Temperamental Differences in Children's Reactions to Peer Victimization

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Abstract

Objective—This research examined the hypothesis that temperament and sex moderate the contribution of peer victimization to children's subsequent adjustment (aggression and depressive symptoms).

Method—Children (125 boys, 158 girls; *M* age = 7.95 years, *SD* = 0.32; 77.7% White, 22.3% minority) and teachers reported on overt and relational victimization. Parents rated children's temperament (inhibitory control and negative emotionality) and depressive symptoms, and teachers reported on children's overt and relational aggression.

Results—Across a one-year time period, (a) overt victimization predicted overt aggression in girls with poor inhibitory control; (b) overt and relational victimization predicted depressive symptoms in girls with high negative emotionality; and (c) relational victimization predicted depressive symptoms in boys with low negative emotionality.

Conclusions—This research helps to explain individual variation in children's reactions to peer victimization, and has implications for person-by-environment models of development. Moreover, this research informs the development of targeted intervention programs for victimized youth that bolster specific resources depending on their temperament.

Keywords

peer victimization; temperament; aggression; depressive symptoms

Approximately 10–20% of children are repeatedly victimized by peers, with even more experiencing periodic victimization (Graham & Juvonen, 1998; Solberg & Olweus, 2003). This victimization can take the form of physical (e.g., hitting), verbal (e.g., name-calling), or relational (e.g., social ostracism) abuse. Because peer victimization is associated with a wide range of adjustment difficulties (Card & Hodges, 2008; Hanish & Guerra, 2002), scientists, educators, and policy makers are increasingly concerned about its effects. Key to elucidating these effects is explaining individual differences in the consequences of victimization. Although victimization is linked to both aggressive behavior (Lamarche et al., 2007; Ostrov, 2010) and depressive symptoms (Prinstein, Boergers, & Vernberg, 2001), these associations are moderate in size, suggesting some individual variation. Moreover, person-centered analyses identify separate clusters of victimized children who show distinct symptom

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patterns (Hanish & Guerra, 2002). Understanding these individual differences can assist efforts to identify at-risk children and to prevent adverse effects. This study examined the hypothesis that two temperamental traits (inhibitory control and negative emotionality) contribute to individual variation in the consequences of peer victimization. Moreover, it was anticipated that victimization-by-temperament interactions would differ for girls and boys.

Adjustment following Peer Victimization: Moderating Roles of Temperament and Sex

Prospective research reveals that peer victimization contributes to subsequent aggression (Lamarche et al., 2007; Ostrov, 2010) and depressive symptoms (Prinstein et al., 2001). Moreover, early exposure to victimization contributes to aggression and depressive symptoms even after accounting for recent victimization (Rudolph, Troop-Gordon, Hessel, & Schmidt, 2011), suggesting long-term consequences. However, research has not yet identified many factors that explain individual differences in adjustment following victimization (for exceptions, see Keenan et al. 2010; Prinstein, Cheah, & Guyer, 2005). This study was guided by person-by-environment models of development, which posit that environmental effects on adjustment depend on personal attributes such as temperament (Belsky, Bakermans-Kranenburg, & van Ijzendoorn, 2007; Boyce & Ellis, 2005). Drawing from such models, as well as research suggesting that temperament moderates environmental contributions to adjustment (Lengua, Wolchik, Sandler, & West, 2000; Rothbart & Bates, 2006), we examined whether the consequences of victimization are contingent on children's temperament.

Temperament is defined as relatively stable, constitutionally based individual differences in emotional, motor, and attentional reactivity and self-regulation (Rothbart & Bates, 2006). Given considerable evidence that inhibitory control and negative emotionality contribute to children's adjustment, particularly aggression (Lengua, 2003; Frick & Morris, 2004) and depressive symptoms (Lonigan, Phillips, & Hooe, 2003), respectively, we focused on these temperamental dimensions. Inhibitory control refers to the ability to intentionally direct internal resources towards goals or to inhibit inappropriate behaviors (Rothbart & Bates, 2006). Negative emotionality refers to a susceptibility to experiencing heightened negative emotions (e.g., anger/frustration, sadness; Ellis & Rothbart, 2001; Rothbart, Ahadi, Hershey, & Fisher, 2001), difficulty being soothed once aroused, and sensitivity to negative environmental cues (Compas, Connor-Smith, & Jaser, 2004; Rothbart & Bates, 2006). We anticipated that victimization would more strongly predict aggression over time in children with low than high levels of inhibitory control, whereas victimization would more strongly predict depressive symptoms over time in children with high than low levels of negative emotionality.

Inhibitory control and aggression

Being victimized by peers can compromise children's social status and sensitize them to perceived, anticipated, or actual social threat (Hazler, Carney, & Granger, 2006). Children may react through defensive efforts aimed at protecting themselves or re-establishing their

status; these goals may be achieved through aggression. Because children with poor inhibitory control have trouble forming adaptive responses and inhibiting inappropriate responses, they are particularly likely to show aggression following victimization. Supporting this idea, research reveals that exposure to risky environments (e.g., low socioeconomic status, family and neighborhood risk) contributes to externalizing problems in children with low but not high effortful control. (Lengua, Bush, Long, Kovacs, & Trancik, 2008; Veenstra, Lindenberg, Oldehinkel, De Winter, & Ormel, 2006).

We anticipated that inhibitory control would be especially likely to moderate the effect of overt victimization on overt aggression. Because overt victimization entails behaviors that are more immediate and are targeted more directly and explicitly toward the child than those involved in relational victimization, we thought that inhibitory control would be more important to controlling reactions to overt than relational victimization. Moreover, because overt victimization represents a direct threat to physical rather than psychological safety, we expected that the interactive effect of overt victimization and inhibitory control would be more relevant to reactions that involve overt than relational aggression. This pattern of social interaction may become engrained in children such that it is perpetuated over time. Thus, overt victimization may be especially likely to predict overt aggression in children with poor inhibitory control.

Negative emotionality and depressive symptoms

Victimization also can present a threat to one's sense of self-worth and self-efficacy as children begin to attribute peer maltreatment to their own personality or behavior (Graham, Bellmore, Nishina, & Juvonen, 2009; Graham & Juvonen, 1998). These negative cognitions, in turn, predict depressive symptoms (e.g., Prinstein et al., 2005). High temperamental negative emotionality may intensify these adverse reactions and make it difficult for children to recover, thereby increasing risk for depressive symptoms. Indeed, research reveals that negative emotionality moderates the effects of environmental risk on depression, particularly in girls. In one study, peer rejection predicted depression in girls with high negative emotionality but not in boys or in girls with moderate or low negative emotionality (Brendgen, Wanner, Morin, & Vitaro, 2005). In another study, victimization predicted depression in girls with two short alleles of the serotonin transporter gene, which is linked with negative emotionality (Pauli-Pott, Friedl, Hinney, & Hebebrand, 2009), but not in girls with one or no short alleles (Benjet, Thompson, & Gotlib, 2010).

