average depression, $F(1, 698) = 5.76, p = .390$, or family functioning, $F(1, 698) = 0.18, p = .671$. However, girls had higher scores on average anxiety than boys, $F(1, 698) = 5.67, p < .05$, and also had higher achievement, $F(1, 698) = 16.58, p < .001$. Descriptive statistics for depression, anxiety, academic achievement, and victimization are reported in Table 1.

Hypothesis #1. Parent and child dyads in agreement would score the highest on average internalizing symptoms and lowest on academic achievement, followed by child-reported only, parent reported only, and dyads in agreement of non-victimization scoring the lowest on average internalizing symptoms and highest on academic achievement.

A one-way ANOVA revealed a significant overall effect for average depression $F(3, 698) = 60.88, p < .001$. Results of Dunnett C post hoc analyses revealed that as predicted, dyads in agreement of victimization scored higher than any other group, $ps < .05$. Child-reported only victims and parent-reported only victims did not differ, $p > .05$. Dyads in agreement of non-victimization scored the lowest on depression symptoms compared to all other groups, $ps < .05$. When sex was entered in the model neither the main effect of sex, $p = .630$, nor the interaction between victim group and sex, $p = .151$, were statistically significant.

There was also an overall effect of victim group on average anxiety, $F(3, 698) = 32.98, p < .001$. Post hoc analyses revealed that, contrary to our hypothesis, dyads in

agreement of victimization, self-reported only, and parent-reported only groups did not differ from one another, $ps > .05$. Consistent with our hypothesis, dyads in agreement of non-victimization scored the lowest on anxiety symptoms compared to all other groups, $ps < .05$. An examination of sex differences revealed that when sex was entered in the model neither the main effect of sex, $p = .361$, nor the interaction between victim group and sex, $p = .614$, were statistically significant.

The effect of victim group on academic achievement was also statistically significant, $F(3, 651) = 11.61, p < .001$. In partial support of our hypothesis, dyads in agreement of victimization had lower academic achievement than self-reported victims and dyads in agreement of non-victimization, $ps < .05$, but did not statistically differ from parent-reported victims. Disconcordant dyads did not differ from one another, $p > .05$. As hypothesized, dyads in agreement of non-victimization had the highest GPA, $ps < .05$. An examination of sex differences revealed a statistically significant main effect of sex, $p < .001$, but not for the interaction, $p = .938$, with girls having higher GPA than boys (see Figure 1).

Hypothesis #2. Children and parents who are concordant on reports of peer victimization involvement (victimized or not) would report higher family functioning than those who were disconcordant.

Contrary to our hypothesis, a one-way ANOVA with victim group as the independent variable revealed no statistically significant differences on family functioning, $F(3, 698) = .737, p = .530$. The interaction between sex and victim group was not statistically significant, $p = .213$.

Hypothesis #3. Family functioning would moderate the relationship between peer victimization and mental health and academic achievement. Specifically, victims (self-

reported victims, parent-reported victims, or self- and parent-reported victims) from high functioning families would have better mental health and better grades than those from lower functioning families.

Three hierarchical linear regression analyses were performed to examine family functioning as a moderator between victimization and average depression, average anxiety, and academic achievement. In accordance with Aiken and West (1991) all dichotomous predictors were coded using unweighted effects codes (i.e., -1 for boys and 1 for girls; -1 for non-victims and 1 for victims) and family functioning was centered to reduce multicollinearity. Interaction terms were created by multiplying the predictors. In Step 1 each of the predictors were entered (child-reported victimization, parent-reported victimization, sex, and family functioning). In Step 2 all 2-way interactions were entered. In Step 3 all 3-way interactions were entered and the 4-way interaction (i.e., child reported victimization X parent reported victimization X family functioning X sex) was entered in Step 4. At each step ΔR^2 was calculated and significant moderating effects were further investigated. Following recommendations by Aiken and West (1991), for significant interactions involving family functioning, the regression equation was evaluated at high, medium, and low levels of the moderator (corresponding to -1 SD, 0 SD, +1 SD, respectively). Additional analyses were performed using dummy coding to obtain regression coefficients for concordant and discordant groups for both boys and girls.

