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Individual and Sex Differences in the Consequences of Victimization: Moderation by Approach and Avoidance Motivation

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Abstract

Peer victimization is a known risk factor for various forms of maladjustment; however, the specific type of maladjustment may depend on individual differences in youth. This 2-wave longitudinal study examined the hypothesis that social approach–avoidance motivation, together with sex, would moderate the contribution of 3rd-grade victimization to 4th-grade maladjustment. Children ($N = 574$, M age = 8.94, $SD = 0.37$) reported on their victimization exposure, social approach–avoidance motivation, and depressive symptoms. Teachers reported on students' victimization exposure and aggressive behavior. Victimization predicted aggressive behavior only in boys with moderate to high approach motivation; victimization predicted depressive symptoms only in girls with moderate to high avoidance motivation. This research elucidates the diverse consequences associated with peer victimization and informs efforts to address these consequences in a targeted manner.

Keywords

victimization; approach–avoidance; aggression; depression

Peer victimization is experienced by many school children (Card & Hodges, 2008; Hanish & Guerra, 2002) and has adverse long-lasting effects (Isaacs, Hodges, & Salmivalli, 2008; Rudolph, Troop-Gordon, Hessel, & Schmidt, 2011). However, these consequences are heterogeneous in terms of both severity and type. Understanding the relevant explanations for diverse outcomes is essential to identifying at-risk youth and developing effective targeted prevention programs. In this research, we aimed to determine the explanatory role of individual and sex differences in shaping the contribution of victimization to subsequent adjustment, with a focus on the development of aggressive behavior and depressive symptoms. Specifically, we examined the novel idea that sensitivity to social context, in the form of social approach–avoidance motivation, would heighten children's vulnerability to the effects of victimization and, along with sex, would specify which form the consequences of victimization would take.

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Consequences of Peer Victimization

Peer victimization includes exposure to both overt (direct) and relational (indirect) forms of aggression. Roughly 15%–20% of elementary school children experience victimization (Ladd & Kochenderfer-Ladd, 2002; Turner, Vanderminden, Finkelhor, Hamby, & Shattuck, 2011), with up to 10% experiencing severe levels (Solberg & Olweus, 2003). The prevalence of victimization is cause for concern because its effects can range from psychological maladjustment to academic difficulties to perpetuation of the victimization cycle (Hanish & Guerra, 2002; Solberg, Olweus, & Endresen, 2007). This multifinality of developmental outcomes makes it difficult to predict which children will follow which pathways after victimization. That is, similar experiences of victimization may predict the development of varying levels of externalizing and internalizing symptoms across children (Rudolph, Troop-Gordon, Hessel, & Schmidt., 2011; Snyder et al., 2003). In this study, we sought to address a significant gap in the field by exploring whether youths' sensitivity to the peer context, in the form of a motivation to approach or avoid the social sphere, helps to explain the divergent effects of victimization in boys and girls.

Sensitivity to Peer Victimization

Several theories of development suggest that individuals differ in their sensitivity to social contexts. Broadly, these theories adopt a diathesis–stress form (Monroe & Simons, 1991), wherein the interaction between individual susceptibility (e.g., approach–avoidance motivation) and stressors (e.g., peer victimization) determines risk for psychopathology. However, these theories differ in their precise predictions about the nature of this interaction; in this study, we compared and contrasted vulnerability and plasticity forms of the diathesis–stress model (Figure 1). According to vulnerability models, such as dual risk (Belsky, Bakermans-Krannenburg, & van IJzendoorn, 2007) or stress amplification (Rudolph & Flynn, 2007), some children have heightened susceptibility to the harmful effects of stress, making them more vulnerable to maladjustment over time (Figure 1a). The emphasis is on how susceptibility to the environment creates vulnerability to problematic outcomes. Consistent with vulnerability models, stress within social relationships, including victimization (Benjet, Thompson, & Gotlib, 2010; Sugimura & Rudolph, 2012), more strongly predicts adverse psychosocial outcomes in youth with rather than those without pre-existing vulnerabilities. According to plasticity models, such as biological sensitivity to context (Boyce & Ellis, 2005) or differential susceptibility (Belsky et al., 2007), some children are more generally reactive to contexts, experiencing risks in the context of adversity but advantages in the context of support (Figure 1b). The emphasis is not only on vulnerability, but on susceptibility to both detrimental and beneficial environmental influences. Consistent with plasticity models, heightened sensitivity predicts negative outcomes in stressful contexts (including victimization) but positive outcomes in nonstressful or supportive contexts (including low levels of victimization; Rudolph, Troop-Gordon, & Granger, 2010, 2011; for a review, see Bush & Boyce, 2014).

Investigating individual susceptibility to social context is key to uncovering the potential for both negative and positive sequelae of peer experiences. It remains to be clarified whether a vulnerability or plasticity model better describes individual differences in the consequences

of victimization. Further, it is unclear whether low levels of peer victimization (generally suggestive of peer inclusion and healthy friendships as measured in this study but not strictly reflecting peer prestige or support) might actually produce healthy outcomes (particularly low levels of symptoms) in sensitive individuals.

