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Peer Victimization, Internalizing Symptoms, and Aggression among High-Risk Youth: The Mediating Role of Emotion Dysregulation

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Peer Victimization, Internalizing Symptoms, and Aggression among High-Risk Youth:

The Mediating Role of Emotion Dysregulation

A thesis submitted in partial fulfillment of the requirement
for the degree of Bachelors of Arts in Psychology from
The College of William and Mary

by

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Accepted for: Highest Honors

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Williamsburg, VA
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Running Head: PEER VICTIMIZATION AND EMOTION DYSREGULATION

Peer Victimization, Internalizing Symptoms, and Aggression among High-Risk Youth:

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Abstract

The present study examined the mediational role of emotion dysregulation in the relations between peer victimization, internalizing symptoms, and aggression. Participants were 253 predominantly African-American elementary school children from a low-income, high-risk environment. Results indicated that worry dysregulation partially mediated the associations between child-reported overt and relational victimization and anxiety symptoms. Evidence for partial mediation of the associations between self-reports of overt and relational victimization and aggression through anger dysregulation were also found. These results provide general support for notion that emotion dysregulation operates as a mechanism linking overt and relational victimization to internalizing symptoms and aggression. Directions for future research and implications for interventions targeting victimized youth are discussed.

Keywords: peer victimization, emotion dysregulation, internalizing symptoms, aggression

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Peer Victimization, Internalizing Symptoms, and Aggression among High-Risk Youth:
The Mediating Role of Emotion Dysregulation

Peer victimization is a frequent occurrence in today's schools that has damaging effects on children's social and psychological adjustment (Hawker & Boulton, 2000). It is well documented that children's experiences of victimization predict peer rejection (e.g., Crick & Bigbee, 1998), internalizing problems such as depression, anxiety, and low self-esteem (e.g., Hodges & Perry, 1999), externalizing problems such as aggression and delinquency (e.g., Khatri, Kupersmidt, & Patterson, 2000), and school adjustment problems (e.g., Kochenderfer & Ladd, 1996). Research findings also indicate that peer victimization is associated with anxiety and depression in adulthood (e.g., Gladstone, Parker, & Malhi, 2006). Further, children's experiences of victimization may undermine the development of effective emotion management and coping strategies (Rudolph, Troop-Gordon, & Flynn, 2009) and lead to increased emotion dysregulation (McLaughlin, Hatzenbuehler, & Hilt, 2009). Considering the many negative outcomes associated with peer victimization, it is critical to identify underlying mechanisms that may lead to the development of social and psychological maladjustment for victimized youth.

The primary goal of this study was, therefore, to examine emotion dysregulation as a mediator of the relations between overt and relational victimization, internalizing symptoms, and aggression. In order to understand the scope of the problem, a brief overview of the prevalence of peer victimization and the distinction between overt and relational victimization is presented followed by a review of research concerning the outcomes and risk factors associated with children's experiences of victimization. Next, research examining emotion dysregulation and its role in child and adolescent psychopathology is reviewed. Theoretical and empirical support

linking peer victimization to emotion dysregulation is then presented, and this section concludes with a discussion of the goals and hypotheses of the present study.

Peer Victimization

Peer victimization is a pervasive problem among school-aged children. Research findings indicate that approximately 10% of elementary and middle school students are consistently victimized by their peers (Graham & Juvonen, 1998; Kochenderfer & Ladd, 1996; Perry, Kusel, & Perry, 1988). One longitudinal study of 388 predominantly Caucasian elementary school children found that over the course of four years, 60% of children were exposed to some form of victimization (Kochenderfer-Ladd & Wardrop, 2001). Furthermore, peer victimization is highly stable across the school years. There is evidence to suggest that victimization may become a stable experience for children as early as five or six years old (Kochenderfer & Ladd, 1996) and remain highly stable throughout middle childhood and early adolescence (Paul & Cillessen, 2003).

There has been some discrepancy in research over the years as to what constitutes peer victimization. Although the terms ‘bullying’ and ‘victimization’ have often been used interchangeably, Schafer, Werner, and Crick (2002) argue that these terms represent different conceptual approaches and suggest that studies be distinguished into two research traditions, known as the “bully/victim” approach and the “general victimization” approach. Initially, research focused on children’s bullying experiences defined victimization as being “exposed, repeatedly over time, to negative actions on the part of one or more persons” (Olweus, 1991, p. 280). This approach characterizes bullying as a form of aggression that involves an imbalance of strength, where the victim is psychologically or physically weaker than the aggressor (Olweus, 1978). Moreover, bullying is regarded as a group process that may be physical, verbal, or non-

verbal. The bully/victim approach generally uses self-report measures to identify children who are victimized by their peers (Schafer et al., 2002).

In contrast, other researchers have adopted the perspective that victimization does not need to persist for a specified length of time or occur between children who differ in physical or psychological strength (e.g., Perry et al., 1988). The general victimization approach provides a more comprehensive conceptualization that “has focused on children who are the frequent recipients of peers’ aggressive acts” (Schafer et al., 2002, p. 283). This approach uses multiple reporters, such as teacher, peer-, and self-reports, to assess victimization (e.g., Crick, Casas, & Ku, 1999). Although Schafer and colleagues (2002) assert that the bully/victim approach neglects those children who are victimized by their close friends, the general victimization approach includes these interactions as it emphasizes experiences of victimization on an individual level.

Most current research defines peer victimization by the form of aggression that is used (Dempsey, Fireman, & Wang, 2006). Overt victimization refers to the experience of being physically attacked or verbally threatened (Crick et al., 1999). Relational victimization involves harming others through the manipulation or damage to their peer relationships and social status, and includes the spreading of rumors and social ostracism (Crick & Grotpeter, 1996). Research indicates that the two different types of victimization experiences may contribute unique information in predicting children’s future maladjustment. For example, Crick (1996) demonstrated that relational victimization is a better predictor of future social adjustment problems than overt victimization among elementary school students. Accordingly, many researchers (e.g., Crick et al., 1999; Prinstein, Boergers, & Vernberg, 2001) stress the importance of studying overt and relational victimization as two related, but distinct, constructs.

In recent years, a number of studies have examined gender differences in overt and relational victimization. There is considerable evidence to suggest that boys experience more overt victimization than girls (Crick & Bigbee, 1998; Crick et al., 1999; Crick & Grotpeter, 1995; Dempsey et al., 2006; Martin & Huebner, 2007). Crick and Grotpeter (1995) proposed that girls are more likely to engage in relationally aggressive behaviors, however, research findings have been mixed regarding gender differences in being a recipient of relational victimization. Some studies indicate that girls experience more relational victimization (Crick & Bigbee, 1998; Crick & Grotpeter, 1995; Dempsey et al., 2006), whereas other findings indicate that boys report more relational victimization than girls (La Greca & Harrison, 2005; Martin & Huebner, 2007).

Nonetheless, the distinction between overt and relational victimization may involve the way in which these experiences are perceived. In a study of elementary, middle, and high school students, Galen and Underwood (1997) found that boys viewed physical victimization as more hurtful than relational victimization, and girls rated social victimization as significantly more hurtful than boys did. In addition, it has been shown that relational aggression is more distressful and upsetting for girls than boys (Crick, 1995). Crick and Zahn-Waxler (2003) suggest that relational victimization may be particularly distressing for girls because of the strong emphasis they place on social bonds with their peers.

Outcomes associated with peer victimization. Numerous studies have demonstrated that peer victimization is associated with social and psychological maladjustment. It is well documented that peer victimization predicts peer rejection (Crick & Bigbee, 1998; Perry et al., 1988). In a study of first and third-grade boys' playgroups, researchers found that as differences in victimization emerged, the attitudes and behavior of the peer group became increasingly negative toward the victims (Schwartz & Dodge, 1993). These results suggest that peer

victimization precedes rejection by a peer group. Another longitudinal study of 1,589 Caucasian and Hispanic elementary school students revealed that overtly and relationally victimized children are the most rejected of their peers, with a rejection rate of almost 75% (Demsey et al., 2006). Moreover, Prinstein and colleagues (2001) note that adolescents who are both overtly and relationally victimized report more adjustment difficulties overall than those who only experience one form of victimization.

A number of consistent findings show that peer victimization is significantly related to internalizing problems such as depression, anxiety, and low self-esteem (Craig, 1998; Hodges & Perry, 1999; Prinstein et al., 2001; Slee, 1995). Crick and Bigbee (1998) found that victimized children reported high levels of internalizing problems, regardless of the type of victimization to which they were exposed. Another study of 190 Hispanic and African-American children from an urban elementary school demonstrated that overt victimization was positively associated with depressive symptoms, fear of negative evaluation, social avoidance, and loneliness (Storch, Nock, Masia-Warner, & Barlas, 2003). In contrast, relational victimization was uniquely associated with depressive symptoms, fear of negative evaluation, and social avoidance for girls only. Further, adolescents who are victimized by their peers report low self-esteem and elevated depression ten years later (Olweus, 1992), and recalled relational victimization in adolescence is related to increased symptoms of depression and social anxiety in early adulthood (Demsey & Storch, 2008).

Several studies have examined peer victimization as a risk factor for increased externalizing behaviors. In a study of 373 French-Canadian elementary school children, peer victimization predicted externalizing problems, including aggression and delinquency (Hodges, Boivin, Vitaro, & Bukowski, 1999). Similarly, another study of 471 elementary school children

(60% Caucasian, 38% African-American) found that peer victimization predicted increases in self-reported aggression (Khatri et al., 2000). Moreover, victimization was predictive of self-reported delinquency among girls but not boys.

Peer victimization has also been positively associated with teacher-reported externalizing behavior among middle school students (Graham, Bellmore, & Juvonen, 2003). In a sample of 600 middle school students (77% Caucasian), children who were nominated by their peers as victims reported higher levels of aggression and delinquency than non-victims one year later (Paul & Cillessen, 2003). Among the victims, girls reported more externalizing problems than boys. Additionally, peer victimization has been linked to increased cigarette and alcohol use among middle school students (Sullivan, Farrell, & Kliewer, 2006). Aggression and delinquency have also been associated with overt victimization for boys and girls, but not with relational victimization among high school students (Prinstein et al., 2001). Another study of 10,909 predominantly Caucasian high school students found that peer-victimized children with aggressive attitudes reported significantly higher levels of weapon carrying, alcohol use, and fighting (Brockenbrough, Cornell, & Loper, 2002).

Experiences of victimization are also predictive of school adjustment problems. Peer victimization has been linked to poor academic performance in adolescence (Olweus, 1978). Similarly, Kochenderfer and Ladd (1996) found that experiences of victimization predict school avoidance among kindergarten students. Specifically, those children who were victimized in the fall of the school year were more likely to avoid school in the spring. Considering the many harmful outcomes associated with peer victimization, it is important to explore what factors may place children at risk for victimization.