Depression. As hypothesized, a statistically significant 4-way interaction was found predicting average depression from child-reported victimization, parent-reported victimization, sex, and family functioning ($\Delta R^2 = 0.01$, $t(686) = -3.135$, $p = .002$), indicating that the relationship between self-reported victimization and average depression scores

depended on parent-reported victimization, family functioning, and the sex of the child. Specifically, the interaction of self-reported victimization, parent-reported victimization, and family functioning was significant for boys ($\Delta R^2 = 0.015$, $t(318) = 2.62$, $p = .009$), but not for girls ($\Delta R^2 = 0.007$, $t(368) = -1.82$, $p = .07$). The moderating effect was strongest for boys when parents and children were incongruent in reports of victimization (parent-reported victims, $b = -0.145$, $p < .05$; self-reported victims, $b = -0.196$, $p < .001$; see Figure 2). Specifically, for parent-reported victims and self-reported victims, high levels of family functioning buffered the association between victimization and symptoms of depression. The total variance accounted for by the model was 27%.

Anxiety. As hypothesized, a statistically significant 4-way interaction was found predicting average anxiety from child reported victimization, parent reported victimization, sex, and family functioning ($\Delta R^2 = 0.06$, $t(686) = -2.205$, $p = .028$), indicating that the relationship between self-reported victimization and average anxiety scores depended on parent-reported victimization, family functioning, and the sex of the child. Similar to depression, the moderating effect of family functioning was present for boys ($\Delta R^2 = 0.017$, $t(318) = 2.530$, $p = .012$), but not for girls ($\Delta R^2 = 0.001$, $t(368) = -.265$, $p = .545$). It was strongest for boys for self-reported victims, $b = -0.148$, $p < .001$, but did not reach significance for parent-reported victims, $b = -0.11$, $p < .10$ (see Figure 3). For self-reported victims, high levels of family functioning buffered the association between victimization and symptoms of anxiety. The total variance accounted for by the model was 16%.

Academic achievement. Contrary to our hypotheses, no evidence of a moderating effect was found in the prediction of GPA ($\Delta R^2 = 0.000$, $t(639) = -.023$, $p = .982$). However, main effects of sex and parent-reported victimization were significant for GPA. Specifically,

girls ($b = .282, p < .001$) and parent-reported non-victims ($b = -.415, p < .001$) had significantly higher GPA scores than boys and parent-reported victims, respectively.

Discussion

Scholars have highlighted the underutilization of a multiple informant approach in the area of peer victimization where children are most often classified into victim groups on the basis of self-reports alone (Bovaird, 2010; Branson & Cornell, 2009; Cornell & Bandyopadhyay, 2010; Cross & Newman-Gonchar, 2004; Furlong et al., 2010; Griffin & Gross, 2004; Leff et al., 2004; Swearer, Espelage et al., 2010; Vaillancourt, McDougall et al., 2008; Vaillancourt, Trinh et al., 2010). Furthermore, reports by parents are rare, and when utilized, the assessments of bullying and peer victimization rated by each informant are often combined into one overall measure of peer victimization (e.g., Kumpulainen et al., 1998; 1999; 2001; Sourander et al., 2007) preventing the examination of differences in outcomes between victimized children identified through self-reported victimization compared with those identified through both self- and parent-reports. The purpose of the present study was to examine the concordance and discordance of parent- and child-reports of victimization and the associations with mental health (anxiety and depression) and academic achievement. We also examined the moderating role of family functioning in these associations. Following a multi-informant approach, parent- and child-reports of mental health were combined to create composite scores of depression and anxiety. Furthermore, family functioning was assessed by parents and academic achievement was assessed by teachers.