Social Approach–Avoidance Motivation as a Moderator of Peer Victimization

Susceptibility to social contexts may manifest through individual differences in social approach and avoidance motivations or the drives to approach appetitive or avoid aversive social stimuli. If individuals are more motivated to approach social gains or avoid social losses, it may render them more sensitive to social experiences and susceptible to the effects of peer victimization. General approach–avoidance orientations have their neurobiological origin in the reward-sensitive behavioral activation system (BAS) and the aversion-sensitive behavioral inhibition system (BIS; Gray, 1981), respectively. Research has linked these systems to personality and emotionality (extroversion, positive emotionality, and approach coping vs. neuroticism, negative emotionality, and avoidance coping) reflected in a broad two-factor structure of approach–avoidance temperament (Elliot & Thrash, 2002). In children, an overactive approach system has been associated with externalizing problems such as hyperactivity, conduct problems, and aggression, whereas an overactive avoidance system has been associated with internalizing problems such as withdrawal, anxiety, and depression (Muris, Meesters, de Kanter, & Timmerman, 2005; Nigg, 2000; Pérez-Edgar et al., 2010).

Approach and avoidance motivations within the *social* domain may be especially salient in elementary school when peer relations, including victimization, increase in importance and scope (Ladd, 1999). During this stage, children have the social–cognitive capacity to articulate their sense of social motivation, they become more aware of their social standing, and negative peer contexts begin to have more influence on social behavior and developmental outcomes (Harter, 1982; Masten, Juvonen, & Spatzier, 2009; McHale, Dariots, & Kauh, 2003). In addition, victimization experiences vary widely at this stage when more sophisticated relational bullying is on the rise, but more observable overt bullying has not yet begun to fall significantly (Olweus, 1994; von Marées & Petermann, 2010). Thus, mid-elementary school age represents a key age at which to examine the interactive effects of victimization and social motivation.

Social approach motivation in children is marked by a drive to obtain social approval, positive judgments, and status in the peer group, whereas social avoidance motivation is marked by a drive to avoid social disapproval, negative judgments, and loss of status in the peer group (Coplan et al., 2013; Rudolph, Abaied, Flynn, Sugimura, & Agoston, 2011; Rudolph, Troop-Gordon, & Llewellyn, 2013; Ryan & Shim, 2008). Consistent with prior research, our comprehensive conceptualization of social motivation incorporates the overlapping and complementary constructs of motivational strivings (need to approach approval or avoid disapproval) as well as specific social approach-avoidance goals (Gable, 2006; Nikitin & Freund, 2008). As a type of susceptibility to social context, social

motivation may have a particularly strong influence on how elementary school children process and react to stressful interpersonal experiences such as peer victimization.

Empirically, social approach is associated with antisocial and aggressive behavior, whereas social avoidance is associated with withdrawal and depressive symptoms (Rodkin, Ryan, Jamison, & Wilson, 2013; Rudolph et al., 2013; Ryan & Shim, 2008). Thus, consistent with diathesis–stress models of development, we anticipated that social approach and avoidance motivations would moderate the contribution of peer victimization to subsequent adjustment. In particular, we expected that children high in approach would be more likely to respond to victimization experiences with overt aggression, whereas children high in avoidance would be more likely to respond with depressive symptoms. We did not have a specific prediction as to whether these interactions would take the form of vulnerability or plasticity; we hypothesized that high social approach and avoidance motivation would serve either as vulnerability factors for subsequent maladjustment or as plasticity factors for both better and worse adjustment, depending on children’s level of exposure to victimization. Drawing from prior research on stress reactivity, we also anticipated some sex differences in these susceptibility effects. There is evidence that males and females follow divergent paths to maladjustment, with high-approach boys particularly susceptible to aggression and high-avoidance girls particularly susceptible to depression (Rudolph et al., 2013), but few studies have directly tested sex-specific outcomes associated with sensitivity to stress. The current study addressed this gap by examining whether the joint effects of victimization and social motivation differ in boys and girls.

Predicting Aggressive Behavior

Children who have a strong motivation to strive for social rewards (e.g., peer approval, prestige, or high status) but who fail to meet this goal when exposure to victimization thwarts their motivation to seek social reward may react with frustration and anger, which predict aggressive behavior (Kochenderfer-Ladd, 2004). Indeed, high approach motivation is associated with more aggressive responses following a hypothetical anger-inducing scenario (Cooper, Gomez, & Buck, 2008). According to a vulnerability model, victimization would predict aggressive behavior in children with a high but not low social approach motivation. According to a plasticity model, not only would high social approach motivation be a liability under high-victimization conditions, *but* children high in social approach who make successful strides toward meeting their goals by not being victimized (suggestive of social inclusion and approval) would be at especially low risk for aggression. In these nonvictimized children, high approach may foster extroversion and prosociality (Elliot & Thrash, 2002; Ryan & Shim, 2008), creating harmonious peer relations, rather than aggression.

We also expected that victimization may be more likely to predict aggressive behavior in boys than in girls with high approach motivation. The link between peer victimization and externalizing problems often is stronger in boys than in girls (Craig, 1998; Hanish & Guerra, 2002), and susceptibility (e.g., genetic vulnerability) to stress in males often is expressed in the form of aggression and antisocial behavior (Caspi et al., 2002; Verona, Joiner, Johnson, & Bender, 2006). Moreover, poor inhibitory control predicts aggression in high-approach

boys but not girls (Rudolph et al., 2013), and boys use less anger suppression than girls (Cox, Stabb, & Hulges, 2000), which may contribute to aggression in high-approach boys when they feel victimized.