Determinants of peer victimization. A number of risk factors are associated with victimization, including internalizing and externalizing behaviors (Craig, 1998; Goldbaum, Craig, Pepler, & Connolly, 2003; Hodges et al., 1999; Paul & Cillessen, 2003). One study of predominantly Caucasian middle school children found that internalizing problems, physical weakness, and peer rejection predicted increases in victimization over the course of a year (Hodges & Perry, 1999). Other results suggest “an escalating cycle of peer abuse... because behavioral problems reciprocally influence victimization over time” (Hodges et al., 1999, p. 100). More specifically, researchers found that internalizing and externalizing behaviors predicted increases in victimization, and concurrently, victimization predicted increases in internalizing and externalizing behaviors.

Olweus (1978) identified victims of aggression as either ‘passive’ or ‘provocative/aggressive.’ The passive victims were withdrawn, anxious, insecure, and submissive. Hanish and Guerra (2000) note that this type of victimized child is seen as an easy target who submits to aggressors’ demands and does not retaliate. In contrast, the provocative victims were aggressive, restless, impulsive, and hostile children who were targeted as victims because their off-task behavior provoked their peers (Olweus, 1978). Pellegrini (1998) expanded this conceptualization, indicating that some victimized children are passive and do not respond overtly, whereas others react to victimization with aggression. Further, children who ‘fought back’ against their aggressor were more likely to have a stable pattern of victimization (Kochenderfer & Ladd, 1997).

Correspondingly, a number of findings indicate that aggressive behavior predicts peer victimization (Hanish & Guerra, 2000; Hodges, Malone, & Perry, 1997; Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1999). Ostrov (2008) found that physical aggression predicted

increases in relational victimization, whereas relational aggression predicted increases in relational victimization for girls only. In another longitudinal study of 1,241 middle school students (84% Caucasian), children reported engaging in more aggressive behaviors as victimization increased (Goldbaum et al., 2003). Indeed, Mahady Wilton, Craig, and Pepler (2000) note that children are most likely to use the least effective methods, including verbal and physical aggression, when responding to bullying. These responses, in turn, are associated with more stable and severe experiences of victimization.

Emotion Dysregulation

Research in recent years has also revealed a link between peer victimization and emotion dysregulation (e.g., McLaughlin et al., 2009). Emotion dysregulation has been broadly defined as failures to meet the developmental tasks of emotion development (Cicchetti, Ganiban, & Barnett, 1991; Dodge & Garber, 1991). More specifically, “emotion dysregulation involves difficulty modulating emotion experience and expression in response to contextual demands and controlling the influence of emotional arousal on the organization and quality of thoughts, actions, and interactions” (Cole, Michel, & O’Donnell Teti, 1994, p. 85). Emotion dysregulation occurs when a pattern of emotion regulation jeopardizes development or impairs productive functioning (Cole et al., 1994). Therefore, this construct has significant implications for psychological adjustment, as difficulties with emotion regulation have been implicated in most forms of child and adolescent psychopathology (Cicchetti, Ackerman, & Izard, 1995; Cole et al., 1994, Keenan, 2000; Silk, Steinberg, & Morris, 2003).

Emotions are thought to be adaptive reactions that organize human functioning (Cole et al., 1994) and serve specific functions within the social environment (Campos, Campos, & Barrett, 1989). Thus, emotions, even negative ones, serve a functional purpose (Thompson,

1994). For example, anger provides motivation and energy to overcome obstacles and accomplish one's goals (Cole et al., 1994). Sadness, on the other hand, serves as a social signal that elicits support from others and helps to prevent wasted effort, since it occurs when an action is considered insufficient to attain a desired goal or object (Campos et al., 1989). Worry acts as a cognitive avoidance strategy that decreases discomfort when an individual is confronted with a perceived threat or anxiety-provoking stimuli (Borkovec, Ray, & Stober, 1998). As Cole and colleagues note (1994), emotions serve both regulatory and regulated functions. For instance, emotions may have a regulatory influence by organizing psychological functions and communicating with others. Emotions may also be regulated in order to meet situational demands and maintain social relationships.

The functionalist theory of emotion (Barrett & Campos, 1987; Campos et al., 1989) posits that emotions are embedded within contextual demands and linked to the promotion of goals. Therefore, determining whether the subsequent result of emotional expression is adaptive or maladaptive depends on both the social demands of the situation and the achievement of an individual's goals (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). Research has shown that children have different expectations regarding the consequences of expressing each distinct emotion (Fuchs & Thelen, 1988; Zeman & Shipman, 1996). For example, children report expressing sadness in order to receive support, and regulating anger in order to avoid negative consequences (Zeman & Shipman, 1996). Given that each emotion functions differently within social contexts, it is important to examine emotions individually rather than global negative affect (Zeman, Shipman, & Penza-Clyve, 2001).

Emotion regulation refers to “the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and

temporal features, to accomplish one's goals" (Thompson, 1994, pp. 27-28). Most developmental researchers regard the development of the ability to manage emotional expression as a major developmental task (Cicchetti et al., 1991; Dodge, 1989; Kopp, 1989) and competent emotion regulation is critical to adaptive psychological and social functioning (e.g., Cole et al., 1994). Over the course of development, patterns of emotion regulation may become characteristic of an individual's coping style (Cole et al., 1994). As previously noted, emotion dysregulation occurs when stable patterns of managing emotional experience develop that interfere with adaptive functioning. Emotion dysregulation involves difficulties with the flexible integration of emotion with other processes (Cicchetti et al., 1991), impairment in the processing of information and events (Dodge, 1991), inability to access a typical emotion (Cole et al., 1994), and poor control over emotional experience and expression (Kopp, 1989). Emotion dysregulation can also be defined as the culturally inappropriate, overt displays of emotion (Zeman et al., 2001).

Outcomes associated with emotion dysregulation. According to Cole and colleagues (1994), "all forms of psychopathology have concomitant symptoms of emotion dysregulation" (p. 99). Emotion dysregulation may be present in at least two distinct forms, including the over- and under-control of emotional expression (Cole et al., 1994). When children try to regulate high emotional arousal, they may over-control or disengage from their emotion, which may lead to the development of internalizing disorders (Robins, John, Caspi, Moffitt, & Stouthamer-Loeber, 1996). Over-control refers to excessive "containment of impulses, delay of gratification, inhibition of action and affect, and insulation from environmental distractors" (Block & Block, 1980, p. 43). These children are characterized by emotional expression that appears to be flat in intensity despite the fact that they are masking high levels of internal distress (Cole et al., 1994).

Patterns of emotion dysregulation have been consistently linked to internalizing problems (Eisenberg, Cumberland, Spinrad, Fabes, Shepard, Reiser, et al., 2001; Robins et al., 1996; Suveg & Zeman, 2004). One study of 79 preschoolers revealed that inexpressive children were more likely to experience anxious and depressive symptoms at age seven (Cole, Zahn-Waxler, Fox, Usher, & Welsh, 1996). Elementary-age children classified with internalizing problem behaviors by their parents and teachers have also been found to be prone to sadness and low on effortful regulation (Eisenberg et al., 2001). Another study of 227 elementary school children (96% Caucasian) indicated that inhibition of anger, the dysregulated expression of anger and sadness, and maladaptive coping with anger predicted internalizing symptoms (Zeman, Shipman, & Suveg, 2002). Similarly, Suveg and Zeman (2004) examined emotion regulation in 26 elementary-age children with anxiety disorders and found that children with an anxiety disorder reported more frequent worry, sadness, and anger dysregulation than did children without an anxiety disorder.

Research findings also indicate that adolescents who report more labile emotions (e.g., greater degree of fluctuation in mood state) or intense negative affect are significantly more likely to score higher on measures of depressive symptoms (Larson, Raffaelli, Richards, Ham, & Jewell, 1990). One study used the experience sampling method to assess emotion regulation and its links to adjustment in a sample of 152 primarily Caucasian adolescents (Silk et al., 2003). Adolescents completed self-report measures of adjustment and provided multiple reports about the intensity, lability, and strategies used to regulate emotions over the course of one week. Results revealed that intense and labile levels of anger, sadness, and anxiety were associated with depressive symptoms. Moreover, adolescents who were less able to regulate affect during

negative emotional experiences reported more depressive symptoms than those who were able to recover more easily.

When children try to regulate high emotional arousal, they may also under-control the amount or intensity of expressed emotion, which can lead to the development of externalizing problems (e.g., Eisenberg et al., 2001; Hill, Degnan, Calkins, & Keane, 2006). Under-control refers to “insufficient modulation of impulse, the inability to delay gratification, immediate and direct expression of motivation and affects, and vulnerability to environmental distractors” (Block & Block, 1980, p. 43). Research has demonstrated that infant dysregulation may predict later externalizing problems (for a review, see Keenan, 2000). In a birth cohort of over 2,000 children, difficult infant temperament, assessed according to frequency and intensity of crying and fussing and need for attention, predicted negative emotionality at age five (Martin, Wisenbaker, Baker, & Huttunen, 1997). Difficult temperament at six months of age has also been associated with parent and child reports of behavioral and emotional problems in adolescence at ages 14-15 (Teerikkangas, Aronen, Martin, & Huttunen, 1998).

Another study of 79 four and five year old children (82% Caucasian) revealed that boys at-risk for behavioral problems exhibited more negative emotion and for longer periods than control boys (Cole, Zahn-Waxler, & Smith, 1994). In addition, boys’ displays of anger were predictive of disruptive behavior during a disappointment task and of teacher-reported oppositionality, attention deficit with hyperactivity, and conduct problems. In contrast, at-risk girls’ minimization of angry emotion was associated with attention deficit disorder symptoms and conduct disorders symptoms. Deficits in emotion regulation and sustained attention at age two have also been found to predict externalizing behavior problems at ages four and five (Hill et al., 2006).

Furthermore, it is well established that greater anger expression is also related with peer rejection (Eisenberg, Fabes, Bernzweig, Karbon, Poulin, & Hanish, 1993; Juvonen, 1992). One study of 111 predominantly African-American elementary school students indicated that peer-rejected children expressed more facial and verbal anger in the context of losing a game than average-status children (Hubbard, 2001). Intense and labile levels of anger, sadness, and anxiety have also been associated with behavior problems among adolescents (Silk et al., 2003). Silk and colleagues (2003) assert that “these findings support the contention that a nonspecific emotion dysregulation factor... is a common correlate of both internalizing and externalizing [problems] among adolescents” (p. 1877).

Peer Victimization and Emotion Dysregulation

Emotion dysregulation may serve as a mechanism underlying the relation between peer victimization and psychosocial maladjustment. Perry, Perry, and Kennedy (1992) suggest that aggressive victims are emotionally dysregulated children who have difficulty controlling their emotions during interpersonal conflicts. As a result, these children may become over-aroused and escalate interactions with their peers into aggressive confrontations. Further, aggressive victims tend to reinforce their aggressors with dramatic emotional responses (Perry, Williard, & Perry, 1990) and exaggerated retaliatory behavior (Schwartz et al., 1998). One study of 354 elementary school children (64% Hispanic, 30% African-American) examined the behavioral and emotional dysregulation of subgroups of victims and aggressors (Schwartz, 2000). Peer nomination scores for aggression and victimization were used to classify children into subgroups, and teachers completed measures of behavioral and emotional dysregulation. Specifically, emotion dysregulation was assessed using the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997), which includes a sum score of items targeting aspects of self

regulation such as affective lability, intensity, valence, flexibility, and situational appropriateness. Findings showed that aggressive victims received significantly higher scores on teacher ratings of emotion dysregulation, hyperactivity, and impulsive behavior (Schwartz, 2000).