Concordance of Parent- and Self-Reports of Peer Victimization

Results indicated that 40.1% ($n = 281$) of students were classified as victims using self-reports; with the addition of parent reports, 7.5% ($n = 53$) additional students were classified as victims. These proportions are higher than those found in other Canadian samples (e.g., Adlaf et al., 2007; Nansel et al., 2004; Vaillancourt, Brittain et al., 2010). This higher prevalence rate is likely due to the method of classification; in the current study children were classified as victims if they reported being the recipient of *any form of* bullying 2-3 times a month whereas others have often used a single general bullying question. Vaillancourt, Trinh et al. (2010) cautioned that the use of a general question compared with specific questions may underestimate the prevalence of victimization. Thus the proportions described in the current study may be more accurate. Furthermore, the overall agreement of parent- and child-reported victimization was fair; this finding is consistent with other researchers who reported low levels of agreement between various informants (Graham et al., 2003; Ronning et al., 2009; Wienke Totura, Green et al., 2009). It is possible that for the 14% of students in the concordant group, parents were explicitly made aware of the victimization due to a higher severity level in which case the child may have discussed victimization with the parent. Future research should examine both the frequency and severity of victimization in the different concordant groups.

Concordance of Peer Victimization, Mental Health, and Academic Achievement

Results also indicated that children had the highest average symptoms of depression when reporters were in agreement of victimization followed by children whose reports diverged on reports of victimization. As expected, dyads in agreement of non-victimization reported the lowest depression symptoms. These results are similar to those found with self-

and peer-reports of victimization. Both Crick and Bigbee (1998) and Graham et al. (2003) found concordant victims reported higher depression/emotional distress than any other group.

In terms of average anxiety symptoms, children classified as victims according to self-reports, parent-reports, or both did not differ from one another, however, each of these groups scored higher than non-victimized children. In the literature, findings for the anxiety levels of various victim groups are mixed. Some researchers have found that “true victims” (i.e., concordant victims using self and peer reports) and self-reported only victims had higher anxiety symptoms than those identified by peers only and non-victims (Graham et al., 2003; Graham & Juvonen, 1998), whereas others have found no differences between victim groups (Crick & Bigbee, 1998).

We also found that concordant non-victims had higher academic achievement out of all other groups whereas concordant victims had a lower GPA than self-reported victims. In contrast, using self- and peer-reports of victimization Graham et al. (2003) found that non-victims and self-reported victims had higher GPA than peer-reported and concordant victims. Wienke Totura, Green et al. (2009) found no differences between concordant non-victims, self-reported victims, teacher-reported victims, or concordant victims on GPA. Given that the literature lacks consistent patterns in the differences between victim groups it is not surprising that the patterns found in the current study are divergent. The different patterns in depression, anxiety, and academic achievement may also be due in part to our choice of informants. The current study adds to the literature by examining the correlates of concordant reports of victimization by children and parents.

Overall, our analyses of concordant and discordant victim groups revealed that dyads in agreement of non-victimization had the best outcomes with the fewest internalizing symptoms (both depression and anxiety) and highest academic achievement. These results are consistent with studies where researchers have classified children as victims if one or more informants identified a child as victimized. Specifically, children classified as victims by self-, parent-, and/or teacher-reports have more psychiatric symptoms than those not involved in bullying (Kumpulainen et al., 1998, 1999, 2001; Sourander et al., 2007). Results of the current study lend support to the use of multiple informants in the assessment of peer victimization. Children not identified as a victim by one informant (i.e., self-report) may be identified by an additional source (Branson & Cornell, 2009; Crick & Bigbee, 1998; Graham, Bellmore, & Juvonen, 2003; Graham & Juvonen, 1998; Ladd & Kochenderfer-Ladd, 2002) and this ‘other’ identification is often linked to negative outcomes such as poorer mental health.

Concordance of Peer Victimization and Family Functioning

Contrary to our expectations, children and parents who were concordant on reports of peer victimization did not report higher family functioning than those who were discordant. Specifically, victim groups did not differ from one another on family functioning. This lack of differences may in part be due to a ceiling effect and within the measure; 27.8% of parents reported the maximum family functioning score. It is possible that we may have found an effect of victim group if the measure had more variation. To our knowledge this is the first study to examine concordance of peer victimization and family functioning. Previous research has found that parent-reported family functioning was not related to self-reported bully/victim status (Stevens et al., 2002) nor was child-reported

family functioning and parent-reported victimization (Holt et al., 2009); however researchers have found that child-reported family functioning was related to self-reported victimization (Holt et al., 2009; Rigby, 1993; Stevens et al., 2002).