Predicting Depressive Symptoms

Children who have a strong motivation to avoid social punishment (e.g., peer disapproval, censure, or low status) but who fail to meet this goal because victimization thwarts their motivation to avoid social reproach may react with withdrawal and inwardly directed self-blame attributions, which are related to avoidant coping (Roesch, Wee, & Vaughn, 2006) and predict internalizing symptoms (Graham & Juvonen, 1998). Indeed, high avoidance motivation is associated with susceptibility to interpersonal conflict and risk for depression (Blalock & Joiner, 2000). According to a vulnerability model, victimization would predict depressive symptoms in children with a high but not low social avoidance motivation. According to a plasticity model, not only would high social avoidance motivation be a liability under high-victimization conditions, *but* children high in social avoidance who successfully avoid being victimized would be at especially low risk for depressive symptoms. In these nonvictimized children, high avoidance may instill general sensitivity to social cues and feedback, which could be particularly beneficial if the social environment is inclusive and stress-free, and they are more attuned to their generally favorable situation than low-avoidance children.

We also expected that victimization may be more likely to predict depressive symptoms in girls than boys with high avoidance motivation. Peer victimization has been linked to internalizing symptoms in girls (Keenan et al., 2010), and susceptibility (e.g., genetic vulnerability) to stress in females often is expressed in the form of depressive symptoms (Benjet et al., 2010; Sjoberg et al., 2006). Moreover, poor inhibitory control predicts depressive symptoms in high-avoidance girls but not boys (Rudolph et al., 2013), and girls engage in more rumination than boys (Lopez, Driscoll, & Kistner, 2009), which may contribute to depressive symptoms in high avoidance girls when victimized.

Study Overview

Peer victimization is an insidious risk factor for multiple adverse outcomes. However, not all victimized children develop adjustment difficulties, and those who do may not experience the same difficulties. In this 1-year longitudinal study, we sought to contribute a novel perspective on the consequences of victimization by characterizing the way that individual differences in social approach–avoidance motivation and sex moderate the strength and specificity of the association between peer victimization and later maladjustment. We thought it possible that these interactive contributions could take the form of either a vulnerability or a plasticity model. According to a vulnerability model, (a) victimization would predict particularly high levels of aggressive behavior in boys with high but not low social approach motivation; and (b) victimization would predict particularly high levels of depressive symptoms in girls with high but not low social avoidance motivation. According to a plasticity model, not only would these effects hold but also (c) a lack of victimization would predict particularly low levels of aggressive behavior in high-approach boys, and (d)

a lack of victimization would predict particularly low levels of depressive symptoms in high avoidance girls.

Method

Participants and Procedures

Participants were 574 third graders (305 girls, 269 boys; M age = 8.94, SD = 0.37; 67.8% White, 20.6% African American, 11.8% other; 34.5% received subsidized school lunch) and their teachers, recruited from several small urban and rural schools in the Midwest. Parents provided written consent, and children provided oral assent. Of 636 participants in an ongoing longitudinal study, 574 children had all relevant data and were included in the analyses. Children with and without the relevant data did not significantly differ in sex, ethnicity, school lunch status (chi-square tests, ns), avoidance motivation, aggressive behavior, or depressive symptoms (t tests, ns). Children with relevant data had significantly lower levels of approach motivation, $t(595) = -3.50, p < .001$.

Participants completed questionnaires during annual assessments in the winter of the third and fourth grades. Child questionnaires were administered in the classroom to small groups of up to four children. Items were read aloud while participants circled their responses. Teacher surveys were distributed and returned at school. Children received a small gift, and teachers received a monetary reimbursement.

Measures

Peer victimization—In third grade, children and teachers completed corresponding versions of the revised (Rudolph, Abaied, et al., 2011) Social Experiences Questionnaire (Crick & Grotpeter, 1995), which assesses children's exposure to overt victimization (behaviors intended to verbally threaten or inflict physical damage; e.g., "How often [do you/does this child] get hit by another kid?") and relational victimization (behaviors intended to damage or manipulate relationships; e.g., "How often does a friend spread rumors about [you/this child] because they are mad at [you/them]?"). Eleven items were added to the original measure to provide a more comprehensive assessment yielding a revised version with 11 overt and 10 relational items. Child and teacher versions were identical except for wording reflecting self versus the child, respectively. Children checked a box and teachers provided a rating indicating how often children experienced each type of victimization (from 1, *never*, to 5, *all the time*). Strong reliability and predictive validity have been established for this revised version (Rudolph, Abaied, et al., 2011). Because results were found to be largely comparable in directions and magnitudes of effects for overt and relational victimization and because the two forms of victimization were highly correlated ($r = .79, p < .001$), scores were computed as the mean of all items.

Research suggests that self-reports of victimization provide valid information that corresponds to reports by peers (e.g., Graham & Juvonen, 1998) and parents (Bollmer, Harris, & Milich, 2006). Teacher reports of victimization also have established reliability and validity (Ladd & Kochenderfer-Ladd, 2002). High internal consistency was found across waves for child report ($\alpha_s = .93-.94$) and teacher report ($\alpha_s = .97$), and child and

teacher reports were significantly associated ($r = .32, p < .001$). Composite scores, which increase reliability and reduce the impact of measurement error (Bögels & van Melick, 2004; Rushton, Brainerd, & Pressley, 1983), were created by standardizing and averaging the child and teacher reports. This composite provides a more comprehensive picture of victimization than does a single report by including overlapping and distinct information about victimization experiences that incorporate both the adult's outside perspective and the child's first-hand view (Card & Hodges, 2008). 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).