Peer victimization has also been related to high levels of impulsive behavior (Crick & Bigbee, 1998; Dempsey et al., 2006). One study of 389 primarily Caucasian elementary school children revealed that disruptive, aggressive, and hyperactive-impulsive behavior problems predicted peer victimization three years later (Schwartz et al., 1999). In addition, hyperactive-impulsive behavior problems were more predictive of peer victimization for girls than boys. Pope and Bierman (1999) hypothesize that impulsive children have difficulties inhibiting negative arousal and regulating negative emotion and their dysregulation may be linked to peer victimization. For example, relationally victimized middle school-age children report significantly more self-restraint problems, including greater impulsivity and difficulty inhibiting anger (Crick & Bigbee, 1998). In an observational study of eight-year-old boys' playgroups, peer victimization was found to be associated with displays of angry, reactive aggression (Schwartz et al., 1998). Crick and Bigbee (1998) suggest that experiences of victimization may contribute to restraint problems by overwhelming children with hostile or retaliatory feelings. Notably, chronic stress during childhood and adolescence has been found to lead to deficits in emotion regulation (Cicchetti & Toth, 2005; Repetti, Taylor, & Seeman, 2002).

Furthermore, emotion dysregulation has been significantly associated with peer victimization (Mahady Wilton et al., 2000; Schwartz & Proctor, 2000; Shields & Cicchetti, 2001). Although researchers have proposed that dysregulated emotions and behavior may predict and serve as a risk factor for victimization problems (Crick & Bigbee, 1998; Hodges & Perry,

1999; Mahady Wilton et al., 2000; Pope & Bierman, 1999; Schwartz et al., 1999), most empirical evidence to date indicates that victimization leads to emotion dysregulation.

In a 7-month longitudinal study of 1,065 predominantly Hispanic middle school students, McLaughlin, and colleagues (2009) investigated emotion dysregulation as a mechanism linking peer victimization to internalizing symptoms. Participants completed the dysregulation subscales of the Children's Sadness Management Scale (CSMS) and the Children's Anger Management Scale (CAMS), which assess the extent to which children engage in maladaptive or inappropriate expressions of emotion (Zeman et al., 2001). These scores were combined with measures of emotional understanding (EESC; Penza-Clyve & Zeman, 2002) and rumination (CRSQ; Abela, Brozina, & Haigh, 2002) to create a latent variable representing emotion dysregulation. Results of the study revealed that relational victimization was associated with increased emotion dysregulation over a 4-month period. These increases in emotion dysregulation, in turn, mediated the association between relational, but not overt, victimization and increases in internalizing symptoms of depression and anxiety over a 7-month period. Analyses also indicated that internalizing symptoms marginally predicted increases in relational, but not overt, victimization. Although these results suggest a reciprocal relation between internalizing symptoms and relational victimization, emotion dysregulation did not mediate this relation.

Another observational study of 206 elementary-age children (87% Caucasian) examined emotional and behavioral responses during a challenging interaction with an unfamiliar peer (Rudolph et al., 2009). Dyads of children completed a block building task and were instructed to determine the distribution of two prizes of unequal value while coders rated the interactions on three dimensions of emotional and behavioral dysregulation, reflected in facial, body, and verbal expressions. Specifically, coders rated expressions of self-directed negative emotion (e.g.,

anxiety, sadness, frustration), other-directed negative emotion (e.g., anger, irritability, impatience), and aggression (e.g., verbal and physical aggression, teasing, criticism). In addition, coders rated hostile and inhibited behavior based on their global impressions of the interactions between dyads. Results indicated that relational victimization was associated with increased emotional and behavioral dysregulation. That is, relational victimization predicted more other-directed negative emotion, hostile behavior, and less inhibited behavior.

It has been suggested that children who are victimized may respond by forming negative conclusions of their peers, leading to self-control problems (Crick & Bigbee, 1998). Indeed, research findings indicate that relational victimization predicts more negative peer beliefs in addition to emotional and behavioral dysregulation (Rudolph et al., 2009). Further, McLaughlin and colleagues (2009) posit that “the effort required to manage the negative emotions elicited by victimization experiences may deplete the resources necessary for self-regulation and reduce subsequent ability to effectively manage negative affect” (p. 900). It is likely that the relation between victimization and emotion dysregulation is reciprocal in nature. The adjustment difficulties that place children at risk for victimization may be a further manifestation of poor emotion regulation. Therefore, children who are emotionally dysregulated, exhibiting aggressive, depressed, or anxious behavior, may be more likely to be victimized than their peers, and experiences of victimization may also lead to increased emotion dysregulation.

The Present Study

Although a considerable body of research has examined the link between peer victimization and psychosocial maladjustment, few studies have explored what mechanisms or processes may account for this association. To date, only one empirical study has directly examined emotion dysregulation as a mediator of the relation between peer victimization and

internalizing symptoms among middle school students (McLaughlin et al., 2009). Identifying mechanisms underlying this association is crucial to develop interventions that protect victimized children against the emergence of internalizing symptoms. The purpose of the present study was therefore to address gaps in the literature by examining further the mediational role of emotion dysregulation in the relations between overt and relational victimization and internalizing symptoms of depression and anxiety. This study is also the first to examine emotion dysregulation as a mediator of the associations between overt and relational victimization and aggression. Considering that aggressive victims are more likely to have more stable and severe experiences of victimization (Mahady Wilton et al., 2000), it is also important to explore mechanisms may account for this relation.

The current research operationalized emotion dysregulation as the overt, under-regulated expression of three discrete emotions including anger, sadness, and worry. The functionalist approach (Campos et al., 1989) specifies that each emotion serves a unique function within interpersonal and intrapersonal contexts and is expressed with specific action tendencies. Thus, anger, sadness, and worry were included in this study and analyzed separately given that they are common emotions experienced in childhood and when not regulated constructively, are associated with both internalizing and externalizing disorders (e.g., Cicchetti et al., 1995). The addition of worry also represents a novel contribution and builds on research conducted by McLaughlin and colleagues (2009) who examined anger and sadness dysregulation.

The goals of this study were addressed using an elementary school-age sample. This age range was selected because children begin to develop more stylized emotion management strategies in middle childhood (Cole & Kaslow, 1988), and patterns of emotion dysregulation may become more stable and resistant to change during this developmental period (Cole et al.,

1994). Moreover, there is evidence to suggest that peer victimization is more prevalent among elementary school students as compared to older school-age populations (Olweus, 1991). Given that the onset and duration of peer victimization have significant implications for the development of negative adjustment outcomes (Kochenderfer & Ladd, 1996), the elementary school years are a critical time period for studying children's experiences of victimization.

Further, this study extends past research to a sample of predominantly African-American children from a low-income, high-risk environment. Despite a vast increase in research on peer victimization in recent years, most studies have been conducted with predominantly Caucasian, middle-class children (Storch et al., 2003). It is particularly important to examine overt and relational victimization in ethnically diverse samples, as research indicates that the dynamics of peer victimization may vary considerably among these populations (e.g., Hanish & Guerra, 2000). One study of 384 African-American and Hispanic elementary school children indicated that youth living in highly disadvantaged neighborhoods reported almost twice as many stressful life events as those from moderately disadvantaged neighborhoods (Attar, Guerra, & Tolan, 1994). African-American and Hispanic youth have also been found to be exposed to more community violence and violent victimization than Caucasian children, regardless of socioeconomic status (Crouch, Hanson, Saunders, Kilpatrick, & Resnick, 2000). Huesmann and Guerra (2002) suggest the socialization processes of children living in high-risk environments may contribute to normative beliefs approving of aggression and predict higher levels of aggressive behavior among peers. Indeed, stressful life events and exposure to violence have been demonstrated to predict increases in aggression one year later (Attar et al., 1994). Thus, the present study provides information about the generalizability of the existing research examining

the relations between peer victimization, internalizing symptoms, and aggression to a population of inner-city African-American children.

Hypotheses. Based on past research and theory, a set of hypotheses was developed:

1) The negative social and psychological outcomes associated with peer victimization are well documented (e.g., Prinstein et al., 2001; Rudolph et al., 2009). Therefore, it was hypothesized that children's experiences of overt and relational victimization would be positively associated with emotion dysregulation, internalizing symptoms, and aggression.

2) Consistent with past findings (McLaughlin et al., 2009), anger and sadness dysregulation were expected to mediate the relations between overt and relational victimization and internalizing symptoms of depression and anxiety.

3) It was also hypothesized that worry dysregulation would operate as a mediator of the relations between overt and relational victimization and anxiety. This prediction was based on past research that indicates that dysregulated expressions of worry are characteristic of children with anxiety disorders (Suveg & Zeman, 2004; Zeman, Cassano, Suveg, & Shipman, in press).

4) Similarly, it has been posited that aggressive victims are emotionally dysregulated children (Perry et al., 1992) and research has found that peer victimization is associated with angry, reactive aggression (Schwartz et al., 1998). Thus, it was predicted that anger dysregulation would mediate the relations between overt and relational victimization and aggression.

Method

Participants

Participants were 253 children, including 99 boys (M age = 114.71 months; SD = 11.69) and 154 girls (M age = 113.45 months; SD = 12.49) in the second (n = 81), third (n = 62), fourth

($n = 64$), and fifth grades ($n = 46$). This sample was part of larger, on-going project examining socio-emotional and psychological functioning among children living in a high-risk neighborhood characterized by high levels of poverty and violence exposure.

Children were recruited from an elementary school in Newport News, Virginia, and only those with caregiver consent participated in the study (consent rate was 63%). Participants identified their ethnicity as 91.8% African-American, 7.8% mixed or multiple ethnicities, and 0.4% other. Information on household demographics was also available for a subsample of 111 caregivers who participated in the larger project as they were the informants on demographics. The majority of caregivers (71.4%) indicated that they were not married, and nearly half (47.8%) reported three or more children living at home. The mean household yearly income was \$20,000-\$30,000, and 23% of caregivers reported an income of less than \$10,000 a year. Further, 56% of the caregivers indicated that their child had experienced parental incarceration.

It is important to note that the elementary school is located in a low-income, high-risk environment. The poverty rates in the community are almost four times higher than the national average, with 35% of families living below the federal poverty line (U.S. Census Bureau, 2000). In addition, the neighborhoods where the children live are marked with relatively high levels of violence and crime. In fact, the precinct where the school is located has the highest crime rates in the city according to the Newport News Police Department.

Despite these risk factors, the school incorporates a program that is designed to serve students at-risk for school failure due to socioeconomic factors. The school operates year-round and uses an extended school day and extra programs to provide mentors, financial support, and assistance to children. Enrollment is by application and children and parents are required to sign a written commitment to the student's academic plan at the beginning of each school year.

