

ABSTRACT

Title of Dissertation: MULTIPLE DIMENSIONS OF PEER VICTIMIZATION
AND THEIR RELATIONS WITH CHILDREN'S
PSYCHOLOGICAL, SOCIAL, BEHAVIORAL, AND
ACADEMIC FUNCTIONING

Sarah K. Parsons, Doctor of Philosophy, 2012

Dissertation directed by: Professor Hedwig Teglassi
Department of Counseling and Personnel Services

This study investigated the relations among victimization and psychological, social, behavioral, and academic functioning while considering how these constructs are conceptualized and measured. Victimization was treated as a multidimensional variable that can be distinguished in terms of form (relational vs. overt), informant (self vs. teacher vs. peer report), and its overlap with aggression. Participants were 99 ethnically diverse second and third graders from the mid-Atlantic region.

The observed relations between victimization and functioning were impacted by issues of informant, form, and aggression. When examining different measures of the same construct, correlations were more often statistically significant for same-informant pairs of measures compared to cross-informant pairs. Correlations between peer and teacher reports were stronger than correlations between self- and other-reports. Self-other agreement was higher for aggression than for victimization, suggesting that victimization is more individualistically experienced than aggression.

Peer and teacher reports of victimization were not significantly related to self-reported functioning and vice versa. Teacher and peer reports did not add to self-reports of victimization in predicting self-reported functioning. Peer and teacher reports of victimization uniquely predicted peer and teacher reports of functioning, but self-reported victimization did not make an additive contribution. These results provide evidence of a self-other dichotomy in the assessment of victimization.

Overt and relational victimization emerged as distinct constructs in exploratory factor analyses. However, they were significantly correlated, and self-reports of relational victimization did not uniquely predict functioning after accounting for overt victimization. There were not significant gender differences in the two types of victimization.

Aggression and victimization were significantly correlated. Peer-reported victimization was related to teacher-reported externalizing and school problems, but was not a significant predictor after accounting for aggression. This finding suggests that failing to account for the overlap between aggression and victimization might obscure the complexity of the relationship between victimization and functioning. The implications of these findings for future research are discussed.

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ACADEMIC FUNCTIONING

by

Sarah K. Parsons

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Advisory Committee:
Professor Hedwig Teglasi, Chair
Professor Jeffrey R. Harring
Professor Robert Marcus
Dr. Lee Rothman
Professor William Strein

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Chapter 1: Introduction

Rationale for Studying Victimization

School bullying is a pressing social problem that exists in schools around the world. Although sometimes viewed as “typical behavior” or a “rite of passage,” bullying is increasingly being recognized as a significant problem that can have devastating effects on individuals and entire communities. A 2001 survey of over fifteen thousand school-age children and adolescents in the U.S. revealed that more than sixteen percent of students had been the target of bullying three or more times during the current school term (Nansel et al., 2001). Bullying is associated with negative behavioral and psychological outcomes for both bullies and their victims (Egan & Perry, 1998; Hawker & Boulton, 2000). Further, bullying has been identified by some experts as an important public health issue, as it has been implicated as a contributing factor to certain forms of youth violence, including several tragic school shootings (Feder, 2007). Thus, it is increasingly recognized that school bullying can no longer be dismissed as typical childhood or adolescent behavior, but rather as a pressing social problem requiring prevention and intervention.

The large body of research devoted to better understanding bullying that has emerged in the last two decades underscores the interest in and importance of studying this issue. Although the existing research has provided insight into the problem of bullying, it has also raised new questions, some of which will be addressed in the present study. Bullying is a complex issue that involves a number of individuals and systems, including not only the bullies but also victims, bystanders, schools, and communities. The

present study focuses on the victims of school bullying and the ways in which the experience of being bullied relates to their psychological, social, behavioral, and academic functioning.

The Link between Victimization and Children's Functioning

A large body of literature has documented negative functioning outcomes for victims of bullying. A meta-analysis of 23 studies (Hawker & Boulton, 2000) found evidence for significant associations between victimization and depression, loneliness, general and social anxiety, and global and social self-worth. Indeed, there is a great deal of empirical support for a positive relationship between victimization and internalizing problems, suggesting that victims of peer bullying endure significantly more internal emotional distress than children who are not bullied. A smaller number of studies have investigated the link between victimization and other forms of functioning, such as behavioral problems, academic performance, and social status. There is evidence that victimization is related not only to internalizing problems but to externalizing problems as well. Children's self-reports of victimization have been shown to be related to self-reports of delinquent and aggressive behavior (Felix & McMahon, 2006) and behavioral misconduct (Haynie et al., 2000). Children who are victimized by their peers have also been shown to be more disliked by their peers than those who are not (Scholte, Engels, Overbeek, deKemp, & Haselager, 2007). Further, victimization has been linked to poor academic outcomes for children, including negative self-reports of school functioning (Haynie et al., 2001), grade point average and absenteeism (Juvonen, Nishina, & Graham, 2001), and lower levels of academic engagement (Graham, Bellemore, & Mize, 2006).

However, other studies have failed to find significant relations between victimization and academic performance (Hanish & Guerra, 2002).

The existing body of research provides evidence that the experience of being bullied by one's peers is not a rite of passage but an experience that negatively impacts children's psychological, social, academic, and behavioral development. However, a more thorough examination of the literature, as will be shown in Chapter 2 of this study, reveals that it is difficult to draw definitive conclusions about the link between victimization and functioning because different studies vary extensively in their operationalization of victimization and functioning as well as their methodology. A central premise of the present study is that victimization is a multidimensional construct. First, it can take different forms in that it may be physical, verbal or social/relational. Second, victims themselves may differ (forming distinct sub-groups) with individuals classified as being passive (victims) or as being both victims and aggressors (bully-victims). In addition, victimization can be measured in different ways, such as by using different informants who provide distinct information about children's experiences. Thus, the relationship between victimization and functioning will be examined while considering issues of form, informant, and its overlap with aggression.

Forms of Victimization

Early bullying research focused on overt acts of bullying, such as physical aggression, name-calling, and destruction of property (Olweus, 1978). More recently, there has been increasing interest in more covert forms of harassment including social exclusion or what has been termed "relational aggression" (Crick, Nelson, Morales, Cullerton-Sen, Casas, & Hickman, 2001). Several studies have documented gender

differences along these lines, with boys demonstrating more overt bullying behaviors and girls demonstrating relational forms of aggression (Crick & Bigbee, 1998; Crick, Casas, & Ku, 1999). However, other studies have failed to find significant gender effects (Crick & Grotpeter, 1996; Paquette & Underwood, 1999). Evidence suggests that, like physical victimization, relational victimization has negative impacts on children's functioning.

For example, one study found that relational victimization (after controlling for physical victimization) was related to both internalizing problems and externalizing problems in boys, and to externalizing problems and peer rejection in girls (Cullerton-Sen & Crick, 2005). However, more research is needed to examine how different forms of victimization relate to children's functioning. That is, are some outcomes influenced by relational forms of victimization whereas others are influenced by overt victimization?

Victimization and Aggression

Although the primary goal of this study is to examine the relationship between victimization and functioning, previous research suggests that aggression and victimization are highly correlated constructs (e.g., Groff, 2006). Therefore, the present study will take into account the role of aggression when investigating the relationship between victimization and functioning. Research has consistently shown that when identifying children as "victims" or "bullies," a sizeable number of children fall into both categories (Schwartz, Proctor, & Chien, 2001). These "aggressive victims" appear to represent a distinct subgroup of children who differ from bullies and non-aggressive victims in important ways. In contrast to bullies, whose aggressive behavior is often goal-directed and controlled, aggressive victims' behavior is an impulsive and disorganized response to perceived provocation. Research suggests that aggressive victims may show

different patterns of adjustment compared to non-aggressive victims and bullies (e.g., Graham et al., 2006). Further, the link between victimization and functioning, particularly in the behavioral domain, may be confounded by the presence of the aggressive victims. Therefore, when examining the relationship between victimization and functioning, it is crucial to account for the overlap between victimization and aggression.

Measurement and Informants

Research into the relationships among victimization, aggression, and functioning is further complicated by the fact that each of these constructs can be measured in different ways and with different sources of data. Because the constructs of interest are subjective in nature, the instruments used to assess them are essentially a stand-in or proxy for the phenomena under study. The use of rating scales and questionnaires is widespread, but these methods assess the perceptions of individuals rather than true performance. To study children's functioning and experiences of victimization, researchers may choose to use peer reports, teacher reports, self-reports, or any combination of these. Reports from peers or teachers ("other-informant" methods) are limited because the reporter is not privy to the private thoughts or all instances of the behavior of the person on whom they are reporting. Further, different informants may use different points of reference when judging or rating a particular behavior or trait. In contrast, self-reports have the advantage that the reporter has full access to the private thoughts, feelings, and behaviors of interest. However, self-reports are limited in that they are subject to self-presentation bias, or the tendency of individuals to portray themselves in a positive light.

Given the imperfect nature of these measures, it is not surprising that self- and other-reports show only modest agreement (Juvonen et al., 2001; Achenbach, McConaughy, & Howell, 1987). In the case of victimization, it has been argued that self- and peer reports may actually assess separate constructs, with self-reports providing information on the subjective experience of victimization and peer reports assessing reputational status (Graham & Juvonen, 1998). Further supporting the notion that different informants assess different dimensions of victimization is the evidence that peer and self-reports of victimization are differentially related to children's functioning. That is, peer reports of victimization have been shown to be related to social/interpersonal outcomes, such as peer acceptance/rejection, whereas self-reports of victimization are more strongly related to internalizing problems (Graham & Juvonen, 1998). However, such findings are confounded by informant effects. Across the literature, there is a tendency to use self-reports to measure internalizing problems (such as depression, anxiety, and self-worth), peer reports to measure social acceptance and rejection, and teacher reports to measure behavioral or externalizing problems. In addition, when examining the link between victimization and functioning, the same informant is often used to assess both constructs (e.g., self-reports of victimization and self-reports of functioning). Thus, at least part of the association is attributable to shared method variance. More research is needed to better understand the impact of informant variables on the identification of victimization, aggression, and functioning problems, as well as on the observed relations among these variables.

Statement of the Problem and Research Goals

A number of studies have examined the relations between victimization and children's functioning. Many of these studies have shown that victimization impacts children in negative ways but few have done so in a way that systematically considers the issues outlined above. These studies have also raised a number of questions that have yet to be addressed. For example, how are the observed relations between victimization and functioning influenced by the ways in which the constructs of interest are assessed? A central premise of this study is that victimization is a multidimensional construct that can be viewed in terms of (a) the form of the bullying behavior (e.g., physical, verbal, or relational), (b) the behavioral attributes of the victim (aggressive or passive), and (c) by the method used to assess victimization (e.g., self, peer, or teacher reports). This study builds upon the previous literature by taking these issues into account.

There are three primary goals of this study. The first is to investigate the psychometric properties of victimization and aggression measures in an understudied population (early elementary, predominantly African American children). The second goal is to clarify the construct of victimization in terms of multiple dimensions (form and informant) and its relationship with other variables (aggression and functioning). The third goal is to examine how the observed relations between victimization and functioning in different areas are influenced by the ways in which the constructs are assessed.

To address these goals, multiple measures were employed to assess children's levels of victimization, aggression, and functioning. Each of these three constructs were assessed via self-, peer-, and teacher reports. To the extent possible, each respondent

reported on different aspects of the constructs of interests. That is, some of the measures used in this study differentiated between relational and overt forms of aggression and victimization. In addition, four aspects of children's functioning (psychological, behavioral, social, and academic) were measured, using at least two different informants to report on each domain. The relationships among these different measures were examined in order to identify how different measures of victimization relate to one another and to different aspects of children's aggression and functioning and to develop a more complete understanding of the multidimensional nature of victimization. The present study further contributes to the current body of literature by examining measurement properties and relations among the variables of interest within a sample of predominately ethnic minority children in grades two and three, a population that has been understudied in the literature. This is important for the generalizability of claims about the nature of victimization and its relations with aggression and functioning.

Chapter 2: Review of the Literature

The purpose of this chapter is to systematically review the literature in which the relationship between victimization and functioning has been investigated. Special attention is given to the multidimensional nature of the constructs of interest, and how measurement of the constructs impacts the findings. The first part of the chapter provides definitions of the terms used in this study. The second part describes the recent research on the links between victimization and four domains of child and adolescent functioning: internalizing problems, externalizing problems, social problems, and academic problems. Third, four important themes and limitations in the current body of research will be discussed. These four themes relate to the ways in which the constructs of victimization and functioning have been conceptualized and measured. Finally, the purpose and research questions of the present study will be described.

Definition of Terms

Bullying and victimization. Peer victimization refers to the experience of being the target of repeated harassment or bullying by one's peers. Dan Olweus, a pioneer in the field of bullying research, proposed the following definition of victimization: "a student is being bullied or victimized when he/she is exposed repeatedly and over time to negative action on the part of one or more other students" (Olweus, 1993, p.10). Traditionally, such negative actions have been defined as overt physical harassment such as hitting or physical intimidation, or verbal harassment such as name-calling or persistent teasing. More recently, definitions of victimization have expanded to include relational forms of victimization (Crick et al., 2001), which involves more indirect

methods of aggression, including spreading rumors or social exclusion. Bullying usually involves an imbalance of power or strength such that the victim has difficulty defending him or herself (Craig, 1998; Whitney & Smith, 1993).

Measures of victimization commonly used in research and clinical practice vary in the extent to which they capture all aspects of Olweus' frequently cited definition. Until recently, most measures of victimization focused on physical or overt verbal forms of harassment and included few if any items that captured relational forms of victimization. In addition, instruments vary in the extent to which they capture the ongoing and repetitive nature of victimization. Some measures ask children to report the frequency with which they have been the target of bullying behavior (e.g., Olweus Bully/Victim Questionnaire, Olweus, 1993; Multidimensional Peer Victimization Scale, Mynard & Joseph, 2000). However, other measures, such as peer nomination scales and less structured self-reports, may not accurately provide information about the frequency of bullying incidents. Furthermore, the majority of measures do not adequately capture the imbalance of power that characterizes most instances of bullying. The items or instructions may not be sufficiently clear for children to distinguish actual instances of "bullying" from other forms of rough-housing, fighting, or playful teasing. A recent study by Vaillancourt et al. (2008) indicated that while the majority of researchers in the field accept Olweus' definition of victimization (which includes the key features of negative behavior, imbalance of power, repetition, and intentionality), the majority of school-aged children do not spontaneously include all of these features when asked to define "bullying." Among Vaillancourt et al.'s sample of children between the ages of eight and eighteen, 92% of children included some type of negative behavior in their

definitions, but only 26% mentioned power imbalance. A mere 6% included repetition, and 1.7% included intentionality. Thus, children's responses to questionnaires or surveys about their experiences with bullying may not always correspond with researchers' working definitions. When reviewing the literature on peer victimization, it is important to consider the impact of *how* victimization is measured.

Functioning. The term "functioning," often referred to as "adjustment," is an umbrella term that can be used to describe a number of outcomes that are often examined alongside victimization. In the context of this study, "functioning" refers to an individual's ability to adapt successfully to his or her environment. It is associated with achievement, personal happiness, and the ability to form healthy and meaningful relationships with others. Although it is a construct that has been examined extensively in psychological research, there is a lack of definitional clarity regarding the term. "Functioning" can refer to a wide range of outcome variables, from an individual's report of depressed feelings to others' ratings of how well liked he or she is to graduating from high school. The research on peer victimization has examined victimization in relation to a wide range of types of functioning. For the purpose of organizing this literature review, these variables will be categorized into four broad domains: psychological functioning, behavioral functioning, social functioning, and academic functioning. These four categories capture different aspects of children's lives and experiences, but it is important to note that this distinction is artificial as children's experience or status in one domain is invariably related to their experiences in the other domains.

Psychological functioning refers to an individual's inner thoughts and feelings about him or herself. Feelings of depression, loneliness, and low self-worth are all

examples of problems in psychological functioning. Behavioral functioning problems, on the other hand, include overt problems that are more easily observed by others, such as hyperactivity and disruptive behavior. Social functioning refers to an individual's interpersonal skills and functioning, as evident in his or her likeability and cooperation with peers. Finally, academic functioning refers to performance in the school environment, represented not only by one's standing on measures of achievement, but also by one's general attitudes toward school, feelings of academic competence, and academic engagement. As stated previously, there is considerable overlap among these domains and an individual's functioning in one area likely affects his or her functioning in the others. The specific subtypes of functioning defined above will be used for the purpose of organizing the large body of literature, as well as when it is necessary to distinguish between psychological, behavioral, social, and academic functioning. In the related literature, researchers have used the terms "adjustment," "relational adjustment," and "psychosocial adjustment" to describe one or more of the domains of functioning (Hawker & Boulton, 2000; Ladd & Kochenderfer-Ladd, 2002).

Organizing the construct of functioning into these separate but related categories has some basis in empirical research. Rating scales of children's emotional and behavioral problems typically assess two broad dimensions of children's maladjustment: internalizing and externalizing (Mash & Dozois, 2003). Internalizing disorders, sometimes referred to as "overcontrolled" problems, refer to personal thoughts or behaviors directed at the self, whereas externalizing or "undercontrolled" problems refer to behaviors that are directed at others (Mash & Dozois, 2003). Psychological disorders such as depression and anxiety fall within the realm of internalizing problems. Behavior

problems such as aggression, conduct problems, and hyperactivity, on the other hand, are considered externalizing problems. The distinction between internalizing and externalizing problems has often led to the perception that the two types of disorders are opposite forms of maladjustment. Yet research suggests that externalizing and internalizing problems overlap. For example, a recent study of various problem behaviors in early adolescents found that indicators of internalizing problems (anxious/depressed, withdrawn, somatic complaints) were significantly correlated with indicators of externalizing problems (delinquency, aggression, and disobedience), with correlations ranging from .12 to .39 (Reitz, Dekovic, & Meijer, 2005). This relationship parallels patterns found in the realm of children's social experiences, specifically, the overlap between victimization and bullying behavior, which will be discussed in more detail later in this chapter.

The Relationship between Victimization and Functioning

Victimization and psychological functioning. In a meta-analytic review of 23 cross-sectional studies of peer victimization and psychosocial maladjustment, Hawker and Boulton (2000) found evidence for significant associations between victimization and several internalizing problems, including depression, loneliness, general and social anxiety, and global and social self-worth. Effect sizes were largest for depression, and smallest, yet still statistically significant, for anxiety. Effect sizes for loneliness and self-worth fell in between these values. An important feature of Hawker and Boulton's meta-analysis was that they classified the reviewed studies into two groups: those that used the same informant to assess both victimization and the functioning outcome (e.g., self-reports of victimization and self-reports of depression), and those that used different

informants to assess the two constructs (e.g., teacher ratings of victimization and self-reports of loneliness). By examining the results of these two groups of studies separately, Hawker and Boulton were able to parcel out the effects of shared method variance, or the portion of overlap between two measures that is due to a common informant. As expected, they found that effects sizes were greatest when the same individual(s) provided the data on both victimization and the functioning outcome. Although the effect sizes were smaller when different informants were used, the mean effect sizes for each functioning variable were still significant. For example, the mean effect size for depression was .45 with the same informant and .29 with different informants. Both values were statistically significant at the .0001 alpha level. Based on these findings, it can be concluded that the link between victimization and psychosocial functioning is not due solely to shared method variance or same source bias.

Other studies have bolstered support for the link between peer victimization and internalizing problems. For example, Bond, Carlin, Thomas, Rubin, and Patton (2001) examined anxiety and depression in a large sample of Australian students in grade 8 (age 13). These researchers found that self-reported victimization was significantly related to a self-report measure of anxiety and depressive symptoms, even after adjusting for other measures of social relations (perceived availability of attachments and conflictual relations). Estevez, Musitu, and Herrero (2005) found that self-reports of victimization in a sample of Spanish youth between the ages of 11 and 16 were related to self-reported depression and stress. However, victimization was not significantly related to teachers' perceptions of the students' functioning. Graham et al. (2006) found that sixth grade students who were identified as victims by their peers reported more loneliness, social

anxiety, and low self-esteem than their well-adjusted and aggressive peers (as identified by peers). At least one study (Roland, 2002) has shown that children who perceive themselves as victims are not only more depressed but are more likely to have suicidal thoughts than non-victims.

These cross-sectional studies provide important information about the links between victimization and internalizing problems such as depression, anxiety, loneliness, and self-esteem. However, because these studies are a snapshot of a single point in time, they do not allow researchers to make causal claims about the effects of victimization on children's psychological functioning. Longitudinal designs, which were not included in Hawker and Boulton's meta-analysis, have begun to shed light on the mechanisms underlying the links between victimization and psychological maladjustment. Marsh, Parada, Yeung, and Healey (2001) analyzed survey data in a sample of 4216 eighth graders. Using structural equation modeling, they found that self-reported victimization in grade 8 had consistently negative effects on three different measures of self-concept two years later. Nishina, Juvonen, and Witkow (2005) found that self-reports of victimization obtained in the fall of sixth grade predicted higher levels of self-reported depression, social anxiety, loneliness, and self-worth in the spring. However, because the authors did not control for initial scores on the functioning variables, it could not be concluded that the relationship between victimization at the beginning of the school year and psychosocial functioning at the end of the year was a causal one.

The longitudinal studies described above demonstrate that peer victimization is predictive of later psychological maladjustment. However, this is not to say that the relationship is entirely unidirectional. Other researchers have argued for a reciprocal

relationship between victimization and psychological functioning. Snyder et al. (2003) found complex, reciprocal relationships between observed victimization, teacher and parent reports of antisocial and depressive behavior, and self-reports of depression. For boys, growth in victimization from the beginning of kindergarten to the end of first grade was reciprocally related to growth in teacher-reported antisocial and depressive behavior. The pattern was slightly different for girls: victimization in kindergarten was related to growth in parent-reported antisocial behavior. Growth in victimization was related to parent reported depression, and teacher reported depression was related to growth in victimization. These findings suggest that the relationship between victimization and internalizing problems is a complex one, and the causal mechanisms appear to be bidirectional.

Behavioral functioning. Although most research investigating the psychosocial correlates of peer victimization has focused on internalizing problems, a considerable body of research has emerged documenting links between victimization and externalizing problems such as aggression, hyperactivity, and delinquency. Felix and McMahon (2006) used three self-report instruments to measure direct victimization, relational victimization, and sexual harassment in 111 middle school students. They found that direct victimization and sexual harassment were significantly related to a self-report measure of externalizing problems (delinquent behavior and aggressive behavior). Haynie et al. (2001) found that children who identified themselves as victims also rated themselves as exhibiting more problem behaviors, behavioral misconduct, and deviant peer influences, and having less self-control and social competence compared to non-victims.

Longitudinal studies have demonstrated that victimization is predictive of later externalizing problems. For example, Hanish and Guerra (2002) found that peer nominations of victimization in elementary school students were significantly positively related to teacher ratings of aggression, attention, and delinquency two years later. In addition, Cullerton-Sen and Crick (2005) found that self-, peer, and teacher reports of victimization were predictive of teacher reported externalizing problems as measured by the Child Behavior Checklist (CBCL).

These findings challenge the common notion that targets of bullying are passive victims whose suffering occurs privately (i.e., in the form of internalizing problems such as depression and low self-esteem). The experience of being victimized by one's peers is also associated with a number of externalizing problems such as aggression, inattention, and delinquency. Theories behind the association of victimization to externalizing problems will be discussed in later section of this review, when sub-constructs of victimization (specifically, the distinction between aggressive and non-aggressive victims) are addressed.

Social functioning. One of the most common methods of assessing children's social status is through sociometric techniques, in which all students in a classroom nominate peers who fit certain descriptor items. Peer acceptance and rejection are measured by asking students to rate or nominate children whom they like as well as children whom they do not like. Children who are nominated most frequently as being disliked are considered the most rejected children. Although peer rejection is closely related to victimization, it is a distinct concept because it refers to attitudes (collective views of classmates) rather than behaviors (Lopez & DuBois, 2005).

Research suggests that children who are victimized by their peers are often rejected as well. Cullerton-Sen and Crick (2005) found that victimization (as measured by peer, teacher, and self-reports) among fourth grade students was predictive of peer-reported rejection. Buhs (2005) found that self-reported victimization among fifth graders was significantly related to peer nominations of rejection as well as teacher reports of peer exclusion. Similar results have been reported by Ladd and Kochenderfer-Ladd (2002) and Veenstra et al. (2005).

A recent longitudinal study by Scholte et al. (2007) found that “stable victims” (those who were nominated as victims by their peers in both childhood and adolescence) were more likely than non-victims to receive fewer friend nominations and be nominated as disliked by their peers at both time-points (childhood and adolescence). Interestingly, children who were nominated as victims in childhood but not in adolescence (“childhood only” victims) did not differ from non-victims in terms of their peer rejection in adolescence. Additionally, children who were victimized only in adolescence showed similar patterns of maladjustment in adolescence to children who were victimized at both time points. In other words, the study indicated that for some children, the experience of victimization in childhood may not be predictive of later social rejection. However, children whose victimization becomes a pattern that continues into adolescence appear to be at greater risk for long-term interpersonal adjustment problems.

Academic functioning. Peer victimization may have a negative effect not only on children’s psychological and social functioning, but also on academic functioning. A number of studies have revealed significant links between peer victimization and several different indicators of academic functioning, including achievement, absenteeism, and

school adjustment (as perceived by self and teachers). Most studies of the relationship between victimization and academic functioning have been conducted with samples of middle and/or high school students. For example, self-reported victimization has been shown to be significantly related to self-reports of school functioning in middle school students (Haynie et al., 2001). Another study of middle school students revealed that self-reported victimization was significantly negatively related to grade point average and positively related to absenteeism (Juvonen, Nishina, & Graham, 2000). Middle school students nominated as victims by their peers have been shown to be less academically engaged (as reported by teachers) than well-adjusted students (Graham et al., 2006). Self-identified victims of school bullying have also been shown to report lower levels of school connectedness, or perceptions of bonding and quality relationships with peers and teachers, than their non-bullied peers (You et al., 2008).

Recent studies have investigated potential mediating factors to help better understand the link between victimization and poor academic performance. In their study of 10 and 11 year old students in the United Kingdom, Boulton, Trueman, and Murray (2008) hypothesized that among children who are the targets of bullying, the fear of being victimized in the future disrupts their ability to concentrate on class work. Indeed, they found that multiple measures of victimization (peer and self nominations of physical, verbal, and social exclusion victimization) were all predictive of disrupted concentration. However, fear of future victimization appeared to play a mediating role only for peer-reported social exclusion. Might there be another factor that helps to explain why some victimized children have poorer academic outcomes than their non-victimized peers? Thijs and Verkuyten (2008) proposed that students' academic self-

efficacy might mediate the negative relationship between victimization and academic achievement. In their large sample of sixth grade students in the Netherlands, they found that greater victimization (as measured by a self-report scale) was associated with poorer achievement outcomes (students' reports of "secondary school advice" which was based primarily on a standardized achievement test). This relationship was mediated by perceptions of lower academic self-efficacy. The authors concluded that the experience of victimization and unsuccessful attempts to prevent it is likely to have a negative impact on general self-efficacy, which may translate into a lack of confidence in their ability to successfully perform academic tasks.

Longitudinal studies offer additional insight into the relationship between victimization and academic functioning, but the studies conducted so far have produced mixed results. Nansel, Haynie, and Simons-Morton (2003) collected self-report data on victimization and school functioning in a sample of middle school students in the fall of sixth grade, the spring of sixth grade, and the spring of seventh grade. They found that victims (as well as bullies and bully/victims) reported poorer school functioning at the spring of sixth grade and seventh grade, even after controlling for baseline scores of bullying, victimization, and school functioning. In contrast, Hanish and Guerra (2002) failed to find significant links between peer victimization and academic outcomes. In their study of first, second, and fourth graders, peer-reported victimization at time one was not significantly related to attendance or standardized achievement test scores in reading or math obtained at a two-year follow up.

Several possible explanations could account for the divergent findings in these two studies. First, the two sets of researchers studied different age groups. Nansel et al.

(2003) studied middle school students, whereas Hanish and Guerra (2002) studied elementary school students. It is possible that the negative experiences associated with peer victimization do not significantly impact academic performance until students reach middle school and patterns of victimization become more established.

Another possible explanation is that the authors used different methods of assessing victimization. Nansel and colleagues (2003) used self-reports, whereas Hanish and Guerra (2002) used peer nominations. Given that self- and peer reports of victimization are only modestly correlated (as will be discussed in more detail later in this chapter), it is possible that the two measures are differentially related to academic outcomes. Further, the studies differed in terms of the outcome measures used. Nansel et al. used self-reports of school functioning, whereas Hanish and Guerra used data from school records (standardized achievement scores and absenteeism), which may be considered more objective indicators of academic functioning. Because Nansel et al. used the same informant (self-reports) to assess both victimization and school functioning, their findings could be explained by shared method variance or same source bias. It appears that more research is needed to sort out these different explanations before more definitive conclusions can be made about the relationship between victimization and academic outcomes.

The Role of Peer Victimization in Patterns of Psychosocial Functioning

The findings summarized in the previous sections demonstrate that peer victimization is part of a larger pattern of psychological and relational difficulties. Some researchers have suggested that victimization may even be a primary cause of such difficulties (e.g., Ladd & Kochenderfer-Ladd, 2002). Cross-sectional research has clearly

demonstrated concurrent links between victimization and various forms of maladjustment. Recent longitudinal research offers insight into the reciprocal relationship between victimization and psychosocial functioning, and has provided preliminary evidence that ongoing victimization may play a pivotal role in the development of children's mental health (e.g., Snyder et al., 2003). Many researchers have pointed to interpersonal experiences, including peer relationships, as processes through which patterns of functioning are established and maintained. Although preexisting psychological or behavioral problems may predispose a child to have a greater likelihood of being involved in bullying (either as victim, aggressor, or both), the experience of being harassed by one's peers is likely to reinforce feelings of low self-worth, which in turn contributes to depression and other psychological problems (Swearer, Grills, Haye, & Cary, 2004). A promising view of bullying and victimization for prevention and intervention is as social processes through which psychological and social difficulties are reinforced and develop.

Themes and Limitations in the Current Research

Thus far, this literature review has focused on presenting and summarizing the results of studies that have specifically investigated the relationship between peer victimization and children's functioning. While there is evidence to support a link between victimization and difficulties in each of the four domains of functioning, many questions remain. As research reveals different subtypes of victimization, it is important to ask whether the different subtypes are associated with different patterns of functioning. In addition, as victimization is increasingly being viewed as part of a larger pattern of relational difficulties that develops over time, we must ask how the age of the children

being studied affects the results. The existing research is further complicated by the lack of definitional and operational clarity among researchers about what constitutes a “victim” and a “bully.” Considering the wide diversity in how victimization and functioning are conceptualized and measured, the task of making sense of the collective findings becomes more daunting. As this review will show, an examination of recently published studies makes it possible to identify several emerging themes in the current research, as well as areas where more research is needed. Four of these themes/limitations are described briefly below, and each one will be discussed in greater detail in the sections that follow.

One theme that emerges when reviewing the current research is the increasing trend towards distinguishing between different types or forms of victimization. Early research on victimization focused primarily on overt physical and verbal forms of harassment. More recently, there is growing recognition of relational forms of victimization (Crick et al., 2001), and more researchers are including measures of relational victimization in their studies. Evidence is beginning to suggest that overt and relational victimization are related to different patterns of functioning (Cullerton-Sen & Crick, 2005), but more research is needed before definitive conclusions can be made.

It is also interesting to note that in the last five years, little attention has been paid to the role of different informants. Several researchers have argued that victimization be assessed from multiple perspectives (e.g., Ladd & Kochenderfer-Ladd, 2002). Although a handful of studies have utilized multiple sources in the measurement of victimization (Boulton et al., 2008; Cullerton-Sen & Crick, 2005; Ladd & Kochenderfer-Ladd, 2002), most research continues to rely on single informants in the assessment of victimization.

Self-report questionnaires appear to be the most popular method for assessing victimization, followed closely by peer nominations. Occasionally, other single-informant methods are used (teacher reports, Perren & Alasker, 2006; and playground observations, Snyder et al., 2003).

Third, the measurement of psychological, behavioral, and social functioning is also often measured by a single informant. However, as with victimization, different informants generally show little agreement in reports of children's functioning, and researchers have argued that multiple sources be used for the most accurate identification (Clifton, Turkheimer, & Oltmanns, 2005; Achenbach et al., 1987). Sorting out the effects of informant is an important task for future research.

A fourth theme in the recent literature is the empirical overlap between victimization and bullying. Far from being opposite sides of the same problem, research has shown that many children who are identified as victims are also identified as bullies or aggressors. Indeed, a group of children often referred to as "bully-victims" or "aggressive victims" is emerging as an important subtype of victims who may have different characteristics and risk factors than other bullies or victims. Although several recent studies have examined victimization in conjunction with bullying, more research is needed to understand how this overlap impacts functioning outcomes.

In sum, the present review reveals four important themes to be considered in the study of peer victimization: the existence of different forms of victimization (relational vs. overt); informant issues in the measurement of victimization; informant issues in the measurement of functioning; and the overlap between victimization and bullying. An important goal of this study is to examine the relationship between peer victimization and

children's functioning with respect to these issues and themes. The following sections will provide a more in-depth review of the existing theories and research behind each issue. It will be shown that systematic examination of the four key issues is critical in furthering our understanding of the way in which peer victimization influences children's psychological, social, behavioral, and academic development.

Type of Victimization

Traditionally, research has focused on victims of overt aggression, which includes physical or verbal harassment, or global, unspecific forms of mean behavior (Crick et al., 2001). This conceptualization of victimization may lead researchers to overlook children who experience more subtle forms of peer harassment, such as being excluded from a social group or being made the target of rumors. Recently, some researchers have argued for the importance of identifying and studying children who are the targets of relational aggression, or behavior in which the aggressor manipulates interpersonal relationships with the intent to cause harm to another individual (Crick et al., 2001).