Social approach–avoidance motivation—In third grade, children completed two measures tapping well-established dimensions of social approach–avoidance motivation: motivational strivings (need for approval) and specific social goals (Gable, 2006; Harter, Stocker, & Robinson, 1996). First, children completed the Need for Approval Questionnaire (Rudolph, Caldwell, & Conley, 2005), including a four-item Approach subscale that assesses the extent to which peer approval and acceptance augment self-worth (e.g., “Being liked by other kids makes me feel better about myself”), and a four-item Avoidance subscale that assesses the extent to which peer disapproval and rejection reduce self-worth (e.g., “I feel like I am a bad person when other kids don't like me”). Second, children completed the Social Goals Survey (Rudolph, Abaied, et al., 2011; Ryan & Shim, 2008), including a six-item Performance–Approach subscale that assesses goals for demonstrating competence to peers by attaining positive judgments (e.g., “My goal is to show other kids how much everyone likes me”) and a seven-item Performance–Avoidance subscale that assesses goals for demonstrating competence to peers by avoiding negative judgments (e.g., “My main goal is to make sure I don't look like a loser”).

For both measures, children checked a box indicating how true each item was (scale from 1, *not at all*, to 5, *very much*). Scores were computed as the mean of the items within each subscale. Factor analysis supports distinct approach and avoidance factors for both measures, and construct validity has been established through associations with global self-worth, social-evaluative concerns, social behavior, and emotional distress (for need for approval; Rudolph et al., 2005) and associations with other types of social goals and multiple indexes of social adjustment (for social goals; Rudolph, Abaied, et al., 2011).

These measures tap both overlapping and complementary aspects of social approach–avoidance motivation, providing a comprehensive view of this construct. In this sample, approach need for approval significantly predicted performance-approach ($\beta = .25, t = 5.90, p < .001$) but not avoidance goals ($\beta = .08, t = 1.94, ns$), whereas avoidance need for approval significantly predicted performance-avoidance ($\beta = .16, t = 4.23, p < .001$) but not approach goals ($\beta = .02, t = 0.58, ns$; see Rudolph & Bohn, 2014). Thus, we created approach ($\alpha = .79$) and avoidance ($\alpha = .81$) motivation composites by standardizing and averaging scores on the relevant subscales. Convergent and discriminant validity of these composite social approach and avoidance subscales have been established (Rudolph et al., 2013) through correlations with the behavioral activation and behavioral inhibition subscales

of the BAS/BIS scales (Carver & White, 1994); predictive validity of these composites also has been established (Rudolph et al., 2013).

Aggressive behavior—Third- and fourth-grade teachers completed the Overt Aggression subscale of the Children’s Social Behavior Scale (Crick, 1996). This four-item subscale assesses how often children engage in behaviors that are intended to harm others through physical damage or verbal threat of damage (e.g., “This child hits or kicks peers.”). Teachers rated each item (from 1 = *never true* to 5 = *almost always true*). Scores were computed as the mean of the items ($\alpha = .95$). Teacher reports of overt aggression on this measure are strongly associated with peer reports (Crick, 1996), and teacher reports of aggression have been found to be more valid than child reports (Monks, Smith, & Swettenham, 2003). The Overt Aggression subscale was selected for analysis because it corresponds, both theoretically (Cooper et al., 2008) and empirically (Ryan & Shim, 2008), to approach motivation. Conversely, relational aggression may be utilized to either advance social status (approach) or deflect or avoid negative attention (avoidance) and has been associated with avoidance motivation (Rudolph & Bohn, 2014).

Depressive symptoms—In third and fourth grades, children completed the Short Mood and Feelings Questionnaire (Angold, Costello, Messer, & Pickles, 1995), a measure of depressive symptoms (e.g., “I felt unhappy or miserable”). Following Lau and Eley (2008), the response scale was modified from 3 to 4 points; anchors were 1 (*not at all*) and 4 (*very much*). Scores were computed as the mean of the 13 items ($\alpha = .88$). This measure shows significant correlations with scores on the Children’s Depression Inventory and Diagnostic Interview Schedule for Children (Angold et al., 1995) and differentiates depression from other psychiatric diagnoses (Thapar & McGuffin, 1998).

Results

Table 1 presents descriptive data and intercorrelations among the measures at each wave for girls and boys. Consistent with prior research (Crick & Grotpeter, 1995), *t* tests revealed that boys showed significantly higher levels of overt aggressive behavior at both waves. No other significant sex differences were found.

Peer Victimization × Motivation Contributions to Adjustment

Separate hierarchical multiple regression analyses were conducted to examine the interactive contribution of third-grade peer victimization and social motivation to fourth-grade aggressive behavior and depressive symptoms, accounting for third-grade adjustment. Because social approach and avoidance were significantly associated with one another and may share some common characteristics related to sensitivity and arousal, approach and avoidance and their respective interactions were entered in both models to examine the unique effects of each, controlling for the opposite valence (Table 2). Approach × Avoidance interactions were nonsignificant in both analyses and were not included in the final models. 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 motivation (Aiken & West, 1991).

To quantify the significance of interaction effects, we examined (a) the standard-deviation difference in aggressive behavior and depressive symptoms between high versus low levels of motivation at low and high levels of victimization; (b) the proportion of the interaction (PoI) with respect to victimization, which is the proportion of the area represented on either side of the crossover of regression lines in an interaction plot (when the proportions are skewed to one side of the crossover, there is support for a vulnerability model; when the proportions are roughly equivalent on either side of the crossover, there is support for a plasticity model); and (c) the proportion affected (PA) with respect to victimization, which represents the proportion of children who are affected differentially by approach or avoidance (PA indexes far from .50 support a vulnerability model, whereas PA indexes close to .50 support a plasticity model; Roisman et al., 2012).