Moderating role of sex

We further hypothesized that victimization-by-temperament effects would be moderated by sex. Compared to girls, boys show a stronger focus on dominance in the peer group and are more likely to engage in overt aggression (Rose & Rudolph, 2006). Consequently, victimized boys may feel more pressure than girls to re-establish their dominance. In this struggle to reassert their position in the hierarchy, boys with poor inhibitory control may resort to aggression, especially overt aggression, whereas boys with strong inhibitory control may assert themselves in more effective and prosocial ways. Compared to boys, girls show a stronger focus on connection-oriented social goals and threats to their relationships (Rose & Rudolph, 2006), and such a focus coupled with peer rejection puts girls at higher risk for

depressive symptoms (Prinstein & Aikins, 2004). Thus, girls whose relationships are compromised by victimization, especially relational victimization, may experience a greater threat to their sense of self than would boys. Girls with high negative emotionality are likely to be overwhelmed by these feelings, setting the stage for depressive symptoms, whereas girls with low negative emotionality may more effectively manage these feelings. We therefore hypothesized that (a) the interactive contribution of victimization, especially overt victimization, and poor inhibitory control to overt aggression would be stronger in boys than in girls; and (b) the interactive contribution of victimization, especially relational victimization, and high negative emotionality to depressive symptoms would be stronger in girls than in boys.

Study Overview

In sum, this research examined the hypothesis that the temperament and sex of the child would moderate the influence of peer victimization on subsequent aggression and depressive symptoms. Using a prospective multi-informant design, we examined the contribution of victimization and temperament to children's adjustment from 2nd to 3rd grade. This developmental stage was selected for several reasons. First, the nature of children's peer interactions changes from early to middle childhood as children begin to spend more time with peers and turn to peers for companionship (McHale, Dariotis, & Kauh, 2003). Peer interactions also become less supervised by adults and take place in a wider range of settings, and peer groups increase in size and diversity (Rubin, Bukowski, & Parker, 2006). These changes increase the opportunity for victimization. Moreover, being in a wider range of less structured social settings may intensify individual differences in children's temperament (Shiner, 1998). Second, as social-cognitive abilities develop, children increasingly appreciate the perspectives of others (Rubin et al., 2006). Consequently, children's concern about peer group acceptance rises significantly. Increasing cognitive and emotional abilities also promote more sophisticated self-regulatory capacities, which may manifest in improved inhibitory control and emotion regulation (Shiner, 1998). Thus, temperamentally based poor inhibitory control and high negative emotionality may become more salient and begin to heighten vulnerability to the adverse consequences of victimization at this time.

Method

Participants and Procedures

Participants were 283 2nd graders ($M = 7.95$ years, $SD = .32$; 125 boys, 158 girls) from several Midwestern towns. The sample included children from various racial/ethnic groups (77.7% White, 13.9 % African American, 8.4% other) and socioeconomic backgrounds (31.4% received a subsidized school lunch). Parents provided written consent, and children provided oral assent. Participants completed the questionnaires twice, one year apart. Child measures were administered aloud in classrooms during the 2nd and 3rd grades. Parent surveys were distributed and returned by mail or home visits. Teachers returned their surveys in a locked box at their school or in person. All of the procedures were approved by the university's Institutional Review Board.

Of the 494 eligible children, 373 (76%) received parental consent to participate. Participants and nonparticipants at Wave 1 (W_1) did not significantly differ in sex, $\chi^2(1) = .25$, *ns*, age, $t(492) = .13$, *ns*, race/ethnicity (white vs. minority), $\chi^2(1) = .01$, *ns*, or lunch status (full pay vs. subsidized), $\chi^2(1) = .16$, *ns*. Of the 373 participants, W_1 parent data were available for 300 children (80%). Of the 300, 97% were female caregivers. Children whose parents did and did not participate at W_1 did not differ in sex, $\chi^2(1) = .96$, *ns*, age, $t(371) = 1.23$, *ns*, victimization, $t(371) = .33$, *ns*, or most of the W_1 study variables (*ts* < 1.68, *ns*). However, children whose parents did not participate were more likely than those whose parents did participate to be members of minority groups, $\chi^2(1) = 11.34$, $p < .01$ (42% and 23%, respectively), recipients of subsidized lunch, $\chi^2(1) = 12.47$, $p < .001$ (54% and 32%, respectively), to receive overt victimization $t(371) = 2.18$, $p < .05$ ($M = .35$, $SD = 1.73$ and $M = -.09$, $SD = 1.50$, respectively, $d = .27$) and to show overt aggression, $t(371) = 2.70$, $p < .01$ ($M = 1.79$, $SD = 1.18$ and $M = 1.45$, $SD = .89$, respectively, $d = .33$). Of the 300 children with W_1 parent data, 283 (94%) had longitudinal data. Children with and without longitudinal data did not significantly differ in demographic or W_1 study variables (*ts* < .95, $\chi^2 < 1.54$, *ns*) except that children with longitudinal data were younger than those without data, $t(298) = 2.05$, $p < .05$ ($M = 7.95$, $SD = .32$ and $M = 8.11$, $SD = .44$, respectively, $d = .42$).

Measures

As displayed in Table 1, all of the measures showed adequate internal consistency and moderate to high cross-wave stability.

Peer victimization—Child and teacher report on a revised (Rudolph et al., 2011) Social Experiences Questionnaire (Crick & Grotpeter, 1996) was used to assess children's exposure to peer victimization. This measure assesses overt and relational victimization. Eleven items (six overt and five relational; available from the first author) were added to the original measure to provide a more comprehensive assessment. Children checked a box and teachers provided a rating indicating how often children experienced each type of victimization on a 5-point scale (*Never* to *All the Time*). Scores were computed as the mean of the items within each subscale, with higher scores reflecting greater exposure to overt victimization (11 items; e.g., "How often do you get hit by another kid?" "How often do you get teased by another kid?") and relational victimization (10 items; e.g., "How often does a friend spread rumors about you because they are mad at you?").

Self-reports of victimization correspond to reports by peers (Graham & Juvonen, 1998) and parents (Bollmer, Harris, & Milich, 2006). Teacher reports of victimization also have established reliability and validity (Ladd & Kochenderfer-Ladd, 2002), and self- and teacher reports of victimization are significantly correlated (Ladd & Kochenderfer-Ladd, 2002). This revised version of the SEQ has established predictive validity (Rudolph et al., 2011). Composite victimization scores were created by standardizing and summing the child and teacher reports (average $r = .24$, *ps* < .05). Composite scores increase reliability and reduce the impact of measurement error (Ladd & Kochenderfer-Ladd, 2002; Schwarz, Barton-Henry, & Pruzinsky, 1985). Moreover, this composite score provides a more comprehensive picture of victimization by incorporating both child and teacher perspectives, which may

provide both overlapping and distinct information about victimization experiences. Indeed, research shows that self and teacher reports of victimization are uniquely associated with children's adjustment, and a multi-informant composite of victimization is a better predictor of adjustment than mono-informant assessments (Ladd & Kochenderfer-Ladd, 2002).