Research suggests that victims of relational aggression often experience psychological adjustment problems, such as loneliness, depression, and social anxiety, above and beyond what is accounted for by the experience of overt forms of victimization (e.g., Crick & Grotpeter, 1996). More recently, Cullerton-Sen and Crick (2005) found that teacher reports of relational victimization predicted teacher reported internalizing and externalizing behaviors for boys, and peer rejection and teacher-reported externalizing problems in girls, after controlling for physical victimization. In contrast, Storch, Zelman, Sweeney, Danner, and Dove (2002) found that relational victimization was not significantly associated with self-reported internalizing problems after controlling for

overt victimization. In another study, Storch, Nock, Masia-Warner, and Barlas (2003) found that relational victimization made significant contributions to the prediction of depression in girls, but did not add unique information beyond physical victimization in boys.

Evidence also suggests that relational victimization may be more salient and distressing for boys than for girls (Crick et al., 2001). Evidence is mixed regarding gender differences in prevalence rates of victimization subtypes, with some studies finding that relational victimization is more common among girls (e.g., Crick & Bigbee, 1998; Crick, Casas, & Ku, 1999), and other studies failing to find significant gender differences (e.g., Crick & Grotpeter, 1996; Paquette & Underwood, 1999). It appears that both genders are negatively affected by relational victimization, but that girls may experience negative consequences in more domains of social and emotional functioning than boys (Crick et al., 2001; Paquette & Underwood, 1999). Studies in which only overt (physical or verbal) victimization is assessed may overlook an important subset of victims (i.e., the targets of relational aggression) who may also be suffering from problems in functioning.

In sum, there is evidence that supports conceptualizing overt and relational victimization as distinct constructs. However, overall, the findings are mixed regarding the unique contributions of relational victimization to psychosocial functioning. More research is needed to clarify the different ways in which relational and overt forms of victimization influence the development of problems in psychological, social, and academic functioning.

Informant Issues: Victimization

In any study of children's psychological, emotional, and interpersonal characteristics, it is important to consider how such characteristics or constructs are measured. It is often not feasible to observe constructs such as "victimization" or "aggression" directly; thus, researchers must rely on the reports of children or other individuals with whom the child interacts, such as peers, teachers, and parents. The vast majority of the research on peer victimization has traditionally relied on two types of instruments to measure victim status: self-reports and peer nominations. A brief description of each measure is provided below.

Self-reports of victimization typically take the form of individually administered questionnaires. For example, one commonly used procedure, the Multidimensional Peer Victimization Scale (MPVS; Mynard & Joseph, 2000), presents children with a list of "things some children do to other children." Items include actions such as name-calling, making fun of other children, and beating children up. For each item, respondents indicate whether anyone has done these things to them once, more than once, or never. A variation on this format involves asking the respondent to report the frequency of the bullying incidents in terms of whether each behavior happens to them never, once in a while, pretty often, or very often (e.g., Perry, Kusel, & Perry, 1988). A different scale (Peer Victimization Scale; Austin & Joseph, 1996) presents the respondent with a description of two types of children (e.g., "Some kids are often picked on by other kids, but other kids are *not* picked on by other kids"). The respondent is then asked to tell the examiner which description is more like them.

Peer perceptions of victimization, on the other hand, are usually assessed through peer nomination procedures. In this procedure, each student is presented with the names or pictures of students in his or her class. The students are then asked to nominate peers for certain descriptive items such as “others call these kids names” and “others make fun of these kids.” Typically, victimization items are embedded with items that assess other dimensions of behavior including aggression and prosocial behavior. Variations on this format include limiting the number of nominations that a respondent can make (e.g., instructing the student to name three peers for each item), or limiting possible nominations to same-sex peers. Each student receives a victimization score based on the number of nominations they received. The total number of victim nominations a child receives is then summed and standardized to account for the number of children in a classroom. This procedure is typically limited to the elementary school grades when children spend most of their day in a single class.

Informant discrepancies in the measurement of victimization. Traditionally, peer and self-reports were seen as different methods of assessing the same broad construct of victimization. However, a consistent finding in the research is that self- and peer reports are only moderately associated. Observed correlation coefficients have ranged from .2 to .4, indicating that the two measures share, at the most, about 16% of their variance (Juvonen et al., 2001). These small correlations lead to several questions. First, do peer reports and self-reports actually measure the same construct? Second, is one a better measure of victimization than the other? More specifically, what are the psychometric characteristics and external correlates of each? Some researchers have argued that both methods essentially measure the same construct, and that the lack of

concordance is due to the statistical inadequacy of one measure compared to the other. For example, Perry et al. (1988) argued that peer nominations of victimization are more reliable than self-reports because judgments from multiple peer informants are aggregated, thereby reducing the effects of individual rater bias. Based on this reasoning, Perry et al. did not consider children who identified as victims via self-report (but not peer report) as “true victims,” and their study focused primarily on students who were identified as victims through peer nominations.

However, other researchers have argued that self-reports provide important information about victimization experiences that should not be overlooked. For example, in a multiple method, longitudinal study of peer victimization and functioning, Ladd and Kochenderfer-Ladd (2002) found that the reliability of self- and peer reports of victimization varied as a function of the children’s age. Among younger children (kindergarten and first graders), self-reports were actually more reliable and valid indicators of victimization than were peer nominations. The authors hypothesized that peer reports may have been less valid in this age group because the younger children did not have a fully developed understanding of the meaning of victimization, or they may have lacked the cognitive skills needed to accurately identify and recall all bullying or harassment incidents in their classrooms. Thus, these children may have had difficulty identifying those peers who were truly victimized.

Some researchers have argued that the low correlation between self- and peer reports of victimization is best explained by the fact that the two methods measure different subconstructs of victimization. For example, Graham and Juvonen (1998) suggested that self-reports capture the subjective experience of victimization, whereas

peer reports capture one's reputational status as a victim. They argued that these are distinct constructs, and they empirically tested this hypothesis by examining how self- and peer reports of victimization were differentially related to two types of adjustment outcomes: intrapersonal, or emotional/psychological, functioning, and interpersonal, or social, functioning. In a sample of ethnically and socioeconomically diverse middle school students, Graham and Juvonen found that self-perceived victimization significantly predicted intrapsychological maladjustment factors, such as social anxiety, loneliness, and low-self worth. However, it was not significantly related to indicators of social adjustment such as peer acceptance or rejection. Conversely, peer reports of victimization were not significantly related to social anxiety and self-worth, and were only moderately correlated with loneliness. However, they significantly predicted low levels of peer acceptance, and high levels of peer rejection.

These findings suggest that self-perceived victim status and peer reputation as a victim are two independent risk factors for the different types of maladjustment associated with victimization. Specifically, perceiving oneself as a victim predicts intrapsychological problems, such as loneliness, low self worth, and anxiety, whereas being perceived as a victim by others predicts interpersonal consequences such as peer rejection. These conclusions are consistent with the general view that internalizing problems (or one's inner world) are best measured by self-report, whereas externalizing problems (or overt behavior) are best measured by reports of others. However, it is important to note that these findings are confounded by an informant effect: both internalizing problems and self-reported victimization are measured by self-report, whereas peer rejection and other-reported victim status are measured by other-reports.

To find further support for the notion that self- and peer reports represent distinct subconstructs of victimization, Graham and Juvonen (1998) divided their sample into different victim subgroups based on the correspondence between participants' self- and peer-reports. They hypothesized that the two methods can be used to identify four different victim subtypes that are characterized by different risk factors and suffer from different types of functioning problems. They built on the previous work of Perry and colleagues (1998), who also identified four subgroups of children based on their scores on self-report and peer-report measures of victimization. However, instead of examining the differences between all four subgroups, Perry et al. excluded from their analyses the group of children who rated themselves as victims but who were not identified as victims by their peers. Perry et al. labeled these children as "paranoids" and reasoned that they should not be included in the analyses because they reflected the statistical inadequacy of the self-report measure.

Graham and Juvonen (1998) argued that the self-identified victims or "paranoids" are an important group to study because even if they are not viewed as victims by their peers, their subjective experiences of victimization may put them at risk for the negative psychological and interpersonal outcomes that are associated with victimization. The authors divided the sample into four subgroups, using the same terminology as Perry et al. (1988). Children who were identified as victims by both themselves and their peers were labeled "true victims." Children who identified themselves as victims, but were not viewed as such by their peers, were labeled "paranoids." Children who were nominated as victims by their peers, but did not view themselves as victimized, were called "deniers." Finally, those children who were not perceived as victims by either

themselves or their peers were labeled “nonvictims.” Among the three victim groups (children whose peer and/or self-report measure of victimization fell above the 70th percentile), 31% were considered “true victims,” 53% were considered “paranoids, and 16% were considered deniers.

Given their belief that the groups represented different sub-constructs of victimization, the authors hypothesized that that each group would be associated with different patterns of psychological and interpersonal maladjustment. The results were consistent with this hypothesis. Specifically, paranoids were more similar to true victims in that both groups showed greater intrapsychological maladjustment (loneliness, anxiety, and self-worth) than deniers and nonvictims. However, in terms of interpersonal correlates, it was the deniers who were more similar to the true victims; both were more rejected by their peers than were the nonvictims and paranoids. It is important to note that the observed relationships reflect input from the same informant. That is, self-reported victimization was related to the self-reported “intrapsychological” maladjustment variables, whereas peer-reported victimization was related to the peer-reported “interpersonal” adjustment variables. Longitudinal studies that examine a series of developmental outcomes as measured by various informants are needed.

Graham and Juvonen (1998) also found that in addition to showing different patterns of maladjustment, the victim subgroups also differed in the types of cognitive attributions that they made. In other words, when asked to provide their opinion on the cause of certain negative events, true victims, paranoids, deniers, and nonvictims showed different patterns of attributions. Specifically, true victims and paranoids (both having self-rated elements) tended to attribute negative events to factors that were internal,

stable, and uncontrollable. Graham and Juvonen referred to this pattern of attributions as “characterological self-blame.” In contrast, nonvictims and deniers (neither acknowledging being a victim) were more likely to attribute negative events to external, unstable, and controllable factors. This pattern was referred to as “behavioral self-blame.”

Collectively, Graham and Juvonen’s (1998) findings provide support for the view that self-perceived victimization, more so than reputational status as a victim, is indicative of internalizing problems. Conversely, reputational status is more indicative of peer acceptance and rejection. Graham and Juvonen interpreted their findings as evidence for the existence of distinct victim subconstructs based on the informant(s) providing the rating of victimization. Based on their low correlation and different external correlates, children’s self-appraisals and their reputational status appear to be two independent risk factors for the different types of maladjustment associated with victimization.

Other researchers have argued that findings such as those presented by Graham and Juvonen (1998) are better explained by a more parsimonious theory. That is, the general finding of stronger relationships between self-reported victimization and intrapersonal problems, and between peer-reported victimization and interpersonal problems, are due to methodological factors. Given that intrapersonal problems such as depression and loneliness are typically measured via self-report, the observed correlation between such measures and self-reports of victimization is explained at least in part by the shared method variance (e.g., the child is the reporter for both victimization and the functioning variable of interest). Likewise, since interpersonal problems such as peer rejection are assessed via peer reports or nominations, method variance accounts for the

relatively large correlations between these measures and peer reports of victimization. Thus, simply because peer reports and self-reports of victimization correlate only modestly and are differentially related to psychosocial functioning variables, we can not conclude that the two methods assess entirely different constructs. Hawker and Boulton's (2000) meta-analysis showed that although correlations between victimization and psychosocial functioning were highest when the same informant was used to measure both constructs, significant correlations were also observed when different informants were used to measure the two constructs. In other words, the meta-analysis showed that, when averaged over several studies, peer reports of victimization were significantly related to self-reported depression, loneliness, self-concept, and anxiety.

Whether we accept Graham and Juvonen's hypothesis that the two assessment methods represent distinct subconstructs of victimization, or if we accept the shared method variance explanation, it is clear that self-reports and peer reports of victimization provide both common and unique information about children's experiences. However, several questions remain. For example, how useful are self-reports versus peer reports of victimization in predicting children's functioning? How much unique information does each method provide? Are self-reports and peer reports better suited for different research or clinical purposes, and if so, which is better for what purposes? When are self-reports superior to peer reports? Could the validity and usefulness of different measures differ for different ages and genders? Further, among self-reports, could different formats tap different aspects of victimization?

Another issue that arises, which has not been extensively addressed in the existing literature, is the extent to which alternative methods of assessing victimization provide

additional information about children's experiences and functioning, above and beyond both self- and peer reports. Although the majority of studies have assessed victimization using self-reports and peer nominations, a few have used alternative measures such as direct observations or teacher ratings. Each of these methods has potential benefits and limitations in providing accurate and meaningful information. For example, direct observations of children's victimization experiences may help to eliminate some of the problems associated with questionnaire or nomination methods, such as respondents' self-presentation strategies or difficulty remembering certain events. Studies that have employed direct observation methods generally obtain reliable estimates of victimization (Schwartz et al., 1998; Snyder et al., 2003). However, such methods are extremely time-consuming and require extensive training of observers before reliability can be established. In addition, it is nearly impossible to observe children during all times of the day when episodes of bullying might occur. Thus, direct observations may not be a practical or feasible method for researchers or practitioners interested in identifying peer victimized children. Further, the act of observing may actually reduce incidences of bullying and victimization, which are already low base rate and difficult to observe.

Teacher reports, on the other hand, are relatively easy to administer. At the elementary school level, teachers are generally very knowledgeable about the students in their classrooms and have many opportunities to observe children's social interactions. In addition, by virtue of working in a classroom with many children of similar ages, teachers are able to make judgments about a particular student's level of functioning relative to his or her peers. However, different teachers may have different reference points and thus a student who is considered a victim by one teacher may not be identified as a victim by a

different teacher. In addition, teacher reports are vulnerable to the same problem as direct observations in that teachers do not have access to all situations in which bullying behavior occurs. It has been noted that bullying often occurs in places or situations where adults are not present, such as the hallways, restrooms, or locker rooms (Pellegrini, 2001). A recent study found that school staff in elementary, middle, and high schools all underestimated the number of students involved in frequent bullying (Bradshaw, Sawyer, & O'Brennan, 2007). Teachers' attitudes toward bullying, which likely influence their personal definitions of bullying and how they might respond to questionnaires, also differed based in part on their own prior experiences with bullying.

Utility of multiple informants. Clearly, no single measure or informant can be considered the “gold standard” in research on bullying and victimization. An important task for future research is to determine how many informants are needed to accurately identify children suffering from peer victimization and how information from different informants should be combined. A handful of studies have explicitly dealt with some of the questions raised in the chapter thus far by using multiple methods to assess victimization and functioning, and systematically examining the unique contributions of different informants' reports of victimization to children's psychosocial functioning.

Ladd and Kochenderfer-Ladd (2002) conducted a two-part study in which they used a multiple informant approach to investigate the relationship between peer victimization and relational adjustment. Data were collected each year for five consecutive years, beginning when the children were in Kindergarten and ending in fourth grade. In the first part of the study, they examined the concordance between self- and peer reports of victimization, and examined the differential relationship between

these two types of victimization and three indicators of psychosocial functioning: self-reported loneliness, peer nominations of peer group rejection, and teacher-reported social problems. They found little agreement between self- and peer reports of victimization in the early grades (Kindergarten and grade 1; concordance coefficients of .02 and .17 respectively), but agreement increased significantly from grade 1 to grade 2 (from .17 to .26) and from grade 3 to grade 4 (from .27 to .50). In addition, peer reports and self-reports related differently to the three functioning variables. Consistent with previous research, self-reported victimization was significantly correlated with self-reported loneliness. Further, self-reported victimization was also significantly positively correlated with peer reports of rejection. Peer-reported victimization, on the other hand, was not significantly related to self-reported loneliness in the early grades. However, by grade 2, peer-reported victimization was related to all three indicators of psychosocial functioning.

Simultaneous regression analyses were conducted to determine the relative contribution of each informant's report of victimization to the different functioning variables. Again, the results varied as a function of the children's age. Peer-reported victimization did not make a unique contribution (beyond self-reported victimization) to variance in loneliness in grades K through 3. However, peer reports emerged as a significant predictor in grade 4. Interestingly, self-reports of victimization uniquely predicted peer rejection until grade 2, when the peer reports of victimization emerged as the unique predictor, suggesting that the informant effect actually strengthened with age. Finally, teacher-reported adjustment was best accounted for by self-reports of victimization in Grade 1 and by peer-reports of victimization in grades 2 and 3. By grade

4, both self- and peer reports of victimization made additive contributions to the estimation of teacher ratings of social problems.

In the second part of the study, Ladd and Kochenderfer-Ladd created a composite measure of victimization based on self- and peer reports as well as teacher and parent reports. Agreement among different informant groups varied according to the age and gender of the children. For both boys and girls, peer and teacher reports were more highly correlated than were self-reports and teacher reports in grades 2 and 3. In grade 4, the difference in these two correlations was significantly different for girls but not for boys. The agreement between parent and teacher reports was relatively stable across age and gender, hovering in the modest range (.20 to .30). This level of agreement between parent and teacher reports is not exclusive to victimization. The observed correlations are consistent with previous research comparing parent and teacher reports on many different types of measures (Achenbach et al., 1987).

The authors then developed a multi-informant composite measure of peer victimization based on the weighted values from the self-, peer, teacher, and parent reports. Path analysis was used to examine the relationship between two latent variables, peer victimization (estimated from the four reports of victimization) and relational adjustment (estimated from the four indicators of adjustment). It was found that the multi-informant composite measure of victimization accounted for more variance in children's relational adjustment than any single measure of victimization. Thus, the findings support the view that multiple informants provide unique and nonredundant information about children's victimization experiences that is useful in estimating psychosocial functioning.

Additional support for the use of multiple informants can be found in a study conducted by Cullerton-Sen and Crick (2005). These authors also used multiple informants to examine the relationship between peer victimization and social-emotional functioning in a sample of fourth grade boys and girls. Self-reports, peer reports, and teacher reports were administered to assess children's experiences of victimization. Each measure included separate scales for physical and relational victimization. Measures of functioning included peer sociometric ratings as well as teacher reports of internalizing and externalizing behaviors. Small but significant correlations were observed among the cross-informant measures of victimization, with the exception of the correlation between self- and peer-reported physical victimization, which was not statistically significant.

It was also found that the different measures (in terms of both type and informant) made unique contributions to social-emotional adjustment, independent of the others. For example, teacher-reported relational victimization contributed unique information beyond physical victimization in the prediction of internalizing and externalizing behaviors in boys, and as well as to peer acceptance, peer rejection, and externalizing behaviors in boys. Teacher reports of victimization also added unique information above and beyond self and peer reports in the prediction of social-emotional adjustment. Specifically, teacher reports of physical victimization made a significant contribution to prediction of externalizing behaviors, and teacher reports of relational victimization contributed significantly to the prediction of peer rejection, externalizing, and internalizing behavior. This finding suggests that teachers provide important information about children's experiences of victimization and that this information may be useful in predicting children's social-emotional functioning.

The findings of Cullerton-Sen and Crick (2005) corroborate the results of Ladd and Kochenderfer-Ladd (2002) and bolster support for the conclusion that a multi-informant approach provides the most complete picture of children's experiences of victimization. Unfortunately, aside from the studies discussed in this review, few studies have employed victimization measures from more than one informant, and even fewer have systematically examined the unique contributions of different informants to various forms of functioning. The two studies summarized above are important exceptions; however, they are not sufficient to paint a complete picture of the complex linkages between peer victimization and children's functioning. First, more research is needed to replicate the findings obtained in these studies. In addition, the existing studies do not adequately address the two important themes that will be discussed in the following sections of this review. For example, although both Cullerton-Sen and Crick (2005) and Ladd and Kochenderfer-Ladd (2002) used more than one informant in their operationalization of adjustment, each informant provided information on only one aspect of adjustment. Thus it was difficult to separate source variance from variance due to the actual adjustment variable being assessed. Further, neither study addressed the role of bullying behavior in their conceptualization of victimization. The importance of addressing these issues is discussed in more detail in the sections that follow.

Issues in the Measurement of Psychosocial Functioning

The issues surrounding the measurement of victimization are also evident in the measurement of functioning. A perpetual issue in the study of childhood functioning (and in the field of psychology more generally) is how to best measure constructs such as depression and self-concept. Such constructs are essentially unobservable, and thus any

instrument designed to assess them is at best a stand-in or proxy for the phenomenon of interest. Children's psychological, social, and behavioral functioning is typically measured by questionnaires or rating scales completed by parents, teachers, or the children themselves. Such methods are limited in that they primarily assess the opinions and perceptions of individuals rather than true performance. It is well established in the literature that the reports of different informants with regard to psychological functioning correlate only modestly (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005). Further, reports of different observer informants (e.g., parents and teachers) are more strongly correlated with one another than self-reports are with other reports.

Several explanations for discrepancies in the ratings of different informants have been proposed. First, information obtained from observers of children's behavior, such as parents or teachers, may be limited because these individuals are not privy to all situations in which a given behavior might occur, or to the private thoughts of the person being assessed. Because most children's behavior varies to some extent across different situations and with different individuals, different informants are needed to provide information on children's behavior in different settings (Achenbach et al., 1987). Different informants may also use different reference points in making judgments about a particular person. For example, a teacher, when rating a child on a particular trait, may compare that child to other students in his or her class when making judgments about the severity, frequency, or duration of certain behaviors or characteristics, whereas a parent may compare the child to a sibling, or simply to certain expectations (realistic or not) of age-appropriate characteristics. In other words, different informants may have different ideas about what constitutes abnormal behavior (De Los Reyes & Kazdin, 2005).

Self-reports provide an advantage over other-reports in the sense that the reporter has full access to all situations and internal states relevant to the construct of interest. However, self-reports are subject to a number of limitations. First and foremost, self-reports are subject to self-presentation bias because individuals tend to respond according to the self they want to project to the outside world (Pellegrini, 2001). The self that is presented through a questionnaire is not necessarily concordant with the actual self. It has also been argued that items in self-report measures may be subject to misinterpretation (Pellegrini, 2001). Questionnaires often include abstract terms such as “anxious” and “fearful,” which are somewhat ambiguous and open to interpretation. Further, young children may not have the schemas to fully understand these terms.

Research has pointed to a number of factors that may contribute to informant discrepancies in the assessment of functioning problems in childhood. For example, the self-reports of younger children (aged 6 to 11) generally correlate more strongly with the reports of teachers and peers than do the self-reports of adolescents (ages 12-19; Achenbach et al., 1987). One potential explanation for this finding is the fact that as children grow older, they gain increased independence and spend more time outside of direct supervision of adults. They also may increasingly be able to hide their private thoughts and feelings. Thus, parents and teachers generally have the ability to observe younger children’s behavior more frequently. It has also been suggested that the behavior of young children is generally more consistent across situations than is the behavior of adolescents, which could also explain the findings (De Los Reyes & Kazdin, 2005). Other factors that may play a role in informant discrepancies are race and ethnicity. For example, different informants generally have less agreement in their ratings of African

American children compared to European American children (De Los Reyes & Kazdin, 2005). This finding may be due in part to the fact that different cultures may have different views about what constitutes problematic or abnormal behavior.

The type of problem being assessed also influences the level of agreement between informants. Agreement tends to be higher for externalizing problems compared to internalizing problems (De Los Reyes & Kazdin, 2005). The most obvious explanation for this finding is that externalizing problems, such as aggression and hyperactivity, are more observable than internalizing problems, which involve the private thoughts and feelings of individuals.

It is generally recognized that reports of children's emotional and behavior problems from outside observers (parents, teachers, trained observers) are more concordant with one another than they are with reports from the child him- or herself (Achenbach, 2006; Achenbach et al., 1987). Further, correlations between outside informants who play similar roles in relation to the child (e.g., two teachers or two parents) are stronger than correlations between two outside informants who play different roles in relation to the child (e.g., parent and teacher). A meta-analysis of 119 studies indicated that the average correlation coefficient between self- and other-reports was .22; for pairs of informants occupying different roles in relation to the child it was .26; and for pairs of informants occupying similar roles, it was .60 (Achenbach et al., 1987).

The fact that discrepancies exist between the reports of different informants on children's functioning is well established. Less clear are the implications of this finding for research and practice. Given the fact that different informants have different types of biases and are privy to different contexts in which problem behavior might occur, it has

been suggested that researchers should use multiple informants in the assessment of behavioral and psychosocial functioning (Achenbach, 2006; Achenbach et al., 1987; De Los Reyes & Kazdin, 2005). However, the majority of studies examining children's functioning as a correlate of peer victimization continue to use a single informant to measure functioning.

Nevertheless, there have been some important exceptions. A few studies have employed multiple informants in the assessment of children's functioning. For example, Ladd and Kochenderfer-Ladd (2002) used multiple measures of children's psychosocial functioning including self-reports of loneliness, peer reports of peer rejection, and teacher and parent reports of social problems. Snyder and colleagues (2003) used teacher and parent reports of children's overt antisocial and depressive behavior along with children's reports of depression. Troop-Gordon and Ladd (2005) assessed internalizing and externalizing problems from multiple perspectives (self, teacher, and parent reports of internalizing, and peer, teacher, and parent reports of externalizing). The authors of these studies have explicitly addressed mono-method bias in the measurement of victimization as well as psychological, social, and behavioral functioning. The studies revealed significant cross-informant correlations between victimization and functioning.

Collectively, the findings support the view that different informants provide different perspectives from which to view a construct, and that multi-method assessment provides a more complete picture of the relationship between victimization and functioning.

Although these studies are an important starting point, a number of questions remain. For example, how many different informants are needed to obtain the most accurate estimate of psychological functioning? Are certain types of informants better for the assessment of

different types of problems? Which informants' reports are most closely related to long-term outcomes?

Another issue that needs to be addressed is that, regardless of the number of informants, reliance on questionnaires and rating scales limits our ability to truly tap the constructs in which we are interested. These types of instruments assess perceptions and opinions rather than an individual's true performance. Thus, the validity of questionnaires and rating scales in general is limited by a number of factors including respondents' memory problems (incomplete or inaccurate recall of events), item misinterpretation, social desirability, and self-presentation. Given these problems, there is a need for alternative measures of individuals' performance that avoid these threats to validity. It has been suggested that interview and questionnaire methods may be complemented by performance-based measures of children's functioning (Vasey & Lonigan, 1995). Performance-based measures have been broadly defined as techniques in which a child's behavior is "observed under standardized conditions, usually involving stimuli designed to evoke the specific behavior of interest" (Frick, 2000, p. 476). Because they assess behavior directly, performance measures are less vulnerable to reporting biases (such as self-presentation or social desirability) than are questionnaires. In addition, performance-based measures may have the ability to tap certain aspects of adjustment disorders that are not captured by questionnaire methods (Vasey & Lonigan, 2000). Finally, performance measures may have greater treatment utility because they reveal specific behaviors that can be targeted for intervention. However, performance measures are not without their limitations. The nature and type of performance task may approximate demands of different life situations or tasks and may not generalize across

important domains. In addition, as with questionnaire methods, different performance-based measures vary in the extent to which they tap processes that are part of the construct they purport to represent. Thus, the validity of any performance measure with respect to a given research or clinical purpose must be closely scrutinized.

Very few of the studies reviewed thus far have included performance-based measures in their operationalization of children's functioning. However, a few have used performance measures within the domain of academic functioning. For example, Hanish and Guerra (2002) examined the link between peer-reported victimization and academic functioning, as measured by school attendance and standardized reading and math scores, in elementary school students. These are examples of performance measures because they directly capture children's behavior. Hanish and Guerra found that victimization was not predictive of follow-up scores on any of the academic functioning measures. These results are not consistent with the findings of Nansel et al. 2003, who found that self-reported victimization in the fall of sixth grade was predictive of self-reported school adjustment at the end of sixth grade and at the end of seventh grade. The divergent findings obtained by Hanish and Guerra (2002) and Nansel et al. (2003) are likely due, at least in part, to methodological issues. First, the two studies used different methods for assessing victimization (self-reports versus peer reports). Second, one study measured school functioning using self-reports (Nansel et al.) whereas the other used performance measures (Hanish & Guerra). Third, Nansel et al. used the same informant for both constructs, whereas Hanish and Guerra used different sources. Thus, the use of a performance measure versus a self-report questionnaire of academic functioning may

have accounted for some of the discrepant findings; however, other methodological differences (such as the age of the participants) may also have played a role.

Aggression

An important finding that has emerged in recent years is that victimization and bullying are not simply opposite sides of the same problem. Research has shown that bullying and victimization are overlapping constructs. That is, a substantial proportion of children who are identified as victims are also identified as aggressors. Interest in this subgroup has grown since Olweus first coined the term “provocative victim” in 1978. Olweus observed that the majority of victims in his research sample were characterized by passive behavior that made them easy targets for bullies. However, a substantial number of the victims in his sample did not demonstrate passive behavior. Instead, these children were easily angered and displayed irritating behavior that seemed to encourage abuse by their peers. Since Olweus’ initial work, a number of researchers have been interested in studying this subgroup, which has been referred to by a variety of labels including “provocative victims,” (Olweus, 1978), “aggressive victims,” (e.g., Graham et al., 2006), and “bully-victims” (e.g., Haynie et al., 2001; Perren & Alasker, 2006). In this review, the term “aggressive victims” will be used for consistency.

Aggressive victims are characterized by emotional dysregulation, and have been referred to as “ineffectual aggressors” (Perry, Perry, & Kennedy, 1992). In other words, aggressive victims have difficulty controlling their anger, and often become emotionally distressed and frustrated in the face of provocation or conflict with peers. Their behavior and emotional reactivity leads to escalation rather than resolution of conflicts, and makes the child a likely target for future bullying. The impulsive and disorganized behavior of

aggressive victims stands in contrast to the behavior of bullies (aggressive children who are not victimized), which tends to be controlled and goal-oriented.

The distinction between aggressive and non-aggressive victim subtypes parallels a distinction that has emerged within the field of aggression research. Specifically, researchers focusing on bullies have identified two subtypes of aggressive children: reactive and proactive aggressors (Crick & Dodge, 1996; Raine, et al., 2006). Proactive aggression refers to organized and instrumental behavior, while reactive aggression refers to a disorganized, fear-induced response to provocation. Research has demonstrated that these subtypes of aggression are associated with different correlates including functioning and social information processing. For example, proactive aggressive children have been shown to evaluate aggressive responses to provocation more favorably than do reactive aggressive children (Crick & Dodge, 1996). They also report higher self-efficacy and hold more positive outcome expectations for engaging for engaging in aggressive behavior (Crick & Dodge, 1996). These findings are consistent with the view that proactive aggressors deliberately use aggression as a means to achieve a goal.

It has also been shown that reactively and proactively aggressive children differ in terms of their psychosocial functioning. Vitaro, Brendgen, and Tremblay (2002) found that proactively aggressive children reported more delinquency than non-aggressive children, whereas reactively aggressive children did not. However, reactively aggressive children reported higher levels of depression than did proactively aggressive children. Raine et al. (2006) also found that both reactive and proactive aggression were associated with different patterns of personality and adjustment variables in adolescents. Proactive aggression was associated with a psychopathic personality profile (conduct problems,

delinquency, and criminal behavior), whereas reactive aggression was associated with a schizotypal personality profile (including unusual perceptual experiences, social anxiety, and lack of close friends).

The distinction between reactive and proactive aggression is relevant to the study of victimization because children labeled “reactively aggressive” in the aggression literature have much in common with the “aggressive victims” identified in the victimization literature. Specifically, both subtypes refer to those children who are easily frustrated, lack self-regulation, and who use aggression as a haphazard and disorganized response to provocation. In essence, the terms “reactive aggressor” and “aggressive victims” appear to refer to the same group of children. The fact that this group has emerged as an important subtype in two different lines of research supports the assertion that aggressive victims (and reactive aggressors) are important to study. It also indicates that aggression and victimization are overlapping constructs, and should be studied together.

Recent studies have examined the relationship between victimization and aggression, and have revealed ways in which victims’ standing on measures of aggression or bullying influences the relationship between victimization and functioning. A common approach is to administer measures of victimization and aggression, and to classify participants into groups based on their scores on the two measures. The resulting groups include children who score high on measures of aggression and low on measures of victimization (usually referred to as “bullies”), children who score high on victimization and low on aggression (“victims”), and children who score high on both measures (“aggressive victims” or “bully/victims”). Children not classified into any of

these three groups are generally considered to be not directly involved in bullying and usually serve as a comparison group.

Research has shown that the number of children falling into the aggressive victim subgroup is substantial. In a review of existing studies, Schwartz et al. (2001) found that the proportion of aggressive victims in samples from various studies ranged from 2% to 29%. Much of the variation in prevalence was likely due to differences in methodology and stringency of the criteria used to identify the subgroups. However, what is clear is that the proportion of children who are aggressive victims is often comparable to or even greater than the proportion of children classified as non-aggressive victims. In a recent study of early elementary school children, 8.5% of boys were identified as non-aggressive victims, while more than twice as many boys (18.5%) were identified as aggressive victims. Among girls, the non-aggressive and aggressive victim groups were closer in size, comprising 8.1% and 8.9% of the sample, respectively (Perren & Alasker, 2006).

The prevalence of aggressive victims reflects a substantial overlap between the constructs of aggression and victimization, and suggests that the two constructs can not be examined in isolation. That is, any investigation of the correlates of victimization must consider aggressive or bully status along with victim status; likewise, any study of aggression must also include measures of victimization. In one recent study, Graham et al. (2006) classified a large sample of sixth grade children into groups of aggressors, victims, aggressive victims, or socially adjusted based on peer nominations of aggression and victimization. Social-emotional functioning was assessed through self-reports of loneliness, social anxiety, depression, and self-esteem. Teacher-reported school

engagement and GPA were used as indicators of academic achievement. The results indicated a main effect of bully-victim subgroup on each of the four adjustment variables. Aggressive children did not show significant adjustment problems; in fact, they reported more positive self-views and less anxiety than any of the other subgroups. Victims, on the other hand, were found to be more lonely, socially anxious, depressed, and low in self-esteem compared to well-adjusted and aggressive children. Finally, aggressive victims showed a pattern of functioning that fell between that of aggressive children and that of victims. In addition, their academic achievement was the lowest of all the three subgroups. Previous research has shown that self-regulation plays an important role in academic performance (Cleary & Zimmerman, 2004). Thus, given that aggressive victims are known to display dysregulated behavior, it makes sense that they also display poor academic achievement.