Aggressive behavior—The regression predicting aggressive behavior revealed significant main effects of third-grade aggressive behavior, victimization, and sex, and a significant Victimization \times Approach \times Sex interaction (Table 2). Therefore, separate two-way interaction regressions were conducted in girls and boys. In girls, analyses revealed only a significant main effect of third-grade aggressive behavior, $\beta = .51$, $t(294) = 8.70$, $p < .001$. In boys, analyses revealed significant main effects of third-grade aggressive behavior, $\beta = .47$, $t(263) = 7.55$, $p < .001$, and victimization, $\beta = .14$, $t(263) = 2.09$, $p < .05$, and a significant Victimization \times Approach interaction, $\beta = .14$, $t(263) = 2.18$, $p < .05$. As shown in Figure 2a, decomposition of this interaction revealed that victimization significantly predicted aggressive behavior in boys with high, $\beta = .27$, $t(263) = 3.22$, $p < .001$, and moderate, $\beta = .14$, $t(263) = 2.09$, $p = .04$, but not low, $\beta = .00$, $t(263) = 0.04$, $p = .97$, levels of approach. At high levels of victimization, high-approach boys had aggression scores 0.42 of a standard deviation greater than low-approach boys. At low levels of victimization, low-approach boys had aggression scores 0.02 of a standard deviation greater than high-approach boys. Further, the PoI was 95% above the crossover, and the PA was 74%, suggesting that the interaction effect is most consistent with a vulnerability model.

Depressive symptoms—The regression predicting depressive symptoms revealed significant main effects of third-grade depressive symptoms and victimization as well as a significant Victimization \times Avoidance \times Sex interaction (Table 2). Therefore, separate two-way interaction regressions were conducted in girls and boys. In boys, analyses yielded main effects of third-grade depressive symptoms, $\beta = .34$, $t(258) = 5.42$, $p < .001$, and victimization, $\beta = .28$, $t(258) = 4.41$, $p < .001$. In girls, analyses revealed significant main effects of third-grade depressive symptoms, $\beta = .39$, $t(301) = 6.97$, $p < .01$, and victimization, $\beta = .15$, $t(301) = 2.56$, $p < .05$, and a significant Victimization \times Avoidance interaction, $\beta = .16$, $t(301) = 3.00$, $p < .01$. Decomposition of this interaction revealed that victimization significantly predicted depressive symptoms in girls with high, $\beta = .31$, $t(301) = 4.45$, $p < .001$, and moderate, $\beta = .15$, $t(301) = 2.56$, $p = .01$, but not low, $\beta = -.01$, $t(301) = -0.16$, $p = .87$, levels of avoidance (Figure 2b). At high levels of victimization, high-avoidance girls had depressive symptoms scores 0.44 of a standard deviation greater than

low-avoidance girls. At low levels of victimization, low-avoidance girls had depressive symptom scores 0.46 of a standard deviation greater than high-avoidance girls. Further, the PoI was 47% above the crossover, and the PA was 49%, suggesting that the interaction effect is most consistent with a plasticity model.

Discussion

This study tested the proposal that individual differences in social approach–avoidance motivation and sex jointly moderate the contribution of peer victimization to subsequent maladjustment in elementary school children. Consistent with our hypotheses, third grade victimization predicted (a) heightened fourth-grade aggressive behavior in boys with moderate and high but not low approach motivation, and (b) heightened fourth-grade depressive symptoms in girls with moderate and high but not low avoidance motivation.

Susceptibility to Social Context

Consistent with previous investigations, our results show that peer victimization predicts divergent negative outcomes, both internalizing and externalizing (Rudolph, Troop-Gordon, Hessel, et al., 2011). Providing a novel perspective, our results identify important individual differences that help to determine which children are most likely to develop aggressive behavior versus depressive symptoms in the face of victimization. In line with theory (Belsky et al., 2007) and prior research (Gazelle & Rudolph, 2004), this study provided support for the idea that heightened social motivation represents a form of susceptibility to social context. Collectively, our results supported both vulnerability and plasticity models of development.

For boys, heightened victimization predicted more aggressive behavior in the context of high but not low approach. At low levels of victimization, boys with high versus low approach showed similarly low levels of aggression 1 year later. That is, boys with a strong motivation to be liked or to look good in front of peers were more likely to engage in aggression after being victimized, whereas those who were less sensitive to social reward were not. These results conform to a vulnerability model, yet they are not necessarily inconsistent with a plasticity model. It may be that boys require an environment more actively supportive than low victimization (e.g., high levels of prosocial interactions and popularity) to reap benefits from high approach motivation. It is important to note that our measure of victimization was inversely associated with teacher reports of peer acceptance ($r = -.39, p < .001$), and low scores do reflect a certain degree of positive social conditions (low-scoring children were never or almost never made fun of, insulted, or physically harmed by peers; their friends did not manipulate, ignore, or exclude them). However, our measure did not directly tap social support or prestige, which likely ranges beyond what is indicated by low victimization. It would be useful for future studies to evaluate approach–avoidance as a moderator of childhood experiences ranging from the explicitly negative (peer victimization) to the explicitly positive (peer support) to ascertain whether sensitivity to context would result in positive adjustment under supportive conditions in the same way it results in negative adjustment under nonsupportive conditions for high-approach boys.