Children are required to wear uniforms to school, which are inspected by soldiers from a local army base, and they attend mandatory classes on etiquette, ethics, and conflict resolution.

Measures

Demographic questionnaire. A brief questionnaire was designed to obtain basic demographic information, including the participant's age, gender, and race/ethnicity.

Peer victimization. Children's experiences of victimization were assessed using the Social Experience Questionnaire (SEQ; Crick & Grotpeter, 1996). The SEQ consists of three subscales: Overt Victimization, Relational Victimization, and Receipt of Prosocial Acts. The present study focused on the victimization subscales (see Appendix A). Children were asked to respond to each item on a 5-point Likert scale ranging from 1 (*never*) to 5 (*all the time*). The Overt Victimization scale consists of three items that measure the frequency with which children are physically attacked or verbally threatened by their peers (e.g., "How often do you get hit?"). The three items were summed to create a total score ranging from 3 to 15. In contrast, the Relational Victimization scale consists of five items that assess children's reports of the frequency with which peers harm or attempt to harm their relationships with others (e.g., "How often does a kid try to keep others from liking you by saying mean things about you?"). The five items were summed to create a total score ranging from 5 to 25.

The SEQ has been found to have good internal consistency, with coefficient alphas ranging from .77 to .80 (Crick & Bigbee, 1998; Crick & Grotpeter, 1996). Although the SEQ was initially validated on predominantly Caucasian samples, the measure's reliability has been supported by subsequent use with ethnically diverse samples (Martin et al., 2008; Storch et al., 2003). Further, the measure has been shown to differentiate between overt and relational victimization (Crick & Grotpeter, 1996). Coefficient alphas for the present study demonstrated

adequate internal consistency for both the overt ($\alpha = .68$) and relational ($\alpha = .67$) victimization subscales.

Emotion dysregulation. The Children's Emotion Management Scales (CEMS; Zeman, et al., in press; Zeman et al., 2001) for anger (CAMS), sadness (CSMS), and worry (CWMS) were used to measure participants' self-reports of emotion dysregulation (see Appendix B). The CEMS are comprised of three subscales that assess adaptive and maladaptive methods of emotion regulation: Inhibition, Dysregulation, and Coping. The present study focused on the Dysregulation subscales for each of these measures, which assess children's culturally inappropriate, overt expressions of emotion. Each subscale consists of three items that children respond to on a 3-point Likert scale ranging from 1 (*hardly ever*) to 3 (*often*). Representative items from each scale are "I attack whatever it is that makes me mad" (CAMS), "I cry and carry on when I'm sad" (CSMS), and "I keep whining about how worried I am" (CWMS). The three items from each Dysregulation subscale were summed to create total scores ranging from 3 to 9.

The CEMS have demonstrated adequate reliability, with alpha coefficients ranging from .63 to .83 for each subscale (Zeman et al., in press), and strong test-retest reliability. Further, these scales have been used in research with multiple races for elementary school children (McAuliffe, Hubbard, Rubin, Morrow, & Dearing, 2007) and middle school children (McLaughlin et al., 2009). The dysregulation subscales displayed weak internal consistency for anger ($\alpha = .50$), sadness ($\alpha = .40$), and worry ($\alpha = .44$) in the current sample, although the small number of items likely lowered the reliability indices given that the internal consistency for the combined nine items was .68.

Anxiety symptoms. Participants' anxiety symptoms were assessed using the Multidimensional Anxiety Scale for Children (MASC; March, Parker, Sullivan, Stallings, &

Conners, 1997; see Appendix C). The MASC includes 39 items that assess physical symptoms of anxiety (e.g., “I feel tense or uptight”), harm avoidance (e.g., I keep my eyes open for danger”), social anxiety (e.g., “I’m afraid other people will think I’m stupid”), and separation anxiety (e.g. “I try to stay near my mom or dad”). Children were asked to indicate how true each item is for them on a 4-point Likert scale ranging from 0 (*never true about me*) to 3 (*often true about me*). All items were summed to create a total score ranging from 0 to 156.

The MASC is a widely used measure that is appropriate for children 8-19 years of age. It has been found to have high internal consistency, with alpha coefficients that range from .88 to .89, and good test-retest reliability over 3-week and 3-month periods (March et al., 1997; March, Sullivan, & Parker, 1999). The MASC demonstrated strong internal consistency in the current sample ($\alpha = .85$). Total scores were converted to T-scores to identify children with clinically significant level of anxiety symptoms. Eight boys (8%) and 20 girls (13%) scored in the clinical range in the present study.

Depressive symptoms. The Children’s Depression Inventory (CDI; Kovacs, 1992) was used to assess participants’ depressive symptoms (see Appendix D). The CDI is self-report measure that assesses children’s cognitive, affective, somatic and behavioral symptoms of depression during the previous two weeks. The CDI includes 27 items which each consist of three statements (e.g., “I am sad once in a while,” “I am sad many times,” “I am sad all the time”) which represent different levels of severity of a specific depressive symptom. Children responded to the items by indicating which of the statements best describes them. One item assessing suicide ideation was not included due to Institutional Review Board concerns. A total score, ranging from 0 to 52, was created by summing the remaining 26 items.

The CDI is a widely used measure among children and adolescents. It has been found to have good internal consistency, with alpha coefficients ranging from .71 to .89 (Kovacs, 1992), and strong test-retest reliability over a 3-week period (Smucker, Craighead, & Green, 1986). The CDI yielded strong internal consistency in the present study ($\alpha = .87$). Total scores were converted to T-scores to determine how the current sample compared with a normative sample and to identify clinical significant scores. Five boys (5%) and 16 girls (10%) scored in the clinical range in the current sample.

Self-reported aggression. Children's self-reports of aggression were assessed with the Engagement in Bully Behavior subscale of the Kids in My Class at School questionnaire (Ladd, Kochenderfer, & Coleman, 1996, 1997; see Appendix E). The subscale consists of four items that measure children's physical and verbal aggression with school classmates (e.g., "How often do you pick on other kids in your class at school?"). Possible responses to the items on the 5-point Likert scale range from 1 (*never*) to 5 (*always*). A total score, ranging from 4 to 20, was created by summing all items. These items have been found to have adequate reliability in previous research (Ladd et al., 1996, 1997). An examination of the psychometric properties of the subscale indicated strong internal consistency in the present sample ($\alpha = .85$).

Peer-reported aggression. Sociometric surveys were also used to obtain peer-reports of children's aggressive behavior (see Appendix F). Children were presented with a list of all participating children in their class, with the exception of themselves, and asked to rate their classmates' aggressive behaviors on four items: "Hits/Pushes/Kicks," "Starts Fights," "Is Mean," and "Gets Mad Easily." Children responded to each item on a 5-point Likert Scale ranging from 1 (*not at all*) to 5 (*a whole lot*). A minimum participation rate of 40% is recommended for sociometric measures (Terry & Cole, 1991). Overall, the participation rates were 65% for

second, 61% for third, 69% for fourth, and 54% for fifth grade classrooms with no single classroom falling below the 40% requirement (range = 41% to 81%). Scores for each item were generated by summing all peer ratings and then dividing by the number of children who completed the sociometric survey. A total score for each child was then created by summing the four item scores. The aggression sociometric yielded strong internal consistency in the present sample ($\alpha = .94$).

Procedure

Consent forms were distributed to children at school to take home to their caregivers. Caregivers were asked to return the consent form, indicating their willingness for their children to participate in the study. In addition, written assent was obtained from all children prior to their participation. The data were collected over the course of two, 30-minute sessions separated by approximately two to three weeks. In both sessions, children completed study measures during their weekly tennis class at school.

Individual interviews were conducted for the first session and children were administered the demographic questionnaire, the Social Experience Questionnaire, the Kids In My Class at School questionnaire, and the Children's Emotion Management Scales. Participants were assured that there were no right or wrong answers and a research assistant read each question aloud and recorded the child's response. Students completed all other measures (MASC, CDI, sociometric surveys) in small groups of 3-5 students during the second session. In this administration, a research assistant provided instructions and read each question aloud as participants recorded their own responses. All of the children received an activity book (e.g., Mad Lib), a plain note pad, and two pencils for their participation. Parents who completed questionnaires regarding family background were mailed a \$20 gift card to Target as compensation for their time.

Results

Data Analytic Plan

Descriptive analyses were conducted first to provide information on the overall levels of peer victimization, emotion dysregulation, internalizing symptoms, and aggression. To investigate possible gender differences and assess whether subsequent analyses should be conducted separately for boys and girls, a series of independent *t*-tests were performed. Next, children in the second and third grades were placed into a younger age group ($n = 143$), children in the fourth and fifth grades were placed in an older age group ($n = 110$), and another series of *t*-tests were run to examine possible age group differences. Correlational analyses were then conducted to explore relations among age, predictor variables (overt and relational victimization), mediators (anger, sadness, and worry dysregulation), and outcome variables (anxiety and depressive symptoms; self- and peer-reported aggression). Given that the Multidimensional Anxiety Scale for Children has been validated for use with children 8-19 years of age (March et al., 1997), all children under the age of eight were excluded from analyses regarding anxiety symptoms.

The hypothesized mediational models were examined using multiple regression analyses according to the procedures recommended by Baron and Kenny (1986). To establish mediation, four conditions must be met. First, the predictor variable must be correlated with the outcome variable. Second, the predictor variable must be correlated with the mediator. Third, the mediator must be related to the outcome variable when both the predictor variable and the mediator are included in the regression equation. Fourth, after controlling for the effects of the mediator on the outcome variable, the relation between the predictor variable and the outcome variable must be significantly reduced.

The mediational models were examined separately for overt and relational victimization to determine whether mediation effects were consistent across both types of victimization. For each model, anger, sadness, and worry dysregulation were investigated as mediators of the proposed relations. Thus, simultaneous multiple mediation was conducted to examine the unique effect of each mediator while controlling for the other mediators. Finally, Sobel tests were used to assess the significance for the indirect effect of the predictor variable on the outcome variable through the mediator (Sobel, 1982).

Descriptive Statistics

Means and standard deviations for each variable for the total sample are presented in Table 1. Preliminary analyses revealed a number of significant gender differences (see Table 1). Female participants were significantly more likely to report higher levels of relational victimization than boys, $t(244) = -2.83, p < .01$. There was no significant gender difference in overt victimization. Compared to boys, girls reported more frequently sadness dysregulation, $t(243) = -3.48, p < .001$, and worry dysregulation $t(246) = -3.72, p < .001$. A similar trend emerged in which girls reported more frequent anger dysregulation than boys, $t(242) = -1.86, p = .06$. Inspection of the outcome variables revealed that girls reported experiencing more anxiety symptoms than boys, $t(172) = -2.97, p < .01$, and boys were rated by their peers as more aggressive than girls, $t(248) = 2.70, p < .01$. There were no significant gender differences in depressive symptoms or self-reported aggression.