Graham et al.'s (2006) findings support the conceptualization of aggressors, victims, and aggressive victims, as distinct subgroups. Further support for this view was found by Perren and Alasker (2006), who examined the links between teacher reports of victimization and behavioral characteristics in children between the ages of five and seven. After classifying their sample into victims, bullies, bully-victims, and not-involved children, the researchers found that, compared to not-involved children, victims were less sociable and lacked leadership skills, but did not differ in terms of aggression. Bully-victims (children who received high ratings on teacher reports of victimization and bullying), on the other hand, were more aggressive and less cooperative. These findings suggest that victims who differ in terms of bully status also differ in terms of their behavioral functioning. It appears that the relationship between victimization and

externalizing problems may be accounted for by the existence of the “bully-victim” subgroup. When this group was removed from analyses in Perren and Alasker’s study, the relationship between victimization and externalizing problems became nonsignificant.

In sum, the overlap between bullying and victimization, and the presence of a distinct bully-victim subgroup, has meaningful implications for research as well as for clinical practice. Aggressive and non-aggressive victims appear to be on distinct trajectories for functioning. Thus, the assessment of victimization as a single construct without consideration of its links to bullying behavior may provide an incomplete picture or obscure important patterns of psychosocial development and functioning.

Despite the increasing interest in the aggressive victim subtype and the overlaps between victimization and aggression, the majority of recent studies examining the links between peer victimization and children’s functioning have not used measures of aggression along with their measures of victimization. Of those studies that have examined both constructs, researchers have differed in whether they conceptualize aggression alongside victimization as a predictor or independent variable, or whether they treat aggression as outcome/dependent variable. For example, researchers taking the former position often classify children into groups based on their victimization and aggression scores, and then examine group differences on indicators of functioning, such as peer rejection, self reports of depression, or teacher ratings of emotional and behavior problems (e.g., Graham et al., 2006; Groff, 2006; Perren & Alasker, 2006). They may also use regression analyses to determine the relative contributions of victimization and aggression to the variance in functioning (e.g., Groff, 2006).

Conversely, some victimization researchers have conceptualized aggression as an functioning outcome. For example, Troop-Gordon and Ladd (2005) conducted a longitudinal study of upper elementary school students in which they collected peer nominations of victimization and aggression, as well as self, teacher, and parent reports of various internalizing and externalizing problems. Instead of examining the links between victimization and aggression on one hand, and functioning problems on the other, Troop-Gordon and Ladd treated victimization as the predictor variable and treated aggression as a criterion variable along with the other measures of functioning.

The decision to categorize aggression as a predictor variable, with victimization, or an outcome variable representing functioning, is ultimately a choice made by individual researchers based on specific hypotheses and methodological preferences. In the present study, children's level of aggression will be considered an aspect of social experience along with victimization, rather than an functioning "outcome." As such, the relative contributions of victimization and aggression to the prediction of psychological, social, behavioral, and academic functioning will be examined. The purpose of treating the aggression variable in this manner is that both victimization and bullying behaviors are conceived of as specific patterns of social relationships that, over time, influence children's schemas about themselves, others, and the world as a whole. Negative social experiences such as bullying and victimization are processes through which more global facets of psychological and social functioning become established.

Summary

Thus far, this review has covered four themes and limitations in the current body of research that are important to consider in the study of peer victimization and children's

functioning. Three of these themes relate specifically to how victimization is conceptualized and measured: the type of victimizing behavior; the source providing the victimization data; and the aggressiveness of identified victims. The fourth theme is the way in which functioning is measured. First, it has been shown that victimization can be manifested in at least two forms: relational and overt, and that these distinct forms of victimization may be related to different patterns of psychosocial functioning (Crick et al., 2001; Cullerton-Sen & Crick, 2005). Second, it has been shown that different reporters (teachers, peers, self) show little agreement in their ratings of victimization, and that reports of victimization from different informants are associated with different domains of functioning. Third, when measuring peer victimization, it is important to consider children's standing not just on measures of victimization but also on measures of aggression. Finally, the way in which outcomes are defined and measured also has an impact on observed relationships with victimization.

The Present Study

The present study addresses several gaps in the current body of research. First, this study systematically investigates how the four themes, summarized above, play a role in our understanding of the link between victimization and functioning. Although there has been research examining these four issues separately, few if any studies have been published that thoroughly examine two or more of these dimensions *together* in the study of victimization. However, it is important to understand how one dimension of victimization relates to the others. For example, it is not clear based on the existing body of research whether different groups of informants are better at identifying different types of victims (e.g., aggressive versus non-aggressive).

Second, this study is one of only a handful to assess both victimization and functioning from three different perspectives (self, peer, and teacher). Other studies have compared self- and peer perspectives on victimization, but have only used one informant to investigate relations with functioning outcomes (e.g., Perry et al., 1988). Further, although some studies have examined different types of functioning, most have relied on only one informant to assess a given form of functioning. In many cases, the same informant has been used to assess both victimization and the outcome variable, leading the findings to be confounded by informant effects (Felix & McMahon, 2006; Haynie et al., 2001; Juvonen et al., 2001; Marsh et al., 2001; Nansel et al., 2003; Nishina et al., 2005; Roland, 2002). A few studies have obtained functioning data from multiple informants; however, in these cases, the different informants have generally provided information on different aspects of children's functioning (e.g., children report on internalizing problem and teachers report on externalizing problems). This problem is illustrated in a study in which the children provided information about their emotional functioning, while teachers provided information about the children's school engagement (Graham et al., 2006). Thus, the constructs of interest were confounded by informant effects.

The present study addresses this shortcoming by utilizing multiple measures of children's functioning, which each domain of functioning being measured by at least two different informants or methods. First, psychological functioning was obtained from two perspectives: children's self-reports of depression and anxiety and teacher reports of internalizing problems. Second, social functioning included measures from three informants: self-reports of social acceptance, peer nominations of liking, and teacher ratings of social skills. Third, behavioral functioning was measured via teacher reports of

externalizing behaviors and self-perceptions of behavioral conduct. Finally, academic functioning included self-reports of academic competence, teacher reports of academic problems, and children's scores on the Listening Test, a direct measure relevant to academic performance. The inclusion of this performance measure is unique to the study of victimization and functioning because it is relatively free of the reporting biases that often impact questionnaires or rating scales. In addition, although conceptualized here as an "academic functioning" variable, the Listening Test taps basic processes such as attention and self-regulation that may also be relevant to the other domains of functioning.

This study further contributes to the current literature by investigating bullying and functioning in the early elementary school years (grades 2 and 3). The majority of bullying research has focused on children in upper elementary and middle school, with only a handful of studies investigating this phenomenon in younger children (i.e., Kindergarten through third grade). However, the early elementary years are an important developmental period in which children's understandings about themselves and others are formed. Social interactions that occur at this age lay the groundwork for children's social schemas, which guide children's behavior in future interactions. Thus, understanding the way in which victimization influences functioning during these years is important. In addition, there is reason to believe that the nature of bullying and victimization change over time. For example, as children get older, bullying may become more covert and begin to involve manipulation of social relations in addition to overt physical or verbal harassment (Wolke, Woods, Bloomfield, & Karstadt, 2000). Further, evidence suggests that the reliability and validity of different victimization measures changes over time

(Ladd & Kochenderfer-Ladd, 2002). Age is also a factor that has been implicated in the magnitude of informant discrepancies (De Los Reyes & Kazdin, 2005), and therefore it should be an important consideration in any study involving multiple informants.

Finally, this study investigates victimization and functioning in a sample of predominately ethnic minority children, a population that has been under-studied. There is some evidence to suggest that the frequency and nature of bullying may vary across different ethnic and racial groups; for example, according to Nansel et. al. (2001), Hispanic youth reported slightly higher involvement in bullying of others; whereas black youth were bullied with less frequency overall. It is possible that the outcomes associated with bullying may differ across racial and ethnic groups as well.

In sum, although many studies have investigated the relationship between victimization and functioning, few have done so in a way that considers the multidimensionality of both of these constructs. There is a need for research that includes multiple informants for both victimization and functioning, and that considers the overlap between victimization and aggression. The existing research is lacking in this respect, and thus it is limited in its ability to provide us with a complete understanding of the ways in which peer victimization relates to psychological, behavioral, social, and academic functioning. Despite urging from several scholars to use multiple informants in the measurement of victimization and functioning (De Los Reyes & Kazdin, 2005; Ladd & Kochenderfer-Ladd, 2002), reliance on single informants continues to be the norm in victimization research. In addition, many researchers continue to study victimization without consideration of its overlap with aggression, which may lead to an incomplete

picture of the relationship between victimization and children's psychological, social, and academic functioning.

Research Goals

The three overarching goals of this study are as follows: The first is to investigate the psychometric properties of victimization and aggression measures in an understudied population (early elementary, predominantly African American children). The second is to provide a better understanding of the construct of victimization by viewing it in terms of multiple dimensions (form and informant) and its relationship with other variables (aggression and functioning). It is proposed that two victimization variables are measuring the same construct if they are significantly correlated *and* relate similarly to external correlates. The third goal is to examine how the observed relations between victimization and functioning in different areas are influenced by the ways in which the constructs are assessed. As part of this objective, this study seeks to investigate the utility of multiple measures of victimization in predicting functioning outcomes.

In order to address the aforementioned goals, the study is divided into three parts. The preliminary analyses utilize exploratory factor analysis and descriptive statistics to examine the structure and psychometric properties of measures of victimization and aggression. The second part of the study (research questions one through three) is descriptive in nature. Correlations among each pair of measures will be described, and gender differences in measures of victimization will be examined. The final part of the study (Research Questions four through six) uses multiple regression analyses to more thoroughly explore the relationship between victimization and functioning in light of the

issues of informant, type of victimization, and the overlap between victimization and aggression.

Research Questions

1. What is the relation between different measures within the constructs measured in this study? That is, what is the association between each pair of victimization measures? Each pair of aggression measures? Each pair of functioning measures?

This question examines the patterns of relationships in the data, specifically whether there is agreement among different sources asked to assess the same general construct. Of particular interest is to describe the extent of agreement within and across informants, methods, and subconstructs in terms of the proportion of significant correlations.

2. What are the relations across the three broad constructs of interest? Specifically, what are the associations between each indicator of victimization and each indicator of aggression? Victimization and functioning?

Whereas the first research question examines the within-construct relations, this question examines the cross-construct associations. With regard to the relations across victimization and aggression constructs, previous research has demonstrated moderate to high correlations between aggression and victimization (e.g., Crick & Bigbee, 1998; Groff, 2006) as well as significant overlap between aggressive children and victimized children (Solberg, Olweus, & Endresen, 2007). Regarding the linkages between victimization and functioning, there is extensive support for the claim that victimization

is associated with a multitude of difficulties in functioning (e.g., Hawker & Boulton, 2000; Hanish & Guerra, 2002).

Despite the large body of research showing positive associations between victimization and aggression and victimization and functioning, the vast majority of the research has relied on same-source data, thereby confounding the observed relationships with informant effects (De Los Reyes & Kazdin, 2005; Hawker & Boulton, 2000). This research question examines the relations between victimization, aggression, and functioning, and looks at whether the relations are significant even when different informants are used to measure each construct. In other words, this question adds to the current literature by systematically examining the cross-informant relations in comparison to the same-informant relations. The proportion of significant correlations for each type of association is reported to describe the patterns of the data.

Additionally, this question addresses the possibility that different measures of victimization relate differently to different types of aggression and functioning. Graham and Juvonen (1998) proposed that different informants' reports of victimization represent distinct sub-constructs (e.g., self-perceptions vs. reputational status as a victim) that show low agreement with one another and relate differentially to external correlates. This research question examines whether the patterns found in the data support this theory. The answer to this question has potential implications for both research and practice. For example, are certain measures of victimization more valuable when the researcher or practitioner is interested in psychological versus behavioral (or social or academic) outcomes?

3. Are there observed gender differences among the different types of victimization?

Gender differences in victimization are important to consider because measures of victimization have traditionally assessed overt (physical and verbal) forms of victimization. It has been argued that such measures can lead to more boys being identified as victims than girls and fail to capture the victimization experiences of girls, which may occur in more covert forms (i.e., manipulation of social relationships; Crick & Bigbee, 1998). Recently, the distinction between overt and relational aggression and victimization is being recognized as an important one. Several studies have shown that aggression in girls is likely to be relational in nature (e.g., excluding a peer from the social group) whereas aggression in boys is more likely to consist of overt acts (Crick & Bigbee, 1998). Although fewer studies have examined relational versus overt *victimization*, it is expected that, since victimization is essentially the reciprocal of aggression, patterns of aggression would be mirrored in patterns of victimization. Indeed, some studies have found that that relational victimization is more prevalent among girls than boys (e.g., Crick & Bigbee, 1998; Crick et al., 1999; Mynard & Joseph, 2000), but other studies have failed to find significant gender differences (Crick & Grotpeter, 1996; Paquette & Underwood, 1999). This research question will examine gender differences in the present sample. *Hypothesis 1*: Relational victimization scores will be higher for girls, and overt victimization scores will be higher for boys.

4. In predicting children's psychological, behavioral, social, and academic functioning, what is the unique contribution of self-, peer, and teacher reports of victimization?

This question looks at the value of different informants in predicting different forms of children's functioning. Specifically, are multiple informants needed to predict functioning? Are multiple informants more useful for explaining certain forms of functioning compared to others? *Hypothesis 2:* Given that same-source relationships between victimization and functioning are shown to be stronger than different-source relationships (e.g., Hawker & Boulton, 2000), it is expected that the predictor variable that is of the same informant as the outcome variable will explain the most variance. Specifically, self-reported victimization will explain most of the variance in self-reports of functioning, peer-reported victimization will explain most of the variance in peer reports of functioning, and teacher reports of victimization will explain most of the variance in teacher reports of functioning. The variance explained by additional informants will be minimal.

5. Do relational and overt forms of victimization make unique contributions to children's functioning? Do these patterns vary by gender?

Recent research suggests that relational and overt victimization represent two different constructs (Crick & Grotpeter, 1996). This distinction is supported by observed gender differences in scores on measures of relational versus overt victimization (Crick et al., 1999; Mynard & Joseph, 2000) and differential patterns of relationships with children's functioning (Crick et al., 1999). It has also been argued that different forms of victimization may affect boys and girls differently. It has been proposed that relational victimization may be more distressing for girls than for boys, as findings from various lines of research suggest that females tend to hold more stock in interpersonal

relationships and incorporate information gained through social interaction into their self-views (Crick et al., 2001). Thus, when examining relational versus overt victimization and their relative impact on children's functioning, it is important to examine effects separately for boys and girls. *Hypothesis 3*: Relational and overt victimization will make unique, significant contributions to children's functioning. *Hypothesis 4*: For girls, relational victimization will predict problems in more domains of functioning than for boys.

6. In predicting children's functioning, what is the unique contribution of victimization when aggression has been accounted for, and vice versa?

As discussed in this literature review, previous research has shown that that victimization and aggression are different, albeit overlapping, constructs (Groff, 2006; Schwartz et al., 2001). In addition, children who experience both victimization and aggression (bully-victims) appear to show different patterns of functioning than pure victims or pure bullies. Research suggests that victimized children experience more internalizing problems and social rejection than do children who are purely aggressive or not involved in bullying (Graham et al., 2006; Schwartz et al., 2001). On the other hand, both aggression and victimization have been linked with higher levels of behavioral and academic problems (e.g., Graham et al., 2006). Based on these findings, the following predictions are made. *Hypothesis 5*: Victimization, but not aggression, will make unique, significant contributions to children's functioning in the psychological and social domains. *Hypothesis 6*: Both victimization and aggression will make unique, significant contributions in the behavioral and academic domains.

This question will also address an issue that has not been systematically examined in previous research. Specifically, of particular interest to the present study is whether the relative contributions of victimization and aggression to the prediction of children's functioning will vary across different informants and different domains of functioning.

Chapter 3: Methods

Participants

Participants were recruited from six second and third grade classrooms in a public elementary school in the mid-Atlantic region. A letter describing the study was sent home to parents of all students in the six classrooms along with an informed consent form for parents to sign and return indicating whether they gave permission for their child to participate in the study. Seventy-six percent of parents gave permission for their children to participate in the study, yielding a final sample of 99 children (56 second graders and 43 third graders). Fifty-eight (59%) of the participants were male and 41 (41%) were female. The majority of participants were African American (67%), followed by Hispanic (17%), Asian American (11%), and White (5%).

Procedures

All data were collected in the spring of 2003 as part of a separate study. Self- and peer report data were collected through individual student interviews administered by one of six psychology graduate students. The interviews occurred on two separate occasions, no more than two weeks apart, each lasting approximately one hour in length. The interviewers used a standardized procedure to introduce the interview session and administer the measures. At the outset of the first interview session, children were provided with an assent form that described the study in developmentally appropriate language. Children were told that they would be asked to answer questions about their feelings, classroom experiences, and peer relationships. They were told that they did not have to participate if they did not want to. Once the child's agreement was obtained, the

interviewer administered the instruments in a standard order. All written items were read aloud to the students to control for differences in reading abilities.

Teacher report data on victimization, aggression, and children's functioning were obtained through written questionnaires that were provided to the teachers in a single packet. Teachers were provided with time to complete the questionnaires, which were returned to the investigator.

Measures

Victimization

Self-report. Two self-report measures were used to assess children's experiences of victimization. First, The Multidimensional Peer Victimization Scale (MPVS; Mynard & Joseph, 2000) consists of 16 items in written format and 4 subscales including physical victimization, verbal victimization, social manipulation, and attacks on property. Each subscale includes 4 items. Students were presented with a list of "things that some children do to other children" and asked to respond on a 3-point scale (not at all, once, more than once) to indicate how often that thing has been done to them. Sample items include "punched me" and "made fun of me for some reason." Each child received a subscale score based on the average score on items within that subscale. Mynard and Joseph (2000) used a sample of 812 students to determine the psychometric properties of the MPVS. Internal reliability (using Cronbach's alpha) of each subscale was found to be acceptable: physical victimization .85, verbal victimization .75, social manipulation .77, and attacks on property .73.

The second self-report measure of victimization used in this study, the Peer Victimization Scale (PVS; Austin & Joseph, 1996) is a six-item, self-report measure that

is embedded within the Self-Perception Profile for Children (SPCC; Harter, 1985) so as to reduce the saliency of the six victimization items. Children were presented with items such as “Some children are often teased by other children but other children are not teased by other children” and asked to choose which description is most like them. They then rated that choice as to whether it was “sort of true for me” or “really true for me.” Each item was scored on a 4-point scale, with higher scores indicating greater experience of victimization. The final score was calculated using the same system used by Harter (1985) and Austin and Joseph (1996) by dividing the sum of the 6 items by 6 so that each total scale score can range from 1 to 4. Using a sample of 425 children ranging in age from 8 to 11, Austin and Joseph (1996) found that internal consistency for the Peer Victimization Scale was satisfactory (Cronbach’s alpha = 0.83).

Peer nominations. Peer perceptions of victimization were measured using the victimization scale of the Peer Nomination Inventory. Peer nominations were collected by presenting students with the names of all students in their class and asking to select classmates who best fit a list of 36 descriptive items such as “others make fun of these kids,” “kids who hit others,” and “kids you would ask to help you with a problem.” Each item assessed one of four dimensions: victimization, overt aggression, relational aggression, and prosocial behavior. The 36 items presented were combined from several individual scales (Crick & Werner, 1998; Perry et al., 1988). Five items assessed victimization. A peer-identified victimization score was calculated for each participant in a class by summing the total number of nominations received for the victim items, and standardizing the scores within classrooms by converting them to z-scores so that they were comparable across classes.

Teacher reports. Classroom teachers completed the Teacher Rating Scale for Bullies, Victims, and Helpers, a measure created specifically for the larger study from which this data was obtained. The rating scale consists of 29 items, 5 of which assessed victimization. The five victimization items included three items adapted from Perry et al. (1988), which assessed overt victimization (e.g., being made fun of), and two additional items designed to assess relational victimization (e.g., being excluded from the peer group). Teachers rated each student on each item using a five-point scale: never, rarely, sometimes, often, and almost always. Responses to each item were summed, yielding a total score with possible values ranging from 5 to 25. These scores were then standardized by classroom to control for generalized response tendencies of teachers. An analysis of the 5-item scale in the current sample revealed acceptable internal consistency ($\alpha = .76$; Nuijens, 2006).

Aggression

Self-report. The Bullying Behavior Scale (BBS; Austin & Joseph, 1996) was embedded in the SPPC (Harter, 1985) along with the Peer Victimization scale. The self-report measure consists of six items presented in the same format as the Peer Victimization Scale such that children were presented with items such as “Some children do not hit and push other children but other children do hit and push other children.” The children chose which description was most like them, and then stated whether it was “really true for me” or “sort of true for me.” Each item was scored on a scale of 1 to 4 with higher scores indicating greater bullying behavior. The final self-reported bullying score was computed by dividing the sum of the 6 items by 6. Using a sample of 425

children ranging in age from 8 to 11, Austin and Joseph (1996) found that internal consistency for the BBS was satisfactory (Cronbach's alpha = 0.82).

Peer nominations. Peer perceptions of aggression were measured using ten items from the Peer Nomination Inventory. Ten items on this instrument assessed aggressive behavior. Five items were designed to assess overt aggression and five items were designed to address relational aggression. Each participant received a separate score for each type of aggression captured in the peer-nomination scale (see Chapter 4, exploratory factor analyses of aggression measures). This score was based on the sum of nominations they received for each item. As with the peer-identified victimization score, peer-identified aggression nominations were summed and converted into z-scores for each participant within each classroom.

Teacher report. Teachers completed the Teacher Rating Scale for Aggressive Classroom Behavior, which consisted of 12 items embedded in the Teacher Rating Scale for Bullies, Victims, and Helpers (described above). The items were designed to assess reactive aggression, proactive aggression, and nonspecific aggression. As with the victimization scale, each aggression item was rated on a 5-point scale (never, rarely, sometimes, often, and almost always) indicating the frequency with which the child displayed aggressive behavior. Final scores were summed and standardized by classroom to account for generalized response tendencies of teachers.

Psychological functioning

Self-report of depression. Participants completed the Children's Depression Inventory – Short Form (CDI; Kovacs, 1992). The short form of the CDI is a 10-item test for children between the ages of 7 and 17, and takes approximately five minutes to

complete. It was developed using a backward stepwise internal reliability analysis of the full-length version which consists of 27 items. For each item, the child chose one of three options that best described him or her for the past two weeks, such as “I am sad once in a while,” “I am sad many times,” or “I am sad all the time.” Each item was scored 0, 1, or 2 corresponding to the absence of the symptom, a mild symptom, or a definite symptom. The sum of the individual item scores was converted to a T-score ($M = 50$, $SD = 10$) with higher scores indicating more depressive symptoms. The full-length version of the CDI has an internal consistency coefficient of .89 and item-total correlations ranging from .22 to .54 (Kovacs, 1992). The short form correlates strongly with the full-length version ($r = .89$) and has acceptable internal consistency ($\alpha = .80$).

Self-report of anxiety. Participants completed the Multidimensional Anxiety Scale for Children – Short Form (MASC-10; March, 1997), a self report paper-and-pencil form that assesses symptoms of general anxiety in children. The MASC-10 consists of ten items and takes between three and five minutes to complete. Participants responded to each of the ten items on a four-point scale: never true about me, rarely true about me, sometimes true about me, and often true about me. Examples of items are “I feel shy” and “I get dizzy or faint feelings.” Internal reliability of the MASC-10 was found to be .69 for females and .67 for males in a normative sample of 2,698 children between the ages of 8 and 11 (March, 1997). The correlation between the MASC-10 and the total anxiety scale is .90 (March, 1997).

Teacher report of internalizing problems. The six participating teachers completed the Teacher Rating Scale (TRS-C) of the Behavior Assessment Scale for Children (BASC; Reynolds & Kamphaus, 1994) for each child participating in the study.

The TRS-C consists of 148 items and takes approximately 10 to 20 minutes to complete. Items are scored on a scale of one to four, and then converted to T scores ($M = 50$; $SD = 10$) with higher T scores indicating higher problems. The BASC TRS-C consists of 15 subscales: adaptability, aggression, anxiety, attention problems, atypicality, conduct problems, depression, hyperactivity, leadership, learning problems, social skills, somatization, study skills, and withdrawal. In addition, the BASC TRS-C yields scores in five composite areas: externalizing problems, internalizing problems, school problems, adaptive skills, and behavioral symptoms index. The psychometric properties of the BASC TRS-C were established on a normative sample of 2,041 teacher reports on children between the ages of 4 and 18 from 116 different testing sites. Internal consistencies averaged .80 for all age levels, and were greater than .90 for each of the composite scales. The median value of the test-retest correlations was .92. In the present study, each participant's score on the Internalizing Problems composite area was used as the teacher-reported indicator of psychological functioning. This composite includes the anxiety, depression, and somatization subscales (26 items total). Coefficient alpha reliabilities of the Internalizing Problems scale, according to the manual, were .90 for ages 6-7 and .91 for ages 8-11, and test-retest reliability was .81 (Reynolds & Kamphaus, 1994).

Social functioning

Self-perceptions of social acceptance. Social self-concept was measured using the social acceptance scale of the Self-Perception Profile for Children (SPPC; Harter, 1985). The SPPC consists of 36 items and 4 subscales (scholastic competence, social acceptance, behavioral conduct, and global self-worth). For each item, the child was

presented with two descriptions and was asked to pick which choice was more like them. They then were asked to state whether the statement was “really true for me” or “sort of true for me.” Responses were scored on a 4-point scale (with higher scores indicating higher perceptions of competence). The mean of the item scores was then calculated for a total scale score. In the present study, the social acceptance subscale was used as the self-report indicator of social functioning. An example item from this subscale is “some kids have a lot of friends but other kids don’t have very many friends.” According to Harter (1985), the social acceptance subscale demonstrates acceptable internal consistency ($\alpha = .78$) as determined in a sample of 1,543 children in grades three through eight.

Peer liking. A sociometric procedure was used to obtain peer reports of children’s social functioning. Each participant was presented with a roster of the students in his or her classroom. The experimenter read the name of each student aloud, and asked the participant to say whether he or she liked that child a lot (score of 3), a little (score of 2), or least (score of 1). For each child, a mean acceptance score was calculated based on ratings given by classmates. These scores were then standardized to control for differences in number of children in each classroom. The procedure was administered individually and included a discussion of confidentiality, as recommended by Bell-Dolan and Wessler (1994).

Teacher report of social skills. Children’s social functioning, as perceived by teachers, was assessed using the social skills scale of the BASC-TRS. The format and psychometric properties of the BASC-TRS are provided above in the section describing teacher reports of internalizing problems. The social skills subscale consists of 12 items

and demonstrates good internal consistency ($\alpha = .93$ for ages 6-7; $.92$ for ages 8-11; Reynolds & Kamphaus, 1994).

Academic functioning

Self-report of academic competence. The scholastic competence subscale of the SPPC was used as an indicator of children's self-perceptions of academic functioning. This subscale consists of six items such as "some kids often forget what they learn, but other kids can remember things easily." The respondents were asked to choose which description was more like them, and then state whether the description was "really true for me" or "sort of true for me." Items were scored on a four-point scale and averaged to yield a total score. Harter (1985) found that the subscale demonstrated acceptable internal consistency ($\alpha = .82$) in a sample of 1,543 boys and girls in grades three through eight.

Teacher report of school problems. The School Problems composite scale of the BASC TRS-C was used as the teacher-report measure of academic functioning. This composite measure consists of the attention problems and learning problems scales (17 items total). According to the manual, the School Problems composite demonstrates good internal consistency ($\alpha = .93$ for ages 6-17 and $.95$ for ages 8-11) and test re-test reliability ($r = .94$; Reynolds & Kamphaus, 1992)

Listening comprehension. All students completed the Listening Test (Barrett, Huisingh, Zachman, Bladgen, & Orman, 1992), an instrument designed to assess specific areas of listening in elementary school students between the ages of 6 through 11. The test consists of five tasks comprising 15 questions each: Main Idea, Details, Concepts, Reasoning, and Story Comprehension. The items were presented in a conversational manner. A sample question from the Main Idea task is "Maria looked up in the sky and

saw something flying. It had wings and a beak. What am I talking about?” Each task requires children to pay careful attention to what they hear, listen with a purpose in mind, remember what they hear well enough to think about it, avoid being impulsive in giving answers, and express answers verbally. The Listening Test was chosen as a measure of academic functioning because listening comprehension is an important component of literacy that relates strongly to reading comprehension (Oakhill, Cain, & Yuill, 1998) and is frequently assessed along with reading, math, and writing skills in standardized measures of educational achievement (Mather, Wendling, & Woodcock, 2001). Psychometric properties for the listening test were established on a random sample of 1,509 children between the ages of 6 and 11 (Barrett et al., 1992). Internal consistency coefficients for the five tasks ranged from .53 (Reasoning) to .65 (Main Idea).

Behavioral functioning

Self-report of behavioral conduct. The behavioral conduct subscale of the SPPC was used as an indicator of children’s self-perceptions of their behavioral functioning. This subscale consists of six items that assess the degree to which a child likes the way he or she behaves, acts the way he or she is supposed to, and avoids getting into trouble. An example is “some kids usually get into trouble because of things they do, but other kids usually don’t do things that get them into trouble.” The respondents were asked to choose which description was more like them, and then state whether the description was “really true for me” or “sort of true for me.” Items were scored on a 4-point scale and averaged to yield a total score. Harter (1985) found that the subscale demonstrated acceptable internal consistency ($\alpha = .74$) in a sample of 1,543 boys and girls in grades 3 through 8.

Teacher report of externalizing problems. The externalizing composite area of the BASC TRS-C was used as the teacher report indicator of behavioral functioning. The externalizing composite consists of three scales (Hyperactivity, Aggression, and Conduct Problems; 37 items total). The composite demonstrates strong internal consistency, with alpha coefficients of .93 for children aged 6 to 7 and .95 for children aged 8 to 11, and test-retest reliability of .91 (Reynolds & Kamphaus, 1994).

Table 1
Functioning Measures, by Domain and Informant

Domain	Self	Peer	Teacher	Performance
Psychological	Children's Depression Inventory-Short Form (CDI-S; Kovacs, 1992) Multidimensional Anxiety Scale for Children (MASC-10; March, 1997)	N/A	Internalizing Problems Composite (BASC-TRS; Reynolds & Kamphaus, 1992)	N/A
Social	Social acceptance scale (Self-Perception Profile for Children, SPPC; Harter, 1985)	Peer ratings of liking	Social Skills Scale (BASC-TRS; Reynolds & Kamphaus, 1992)	N/A
Academic	Academic competence scale (SPPC; Harter, 1985)	N/A	School Problems Composite (BASC-TRS)	Listening Test (Barrett et al., 1992)
Behavioral	Behavioral conduct scale (SPPC; Harter, 1985)	N/A	Externalizing Problems Composite (BASC-TRS)	N/A

Analyses

First, exploratory factor analyses were conducted on each measure of victimization and aggression to determine the underlying structure of instruments. Next, descriptive statistics (mean, standard deviation, and range) were calculated for each of the measures used in the study. Differences and similarities between the properties of the measures in the present sample versus the standardization samples are discussed.

To examine the relations among the various measures used in the study (research questions 1 and 2), Pearson's correlation coefficients were calculated. Next, gender differences in victimization (research question 3) were investigated by conducting independent samples t-tests to compare boy and girl means on each measure of victimization.

To answer the second set of research questions (4 through 6), multiple regression analyses were performed on seven indicators of functioning: self-reported depression (CDI-S), self-reported anxiety (MASC-10), teacher-reported internalizing problems (BASC TRS, Internalizing Problems Composite), teacher-reported Externalizing Problems (BASC TRS, Externalizing Problems Composite), teacher-reported School Problems (BASC TRS, School Problems Composite), peer nominations of liking, and listening comprehension (Listening Test). These seven indicators tapped each of the informants and methods (self-, peer-, teacher-report measures plus a performance measure) as well as the four different domains of functioning (psychological/internalizing, behavioral/externalizing, social, and academic). To determine the unique contribution of self-, peer, and teacher reports of victimization in predicting functioning, when the other informants' victimization reports had been accounted for, all subsets

regression analyses were performed. Specifically, for each outcome measure of interest, regression analyses were performed with each of the possible subsets of the victimization predictor variables. The proportion of variance in functioning (R^2) accounted for by each subset of victimization variables was determined. R^2 change and F change statistics were computed to determine the variance accounted for by each informant after the others had been accounted for. The same method was used to determine the unique contribution of different forms of victimization (i.e., relational and overt) when the other had been accounted for, as well as the unique contribution of victimization to functioning when aggression had been accounted for.

A potential limitation of this study was the possibility that Type I or false positive error rate could be inflated, given the large number of analyses needed to answer the research questions. This potential limitation was addressed in two ways. First, the number of significant findings obtained was considered in relation to the number that would be expected by chance. For example, in the first part of research question 1, a correlation coefficient was calculated for each pair of five victimization variables, resulting in 10 correlations. Given an alpha level of .05, one would expect that five percent (or less than one) of the 10 correlations would be significant simply by chance. In addition, since the type I error increases with the number of analyses performed, only a selected subset of the functioning measures (7 of 11) was used in performing the regression analyses. These seven measures were selected so as to tap all informants and domains of functioning while reducing the total number of analyses performed.

Another potential limitation of these analyses was that, as in any study of psychological phenomena, the constructs of interest were measured with error. However,

an assumption of regression analysis is that all independent variables have been measured without error; violations of this assumption can cause the regression coefficient to be attenuated, or biased toward zero (Pedhazur, 1997). In other words, when there is error in the measurement of the variables, the observed correlation is lower than it would have been if the true scores had been used. Previous research has shown the measures used in the current study to have acceptable reliability. For measures of victimization and aggression, which were subject to exploratory factor analyses (see Chapter 4), internal consistency in the current sample was computed. Conclusions drawn from the data take this information into consideration. Furthermore, correlations calculated in this study were corrected for attenuation by using the following formula, which accounts for the reliabilities of the measures:

$$r'_{xy} = \frac{r_{xy}}{\sqrt{r_{xx}}\sqrt{r_{yy}}}$$

Where r'_{xy} = the disattenuated correlation between x and y, r_{xy} = the observed correlation, and r_{xx} and r_{yy} are the reliability coefficients of x and y, respectively (Pedhazur, 1997).