Aside from family functioning, there are a number of factors that may explain informant discrepancies. Holt et al. (2009) suggested that severity of victimization may lead teachers to inform parents about victimization, students to discuss victimization with their parents, or parents to inquire about a child's distress from victimization. Indeed, in the current study we found that when children and their parents were concordant in reports of victimization they also had high internalizing symptoms. Researchers should focus on examining why discrepancies exist between raters on assessments of peer victimization.

Moderating Role of Family Functioning

Although differences between concordant non-victims and all other groups may indicate that children should be classified as victims (i.e., those identified as a victim by any informant) and non-victims (i.e., concordant non-victims) we continued to examine the victim and non-victim groups because we were interested in the moderating role of family functioning on the relationship between peer victimization and outcomes in each of the concordant and discordant victim groups. Furthermore, even though the level of family functioning did not differ by victim group it was still possible that family functioning would moderate the relationship between peer victimization and internalizing symptoms and academic achievement. Given that children in the concordant victimization group had the worst outcomes and those in the discordant groups also had poor outcomes we expected that family functioning would have more impact for concordant victims.

Results of the moderation analyses indicated that the relationship between self-reported peer victimization and internalizing symptoms (both average depression and average anxiety) depended on family functioning, parent-reported victimization, and the sex of the child. For boys, but not girls, family functioning moderated the relationship between peer victimization and depression symptoms for discordant groups. For these groups, boys' depression symptoms were higher at low levels of family functioning than at medium and high levels. At high levels of family functioning, boys' depression symptoms were reduced to below mean levels. In examining the moderating role of family functioning and anxiety, the same was true for boys who only self-reported victimization but not for parent-reported victims. Contrary to expectations, family functioning did not moderate the association between peer victimization and academic achievement. These results indicate that for victimized boys, a positive, high-functioning family environment may decrease the risk of mental health problems when victimization is not discussed between parents and children but that family functioning does not significantly alter academic achievement.

We found no evidence for the moderating effect of family functioning in girls. Interestingly, researchers examining the role of perceived parental support (child-reported) in the association between peer victimization and internalizing symptoms have found that for girls, but not boys, perceived parental support buffered the association between peer victimization and mental health problems (Davidson & Demaray, 2007; Stadler et al., 2010). Other researchers examining the moderating role of child-reported family functioning on internalizing symptoms (composite of child and teacher reports) in the prediction of victimization did not find any evidence to support the moderating role of family functioning (Wienke Totura, MacKinnon-Lewis et al., 2009). Rather than assessing perceived parental

support we measured parent-reported family functioning which may be a different concept than child perceived parental support. This conceptual difference may account for why the current results are divergent from previous literature. Perhaps for boys, having a well functioning home environment alleviates some of the stress associated with being bullied. In comparison, since girls are more distressed by peer victimization (Paquette & Underwood, 1999) and may tend to ruminate about their victimization, just having a well functioning family may not buffer the stress of peer victimization. For girls it may be that *perceived social support* buffers the risk of poor mental health, and for boys, having a *well functioning family* is a buffer to poor mental health. Future studies should examine both family functioning and perceived parental support in the same study to examine if family functioning and perceived support are indeed different constructs and also to examine if the relationships do indeed differ by sex.