There were a number of significant differences between age groups (see Table 2). The younger age group was significantly more likely to report higher levels of overt victimization, $t(246) = 4.32, p < .001$, and relational victimization than the older group, $t(244) = 3.33, p < .001$. Compared to the older group, the younger group reported more frequent anger dysregulation,

$t(242) = 3.60, p < .001$, and worry dysregulation, $t(246) = 3.71, p < .001$, and a similar trend emerged for sadness dysregulation, $t(243) = 1.64, p = .10$. Inspection of the outcome variables revealed that the younger age group reported experiencing more depressive symptoms than the older group, $t(241) = 2.22, p < .05$, and the older group was significantly more likely to self-report more aggression than the younger group, $t(243) = -2.30, p < .05$. There were no significant age group differences in anxiety symptoms or peer-reported aggression.

Correlations between age, predictor variables, mediators, and outcome variables are presented in Table 3. Age was significantly negatively associated with overt, $r(219) = -.35, p < .001$, and relational victimization, $r(219) = -.21, p < .01$; anger, $r(217) = -.16, p < .05$ and worry dysregulation, $r(219) = -.22, p < .001$; and internalizing symptoms of anxiety, $r(174) = -.15, p < .05$, and depression, $r(215) = -.20, p < .01$. Conversely, age was significantly positively correlated with self-reported, $r(217) = .16, p < .05$ and peer-reported aggression, $r(221) = .14, p < .05$, indicating that aggression was perceived to increase with age. Age was not significantly related to sadness dysregulation, $r(217) = -.06, ns$. These gender and age differences are taken into account in future analyses.

Significant relations were found among overt and relational victimization and the mediators and outcome variables. Overt victimization was significantly positively associated with relational victimization, $r(246) = .52, p < .001$; anger, $r(244) = .25, p < .001$, sadness, $r(245) = .13, p < .05$, and worry dysregulation, $r(248) = .27, p < .001$; anxiety, $r(174) = .32, p < .001$, and depressive symptoms, $r(243) = .32, p < .001$; and self-reported aggression, $r(245) = .23, p < .001$. Similarly, relational victimization was significantly positively associated with anger, $r(243) = .22, p < .001$, sadness, $r(243) = .25, p < .001$, and worry dysregulation, $r(246) = .36, p < .001$; anxiety, $r(174) = .40, p < .001$, and depressive symptoms, $r(241) = .31, p < .001$;

and self-reported aggression, $r(244) = .28, p < .001$. Overt victimization was not significantly related to peer-reported aggression, $r(247) = .05, ns$. However, there was a trend towards significance regarding relational victimization and peer-reported aggression, $r(245) = .11, p = .09$.

There were also significant relations among the mediators and the outcome variables. Anger dysregulation was positively correlated with depressive symptoms, $r(239) = .14, p < .05$, and self-reported aggression, $r(242) = .28, p < .001$. Sadness dysregulation was positively associated with depressive symptoms, $r(240) = .20, p < .01$. There was also a trend towards significance regarding sadness dysregulation and anxiety symptoms, $r(173) = .13, p = .10$. Finally, worry dysregulation was positively associated with anxiety, $r(174) = .32, p < .001$, and depressive symptoms, $r(243) = .24, p < .001$; self-reported aggression, $r(245) = .16, p < .05$; and a trend emerged with peer-reported aggression, $r(247) = .12, p = .07$.

Mediational Analyses

To test for mediation, a series of hierarchical regression analyses were conducted according to the procedures of Baron and Kenny (1986). Table 3 provides the requisite pattern of correlations that need to be present between the predictor variables (overt and relational victimization) and the mediators (anger, sadness, and worry dysregulation). In each regression analysis, age and gender were entered as control variables in step one. In step two, the predictor variable (e.g., overt victimization) was entered into the equation to establish that it was related to the outcome variable (e.g., anxiety symptoms). The proposed mediators (anger, sadness, and worry dysregulation) were then entered in step three to test whether they were related to the predictor variable, and to examine their effect on the relation between the predictor variable and the outcome variable.

Anxiety symptoms. A series of hierarchical regression analyses were conducted to examine the mediation effect of emotion dysregulation on the relation between overt victimization and anxiety symptoms (see Table 4). In the first step, age and gender accounted for 7% of the variance in anxiety symptoms, $F(2, 168) = 6.24, p < .01$. The inclusion of overt victimization in the second step yielded a significant change in R^2 (7%), $F(1, 167) = 14.52, p < .001$. In the third step, the addition of emotion dysregulation also produced a significant increase (5%) in the amount of variance in anxiety symptoms, $F(3, 164) = 3.24, p < .05$. Therefore, the prediction of anxiety symptoms was significantly improved with the addition of both overt victimization and emotion dysregulation to the equation.

Analyses indicated partial mediation of the relation between overt victimization and anxiety symptoms through worry dysregulation. Specifically, the pathway from overt victimization to anxiety symptoms ($\beta = .29$) was reduced when worry dysregulation was entered into the model ($\beta = .28$), but still remained significant. A Sobel test revealed that the indirect effect of overt victimization on anxiety symptoms through worry dysregulation was significantly different from zero ($z = 2.35, p < .05$). Mediation was not supported for the relation between overt victimization and anxiety symptoms through anger or sadness dysregulation.

After examining overt victimization, a series of hierarchical regression analyses were conducted to investigate the mediation effect of emotion dysregulation on the relation between relational victimization and anxiety symptoms (see Table 5). In the first step, age and gender accounted for 7% of the variance in anxiety symptoms, $F(2, 168) = 6.24, p < .01$. The inclusion of relational victimization in the second step yielded a significant change in R^2 (12%), $F(1, 167) = 25.64, p < .001$. In the third step, the addition of emotion dysregulation showed a trend for a significant increase (3%) in the amount of variance in anxiety symptoms, $F(3, 164) = 2.27, p =$

.08. Therefore, the prediction of anxiety symptoms was significantly improved with the addition of relational victimization and marginally improved with the addition of emotion dysregulation to the equation.

Evidence for partial mediation of the relation between relational victimization and anxiety symptoms was also found. Specifically, the pathway from relational victimization to anxiety symptoms ($\beta = .37$) was reduced when worry dysregulation was entered into the model ($\beta = .35$), but still remained significant. A Sobel test indicated that the indirect effect of relational victimization on anxiety symptoms via worry dysregulation was significantly different from zero ($z = 2.21, p < .05$). Mediation was not supported for the relation between relational victimization and anxiety symptoms through anger or sadness dysregulation.

Depressive symptoms. A series of hierarchical regression analyses were conducted to examine the mediation effect of emotion dysregulation on the relation between overt victimization and depressive symptoms (see Table 4). In the first step, age and gender accounted for 4% of the variance in depressive symptoms, $F(2, 208) = 4.62, p < .05$. The inclusion of overt victimization in the second step yielded a significant change in R^2 (6%), $F(1, 207) = 14.59, p < .001$. In the third step, the addition of emotion dysregulation also produced a significant increase (4%) in the amount of variance in depressive symptoms, $F(3, 204) = 2.79, p < .05$. Therefore, the prediction of depressive symptoms was significantly improved with the addition of both overt victimization and emotion dysregulation to the equation.

Analyses indicated a trend for partial mediation of the relation between overt victimization and depressive symptoms through worry dysregulation. Specifically, the pathway from overt victimization to depressive symptoms ($B = .27$) was diminished when worry dysregulation was entered into the model ($B = .23$), but still remained significant. However, a

Sobel test could not be conducted as the pathway from worry dysregulation to depressive symptoms only approached significance, $p = .09$. Mediation was not supported for the relation between overt victimization and depressive symptoms through anger or sadness dysregulation.

Next, a series of hierarchical regression analyses were conducted to investigate the mediation effect of emotion dysregulation on the relation between relational victimization and depressive symptoms (see Table 5). In the first step, age and gender accounted for 4% of the variance in depressive symptoms, $F(2, 208) = 4.62, p < .05$. The inclusion of relational victimization in the second step yielded a significant change in R^2 (7%), $F(1, 207) = 15.14, p < .001$. In the third step, the addition of emotion dysregulation did not show a significant increase (3%) in the amount of variance in depressive symptoms, $F(3, 204) = 1.95, p = .12$. Therefore, the prediction of depressive symptoms was significantly improved with the addition of relational victimization, but not emotion dysregulation, to the equation. Mediation was not supported for the relation between relational victimization and depressive symptoms through anger, sadness, or worry dysregulation.

Self-reported aggression. A series of hierarchical regression analyses were conducted to examine the mediation effect of emotion dysregulation on the relation between overt victimization and self-reported aggression (see Table 6). In the first step, age and gender accounted for 3% of the variance in self-reported aggression, $F(2, 210) = 2.90, p = .06$. The inclusion of overt victimization in the second step yielded a significant change in R^2 (7%), $F(1, 209) = 15.88, p < .001$. In the third step, the addition of emotion dysregulation also produced a significant increase (7%) in the amount of variance in self-reported aggression, $F(3, 206) = 5.71, p < .001$. Therefore, the prediction of self-reported aggression was significantly improved with the addition of both overt victimization and emotion dysregulation to the equation.

When examining the relation between overt victimization and self-reported aggression, evidence for partial mediation was found for anger dysregulation. Specifically, the pathway from overt victimization to self-reported aggression ($\beta = .28$) was reduced when anger dysregulation was entered into the model ($\beta = .22$), but still remained significant. A Sobel test indicated that the indirect effect of overt victimization on self-reported aggression via anger dysregulation was significantly different from zero ($z = 2.29, p < .05$). Mediation was not supported for the relation between overt victimization and self-reported aggression through sadness or worry dysregulation.

After examining overt victimization, a series of hierarchical regression analyses were conducted to investigate the mediation effect of emotion dysregulation on the relation between relational victimization and self-reported aggression (see Table 7). In the first step, age and gender accounted for 3% of the variance in self-reported aggression, $F(2, 210) = 2.90, p = .06$. The inclusion of relational victimization in the second step yielded a significant change in R^2 (10%), $F(1, 209) = 24.90, p < .001$. In the third step, the addition of emotion dysregulation also produced a significant increase (6%) in the amount of variance in self-reported aggression, $F(3, 206) = 5.21, p < .01$. Therefore, the prediction of self-reported aggression was significantly improved with the addition of both overt victimization and emotion dysregulation to the equation.

Results also indicated partial mediation of the relation between relational victimization and self-reported aggression through anger dysregulation. Specifically, the pathway from relational victimization to self-reported aggression ($\beta = .33$) was reduced when worry dysregulation was entered into the model ($\beta = .28$), but still remained significant. A Sobel test revealed that the indirect effect of relational victimization on self-reported aggression through

anger dysregulation was significantly different from zero ($z = 2.45, p < .05$). Mediation was not supported for the relation between relational victimization and self-reported aggression through sadness or worry dysregulation.