Another issue that needed to be addressed in this study was the fact that the individual student participants were nested within classrooms. Students within each classroom may have been more similar to each other than students from different classrooms, which would violate the assumption of independent observations and could render traditional statistical methods inappropriate. Therefore, the clustered nature of the data needed to be taken into account. In order to address this issue, the following steps were taken: First, the demographic characteristics of each classroom are presented and discussed. Second, intraclass correlation coefficients were calculated to illustrate the

proportion of between-classroom variance in scores. Third, measures that were particularly vulnerable to classroom-level effects (i.e., sociometric nominations and teacher reports) were standardized by classroom to control for classroom size, composition, and generalized response tendencies of teachers. Finally, in the regression analyses, a post-hoc statistical adjustment was made to the standard errors that took into account stratification, non-independence of observations, and unequal probability of selection.

Given the multiple measures used in this study, a latent variable approach such as structural equation modeling might initially seem an appropriate methodology to examine the present data set and address the concerns outlined above. An advantage to this approach is that latent variables are by definition measured without error (Bollen, 2002). This approach is often used when one has multiple measures of the same construct. Although the current study examines multiple measures of victimization, multiple measures of aggression, and multiple measures of functioning, it is a central premise of this study that these different measures do not *necessarily* measure the same construct. That is, peer, teacher, and self-reports of victimization are hypothesized to provide information on different aspects of victimization, which may represent distinct subtypes that are differentially related to functioning outcomes. Therefore, correlation and multiple regression approaches were used to examine the relationships among the observed variables.

Chapter 4: Results

Preliminary Analyses

Exploratory Factor Analysis (EFA) using *Mplus* statistical computing software version 6.12 (Muthén & Muthén, 2010) was used to determine the underlying structure of each measure of victimization and aggression. EFA was chosen over other methods (e.g., principal components analysis, or PCA) because the purpose of these analyses was to determine the nature and number of the latent variables measured by the items without making a priori assumptions about the structure of the data. This goal aligns most closely with the goal of EFA, which is to estimate scores to measure latent factors. This is accomplished by analyzing only the shared variance, in contrast to PCA, which analyzes all the observed variance (Costello & Osborne, 2005). Although some of the scales used in this study were originally conceptualized to distinguish between different types of victimization and aggression, an important goal of this study was to explore how the items would align in a sample of ethnically diverse second and third grade students. Because this sample represents an understudied population in bullying and victimization research, it was important to take an exploratory approach.

EFA was also chosen because it is appropriate for scales using both categorical and continuous variables. Some measures in this study utilized a categorical response format (e.g., three or four response options) whereas others were scored on a continuous scale (e.g., total number of peer nominations received, converted to standard scores). Many data reduction techniques, including PCA, assume continuous variables and therefore use Pearson correlations to obtain component solutions. When applied to data

that are ordinal in nature, this can produce inaccurate results (Holgado-Tello, Chacon-Moscoso, Barbero-Garcia, & Vila Abad, 2010). For example, Holgado-Tello and colleagues (2010) carried out EFA on an ordinally scaled dataset using both Pearson and polychoric correlations. They found that the polychoric correlation matrix produced the same factor structure as in the theoretical model used for data generation, whereas the Pearson correlation matrix did not. It has been recommended that factor analysis on scales using ordinal data should be based on polychoric correlations, as this method takes into account the fact that the variables are divided into a series of categories (Holgado-Tello et al., 2010).

Two different types of estimation were used in these factor analyses. For scales that produced continuous data (e.g., the peer nomination scales), maximum likelihood (ML) estimation was used. For ordinally scaled items, weighted least squares estimation with mean and variance correction (WLSMV) was used. It has been shown that, compared to ML, the WLSMV estimation method produces more accurate estimates of the magnitude of the factor loadings for variables that have only two or three categories. In contrast, ML continues to be the preferred estimation method for continuous variables (Beauducel & Herzberg, 2009).

For all factor analyses, an oblique rotation (quartimin) was used as this method allows the factors to correlate. Research has shown that different oblique rotation methods produce similar results and quartimin is one of the more commonly used and easily interpretable (e.g., Browne, 2001). Given that the scales of interest were designed to measure related constructs (e.g., different subtypes of aggression and victimization), such a technique was determined to be more appropriate than an orthogonal rotation,

which assumes orthogonal, or uncorrelated, factors. For subscales in which only one factor was extracted, no rotation was necessary.

The aim of the preliminary factor analyses was to determine the structure of the data and to create empirically derived scales to be used in subsequent analyses. The number of factors extracted for each scale was chosen based on empirical criteria (eigenvalues greater than one) as well as current theory regarding victimization and aggression. To determine which items were best associated with a particular factor, decisions were made based on current theory in conjunction with the criteria that, to be included on a scale, items had to load at least moderately on a factor (i.e., factor loadings of at least .300 and an estimate over standard error (Est./S.E.) value of at least 2.00). Cut-off values of around .300 have been cited as a good rule of thumb as such a value indicates approximately 10% overlapping variance with other items in that factor (see Costello & Osborne, 2005). In the case that an item loaded greater than .300 on more than one factor, the decision about which factor it should be associated with was made based on the magnitude of the loading as well as current theory (Bandalos & Finney, 2006).

To evaluate model fit, two indexes are reported. First, the comparative fit index (CFI) was calculated as a measure of incremental fit, that is, the proportion improvement in fit from a baseline model to the target model. In addition, the root mean square error of approximation (RMSEA) was calculated as a measure of absolute fit; that is, how well the sample data is reproduced by an a priori model (Hu & Bentler, 1999). There is general agreement in the literature that CFI values of 0.90 or greater and RMSEA values of 0.10 or less indicate acceptable model fit (Browne & Cudeck, 1993; Hu & Bentler,

1999). Model fit was considered along with other criteria (e.g., simple structure, magnitude of factor loadings, and correspondence of factors to real-world constructs) in determining whether to retain a model.

Once the final scales were created, Cronbach's alpha was calculated as a measure of reliability, or more specifically, internal consistency. It should be noted that the use of Cronbach's alpha as a measure of reliability has recently come under scrutiny, with some researchers discouraging its use altogether. Green and Yang (2009) stated that despite its widespread use in psychological research, coefficient alpha can be problematic, particularly when researchers do not consider its assumptions. For example, the assumption of essential tau equivalency, which means that the scale being assessed measures a single construct, is frequently violated in psychological research. According to Green and Yang, coefficient alpha is "somewhat robust" to violations of this assumption. Nevertheless, when applied to a multidimensional scale, it is important to keep in mind that alpha may be a lower bound estimate of reliability.

Cronbach's alpha also assumes that the error scores of any one item are uncorrelated with the error scores from any other item. This assumption is likely to be violated (a) in speeded tests (because error is influenced by where items are placed in the scale), (b) when subgroups of items are associated with different stimulus materials (c) when response to prior items affects response to later items, and (d) in the case of transient errors, when respondents have particular feelings that affect their item scores (Green & Yang, 2009).

In this study, Cronbach's alpha was used as a measure of reliability for the following reasons: First, previous research using the same or similar scales have used

alpha to report reliability. Therefore, using it in this study allows us to be consistent with previous research and compare reliability in the current sample with what has been reported in other samples. Second, although several scales are multidimensional (therefore violating tau equivalency) alpha was calculated for each subscale, shown through EFA to measure a single latent construct. Third, only one of the four factors likely to affect the correlated errors assumption (transient errors) is applicable to the measures in this study. Therefore, the violations of the assumptions of alpha are minimal in this study. Nevertheless, when interpreting the alpha values presented in this study, it is important to consider the limitations discussed here and to recognize that coefficient alpha is an imperfect reliability estimate.

Exploratory Factor Analyses of Measures of Victimization

Peer Victimization Scale. The PVS consisted of six items and used a categorical (4 options) response format. Given the categorical nature of the variables, WLSMV estimation was used. As shown in Table 2, the EFA yielded a single factor and each item loaded strongly on this factor (loadings > .500). The first eigenvalue based on the correlation matrix of the observed variables was 3.559; all other eigenvalues were less than one. Because only a single factor was extracted, no rotation was necessary. The model demonstrated acceptable fit (CFI = .983; RMSEA = .083). Cronbach's alpha for the final scale was .788.

Table 2
Factor Loadings for the Peer Victimization Scale (PVS)

Item	Factor 1	Communalities
Picked on	.825	.680
Hit and pushed around	.779	.617
Teased	.771	.595
Called mean names	.755	.570
Laughed at	.604	.365
Bullied	.584	.341

Multidimensional Peer Victimization Scale. EFA using quartimin rotation and WLSMV estimation was run on the Multidimensional Peer Victimization Scale (MPVS). The original scale consisted of 4 subscales of four items each, for a total of 16 items. Initially, all 16 items were entered into the EFA. However, a clear factor structure did not emerge, with several items cross-loading on multiple factors or not loading significantly at all. To simplify the analysis, another EFA was run on only the Physical Victimization scale and Social Manipulation scale. These scales were chosen because they most clearly represented the two types of victimization of interest in this study (overt and relational) and because they were believed to be the most distinct forms of victimization. Indeed, a clear two-factor structure emerged from this analysis, with items aligning with their original subscales, as shown in Table 3. The eigenvalues for the first two factors were 3.857 and 1.212, respectively. All other eigenvalues were less than one. Strong model fit was indicated (CFI = .995; RMSEA = .031). Cronbach's alpha was .718 for Factor 1 (physical victimization) and .644 for Factor 2 (social manipulation). For the purposes of the present study, these factors will subsequently be referred to as self-reported overt victimization and self-reported relational victimization, respectively.

Table 3

Factor Loadings for the Multidimensional Peer Victimization Scale (MPVS)

Item	Factor 1	Factor 2	Communalities
Beat me up	.919	-0.135	.757
Punched me	.719	0.175	.654
Kicked me	.681	0.080	.517
Hurt me physically in some way	.581	0.098	.395
Made other people not talk to me	-0.029	1.008	.992
Tried to make my friends turn against me	0.199	.520	.398
Refused to talk to me	0.150	.482	.317
Tried to get me in trouble with friends	0.392	.318	.360
Factor Correlations			
	1.000		
	0.426	1.000	

Peer Nominations of Victimization. The peer nomination scale consisted of six items designed to assess victimization. Each item represented the total number of nominations received, and these scores were standardized by classroom. Thus, the variables were considered continuous in nature, and ML estimation was used. Five of the six items loaded clearly on a single factor. The sixth item, “Others beat up these kids,” did not load on the same factor and did not comprise a distinct second factor. Therefore, this item was removed from the final scale. Items and factor loadings for this scale are shown in Table 4. The eigenvalue for the first factor was 2.403; all other eigenvalues were less than one. Fit indexes indicated excellent model fit (CFI = 1.000, RMSEA = 0.000), indicating that the final factor solution corresponded with the null model. Cronbach’s alpha for the final five-item scale was .724.

Table 4

Factor Loadings for Peer Nominations of Victimization

Item	Factor 1	Communalities
Others make fun of these kids	.826	.682
Others call these kids mean names	.588	.346
Others pick on these kids	.579	.335
Others do mean things to these kids	.514	.264
Others try to hurt these kids feelings	.446	.199

Teacher Ratings of Victimization. Five items designed to assess victimization were embedded within the Teacher Rating Scale for Victims, Bullies, and Helpers. The format was a five-point Likert scale; therefore, the variables were treated as categorical in the EFA. All five items loaded significantly ($> .500$) on a single factor, which had an eigenvalue of 3.687 (all other eigenvalues were less than one). It was noted that one item, “Feelings are easily hurt,” was relatively weaker and did not correlate very strongly with the other items. This finding may be due to the fact that the other four items describe specific actions to which one is subjected (being made fun of or ignored) whereas having one’s feelings hurt is a subjective state that may or may not be related to intentional acts of bullying. However, this item met the criteria of having a loading greater than .300 and was therefore included in the final scale. Items and factor loadings for this scale are shown in Table 5. Model fit was borderline acceptable, as indicated by a CFI value of .988 and a RMSEA value of .121. Cronbach’s alpha for the final five-item scale was .760.

Table 5
Factor Loadings for Teacher Ratings of Victimization

Item	Factor 1	Communalities
Is repeatedly harassed or picked on	.919	.844
Is excluded from the group	.919	.845
Is left alone or ignored	.911	.830
Is made fun of	.899	.808
Feelings are easily hurt	.500	.250

Exploratory Factor Analyses of Measures of Aggression

Bullying Behavior Scale (BBS). The BBS consisted of six items and used a categorical (4 options) response format. Given the categorical nature of the variables, WLSMV estimation was used. The EFA yielded a single factor and each item loaded

strongly on this factor (loadings > .500; see Table 6). Because only a single factor was extracted, no rotation was conducted. The eigenvalue for the first factor was 3.186; all other eigenvalues were less than one. Acceptable model fit was indicated (CFI = .983; RMSEA = .060). Cronbach's alpha for the final scale was .698.

Table 6
Factor Loadings for the Bullying Behavior Scale (BBS)

Item	Factor 1	Communalities
Tease other kids	.767	.588
Call others mean names	.755	.570
Pick on other kids	.696	.485
Laugh at other kids	.633	.400
Bully other kids	.611	.373
Hit or push others around	.557	.310

Teacher Reported Aggression. Twenty items from the Teacher Rating Scale for Bullies, Victims, and Helpers were designed to assess children's aggression. Items tapping both overt and relational types of victimization were included. EFA using quartimin rotation and WLSMV estimation was run on all 20 items. A two-factor solution that was consistent with theory emerged but the estimated residual variance for one item was negative. This item was removed and another EFA was run. A similar two-factor solution emerged from the remaining 19 items. Although the eigenvalues for the first three factors were all greater than one (12.417, 2.494, and 1.252), a two-factor model was chosen over a three-factor model because the two factor model was supported by theory and most clearly distinguished between the two major forms of aggression, overt (Factor 1) and relational (Factor 2). This model demonstrated acceptable fit (CFI = .983, RMSEA = .077) and scale reliability (Cronbach's alpha = .929 for factor 1 and .883 for factor 2). The items and factor loadings for the final scales are shown in Table 7.

Table 7
Factor Loadings for Teacher Ratings of Aggression

Item	Factor 1	Factor 2	Communalities
Blames others in a fight	1.068	-.294	.992
Strikes back when teased	.969	-.180	.801
When frustrated, quick to fight	.885	.144	.927
Starts fights with peers	.857	.186	.924
Overreacts angrily to accidents	.842	.013	.729
Gets into verbal arguments	.807	.026	.672
Threatens and bullies others	.736	.314	.866
Teases and name calls	.704	.276	.761
Gets angry easily	.633	.452	.884
Hits others when angry	.631	.352	.738
Says mean things when angry	.577	.506	.872
Uses physical force to dominate	.567	.389	.687
Gets others to gang up on a peer	-.256	.998	.813
Keeps others from joining their group	.032	.908	.854
Gets others in trouble with friends	.129	.900	.939
Spreads rumors or gossip about other children	.134	.802	.765
Responds negatively when fails	.268	.632	.635
Repeats stories or talks negatively about other children	.355	.628	.736
Breaks rules in games	.301	.575	.590
Factor Correlations			
	Factor 1	1.000	
	Factor 2	0.486	1.000

Peer Nominations of Aggression. The Peer Nomination Scale consisted of 10 items assessing aggression, with 5 items designed to measure overt aggression and 5 items designed to measure relational aggression. EFA using ML estimation and quartimin rotation was run on all ten items. The eigenvalues for the first two factors were 5.810 and 1.071; all other eigenvalues were less than one. The resulting two-factor structure lined up with the intended scales, with the five overt items loading significantly on Factor 1 and the five relational items loading significantly on Factor 2. The results are shown in Table 8. Model fit was acceptable (CFI = .976; RMSEA = .074). Cronbach's alpha for the final scales were .927 for Factor 1 (overt aggression) and .839 for Factor 2 (relational aggression).

Table 8
Factor Loadings for Peer Nominations of Aggression

Item	Factor 1	Factor 2	Communalities
Hit others	.863	.010	.755
Push and shove others around	.846	-.082	.633
Tell others they will beat them up	.817	-.112	.562
Say mean things to insult or put down	.706	.219	.746
Call other kids mean names	.654	.208	.647
When mad, keep a person from being in their group of friends	-.113	.769	.492
Keep certain people from being in their group	.087	.733	.627
Tell friends they will stop liking them	.392	.523	.693
Make others not like a person by spreading rumors or talking behind back	.307	.441	.463
When mad at someone, ignore or stop talking to them	.390	.363	.468
	Factor Correlations		
	1.000		
	0.647	1.000	

Accounting for Nested Data

Because the current dataset consisted of students nested within classrooms, the clustered nature of the data needed to be taken into account. To illustrate the clustering in the current data, demographic characteristics (gender and race) for each of the six classrooms are presented in Table 9. For the most part, no striking differences among the classrooms are evident, with the exception of Classroom 3 (and to a lesser extent, Classroom 6), which had a disproportionately large percentage of males. With respect to race, African American students represented the majority of students in all classrooms (ranging from 61% to 74% of students).

Table 9
Demographic Characteristics of Classrooms

Class	Gender		Race				Total
	Male	Female	Asian	Black	Hispanic	White	
1	13 (57%)	10 (43%)	2 (9%)	17 (74%)	4 (17%)	0 (0%)	23
2	10 (56%)	8 (44%)	1 (6%)	11 (61%)	4 (22%)	2 (11%)	18
3	10 (77%)	3 (23%)	2 (15%)	8 (62%)	2 (15%)	1 (8%)	13
4	7 (47%)	8 (53%)	2 (13%)	11 (73%)	2 (13%)	0 (0%)	15
5	8 (57%)	6 (43%)	3 (21%)	9 (64%)	2 (14%)	0 (0%)	14
6	10 (63%)	6 (37%)	1 (6%)	10 (63%)	3 (18%)	2 (12%)	16
Total	58 (59%)	41 (41%)	11 (11%)	66 (67%)	17 (17%)	5 (5%)	99

Next, the intraclass correlation coefficients (ICC) for each of the measures used in this study were calculated, as shown in Table 10. The ICC is the proportion of variance in the outcome that is between groups, in this case, classrooms (Raudenbush & Bryk, 2002). It was expected that ICCs would be lowest for students' reports about themselves, and highest for teacher reports about students (since a single teacher provided reports for all students in each class, and response patterns or reporting biases unique to that teacher could potentially affect the scores). Overall, this pattern was found to be true: the average ICC for the teacher report measures was 0.165, which was greater than the average ICC for peer measures (0.135) and self-report measures (0.080). The ICC for the one performance measure (listening comprehension) was the smallest at 0.022. As seen in the

table, the ICC values for all measures range from modest (under .100) to quite large (over .300), suggesting that classroom effects likely had a significant impact on score variance, particularly among the peer- and teacher-report measures.

Research has shown that as the intraclass correlation increases, so does Type I error (Dorman, 2008). It has been recommended that studies involving nested data should use either multilevel analysis or adjustment to statistical parameters (Dorman, 2008). Although multilevel analysis, such as hierarchical linear modeling (HLM), can be useful in analyzing data with two or more levels of data, it would not be an appropriate choice for this study because (a) the present research questions pertain to the individual student level, not the classroom level and (b) there were only six classrooms in the present study, which is considered too few clusters for multilevel modeling (at least ten clusters are generally recommended; Snijders & Bosker, 1999). The present study used two methods to address clustering in the data. First, scores from the peer nomination scales and teacher rating scales were standardized across classrooms to mitigate the impact of classroom size and/or generalized response tendencies of teachers. Second, in the regression analyses, a post-hoc statistical adjustment was made, as suggested by Dorman (2008). Specifically, a sandwich estimator was used, which assumes independence only among cluster units, not individual units (Asparouhov, 2005). This method allowed us to keep the student as the unit of analysis and the existing sample size, and simply adjust the post-hoc values of statistical parameters when making statistical inferences.

Table 10
Intraclass Correlation Coefficients (ICC)

Measure	ICC
Self-Report Scales	
General Victimization	0.118
Overt Victimization	0.039
Relational Victimization	0.052
Aggression	0.083
Depression (CDI)	0.133
Anxiety (MASC)	0.055
Social acceptance (SPCC)	0.053
Academic competence (SPCC)	0.049
Behavioral conduct (SPCC)	0.134
Peer Nomination Scales	
Victimization	0.290
Overt Aggression	0.050
Relational Aggression	0.147
Peer liking	0.052
Teacher Rating Scales	
Victimization	0.287
Overt Aggression	0.050
Relational Aggression	0.168
Behavior Problems (BASC)	0.155
Internalizing Problems (BASC)	0.204
School Problems (BASC)	0.152
Social Skills (BASC)	0.141
Performance Measure	
Listening Comprehension	0.022

Descriptive Statistics

For each measure used in the study, the mean, standard deviation, and range were calculated. These values are shown in Table 11. The CDI, MASC, and all BASC subscales are given in T-scores, with a mean of 50 and standard deviation of 10. In the present sample, the mean scores on each of these measures fell within the average range as indicated in the manuals. The Listening Test uses standard scores with a mean of 100

and standard deviation of 15. The average score of 90.47 in the present sample fell within the average range as indicated in the manual, but was notably over half a standard deviation lower than in the standardization sample.

In the standardization sample for the Self-Perception Profile for Children (Harter, 1985), third grade means ranged from 2.65 to 2.87 for social acceptance ($SD = .60 - .84$), 2.80 to 3.16 for behavioral conduct ($SD = .54 - .72$), and 2.63 to 2.87 for scholastic competence ($SD = .70 - .86$). In the present sample, the means for these scales were 2.90, 3.20, and 2.88, respectively. These scores are comparable (within one half of a standard deviation) to the mean scores of the standardization sample.

On the Peer Victimization Scale and Bullying Behavior Scale (self-report measures of victimization and aggression), the authors of the scales (Austin & Joseph, 1996) reported mean scores of 2.18 to 2.21 for the PVS and 1.77 to 1.98 for the BBS. The mean scores in the present sample were 1.96 and 1.51, respectively, slightly smaller in magnitude compared to the original sample. It is difficult to interpret the significance of this difference as Austin and Joseph (1996) did not report standard deviations for these scales.

The self-report measures of overt and relational victimization used in the present study were based on the Physical Victimization and Social Manipulation subscales of the Multidimensional Peer Victimization Scale (Mynard & Joseph, 2000). The mean scores in the present sample were 1.77 for overt victimization and 2.74 for relational victimization, smaller than but within one half a standard deviation of Mynard and Joseph's means of 2.23 ($SD = 2.32$) and 2.96 ($SD = 2.52$), respectively.

There were no comparison means for the teacher ratings or peer nominations of aggression and victimization as the measures used were created specifically for the present study.

Table 11
Descriptive Statistics

	<i>M</i>	<i>SD</i>	Minimum	Maximum
<u>Victimization</u>				
Self-report – General	1.96	0.80	1.00	4.00
Self report – Overt	1.77	2.06	0.00	8.00
Self report – Relational	2.74	2.18	0.00	8.00
Peer nominations	6.71	4.76	0.00	21.00
Teacher ratings	6.71	2.15	5.00	19.00
<u>Aggression</u>				
Self-report – General	1.51	0.57	1.00	3.17
Peer Nominations – Overt	5.13	7.74	0.00	62.00
Peer Nominations – Relational	6.75	5.41	0.00	30.00
Teacher Ratings – Overt	16.98	6.67	12.00	47.00
Teacher Ratings – Relational	9.54	3.49	7.00	23.00
<u>Functioning</u>				
Self-reported depression (CDI)	46.97	6.90	40.00	72.00
Self-reported anxiety (MASC)	53.49	10.96	30.00	79.00
Self-reported social acceptance (SPPC)	2.90	0.68	1.17	4.00
Self-reported academic competence (SPPC)	2.88	0.72	1.00	4.00
Self-reported behavioral conduct (SPPC)	3.20	0.66	1.83	4.00
Teacher-reported internalizing problems (BASC)	43.46	5.56	39.00	65.00
Teacher-reported social skills (BASC)	45.19	7.70	26.00	64.00
Teacher-reported behavioral conduct (BASC)	44.94	6.11	40.00	71.00
Teacher-reported academic problems (BASC)	49.69	9.03	35.00	78.00
Peer nominations of liking	2.24	0.33	1.40	2.76
Listening comprehension	90.47	15.54	54.00	123.00

Note. Values given in this table are based on raw scores. All peer- and teacher-report measures were converted to z-scores by classroom for all subsequent analyses.

When examining the descriptive statistics of the measure in the present sample as compared to the samples on which each measure was standardized, it is important to

consider similarities and differences in the demographic characteristics of the standardization samples. This information is presented in Table 12.

Table 12
Demographic Characteristics of Standardization Samples

Instrument	N	Age	Gender	Ethnicity/Race	Country
Multidimensional Peer Victimization Scale (Mynard & Joseph, 2000)	812	11-16	50% M 50% F	Not specified	England
Peer Victimization Scale & Bullying Behavior Scale (Austin & Joseph, 1996)	425	8-11	48% M 52% F	Not specified	England
Children's Depression Inventory (Kovacs, 1992)	1176	7-17	45% M 55% F	77% White 23% Other	U.S.
Multidimensional Anxiety Scale for Children (March, 1997)	2698	8-19	47% M 53% F	53% White 39% African Am. 1% Hispanic 1% Asian Am. 2% Native Am. 3% Other	U.S.
Behavior Assessment System for Children (Reynolds & Kamphaus, 1992)	2401	6-11	51% M 49% F	67% White 24% African Am. 7% Hispanic 2% Other	U.S.
Self-Perception Profile for Children (Harter, 1985)	1543	Grades 3-8	49% M 51% F	90% White 10% Other	U.S.
The Listening Test (Barrett et al, 1992)	1509	6-11	49% M 51% F	74% White 18% African Am. 9% Other	U.S.
Present Study	99	7-10	59% M 41% F	67% African Am. 17% Hispanic 11% Asian Am. 5% White	U.S.

The most notable difference between the present sample and the norming samples was that most of the standardization samples were predominately White (comprising between 53% and 90% of the samples in which racial breakdown was reported) whereas the present sample was predominantly African American (67%) followed by 17% Hispanic, 11% Asian American, and 5% White. In addition, the present sample consisted of second and third graders (ages seven to ten), which is relatively young compared to the norming samples of the various instruments. The Peer Victimization Scale, Multidimensional Anxiety Scale for Children, and Self-Perception Profile for Children were not standardized on seven-year olds. The Multidimensional Peer Victimization Scale had the oldest age range (11-16) and did not overlap with the age range of the current sample. These differences may account for some of the differences, noted above, in the psychometric properties of the current sample versus the standardization sample of each instrument. Another factor that could contribute to these differences is the fact that, in the present study, the measures were read aloud as an adjustment for age during individual administration. In contrast, the measures as originally developed were administered in paper and pencil format.

Research Question 1

This question examined the relationships between different measures within constructs. Specifically, it investigated the association between each pair of victimization measures, each pair of aggression measures, and each pair of functioning measures. Pearson's correlation coefficients were calculated to determine the strength of association between each pair of interest. Disattenuated correlations were also computed in order to address measurement error. As explained in chapter three, error in the measurement of

the variables can cause the correlation coefficient to be biased toward zero, thus being smaller than it would be if true scores had been used. The disattenuated correlations adjust for this error by taking reliability (internal consistency) into account. The Pearson correlation coefficients were used in answering the research questions for the purposes of comparing the present results with those of other studies, most of which do not make this adjustment. However, disattenuated correlations are presented alongside the Pearson coefficients so as to illustrate the effect of measurement error. Statistical significance was determined only for the nonadjusted correlations.

As shown in Table 13, of the 10 combinations of victimization measures, 5 correlations were statistically significant. With a p level of .05, this is greater than would be expected by chance. Disattenuated correlations, which accounted for measurement error, were in many cases substantially larger than the nonadjusted correlations. Correlations among victimization measures were generally highest for measures of the same source. That is, all three self-report measures (100%) were correlated with one another at statistically significant levels, whereas only 29% of cross-informant correlations (two of seven) were significant. Further, correlations between observer informants (peers and teachers) were more often statistically significant than correlations between self and observer informants. Specifically, the correlation between peer- and teacher-reports of victimization was statistically significant (100%), whereas only one of the six (17%) self-other correlations was significant (self-reported relational victimization and teacher-reported victimization).

Within-informant correlation coefficients ranged from small to medium in size (r range = .204 - .440, $p < .05$). Among the cross-informant correlations, the relationship

between peer and teacher reports of victimization was medium ($r = .309, p < .01$). However, all of the self-other correlations were nonsignificant with the exception of a small, significant correlation between self-reported relational victimization and teacher-reported victimization ($r = .201, p < .05$). Finally relational victimization and overt victimization (as measured by self-reports) were significantly correlated ($r = .440, p < .01$).

Table 13
Correlations Among Measures of Victimization

	1	2	3	4	5
1. Self Report – General		.353**	.204*	.088	-.024
		.469	.286	.117	-.031
2. Self Report Overt			.440**	-.067	<.001
			.647	-.093	<.001
3. Self-Report – Relational				.101	.201*
				.148	.287
4. Peer Nominations					.309**
					.417
5. Teacher Ratings					

Note. $N = 99$. Disattenuated correlations appear in the second row of each cell. * $p < .05$. ** $p < .01$

Table 14 shows the correlations among the measures of aggression. Overall, 8 of the 10 correlations (80%) were statistically significant. Compared to the correlations among the victimization measures, there was a higher frequency of significant correlations and the correlations were higher in magnitude. Disattenuated correlations were most discrepant from the nonadjusted correlations for comparisons involving the self-report measure (Bullying Behavior Scale), which had the lowest internal consistency of the five aggression measures ($\alpha = .698$).

Table 14
Correlations Among Measures of Aggression

	1	2	3	4	5
1. Self Report – General		.346**	.134	.258*	.099
2. Peer Nominations – Overt		.430	.175	.320	.126
3. Peer Nominations - Relational			.700**	.761**	.527**
4. Teacher Ratings – Overt			.794	.820	.682
5. Teacher Ratings – Relational				.617**	.523**
				.699	.608
					.682**
					.753

Note. N = 99. Disattenuated correlations appear in the second row of each cell. * $p < .05$. ** $p < .01$

Among the aggression measures, two out of two within-informant correlations were statistically significant (100%), whereas six out of eight cross-informant correlations (75%) were significant. Among the cross-informant correlations, all four peer-teacher correlations (100%) were statistically significant, whereas only two of four self-other correlations (50%) were significant. Within-informant correlations were robust (r range .682 - .700, $p < .01$). Among the cross-informant correlations, peer-teacher correlations were robust (r range .523 - .761, $p < .01$) whereas self-peer and self-teacher pairs of measures ranged from nonsignificantly to moderately correlated (r range = .099 - .346). Finally, there were significant correlations between relational and overt aggression, both within and across informants (teachers and peers).

Table 15 shows the correlations among each indicator of functioning. Of 55 pairs of measures, 27 correlations were statistically significant. Among the measures of functioning, 12 of 16 same-source pairs (75%) were significantly correlated, compared to 13 of 39 cross-source pairs of measures (33%). As expected, disattenuated correlations were higher across the board, and the discrepancy between nonadjusted and disattenuated values was particularly notable for correlations involving self-reported anxiety and

listening comprehension, which had the lowest internal consistencies ($\alpha = .67$ and $.65$, respectively).

Table 15
Correlations Among Measures of Functioning

	Anx Self	Soc Self	Acad Self	Beh Self	Int Teach.	Soc Teach.	Beh Teach.	Sch Teach.	Lik Peer	List Perf.
Dep Self	.252*	-.149	-.299**	-.350**	.214*	-.094	.055	.152	-.080	-.135
	.344	-.189	-.369	-.455	.251	-.111	.063	.179	-.089	-.187
Anx Self		-.262**	-.192	-.171	.086	.006	-.025	-.004	-.024	-.147
		-.362	-.259	-.243	.110	.008	-.031	-.005	-.029	-.223
Soc Self			.295**	.352**	.031	.208*	.096	-.117	.157	.200*
			.369	.463	.037	.246	.112	-.140	.178	.281
Acad Self				.247*	-.119	.270**	-.038	-.394**	.253*	.160
				.317	-.138	.311	-.043	-.459	.279	.219
Beh Self					-.054	.257*	-.212*	-.163	.189	.075
					-.066	.311	-.253	-.200	.220	.108
Int Teach						-.212*	.346**	.321**	-.316**	-.140
						-.232	.372	.355	-.331	-.182
Soc Teach							-.274**	-.580**	.475**	.290**
							-.293	-.637	.495	.375
Beh Teach.								.248*	-.349**	-.058
								.268	-.358	-.074
Sch Teach.									-.506**	-.530**
									-.533	-.693
Lik Peer										.435**
										.540
List Perf.										

Note. Dep Self = self-reported depression (CDI). Anx Self = self-reported anxiety (MASC-10). Soc Self = self-reported social acceptance (SPCC). Acad Self = self-reported academic competence (SPCC). Beh Self = self-reported behavioral conduct. Int Teach. = teacher-reported internalizing problems (BASC). Soc Teach. = teacher-reported social skills. Beh Teach. = teacher-reported externalizing problems (BASC). Sch Teach. = teacher-reported school problems (BASC). Lik Peer = peer nominations of liking. List Perf. = listening comprehension (The Listening Test). $N = 99$, with the exception of correlations involving the teacher report measures and listening comprehension, in which $N = 98$. Disattenuated correlations appear in the second row of each cell. * $p < .05$. ** $p < .01$.

One hundred percent (4 of 4) peer-teacher correlations were statistically significant compared to only 28% (7 of 25) of self-other correlations. Peer liking correlated significantly with all four teacher measures of functioning, indicating that children who were rated by their teachers as having more internalizing, externalizing, social, and academic problems tended to be less liked by their peers. In contrast, peer liking did not correlate with self-reported depression, anxiety, or social or behavioral self-concept. However, there was a significant relation between peer liking and self-perceptions of academic competence. Among the self-teacher correlations, there were significant relationships between teacher reported internalizing problems and self-reported depression; teacher-reported social skills and self-reports of social, academic, and behavioral self concept; teacher-reported behavior problems and behavioral self-concept, and teacher-reported academic problems and academic self-concept.