Strengths

The current study has several strengths. First, although multiple informants of both victimization and mental health symptoms have been used by a number of Finnish researchers (e.g., Kumpulainen et al., 1998, 1999; Ronning et al., 2009; Sourander et al., 2007; Sourander, Helstela, Helenius, & Piha, 2000), this practice is rare in North America. Accordingly, reports of mental health and peer victimization by Canadian school-aged children and their parents were examined. Second, the same definition of bullying was provided to both parents and children to ensure that both types of informants had the same concept in mind. Third, the current study adds to the existing literature by including sex as a potential moderator when examining the relation between peer victimization, internalizing problems, and academic achievement using self- and parent-reports of victimization, anxiety

and depression as well teacher reports of academic achievement to reduce reporter bias. Finally, De Los Reyes and Kazdin (2005) suggested that family functioning may be related to discordance of parent and child ratings which led us to examine the moderating role of family functioning.

Limitations

Although there are many strengths to the current study there are also limitations. While we collected information on mental health and peer victimization from both parents and children, we did not use a measure of child-reported family functioning. Children tend to provide a more negative view of family functioning than parents which may be due to social desirability on the part of the parent (Stevens, et al., 2002). As such, children may provide a more accurate picture of family functioning than parents (Stevens, et al., 2002). An average score of parent- and child-reported family functioning may result in an increase in measurement precision.

De Los Reyes and Kazdin (2005) cite evidence that maternal psychopathology may be a cause of informant discrepancies such that “depression promotes a negative bias in the manner in which mothers perceive their children’s behaviour and emotional problems” (De Los Reyes & Kazdin, 2005, pp. 487). In the current study we did not assess maternal depression. It is possible that maternal depression could lead to an increase in reports of child victimization, poor mental health symptoms, and a negative view of family functioning. Thus maternal psychopathology should be used as a covariate in future studies.

Implications

The current study has implications for prevention and intervention strategies. Research indicates that poor mental health function is a consequence of poor treatment and

not an antecedent (see McDougall et al., 2010; Vaillancourt et al, in press for review), thus the low agreement between parent- and child-reports of victimization highlights the need for increased communication between school and home about peer victimization before it escalates. It is possible that some students do not report victimization to their parents because they do not feel confident in their parents' ability to help them. Given the low agreement between parents and children in conjunction with the poor outcomes for concordant victims, school personnel should provide parents with resources on how to foster communication about bullying and how to support and advise a child who may be being victimized by his/her peers. Strategies may include making parents aware of the different forms of victimization and prevalence rates within their child's school as well as the negative correlates of being bullied such as poor mental health and lower academic achievement. Furthermore, the results of the present study highlight the need for schools to collect assessments of peer victimization from multiple informants; students identified by more than one informant may be at especially high risk for mental health problems. This method of assessment can then provide for targeted intervention practices for those who need it the most.

Conclusion

In conclusion, the results of the present study indicate that a high functioning family environment may act as a buffer against the poor mental health correlates associated with peer victimization for boys. Future research is needed to replicate these findings. The results also support the use of multiple informants in the assessment of peer victimization in future research since children may not be identified as a victim by the use of a single informant alone. Furthermore, those identified by more than one informant may have worse outcomes

than those identified by only self-reports. Also, the current study sets a precedent for researchers to examine why discrepancies in reports of peer victimization exist.

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Table 1

Descriptive Statistics

	Total sample		Girls		Boys		Sex differences	
	M (SD)	N	M (SD)	N	M (SD)	N	χ^2 or F	p
Average Anxiety	0 ^a (0.76)	702	0.06 (0.74)	376	-0.07 (0.76)	326	5.76	$p < .05^b$
Average Depression	0 (0.81)	702	0.02 (0.79)	376	-0.03 (0.83)	326	0.74	$p = .390$
Family Functioning	21.60 (2.23)	702	21.57(2.22)	376	21.64 (2.25)	326	0.18	$p = .671$
GPA	8.11 (1.73)	655	8.36 (1.64)	354	7.82 (1.78)	301	16.58	$p < .001$
Parent reported victim	21.5%	702	22.6%	376	20.2%	326	0.58	$p = .448$
Self reported victim	40.0%	702	42.0%	376	37.7%	326	1.34	$p = .247$

^aComposite scores of anxiety and depression were created by equally weighting standardized scores of parent and child composite measures. ^bSex differences in anxiety were found when examined independent of other variables; however, when entered with victim group the main effect of sex was not statistically significant, $p = .361$.