For girls, heightened victimization predicted more depressive symptoms in the context of high but not low avoidance. At low levels of victimization, girls with high avoidance showed particularly low levels of depressive symptoms. That is, girls with a strong motivation to avoid being disliked or looking bad in front of peers were more vulnerable to depression after being victimized but experienced especially low levels of symptoms when not victimized, whereas those who were less sensitive to social punishment were not any more or less susceptible to depression. These results conform to a plasticity model in that high-avoidance girls showed more sensitivity to their environments at both high and low levels of victimization: High avoidance appears to be a liability under adverse social conditions but an asset under favorable social conditions. Such a pattern may arise as an adaptive mechanism that is responsive to the environment and beneficial for at least some of the people some of the time (Beaumont, Gallie, Kost, Ferguson, & Rainey, 2009). It may be that no one level of social avoidance motivation is universally superior; rather, differing levels of avoidance may be adaptive, depending on changing social contexts. Again, however, we note that our measure of victimization did not allow for an assessment of the full range of social conditions. Although we contend that low victimization scores do reflect some degree of favorable social experiences, not merely neglect or few negative experiences, a comprehensive test of the plasticity model should be augmented with measures of friendship quality or social enrichment to directly assess their potentially protective effect against depressive symptoms in high-avoidance girls.

Sex Differences in the Consequences of Victimization

Consistent with previous research indicating heterogeneity across sex in the effects of stress (Craig, 1998; Verona et al., 2006), our results revealed that interactive contributions of peer victimization and social motivation to adjustment differed for boys and girls. This divergence may stem from differences in how sensitive boys and girls enact their approach and avoidance inclinations when victimized. For example, perhaps due to socialization effects, approach-oriented boys may be less likely than approach-oriented girls to suppress anger in response to victimization (Cox et al., 2000), leading to more aggressive behavior (Kochenderfer-Ladd, 2004). Conversely, avoidance-oriented girls may be more likely than avoidance-oriented boys to blame themselves and ruminate on experiences of victimization (Graham & Juvonen, 1998; Lopez et al., 2009), which may lead to depression.

Physiological differences also may contribute to the ways in which boys and girls manifest their susceptibility to victimization. It is possible that testosterone and estrogen interact differently with stress hormones elicited by victimization to predict adjustment outcomes. Indeed, some research suggests that stress interacts with testosterone (Popma et al., 2007) and estrogen (Newhouse et al., 2008) to predict overt aggressive behavior and depressive symptoms, respectively. Although some differences in sex hormones would certainly exist in our sample of third- and fourth-grade children, it would be interesting for investigators in future studies to examine similar effects of victimization across adolescence, capturing more dramatic psychosocial and hormonal differences that emerge during the pubertal transition.

Intersection With Alternative Theoretical Frameworks

Building on the well-established BAS/BIS framework, our novel conceptualization of social approach–avoidance taps children’s drives to obtain approval or avoid disapproval and to demonstrate social competence or avoid demonstrating lack of competence. This conceptualization overlaps with other social approach–avoidance frameworks that distinguish approach and affiliative tendencies versus avoidance/rejection sensitive tendencies (e.g., Asendorpf, 1990; Gable, 2006; Nikitin & Freund, 2010) but also has some unique features.

First, we specifically measured motivation, whereas several other perspectives integrate behavioral approach–avoidance tendencies. Thus, additional research is necessary to determine how behavioral manifestations of social motivation (e.g., sociability, affiliation, and withdrawal) interact with victimization and sex to predict adjustment. On a related note, our framework leaves open the possibility for approach and avoidance motivation to confer both costs and benefits; in contrast, sociability and affiliative tendencies typically are viewed as purely adaptive, whereas rejection-sensitive and withdrawal tendencies typically are viewed as purely maladaptive. This difference is important for considering the explanatory power of vulnerability versus plasticity models of development.

Second, the BAS/BIS framework does not distinguish mastery-versus performance-oriented approach. Whereas performance-approach goals focus on *demonstrating* competence, mastery goals focus on *developing* competence (Ryan & Shim, 2008; Rudolph, Abaied, et al., 2011). Given their focus on intrapersonal standards for judging success and links to incremental (rather than entity) theories of relationships, mastery goals direct attention toward improving social skills and building relationships, acting as a potential buffer against peer evaluations of competence (Rudolph, 2010). Victimization may therefore serve as less of a threat to mastery-oriented children’s sense of self, thus weakening its impact on adjustment problems. Indeed, mastery goals predict more adaptive coping responses to victimization (Rudolph, Abaied, et al., 2011). Future research examining the potential protective effects of mastery goals would be helpful in providing understanding of how varying forms of approach motivation modify the developmental consequences of victimization.

Limitations and Future Directions

A limitation of this study is that it examines a single window of development in middle childhood. Youth place increasing importance on their status within the peer group into early adolescence (LaFontana & Cillessen, 2010), which may heighten the salience and impact of need for approval and social goals. Moreover, previous research indicates that victimization has lasting consequences for adjustment (Rudolph, Troop-Gordon, Hessel, et al., 2011), even after it abates (Rosen et al., 2009). Thus, in the future, researchers would benefit from evaluating the long-term contributions of victimization and social motivation to determine whether their effects persist into adolescence in the presence or absence of continuing victimization. It may be that individual and sex differences become more or less pronounced over time or that the form of victimization (e.g., relational vs. overt, which did not show meaningful differences here, or cyberbullying) begins to take on greater

importance and have differential effects in older youth (Card, Stucky, Sawalani, & Little, 2008; Smith, Rose, & Schwartz-Mette, 2010).