Among the functioning measures, one of one (100%) within-domain, within-informant correlation was significant, but this is based on only a single pair of measures (self-reports of depression and self-reports of anxiety). The correlation between these two variables was small to medium in size ($r = .252, p < .05$). This relationship was somewhat smaller than expected given that both measures assessed internal psychological functioning as reported by the student, and that depression and anxiety are highly co-occurring conditions and are shown to be strongly correlated in the literature (Mash & Dozois, 2003; Reynolds & Kamphaus, 1992; Sutton et al., 2010). There were nine within-domain/cross-informant combinations; six of these were statistically significant. The relationship between peer- and teacher-reported social functioning ($r = .475, p < .01$), teacher-and self-reported academic functioning ($r = -.394, p < .01$), and teacher and

performance-based reports of academic functioning ($r = -.530, p < .01$) were all moderate to large in size. The relationships between teacher- and self-reported psychological functioning ($r = .214, p < .05$), teacher-and self-reported social functioning ($r = .208, p < .05$), and teacher- and self-reported behavioral functioning ($r = -.212, p < .05$) were significant but small in size.

Also of interest was the nature of the relations among the subconstructs of functioning (specifically, psychological, social, behavioral, and academic functioning). Among the cross-domain correlations, 44% (20 of 45) were statistically significant. Fifty-five percent of these significant correlations were within-informant, suggesting that much of the cross-domain agreement came from same-source variance. Specifically, self-reported depression was significantly negatively related to self-perceptions of academic and behavioral competence, and self-reported anxiety was significantly negatively related to self-perceptions of social acceptance. Each of the self-perception measures correlated significantly with one another (social acceptance, academic competence, and behavioral conduct). Teacher-reported internalizing problems, behavioral problems, and academic problems were significantly correlated with one another. Teacher-reported social skills, however, were not significantly correlated with the other teacher-reported measures of functioning. Among the cross-informant combinations, 9 of the 30 correlations (30%) were statistically significant. Peer liking correlated significantly with the three cross-domain teacher measures of functioning. Peer liking was also significantly correlated with children's self-perceptions of their academic competence. In addition, the performance measure of academic functioning (listening comprehension) had significant correlations with all three measures of social functioning. Specifically, listening

comprehension was significantly positively related to self-reported social acceptance, teacher reported social skills, and peer liking.

In sum, across the overarching constructs of victimization, aggression, and functioning, pairs of same-source measures tended to be significantly correlated more frequently than cross-source pairs of measures. Further, among cross-source pairs of measures, “other” observer pairs (peers and teachers) were significantly correlated more frequently than self-other pairs of measures.

Regarding the magnitude of the associations between pairs of items measuring the same construct, it was found that within-informant correlations were robust for aggression (r range = .682 - .700, $p < .01$) but small to medium for victimization (r range = .204 - .440, $p < .05$). For the indicators of functioning, one correlation was large: teacher-reported social skills showed a strong, negative correlation with teacher reported school problems. Most other within-informant correlations among the functioning measures were medium in size (r range = .247 - .346, $p < .05$).

Regarding subconstructs of victimization and aggression, all of the correlations between relational and overt victimization and relational and overt aggression were statistically significant. Among the functioning measures; 40% of cross-subdomain correlations were significant. It is important to note, however, that the majority of these significant correlations were within-informant, suggesting that much of the findings could be attributed to same source variance. This issue is discussed in further detail in Chapter 5.

Research Question 2

This question examined cross-construct relations in the present dataset. First, the relations between each indicator of victimization and each indicator of aggression were examined. Next, the relations between each indicator of victimization and each indicator of functioning were examined. Table 16 shows the correlations between victimization and aggression. As seen in this correlation, there was substantial overlap between the victimization and aggression constructs; of 25 combinations of aggression and victimization measures, 10 (40%) were statistically significant. In addition, 6 of the 7 within-informant correlations (86%) were statistically significant, compared to only 4 of 18 cross-informant correlations (22%). Within-informant, both self-reported general victimization (as measured by the PVS) and self-reported overt victimization (as measured by the MPVS physical victimization scale) were significantly correlated with self-reported aggression. However, self-reported relational victimization was not related to self-reported aggression. Peer nominations of victimization were significantly related to peer nominations of both relational and overt aggression, and teacher ratings of victimization were significantly correlated with teacher ratings of relational and overt aggression.

As previously stated, four cross-informant correlations were significant. Specifically, self-reports of overt victimization were significantly correlated with teacher ratings of relational aggression. In addition, peer nominations of victimization showed significant correlations with teacher ratings of both relational and overt aggression, and teacher ratings of victimization were significantly correlated with peer nominations of

overt aggression. Peer nominations of aggression were not related significantly to any of the self-reports of victimization.

Table 16
Correlations Between Victimization and Aggression

Aggression	Victimization				
	Self-report General	Self-report Overt	Self-report Relational	Peer Nomination	Teacher Ratings
Self-report - General	.553**	.329**	.063	.122	-.030
	.746	.465	.094	.170	-.041
Peer Nominations – Overt	.179	.085	-.024	.470**	.201*
	.209	.104	-.031	.574	.239
Peer Nominations – Relational	-.021	.061	.101	.394**	.050
	-.026	.079	.137	.506	.063
Teacher Ratings – Overt	.158	.147	-.059	.425**	.246*
	.185	.180	-.076	.518	.293
Teacher Ratings – Relational	.066	.202*	.020	.447**	.311**
	.079	.254	.027	.559	.380

Note. $N = 99$. Disattenuated correlations appear in the second row of each cell. * $p < .05$. ** $p < .01$.

In sum, the analyses showed that 40% of the correlations among victimization and aggression measures were statistically significant. Eighty-six percent of the within-informant correlations were significant, compared to just 22% of the cross-informant correlations.

Table 17 shows the correlations between each victimization measure and each measure of functioning. Table 18 summarizes the proportion of significant correlations for peer-, teacher-, and self-perspectives of victimization with each domain of functioning. The proportion of significant correlations is shown overall, as well as separately for within-informant correlations, cross-informant, and cross-method correlations so as to illustrate the implications of shared method variance.

Table 17
Correlations Between Victimization and Functioning

Functioning	Victimization				
	Self-report General	Self-report Overt	Self-report Relational	Peer Nominations	Teacher Ratings
Self-Reported Depression (CDI)	.386**	.400**	.356**	.049	.011
	.486	.528	.496	.064	.014
Self-Reported Anxiety	.329**	.283**	.257*	-.029	-.035
	.453	.408	.391	-.042	-.049
Self-reported social acceptance	-.353**	-.171	-.037	.017	-.123
	-.450	-.229	-.052	.023	-.160
Self-reported academic competence	-.195	-.057	-.035	.056	-.062
	-.243	-.074	-.048	.073	-.079
Self-reported behavioral conduct	-.413**	-.211*	-.027	-.140	.014
	-.541	-.289	-.039	-.191	.019
Teacher-reported internalizing problems (BASC)	.187	.341**	.191	.328**	.366**
	.221	.422	.249	.404	.440
Teacher-reported social skills (BASC)	-.225*	.053	.159	-.340**	-.014
	-.264	.065	.207	-.417	-.017
Teacher-reported externalizing problems (BASC)	.187	.111	-.032	.376**	.187
	.216	.134	-.041	.453	.220
Teacher-reported school problems (BASC)	.170	.043	.070	.281**	.282**
	.202	.053	.092	.348	.341
Peer Liking	-.150	-.214*	-.190	-.392**	-.421**
	-.169	-.253	-.237	-.461	-.483
Listening Comprehension	-.021	-.008	-.112	-.238*	-.266**
	-.029	-.012	-.173	-.247	-.378

Note. $N = 99$, with the exception of correlations involving the teacher report measures and listening comprehension, in which $N = 98$. Disattenuated correlations appear in the second row of each cell. * $p < .05$. ** $p < .01$.

Within-informant correlations refer to pairs in which the informant was the same for both the victimization and the functioning measure (e.g., self-self). Cross-informant correlations refer to pairs in which the informant for the victimization measure was

different from the informant for the functioning measure (e.g., self-peer). The cross-method correlations refer to pairs involving the Listening Test (a performance measure) along with one of the informant methods. Examination of the cross-informant and cross-method correlations provides a picture of the relations between victimization and functioning when shared method variance is avoided.

When examining the overall percentage of significant correlations between each informant's report of victimization and each measure of functioning, self-reported victimization appears to be most closely aligned with psychological functioning. Specifically, 78% of correlations between self-reported victimization and psychological functioning were statistically significant, compared to 33% of correlations between self-reported victimization and behavioral and social functioning, and 0% of correlations between self-reported victimization and academic functioning.

The general pattern of relations between self-reported victimization and psychological functioning is consistent with what has been found by the literature. However, the findings suggest that this association is accounted for primarily by the within-informant correlations. That is, there were statistically significant associations between the three self-reports of victimization and both self-report measures of psychological functioning (depression and anxiety). The correlation between self-reported overt victimization and teacher-reported internalizing problems was also statistically significant. However, the two other self-reports of victimization were not significantly related to teacher reports of internalizing problems. This pattern suggests that the relationship between self-reported victimization and psychological functioning may be largely due to same-source variance. When looking only at cross-informant

correlations (which avoided shared method variance), self-reported victimization was significantly related to only 33% of psychological functioning measures, 33% of social functioning measures, and none of the behavioral or academic functioning measures.

In looking at the overall correlations between peer reports of victimization and functioning, peer reports appear to be most closely aligned with functioning in the social and academic domains. Specifically, 67% of correlations between peer nominations of victimization and measures of social and academic functioning were significant. Peer nominations of victimization were significantly related to teacher reports of social skills and to peer liking. The relationship between peer-reported victimization and self-perceptions of social acceptance, however, was nonsignificant. Peer nominations of victimization were also significantly associated with teacher-reported of school problems and listening comprehension, but not with self-reported academic competence. When only cross-informant and cross-method correlations were considered, 50% of correlations between peer-reported victimization and social functioning and 67% of correlations between peer-reported victimization and academic functioning were significant. Peer nominations of victimization were also significantly related to teacher-reported behavior problems.

In examining the overall correlations between teacher-reported victimization and functioning, teacher reports appeared to be most closely aligned with academic functioning. Specifically, teacher-reported victimization showed significant associations with 67% of academic functioning measures, compared to 33% of psychological and social functioning measures and 0% of behavioral functioning measures. The significant correlations were observed between teacher-reported victimization and teacher-reported

internalizing and school problems, as well as peer liking and listening comprehension. When looking only at the correlations in which shared method variance was avoided, teacher-reported victimization was significantly related to none of the psychological or behavioral functioning measures, 50% of social functioning measures, and 50% of academic functioning measures.

Of particular interest to the present study was the relationship between victimization and academic functioning, as previous findings regarding this relationship have been mixed. One of the indicators of academic functioning, listening comprehension, was a performance measure so it was not associated with any particular informant. Therefore, the correlations involving the academic measures were categorized as same-informant, cross-informant, or cross-method, meaning performance with informant report. Of the 15 correlations involving academic functioning, only 4 were statistically significant. Two of these were cross-informant correlations (which entailed external observers) and two were cross-method correlations. Specifically, both teacher and peer ratings of victimization were significantly related to teacher-reported school problems as well as the performance measure of listening comprehension. Self-reports of victimization were not correlated with any of the three indicators of academic functioning. Overall, cross-method correlations were proportionally more frequently significant than either cross-informant or within-informant correlations.

Table 18
Percent of Significant Correlations Between Each Informant's Report of Victimization and Each Domain of Functioning

Victimization Informant	Type of correlation	Functioning			
		Psychological	Behavioral	Social	Academic
Self	Within-informant	100% (6/6)	67% (2/3)	33% (1/3)	0% (0/3)
	Cross-informant	33% (1/3)	0% (0/3)	33% (2/6)	0% (0/3)
	Cross-method	--	--	--	0% (0/3)
	Overall	78% (7/9)	33% (2/6)	33% (3/9)	0% (0/9)
Peer	Within-informant	-- (0/0)	-- (0/0)	100% (1/1)	-- (0/0)
	Cross-informant	33% (1/3)	50% (1/2)	50% (1/2)	50% (1/2)
	Cross-method	--	--	--	100% (1/1)
	Overall	33% (1/3)	50% (1/2)	67% (2/3)	67% (2/3)
Teacher	Within-informant	100% (1/1)	0% (0/1)	0% (0/1)	100% (1/1)
	Cross-informant	0% (0/2)	0% (0/1)	50% (1/2)	0% (0/1)
	Cross-method	--	--	--	100% (1/1)
	Overall	33% (1/3)	0% (0/2)	33% (1/3)	67% (2/3)
Total	Within-informant	100% (7/7)	50% (2/4)	40% (2/5)	25% (1/4)
	Cross-informant	25% (2/8)	17% (1/6)	40% (4/10)	17% (1/6)
	Cross-method	--	--	--	40% (2/5)
	Overall	60% (9/15)	30% (3/10)	40% (6/15)	27% (4/15)

In sum, self-reported victimization did show a greater percentage of statistically significant correlations with indicators of psychological functioning than with any of the other types of functioning, and peer-reported victimization significantly correlated more frequently with measures of social functioning than with the other types of functioning. However, this was not the case when only cross-informant correlations were considered so as to avoid shared method variance. Interestingly, academic functioning (both listening comprehension and teacher-reported school problems) showed significant correlations with peer and teacher reports, but not self-reports, of victimization.

Research Question 3

This question investigated the possibility of gender differences among the different types of victimization. Five independent samples t-tests were conducted to test the difference between boy and girl means for each measure of victimization. The results are presented in Table 19. Only one measure showed a significant gender difference. Specifically, the mean teacher-reported victimization scores were significantly higher for girls than for boys, $t(97) = -2.500, p < .05$. This indicates that, according to teachers, girls were seen as experiencing more victimization than boys. Cohen's d was .504, indicating a medium effect of gender on teacher-reported victimization. Contrary to Hypothesis 1, the gender differences in self-reported overt victimization and self-reported relational victimization were not statistically significant.

Table 19
Mean Victimization Scores for Boys and Girls

Victimization	Gender		t	df
	Boys ($n = 58$)	Girls ($n = 41$)		
Self-report - General	2.07 (0.86)	1.80 (0.68)	1.704	97
Self-report – Overt	2.00 (2.11)	1.44 (1.98)	1.337	97
Self-report – Relational	2.48 (2.15)	3.10 (2.20)	-1.390	97
Peer nominations	-0.09 (0.96)	0.13 (1.00)	-1.091	97
Teacher ratings	-0.20 (0.69)	0.28 (1.23)	-2.500*	97

Note. Standard deviations appear in parentheses below means. Peer nominations and teacher ratings are based on z-scores. * $p < .05$

Regression Analyses

To answer research questions 4, 5, and 6, all possible subsets regression analyses were conducted. In this procedure, all possible subsets of predictor variables are entered

into a regression analysis. Thus, if there are n predictors, then 2^n separate regressions are run. In the present study, R^2 was calculated for each regression to determine the variance in functioning accounted for by each subset of victimization variables. Next, the change in R^2 (ΔR^2) was calculated to determine the unique contribution of each predictor. All subsets regression was chosen over sequential regression procedures (e.g., stepwise regression) because all possible models would be examined, eliminating the possibility that the best set of predictors would be missed due to errors in model specification. In stepwise regression, the order of entry of the predictors is chosen by the researcher or an automated program; thus model selection is sample specific and may not replicate in new samples. Prior to running these analyses, data were screened for violations of regression assumptions, which include a linear relationship between dependent and independent variables, independent errors, homoscedacity, and a normal error distribution (Pedhazur, 1997) Violations of these assumptions can distort results, causing the final solution to under-report the strength of the relationships. (Pedhazur, 1997)

In the present study, seven variables representing different domains of children's functioning were chosen as the outcome variables. These measures were selected so as to tap all informants and all domains of functioning while reducing the total number of analyses performed such that the chance of making a type I error was minimized. Self-reported depression and anxiety and teacher-reported internalizing problems were the indicators of psychological functioning; teacher-reported externalizing problems was the indicator of behavioral functioning; peer nominations of liking was the indicator of social functioning; and listening comprehension and teacher-reported school problems were indicators of academic functioning.

Mplus version 6.12 (Muthén & Muthén, 2010) was used to perform the regression analyses. To account for clustering, the dataset was treated as “complex.” In *Mplus*, this specification makes corrections to the standard errors that take into account stratification, non-independence of observations, and unequal probability of selection (Muthén & Muthén, 2010). This is accomplished by using a sandwich estimator (Asparouhov, 2005), which assumes independence only among cluster units, not individual units. This technique produces unbiased standard errors for both the individual-level and cluster-level covariates (Muthén, 2008). An advantage of this approach is that it made it possible keep the student as the unit of analysis and the existing sample size, while adjusting the post-hoc values of statistical parameters when making statistical inferences.

Research Question 4

Research question 4 investigated the unique contribution of self-, peer, and teacher reports of victimization in predicting children’s functioning when the other informants’ victimization reports have been accounted for. It was hypothesized that the predictor variable that was of the same informant as the outcome (functioning) variable would explain the most variance, and the variance accounted for by additional informants would be minimal. To address this hypothesis, each outcome variable was regressed on each subset of victimization measures (self-, peer, and teacher report) in order to determine which combination of informants best predicted each type of functioning. Because there were three different self-report measures of victimization used in this study, only the Peer Victimization Scale (PVS) was used in this set of analyses. This measure was chosen because it is designed to measure general victimization, whereas the

other two scales measured specific types of victimization (overt versus relational) that were not directly relevant to this particular research question.

There were seven possible subsets of victimization measures and six functioning measures for a total of 42 separate regressions. To address hypothesis 2, which was concerned with the proportion of variance in the outcome measure explained uniquely by each victimization measure, R^2 change and F change statistics were calculated to determine the change in variance accounted for by each victimization measure *beyond* what was accounted for by the victimization measure that shared its informant with the dependent variable. Table 20 provides an overall summary of the results. R^2 values for each regression are shown, along with R^2 change values for the comparisons of interest. Tables 21 through 27 show the results separately for each measure of functioning. For example, Table 21 shows the change in variance in predicting self-reported depression from self-reported victimization alone and the subsequent change when peer-reported victimization, teacher-reported victimization, and peer- and teacher-reported victimization were added to the regression equation. The change from the best two-predictor model (i.e., the model that explained the most variance in the outcome measure) to the three-predictor models is also shown. For two of the outcome measures, teacher-reported externalizing problems and peer liking, the best single predictor was *not* the measure that shared its informant with the outcome variable. In these cases, change statistics were shown from two one-predictor models: the one that shared its informant with the outcome variable and the one that, on its own, explained the most variance in the outcome variable (see Tables 24 and 26) The full results of each regression are reported in Appendix A.

Table 20
Variance Explained (R^2) in Each Measure of Functioning by Each Subset of Victimization Measures

Predictors (Victimization)	Indicators of functioning						
	Dep Self	Anx Self	Int Teacher	Beh Teacher	Sch Teacher	Liking Peer	List Perf
Self	0.149**	0.108**	0.024	0.035	0.029	0.023	0.000
Peer	0.002	0.001	0.108**	0.142**	0.079**	0.154**	0.057*
Teacher	0.000	0.001	0.134**	0.035	0.080**	0.187**	0.070**
Self + Peer	0.149** 0.000 ^a	0.111 0.003 ^a	0.124 **	0.165** 0.023 ^c	0.101**	0.167** 0.013 ^c	0.057 0.057** ^a 0.000 ^c
Self + Teacher	0.149** 0.000 ^a	0.109 0.001 ^a	0.162** 0.028 ^b	0.072* 0.037 ^b	0.112** 0.032 ^b	0.213** 0.026 ^b	0.071* 0.071** ^a 0.001 ^b
Peer + Teacher	0.003	0.002	0.185** 0.051* ^b	0.147** 0.112** ^b 0.005 ^c	0.122** 0.042* ^b	0.261** 0.074** ^b 0.107** ^c	0.098** 0.028 ^b 0.041* ^c
Self + Peer + Teacher	0.149** 0.000 ^d	0.112 0.001 ^d	0.206** 0.021 ^d	0.173** 0.026 ^d	0.147** 0.025 ^d	0.279** 0.018 ^d	0.098* 0.000 ^d

Note. Dep Self = self-reported depression (CDI). Anx Self = self-reported anxiety (MASC-10). Int Teacher = teacher-reported internalizing problems (BASC). Beh Teacher = teacher-reported externalizing problems (BASC). Sch Teacher = teacher-reported school problems. Liking Peer = peer nominations of liking. List Perf = Listening comprehension (The Listening Test). $N = 99$ for Dep Self, Anx Self, and Liking Peer. $N = 98$ for Int Teacher, Beh Teacher, SchTeacher, and List Perf. Top value in each cell indicates overall R^2 for the model. Second and third rows indicate ΔR^2 values as follows: ^a ΔR^2 from self-only model. ^b ΔR^2 from teacher-only model. ^c ΔR^2 from peer-only model. ^d ΔR^2 from best 2-predictor model. * $p < .05$. ** $p < .01$.

Table 21

Unique Contributions of Self, Peer, and Teacher reports of Victimization to the Prediction of Self-Reported Depression

Predictor variables (Victimization)	R^2	ΔR^2	ΔF	p
Self	0.149	0.149	16.984**	0.000
Self, peer ^a	0.149	0.000	0.000	1.000
Self, teacher ^a	0.149	0.000	0.000	1.000
Self, peer, teacher ^b	0.149	0.000	0.000	1.000

Note. $N = 99$. ^a R^2 change and F change values indicate change from self-only model. ^b ΔR^2 and ΔF values indicate change from self + peer model and self + teacher model. * $p < .05$. ** $p < .01$. p values calculated online at <http://vassarstats.net/tabs.html?#f>.

Table 22

Unique Contribution of Self, Peer, and Teacher Reports of Victimization to the Prediction of Self-Reported Anxiety

Predictor variables (Victimization)	R^2	ΔR^2	ΔF	p
Self	0.108	0.108	11.744**	0.001
Self, peer ^a	0.111	0.003	0.324	0.571
Self, teacher ^a	0.109	0.001	0.108	0.743
Self, peer, teacher ^b	0.112	0.001	0.107	0.744

Note. $n = 99$. ^a ΔR^2 and ΔF values indicate change from self-only model. ^b ΔR^2 and ΔF values indicate change from self + peer model. * $p < .05$. ** $p < .01$. p values calculated online at <http://vassarstats.net/tabs.html?#f>.

Table 23

Unique Contribution of Self, Peer, and Teacher Reports of Victimization to the Prediction of Teacher-Reported Internalizing Problems

Predictor variables (Victimization)	R^2	ΔR^2	ΔF	p
Teacher	0.134	0.134	14.855**	0.000
Self, Teacher ^a	0.162	0.028	3.174	0.078
Peer, Teacher ^a	0.185	0.051	5.945*	0.017
Self, peer, teacher ^b	0.206	0.021	2.486	0.118

Note. $N = 98$. ^a ΔR^2 and ΔF values indicate change from teacher-only model. ^b ΔR^2 and ΔF values indicate change from peer + teacher model. * $p < .05$. ** $p < .01$. p values calculated online at <http://vassarstats.net/tabs.html?#f>.

Table 24

Unique Contribution of Self, Peer, and Teacher Reports of Victimization to the Prediction of Teacher-Reported Externalizing Problems

Predictor variables (Victimization)	R^2	ΔR^2	ΔF	p
Teacher	0.035	0.035	3.482	0.065
Self, Teacher ^a	0.072	0.037	3.788	0.055
Peer, Teacher ^a	0.147	0.112	12.474**	0.001
Peer	0.142	0.142	15.888**	0.000
Self, Peer ^b	0.165	0.023	2.617	0.109
Teacher, Peer ^b	0.147	0.005	0.557	0.457
Self, peer, teacher ^c	0.173	0.026	2.955	0.089

Note. $N = 98$. Because peer-reported victimization was a better predictor of externalizing problems than the same-informant measure of victimization (teacher report), the change from one to two predictors is shown for both teacher- and peer-reported victimization. ^a ΔR^2 and ΔF values indicate change from teacher-only model. ^b ΔR^2 and ΔF values indicate change from peer-only model. ^c ΔR^2 and ΔF values indicate change from peer + teacher model. * $p < .05$. ** $p < .01$. p values calculated at <http://vassarstats.net/tabs.html?#f>.

Table 25

Unique Contribution of Self, Peer, and Teacher Reports of Victimization to the Prediction of Teacher-Reported School Problems

Predictor variables (Victimization)	R^2	ΔR^2	ΔF	p
Teacher	0.080	0.080	8.348**	0.005
Self, Teacher ^a	0.112	0.032	3.423	0.067
Peer, Teacher ^a	0.122	0.042	4.544*	0.036
Self, Peer, Teacher ^b	0.147	0.025	2.755	0.100

Note. $N = 98$. ^a ΔR^2 and ΔF values indicate change from teacher-only model. ^b ΔR^2 and ΔF values indicate change from peer + teacher model. * $p < .05$. ** $p < .01$. p values calculated at <http://vassarstats.net/tabs.html?#f>.

Table 26

Unique Contribution of Self, Peer, and Teacher Reports of Victimization to the Prediction of Peer Liking

Predictor variables (Victimization)	R^2	ΔR^2	ΔF	p
Peer	0.154	0.154	17.657**	0.000
Self, Peer ^a	0.167	0.013	1.498	0.224
Teacher, Peer ^a	0.261	0.107	13.900**	0.000
Teacher	0.187	0.187	22.311**	0.000
Self, Teacher ^b	0.213	0.026	3.172	0.078
Peer, Teacher ^b	0.261	0.074	9.613**	0.003
Self, teacher, peer ^c	0.279	0.018	2.372	0.127

Note. $N = 99$. Because teacher-reported victimization was a better predictor of peer liking than the same-informant measure of victimization (peer report), the change from one to two predictors is shown for both teacher- and peer-reported victimization. ^a ΔR^2 and ΔF values indicate change from peer-only model. ^b ΔR^2 and ΔF values indicate change from teacher-only model. ^c ΔR^2 and ΔF values indicate change from peer + teacher model. * $p < .05$. ** $p < .01$. p values calculated online at <http://vassarstats.net/tabs.html?#f>.

Table 27

Unique Contribution of Self, Peer, and Teacher Reports of Victimization to the Prediction of Listening Comprehension

Predictor variables (Victimization)	R^2	ΔR^2	ΔF	p
Self	0.000	0.000	0.000	1.000
Peer, Self ^a	0.057	0.057	5.742*	0.019
Teacher, self ^a	0.071	0.071	7.260**	0.008
Teacher	0.070	0.070	7.226**	0.009
Self, teacher ^b	0.071	0.001	0.102	0.750
Peer, teacher ^b	0.098	0.028	2.949	0.089
Peer	0.057	0.057	5.803*	0.018
Self, Peer ^c	0.057	0.000	0.000	1.000
Teacher, Peer ^c	0.098	0.041	4.318*	0.040
Self, teacher, peer ^d	0.098	0.000	0.000	1.000

Note. $N = 98$. ^a R^2 and ΔF values indicate change from self-only model. ^b ΔR^2 and ΔF values indicate change from peer-only model. ^c ΔR^2 and ΔF values indicate change from teacher-only model. ^d ΔR^2 and ΔF values indicate change from peer + teacher model. * $p < .05$. ** $p < .01$. p values calculated online at <http://vassarstats.net/tabs.html?#f>.

For self-reported depression and anxiety, hypothesis 2 was supported. Self-reported victimization made a significant contribution to the prediction of these outcome variables. Peer and teacher-reports of victimization did not add any additional value to the prediction of self-reported depression or anxiety.

For teacher-reported internalizing problems, hypothesis 2 was also supported. Teacher-reported victimization accounted for the majority of the variance in this outcome

measure. However, peer-reports of victimization made also made a unique, significant contribution to the prediction of internalizing problems after teacher-reported victimization was accounted for. Self-reports of victimization did not significantly add to the prediction of internalizing problems after teacher-reports were accounted for.

For teacher-reported externalizing problems, hypothesis 2 was not supported. Teacher-reported victimization alone did not make a significant contribution to the prediction of externalizing problems. Interestingly, peer-reported victimization did make a significant contribution to the prediction of externalizing problems, by itself and after accounting for teacher-reported victimization. Self-reported victimization was not a significant predictor of externalizing problems.

For teacher-reported school problems, hypothesis 2 was partially supported: Both teacher and peer reports of victimization were significant unique predictors of school problems. Self-reports of victimization did not make a significant contribution to the prediction of school problems beyond teacher-reported victimization.

For peer liking, hypothesis 2 was not supported. Teacher-reported victimization alone actually accounted for more variance in this outcome measure than did peer-reported victimization alone. After accounting for peer-reports of victimization, teacher reports of victimization explained a significant amount of variance in peer liking, and vice versa. Self-reports of victimization added a small amount of predictive value beyond teacher and peer reports but its contribution did not reach statistical significance.

The listening comprehension outcome differed from the other five outcome variables because it was a performance measure that was not associated with any particular informant. Therefore, no specific hypotheses were made regarding which

informant's report of victimization would explain the greatest amount of variance. As shown in table 27, self-reports of victimization predicted none of the variance in listening comprehension. Peer-reports and teacher reports each made a statistically significant contribution to the prediction of listening comprehension after the other was accounted for.

In sum, support for hypothesis 2 depended on the outcome measure of interest. For self-reported depression, teacher-reported internalizing problems, and teacher-reported school problems, the victimization measure that was of the same informant as the outcome measure explained the most variance. However, for teacher-reported behavioral problems, peer reports of victimization actually explained the most variance and for peer nominations of liking, teacher reports of victimization explained the most variance. For the most part, peers' and teachers' reports of victimization made significant, unique contributions to the prediction of teacher-reported functioning (with the exception of teacher-reported behavior problems). Peers and teachers did not provide valuable information in predicting self-reported functioning from victimization. In no cases did the three-predictor model add significantly more to the prediction of functioning than did the best two-predictor model.

Research Question 5

Research question 5 investigated the relative contributions of overt and relational victimization to the prediction of children's psychological, social, behavioral, and academic functioning. The peer and teacher measures of victimization did not distinguish between overt and relational victimization; therefore, only self-reports of relational and overt victimization were used as predictor variables. Two hypotheses were made.

Hypothesis 3 stated that relational and overt victimization would make unique, significant contributions to children's functioning. Hypothesis 4 stated that for girls, relational victimization would predict problems in more domains of functioning than for boys.

For each functioning variable, three subsets of victimization measures (overt, relational, and overt plus relational) were entered into a series of regression analyses with functioning as the dependent variable and the victimization measures as the predictors. Each regression was performed for the entire sample and separately for boys and girls, since it was hypothesized that relational and overt victimization would affect boys and girls differently. To determine the unique contribution of each type of victimization to each measure of functioning, R^2 change was calculated as a measure of the difference between the one-predictor models (relational only or overt only) and the two-predictor model (relational plus overt). Table 28 displays the R^2 values for each regression analyses. Tables 29 through 31 show the unique contribution of relational and overt victimization in predicting each measure of functioning when the other has been accounted for. Detailed results of each regression analysis are presented in Appendix B.

Table 28

Variance Explained (R^2) in Each Measure of Functioning by Self-reported Overt and Relational Victimization

Predictors (Victimization)	Indicators of Functioning						
	Dep Self	Anx Self	Int Teacher	Beh Teacher	Sch Teacher	Liking Peer	List Perf
Overt							
All	0.160**	0.080**	0.116**	0.012	0.002	0.046*	0.000
Boys	0.131**	0.151**	0.182**	0.013	0.000	0.081*	0.001
Girls	0.237**	0.009	0.105*	0.005	0.019	0.020	0.000
Relational							
All	0.127**	0.066**	0.037	0.001	0.005	0.036	0.013
Boys	0.142**	0.148**	0.003	0.002	0.001	0.051	0.017
Girls	0.097	0.004	0.113*	0.000	0.062	0.012	0.009
Overt, Relational							
All	0.201**	0.102**	0.118**	0.020	0.005	0.057	0.015
Boys	0.187**	0.205**	0.206**	0.024	0.001	0.092	0.018
Girls	0.245**	0.009	0.148	0.006	0.062	0.022	0.009

Note. Dep Self = self-reported depression (CDI). Anx Self = self-reported anxiety (MASC-10). Int Teacher = teacher-reported internalizing problems (BASC). Beh Teacher = teacher-reported externalizing problems (BASC). Sch Teacher = teacher-reported school problems (BASC). Liking Peer = peer nominations of liking. List Perf = listening comprehension (The Listening Test). $n = 99$ for Dep Self, Anx Self, and Liking Peer. $n = 98$ for Int Teacher, Beh Teacher, Sch Teacher, and List Perf. * $p < .05$. ** $p < .01$.

Hypothesis 3, which stated that relational and overt victimization would each make unique contributions to the prediction of children's functioning, was supported for only one of the seven outcome measures: self-reported depression. For the full sample, overt victimization and relational victimization each made a unique contribution to the prediction of self-reported depression, even after the other had been accounted for. However, this pattern differed slightly for males and females. For girls but not boys, overt victimization added significantly to the prediction of depression after relational

victimization had been accounted for. For both boys and girls, relational aggression did not account for a significant amount of the variance in depression after accounting for overt victimization, even though its contribution was significant in the full sample.

In the full sample and among boys, overt and relational victimization each accounted for a significant amount of variance in self-reported anxiety. However, neither form of victimization made a unique contribution to anxiety after accounting for the other form of victimization. For girls, neither form of victimization on its own, or combined, contributed significantly to the prediction of anxiety.

Overall, in the prediction of teacher-reported internalizing problems, overt victimization, but not relational victimization, accounted for a significant amount of variance. This pattern was the same for boys. In contrast, among girls, both relational victimization and overt victimization accounted for a significant amount of variance in internalizing problems. However, the contribution of each type of victimization was not significant after the other had been accounted for.

In predicting peer liking, overt victimization, but not relational victimization, accounted for a small yet significant amount of variance among boys and in the full sample. For girls, however, neither relational nor overt victimization (alone or together) accounted for a significant amount of the variance in peer liking.

Three of the functioning outcome measures were not significantly predicted from any of the subsets of victimization measures. Neither relational nor overt aggression (alone or together) made a meaningful contribution to the prediction of teacher-reported externalizing problems, teacher-reported school problems, or listening comprehension.