Temperament—Parents completed the Temperament in Middle Childhood Questionnaire (Simonds, Kieras, Rueda, & Rothbart, 2007; Simonds & Rothbart, 2004). The inhibitory control subscale included 8 items reflecting the capacity to plan and to suppress inappropriate approach responses (e.g., "Likes to plan carefully before doing something." "Can stop her/himself when s/he is told to stop."). The negative emotionality subscale included 24 items reflecting the tendency to show intense negative emotions, including anger (e.g., "Gets angry when s/he has trouble with a task.") and sadness (e.g., "Becomes tearful when tired."), as well as low soothability (e.g., "Is very difficult to soothe when s/he has become upset."). Parents rated each item on a 5-point scale (1 = *Almost Always Untrue* to 5 = *Almost Always True*). Scores were computed as the mean of the items within each subscale. Parent reports of temperament are reliable (Rothbart et al., 2001; Simonds et al., 2007) and stable (Rothbart et al., 2001). Validity has been established through correlations with child report (Lengua, 2003; Simonds & Rothbart, 2004), behavioral observations (Wilson, 2006), and computer assessments (Simonds et al., 2007; for a review, see Rothbart & Bates, 2006).

Because the negative emotionality subscale included three components, a confirmatory factor analysis was conducted to examine its structure and establish factorial invariance across waves. Within each wave, the model included a latent variable reflecting negative emotionality, with each of the subscales (anger, sadness, and low soothability) serving as indicators. Error terms of the same indicators were allowed to correlate across waves (Keith, 2006; McDonald & Ho, 2002). In the unconstrained model, factor loadings were freely estimated across waves. In the constrained models, factor loadings of the same indicators were set equal across waves. Both the unconstrained and constrained models fit the data well, χ^2s(N = 242, df = 5 – 7) = 3.84 – 4.14, CFIs = 1.00, RMSEAs = .000, and the differences in the CFIs and RMSEAs across models were negligible, suggesting that the more parsimonious constrained models fit the data as well as the unconstrained model (Little, 1997). Moreover, chi-square difference tests revealed nonsignificant differences between the unconstrained and constrained models, establishing factorial invariance across waves, χ^2s(N = 242, dfs = 1 – 2) = .18 – .30, *ns*. Confirming that the three components comprise a unitary construct of negative emotionality, the indicator factor loadings were high (average coefficient = .73 – .86, ps < .001 across waves).

Overt and relational aggression—Teachers completed the Children's Social Behavior Scale (Crick & Grotpeter, 1995) to assess overt and relational aggression. Teachers rated each item on a 5-point scale (1 = *Never True* to 5 = *Almost Always True*). Scores were computed as the mean of the items within each subscale, with higher scores reflecting more overt aggression (4 items; e.g., "This child hits or kicks peers.") and relational aggression (5 items; e.g., "This child spreads rumors or gossips about some peers."). Teacher reports of

aggression are valid (Monks, Smith, & Swettenham, 2003), and reports on this measure show strong correspondence with peer reports (Crick, 1996).

Depressive symptoms—Parents completed the Short Mood and Feelings Questionnaire (SMFQ; Angold et al., 1995). This measure includes 13 items describing depressive symptoms (e.g., "My child felt unhappy or miserable."). To provide a format similar to other questionnaires, the response options were changed from a 3-point to a 4-point scale (1 = *Not at All* to 4 = *Very Much*; see also, Lau & Eley, 2008). Scores were computed by averaging across items. Reliability and validity have been documented (Angold, et al., 1995), and this measure differentiates depression from other psychiatric diagnoses (Thapar & McGuffin, 1998). Both parent and child reports of depression are valid in young children, and parent reports are equally or more reliable than child reports (for a review, see Rudolph & Lambert, 2007). Supporting their validity, parent reports of depression show concordance with clinician-rated diagnoses (Jensen et al., 1999). Research also suggests that both parent and child reports of internalizing symptoms, including depression, provide unique incremental information (Hope et al., 1999). The incremental validity of parent reports may be particularly important for assessing depression in young children (Jensen et al., 1999). Thus, data support the reliability, validity, and clinical utility of parent-reported depressive symptoms in young children.

Establishing the distinctiveness of temperament and adjustment—Several approaches were used to establish that our measure of negative emotionality was distinct from those of aggression and depressive symptoms. First, we examined the content of the items. Whereas items on the anger subscale tap frustration and do not have an interpersonal focus, items on the overt and relational aggression subscales tap children's behavior toward others. Likewise, whereas items on the sadness subscale focus on a general proneness to feelings of sadness, items on the SMFQ tap a variety of symptoms other than mood-related changes (e.g., cognitive and behavioral symptoms such as low self-worth, poor concentration, fatigue, and restlessness) that comprise the full clinical syndrome of depression. Second, we conducted three sets of confirmatory factor analyses. In each set, we examined the distinction between negative emotionality and one adjustment measure (overt aggression, relational aggression, or depressive symptoms) by comparing two models. Model 1 consisted of two latent variables, one reflecting negative emotionality and one reflecting the adjustment measure. Model 2 consisted of one latent variable, reflecting both negative emotionality and the adjustment measure. In all three sets of analyses, a chi-square difference test revealed that Model 1 fit the data significantly better than did Model 2 ($\chi^2(1) = 413.80$, $p < .001$ for overt aggression; $\chi^2(1) = 424.00$, $p < .001$ for relational aggression; and $\chi^2(2) = 210.53$, $p < .001$ for depressive symptoms), suggesting that negative emotionality is distinct from these adjustment measures. Third, we examined the stability coefficients for the measures. Of note, the stability of anger and sadness was quite a bit higher than the stability of aggression and depressive symptoms (Table 1), suggesting that anger and sadness as reflected in negative emotionality represent dispositional traits of children whereas aggression and depressive symptoms have a state component. Collectively, these analyses suggest that the temperamental trait of negative emotionality is quite distinct from aggression and depressive symptoms.

Results

Descriptive and Correlational Findings

Table 1 presents 2nd grade descriptive data and intercorrelations for girls and boys. A series of *t*-tests revealed significant sex differences for inhibitory control, $t(281) = -3.05$, $p < .01$, ($d = .36$), overt aggression, $t(381) = 3.83$, $p < .001$ ($d = .45$), and depressive symptoms, $t(281) = 2.12$, $p < .05$ ($d = .23$). Specifically, girls scored higher than boys on inhibitory control, and boys scored higher than girls on overt aggression and depressive symptoms. These findings are consistent with prior research in this age group (Crick & Grotpeter, 1995; Else-Quest, Hyde, Goldsmith, & Van Hulle, 2006; Hankin, et al., 1998).

In both girls and boys, overt victimization was significantly positively correlated with overt and relational aggression. Only in girls, overt victimization was significantly positively correlated with depressive symptoms, and relational victimization was significantly positively correlated with relational aggression. In both girls and boys, inhibitory control was significantly negatively correlated with overt and relational aggression and depressive symptoms. Negative emotionality was significantly positively correlated with overt aggression and depressive symptoms in girls, but was only significantly positively correlated with depressive symptoms in boys. Comparisons of the correlations using Fishers r-to-Z transformations revealed that overt victimization was significantly more strongly correlated with overt aggression in boys than in girls ($Z = 2.26$, p < .05) and with depressive symptoms in girls than in boys ($Z = -2.59$, $p < .01$). None of the other correlations was significantly different across sex.