In the current study, we examined moderation, or who is vulnerable to which consequences following victimization, but it also would be informative to measure the specific processes through which victimization contributes to subsequent maladjustment and to examine how these processes vary according to social motivation, sex, and age. For instance, physiological reactivity may be one such process. High-approach boys and high-avoidance girls may be more biologically sensitive to context (e.g., show greater autonomic arousal, hypothalamic–pituitary–adrenal axis activity, or less neurosensory gating in social situations; Boyce & Ellis, 2005; Hollenstein, McNeely, Eastabrook, Mackey, & Flynn, 2011), responding favorably in positive social contexts and unfavorably in negative social contexts. In fact, children with heightened biological reactivity to social stress show particularly high levels of maladjustment (frustration, aggression, rumination, and depressive symptoms) when exposed to high levels of victimization but particularly low levels of maladjustment when exposed to low levels of victimization (Rudolph, Troop-Gordon, & Granger, 2010, 2011). Alternatively, emotion regulation ability, possibly stemming from endogenous capability or exogenous resources (e.g., parent/teacher support) may serve as another mediating process whereby sensitive children exhibit less attenuation of emotional reactivity and thus greater sensitivity to social stimuli, leading to worse outcomes when victimized and possibly to better outcomes when not victimized.

A further open question, not addressed by this study, is the extent to which approach-avoidance motivation is more effectively conceptualized as general or domain-specific in terms of particular sensitivities to particular corresponding stressors. We were interested in examining the impact of social motivation on the effects of a social stressor. In light of some inconsistent findings in research on interactive effects of stress and susceptibility (Grant et al., 2006), it may be useful for future research to consider comparing general and context-specific measures of sensitivity when studying corresponding stressful contexts.

Finally, we examined unique effects of social approach and avoidance, controlling for the opposite valence. However, theory and research suggest the potential relevance of profiles of approach–avoidance motivation as predictors of adjustment. Corr's (2002) joint subsystems hypothesis contends that high avoidance motivation may be most harmful in the context of low approach motivation. Consistent with this view, research indicates that high approach may have a protective effect on those with high avoidance by attenuating affective arousal and avoidant behavior in unpleasant contexts (Corr, 2002). Moreover, high social avoidance combined with low approach has been associated with more psychosocial maladjustment (Coplan et al., 2013). Alternatively, Asendorpf (1990) suggested that socially withdrawn children, who are high in both avoidance and approach, may be especially vulnerable to negative outcomes due to an approach–avoidance conflict. Consistent with this view, Nikitin and Freund (2010) found that the combination of high approach and high avoidance heightens arousal during social interactions. Given these differing perspectives, further research is needed to determine whether high approach and avoidance have antagonistic or facilitative effects on one another in the context of victimization.

Conclusion

Our results reveal that the consequences of victimization in elementary school depend upon the characteristics of the child. This research contributes novel information about how adverse social experiences affect children with certain attributes over time. Teachers, parents, and researchers may use this knowledge to design improved interventions that are tailored to specific needs of children and, therefore, potentially much more effective. For instance, it is crucial to watch for early signs of aggressive behavior in victimized boys who appear focused on obtaining peer approval and positive judgments and to watch for early signs of depression in victimized girls who appear focused on avoiding peer disapproval and negative judgments. This study sheds light on the “who” and the “what” but does not elucidate the “how” or “when” with regard to the effects of peer victimization. Potential interventions also would benefit from research elucidating mediators of sensitivity or insensitivity and critical periods for the development of sensitivity to victimization. Further research might endeavor to uncover such mechanisms through studies that follow youth over time or through intervention studies that directly examine processes of change. Of importance, when designing interventions, it is intriguing to consider that avoidance-oriented girls and approach-oriented boys may be at greatest risk following peer victimization, but these highly sensitive children also may benefit most from supportive interventions.

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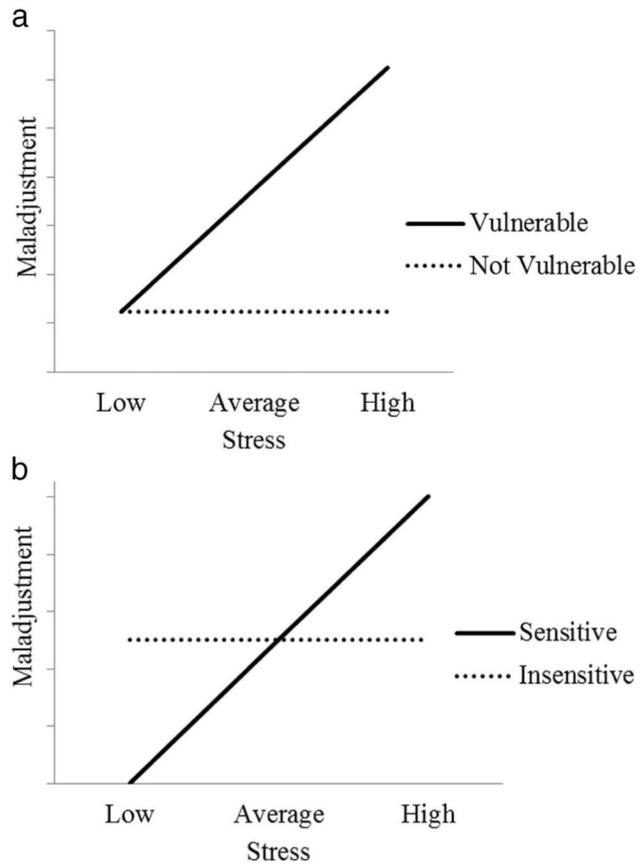


Figure 1. Alternative diathesis-stress models: (a) vulnerability model (b) plasticity model.