Hypothesis 4 was not supported. It was expected that relational victimization would significantly predict problems in more domains of functioning for girls than for boys. However, relational victimization was a significant predictor of only one functioning measure for girls. Specifically, relational victimization among girls accounted for a significant amount of variance in teacher-reported internalizing problems, though its contribution was not significant after overt victimization had been accounted for. For boys, relational victimization on its own significantly predicted two functioning measures, self-reported depression and self-reported anxiety, though its contribution was not significant after accounting for overt victimization.

In sum, overt and relational victimization made significant contributions to the prediction of psychological functioning but for the most part these contributions were not significant when the other form of victimization was accounted for. Among boys, relational victimization predicted self-reports of depression and anxiety, but its contribution was not significant after accounting for overt victimization. Overt victimization, however, significantly predicted teacher-reports of internalizing problems after accounting for relational victimization. For girls, both forms of victimization significantly predicted teacher-reported internalizing problems but not after the other form of victimization was accounted for. Overt victimization did make a significant unique contribution to self-reports of depression. Among boys and girls, neither form of victimization significantly predicted behavioral or academic functioning (as measured by teacher reports of externalizing problems, teacher reports of school problems, and listening comprehension). Contrary to predictions, relational victimization was not associated with problems in more domains of functioning for girls than for boys. This set

of analyses was limited by the fact that measures of relational and overt victimization were only available from the self-report perspective. This limitation is important to consider as self-other correspondences are generally low.

Table 29
Unique Contributions of Overt and Relational Victimization to the Prediction of Functioning in the Full Sample

Outcome Measure	Relational Victimization ^a			Overt Victimization ^b		
	ΔR^2	ΔF	p	ΔR^2	ΔF	p
Depression (Self)	0.041	4.926*	0.029	0.074	8.891**	0.004
Anxiety (Self)	0.022	2.352	0.128	0.036	3.849	0.053
Internalizing (Teacher)	0.002	0.215	0.644	0.081	8.724**	0.004
Externalizing (Teacher)	0.008	0.776	0.381	0.019	1.842	0.178
School Problems (Teacher)	0.003	0.286	0.594	0.000	0.000	1.000
Liking (Peer)	0.111	1.120	0.293	0.021	2.138	0.147
Listening (Performance)	0.015	1.447	0.232	0.002	0.193	0.661

Note. $N = 99$ for depression, anxiety, and liking. $N = 98$ for internalizing, externalizing, school, and listening. ^aIndicates change from overt-only model to overt + relational model. ^bIndicates change from relational-only model to overt + relational model. * $p < .01$. ** $p < .05$.

Table 30

Unique Contributions of Overt and Relational Victimization to the Prediction of Functioning in Boys

Outcome measure	Relational Victimization ^a			Overt Victimization ^b		
	ΔR^2	ΔF	p	ΔR^2	ΔF	p
Depression (Self)	0.056	3.788	0.057	0.045	3.044	0.087
Anxiety (Self)	0.054	3.736	0.058	0.057	3.943	0.052
Internalizing (Teacher)	0.024	1.662	0.203	0.203	14.062**	0.000
Externalizing (Teacher)	0.011	0.620	0.434	0.006	0.223	0.640
School Problems (Teacher)	0.001	0.055	0.816	0.000	0.000	1.000
Liking (Peer)	0.011	0.666	0.418	0.041	2.483	0.121
Listening (Performance)	0.017	0.952	0.334	0.001	0.056	0.814

Note. $n = 58$. ^aIndicates change from overt-only model to overt + relational model. ^bIndicates change from relational-only model to overt + relational model. * $p < .01$. ** $p < .05$.

Table 31

Unique Contributions of Overt and Relational Victimization to the Prediction of Functioning in Girls

Outcome Measure	Relational Victimization ^a			Overt Victimization ^b		
	ΔR^2	ΔF	p	ΔR^2	ΔF	p
Depression (Self)	0.008	0.403	0.529	0.148	7.449**	0.010
Anxiety (Self)	0.000	0.000	1.000	0.005	0.192	0.664
Internalizing (Teacher)	0.043	1.867	0.175	0.035	1.520	0.225
Externalizing (Teacher)	0.001	0.037	0.849	0.006	0.223	0.640
School Problems (Teacher)	0.043	1.696	0.201	0.000	0.000	1.000
Liking (Peer)	0.002	0.078	0.965	0.010	0.389	0.536
Listening (Performance)	0.009	0.336	0.566	0.003	0.112	0.740

Note. $n = 41$ for depression, anxiety, and liking. $n = 40$ for internalizing, externalizing, school, and listening. ^aIndicates change from overt-only model to overt + relational model. ^bIndicates change from relational-only model to overt + relational model. * $p < .01$. ** $p < .05$.

Research Question 6

Question 6 asked, when predicting children's functioning, what is the unique contribution of victimization when aggression has been accounted for? It was hypothesized that victimization would make unique, significant contributions to children's functioning in the psychological and social domains, and that both aggression and victimization would contribute uniquely to behavioral and academic problems. To test this hypothesis, a series of regression analyses were computed with three sets of predictor variables (victimization, aggression, and victimization plus aggression) and each measure of functioning as the dependent variable. Because there were multiple measures of victimization and aggression, each analysis was performed three times: one with self-report measures as the predictors, one with peer-report measures as the predictors, and one with teacher-report measures as the predictors. To determine the unique contribution of victimization and aggression to each measure of functioning, R^2 change was calculated as a measure of the difference between the one-predictor models (victimization only or aggression only) and the two-predictor model (victimization plus aggression). Table 32 displays the R^2 values for each regression analysis. Tables 33 through 35 show the unique contribution of aggression and victimization in predicting each measure of functioning when the other has been accounted for. Detailed results of each regression are presented in Appendix C.

Table 32

Variance Explained (R^2) in Each Measure of Functioning by Victimization and Aggression as Measured by Self, Peer, and Teacher Reports

Predictors	Indicators of Functioning						
	Dep Self	Anx Self	Int Teacher	Beh Teacher	Sch Teacher	Liking Peer	List Perf
Victimization							
Self	0.149**	0.108**	0.024	0.035	0.029	0.023	0.000
Peer	0.002	0.001	0.108**	0.142**	0.079**	0.154**	0.057*
Teacher	0.000	0.001	0.134**	0.035	0.080**	0.187**	0.070**
Aggression							
Self	0.099**	0.030	0.008	0.063*	0.031	0.048*	0.005
Peer	0.002	0.003	0.073**	0.505**	0.067**	0.118**	0.001
Teacher	0.001	0.017	0.067**	0.693**	0.079**	0.159**	0.004
Victimization, Aggression							
Self	0.164**	0.108**	0.024	0.066*	0.039	0.049	0.006
Peer	0.003	0.003	0.125**	0.507**	0.100**	0.186**	0.066*
Teacher	0.001	0.017	0.164**	0.693**	0.127**	0.278**	0.070*

Note. Dep Self = self-reported depression (CDI). Anx Self = self-reported anxiety (MASC-10). Int Teacher = teacher-reported internalizing problems (BASC). Beh Teacher = teacher-reported externalizing problems (BASC). Sch Teacher = teacher-reported school problems (BASC). Liking Peer = peer nominations of liking. List Perf = listening comprehension (The Listening Test). $N = 99$ for Dep Self, Anx Self, and Liking Peer. $N = 98$ for Int Teacher, Beh Teacher, Sch Teacher, and List Perf. * $p < .05$. ** $p < .01$.

Hypothesis 5 was partially supported. Self-reports of victimization uniquely predicted self-reported psychological functioning (depression and anxiety), beyond what was explained by self-reports of aggression. Peer and teacher reports of victimization uniquely predicted teacher-reported psychological functioning. However, self-reports of victimization did not significantly predict teacher reports of psychological functioning

and other-reports of victimization did not significantly predict self-reports of psychological functioning.

With regard to social functioning, peer reports of victimization uniquely predicted peer liking after aggression had been accounted for, whereas peer reports of aggression did not significantly predict peer liking after accounting for victimization. When teacher reports were used as the predictor variables, both victimization and aggression uniquely predicted peer liking after the other predictor had been accounted for. Finally, neither self-reports of victimization nor aggression (separately or together) made a significant contribution to predicting peer liking.

For behavioral and academic functioning (externalizing problems, school problems, and listening comprehension), both victimization and aggression were expected to be significant unique predictors (Hypothesis 6). For the most part, this hypothesis was not supported. Both teacher-reported aggression and peer-reported aggression were strong unique predictors of teacher-reported externalizing problems, but teacher- and peer-reported victimization were not. Peer-reported victimization by itself was significantly related to teacher-reported internalizing problems, but not after accounting for peer-reported aggression. Although self-reported aggression alone was related to teacher-reported externalizing problems, neither self-reported victimization nor self-reported aggression was a significant unique predictor of externalizing problems.

With respect to teacher-reported school problems, hypothesis 6 was supported when teacher reports were used as the predictor variables. That is, teacher-reported victimization and teacher-reported aggression each made a significant contribution to variance in teacher-reported school problems after the other was accounted for. Neither

self-reported victimization or aggression nor peer-reported victimization or aggression made a significant contribution to teacher-reported school problems. Finally, peer and teacher reports of victimization contributed significantly to the prediction of listening comprehension after accounting for aggression. Listening comprehension was not significantly predicted by self-reports of victimization or self-, peer, or teacher reports of aggression.

Table 33
Unique Contributions of Self-Reported Victimization and Aggression to the Prediction of Functioning

Outcome Measure	Self-reported victimization ^a			Self-reported aggression ^b		
	ΔR^2	ΔF	p	ΔR^2	ΔF	p
Depression (Self)	0.065	7.464**	0.008	0.015	1.722	0.193
Anxiety (Self)	0.078	8.395**	0.005	0.000	0.000	1.000
Internalizing (Teacher)	0.016	1.557	0.215	0.000	0.000	1.000
Externalizing (Teacher)	0.003	0.305	0.582	0.031	3.153	0.079
School Problems (Teacher)	0.008	0.791	0.376	0.010	0.989	0.323
Liking (Peer)	0.001	0.101	0.751	0.026	2.625	0.109
Listening (Performance)	0.001	0.096	0.757	0.006	0.573	0.451

Note. $N = 99$ for depression, anxiety, and liking. $N = 98$ for internalizing, externalizing, school, and listening. ^aIndicates change from aggression-only model to aggression + victimization model. ^bIndicates change from victimization-only model to aggression + victimization model. * $p < .01$. ** $p < .05$.

Table 34

Unique Contributions of Peer-Reported Victimization and Aggression to the Prediction of Functioning

Outcome Measure	Peer-reported victimization ^a			Peer-reported aggression ^b		
	ΔR^2	ΔF	p	ΔR^2	ΔF	p
Depression (Self)	0.001	0.096	0.757	0.001	0.096	0.757
Anxiety (Self)	0.000	0.000	1.000	0.002	0.193	0.661
Internalizing (Teacher)	0.052	5.646*	0.020	0.017	1.846	0.178
Externalizing (Teacher)	0.002	0.385	0.536	0.365	70.335**	0.000
School Problems (Teacher)	0.033	3.483	0.065	0.021	2.217	0.140
Liking (Peer)	0.068	8.020**	0.006	0.032	3.774	0.055
Listening (Performance)	0.065	6.611*	0.012	0.009	0.915	0.341

Note. $N = 99$ for depression, anxiety, and liking. $N = 98$ for internalizing, externalizing, school, and listening. ^aIndicates change from aggression-only model to aggression + victimization model. ^bIndicates change from victimization-only model to aggression + victimization model. * $p < .01$. ** $p < .05$.

Table 35

Unique Contributions of Teacher-Reported Victimization and Aggression to the Prediction of Functioning

Outcome Measure	Teacher-reported victimization ^a			Teacher-reported aggression ^b		
	ΔR^2	ΔF	p	ΔR^2	ΔF	p
Depression (Self)	0.000	0.000	1.000	0.001	0.096	0.757
Anxiety (Self)	0.000	0.000	1.000	0.016	1.563	0.214
Internalizing (Teacher)	0.097	11.023**	0.001	0.030	3.409	0.068
Externalizing (Teacher)	0.000	0.000	1.000	0.658	203.616**	0.000
School Problems (Teacher)	0.048	5.223*	0.025	0.047	5.115*	0.026
Liking (Peer)	0.119	15.823**	0.000	0.091	12.100**	0.001
Listening (Performance)	0.066	6.742*	0.011	0.000	0.000	1.000

Note. $N = 99$ for depression, anxiety, and liking. $N = 98$ for internalizing, externalizing, school, and listening. ^aIndicates change from aggression-only model to aggression + victimization model. ^bIndicates change from victimization-only model to aggression + victimization model. * $p < .01$. ** $p < .05$.

In sum, support for hypotheses 5 and 6 depended on the informant providing the victimization and aggression data. Overall, victimization, but not aggression, was a significant unique predictor of psychological functioning. Peer liking was predicted uniquely by peer-reported victimization and teacher-reported victimization and aggression. Externalizing problems were uniquely predicted by peer- and teacher-reported aggression. School problems were predicted by teacher-reported victimization and aggression. Listening comprehension was predicted by peer- and teacher-reported victimization but not aggression.

Chapter 5: Discussion

The current study examined peer victimization from multiple perspectives (students, peers, and teachers) and its relationship with aggression and various domains of functioning. There were three overarching goals of this study. The first was to investigate the psychometric properties of victimization and aggression measures in an understudied population (early elementary, predominantly African American children). The second was to clarify the construct of victimization in terms of multiple dimensions (form and informant) and its relationship with other variables (aggression and functioning). The third goal was to examine how the observed relations between victimization and functioning in different areas are influenced by the ways in which the constructs are assessed. As part of this objective, the utility of multiple measures of victimization in predicting functioning was investigated. These goals were accomplished by using multiple measures of victimization, aggression, and functioning, which provided different informant perspectives on each construct and distinguished among subconstructs that have been identified in the literature. Correlation and regression analyses were conducted to investigate the relations among the variables.

This chapter discusses the findings of the present study in the context of previous research and existing theory, and offers suggestions for future research. The findings are discussed in relation to the following themes: (a) the psychometric properties of victimization and aggression measures; (b) relations among measures within each broad construct of interest (victimization, aggression, and functioning); (c) the relationship between relational and overt forms of victimization, and their links with functioning; (d)

the impact of informant on the observed relations between victimization and functioning; and (e) the overlap between victimization and aggression, and how it influences the relationship between victimization and functioning.

Psychometric Properties of Victimization and Aggression Measures

The first goal of this study was to examine the structure and psychometric properties of several measures of victimization and aggression in an ethnically diverse group of second and third grade students. This population is understudied in the literature; thus, the present study builds on current research by shedding light on the way victimization and aggression should be conceptualized and measured in early elementary ethnic minority populations.

Exploratory factor analyses were conducted on each measure of aggression and victimization used in this study. Overall, the results of the preliminary analyses indicated that these measures are appropriate for use with ethnically diverse (predominately African American) children in grades 2 and 3. The two-factor solutions that emerged from the EFA on the Multidimensional Peer Victimization Scale (MPVS), the peer nomination aggression scale, and the teacher report of aggression, are consistent with existing theory which holds that aggression and victimization can be broken down into two major subtypes: relational and overt (e.g., Crick et al., 2001; Poulin & Boivin, 2000). The fact that these subtypes emerged in the present dataset provides evidence that this conceptualization of aggression and victimization is valid among early elementary minority students. However, some important caveats must be considered.

First, EFA revealed that the teacher report measure of victimization used in this study did not distinguish between relational and overt victimization, as it was expected to

do. The single factor solution was not surprising for the peer nomination scale, because it was not designed to measure relational victimization. Instead, it tapped more general, overt victimization such as “others do mean things to these kids.” The teacher report measure of victimization, on the other hand, was constructed so as to assess both relational and overt victimization. Specifically, two items were thought to tap general/overt victimization (is repeatedly harassed or picked on; is made fun of) while three items were thought to tap relational victimization (is excluded from the group; is left alone or ignored; feelings are easily hurt). However, the EFA resulted in a single factor solution that did not distinguish between these two subtypes. This finding, though surprising, may be due to the small number of items overall, or to the nature of the items. The items may have lacked specificity regarding relational versus overt aggressive behaviors. For example, being “made fun of” is less specifically overt than being “punched” or “called names.” The possibility should also be considered, however, that teachers may not be as good as students themselves in distinguishing between two types of victimization.

Second, for the Multidimensional Peer Victimization Scale (MPVS), the EFA did distinguish between relational and overt victimization, but the results did not support the four-factor solution obtained in the original development of the scale (Mynard and Joseph, 2000). The MPVS was designed to measure four different subtypes of peer harassment: physical victimization, verbal victimization, social manipulation, and attacks on property (each measured by four items). In the present study, initial factor analyses on all 16 items failed to yield an acceptable factor structure. Specifically, several items cross-loaded on multiple factors, and when these items were removed, the items did not

line up according to their original scales nor did they produce an interpretable factor structure. To remedy this problem, the items comprising two of the original subscales (verbal victimization and attacks on property) were removed from the EFA. It was believed that the remaining two subscales, physical victimization and social manipulation, might most purely measure the two major forms of peer harassment that have been outlined in the literature (relational and overt). Indeed, when the eight items from these two scales were entered into the EFA, a clear two-factor solution emerged, with the four physical items loading on one factor and the four social manipulation items loading on a second factor. These two factors were used in subsequent analyses as self-reported overt victimization and self-reported relational victimization, respectively.

It is important to note that the MPVS was developed on a group of older children (ages 11-16) in England. Given the cultural, racial, and age differences between this sample and the current sample, it was especially important to determine whether the structure of the instrument, as originally developed, would hold up in the present sample. The current findings indicate that the original four-factor scale may not be appropriate for distinguishing victimization subtypes with younger, American children. However, two of the original subscales, physical victimization and social manipulation, do appear to adequately distinguish between overt and relational forms of victimization.

Finally, for the self-report measures used in this study that were drawn from previous published work, internal consistency coefficients, though acceptable, were slightly lower than those found in the original studies. Specifically, reliability coefficients for the self-report victimization and aggression measures in the present study ranged from .64 to .79, compared to a range of .77 to .85 in the studies in which the measures were

originally developed (Austin & Joseph, 1996; Mynard & Joseph, 2000). It is not clear why lower alpha coefficients were found in the present sample, but the following possibilities are offered. First, lower internal consistency could be an artifact of range restriction as the present sample consisted of only second and third graders, whereas the original studies included a slightly larger age range. The demographic characteristics of the current sample could also play a role, as the participants in the current study were younger and more ethnically diverse than those in the original studies. There is little research examining how these factors might affect internal consistency in measures of victimization. However, there is some evidence that internal consistency of other psychometric instruments increases with age (e.g., Byrne & Schneider, 1998). Additionally, one recent study investigating psychometric properties of the Child Behavior Questionnaire found that internal consistency for some scales was lower among low-income African American samples than among mid/high income White samples (Putnam & Rothbart, 2006). The present findings suggest that these patterns might apply to measures of victimization and aggression as well.

Because the peer and teacher report measures of victimization and aggression were unique to this study, no direct comparisons regarding their psychometric properties could be made. However, internal consistency was acceptable for all of these measures (alpha range = .72 - .93). In subsequent correlational analyses, the coefficients were adjusted for measurement error by computing disattenuated correlations that took internal consistency into account.

Relationships Among Measures Within-Construct

The three overarching constructs of interest in this study were victimization, aggression, and functioning. For each of these constructs, correlations were more likely to be significant for same-informant pairs than for cross-informant pairs. In addition, among cross-informant pairs, peers and teachers showed agreement in their ratings more frequently than did self and peers or self and teachers. Similar findings are well documented in the literature (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005) but their implications are often not taken into account in studies examining outcomes related to peer victimization. In the present study, consideration of the agreement (and disagreement) among informants is an integral part of interpreting the link between victimization and functioning.

Regarding the magnitude of the correlations, within-informant correlations were generally larger than cross-informant correlations. Within-informant correlations were robust for aggression (r range = .682 - .700, $p < .01$) but small to medium for victimization (r range = .204 - .440, $p < .05$). For the indicators of functioning, one correlation was large: teacher reported social skills showed a strong, negative correlation with teacher reported school problems ($r = -.580$, $p < .01$). Most other within-informant correlations among the functioning measures were medium in size (r range = .247 - .346).

The size of the cross-informant correlations appeared to depend on whether the correlation was between a peer-teacher pair (both “other” informants) or a self-other pair. In general, peer-teacher correlations ranged from medium to large (victimization: $r = .309$, $p < .05$; aggression: r range = .523 - .761, $p < .01$; functioning: r range = -.316 - -.506, $p < .01$), whereas self-other correlations, when significant, remained small to

medium (Victimization: $r = .201$; Aggression: r range = $.258 - .346$; Functioning: r range = $.200 - .394$). These findings are discussed in relation to previous research in the sections that follow.

Within-Construct Relationships: Victimization and Aggression

Of the findings presented above, one of the most notable was the minimal agreement between self and other informants (peers and teachers) particularly with respect to victimization. This finding was somewhat surprising, as previous research has shown significant, albeit modest, correlations between peer- and self-reported victimization. In a review of studies, Juvonen et al. (2001) reported that correlations between peer and self-reports of victimization typically range from $.2$ to $.4$. Cullerton-Sen and Crick (2005) found correlations ranging from $.21$ to $.34$ for peer- and teacher-measures, $.22$ - $.29$ for self-teacher, and $.18$ - $.30$ for self-peer measures. Ladd and Kochendorfer-Ladd (2002) found correlations ranging from $.23$ to $.47$ for peer and self-report measures and from $.15$ to $.30$ for self- and teacher report measures of victimization. In the latter study, correlations between cross-informant measures were higher for older children (grade 4) and lower, though still significant, for younger children (grades 2 and 3).

There are a few possible explanations for the fact that correlations between self-reports and other-reports of victimization in the present study were, for the most part, nonsignificant. First, the children in this study were younger than the samples used in most other studies that examined informant discrepancies in victimization. Interestingly, however, prior research suggests that self-other agreement regarding children's emotional and behavior problems actually *decreases* with age. In a meta-analysis, Achenbach et al.

(1987) found that mean cross-informant correlations for children aged 6-11 were greater than for adolescents aged 12-19. It was proposed that this finding could be attributed to the fact that younger children's behavior is more consistent across situations compared to adolescents, and that their behavior is more observable by others (peers and teachers). However, the correlations reported by Achenbach et al. examined variables related to childhood psychopathology and did not include victimization specifically. In addition, Achenbach et al.'s dichotomous coding of age may have overlooked variation within each age group. Indeed, a more recent study by Ladd and Kochenderfer Ladd (2002) showed significant changes in self-other agreement across the early elementary grades. These authors found little concordance between self- and peer reports of victimization among younger children (grades K – 1) but a significant increase in agreement from grade 1 to grade 2 and from grade 3 to grade 4. They argued that peer reports of victimization were less reliable in early childhood, which could account for the low agreement between self-and peer reports at this age.

Another possible explanation for the low agreement between self- and other-reports is that although measures were all designed to measure victimization, the formats and items differed across the measures. Therefore, the items on the self-reports may have tapped different aspects of victimization than the items on the peer nomination scale and the teacher rating scale. In contrast, other studies reporting larger correlations between peer and self-reports of victimization have utilized parallel victimization measures. For example, Crick and Bigbee (1998) used a self-report and peer report version of the Social Experience Questionnaire (SEQ). According to these authors, the items on the peer nomination scale were generated based on those used in the SEQ-self-report. The authors

found correlations between self- and peer reports of victimization ranged from .31 to .39, larger than the values obtained in the present study. It is possible that these discrepant findings may be due to greater content similarity between the peer and self-report scales in Crick and Bigbee's study compared to the present study. It is important to consider, however, that the peer nomination scale and teacher rating scale used in the present study also differed from each other in terms of format and items, yet were still correlated at a statistically significant level.

In contrast to the correlations among the victimization measures, the cross-informant correlations among the aggression measures were actually larger than would be expected given the existing literature. However, it is difficult to make direct comparisons, because few studies of aggression have utilized self-reports, and even fewer have examined the relationships between self-, peer, and teacher reports of aggression simultaneously. One study looked at self- and parent reports of relational aggression in a predominately white sample of Canadian children with an average age of 10 and found correlations ranging from .17 to .36 (Tackett & Ostrov, 2010). Other studies have found correlations ranging from .13 to .49 for parent and teacher reports of aggression among predominantly white seven to twelve year-olds (Ollendick, Jarrett, Wolff, & Scarpa, 2009) and from .28 to .41 for teacher reports and direct observations of aggression in predominately white preschool aged-children (Ostrov, 2008). In the present study, the correlation between self- and peer reports of aggression was .346 and the correlation between self and teacher reports of aggression was .258, which is consistent with values reported in other studies. The peer-teacher correlations were larger in magnitude, ranging from .523 to .761. This may be due to the fact that teachers and peers, unlike teachers

and parents, are reporting largely based on the same information: what is seen in the classroom. This would be especially true for the early elementary school years, when most peer interaction takes place under adult (teacher) supervision and thus instances of aggression are more likely to be seen by teachers. The peer-teacher correlation for overt aggression ($r = .761, p < .01$) was higher than the peer-teacher correlation for relational aggression ($r = .523, p < .01$). Although both correlations were highly significant, agreement may have been greater for overt aggression because it is more easily observed than relational aggression (which often occurs covertly).

The findings indicate convergent validity for the teacher and peer report measures of aggression and victimization, and for self-reports and peer and teacher reports of overt aggression. There was no evidence of convergent validity, however, for self-reported victimization with peer- or teacher-reported victimization. The significant correlations between peer reports and teacher reports of both aggression and victimization, and peer and self-reports of aggression, cast doubt on the possibility raised above that the peer report measure was unreliable. This raises an important question: why would cross-informant correlations be larger and more frequently significant for aggression than for victimization? It could be argued that since victimization and aggression are reciprocal in nature – that is, in any aggressive act directed at another person, there is an instance of aggression and an instance of victimization – the two constructs would be equally observable and therefore correlations among different observers/informants would be similar in magnitude for both aggression and victimization. The current data do not support this argument. Instead, the results appear to be consistent with the theory proposed by Graham and Juvonen (1998) that self-reports and other-reports of

victimization, more so than self- and other-reports of aggression, actually measure distinct constructs. As discussed in Chapter 2, this theory has been supported by consistently low correlations between self- and peer reports of victimization (replicated in this study) as well as the finding that the two measures of victimization are related to different cognitive processes and patterns of functioning (Graham & Juvonen, 1998). It may be that the experience of being victimized is more subjective than the experience of acting aggressively. That is, different children can experience the same negative act but interpret it differently. Whereas one child might see the act as purposeful and, when victimized repeatedly, come to believe that they deserve such treatment, another child might be more likely to see it as an accident or attribute it to situational or external factors. Further, the child who attributes the aggression to stable, internal factors is more likely to incorporate the victim identity into his or her self-concept, whereas the child who attributes the treatment to external, or internal yet changeable, factors is not (Graham et al., 2006). These individual differences in cognitive and emotional processes could explain why victimization is more individualistically experienced than aggression, and could account for the finding that the discrepancy between self- and other-reports is greater for victimization than for aggression. A robust finding in the literature is that self-other agreement is highest for personality traits that are more easily visible or observed by another person (e.g., extraversion) as compared to traits that are less visible (e.g., neuroticism; Funder & Dobroth, 1987; John & Robins, 1993; Ready, Clark, Watson, & Westerhouse, 2000). The present study suggest that these findings also apply to victimization and aggression, and that victimization is “less visible” than aggression.

Relations Among Measures of Functioning

The eleven indicators of functioning examined in this study were categorized into four different domains based on prior theory and research. Three variables measured psychological functioning (two self- and one teacher report), three variables measured social functioning (one self-, one peer, and one teacher report), three variables measured academic functioning (one self- and one teacher report, and one performance measure), and two variables measured behavioral conduct (one self- and one teacher report). Consistent with the literature, it was found that the proportion of significant correlations was higher for within-informant correlations than for cross-informant correlations.

The pattern of correlations among the functioning measures indicate that children who saw themselves negatively in one domain tended to see themselves negatively in other domains, and those who were rated negatively by their teachers in one domain were likely to be rated negatively in other domains. Self-reported depression was significantly related to self-reported anxiety and self-perceptions of academic competence and behavioral conduct. Self-reported anxiety was significantly correlated with self-perceptions of social acceptance. In addition, all three of the self-concept measures (academic competence, behavioral conduct, and social acceptance) were significantly correlated with one another. Similarly, all of the teacher-report indicators of functioning (internalizing problems, social skills, behavioral conduct, and academic problems) were significantly correlated with one another.

These findings are likely due in part to shared method variance. The four teacher-report indicators of functioning were different subscales of the same instrument (the BASC), and three of the self-report measures were subscales of the SPCC. The

significance of the correlations among measures from the same scale is not surprising, given the scale intercorrelations reported in the manuals. For example, in the BASC standardization sample, correlations between internalizing problems and externalizing problems ($r = 0.43$), internalizing problems and school problems ($r = 0.48$), internalizing problems and social skills ($r = -0.17$), externalizing problems and school problems ($r = 0.64$), externalizing problems and social skills ($r = -0.38$) and school problems and social skills ($r = -0.55$) were all statistically significant (Reynolds & Kamphaus, 1992). In the standardization sample for the SPCC, correlations among subscales ranged from .24 to .64 for social acceptance and academic competence, .29 to .58 for behavioral conduct and academic competence, and .20 to .41 for social acceptance and behavioral conduct (Harter, 1985).

Recent research using a wider variety of indicators also shows that functioning in one domain is related to functioning in other domains. For example, studies have shown significant correlations between internalizing and externalizing problems (e.g., Felix & McMahon, 2006; Reitz, Dekovic, & Meijer, 2005); school functioning and internalizing problems (e.g., Graham et al., 2006; Hanish & Guerra, 2002); and school functioning and social problems such as peer rejection (e.g., Buhs, 2005; Hanish & Guerra, 2002).

Although a full discussion of the processes underlying the intercorrelations among multiple domains of functioning is beyond the scope of this study, the body of research linking victimization and functioning has proposed some pathways that could account for difficulties in multiple domains. It has been suggested that victimization leads to negative beliefs about the self (e.g., low self-worth) and/or others (e.g., the perception that peers are hurtful and untrustworthy rather than helpful and trustworthy), which in turn

contribute to a variety of psychological, social, and behavioral difficulties (Troop-Gordon & Ladd, 2005; Swearer et al., 2004). These underlying negative beliefs may account for the relations among different domains of functioning. More recently, academic functioning is being recognized as inextricably linked with socioemotional development (Teglasi, 2010). Some pathways that have been proposed as underlying problems in academic, psychological, social, and behavioral domains include processes such as self-regulation of attention, emotion, cognition, and behavior; and prior learning including mental representations of past experiences and prior knowledge which guide future behavior (see Teglasi, 2010).

Although the four domains of functioning are clearly interconnected, an examination of the cross-informant correlations observed in this study provides some support for the validity of categorizing functioning into the four domains described above. Teachers and children themselves (who each provided information on all four domains of functioning) showed statistically significant agreement in the areas of psychological functioning, social functioning, behavioral conduct, and academic competence. In the area of psychological functioning, self-reported depression was significantly but modestly correlated with teacher-reported internalizing problems ($r = .214, p < .05$). In the area of behavioral functioning, self-perceptions of behavioral conduct were significantly correlated with teacher reports of behavior problems ($r = -.212, p < .01$). In the academic domain, children rated as having more school problems by their teachers rated themselves as being less academically competent ($r = -.394, p < .01$) and also scored lower on the test of listening comprehension ($r = -.530, p < .01$). In the social domain, children who were rated as having better social skills by their teachers

also tended to be better liked by their peers ($r = .475, p < .01$). However, self-ratings of social acceptance were not significantly correlated with either peer liking or teacher-reported social skills. In sum, even though functioning variables within raters were intercorrelated, when looking at cross informant relations, the similar areas of functioning were more likely to be significantly correlated.

These results are consistent with what has been found in the literature. In a meta-analytic review of studies of children's emotional and behavior problems, Achenbach et al. (1987) found average self-teacher correlations of .20, average self-peer correlations of .26, and average peer-teacher correlations of .44. Fewer studies have examined informant agreement with respect to social functioning and academic functioning. However, Hanish and Guerra (2002) found that peer rejection (as measured by a peer nomination instrument) was significantly, albeit modestly, correlated with two performance measures of academic functioning (scores on standardized tests of reading, $r = -.13, p < .002$, and math, $r = -.15, p < .002$). Similarly, Buhs (2005) found that a sociometric measure of peer liking was significantly correlated with self-perceptions of academic competence ($r = .23, p < .01$), teacher reports of classroom engagement ($r = .29, p < .05$), and scores on a standardized achievement test ($r = .11, p < .05$). These results are consistent with the current findings.

Although the cross-informant agreement regarding functioning in each area supports the validity of categorizing the measures into four separate domains, it is important to note that there were several significant cross-informant, cross-domain correlations. These correlations highlight the fact that the four domains of functioning cannot be considered in isolation; there is considerable overlap among them and children

who are having difficulty functioning in one area are likely to have problems in other areas. First, peer liking was strongly related to all four teacher-report measures of functioning, suggesting that the students seen by their teachers as having the most problems tend to be less liked by their peers. This is not surprising seeing as peer acceptance/rejection measures have been shown to be significantly related to teacher ratings of classroom engagement (Buhs, 2005) and teacher ratings of internalizing and externalizing problems (Hanish & Guerra, 2002). Because peers and teachers are reporting from the same context as “observers” of students in the classroom, they have similar vantage points, which would account for much of the agreement in their ratings. The significance of the correlations between peer and teacher reports across the domains of functioning may be due to the fact that children who are experiencing problems in one domain (i.e., social functioning) are truly having difficulty in other areas of functioning. However, this finding could also be attributed in part to a negative response bias on the part of the raters. Similar to children themselves, these observers may have a tendency to rate a child who is having problems in one area (e.g., behavior) negatively across the board.