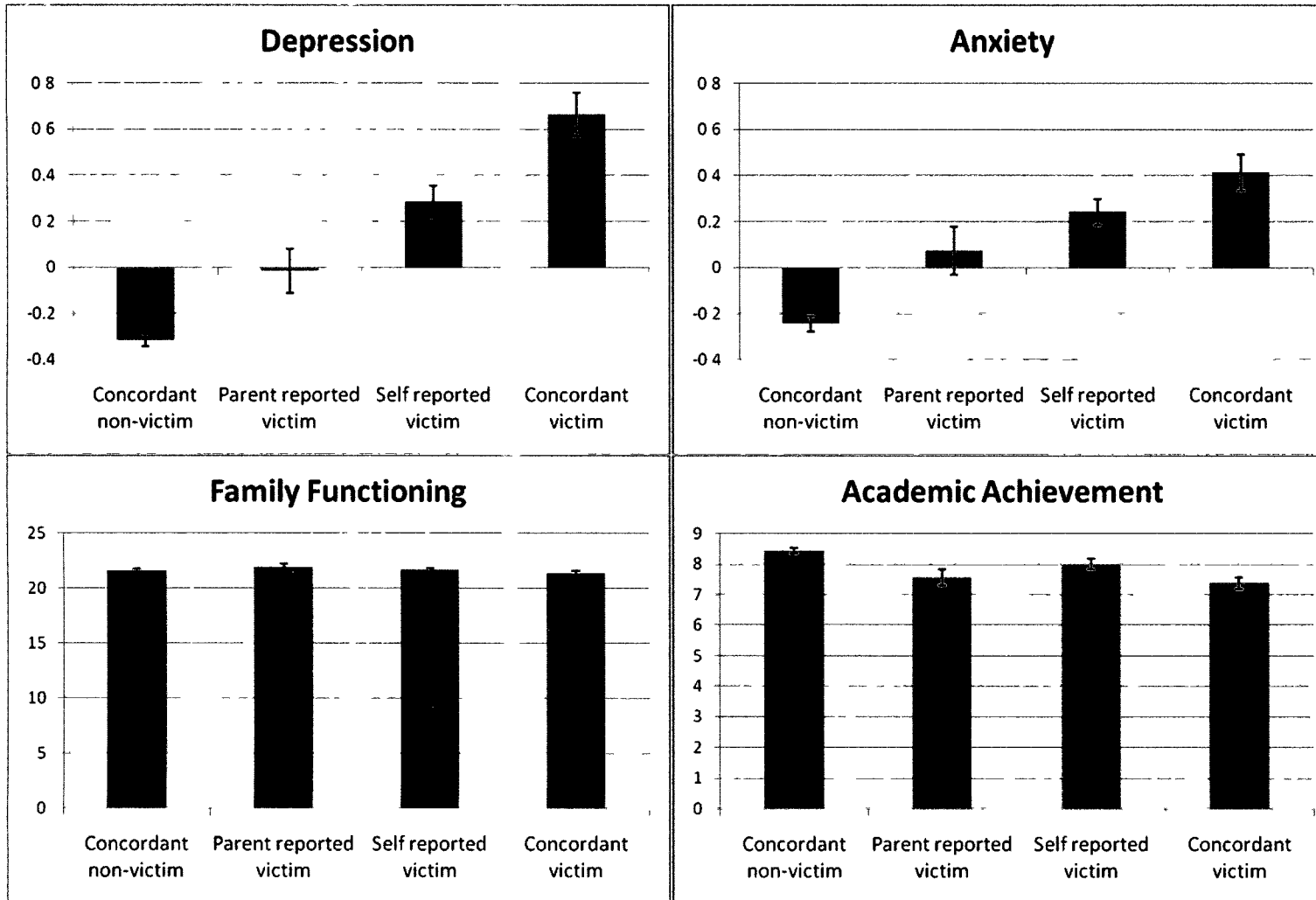


Figure 1. Depression, anxiety, family functioning and academic achievement by victim group. Note: Depression and anxiety were created by averaging standardized scores of parent and child composite measures.