Victimization × Temperament Interactions Predicting Adjustment

A series of hierarchical multiple regression analyses was conducted to examine the interactive contribution of 2nd grade victimization (overt or relational) and temperament (inhibitory control or negative emotionality) to 3rd grade adjustment (overt or relational aggression and depressive symptoms), adjusting for 2nd grade adjustment. Second-grade adjustment was entered at the first step. The mean-centered main effects of victimization, temperament, and sex (0 = boys, 1 = girls) were entered at the second step, the two-way interactions (victimization × temperament, victimization × sex, and temperament × sex) were entered at the third step, and the three-way interactions (victimization × temperament × sex) were entered at the fourth step. We conducted preliminary exploratory analyses to examine ethnicity as a moderator by replacing sex with ethnicity. Because there were no main or interactive effects of ethnicity, this variable was not included in the analyses. Significant three-way interactions were interpreted by examining the two-way interactions separately for girls and boys. Two-way interactions within each sex were decomposed and depicted by solving the regression equations to predict adjustment from victimization at low (-1 *SD*), moderate (mean), and high (+ 1 *SD*) levels of inhibitory control or negative emotionality (Aiken & West, 1991).

Predicting Overt Aggression

Overt victimization—The regression predicting overt aggression from overt victimization and inhibitory control ($F(8, 274) = 23.69$, $p < .001$; Table 2) revealed a nonsignificant main

effect of overt victimization, a significant negative main effect of inhibitory control, and a marginally significant negative main effect of sex. The analysis also revealed a significant Overt Victimization × Sex interaction, but this interaction was qualified by a significant Overt Victimization × Inhibitory Control × Sex interaction. Separate regressions were conducted to examine the two-way Overt Victimization × Inhibitory Control interaction in girls and boys. In girls, this analysis revealed a significant positive main effect of victimization ($\beta = .22$, $t(154) = 3.57$, $p < .001$), a significant negative main effect of inhibitory control ($\beta = -.19$, $t(154) = -2.97$, $p < .01$), and a significant Overt Victimization × Inhibitory Control interaction ($\beta = -.17$, $t(153) = -2.88$, $p < .01$, $R^2 = .03$). As shown in Figure 1a, overt victimization significantly predicted overt aggression in girls with low ($\beta = .34$, $t(153) = 4.63$, $p < .001$) and moderate ($\beta = .19$, $t(153) = 3.06$, $p < .01$) but not high ($\beta = .04$, $t(153) = .41$, ns) inhibitory control. In boys (Figure 1b), this analysis revealed a nonsignificant main effect of overt victimization ($\beta = -.04$, $t(121) = -.57$, ns), a marginally significant negative main effect of inhibitory control ($\beta = -.14$, $t(121) = -1.79$, $p < .10$), and a nonsignificant Overt Victimization × Inhibitory Control interaction ($\beta = .08$, $t(120) = .99$, ns, $R^2 = .01$).

The regression predicting overt aggression from overt victimization and negative emotionality ($F(8, 274) = 20.45$, $p < .001$; Table 3) revealed marginally significant positive main effects of overt victimization and negative emotionality, a significant negative main effect of sex, and a significant Overt Victimization × Sex interaction. As shown in Figure 2a, overt victimization significantly predicted overt aggression in girls ($\beta = .23$, $t(153) = 3.33$, $p < .01$) but not in boys ($\beta = -.07$, $t(120) = -.76$, ns). The Overt Victimization × Negative Emotionality × Sex interaction was nonsignificant.

Relational victimization—The regression predicting overt aggression from relational victimization and inhibitory control ($F(8, 273) = 22.88$, $p < .001$; Table 2) revealed a significant positive main effect of relational victimization, significant negative main effects of inhibitory control and sex, and a significant Relational Victimization × Inhibitory Control interaction. However, none of the simple slopes was significant and thus this interaction was not interpreted. The analysis also revealed a significant Relational Victimization × Sex interaction. As shown in Figure 2b, relational victimization predicted overt aggression in girls ($\beta = .19$, $t(153) = 3.00$, $p < .01$) but not in boys ($\beta = -.04$, $t(119) = -.44$, ns). The Relational Victimization × Inhibitory Control × Sex interaction was nonsignificant. The regression predicting overt aggression from relational victimization and negative emotionality ($F(8, 273) = 19.97$, $p < .001$; Table 3) revealed a significant positive main effect of relational victimization, a significant negative main effect of sex, and a nonsignificant main effect of negative emotionality as well as a significant Relational Victimization × Sex interaction, which was interpreted earlier (Figure 2b). The Relational Victimization × Negative Emotionality × Sex interaction was nonsignificant.

Predicting Relational Aggression

Overt victimization—The regression predicting relational aggression from overt victimization and inhibitory control ($F(8, 271) = 11.78$, $p < .001$; Table 2) revealed a significant positive main effect of overt victimization, a significant negative main effect of

inhibitory control, and a marginally significant positive main effect of sex. The two- and three-way interactions were nonsignificant. The regression predicting relational aggression from overt victimization and negative emotionality ($F(8, 271) = 10.64$, $p < .001$; Table 3) revealed a significant positive main effect of overt victimization and nonsignificant main effects of negative emotionality and sex. The two- and three-way interactions were nonsignificant.

Relational victimization—The regression predicting relational aggression from relational victimization and inhibitory control ($F(8, 271) = 11.64$, $p < .001$; Table 2) revealed a significant positive main effect of relational victimization, a significant negative main effect of inhibitory control, and a nonsignificant main effect of sex. The two- and three-way interactions were nonsignificant. The regression predicting relational aggression from relational victimization and negative emotionality ($F(8, 271) = 10.46$, $p < .001$; Table 3) revealed a significant positive main effect of relational victimization and nonsignificant main effects of negative emotionality and sex. The two- and three-way interactions were nonsignificant.

Predicting Depressive symptoms

Overt victimization—The regression predicting depressive symptoms from overt victimization and inhibitory control ($F(8, 233) = 8.64$, $p < .001$; Table 2) revealed a significant positive main effect of overt victimization, a significant negative main effect of inhibitory control, and a nonsignificant main effect of sex. The two- and three-way interactions were nonsignificant

The regression predicting depressive symptoms from overt victimization and negative emotionality ($F(8, 233) = 13.54$, $p < .001$; Table 3) revealed significant positive main effects of overt victimization and negative emotionality and a nonsignificant main effect of sex. The analysis revealed no significant two-way interactions but there was a significant Overt Victimization × Negative Emotionality × Sex interaction. Separate regressions were conducted to examine the two-way Overt Victimization × Negative Emotionality interaction in girls and boys. In girls, this analysis revealed significant positive main effects of overt victimization ($\beta = .16$, $t(132) = 2.16$, $p < .05$) and negative emotionality ($\beta = .35$, $t(132) = 4.11$, $p < .001$), and a significant Overt Victimization × Negative Emotionality interaction ($\beta = .23$, $t(131) = 2.84$, $p < .01$, $R^2 = .04$). As shown in Figure 3a, overt victimization significantly predicted depressive symptoms in girls with high ($\beta = .30$, $t(131) = 3.40$, $p < .01$) but not moderate ($\beta = .13$, $t(131) = 1.73$, $p < .10$) or low ($\beta = -.04$, $t(131) = -.39$, ns) negative emotionality. In boys, this analysis revealed a nonsignificant main effect of overt victimization ($\beta = .11$, $t(102) = 1.19$, ns), a significant positive main effect of negative emotionality ($\beta = .29$, $t(102) = 2.67$, $p < .01$), and a marginally significant Overt Victimization × Negative Emotionality interaction ($\beta = -.16$, $t(101) = -1.85$, $p < .10$, $R^2 = .03$). As shown in Figure 3b, overt victimization significantly predicted depressive symptoms in boys with low ($\beta = .29$, $t(101) = 2.19$, $p < .05$) but not moderate ($\beta = .13$, $t(101) = 1.42$, ns) or high ($\beta = -.04$, $t(101) = -.36$, ns) negative emotionality.