Peer-reported aggression. A series of hierarchical regression analyses were conducted to examine the mediation effect of emotion dysregulation on the relation between overt victimization and peer-reported aggression (see Table 6). In the first step, age and gender accounted for 5% of the variance in peer-reported aggression, $F(2, 211) = 5.37, p < .01$. The inclusion of overt victimization in the second step did not yield a significant change in R^2 (1%), $F(1, 210) = 1.48, p = .23$. In the third step, the addition of emotion dysregulation did not produce a significant increase (2%) in the amount of variance in peer-reported aggression, $F(3, 207) = 1.75, p = .16$. Thus, the prediction of peer-reported aggression was not significantly improved with the addition of overt victimization or emotion dysregulation to the equation. Mediation was not supported for the relation between overt victimization and peer-reported aggression through anger, sadness, or worry dysregulation.

Next, a series of hierarchical regression analyses were conducted to investigate the mediation effect of emotion dysregulation on the relation between relational victimization and peer-reported aggression (see Table 7). In the first step, age and gender accounted for 5% of the variance in peer-reported aggression, $F(2, 211) = 5.37, p < .01$. The inclusion of relational victimization in the second step yielded a significant change in R^2 (3%), $F(1, 210) = 5.97, p < .05$. In the third step, the addition of emotion dysregulation did not show a significant increase (2%) in the amount of variance in peer-reported aggression, $F(3, 207) = 1.17, p = .32$. Therefore, the prediction of peer-reported aggression was significantly improved with the addition of relational victimization, but not emotion dysregulation, to the equation.

Analyses indicated a trend for partial mediation of the relation between relational victimization and peer-reported aggression through worry dysregulation. Specifically, the pathway from relational victimization to peer-reported aggression ($B = .17$) was diminished when worry dysregulation was entered into the model ($B = .13$), but still remained significant. However, a Sobel test could not be conducted as the pathway from worry dysregulation to peer-reported aggression not statistically significant, $p = .07$. Mediation was not supported for the relation between relational victimization and peer-reported aggression through anger or sadness dysregulation.

Discussion

Although research examining peer victimization has greatly increased in recent years (for a review, see Hawker & Boulton, 2000), few studies have investigated what underlying mechanisms may lead to the development of adjustment difficulties for victimized youth. In particular, the role of emotion processes has been neglected when considering possible mediators and moderators in the association between victimization and psychological functioning. Thus, the purpose of the present study was to examine the mediational role of emotion dysregulation in the relations between peer victimization, internalizing symptoms, and aggression among a sample of predominantly African-American elementary-age children. This study builds on past research examining the mediating role of anger and sadness regulation in the association between peer victimization and internalizing symptoms (McLaughlin et al., 2009) through the inclusion of worry as a measure of emotion dysregulation. Consistent with past research and hypotheses (e.g., Khatri et al., 2000; McLaughlin et al., 2009; Rudolph et al., 2009), the present study found that both overt and relational victimization were positively associated with anger, sadness, and worry dysregulation, anxiety and depressive symptoms, and self-reported aggressive behavior. The

current results also provide general support for notion that emotion dysregulation operates as a mechanism linking overt and relational victimization to internalizing symptoms and aggression. The following sections will discuss these findings starting with the internalizing symptoms, followed by aggressive behavior, and then a discussion of the study's limitations, future directions for research, and concluding with the implications for intervention and prevention efforts.

Anxiety Symptoms

As predicted, worry dysregulation was found to partially mediate the association between peer victimization and anxiety symptoms. These results extend past research (McLaughlin et al., 2009), as this mediating role held for both overt and relational victimization. As an emotion, worry involves a persistent concern over past or future negative events and difficulty controlling intrusive thoughts or images regarding potential negative outcomes (Borkovec, Robinson, Pruzinsky, & DuPree, 1983). Further, research indicates that excessive worry is characterized by unproductive attempts at problem-solving that result in ruminative processes (Muris, Roelofs, Meesters, & Boomsma, 2004). Thus, it may be that victimized children who are unable to effectively regulate their worry are more likely to ruminate over their experiences and develop anxiety symptoms. It may also be that children who worry excessively may present as agitated, high-strung, and emotionally needy (Suveg et al., 2009). These behaviors may signal to their peers that they are vulnerable and open to victimization, thus reflecting the characteristics of the passive victim identified by Olweus (1978). As such, patterns of victimization may become more intense and stable as the overt and relational victimization exacerbates the children's anxiety, thereby reinforcing aggressors who witness the victims' dramatic emotional responses (Mahady Wilton et al, 2000). Further, the experience of worry in the victimization literature has been

under-studied. In fact, no previous studies of overt and relational victimization that included worry could be found. The findings of the current study, however, reveal the importance of looking at this emotion in particular, as it may place victimized children at increased risk for experiencing higher levels of anxiety and perhaps victimization.

Notably, this pattern of emotion dysregulation mediating the association between peer victimization and internalizing symptoms did not hold for anger and sadness dysregulation, which was found in the one other study to examine the mediational role of emotion dysregulation (McLaughlin et al., 2009). Specifically, this prior research identified emotion dysregulation as a mechanism linking relational, but not overt, victimization to increases in internalizing symptoms of anxiety and depression. However, there were some important design and measurement characteristics of each study that might have lead to the discrepant findings between studies. First, using structural equation modeling, McLaughlin and colleagues used a battery of emotion measures in order to detect an underlying common factor, which they termed emotion dysregulation; this statistical approach likely impacted the comparison of findings between the two studies. Further, their research used a primarily Hispanic adolescent sample, whereas the current study employed a predominantly African-American elementary-age sample. These sample differences suggest the importance of taking cultural factors into account when examining such models, especially those investigating emotion factors.

Depressive Symptoms

Contrary to expectations, there were no significant mediation findings regarding depressive symptoms, although a trend did emerge for worry dysregulation as a mediator of the association between overt victimization and depressive symptoms. The general absence of significant mediation was especially surprising because depressive symptoms were found to be

significantly associated with both overt and relational victimization in addition to each measure of emotion dysregulation. As previously noted, Silk and colleagues (2003) suggest that there may be a nonspecific emotion dysregulation factor associated with internalizing problems, as their research indicates that intense and labile levels of anger, sadness, and anxiety are all associated with depressive symptoms. When considering this alternative hypothesis, additional analyses were conducted to better understand the nature of this perplexing set of findings. As such, anger, sadness, and worry were combined to create a total emotion dysregulation variable to test in the mediational models. Thereafter, general emotion dysregulation was found to partially mediate the relation between both overt¹ and relational² victimization and depressive symptoms. Thus, it may be that the overall expression of negative emotionality, rather than the dysregulation of specific emotions, contributes to the expression of depressive symptoms among victimized children. In retrospect, this global negative affective factor does have theoretical support given that depression in childhood can be characterized by both sadness and irritation (American Psychiatric Association [DSM-IV-TR], 2000), and that anxiety and depression are often considered to be highly co-morbid (e.g., Suveg, Hoffman, Zeman, & Thomassin, 2009). Thus, it seems unlikely that only one negative emotion would predominate in the relation between victimization and depression, particularly when adding all emotion factors into the same regression equation in order to control for specific variance attributable to each emotion.

Self-Reported Aggression

The present study is the first to examine emotion dysregulation as a mediator of the association between peer victimization and aggression. Although this examination was exploratory, support was found for the hypothesis that anger dysregulation would mediate the relation between both overt and relational victimization and aggression. These results are

consistent with previous research indicating that peer victimization is associated with increased self-reported aggression (Khatri et al., 2000) and aggressive victims are emotionally dysregulated children (Perry et al., 1992). Therefore, it may be that children who have difficulties regulating their anger are more likely to respond to victimization with aggressive behavior. It may also be that these children exhibit the characteristics of the aggressive or provocative victim identified by Olweus (1978). That is, these children may have difficulty controlling their emotions and escalate interactions with their peers into aggressive confrontations (Perry et al., 1992). Further, provocative victims often attempt to retaliate in ineffective ways (Schwartz, Proctor, & Chien, 2001) and children who fight back against their aggressor are more likely to develop a stable pattern of victimization (Kochenderfer & Ladd, 1997). It is not surprising that sadness and worry dysregulation were not found to mediate the relation between peer victimization and self-reported aggression, as these emotions are not typically associated with aggressive behavior, and in fact, may actually provide the opposite type of image (e.g., vulnerable, crybaby).

Peer-Reported Aggression

The lack of significant findings regarding emotion dysregulation was unexpected. In fact, peer-reported aggression was not significantly correlated with any of the predictor or mediator variables. It may be that the four sociometric items were not an accurate reflection of children's aggressive behavior or used too wide a variety of aggressive behaviors that cannot be summarized into simply one global term. That is, it may have been helpful to differentiate between the overt (i.e., "Starts Fights") items and the more relational (i.e., "Is Mean") forms of aggression items instead of combining all sociometric descriptors together into a total score of peer-reported aggression. However, even when additional analyses were conducted to examine

mediation effects for individual items, no significant results were found. Further, it has been suggested that peer-reports may be vulnerable to bias according to gender stereotypes (Maccoby, 1998). Thus, children may be more likely to rate boys as physically aggressive and girls as relationally aggressive and future investigations using sociometric surveys should separate boys' and girls' ratings to determine whether gender stereotypes affect peer-reported aggressive behavior.

Limitations and Future Directions

Several limitations should be considered when interpreting the results of the present study. First, the correlational nature of the research design prevents the directionality of relations from being established. Past research indicates internalizing symptoms and aggression may serve as both a risk factor and an outcome associated with peer victimization (e.g., Hodges et al., 1999). Thus, it is unclear whether children's experiences of victimization resulted in increased internalizing symptoms and aggression, or if these adjustment difficulties placed children at risk for victimization by their peers. Although the current study argued that peer victimization and emotion dysregulation contributed to children's internalizing symptoms and aggression, it is possible that the proposed predictor and mediator variables could have served as outcomes. Longitudinal research is needed in order to determine the direction of effects and further our understanding of the role of emotion dysregulation in the relation between peer victimization and psychosocial maladjustment.

Second, this study relied primarily on self-report measures, which are vulnerable to response bias and shared method variance. The literature supports the use of self-report assessments of victimization because a) they can capture subtle experiences that others are unaware of (McLaughlin et al., 2009), and b) adults and teachers tend to underestimate the

problem (Goldbaum et al., 2003). Further, research has indicated that children may be more accurate reporters of their emotional experiences and internalizing symptoms than caregivers and peers (Achenbach, McConaughy, & Howell, 1987). Nonetheless, future research should incorporate multiple reporters (e.g., parent-, peer-, and teacher-reports) in order to provide a more complete assessment of children's functioning and bolster the validity of the findings.

This study included peer-reports of children's aggressive behavior; however, there were no significant findings regarding these measures. Consequently, it appears that the sociometric surveys provided additional representation of children's aggressive behavior that differed significantly from self-report of aggressive behavior. Clearly, more research is needed to address the accuracy of self- versus peer-reported measures of aggressive behavior. An additional limitation of this study was the weak internal consistency of the dysregulation subscales. It may be that the children were not able to fully comprehend the meaning behind these questionnaires and it is likely that the small number of items (i.e., three) for each subscale contributed to the lower reliability. Thus, there is a need for research to further validate these measures using ethnically diverse samples and to include more comprehensive measures of emotion dysregulation.