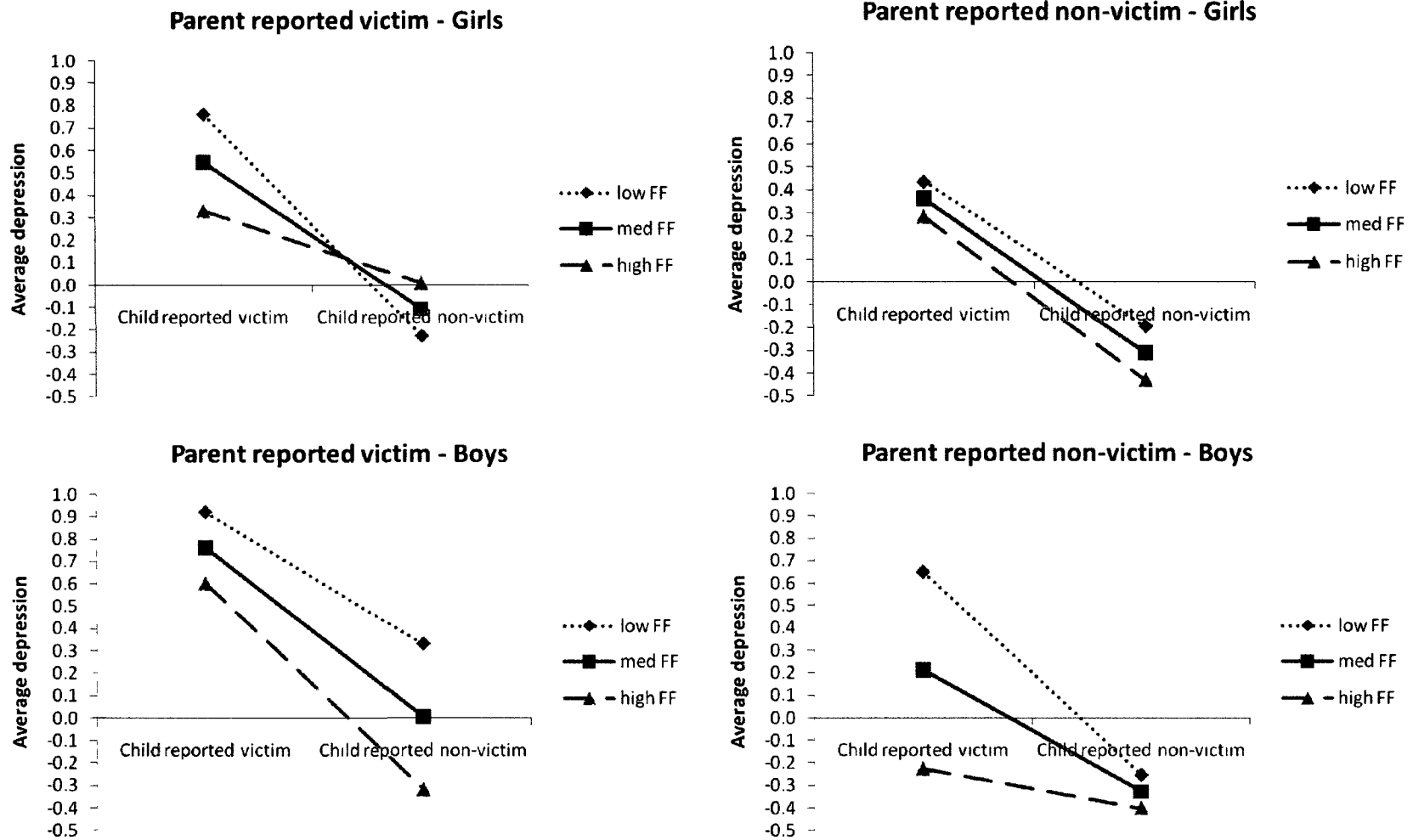


Figure 2. The relationship between self-reported victimization and depression depends on parent reported victimization, sex, and family functioning.