Relational victimization—The regression predicting depressive symptoms from relational victimization and inhibitory control ($F(8, 232) = 8.27$, $p < .001$; Table 2) revealed a significant negative main effect of inhibitory control and nonsignificant main effects of relational victimization and sex. The two- and three-way interactions were nonsignificant.

The regression predicting depressive symptoms from relational victimization and negative emotionality ($F(8, 232) = 13.32$, $p < .001$; Table 3) revealed a significant positive main effect of negative emotionality and nonsignificant main effects of relational victimization and sex. The analysis revealed no significant two-way interactions but there was a significant Relational Victimization × Negative Emotionality × Sex interaction. Separate regressions were conducted to examine the two-way Relational Victimization × Negative Emotionality interaction in girls and boys. In girls, this analysis revealed a nonsignificant main effect of relational victimization ($\beta = .08$, $t(132) = 1.11$, *ns*), a significant positive main effect of negative emotionality ($\beta = .35$, $t(132) = 4.09$, $p < .001$), and a significant Relational Victimization × Negative Emotionality interaction ($\beta = .24$, $t(131) = 3.02$, $p < .01$, $R^2 = .04$). As shown in Figure 4a, relational victimization significantly predicted depressive symptoms in girls with high ($\beta = .26$, $t(131) = 2.79$, $p < .01$) but not moderate ($\beta = .06$, $t(131) = .78$, *ns*) or low ($\beta = -.15$, $t(131) = -1.41$, *ns*) negative emotionality. In boys, this analysis revealed a nonsignificant main effect of relational victimization ($\beta = .04$, $t(101) = .46$, *ns*), a significant positive main effect of negative emotionality ($\beta = .30$, $t(101) = 2.64$, $p < .05$), and a significant Relational Victimization × Negative Emotionality interaction ($\beta = -.22$, $t(100) = -2.46$, $p < .05$, $R^2 = .05$). As shown in Figure 4b, relational victimization significantly predicted depressive symptoms in boys with low ($\beta = .31$, $t(100) = 2.22$, $p < .05$) but not moderate ($\beta = .09$, $t(100) = .95$, *ns*) or high ($\beta = -.14$, $t(100) = -1.24$, *ns*) negative emotionality.

Discussion

This study examined the proposition that temperament and sex of the victim would moderate the effects of peer victimization on children's subsequent adjustment. In girls but not in boys, findings revealed a significant interactive effect of overt victimization and inhibitory control on overt aggression. Findings also revealed a significant interactive effect of overt and relational victimization and negative emotionality on depressive symptoms in girls and a significant interactive effect of relational victimization and negative emotionality on depressive symptoms in boys, but the nature of these interactions differed across sex. This research helps to elucidate possible contributors to individual differences in the consequences of victimization and to identify children who are at particularly high risk for experiencing certain adjustment difficulties following victimization.

Prediction of Overt and Relational Aggression

Consistent with our hypotheses and with person × environment models of development (Belsky et al, 2007; Boyce & Ellis, 2005), overt victimization predicted subsequent overt aggression in children with poor but not strong inhibitory control. Contrary to expectations, this interactive effect was found in girls but not in boys. We expected that victimized boys would feel a stronger need than girls to defend their position in the peer hierarchy, resulting

in aggression when coupled with poor inhibitory control. Of interest, however, our results are consistent with one prior study showing that victimization predicted aggression in girls but not boys with a higher genetic risk (Brendgen et al., 2008). Because girls typically show more inhibitory control than do boys (Else-Quest et al., 2006), as in this study, girls with poor inhibitory control may represent a group with particularly impaired regulatory abilities. Also, because overt aggression is less normative in girls than in boys (Crick & Grotpeter, 1995; Prinstein, et al., 2001), girls may view it as more unacceptable and threatening, resulting in stronger reactions. Therefore, girls who have difficulty with planning and inhibition may be more provoked by overt victimization and more likely to resort to aggression. However, this explanation is speculative, and research is needed to determine if indeed girls' and boys' views differ in the proposed way.

Another explanation for the absence of the anticipated interaction effect in boys is that boys with poor inhibitory control show more overt aggression over time even in the absence of victimization; that is, both nonvictimized and victimized boys with poor inhibitory control show about the same levels of overt aggression as victimized girls with poor inhibitory control (Figure 1b). Thus, the findings may reflect a ceiling effect, wherein boys with poor inhibitory control do not become increasingly aggressive when victimized because they already show quite high levels of overt aggression; in contrast, girls with poor inhibitory control show overt aggression only when they are victimized. This pattern suggests that the combination of victimization and poor inhibitory control in girls counteracts the sex difference in overt aggression. Also, Figures 2a and 2b suggest that even exposure to victimization alone can raise girls' overt aggression levels to those of boys.

Consistent with our expectations, the three-way victimization × inhibitory control × sex interaction was specific to overt but not relational victimization, and to overt but not relational aggression. Compared to relational victimization, overt victimization may pose a more salient and immediate threat to children's physical safety, perhaps triggering efforts to protect oneself through overt aggression; this aggression may consolidate into a generalized pattern of interaction over time. Poor inhibitory control may therefore be more relevant to determining overt than relational aggression in reaction to overt but not relational victimization.

Although we might have expected that girls would show more relational aggression in response to victimization than would boys, overt and relational victimization both contributed to the prediction of relational aggression across sex. Recent meta-analyses (Archer, 2004; Card, Stucky, Sawalani, & Little, 2008) suggest that the sex difference in relational aggression is relatively small and inconsistent across studies; in this study, boys were equally likely to respond to victimization with relational aggression as were girls. More research is needed to clarify under what circumstances girls are more likely than boys to react to victimization with relational aggression. It may be that other factors, such as attributional style (Godleski & Ostrov, 2010) or levels of intimate disclosure with friends (Murray-Close, Ostrov, & Crick, 2007), determine whether children in general, or girls in particular, react with relational aggression when victimized.

Negative emotionality did not moderate the effect of overt or relational victimization on overt or relational aggression. This moderating effect may depend on the function of aggressive behavior. Specifically, this study was unable to distinguish between proactive aggression (instrumental, offensive, and non-provoked acts aimed at dominating others) and reactive aggression (affective, defensive, and emotionally driven acts in response to a perceived or actual threat or provocation; Lamarche et al., 2007). Research reveals that victimization is more strongly associated with reactive than proactive aggression (Card & Little, 2006); it is possible that this effect is particularly strong in children with heightened negative emotionality, which may intensify feelings of anger or frustration when victimized. It may be fruitful for future research to study the moderating effect of negative emotionality on reactive versus proactive aggression in the context of victimization.