Future research endeavors also need to examine whether these mediation patterns differ as a function of social context, including racial and socio-economic variables. It is important to note that this study was based on a sample of predominantly African-American children who lived in low-income, high-risk neighborhood where exposure to violence and crime are higher than average. Storch and colleagues (2003) suggest that "such experiences may be associated with increased victimization by peers" (p. 449). At the same time, the elementary school the children in this study attended incorporates a program that may serve as a protective factor, as it

is designed for children at-risk for school failure due to socioeconomic factors and it includes classes on etiquette and conflict resolution. Thus, these results must be viewed in terms of the social context and further research is needed to examine the generalizability of these findings to African-American youth living in other socio-economic environments.

Although worry has not been studied in relation to peer victimization, the results of the current study indicate that this emotion should be examined in more depth in future investigations since it had the most robust associations with the predictor and outcome variables. Further, the present study only examined children's ineffective emotion management strategies because past research demonstrates that peer victimization is associated with increased emotion dysregulation (e.g., McLaughlin et al., 2009; Rudolph et al., 2009). However, it would be informative for future research to incorporate more adaptive emotion regulation strategies to examine whether victimized children who are able to manage emotional expression more effectively experience fewer adjustment difficulties than emotionally dysregulated children. Future investigations should continue to identify additional mechanisms that mediate the relation between peer victimization and psychosocial maladjustment. For example, it would be interesting to explore whether the dysregulation of positive affect (e.g., inappropriate displays of joy or exuberance) is related to children's experiences of victimization.

Implications for Intervention

Despite these limitations, the results of the present study have potential implications for the development of effective prevention and intervention programs to address the impact of peer victimization. To date, most school-based intervention programs have been designed to reduce the prevalence of overt and relational aggression and change normative beliefs about the acceptability of aggressive behavior (for a review, see Leff, Power, Manz, Costigan, & Nabors,

2001; Olweus, 1994; Van Schoiack-Edstrom, Frey, & Beland, 2002). Although such programs are critical for reducing the overall rates of victimization within schools, they are unlikely to eliminate peer aggression completely. Thus, intervention programs should also incorporate a component that targets children who experience peer victimization.

The current findings suggest that improving emotion regulation skills may be an effective technique for reducing the negative social and psychological outcomes associated with peer victimization. Although this study cannot determine causality, it indicates that emotion dysregulation may contribute to the development of internalizing symptoms and aggressive behavior among victimized youth. Indeed, Paul and Cillessen (2003) posit that the “dysregulated reactions of these children are reinforcing for peers who victimize them” (p. 40). Given that internalizing symptoms and aggression have been found to predict increases in victimization (Hodges et al., 1999), early intervention is essential to prevent an escalating cycle of peer victimization, emotion dysregulation, and psychosocial maladjustment. Thus, there is a need for future research to investigate whether interventions that teach effective emotion management skills to children who have been victimized by their peers reduce subsequent levels of internalizing symptoms and aggression.

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Footnotes

¹ A series of hierarchical regression analyses were conducted to examine the mediation effect of total emotion dysregulation on the relation between overt victimization and depressive symptoms. In the first step, age and gender accounted for 4% of the variance in depressive symptoms, $F(2, 208) = 4.62, p < .05$. The inclusion of overt victimization in the second step yielded a significant change in R^2 (6%), $F(1, 207) = 14.59, p < .001$. In the third step, the addition of total emotion dysregulation produced a significant increase (3%) in the amount of variance in depressive symptoms, $F(1, 206) = 6.00, p < .05$. Therefore, the prediction of depressive symptoms was significantly improved with the addition of both overt victimization and total emotion dysregulation to the equation.

Analyses indicated partial mediation of the relationship between overt victimization and depressive symptoms through total emotion dysregulation. Specifically, the pathway from overt victimization to depressive symptoms ($\beta = .27$) was reduced when total emotion dysregulation was entered into the model ($\beta = .22$), but still remained significant. A Sobel test revealed that the indirect effect of overt victimization on anxiety symptoms through total emotion dysregulation was significantly different from zero ($z = 2.16, p < .05$).

² A series of hierarchical regression analyses were conducted to investigate the mediation effect of total emotion dysregulation on the relation between relational victimization and depressive symptoms. In the first step, age and gender accounted for 4% of the variance in depressive symptoms, $F(2, 208) = 4.62, p < .05$. The inclusion of relational victimization in the second step yielded a significant change in R^2 (7%), $F(1, 207) = 15.14, p < .001$. In the third step, the addition of total emotion dysregulation also produced a significant increase (2%) in the amount of variance in depressive symptoms, $F(1, 206) = 4.21, p < .05$. Therefore, the prediction

of depressive symptoms was significantly improved with the addition of relational victimization and total emotion dysregulation to the equation.

Evidence for partial mediation of the relation between relational victimization and depressive symptoms was also found. Specifically, the pathway from relational victimization to depressive symptoms ($\beta = .26$) was reduced when total emotion dysregulation was entered into the model ($\beta = .21$), but still remained significant. A Sobel test indicated that the indirect effect of relational victimization on depressive symptoms via total emotion dysregulation was significantly different from zero ($z = 1.96, p < .05$).

Table 1

Descriptive Statistics of Peer Victimization, Emotion Dysregulation, Internalizing Symptoms, and Aggression by Gender

Variable	<u>Male participants</u> <i>M (SD)</i>	<u>Female participants</u> <i>M (SD)</i>	<u>Total</u> <i>M (SD)</i>	<i>t</i> -value (<i>df</i>)
<i>Control Variables</i>				
Age	114.71 (11.69)	113.45 (12.49)	113.93 (12.18)	0.75 (222)
Gender (%)	39% (<i>n</i> = 99)	61% (<i>n</i> = 154)	(<i>n</i> = 253)	–
<i>Peer Victimization</i>				
Overt victimization	6.96 (3.14)	7.10 (3.32)	7.04 (3.24)	-0.33 (246)
Relational victimization	10.95 (4.25)	12.59 (4.57)	11.95 (4.52)	-2.83** (244)
<i>Emotion Dysregulation</i>				
Anger dysregulation	4.53 (1.51)	4.92 (1.64)	4.77 (1.60)	-1.86 [†] (242)
Sadness dysregulation	5.09 (1.55)	5.79 (1.53)	5.52 (1.57)	-3.48*** (243)
Worry dysregulation	4.91 (1.56)	5.69 (1.65)	5.38 (1.66)	-3.72*** (246)
<i>Internalizing Symptoms</i>				
Anxiety symptoms	45.94 (16.18)	54.94 (18.18)	50.97 (17.84)	-2.97** (172)
Depressive symptoms	7.87 (7.38)	9.34 (7.43)	8.77 (7.43)	-1.50 (241)
<i>Aggression</i>				
Self-report	6.76 (3.64)	7.02 (3.58)	6.92 (3.60)	-0.55 (243)
Peer-report	8.75 (3.09)	7.82 (2.34)	8.19 (2.70)	2.70** (248)

Note. [†]*p* < .10; ** *p* < .01; *** *p* < .001.

Table 2

Descriptive Statistics of Peer Victimization, Emotion Dysregulation, Internalizing Symptoms, and Aggression by Age Group

Variable	<u>Younger Age Group</u> <i>M (SD)</i>	<u>Older Age Group</u> <i>M (SD)</i>	<i>t</i> -value (<i>df</i>)
<i>Control Variables</i>			
Age	105.16 (7.74)	102.42 (7.18)	-19.16*** (222)
<i>Peer Victimization</i>			
Overt victimization	7.81 (3.27)	6.07 (2.95)	4.32*** (246)
Relational victimization	12.79 (4.29)	10.90 (4.59)	3.33*** (244)
<i>Emotion Dysregulation</i>			
Anger dysregulation	5.09 (1.63)	4.37 (1.46)	3.60*** (242)
Sadness dysregulation	5.66 (1.61)	5.33 (1.51)	1.64 [†] (243)
Worry dysregulation	5.72 (1.77)	4.95 (1.40)	3.71*** (246)
<i>Internalizing Symptoms</i>			
Anxiety symptoms	52.17 (17.86)	49.99 (17.86)	.80 (172)
Depressive symptoms	9.69 (7.46)	7.58 (7.24)	2.22* (241)
<i>Aggression</i>			
Self-report	6.45 (3.14)	7.51 (4.05)	-2.30* (243)
Peer-report	8.09 (2.61)	8.31 (2.81)	-.64 (248)

Note. [†] $p < .10$; * $p < .05$; *** $p < .001$.

Table 3

Correlations Between Age, Peer Victimization, Emotion Dysregulation, Internalizing Symptoms, and Aggression

Variable	1	2	3	4	5	6	7	8	9	10
1. Age	–									
<i>Peer Victimization</i>										
2. Overt victimization	-.35***	–								
3. Relational victimization	-.21**	.52***	–							
<i>Emotion Dysregulation</i>										
4. Anger dysregulation	-.16*	.25***	.22***	–						
5. Sadness dysregulation	-.06	.13*	.25***	.33***	–					
6. Worry dysregulation	-.22***	.27***	.36***	.41***	.41***	–				
<i>Internalizing Symptoms</i>										
7. Anxiety symptoms	-.15*	.32***	.40***	.06	.13 ^t	.32***	–			
8. Depressive symptoms	-.20**	.32***	.31***	.14*	.20**	.24***	.45***	–		
<i>Aggression</i>										
9. Self-report	.16*	.23***	.28***	.28***	.06	.16*	.19**	.22**	–	
10. Peer-report	.14*	.05	.11 ^t	.06	.01	.12 ^t	.06	.12	.24***	–

Note. ^t $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 4

Hierarchical Regression Analyses Predicting Internalizing Symptoms by Overt Victimization and Emotion Dysregulation

	<u>Anxiety symptoms</u>			<u>Depressive symptoms</u>		
	B (SE B)	β	ΔR^2	B (SE B)	β	ΔR^2
Step 1			.07**			.04*
Age	-.03 (.12)	-.02		-.06 (.04)	-.09	
Gender	5.78 (2.72)	.16*		-.03 (1.07)	-.00	
Step 2			.07***			.06***
Overt victimization	1.54 (.42)	.28***		.53 (.17)	.23**	
Step 3			.05*			.04*
Anger dysregulation	-1.36 (.96)	-.11		-.16 (.36)	-.03	
Sadness dysregulation	-.53 (.90)	-.05		-.56 (.35)	.12	
Worry dysregulation	2.78 (.92)	.26**		.63 (.36)	.14 ^t	

Note. ^t $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 5

Hierarchical Regression Analyses Predicting Internalizing Symptoms by Relational Victimization and Emotion Dysregulation

	<u>Anxiety symptoms</u>			<u>Depressive symptoms</u>		
	B (SE B)	β	ΔR^2	B (SE B)	β	ΔR^2
Step 1			.07**			.04*
Age	-.09 (.12)	-.06		-.08 (.04)	.04 ^t	
Gender	4.65 (2.66)	.13 ^t		-.39 (1.08)	-.02	
Step 2			.12***			.07***
Relational victimization	1.34 (.29)	.35***		.35 (.12)	.20**	
Step 3			.03 ^t			.02
Anger dysregulation	-1.16 (.93)	-.09		-.11 (.36)	-.02	
Sadness dysregulation	-1.05 (.89)	-.10		.44 (.36)	.09	
Worry dysregulation	2.24 (.92)	.21*		.60 (.37)	.13	

Note. ^t $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 6

Hierarchical Regression Analyses Predicting Aggression by Overt Victimization and Emotion Dysregulation

	<u>Self-reported aggression</u>			<u>Peer-reported aggression</u>		
	B (SE B)	β	ΔR^2	B (SE B)	β	ΔR^2
Step 1			.03 ^t			.05**
Age	.08 (.02)	.28***		.04 (.02)	.20**	
Gender	.26 (.49)	.04		-1.07 (.38)	-.20**	
Step 2			.07***			.01
Overt victimization	.23 (.08)	.22**		.04 (.06)	.05	
Step 3			.07***			.02
Anger dysregulation	.58 (.17)	.25***		-.04 (.13)	-.02	
Sadness dysregulation	-.10 (.16)	-.04		-.01 (.12)	-.01	
Worry dysregulation	.16 (.17)	.08		.28 (.13)	.18*	

Note. ^t $p < .10$; ** $p < .01$; *** $p < .001$.