One measure in this study (the Listening Test) differed from the self, other, and peer reports in that it was a performance-based measure that was not associated with any particular informant. In consideration of this methodological difference, correlations between listening comprehension and self, peer, and teacher report measures were referred to as “cross-method” correlations. Interestingly, these correlations between the performance measure and informant measures were more likely to be significant for peer and teacher informant measures than for self-report measures. Among the correlations

between the performance measure and self-reports of functioning, only one of five was statistically significant (social self-concept; $r = .200, p < .05$). Among the correlations between the performance measure and other-reports of functioning, three of five were statistically significant (teacher-reported social skills, teacher-reported school problems, and peer liking; r range = $.290 - .530, p < .01$). These findings raise the question of why listening comprehension would be related to peer and teacher reports of functioning, but not to self-reports. As will be discussed later in this chapter, listening comprehension, though categorized as an academic outcome, taps a subset of basic self-regulatory abilities that appear to be important for functioning in several domains. At a young age, children who are poor listeners might have difficulty attending to and integrating feedback from peers and teachers into their own self-concept; that is, they might not be aware of their difficulties. Meanwhile, their deficits in listening and related skills likely impact functioning in ways that are seen by peers and teachers.

Another important finding is that listening comprehension, which was originally conceptualized as an indicator of academic functioning, showed significant correlations with all three measures of social functioning. Specifically, children who performed better on the Listening Test were rated as having higher social skills by their teachers ($r = .290, p < .01$), were more well-liked by their peers ($r = .435, p < .01$), and rated themselves as being more socially accepted ($r = .200, p < .05$). Given these cross-construct, cross-method correlations, it might be inferred that listening comprehension is better conceptualized as a measure of social functioning than a measure of academic functioning. According to the manual, the Listening Test requires children to pay careful attention to what they hear, listen with a purpose in mind, remember what they hear well

enough to think about it, avoid being impulsive in giving answers, and express answers verbally (Barrett et al., 1992). These skills, particularly the ability to attend to information and inhibit impulsive responding, can be understood under the umbrella of self-regulation, a set of processes implicated in several theories of child development and psychopathology (Barkley, 2003; Mash & Dozois, 2003). Self-regulation involves using affective, cognitive, and behavioral feedback to modify or adjust one's strategies when initially unable to attain one's goals (Cleary & Zimmerman, 2004). Deficits in self-regulatory processes can have negative impact on both academic and social functioning, as seen in children with Attention-Deficit/Hyperactivity Disorder (Barkley, 2003). Without the ability to listen and attend to social and environmental cues, and use these cues as feedback to adjust one's own actions, children's social interactions, as well as their ability to perform academically, are inevitably impaired.

In a related vein, Blankman, Teglassi, and Lawser (2002) found a strong link (over 74% shared variance) between listening comprehension and social-cognitive processes as measured by the Thematic Apperception Test (TAT). Overall, their findings supported the notion of underlying schematic structures, which organize prior knowledge and guide the processing of new information, involved in both academic processes (literacy) as well as social-emotional functioning. Considering the current findings in this context, it is proposed that the Listening Test may be better conceptualized as an indicator of self-regulatory abilities that underlie functioning in several domains rather than a pure indicator of academic functioning.

Sub-Domains of Victimization and Aggression

Recent research has distinguished between two major forms of aggression and victimization, specifically, overt and relational (Crick et al., 2001; Poulin & Boivin, 2000). Although the bullying literature has historically focused mainly on overt or direct forms of harassment (such as physical aggression or verbal taunting), researchers are beginning to focus on more indirect forms of bullying that involve the manipulation of social relationships, such as spreading rumors or excluding children from the social group. One goal of this study was to provide a better understanding of these subtypes, as they are central to the multidimensional nature of victimization. This was accomplished in several ways. First, Research Question 1 considered the relations among relational and overt aggression and victimization. Research Question 3 (Hypothesis 1) looked at gender differences in the two types of victimization. Research Question 5 (Hypotheses 3 and 4) looked at the relative contributions of each form of victimization to the prediction of children's functioning.

The correlational analyses revealed significant associations between relational and overt forms of aggression, and relational and overt victimization. For victimization, overt and relational subtypes were measured separately using a self-report measure (the peer- and teacher-report measures did not distinguish between these two forms of victimization). It was found that self-reported relational and overt victimization were significantly correlated with one another ($r = .440, p < .01$). Previous literature has consistently shown correlation coefficients between the two subtypes near .50, which is in line with the current findings (Crick & Grotpeter, 1996; Mynard & Joseph, 2000;

Prinstein, Boergers, & Vernberg, 2001; Sullivan, Farrell, & Kliewer, 2006; Storch et al., 2002).

Relational and overt forms of aggression were measured separately using peer nomination scales and teacher ratings. The self-report measure of aggression did not distinguish explicitly between relational and overt, but the items primarily tapped overt forms of aggression. The two subdomains of aggression were significantly correlated with one another when peers were the informants ($r = .700, p < .01$) and when teachers were the informants ($r = .682, p < .01$). Peer-reported overt aggression was also related to teacher-reported relational aggression ($r = .527, p < .01$) and peer-reported relational aggression was significantly related to teacher-reported overt aggression ($r = .617, p < .01$). Previous research has shown a wide range of correlations between overt and relational aggression, ranging from medium ($r = .41$) to large ($r = .83$) (Day, Bream, & Pal, 1992; Price & Dodge, 1989; Prinstein et al., 2001; Storch et al., 2002). The current findings fall within the range that would be expected in light of previous studies and indicate a significant overlap between relational and overt forms of aggression. Children who were seen as overtly aggressive by their peers and teachers tended to be seen as more relationally aggressive as well.

Although the exploratory factor analyses conducted in this study indicated that the peer and teacher reports of aggression were both adequately represented by a two-factor model, the large correlations between the two subdomains indicate that much of the information provided by the separate scales is redundant. It could be that children who are overtly aggressive are also relationally aggressive, and vice versa, or it may be that teachers and peers do not make clear distinctions between relational and overt aggressors.

Interestingly, the correlation between relational and overt victimization was smaller in magnitude than the correlations between relational and overt aggression. This may be due to the fact that the victimization subconstructs were measured by self-reports whereas the aggression subconstructs were measured by peer and teacher reports. Thus, children themselves may be better able to distinguish between the subtypes than outside observers (peers and teachers) who are not privy to every instance of aggression experienced by a child and who are not as personally affected by such an event. Peers and teachers may also see children who harass others in any form as “aggressors” in general, which could result in a negative response bias across items tapping any form of aggression.

Gender differences in victimization. Prior research has shown gender differences between overt and relational aggression, with overt aggression being more common among boys and relational aggression being more common among girls (e.g., Crick & Grotpeter, 1995; Lagerspetz, Bjorkqvist, & Peltonen, 1988). Given that aggression and victimization are reciprocal constructs, it stands to reason that similar patterns would be found in studies of victimization. Hypothesis 1 stated that relational aggression scores would be higher for girls, and overt aggression scores would be higher for boys. This hypothesis was not supported, as the differences between boy and girl means on measures of overt and relational victimization were nonsignificant.

The lack of significant gender differences in these two measures conflicts with the findings of Mynard and Joseph (2000), who developed the MPVS (the same scale used in the present study to distinguish between relational and overt victimization). Mynard and Joseph found that boys scored significantly higher than girls on the physical victimization

scale, whereas girls scored significantly higher than boys on the social manipulation scale. It is important to note, however, that Mynard and Joseph's sample consisted of adolescents (ages 11-16) from England, demographics that are notably different from the present study. Therefore, age, ethnic, or cultural differences could possibly account for the discrepant findings. These possibilities are considered below.

Although gender differences in relational and overt aggression have been found in children as young as preschool (Crick et al., 1999), there has not been sufficient research in early childhood samples to support the generalizability of this finding. The current results are consistent with other studies that have failed to find gender differences in relational victimization (e.g., Crick & Grotpeter, 1996; Paquette & Underwood, 1999). One recent longitudinal study that looked at children of a similar age to the present sample (grades 1 through 3) found that boys and girls reported similar levels of physical victimization, and girls reported higher levels of relational victimization on two of four measurement occasions, suggesting that the gender differences were not stable over time (Giesbrecht, Leadbeater, & MacDonald, 2011).

The present findings suggest that in this group of children, the different forms of victimization are not strongly associated with one gender over another. Although group differences were not statistically significant, they did fall in the hypothesized direction, with boys scoring higher than girls on the measure of overt aggression and girls scoring higher than boys on relational aggression. It is possible that over time this trend might reach significance as both gender roles and patterns of peer relations become more established. More research is needed to investigate this possibility.

It is also important to note that most studies finding gender differences in relational victimization have studied children of primarily European descent (e.g., Crick & Bigbee, 1998; Mynard & Joseph, 2000). There may be some reason to believe that different forms of aggression, and by association victimization, are manifested differently in different racial and socioeconomic groups. For example, some studies have suggested that relational aggression may quickly escalate to physical acts of retaliation among urban African American youth (Farrell et al., 2007; Talbott, Celinska, Simpson, & Coe, 2002). This could account for the strong relationship, observed in the present study, between relational and overt forms of aggression and may also help to explain why the current hypothesis about gender and relational versus overt victimization was not supported.

Unique effects of relational and overt victimization in predicting children's functioning. Relational and overt subtypes of victimization were further investigated by examining their relations with children's functioning. Many researchers have studied relational and overt aggressors but far fewer have examined what it means to be on the receiving end of one form of aggression versus the other. The existing research suggests that both forms of victimization are associated with negative outcomes for children (Crick & Grotpeter, 1996; Cullerton-Sen & Crick, 2005). But given the considerable overlap between the two forms of victimization, could it be that the negative outcomes associated with relational victimization are simply due to the fact that children who are relationally victimized tend to be victimized in other (more overt) ways as well? The present study addressed this question by using multiple regression analyses to examine the unique contribution of each type of victimization to the contribution of functioning,

after accounting for the other type of victimization. These analyses were conducted for the full sample and separately for boys and girls.

Hypothesis 3 predicted that relational and overt victimization would make unique, significant contributions to children's functioning. This hypothesis was supported for only one of the seven functioning measures. In the full sample, relational victimization made a unique contribution to self-reported depression after accounting for overt victimization, and overt victimization made unique contributions to self-reported depression and teacher-reported internalizing problems after accounting for relational victimization. Neither form of victimization made a significant unique contribution to any indicators of social, behavioral, or academic functioning (peer liking, teacher reports of externalizing and school problems, and listening comprehension).

Another question investigated in this study was whether relational and overt forms of victimization might affect boys and girls differently. Some researchers have proposed that relational victimization may be more distressing for girls than for boys, as findings from various lines of research suggest that females tend to hold more stock in interpersonal relationships and incorporate information gained through social interaction into their self-views (see Crick et al., 2001). Thus, it was hypothesized that relational victimization would be related to negative outcomes in more areas of functioning for girls as compared to boys. However, the results showed that this was not the case. Relational victimization contributed to only one indicator of functioning in girls (teacher-reported internalizing problems), whereas it contributed to two indicators of functioning in boys (self-reported depression and self-reported anxiety). In each of these cases the contribution of relational victimization was not significant after overt victimization had

been accounted for. Relational victimization on its own was not significantly related to any of the other areas of functioning for either boys or girls. Thus, the results do not support the notion that relational victimization is more distressing for girls than for boys. Once again, it is possible that this finding could be due in part to the relatively young age of the children in this study or to the ethnic diversity of this sample compared to most other investigations of relational victimization.

It was also found that overt victimization uniquely predicted lower peer liking for boys but not for girls. This finding was somewhat surprising, as several studies have found significant links between victimization and peer-report measures of social status (Buhs, 2005; Cullerton-Sen & Crick, 2005; Ladd & Kochenderfer-Ladd, 2002; Veenstra et al., 2005). Why this finding would hold true in the present study for boys but not for girls remains unclear. Despite the fact that boys and girls endorsed similar levels of relational and overt forms of victimization, the present findings suggest that the patterns of functioning associated with victimization differs by gender. There is currently insufficient research to fully explain these patterns. Additional research is needed to investigate the role of gender in the relationship between victimization and functioning.

Collectively, the findings support the view that relational victimization should not be seen exclusively as a “girls’ problem.” The study of relational forms of peer harassment is a relatively recent development in the bullying literature and has received much attention for shedding light on previously overlooked experiences of girls. Yet the present study showed that boys reported experiencing relational victimization at similar levels as girls and that relational victimization predicted psychological distress in both groups. However, the relationship between relational victimization and psychological

functioning was largely accounted for by overt victimization. This stands in contrast with other studies that have found a unique effect of relational victimization. For example, Crick and Bigbee (1998) found that relational victimization, as measured by peer reports, provided additional information to the prediction of peer rejection and submissive behavior (as reported by peers), and loneliness, social avoidance, and emotional distress (self-reported) among boys and girls. Additionally, it added to the prediction of lower peer acceptance and self-restraint (as reported by peers) in girls. The children in this study, however, were older than the sample in the present study (fourth- and fifth-graders) and predominantly European American. In addition, the use of peer reports to measure victimization may be responsible for the discrepant findings in Crick and Bigbee (1998) and the present study. This study was limited by the fact that peer- and teacher-report measures did not distinguish between relational and overt victimization. Therefore, only self-report measures could be used in examining these two forms of victimization in the present study. Given that self- and other-reports of victimization share a minimal amount of variance, as demonstrated in the correlational analyses of this study, it is possible that using teacher or peer reports of relational and overt victimization would yield a different pattern of results. Further research is needed to investigate this possibility.

Cross-Construct Relations: Victimization and Functioning

A primary goal of this study was to examine the relations between victimization and functioning while considering how the observed relations were impacted by the informant providing the data. This goal was achieved through both correlation and regression analyses. First, as part of Research Question 2, the relationship between

victimization and functioning was considered separately for each informant's report of victimization. These findings are discussed in the context of Graham and Juvonen's (1998) theory that self-perceptions of victimization are more closely related to problems in intrapsychological functioning (e.g., depression, self esteem), whereas peer perceptions of victimization are more closely related to social functioning (e.g., peer rejection). Since most of the research supporting this theory has relied on same-source measures to assess victimization and functioning outcomes, it was of particular interest to see whether these relationships would hold true when different informants were used to measure victimization and functioning outcomes.

Consistent with the literature (e.g., Graham & Juvonen, 1998; Hawker & Boulton, 2000), self-reported victimization showed significant correlations with psychological functioning. Specifically, the three self-reports of victimization were correlated with self-reports of depression and anxiety (r range = .257 - .400, $p < .05$). However, only one self-report measure of victimization (overt) was related to the cross-informant indicator of psychological functioning (teacher-reported internalizing problems; $r = .341$, $p < .01$). Other studies have shown significant correlations between self-reported victimization and internalizing problems, but most of these studies have been limited by the problem of shared method variance, that is, self-reports were used to assess both victimization and psychological functioning (see meta-analysis by Hawker & Boulton, 2000). In the present study, when shared method variance was avoided by considering only the correlations among cross-informant pairs of measures, only one of the three (33%) correlations between self-reported victimization and internalizing problems was significant.

It was also found that peer-reported victimization was significantly related to two of three measures of social functioning (peer liking, $r = -.392, p < .01$; and teacher reports of social skills, $r = -.340, p < .01$). However, it was not significantly correlated with self-perceptions of social acceptance. ($r = .056, n.s.$) Thus, while peer-reported victimization may be predictive of peer and teacher reports of children's social functioning, it does not appear to be meaningfully linked to children's own beliefs about their social status. This could be explained by the lack of agreement between children and peers with regard to victimization. Since peer-reported victimization was not significantly related to self-reported victimization, peer reports of victimization are unlikely to identify children who feel negatively about their social functioning.

This study built on Graham and Juvonen's research by including teacher reports of victimization in addition to self- and peer reports. It was found that teacher-reported victimization appeared to be most closely aligned with academic functioning. When only cross-informant/cross-method relations were examined, teacher-reported victimization showed significant associations with both academic and social functioning, but not with psychological or behavioral functioning. Given that observer reports (in contrast to self reports) of children's behavior tend to be associated with external – observable – behavior (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005), it was somewhat surprising that teacher-reported victimization was not associated with children's behavior problems.

Overall, the different patterns of correlations for victimization from self-, peer, and teacher perspectives provide support for the argument that multiple informants are important to measure as they provide information about different outcomes (Cullerton-

Sen & Crick, 2005; Ladd & Kochenderfer-Ladd, 2002; Graham & Juvonen, 1998).

However, support for Graham and Juvonen's (1998) theory that self-reports are associated with psychological functioning problems whereas peer-reports are associated with social functioning difficulties is minimal. Although the findings initially appear to support this view, the pattern of relations observed in this study indicate that shared method variance is largely responsible. When same-informant correlations (and thus shared method variance) were removed from the analyses, self-reported victimization did not relate more frequently to indicators of psychological functioning any more than it related to social functioning, and peer-reported victimization did not relate more frequently to indicators of social functioning more often than it related to academic or behavioral functioning. However, it is clear that peer reports of victimization are not meaningfully related to children's subjective experience of psychological distress.

Only a handful of studies have examined the linkages between victimization and academic functioning, and the findings from these studies are mixed. Nansel et al. (2003) found that self-reports of victimization were correlated with a self-report measure of school functioning among middle school students. Graham and colleagues (2006) found that peer reports of victimization were correlated with students' grade point average and teacher-rated school engagement (also in middle schoolers). In contrast, Hanish and Guerra (2002), who studied elementary school students, did not find a significant relationship between peer-reports of victimization and school performance (as measured by attendance data and standardized test scores in reading in math). Collectively, the findings from these three studies might suggest that the link between victimization and academic functioning does not become significant until children are older (middle school

age). It has been suggested that the association between victimization and academic functioning is mediated by the increased psychological distress and poorer self-concept experienced by victims (Buhs, 2005; Graham et al., 2006). It is likely that this process occurs over several years as children internalize repeated experiences of victimization until it impacts their self-concept, which in turn is manifested in poorer school performance over time.

The current findings provide some support for this line of thinking. Overall, only 27% of correlations between victimization and academic functioning were significant. Notably, none of the self-report victimization measures were correlated with any measure of academic functioning. These findings support the idea that victimization is not strongly linked to academic performance in the early elementary school grades. Perhaps, at this age, the effects of victimization, while contributing to psychological distress, have not yet affected children's feelings about their ability to perform academically. However, peer and teacher reports of victimization paint a different picture, as both correlated significantly with listening comprehension and teacher reports of academic functioning. This finding suggests that there is *some* association between victimization and academic functioning in early elementary school, but it also raises the question of why it was only outside observers' (peers and teachers) perceptions of victimization that were related to academic functioning. Two possible explanations are proposed. First, as discussed earlier, teachers and peers who rated children negatively in one domain were more likely to rate children negatively in other domains of functioning. Thus, the association between victimization and scores on the teacher report of school problems might be accounted for by the intercorrelations between victimization and the other BASC subscales. Also

discussed earlier, the Listening Test may not be a pure indicator of academic functioning as it was strongly aligned with several indicators of social functioning and it appears to tap basic psychological processes that are essential for both academic and social performance. Given the above considerations, the correlational data are still consistent with the possibility that in the early elementary grades, peer victimization is not directly linked to academic functioning. However, the link between peer- and teacher-reported victimization and listening comprehension provides some insight into how experiences of victimization might contribute to academic difficulties later on. As discussed earlier, listening is a self-regulatory skill that influences learning and may mediate the relationship between victimization and future academic progress.

Unique effects of different informants' reports of victimization in predicting children's functioning. The impact of informant in predicting children's functioning from victimization was further investigated through regression analyses in which the unique contribution of self-, peer, and teacher reports of victimization was assessed. It was hypothesized that the predictor variable that shared its informant with the outcome variable would explain the most variance, and the variance accounted for by additional informants would be minimal. The results showed that support for this hypothesis depended on the outcome measure of interest. For self-reported depression, teacher-reported internalizing problems, and teacher-reported school problems, the victimization measure that was of the same informant as the outcome measure explained the most variance. However, for teacher-reported behavioral problems, peer reports of victimization actually explained the most variance; for peer nominations of liking, teacher reports of victimization explained the most variance. For the most part, peers' and

teachers' reports of victimization made significant, unique contributions to the prediction of teacher-reported functioning (with the exception of teacher-reported behavior problems).

Considering these results along with the findings from the correlational analyses, two important conclusions can be drawn. First, peers and teachers did not provide valuable information in predicting children's self-reports of their functioning from victimization. Neither peer reports nor teacher reports of victimization were related significantly to any self-report indicator of functioning in any domain. This finding has important implications for both research and practice. Practitioners or researchers who rely on observer report methods to identify victims may be missing an important subset of self-identified victims who, according to their own report, are experiencing significant internal distress. In addition, studies that use a teacher report measure of victimization along with a self-report measure of functioning, without considering informant issues, may overlook important relations between the two constructs.

Second, consistent with the results of the correlational analyses, peer and teacher reports hung together much more strongly than self- and peer reports or self- and teacher reports. Peer reports of victimization were often equally good or better than teacher reports of victimization in predicting functioning outcomes from the teacher perspective, and vice versa, even after the other had been accounted for. This finding supports the notion of a self-other dichotomy in assessing victimization. Collectively, the results of this study showed that observers (teachers and peers) showed much agreement in their rating of students' victimization experiences and that both informants' reports were predictive of multiple outcome measures (assessed via teacher and peer reports). Some

researchers have argued for the use of multiple informants in the assessment of victimization (Cullerton-Sen & Crick, 2005; Ladd & Kochenderfer-Ladd, 2002), but there is insufficient data to indicate how many informants are ideal and who those informants should be. The present study explicitly addressed this gap in the literature by examining the change in variance explained in functioning from one, two, and three predictor models. The results showed that although peer and teacher reports of victimization and functioning are highly correlated, the information they provide is not redundant. For example, peer reports of victimization significantly predicted teacher reports of internalizing problems, externalizing problems, and school problems beyond what was accounted for by teacher reports of victimization. Several outcome measures were significantly predicted by teacher-reported victimization or peer-reported victimization alone, but when the two measures were combined, they explained even more variance in functioning than either measure alone.

It is clear from the results of the present study that the “ideal” number and combination of informants is largely dependent of the outcome measure of interest. In no case was the three-predictor model significantly better at predicting functioning than the best two-predictor model. In predicting the self-report outcome measures (depression and anxiety) a three-predictor model was no better than the one-predictor model (self reports only). In the prediction of peer liking, teacher-reported internalizing problems, teacher-reported school problems, and listening comprehension, using peer and teacher reports of victimization maximized the variance explained, whereas self-reports did not make a significant additional contribution. For teacher-reported externalizing problems, peer-

reports of victimization explained the most variance, with teacher and self-reports adding minimal (nonsignificant) predictive value.

It is important to note that these conclusions should not be generalized beyond the early elementary age group, as informant agreement may change with age. For example, it is possible that peer and teacher reports will show less agreement as children get older. In the early elementary grades, children typically spend the majority of the school day with a single classroom teacher, and are more closely supervised than are older children. Therefore, peers and teachers have many shared opportunities to observe instances of aggression and victimization. They are viewing the child in the same context (primarily the classroom) and therefore it is expected that their reports of other children's observable experiences would be similar. As children enter adolescence, it is likely that the information provided by peers and teachers becomes less redundant. Along the same lines, it is possible that self- and other-reports might show *more* agreement with age, as children receive repeated feedback from peers and teachers and incorporate it into their self-concept. These possibilities are important for future research to consider.

Cross-Construct Relations: Victimization and Aggression

As discussed in the literature review, victimization and aggression are correlated constructs (e.g., Groff, 2006; Schwartz et al., 2001). Thus, the construct of victimization cannot be examined without considering its relationship with aggression. For example, some children may retaliate aggressively against others after repeated instances of victimization, and some children who see themselves as victims may be perceived as aggressors by their peers (Graham et al., 2006). Some studies have shown that children who are both aggressive and victimized make up a subset of children who appear to differ

in important ways from children who are only victimized or only aggressive (Graham et al., 2006; Schwartz et al., 2001). Given this background, it is important that any study of victimization take into account the overlap between victimization and aggression. In this study the overlap was addressed in two ways. First, the zero-order correlations between measures of victimization and measures of aggression were examined. Second, the unique contributions of aggression and victimization to the prediction of children's functioning were tested using regression analyses.

Consistent with the above-cited research, victimization and aggression emerged as related constructs. Specifically, 40% of the correlations among victimization and aggression measures were statistically significant. Eighty-six percent of the within-informant correlations were significant, compared to just 22% of the cross-informant correlations.

Significant correlations in the present study ranged from .201 ($p < .05$) to .553 ($p < .01$). These values are consistent with previous research. For example, Crick and Bigbee (1998) found small correlations between overt victimization and overt aggression (r range .19 - .20, $p < .01$) and large correlations between relational victimization and relational aggression (r range = .52 - .57, $p < .01$), as measured by peer reports. Sullivan and colleagues (2006) obtained correlation coefficients of .45 ($p < .01$) for relational victimization and aggression and .41 ($p < .01$) for physical victimization and aggression, as measured by self-reports. They also found significant correlations between physical victimization and relational aggression ($r = .37$, $p < .01$) and relational victimization and physical aggression ($r = .45$, $p < .01$).

The current finding that significant correlations between aggression and victimization were more common for same-informant pairs of measures than for cross-informant pairs suggests that much of the overlap between the two constructs is due to shared method variance. However, the presence of four significant correlations among cross-informant measures is greater than would be expected by chance and cannot be attributed to shared method variance. Of the cross-informant correlations, peer nominations of victimization were significantly related to teacher reports of overt aggression ($r = .425, p < .01$) and relational aggression ($r = .447, p < .01$). Teacher-reports of victimization were significantly related to peer nominations of overt aggression ($r = .201, p < .05$) but not to peer nominations of relational aggression ($r = .050, n.s.$). Finally, self-reported overt victimization was significantly correlated with teacher reports of relational aggression ($r = .202, p < .05$).

These findings indicate that children who were identified as aggressive by their teachers tended to be seen as victims by their peers. To a lesser extent, children who were identified as aggressive by their peers were more likely to be seen by their teachers as overtly victimized. These findings support the theory that aggression and victimization are overlapping constructs rather than opposite sides of the same problem. Clearly, some children who are aggressive toward others are also victimized. Previous research has suggested that these bully-victims are characterized by emotional dysregulation. They may have difficulty controlling their anger, often become emotionally distressed and frustrated in the face of provocation or conflict with peers (Perry et al., 1992; Schwartz et al., 2001). This profile stands in contrast to that of non-victimized bullies, whose behavior is more controlled and serves to achieve specific goals.

Most of the research into children who are both bullied and victimized has relied on single-informant measures (i.e., self-reports of both aggression and victimization). Thus, it is difficult to tease apart how much of the relationship between victimization and aggression is due to same-source bias. The present study addresses this issue and expands on the previous literature by examining cross-informant relations between aggression and victimization. The current findings, particularly the link between peer reports of aggression and teacher reports of victimization, and vice versa, show that there is truly some overlap – beyond what is due to informant effects – between victimization and aggression.

It should be noted that the majority of the cross-informant relations between aggression and victimization were found among peer-teacher pairs of measures. In contrast, most of the self-other correlations were not significant. Self-reported general and overt victimization were significantly related to self-reported aggression, suggesting that children who rated themselves as aggressive were more likely to see themselves as victimized. However, children who perceived themselves as victims were generally not seen as more aggressive by peers or teachers (with the one exception that children who rated themselves as overtly victimized were rated as more relationally aggressive by their teachers). This finding raises the question of whether children identified as aggressive victims via self-reports would be the same children identified as aggressive victims via peer or teacher reports. Although additional research with larger sample sizes is needed to answer this question, the present findings suggest that the “aggressive victim” subgroup yielded by self-report measures would consist of different children than if identified by observer reports. Children who rate themselves as both victimized and aggressive may

do so because the experience of being victimized leads them to feel negatively about themselves in multiple domains. Therefore, they may rate themselves as acting aggressively toward others even if they are not perceived that way. In contrast, children who are rated by their peers as both victimized and aggressive may be identified that way because their experiences of victimization are easily seen (that is, they react to provocation aggressively and with anger, in contrast to passive, nonaggressive victims, who may become quiet or shut down when taunted by peers). Thus, children rated as victimized and aggressive by their peers might account for the “provocative victims” who have difficulty regulating their emotions. In sum, the reasons for the overlap between victimization and aggression among self-report measures may be different than the reasons for the overlap among peer report measures.

Unique effects of aggression and victimization in predicting children’s functioning. Given that victimization and aggression are overlapping constructs, both must be considered when examining the relations between victimization and functioning outcomes. Based on previous research, it was hypothesized that victimization would make unique, significant contributions to children’s functioning in the psychological and social domains, and that both victimization and aggression would make unique, significant contributions in the behavioral and academic domains. These findings were partially supported. As has been a consistent theme in discussing the results of this study, the relations between victimization, aggression, and functioning depended on the informant providing the data. Overall, victimization, but not aggression, was a significant unique predictor of psychological functioning. Specifically, self-reported victimization significantly predicted self-reported depression and anxiety after accounting for self-

reported aggression; peer- and teacher-reported victimization significantly predicted teacher-reported internalizing problems after accounting for aggression. This was consistent with expectations; victimization has been consistently linked with internalizing problems in the research (e.g., Hawker & Boulton, 2000), whereas aggression alone does not appear to be a risk factor for internalizing symptoms (e.g., Juvonen, Graham, & Schuster, 2003).

It was also expected that victimization, but not aggression, would be predictive of lower scores on the peer liking measure. This expectation was based on previous research findings from a large-scale study indicating that victims tend to be more socially rejected than other children whereas aggressive children (bullies) tend to be rated higher on measures of social status than either victims or children not involved in bullying (Juvonen et al., 2003). Consistent with this expectation, peer-reported victimization was a unique predictor of lower peer liking scores, but peer-reported aggression was not. Contrary to expectations, however, both teacher-reported victimization *and* teacher-reported aggression made unique contributions to the prediction of peer liking. One possible explanation for this discrepancy is that the relationship between aggression and social functioning is informant-specific. The study cited above (Juvonen et al., 2003) identified victims and aggressors through peer reports only. To date, no studies have been identified that examined how teacher reports of victimization and aggression relate to children's social status (peer liking or rejection). The present findings indicate that when teachers are the informant, aggression contributes to lower peer liking above and beyond victimization.

It is well established in the literature that aggression is associated with behavioral problems such as defiant and disruptive behavior (e.g., Kumpulainen & Rasanen, 2000; Nansel et al., 2001). In addition, there is some evidence that victimization is also associated with external behavior problems (e.g., Cullerton-Sen & Crick, 2005; Hanish & Guerra, 2002). Therefore, it was expected that in the present study, both bullying and victimization would be unique predictors of externalizing problems. However, the findings produced minimal support for this hypothesis. Peer reports of both victimization and aggression, when entered separately into the regression equation, were each predictive of teacher-reported externalizing problems. In addition, peer-reported aggression was a significant predictor after accounting for victimization. However, victimization was not a significant predictor of externalizing problems after accounting for aggression. This finding suggests that the relationship between peer reports of victimization and externalizing problems is due to the overlap between victimization and aggression. That is, children seen as victims by their peers also tended to be seen as aggressive by their peers. This finding is corroborated by the relatively high correlation between peer reports of victimization and peer reports of aggression. Of all the informants, peers may be the most tuned into the children who display both aggression and victimization, sometimes referred to as “provocative victims” or “bully-victims” in the literature. In contrast, teacher and self-reports of aggression, but not victimization, were significantly predictive of teacher-reported externalizing problems.

It was also expected that both victimization and aggression would make significant, unique contributions to the prediction of academic functioning. This hypothesis was only partially supported. Specifically, teacher-reported victimization and

aggression each made significant, unique contributions to the prediction of teacher-reported school problems. Peer-reported victimization and aggression each significantly predicted school problems as reported by teachers, but the contribution of each measure was not statistically significant when the other was accounted for. In addition, teacher and peer reports of victimization each made a unique contribution to the prediction of listening comprehension, but teacher and peer reports of aggression did not. This particular finding falls in line with the pattern expected for social and psychological functioning, and provides further support for the idea that listening comprehension is not a pure indicator of academic functioning; rather, it may relate more closely to social functioning. Neither self-reported victimization nor self-reported aggression significantly predicted either indicator of academic functioning. Thus, from the self-perspective, intrapsychological and social processes do not connect with academic progress as they do for other raters, at least in this sample.

It has been suggested in the literature that victimization and aggression each contribute to problems in academic functioning, but in different ways. Graham and colleagues (2006) proposed that victims engage in characterological self-blame (that is, they attribute negative events to internal and uncontrollable factors), which causes them to feel negatively about themselves, which in turn leads to school problems. They further proposed that aggressive children, in contrast, tend to make hostile attributions about others' intentions, which leads them to see their environment as unsupportive and unfair, which in turn contributes to school problems. In the present study, the teacher report data, in which both aggression and victimization made significant unique contributions to school problems, was consistent with this view. However, the peer report data, in which

aggression and victimization made independent but not unique contributions to school problems, was not. One possible explanation that should be investigated in future research is that, as suggested earlier, peer reports may be identifying more provocative victims than either self or teacher reports. It is possible that this subgroup experiences school problems via a third pathway, one not proposed by Graham et al. For example, perhaps children identified as victims/aggressors by peers are characterized by lower levels of self-regulation which underlie their academic problems. If so, potential problems may be flagged earlier, before vicious cycles set in. Larger sample sizes in which children could be categorized into different victim/aggressor subgroups are needed in order to examine this possibility.

The current findings provide evidence that the relations among victimization, aggression, and social functioning are influenced by informant effects. Given the low correlations between self- and other-reports, it appears that different informants identify different children as victims and/or aggressors. Rather than seeing this finding as evidence of a weakness of one method versus another, each informant may be providing valuable information about children who are struggling in different ways. Collectively, the current findings support the theory that self-reports and other-reports of victimization measure distinct constructs. As discussed earlier, observer informants (particularly peers) may be tuned into those victims whose experiences are highly visible, identifying children who have poor self-regulatory abilities and act out (externalize) when provoked by others. In contrast, children who rate *themselves* high on measures of victimization may not be so easily visible because they shut down (internalize) in the face of negative social experiences. Using both self- and other-reports of victimization appears to be

important for identifying both these groups of children. Just as researchers have begun to examine differences between aggressors, victims, and aggressive victims, this study suggests that it may be equally important to examine the differences between self-identified, other-identified, and self-other identified victims.