Prediction of Depressive Symptoms

Consistent with our hypotheses and with person × environment models of development (Belsky et al, 2007; Boyce & Ellis, 2005), victimization predicted subsequent depressive symptoms in girls with high but not low negative emotionality. When victimized, girls with high negative emotionality may be particularly likely to suffer threats to their sense of self, thereby heightening risk for depressive symptoms. Contrary to expectations, this interactive effect held for both overt and relational victimization, suggesting that overt victimization poses an equivalent threat to girls' emotional well-being. In contrast to this pattern, relational victimization predicted depressive symptoms in boys with low but not high negative emotionality. Specifically, boys with high negative emotionality showed more depressive symptoms regardless of how much they were victimized, whereas boys with low negative emotionality showed more depressive symptoms only at higher levels of victimization. It is possible that high negative emotionality in boys reflects a risk for depressive symptoms (e.g., heightened genetic susceptibility) independent of their stress level. Alternatively, possessing high negative emotionality may sensitize boys to stress, such that even mild levels of victimization are sufficient to trigger depressive symptoms. Future research examining the process through which negative emotionality contributes to depression in boys may shed light on this issue.

The contribution of victimization to depressive symptoms did not differ depending upon children's level of inhibitory control. Perhaps inhibitory control is more important for regulating long-term behavioral reactions to victimization, such as aggression, whereas negative emotionality is more important for regulating long-term emotional reactions to victimization, such as depressive symptoms. It will be interesting for future research to examine whether other dimensions of effortful control, such as attentional control, shape depressive reactions to victimization. For example, children with poor attentional control may have difficulty shifting their thoughts away from their adverse victimization experiences, resulting in ruminative responses and subsequent depression.

Implications, Limitations, and Future Directions

Supporting the idea that temperament interacts with the environment to predict adjustment (Lengua et al., 2000; Rothbart & Bates, 2006), this study revealed that temperamental differences contribute to individual variation in children's reactions to peer victimization.

Our findings are consistent with research showing that effortful control moderates the effect of environmental risk on externalizing problems (Lengua et al., 2008; Veenstra et al., 2006), and negative emotionality—as well as its genetic markers—moderate the effect of environmental risk on depression (Benjet et al., 2010; Brendgen et al., 2005). Building on past research, this study provides a novel perspective by clarifying how stable personal vulnerabilities shape the consequences of peer victimization. It is important to note that certain temperamental characteristics also may make children the target of peer victimization (Hanish, et al., 2004). However, the present research is consistent with person-by-environment models of development (Belsky et al., 2007; Boyce & Ellis, 2005), and provides critical insight into why victimization triggers aggression in some children and depressive symptoms in others.

Although this study makes a substantive contribution to theory and research on individual differences in the consequences of victimization, there are several limitations that suggest directions for future inquiry. First, this research focused on two dimensions of temperament that we hypothesized would play a particularly important role in determining individual variation in aggressive and depressive reactions to victimization. However, it would be interesting to examine the moderating influence of other temperamental traits, such as impulsivity. Impulsivity reflects undercontrolled reactivity (Eisenberg et al., 2005), which is less voluntary than inhibitory control and has been linked to externalizing problems (Eisenberg et al., 2005). Perhaps victimized boys with high levels of impulsivity are drawn to potential rewards (e.g., gaining dominance) and engage in aggressive behavior because they are reactive and quick to respond. Impulsivity may better account for boys' aggressive reactions to victimization than inadequate levels of inhibitory control. Beyond identifying individual temperamental dimensions of interest, examining multi-dimensional profiles (Eisenberg, Guthrie et al., 2000; Rothbart & Bates, 2006) would provide a more nuanced perspective on how temperament shapes children's reactions to victimization.

Second, although our findings suggest that temperament moderates the consequences of peer victimization, this study did not identify the processes through which these differences emerge. We suggested that victimized children with poor inhibitory control may engage in defensive efforts to protect themselves or offensive efforts to regain their status, thereby fostering aggression. Victimized children with high negative emotionality may be overwhelmed by threats to their sense of self, thereby fostering depressive symptoms. Of course, alternate pathways may contribute to these effects. For instance, victimization × temperament interactions may contribute to adjustment by influencing coping and responses to stress. Children with poor inhibitory control may engage in less adaptive problem solving and more retaliation in response to victimization, and thus show more aggression over time. Children with high negative emotionality may engage in ruminative responses to victimization, and thus develop more depressive symptoms over time. Research has not yet examined whether coping mediates the interactive contribution of victimization and temperament to adjustment. However, children's coping does moderate the effect of victimization on adjustment (Kochenderfer-Ladd & Skinner, 2002). Moreover, coping mediates the association between victimization and internalizing problems (Kochenderfer-Ladd, 2004). Thus, future research would benefit from efforts to clarify how victimization ×

temperament interactions predict intra- and interpersonal coping processes following victimization, and how such coping processes predict children's mental health.

Third, although ethnicity did not moderate our effects, data on the ethnic composition of the classrooms or the bullies were not available. Research shows that children's reactions to victimization depend on the ethnicity of both the victims and bullies (Card et al., 2008; Graham et al., 2009). Future research should examine whether the interactive effects of victimization and temperament are contingent on such factors.

Fourth, it is important to note that only a subset of parents contributed data, potentially influencing the generalizability of our results. However, there were no demographic differences between participants and nonparticipants at the initial recruitment, and the only difference between children with and without longitudinal data was a small age difference. Also, the differences between participants and nonparticipants were small and consistent with prior longitudinal studies in community samples (e.g., Godleski & Ostrov, 2010; Eisenberg, Guthrie et al., 2000). Thus, our participants were reasonably representative of the targeted sample.

Fifth, this study focused on personal characteristics of children that influence adjustment following victimization. However, given the potent influence of contextual factors on children's victimization experiences and associated mental health (Graham et al., 2009), it will be essential for future research to capture the dynamics of the school environment in which victimization experiences are embedded. Consistent with social-ecological perspectives on bullying, classroom and school climates can promote or dissuade certain responses, and determine their success, depending on teachers' and administrators' orientation toward and reactions to bullying (Card, Isaacs, & Hodges, 2008). The level of school support may determine the likelihood that victims develop depressive symptoms; likewise, the level of school tolerance of aggression may determine the prevalence of bullying (Olweus, 1991) or the likelihood that victims strike back aggressively or engage in more adaptive responses. Uniting person- and context-oriented perspectives on bullying will provide a more comprehensive picture of both the consequences of bullying and how to prevent these adverse effects.

Finally, although this research investigated the effects of victimization on children's adjustment over a year, it provides only a snapshot of development. The effects of victimization may vary over a longer period of time or across developmental stages. For instance, victimization may affect adjustment more strongly during challenging life stages, such as pubertal or school transitions. During these times, youth not only show heightened concern about peer acceptance, but they often experience disruption in friendships and challenges associated with other-sex relationships (Rudolph, 2009). These novel challenges may tax youths' coping resources, amplifying the adverse consequences of victimization. Moreover, given the divergence in adjustment trajectories during adolescence, as reflected in surges in depression in girls (Hankin & Abramson, 2001) and antisocial behavior in boys (Lahey et al., 2006), it is possible that sex differences in victimization × temperament interactions intensify during this time. Indeed, the mean level of depressive symptoms was low in our sample, as would be expected in a representative sample of young children

(Hammen & Rudolph, 2003). It will therefore be critical to examine similar processes across developmental periods of heightened risk.