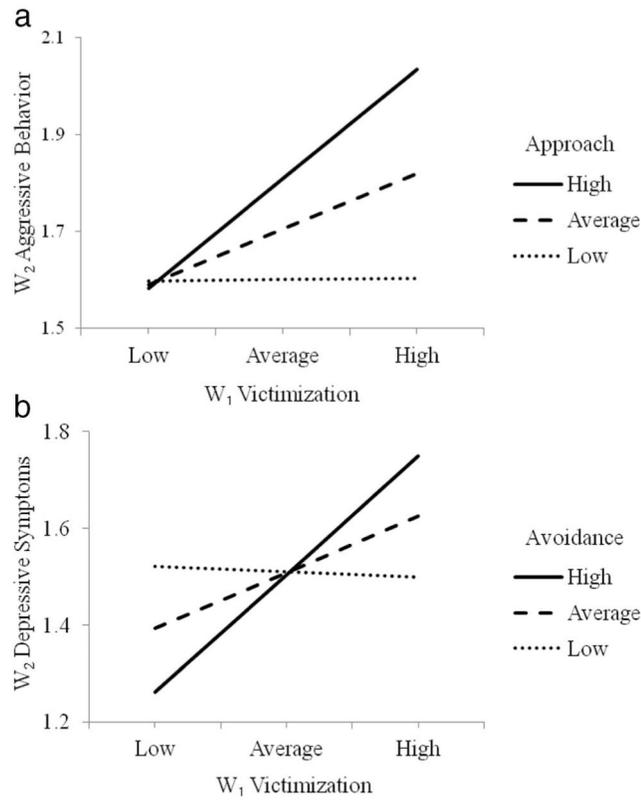


Figure 2.

(a) Graph predicting fourth-grade aggressive behavior in boys from the interactive contribution of third-grade victimization and approach motivation, adjusting for third-grade aggressive behavior. (b) Graph predicting fourth-grade depressive symptoms in girls from the interactive contribution of third-grade victimization and avoidance motivation, adjusting for third-grade depressive symptoms. W = Wave.

Table 1
 Descriptives and Correlations Among Peer Victimization, Social Approach–Avoidance Motivation, and Adjustment

Measures	Girls (<i>n</i> = 305)		Boys (<i>n</i> = 269)								
	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7		
1. Third-grade victimization	-0.01	0.79	0.01	0.83	—	.20***	.29***	.49***	.38***	.29***	.34***
Self-report	2.00	0.74	1.94	0.67							
Teacher-report	1.68	0.57	1.75	0.64							
2. Third-grade social approach	0.00	0.76	0.00	0.84	.15*	—	.36***	.17**	.13*	.14*	.10 [†]
Approach need for approval	3.80	0.92	3.69	1.00							
Performance-approach	2.16	0.90	2.29	1.02							
3. Third-grade social avoidance	0.05	0.75	-0.06	0.83	.30***	.50***	—	.07	.32***	.07	.19**
Avoidance need for approval	2.18	1.02	2.03	1.05							
Performance-avoidance	2.98	0.99	2.22	0.89							
4. Third-grade aggressive behavior	1.31 ^a	0.76	1.71 ^a	1.06	.55***	.03	.15*	—	.09	.53***	.18**
5. Third-grade depressive symptoms	1.62	0.58	1.58	0.58	.48***	.10 [†]	.33***	.27***	—	.03	.46**
6. Fourth-grade aggressive behavior	1.26 ^a	0.70	1.79 ^a	1.02	.40***	.13*	.12 [†]	.53***	.10 [†]	—	.11 [†]
7. Fourth-grade depressive symptoms	1.54	0.56	1.52	0.59	.45***	.03	.21**	.21**	.48***	.17**	—

Note. Correlations above the diagonal are for girls; correlations below the diagonal are for boys.

^aDiffer at $p < .001$.

[†] $p < .10$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 2
 Predicting Fourth-Grade Aggressive Behavior and Depressive Symptoms From Third-Grade Peer Victimization, Motivation, and Sex

Predictors	Fourth-grade aggressive behavior			Fourth-grade depressive symptoms		
	β	t	R^2	β	t	R^2
Step 1						
Third-grade adjustment	.46	11.37***	.36	.36	8.75***	.27
Third-grade victimization	.10	2.34*		.24	5.79***	
Third-grade approach	.07	1.84 [†]		-.03	-0.63	
Third-grade avoidance	-.02	-0.45		.03	0.62	
Sex (0 = boys, 1 = girls)	-.19	-5.46***		.01	0.17	
Step 2						
Third-Grade Victimization × Approach	.04	1.09	.01	.00	0.10	.01
Third-Grade Victimization × Avoidance	-.04	-1.05		.08	1.94 [†]	
Third-Grade Victimization × Sex	-.08	-1.49		-.05	-0.94	
Third-Grade Approach × Sex	-.07	-1.30		.05	0.94	
Third-Grade Avoidance × Sex	.03	0.55		-.01	-0.20	
Step 3						
Third-Grade Victimization × Approach × Sex	-.13	-2.48*	.01	.00	0.03	
Third-Grade Victimization × Avoidance × Sex	.07	1.32		.11	2.08*	

Note. β and t values represent statistics at each step of the regression equation.

[†] $p < .10$.

* $p < .05$.

*** $p < .001$.