Summary

There were three primary goals of this study. The first was to examine the psychometric properties of measures of victimization and aggression in an understudied population. The results indicated that the measures of victimization and aggression used in this study are appropriate for use with early elementary ethnic minority children. For the most part, exploratory factor analyses revealed structure of the scales was comparable to the scales as they were originally developed and/or in line with theoretically based conceptualizations of victimization and aggression. Teacher and peer reports of aggression, and self-reports of victimization, distinguished between relational and overt subtypes that have been identified in the literature. Teacher reports of victimization did not distinguish between these two subtypes as intended, but this finding may be due to the small number of items on the teacher scale. Internal consistency of all scales was found to be acceptable, albeit in some cases slightly lower than in the original standardization samples.

The second goal of this study was to clarify the construct of victimization in terms of its multidimensionality and its relationship with other variables (aggression and functioning). Overall, the findings indicate that victimization should be considered in terms of form (overt vs. relational), informant (self vs. other), and its overlap with aggression. First, overt victimization (as measured from self-perspectives) made unique

contributions to children's psychological functioning. However, relational victimization did not uniquely predict psychological functioning after accounting for overt victimization. Patterns of relationships between overt and relational victimization and functioning outcomes differed slightly for boys and girls but overall there were not significant gender differences in levels of the two types of victimization or in the outcomes associated with relational versus overt victimization.

With regard to the informant dimension of victimization, the current findings support conceptualizing self- and other-perceptions of victimization as distinct constructs. For the most part, self-reports of victimization were not related to peer or teacher reports of victimization. In addition, self- and other reports of victimization were differentially related to functioning outcomes. Peer and teacher reports of victimization did provide non-redundant information but they hung together in that (a) they were highly correlated and (b) they related similarly to outcome measures (teacher reports of victimization were related to peer reports of functioning and vice versa). It was noted that the substantial overlap between peer and teacher reports of victimization might be specific to the early elementary grades.

The third goal of this study was to examine how the observed relationships between victimization and functioning are influenced by the ways in which the constructs are assessed. The findings made it clear that the observed pattern of relationships is largely dependent on the informant(s) used to measure the constructs. Self-reports of victimization related to self-reports of functioning in several domains but for the most part were not predictive of peer and teacher reports of functioning. Teacher and peer reports of victimization were significantly correlated with most teacher and peer

measures of functioning. Importantly, however, peer and teacher reports of victimization did not provide meaningful information about *self-reported* functioning in any domain. These findings indicate a large discrepancy between what is perceived by peers and teachers and the inner psychological life of the child.

In addition, the data clearly showed that children who perceived themselves negatively in one domain were more likely to perceive themselves negatively in other domains. The same pattern was seen for peers and teachers. This finding is likely the result of two major factors: first, that there is real overlap among domains of functioning due to common underlying processes (e.g., mental schema; self-regulatory abilities); and second, that informants are vulnerable to reporting biases which influence their responses to questionnaires. The effect of reporting biases must be considered when interpreting observed relations among behavioral and psychological variables.

Whether victimization is considered in conjunction with aggression also has an impact on the observed relationships between victimization and various outcomes. For example, peer reports of victimization were significantly related to teacher reports of externalizing and school problems. However, when aggression was accounted for, the contributions of victimization to the prediction of these outcomes were not significant. This finding highlights the fact that some children who are seen as victims are also seen as aggressors, and failing to account for this fact might obscure the complexity of the relationship between victimization and functioning.

Conclusions

Collectively, the present findings highlight the need to consider issues of form, informant, and aggression when studying victimization. The findings have implications

for both research and practice. First, reliance on observer report methods to identify victims may result in overlooking an important subset of self-identified victims who, according to their own report, are experiencing significant internal distress. In addition, studies that use a teacher report measure of victimization along with a self-report measure of functioning, without considering informant issues, may overlook important relations between the two constructs. The findings regarding the discrepancies between self- and other-reports also have important implications for practice. Educators and interventionists looking to identify aggressors and/or victims for purposes of discipline or intervention should carefully consider how such children will be identified, and the pros and cons of each method.

Some researchers have highlighted the importance of multiple informants in the study of victimization (e.g., Cullerton-Sen & Crick, 2005; Ladd & Kochenderfer-Ladd, 2002), but there is little data to indicate how many or which informants are best. The present study explicitly addressed this gap in the literature and revealed that the set of informants that provides the greatest predictive value depends on the outcome measure of interest. For example, observer informants (peers and teachers) did not add significantly to the prediction of self-reported functioning outcomes beyond self-reports of victimization. In most cases, peer and teacher reports of victimization made significant unique contributions to the prediction of peer and teacher reports of functioning, but self-reports of victimization did not. Using three measures of victimization was no better than using two measures for the purpose of predicting any single outcome measure. However, given the low agreement between self and other reports with regard to functioning,

researchers and practitioners would be wise to measure functioning from multiple perspectives in order to gain a full picture of the effects of peer victimization.

Although this study did not analyze subgroups of children on the basis of their victimization and/or aggression scores, the low correlations between self- and other-reports indicate that for the most part, children and other informants (peers and teachers) are identifying different children as victims and, to a lesser extent, aggressors. Based on their different relations with functioning variables, it is suggested that self- and other-reports might identify different types of victims. Specifically, children who score higher on self-reports of victimization may be more passive and internalizing, whereas children who receive higher scores on peer reports of victimization may be more “visible” because they provoke others and are emotionally dysregulated. The present study indicates that victimization, more so than aggression, is individualistically experienced and defined, and this is reflected in how it is reported by different informants.

Since self- and other-reports of victimization are differentially related to functioning, children who self-identify as victims (or aggressors) may benefit from different interventions than children who are identified by observer informants as victims (or aggressors). For example, self-reports of victimization may be more useful for identifying children who may benefit from counseling to address internalizing concerns such as depression or poor self-concept. In contrast, peer and teacher reports of victimization may be more useful for identifying children who would benefit from behavioral intervention to address deficits in self-regulation. However, more research is needed before definitive conclusions can be made.

Limitations of the Study and Future Directions

The present study utilized archival data, which limited the relations that could be analyzed. For the subdomains of interest (relational and overt aggression and victimization, and the four domains of functioning), measures were not available from all informants. For example, the peer and teacher report measures of victimization, and the self-report of aggression, did not distinguish between relational and overt subtypes. With regard to functioning, peers reported on children's standing in only one domain (social). Nevertheless, this study utilized a greater array of informants in the measurement of both victimization and functioning than have the vast majority of other studies. Thus, it provides insights about the role of informant and methodology that have not yet been systematically examined in the literature.

It is also important to note that the measures were not consistent across informants. For example, peer, teacher, and self-reports of aggression and victimization utilized different formats and items; therefore, they may have tapped different aspects of these constructs. Other studies have used parallel measures to assess peer and self-perspectives on victimization (e.g., Crick & Bigbee, 1998), which may have partially accounted for the higher observed correlations between these two methods in those studies as compared to the present one. Nevertheless, the measures in this study were conceptually related. In some ways the differences in measures of the same construct could be seen as an asset in that it set out to replicate previous findings using a different combination of instruments.

The present sample differed from the majority of other research samples in two important ways. First, the sample was younger than samples used in most investigations

of victimization. Second, the sample was predominantly African American, whereas the samples used in most other studies have been predominantly European American. The present study contributed to the current body of research because it provided valuable information about an understudied group of children. However, it is difficult to tease out effects of age versus race when comparing the current results to those of previous studies. Further research is needed to isolate these variables and examine their effects separately.

Another limitation of this study was the relatively small sample size, which could have affected the statistical power to detect significant associations among the variables. In addition, a larger sample would provide sufficient power to classify children into groups based on how they were identified as victims (e.g., self-identified versus other-identified victims) or how they scored on measures of victimization and aggression (e.g., victims, aggressors, and aggressive victims). Examining differences among these groups is important for future research.

Because the data used in this study were collected at a single point in time, causal claims cannot be made. Although victimization and aggression were classified as “predictors” in this study, and functioning measures were classified as “outcomes,” it is likely that the relations between these constructs are bidirectional. Longitudinal studies are needed to examine how the relations between victimization and different forms of functioning vary over time as well as how informant effects vary over time.

This study was specific to aggression, victimization, and functioning as perceived by children, their peers, and teachers in the school context. Some studies have used other informants (i.e., parents) in the assessment of these constructs. The results of this study pointed to a “self-other” dichotomy (that is, self-reports provide information that is

distinct from that of peer and teacher reports). However, since parents do not share the same contextual perspective as peers and teachers, they might be considered an additional dimension to consider when assessing victimization and/or functioning. Further research might consider how the use of parent reports impacts the relations among these constructs.

This study was one of only a handful to examine the relations between victimization and a performance measure of functioning (listening comprehension). Performance measures offer some advantages to the assessment of children's functioning because they are less vulnerable to reporting biases than are questionnaires. It is suggested that future research use performance measures to complement questionnaire methods in order to gain a full picture of children's functioning. The Listening Test in particular appears to be a meaningful measure of children's functioning given its relations in the present study with several different informant measures of social and academic competence. It was proposed in this study that listening comprehension involves basic self-regulatory processes, including attention, and therefore may be useful for identifying early precursors of social and academic problems. Furthermore, the present findings suggest that performance tests such as the one used in this study may blur traditional boundaries of separate tests for assessing social emotional and academic functioning (see Teglasi, 2010).

Although the present study provides insight into the relations between victimization and functioning, and how these relations are influenced by issues of form, informant, and aggression, it also leaves some issues unresolved and raises several new questions. First, the current findings highlight the fact that diverse methods of data

collection and differing views about how a construct should be conceptualized and measured make it difficult to reach definitive conclusions about the relations between victimization and functioning. Thus, it is important to ask how science moves forward when there is great variability as to how certain psychological and social phenomena are defined and assessed. Research syntheses and meta-analyses may be a helpful starting point for organizing the growing body of literature, explicitly addressing methodological issues, and generating discourse among researchers and practitioners.

The present findings also raise the question of whether self- and other-reported victimization should be considered “subtypes” of the same overarching construct of victimization, or whether they represent distinct constructs entirely. For example, if a child sees herself as a victim but is not identified as such by her peers or teachers, is that child truly a victim? Might self-reports of victimization (when not corroborated by observer report methods) represent a low self-concept more so than actual victimization? Some researchers have operationalized self-identified victims, peer-identified victims, and self-and-peer-identified victims as distinct subgroups by delineating children on the basis of their scores on the two types of instruments (e.g., Graham & Juvonen, 1998). In order to move science forward, it is important that researchers continue to examine the validity of this distinction and how these victim “subgroups” are associated with external variables. The questions raised above highlight the need for researchers and practitioners alike to engage in discourse in order to make sense of informant discrepancies in the measurement of victimization.

Appendix A

Results of Regression Analyses: Research Question 4

Table A1

All Subsets Regression of Self-Reported Depression on Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
<u>Subset 1: Self</u>				
Self	3.348	0.767	0.386	0.000
<u>Subset 2: Peer</u>				
Peer	0.349	0.640	0.049	0.586
<u>Subset 3: Teacher</u>				
Teacher	-0.081	0.544	-0.011	0.882
<u>Subset 4: Self, Peer</u>				
Self	3.336	0.745	0.384	0.000
Peer	0.109	0.642	0.015	0.865
<u>Subset 5: Self, Teacher</u>				
Self	3.348	0.766	0.386	0.000
Teacher	-0.015	0.091	-0.002	0.873
<u>Subset 6: Peer, Teacher</u>				
Peer	0.413	0.579	0.058	0.475
Teacher	-0.209	0.354	-0.029	0.556
<u>Subset 7: Self, Peer, Teacher</u>				
Self	3.333	0.740	0.384	0.000
Peer	0.125	0.709	0.018	0.860
Teacher	-0.053	0.216	-0.007	0.805

Table A2

All Subsets Regression of Self-Reported Anxiety on Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
<u>Subset 1: Self</u>				
Self	3.528	0.604	0.329	0.000
<u>Subset 2: Peer</u>				
Peer	-0.322	1.747	-0.029	0.854
<u>Subset 3: Teacher</u>				
Teacher	-0.396	1.686	-0.035	0.814
<u>Subset 4: Self, Peer</u>				
Self	4.599	0.642	0.334	0.000
Peer	-0.653	1.547	-0.058	0.673
<u>Subset 5: Self, Teacher</u>				
Self	4.519	0.587	0.328	0.000
Teacher	-0.306	1.493	-0.027	0.873
<u>Subset 6: Peer, Teacher</u>				
Peer	-0.220	1.270	-0.020	0.862
Teacher	-0.328	1.233	-0.029	0.789
<u>Subset 7: Self, Peer, Teacher</u>				
Self	4.592	0.614	0.333	0.000
Peer	-0.617	1.514	-0.055	0.684
Teacher	-0.114	1.439	-0.010	0.937

Table A3

All Subsets Regression of Teacher-Reported Internalizing Problems on Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
<u>Subset 1: Self</u>				
Self	-0.189	0.115	0.155	0.099
<u>Subset 2: Peer</u>				
Peer	0.326	0.170	0.328	0.055
<u>Subset 3: Teacher</u>				
Teacher	0.365	0.095	0.366	0.000
<u>Subset 4: Self, Peer</u>				
Self	0.156	0.098	0.128	0.112
Peer	0.315	0.169	0.317	0.062
<u>Subset 5: Self, Teacher</u>				
Self	0.203	0.116	0.166	0.080
Teacher	0.370	0.094	0.371	0.000
<u>Subset 6: Peer, Teacher</u>				
Peer	0.237	0.208	0.238	0.255
Teacher	0.292	0.124	0.293	0.018
<u>Subset 7: Self, Peer, Teacher</u>				
Self	0.177	0.099	0.145	0.075
Peer	0.221	0.198	0.223	0.264
Teacher	0.301	0.116	0.302	0.010

Table A4
All Subsets Regression of Teacher-Reported Externalizing Problems on Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
<u>Subset 1: Self</u>				
Self	0.228	0.126	0.187	0.070
<u>Subset 2: Peer</u>				
Peer	0.374	0.091	0.376	0.000
<u>Subset 3: Teacher</u>				
Teacher	0.186	0.139	0.187	0.179
<u>Subset 4: Self, Peer</u>				
Self	0.190	0.093	0.155	0.042
Peer	0.361	0.088	0.363	0.000
<u>Subset 5: Self, Teacher</u>				
Self	0.235	0.121	0.192	0.053
Teacher	0.192	0.133	0.193	0.150
<u>Subset 6: Peer, Teacher</u>				
Peer	0.350	0.122	0.352	0.004
Teacher	0.078	0.157	0.079	0.617
<u>Subset 7: Self, Peer, Teacher</u>				
Self	0.196	0.094	0.160	0.037
Peer	0.333	0.119	0.335	0.005
Teacher	0.088	0.152	0.088	0.563

Table A5
All Subsets Regression of Teacher-Reported School Problems on Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
<u>Subset 1: Self</u>				
Self	0.208	0.080	0.170	0.009
<u>Subset 2: Peer</u>				
Peer	0.280	0.156	0.281	0.073
<u>Subset 3: Teacher</u>				
Teacher	0.281	0.127	0.282	0.027
<u>Subset 4: Self, Peer</u>				
Self	0.179	0.047	0.147	0.000
Peer	0.267	0.149	0.269	0.074
<u>Subset 5: Self, Teacher</u>				
Self	0.218	0.079	0.178	0.006
Teacher	0.287	0.132	0.288	0.030
<u>Subset 6: Peer, Teacher</u>				
Peer	0.214	0.177	0.215	0.226
Teacher	0.216	0.125	0.216	0.084
<u>Subset 7: Self, Peer, Teacher</u>				
Self	0.195	0.048	0.160	0.000
Peer	0.197	0.163	0.198	0.226
Teacher	0.225	0.126	0.226	0.074

Table A6
All Subsets Regression of Peer Liking on Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
<u>Subset 1: Self</u>				
Self	-0.184	0.167	-0.150	0.271
<u>Subset 2: Peer</u>				
Peer	-0.392	0.059	-0.392	0.000
<u>Subset 3: Teacher</u>				
Teacher	-0.433	0.114	-0.433	0.001
<u>Subset 4: Self, Peer</u>				
Self	-0.143	0.127	-0.117	0.259
Peer	-0.382	0.064	-0.382	0.000
<u>Subset 5: Self, Teacher</u>				
Self	-0.197	0.147	-0.161	0.181
Teacher	-0.437	0.115	-0.437	0.000
<u>Subset 6: Peer, Teacher</u>				
Peer	-0.286	0.097	-0.286	0.003
Teacher	-0.345	0.111	-0.345	0.002
<u>Subset 7: Self, Peer, Teacher</u>				
Self	-0.165	0.117	-0.135	0.159
Peer	-0.271	0.089	-0.271	0.002
Teacher	-0.352	0.110	-0.352	0.001

Table A7
All Subsets Regression of Listening Comprehension on Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
<u>Subset 1: Self</u>				
Self	-0.413	2.079	-0.021	0.842
<u>Subset 2: Peer</u>				
Peer	-3.789	0.852	-0.238	0.000
<u>Subset 3: Teacher</u>				
Teacher	-4.204	2.089	-0.266	0.044
<u>Subset 4: Self, Peer</u>				
Self	-0.036	1.805	-0.002	0.984
Peer	-3.787	0.903	-0.238	0.000
<u>Subset 5: Self, Teacher</u>				
Self	-0.563	1.897	-0.029	0.767
Teacher	-4.218	2.064	-0.266	0.041
<u>Subset 6: Peer, Teacher</u>				
Peer	-2.757	1.434	-0.173	0.055
Teacher	-3.369	2.131	-0.213	0.114
<u>Subset 7: Self, Peer, Teacher</u>				
Self	-0.261	1.709	-0.013	0.879
Peer	-2.736	1.427	-0.172	0.055
Teacher	-3.381	2.095	-0.214	0.107

Appendix B

Results of Regression Analyses: Research Question 5

Table B1
All Subsets Regression of Self-Reported Depression on Overt and Relational Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Overall				
<u>Subset 1: Overt</u>				
Overt	1.339	0.260	0.400	0.000
<u>Subset 2: Relational</u>				
Relational	1.129	0.340	0.356	0.001
<u>Subset 3: Overt + Relational</u>				
Overt	1.010	0.321	0.302	0.002
Relational	0.708	0.371	0.223	0.056
Males				
<u>Subset 1: Overt</u>				
Overt	1.187	0.554	0.362	0.032
<u>Subset 2: Relational</u>				
Relational	1.211	0.578	0.376	0.036
<u>Subset 3: Overt + Relational</u>				
Overt	0.788	0.670	0.240	0.239
Relational	0.860	0.662	0.267	0.194
Females				
<u>Subset 1: Overt</u>				
Overt	1.715	0.349	0.486	0.000
<u>Subset 2: Relational</u>				
Relational	0.986	0.273	0.311	0.000
<u>Subset 3: Overt + Relational</u>				
Overt	1.543	0.390	0.438	0.000
Relational	0.323	0.350	0.102	0.357

Table B2

All Subsets Regression of Self-Reported Anxiety on Overt and Relational Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Overall				
<u>Subset 1: Overt</u>				
Overt	1.502	0.771	0.283	0.051
<u>Subset 2: Relational</u>				
Relational	1.294	0.527	0.257	0.014
<u>Subset 3: Overt + Relational</u>				
Overt	1.118	0.752	0.211	0.137
Relational	0.828	0.496	0.165	0.095
Males				
<u>Subset 1: Overt</u>				
Overt	2.042	1.123	0.388	0.069
<u>Subset 2: Relational</u>				
Relational	1.983	0.512	0.385	0.000
<u>Subset 3: Overt + Relational</u>				
Overt	1.415	1.269	0.269	0.265
Relational	1.353	0.584	0.262	0.021
Females				
<u>Subset 1: Overt</u>				
Overt	0.515	0.343	0.096	0.343
<u>Subset 2: Relational</u>				
Relational	0.294	0.728	0.061	0.687
<u>Subset 3: Overt + Relational</u>				
Overt	0.465	0.300	0.087	0.121
Relational	0.094	0.768	0.019	0.903

Table B3

All Subsets Regression of Teacher-Reported Internalizing Problems on Overt and Relational Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Overall				
<u>Subset 1: Overt</u>				
Overt	0.160	0.053	0.341	0.003
<u>Subset 2: Relational</u>				
Relational	0.085	0.065	0.191	0.193
<u>Subset 3: Overt + Relational</u>				
Overt	0.150	0.054	0.318	0.006
Relational	0.023	0.023	0.051	0.723
Males				
<u>Subset 1: Overt</u>				
Overt	0.193	0.067	0.426	0.004
<u>Subset 2: Relational</u>				
Relational	0.024	0.050	0.055	0.630
<u>Subset 3: Overt + Relational</u>				
Overt	0.229	0.063	0.506	0.000
Relational	-0.078	0.050	-0.176	0.116
Females				
<u>Subset 1: Overt</u>				
Overt	0.158	0.076	0.324	0.037
<u>Subset 2: Relational</u>				
Relational	0.148	0.081	0.336	0.070
<u>Subset 3: Overt + Relational</u>				
Overt	0.104	0.066	0.212	0.118
Relational	0.103	0.066	0.235	0.119

Table B4

All Subsets Regression of Teacher-Reported Externalizing Problems on Overt and Relational Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Overall				
<u>Subset 1: Overt</u>				
Overt	0.052	0.036	0.111	0.152
<u>Subset 2: Relational</u>				
Relational	-0.014	0.034	-0.032	0.677
<u>Subset 3: Overt + Relational</u>				
Overt	0.073	0.059	0.155	0.222
Relational	-0.045	0.058	-0.100	0.441
Males				
<u>Subset 1: Overt</u>				
Overt	0.056	0.052	0.114	0.278
<u>Subset 2: Relational</u>				
Relational	-0.021	0.064	-0.043	0.746
<u>Subset 3: Overt + Relational</u>				
Overt	0.083	0.093	0.169	0.373
Relational	-0.058	0.103	-0.120	0.573
Females				
<u>Subset 1: Overt</u>				
Overt	0.030	0.019	0.068	0.117
<u>Subset 2: Relational</u>				
Relational	0.000	0.042	-0.001	0.994
<u>Subset 3: Overt + Relational</u>				
Overt	0.039	0.027	0.088	0.152
Relational	-0.017	0.046	-0.043	0.709

Table B5
All Subsets Regression of Teacher-Reported School Problems on Overt and Relational Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Overall				
<u>Subset 1: Overt</u>				
Overt	0.020	0.049	0.043	0.680
<u>Subset 2: Relational</u>				
Relational	0.031	0.063	0.070	0.618
<u>Subset 3: Overt + Relational</u>				
Overt	0.007	0.035	0.015	0.841
Relational	0.028	0.056	0.064	0.612
Males				
<u>Subset 1: Overt</u>				
Overt	-0.005	0.063	-0.012	0.933
<u>Subset 2: Relational</u>				
Relational	-0.014	0.091	-0.032	0.876
<u>Subset 3: Overt + Relational</u>				
Overt	0.002	0.061	0.004	0.978
Relational	-0.015	0.097	-0.033	0.878
Females				
<u>Subset 1: Overt</u>				
Overt	0.069	0.078	0.139	0.379
<u>Subset 2: Relational</u>				
Relational	0.111	0.066	0.248	0.092
<u>Subset 3: Overt + Relational</u>				
Overt	0.013	0.108	0.026	0.905
Relational	0.105	0.083	0.236	0.205

Table B6

All Subsets Regression of Peer Liking on Overt and Relational Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Overall				
<u>Subset 1: Overt</u>				
Overt	-0.101	0.035	-0.214	0.003
<u>Subset 2: Relational</u>				
Relational	-0.085	0.034	-0.190	0.014
<u>Subset 3: Overt + Relational</u>				
Overt	-0.077	0.036	-0.162	0.035
Relational	-0.053	0.035	-0.118	0.127
Males				
<u>Subset 1: Overt</u>				
Overt	-0.128	0.054	-0.284	0.018
<u>Subset 2: Relational</u>				
Relational	-0.100	0.045	-0.226	0.027
<u>Subset 3: Overt + Relational</u>				
Overt	-0.103	0.076	-0.228	0.174
Relational	-0.054	0.071	-0.123	0.441
Females				
<u>Subset 1: Overt</u>				
Overt	-0.072	0.055	-0.141	0.192
<u>Subset 2: Relational</u>				
Relational	-0.050	0.085	-0.110	0.552
<u>Subset 3: Overt + Relational</u>				
Overt	-0.059	0.069	-0.115	0.395
Relational	-0.025	0.094	-0.055	0.788

Table B7
*All Subsets Regression of Listening Comprehension on Overt and Relational
 Victimization*

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Overall				
<u>Subset 1: Overt</u>				
Overt	-0.058	0.955	-0.008	0.952
<u>Subset 2: Relational</u>				
Relational	-0.794	0.876	-0.112	0.364
<u>Subset 3: Overt + Relational</u>				
Overt	0.392	1.014	0.053	0.699
Relational	-0.959	0.868	-0.136	0.269
Males				
<u>Subset 1: Overt</u>				
Overt	-0.220	1.225	-0.031	0.858
<u>Subset 2: Relational</u>				
Relational	-0.899	0.423	-0.131	0.034
<u>Subset 3: Overt + Relational</u>				
Overt	0.249	1.563	0.036	0.873
Relational	-1.010	0.799	-0.147	0.206
Females				
<u>Subset 1: Overt</u>				
Overt	0.078	1.376	0.009	0.955
<u>Subset 2: Relational</u>				
Relational	-0.592	1.634	-0.078	0.717
<u>Subset 3: Overt + Relational</u>				
Overt	0.515	1.549	0.061	0.739
Relational	-0.816	1.792	-0.108	0.649

Appendix C

Results of Regression Analyses: Research Question 6

Table C1

All Subsets Regression of Self-Reported Depression on Aggression and Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Predicted from self-reports				
<u>Subset 1: Victimization</u>				
Victimization	3.348	0.767	0.386	0.000
<u>Subset 2: Aggression</u>				
Aggression	3.807	1.228	0.315	0.002
<u>Subset 3: Vic + Agg</u>				
Victimization	2.647	1.540	0.305	0.086
Aggression	1.767	2.176	0.146	0.417
Predicted from peer-reports				
<u>Subset 1: Victimization</u>				
Victimization	0.349	0.640	0.049	0.586
<u>Subset 2: Aggression</u>				
Aggression	0.303	0.652	0.043	0.643
<u>Subset 3: Vic + Agg</u>				
Victimization	0.265	0.909	0.037	0.771
Aggression	0.178	0.965	0.025	0.854
Predicted from teacher reports				
<u>Subset 1: Victimization</u>				
Victimization	-0.081	0.544	-0.011	0.882
<u>Subset 2: Aggression</u>				
Aggression	0.164	0.668	0.023	0.806
<u>Subset 3: Vic + Agg</u>				
Victimization	-0.129	0.021	-0.018	0.365
Aggression	0.196	0.070	0.028	0.687

Table C2

All Subsets Regression of Self-Reported Anxiety on Aggression and Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Predicted from self-reports				
<u>Subset 1: Victimization</u>				
Victimization	3.528	0.604	0.329	0.000
<u>Subset 2: Aggression</u>				
Aggression	3.299	0.768	0.172	0.000
<u>Subset 3: Vic. + Agg.</u>				
Victimization	4.638	0.652	0.337	0.000
Aggression	-0.275	0.503	-0.014	0.584
Predicted from peer-reports				
<u>Subset 1: Victimization</u>				
Victimization	-0.322	1.747	-0.029	0.854
<u>Subset 2: Aggression</u>				
Aggression	-0.590	1.122	-0.526	0.599
<u>Subset 3: Vic. + Agg.</u>				
Victimization	-0.057	1.648	-0.005	0.972
Aggression	-0.563	1.826	-0.050	0.758
Predicted from teacher reports				
<u>Subset 1: Victimization</u>				
Victimization	-0.396	1.686	-0.035	0.814
<u>Subset 2: Aggression</u>				
Aggression	-1.475	1.067	-0.131	0.167
<u>Subset 3: Vic. + Agg.</u>				
Victimization	-0.035	1.187	-0.003	0.976
Aggression	-1.467	1.078	-0.130	0.174

Table C3
*All Subsets Regression of Teacher-Reported Internalizing Problems on
 Aggression and Victimization*

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Predicted from self-reports				
<u>Subset 1: Victimization</u>				
Victimization	0.189	0.115	0.155	0.099
<u>Subset 2: Aggression</u>				
Aggression	0.155	0.193	0.091	0.423
<u>Subset 3: Vic. + Agg.</u>				
Victimization	0.184	0.120	0.150	0.125
Aggression	0.014	0.208	0.008	0.947
Predicted from peer-reports				
<u>Subset 1: Victimization</u>				
Victimization	0.326	0.170	0.328	0.055
<u>Subset 2: Aggression</u>				
Aggression	0.268	0.177	0.270	0.129
<u>Subset 3: Victim</u>				
Victimization	0.257	0.125	0.258	0.040
Aggression	0.148	0.131	0.149	0.258
Predicted from teacher reports				
<u>Subset 1: Victimization</u>				
Victimization	0.365	0.095	0.366	0.000
<u>Subset 2: Aggression</u>				
Aggression	0.257	0.184	0.259	0.162
<u>Subset 3: Vic. + Agg.</u>				
Victimization	0.321	0.123	0.322	0.009
Aggression	0.177	0.214	0.178	0.407

Table C4
All Subsets Regression of Teacher-Reported Externalizing Problems on Aggression and Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Predicted from self-reports				
<u>Subset 1: Victimization</u>				
Victimization	0.228	0.126	0.187	0.070
<u>Subset 2: Aggression</u>				
Aggression	0.426	0.128	0.251	0.001
<u>Subset 3: Vic. + Agg</u>				
Victimization	0.085	0.151	0.070	0.572
Aggression	0.361	0.164	0.212	0.028
Predicted from peer-reports				
<u>Subset 1: Victimization</u>				
Victimization	0.374	0.091	0.376	0.000
<u>Subset 2: Aggression</u>				
Aggression	0.707	0.084	0.710	0.000
<u>Subset 3: Vic. + Agg.</u>				
Victimization	0.054	0.065	0.055	0.402
Aggression	0.681	0.100	0.685	0.000
Predicted from teacher reports				
<u>Subset 1: Victimization</u>				
Victimization	0.186	0.139	0.187	0.179
<u>Subset 2: Aggression</u>				
Aggression	0.829	0.042	0.832	0.000
<u>Subset 3: Vic. + Agg.</u>				
Victimization	-0.022	0.027	-0.022	0.417
Aggression	0.834	0.040	0.838	0.000

Table C5

All Subsets Regression of Teacher-Reported School Problems on Aggression and Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Predicted from self-reports				
<u>Subset 1: Victimization</u>				
Victimization	0.208	0.080	0.170	0.009
<u>Subset 2: Aggression</u>				
Aggression	0.301	0.080	0.177	0.000
<u>Subset 3: Vic. + Agg.</u>				
Victimization	0.127	0.081	0.104	0.116
Aggression	0.203	0.073	0.119	0.005
Predicted from peer-reports				
<u>Subset 1: Victimization</u>				
Victimization	0.280	0.156	0.281	0.073
<u>Subset 2: Aggression</u>				
Aggression	0.257	0.071	0.258	0.000
<u>Subset 3: Vic. + Agg.</u>				
Victimization	0.204	0.186	0.205	0.273
Aggression	0.161	0.097	0.162	0.097
Predicted from teacher reports				
<u>Subset 1: Victimization</u>				
Victimization	0.281	0.127	0.282	0.027
<u>Subset 2: Aggression</u>				
Aggression	0.280	0.128	0.281	0.029
<u>Subset 3: Vic. + Agg.</u>				
Victimization	0.226	0.144	0.226	0.116
Aggression	0.224	0.129	0.225	0.083

Table C6

All Subsets Regression of Peer Liking on Aggression and Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Predicted from self-reports				
<u>Subset 1: Victimization</u>				
Victimization	-0.184	0.167	-0.150	0.271
<u>Subset 2: Aggression</u>				
Aggression	-0.373	0.107	-0.218	0.001
<u>Subset 3: Vic. + Agg.</u>				
Victimization	-0.052	0.225	-0.042	0.817
Aggression	-0.333	0.228	-0.195	0.145
Predicted from peer-reports				
<u>Subset 1: Victimization</u>				
Victimization	-0.392	0.059	-0.392	0.000
<u>Subset 2: Aggression</u>				
Aggression	-0.343	0.065	-0.343	0.000
<u>Subset 3: Vic. + Agg.</u>				
Victimization	-0.296	0.075	-0.296	0.000
Aggression	-0.204	0.084	-0.204	0.015
Predicted from teacher reports				
<u>Subset 1: Victimization</u>				
Victimization	-0.433	0.114	-0.433	0.001
<u>Subset 2: Aggression</u>				
Aggression	-0.399	0.072	-0.399	0.000
<u>Subset 3: Vic. + Agg.</u>				
Victimization	-0.356	0.107	-0.356	0.001
Aggression	-0.311	0.045	-0.311	0.000

Table C7
All Subsets Regression of Listening Comprehension on Aggression and Victimization

Predictors	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Predicted from self-reports				
<u>Subset 1: Victimization</u>				
Victimization	-0.413	2.079	-0.021	0.842
<u>Subset 2: Aggression</u>				
Aggression	-1.941	1.009	-0.072	0.054
<u>Subset 3: Vic. + Agg.</u>				
Victimization	0.508	2.660	0.026	0.848
Aggression	-2.334	2.059	-0.086	0.257
Predicted from peer-reports				
<u>Subset 1: Victimization</u>				
Victimization	-3.789	0.852	-0.238	0.000
<u>Subset 2: Aggression</u>				
Aggression	-0.473	1.698	-0.030	0.781
<u>Subset 3: Vic. + Agg.</u>				
Victimization	-4.598	1.637	-0.289	0.005
Aggression	1.696	2.367	0.107	0.474
Predicted from teacher reports				
<u>Subset 1: Victimization</u>				
Victimization	-4.204	2.089	-0.266	0.044
<u>Subset 2: Aggression</u>				
Aggression	-0.996	1.769	-0.063	0.574
<u>Subset 3: Vic. + Agg.</u>				
Victimization	-4.209	2.409	-0.266	0.081
Aggression	0.019	1.843	0.001	0.992

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