Beyond these theoretical questions, this research has practical implications. For instance, low inhibitory control increases girls' risk for becoming aggressive following victimization. To prevent this cycle of violence, it would be helpful to bolster girls' ability to engage in carefully planned and well-regulated responses that aim to deter the persistence of victimization over time. Likewise, high negative emotionality increases girls' risk for becoming depressed following victimization. Efforts to teach emotion regulation and social skills could prevent self-blame, declines in self-worth, helplessness, or other adverse responses to victimization. In sum, considering how children's temperament shapes the consequences of victimization can help scientists and educators design more effective and targeted prevention programs.

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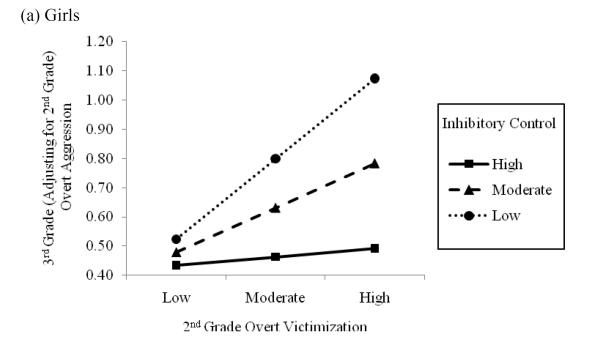
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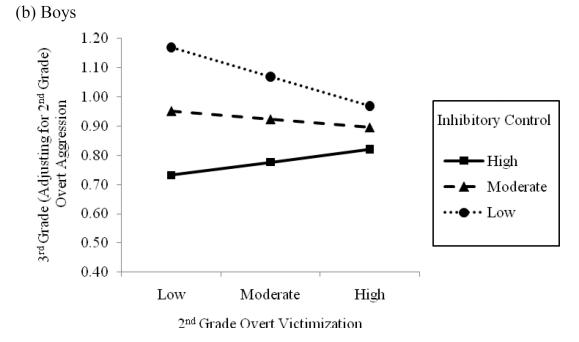
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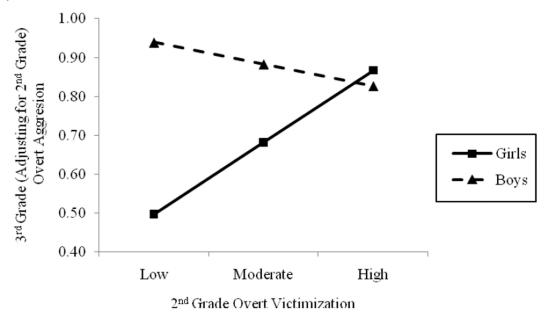
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(a) Girls

(b) Boys

Figure 1.
The interactive contribution of 2nd grade overt victimization and inhibitory control to 3rd grade overt aggression, adjusting for 2nd grade overt aggression, in (a) girls and (b) boys.
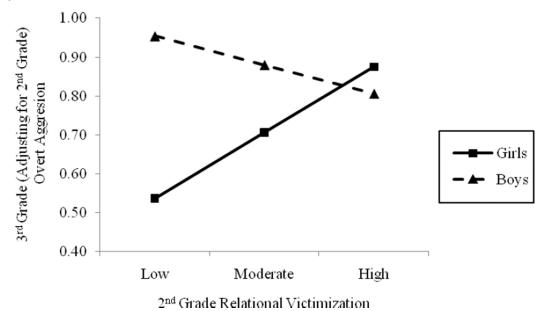
Figure 2.

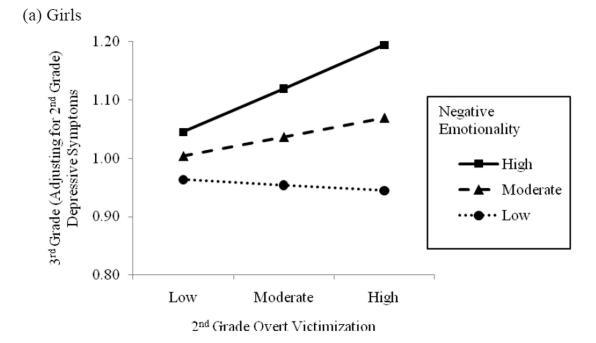The interactive contribution of (a) 2nd grade overt victimization and sex, and (b) 2nd grade relational victimization and sex to 3rd grade overt aggression, adjusting for 2nd grade overt aggression.

Figure 3.
The interactive contribution of 2nd grade overt victimization and negative emotionality to 3rd grade depressive symptoms, adjusting for 2nd grade depressive symptoms, in (a) girls and (b) boys.
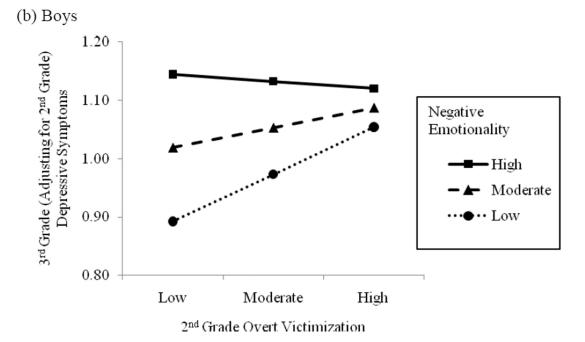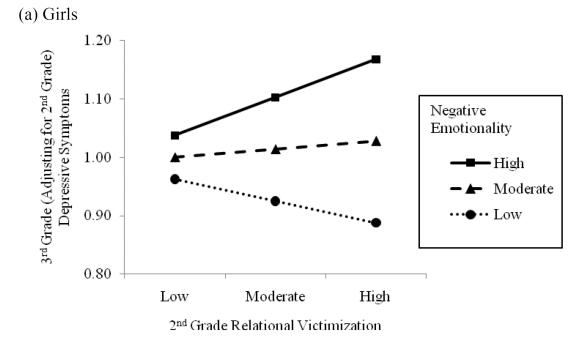
(a) Girls

(b) Boys

Figure 4.
The interactive contribution of 2nd grade relational victimization and negative emotionality to 3rd grade depressive symptoms, adjusting for 2nd grade depressive symptoms, in (a) girls and (b) boys.
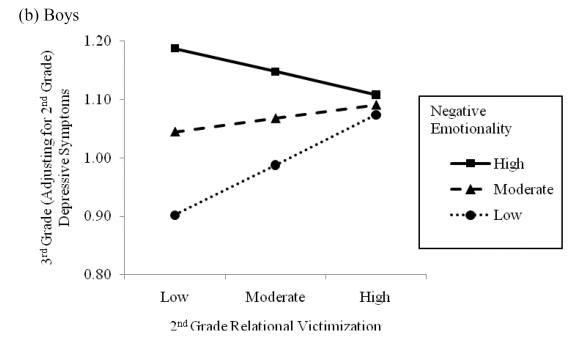
Table 1

2nd Grade Descriptive Data and Intercorrelations (N = 283)