Table 7

Hierarchical Regression Analyses Predicting Aggression by Relational Victimization and Emotion Dysregulation

	<u>Self-reported aggression</u>			<u>Peer-reported aggression</u>		
	B (SE B)	β	ΔR^2	B (SE B)	β	ΔR^2
Step 1			.03 ^t			.05**
Age	.07 (.02)	.25***		.04 (.02)	.20**	
Gender	.08 (.48)	.01		-1.12 (.37)	-.21**	
Step 2			.10***			.03*
Relational victimization	.22 (.06)	.28***		.08 (.04)	.13 ^t	
Step 3			.06**			.02
Anger dysregulation	.58 (.16)	.25***		-.05 (.13)	-.03	
Sadness dysregulation	-.17 (.16)	-.08		-.04 (.12)	-.02	
Worry dysregulation	.09 (.17)	.04		.24 (.13)	.15 ^t	

Note. ^t $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Appendix A

Social Experience Questionnaire

For each of the questions, circle the number that best describes how often you have these experiences with your peers.

- 1 = never
- 2 = almost never
- 3 = sometimes
- 4 = almost all the time
- 5 = all the time

Relational Victimization

1. How often does a kid try to keep others from liking you by saying mean things about you?
2. How often does a kid tell you that they won't like you unless you do what the kid says?
3. How often do you have lies told about you to make other kids not like you anymore?
4. How often when a kid is mad at you, they get back at you by not letting you be in their group anymore?
5. How often are you left out on purpose when it's time to do an activity?

Overt Victimization

6. How often do you get pushed or shoved?
7. How often are you kicked or have your hair pulled?
8. How often do you get hit?

Appendix B

Children's Emotion Management Scale: **Anger**

Instructions: Please circle the response that best describes your behavior when you are feeling **angry**.

4. I do things like slam doors when I am mad.	Hardly Ever 1	Sometimes 2	Often 3
6. I attack whatever it is that makes me mad.	Hardly Ever 1	Sometimes 2	Often 3
9. I say mean things to others when I am mad.	Hardly Ever 1	Sometimes 2	Often 3

Children's Emotion Management Scale: **Sadness**

Instructions: Please circle the response that best describes your behavior when you are feeling **sad**.

4. I whine/fuss about what's making me sad.	Hardly Ever 1	Sometimes 2	Often 3
9. I cry and carry on when I'm sad.	Hardly Ever 1	Sometimes 2	Often 3
11. I do things like mope around when I'm sad.	Hardly Ever 1	Sometimes 2	Often 3

Children's Emotion Management Scale: **Worry**

Instructions: Please circle the response that best describes your behavior when you are feeling **worried**.

5. I do things like cry and carry on when I'm worried.	Hardly Ever 1	Sometimes 2	Often 3
7. I keep whining about how worried I am.	Hardly Ever 1	Sometimes 2	Often 3
9. I can't stop myself from acting really worried.	Hardly Ever 1	Sometimes 2	Often 3

Appendix C

Multidimensional Anxiety Scale for Children

This questionnaire asks you how you have been thinking, feeling, or acting recently. For each item, please circle the number that shows how often the statement is true for you. If a sentence is true about you a lot of the time, circle 3. If it is true about you some of the time, circle 2. If it is true about you once in a while, circle 1. If a sentence is not ever true about you, circle 0. Remember, there are no right or wrong answers, just answer how you have been feeling recently.

Here are two examples to show you how to complete the questionnaire. In Example A, if you were hardly ever scared of dogs, you would circle 1, meaning that the statement is rarely true about you. In Example B, if thunderstorms sometimes upset you, you would circle 2, meaning that the statement is sometimes true about you.

	Never true about me	Rarely true about me	Sometimes true about me	Often true about me
Example A: I'm scared of dogs	0	1	2	3
Example B: Thunderstorms upset me	0	1	2	3
1. I feel tense or uptight	0	1	2	3
2. I usually ask permission	0	1	2	3
3. I worry about other people laughing at me	0	1	2	3
4. I get scared when my parents go away	0	1	2	3
5. I keep my eyes open for danger	0	1	2	3
6. I have trouble getting my breath	0	1	2	3
7. The idea of going away to camp scares me	0	1	2	3
8. I get shaky or jittery	0	1	2	3
9. I try to stay near my mom or dad	0	1	2	3
10. I'm afraid that other kids will make fun of me	0	1	2	3
11. I try hard to obey my parents and teachers	0	1	2	3
12. I get dizzy or faint feelings	0	1	2	3
13. I check things out first	0	1	2	3

14. I worry about getting called on in class	0	1	2	3
15. I'm jumpy	0	1	2	3
16. I'm afraid other people will think I'm stupid	0	1	2	3
17. I keep the light on at night	0	1	2	3
18. I have pains in my chest	0	1	2	3
19. I avoid going to places without my family	0	1	2	3
20. I feel strange, weird, or unreal	0	1	2	3
21. I try to do things other people will like	0	1	2	3
22. I worry about what other people think of me	0	1	2	3
23. I avoid watching scary movies and TV shows	0	1	2	3
24. My heart races or skips beats	0	1	2	3
25. I stay away from things that upset me	0	1	2	3
26. I sleep next to someone from my family	0	1	2	3
27. I feel restless and on edge	0	1	2	3
28. I try to do everything exactly right	0	1	2	3
29. I worry about doing something stupid or embarrassing	0	1	2	3
30. I get scared riding in the car or on the bus	0	1	2	3
31. I feel sick to my stomach	0	1	2	3
32. If I get upset or scared, I let someone know right away	0	1	2	3
33. I get nervous if I have to perform in public	0	1	2	3
34. Bad weather, the dark, heights, animals, or bugs scare me	0	1	2	3
35. My hands shake	0	1	2	3
36. I check to make sure things are safe	0	1	2	3
37. I have trouble asking other kids to play with me	0	1	2	3
38. My hands feel sweaty or cold	0	1	2	3
39. I feel shy	0	1	2	3

Appendix D

Child Depression Inventory (CDI)

Item 1

- I am sad once in a while
- I am sad many times.
- I am sad all the time.

Item 2

- Nothing will ever work out for me.
- I am not sure if things will work out for me.
- Things will work out for me O.K.

Item 3

- I do most things O.K.
- I do many things wrong.
- I do everything wrong.

Item 4

- I have fun in many things.
- I have fun in some things.
- Nothing is fun at all.

Item 5

- I am bad all the time.
- I am bad many times.
- I am bad once in a while.

Item 6

- I think about bad things happening to me once in a while.
- I worry that bad things will happen to me.
- I am sure that terrible things will happen to me.

Item 7

- I hate myself.
- I do not like myself.
- I like myself

Item 8

- All bad things are my fault.
- Many bad things are my fault.
- Bad things are not usually my fault.

Item 10

- I feel like crying every day.

- I feel like crying many days.
- I feel like crying once in a while.

Item 11

- Things bother me all the time.
- Things bother me many times.
- Things bother me once in a while.

Item 12

- I like being with people
- I do not like being with people many times.
- I do not want to be with people at all.

Item 13

- I cannot make up my mind about things.
- It is hard to make up my mind about things.
- I make up my mind about things easily.

Item 14

- I look O.K.
- There are some bad things about my looks.
- I look ugly.

Item 15

- I have to push myself all the time to do my schoolwork.
- I have to push myself many times to do my schoolwork.
- Doing schoolwork is not a big problem.

Item 16

- I have trouble sleeping every night.
- I have trouble sleeping many nights.
- I sleep pretty well.

Item 17

- I am tired once in a while.
- I am tired many days.
- I am tired all the time.

Item 18

- Most days I do not feel like eating.
- Many days I do not feel like eating.
- I eat pretty well.

Item 19

- I do not worry about aches and pains.
- I worry about aches and pains many times.

- I worry about aches and pains all the time.

Item 20

- I do not feel alone.
- I feel alone many times.
- I feel alone all the time.

Item 21

- I never have fun at school.
- I have fun at school only once in a while.
- I have fun at school many times.

Item 22

- I have plenty of friends.
- I have some friends but I wish I had more.
- I do not have any friends.

Item 23

- My schoolwork is alright.
- My school work is not as good as before.
- I do very badly in subjects I used to be good in.

Item 24

- I can never be as good as other kids.
- I can be as good as other kids if I want to.
- I am just as good as other kids.

Item 25

- Nobody really loves me.
- I am not sure if anybody loves me.
- I am sure that somebody loves me.

Item 26

- I usually do what I am told.
- I do not do what I am told most times.
- I never do what I am told.

Item 27

- I get along with people.
- I get into fights many times.
- I get into fights all the time.

Appendix E

“Kids in My Class at School”

	<i>Do you:</i>	Never	Hardly- ever	Sometime s	Most of the time	Alway s
1.	Pick on other kids in your class at school?	1	2	3	4	5
2.	Say mean things to other kids in your class at school?	1	2	3	4	5
3	Say bad things about other kids in your class at school?	1	2	3	4	5
4.	Hit other kids in your class at school?	1	2	3	4	5

Appendix F

Hits, Pushes, or Kicks

	Not at all	A little	Some	A lot	A whole lot
Participant 1	1	2	3	4	5
Participant 2	1	2	3	4	5
Participant 3	1	2	3	4	5

Starts Fights

	Not at all	A little	Some	A lot	A whole lot
Participant 1	1	2	3	4	5
Participant 2	1	2	3	4	5
Participant 3	1	2	3	4	5

Is Mean

	Not at all	A little	Some	A lot	A whole lot
Participant 1	1	2	3	4	5
Participant 2	1	2	3	4	5
Participant 3	1	2	3	4	5

Gets Mad Easily

	Not at all	A little	Some	A lot	A whole lot
Participant 1	1	2	3	4	5
Participant 2	1	2	3	4	5
Participant 3	1	2	3	4	5