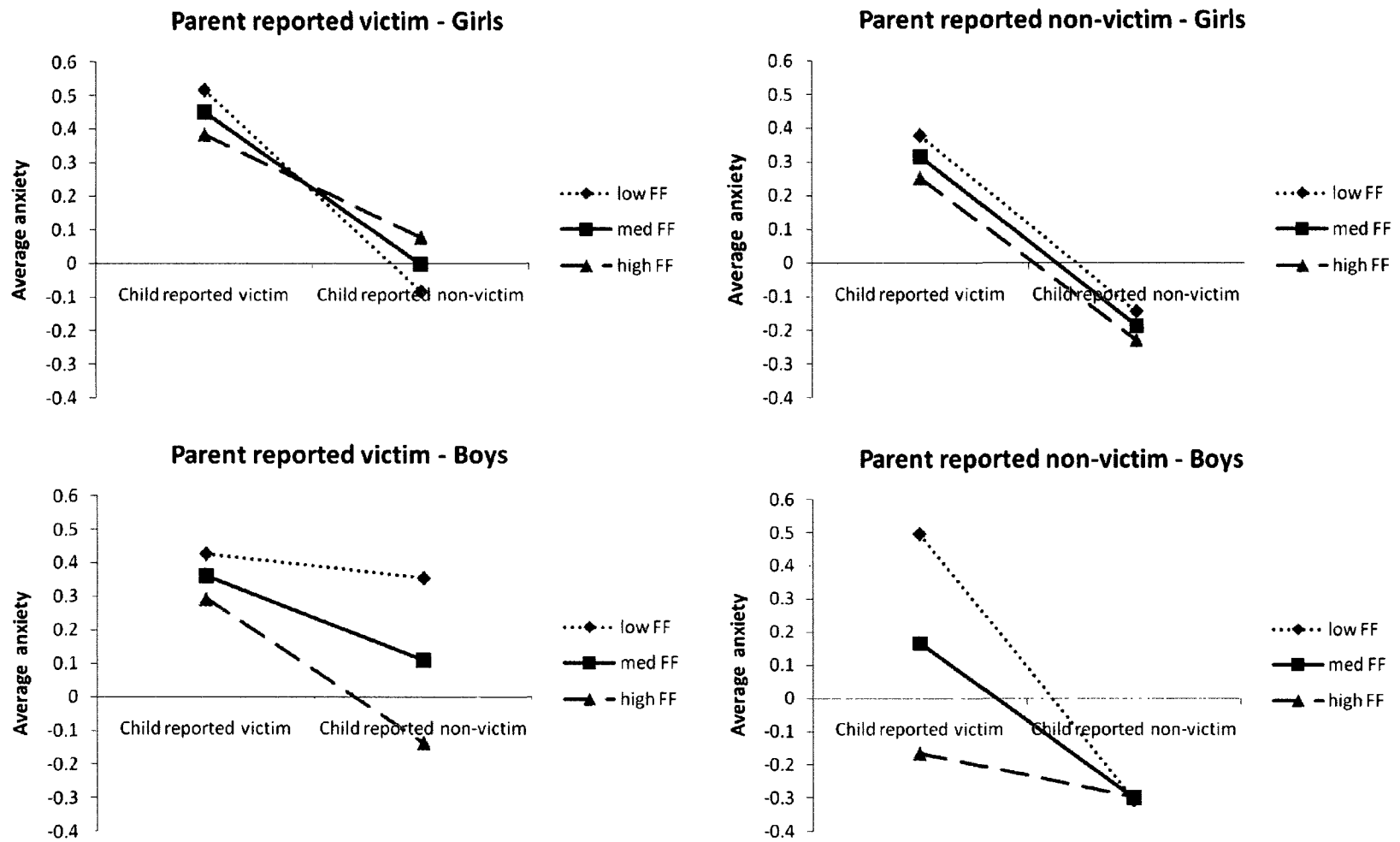


Figure 3. The relationship between self-reported victimization and anxiety depends on parent reported victimization, sex, and family functioning.