	Girls			Boys			1	2	3	4	5	6	7
	M (SD)	α	Stability	M (SD)	α	Stability							
1. Overt Victimization	−.16 (1.57)	.94	.54***	.20 (1.51)	.92	.35***	---	.64***	−.26**	.21**	.38***	.42***	.30***
2. Relational Victimization	.05 (1.58)	.88	.54***	−.05 (1.41)	.83	.42***	.53***	---	−.20*	.12	.04	.19*	.13
3. Inhibitory Control[c]	3.43 (.57)	.71	.72***	3.22 (.59)	.73	.70***	−.22**	−.14	---	−.41***	−.28***	−.23**	−.23**
4. Negative Emotionality	2.56 (.60)	.92	.79***	2.69 (.60)	.92	.77***	.04	−.02	−.52***	---	.21**	.04	.53***
5. Overt Aggression[d]	1.27 (.77)	.96	.58***	1.67 (.99)	.96	.53***	.59***	.15	−.22*	.13	---	.47***	.14^
6. Relational Aggression[a]	2.08 (.93)	.93	.50***	1.88 (.83)	.90	.38***	.47***	.02	−.24**	.12	.76***	---	.05
7. Depressive Symptoms[b]	1.20 (.26)	.85	.48***	1.27 (.35)	.89	.37***	.00	.00	−.26**	.60***	.03	−.01	---

Note. Intercorrelations presented above the diagonal are for girls; intercorrelations presented below the diagonal are for boys.

[a]
$p < .10$.

[b]
$p < .05$.

[c]
$p < .01$.

[d]
$p < .001$.

*
$p < .05$.

**
$p < .01$.

***
$p < .001$.

Table 2

Predicting 3rd Grade Adjustment from 2nd Grade Victimization, Inhibitory Control, Sex, and their Interactions

Predictors	3rd Grade Overt Aggression (N = 283)			3rd Grade Relational Aggression (N = 280)			3rd Grade Depressive Symptoms (N = 242)		
	β	t	R^2	β	t	R^2	β	t	R^2
Step 1									
2nd Grade Adjustment	.58	11.77***	.33	.46	8.60***	.21	.43	7.38***	.19
Step 2									
2nd Grade Overt Victimization	.08	1.52	.05	.14	2.43*	.04	.12	2.01*	.10
2nd Grade Inhibitory Control	−.17	−3.41**		−.13	−2.31*		−.14	−2.20*	
Sex (0 = boys, 1 = girls)	−.09	−1.83^		.10	1.78^		−.03	−.53	
Step 3									
Overt Victimization × Inhibitory Control	−.08	−1.54	.02	−.05	−.87	.00	.01	.11	.03
Overt Victimization × Sex	.22	2.77**		.04	.41		.05	.47	
Inhibitory Control × Sex	−.01	−.15		−.03	−.42		.04	.44	
Step 4									
Overt Victimization × Inhibitory Control × Sex	−.20	−2.33*	.01	−.15	−1.52	.01	−.07	−.61	.01

Predictors	3rd Grade Overt Aggression (N = 282)			3rd Grade Relational Aggression (N = 280)			3rd Grade Depressive Symptoms (N = 241)		
	β	t	R^2	β	t	R^2	β	t	R^2
Step 1									
2nd Grade Adjustment	.57	11.53***	.32	.46	8.60***	.21	.43	7.36***	.19
Step 2									
2nd Grade Relational Victimization	.12	2.23*	.05	.17	2.79**	.04	.05	.90	.03
2nd Grade Inhibitory Control	−.17	−3.36**		−.13	−2.33*		−.15	−2.43*	
Sex (0 = boys, 1 = girls)	−.10	−2.05*		.08	1.48		−.05	−.77	
Step 3									
Relational Victimization × Inhibitory Control	−.11	−2.24*	.02	−.03	−.52	.00	.05	.77	.00

Predictors	3rd Grade Overt Aggression (N = 282)			3rd Grade Relational Aggression (N = 280)			3rd Grade Depressive Symptoms (N = 241)		
	β	t	R^2	β	t	R^2	β	t	R^2
Relational Victimization × Sex	.20	2.50*		.03	.38		.01	.06	
Inhibitory Control × Sex	.00	−.05		−.03	−.36		.02	.26	
Step 4									
Relational Victimization × Inhibitory Control × Sex	−.08	−.96	.00	−.03	−.29	.00	−.11	−1.07	.00

Note. βs are standardized values.

*
  p < .05.

**
  p < .01.

***
  p < .001.

Table 3

Predicting 3rd Grade Outcome from 2nd Grade Victimization, Negative Emotionality, Sex, and their Interactions

Predictors	3rd Grade Overt Aggression (N = 283)			3rd Grade Relational Aggression (N = 280)			3rd Grade Depressive Symptoms (N = 242)		
	β	t	R²	β	t	R²	β	t	R²
Step 1									
2nd Grade Adjustment	.58	11.77***	.33	.43	8.60***	.21	.43	7.38***	.19
Step 2									
2nd Grade Overt Victimization	.11	1.89^	.03	.14	2.73**	.04	.14	2.45*	.10
2nd Grade Negative Emotionality	.08	1.66^		.04	.66		.33	4.81***	
Sex (0 = boys, 1 = girls)	−.11	−2.12*		.08	1.44		−.02	−.37	
Step 3									
Overt Victimization × Negative Emotionality	.01	.28	.02	.06	.80	.00	.06	1.00	.01
Overt Victimization × Sex	.19	2.52*		.05	.32		.05	.52	
Negative Emotionality × Sex	−.01	−.13		−.03	−.32		.03	.38	
Step 4									
Overt Victimization × Negative Emotionality × Sex	.07	.83	.00	.06	.65	.00	.36	3.32**	.03

Predictors	3rd Grade Overt Aggression (N = 282)			3rd Grade Relational Aggression (N = 280)			3rd Grade Depressive Symptoms (N = 242)		
	β	t	R²	β	t	R²	β	t	R²
Step 1									
2nd Grade Adjustment	.57	11.53***	.32	.43	8.60***	.21	.43	7.36***	.19
Step 2									
2nd Grade Relational Victimization	.14	2.61*	.04	.07	2.50*	.02	.07	1.22	.08
2nd Grade Negative Emotionality	.08	1.63		.05	.84		.33	4.77***	
Sex (0 = boys, 1 = girls)	−.12	−2.39*		−.04	.96		−.04	−.71	
Step 3									
Relational Victimization × Negative Emotionality	−.01	−.22	.01	.05	.69	.00	.05	.81	.00

Predictors	3rd Grade Overt Aggression (N = 282)			3rd Grade Relational Aggression (N = 280)			3rd Grade Depressive Symptoms (N = 242)		
	β	t	R²	β	t	R²	β	t	R²
Relational Victimization × Sex	.18	2.25*	.06	.04	.70		.04	.42	
Negative Emotionality × Sex	.00	−.04		.04	−.21	.00	.04	.51	
Step 4									
Relational Victimization × Negative Emotionality × Sex	.00	−.04	.05	.41	.59	.04	.41	3.86***	.04

Note. βs are standardized values.

*
  $p < .05$.

**
  $p < .01$.

***
  $p < .001$.