

RUNNING HEAD: PEER VICTIMIZATION IN CHILDREN

PEER VICTIMIZATION AND INTERNALIZING SYMPTOMS IN CHILDREN

by

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## Peer Victimization and Internalizing Symptoms in Children

### Abstract

The primary purpose of this investigation was to examine the relationships among peer victimization, global self-worth, social support, and internalizing behaviors (e.g., anxiety, social anxiety, and depression). Of particular interest were the potential mediating and moderating roles of global self-worth and social support in the anticipated relationships between peer victimization and internalizing symptoms. All sixth grade children from a public middle school completed self-report measures representing the constructs previously described. Reported levels of peer victimization were found to be similar to those reported in previous studies. In addition, significant associations were found among all variables of interest, with the exception of social support and total anxiety. Global self-worth was found to partially mediate the peer victimization-social anxiety and peer victimization-depression relationships. These findings suggest that victimization experiences may negatively influence children's views of themselves and help explain the elevated levels of depression and social anxiety also reported by them. Furthermore, global self-worth moderated the peer victimization-total anxiety relationship, such that children with higher global self-worth reported fewer total anxiety symptoms than children with lower global self-worth. However, analyses failed to support the role of social support as either a mediator or moderator in the relationships examined. Findings are integrated into the literature regarding peer victimization and internalizing symptomology.

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## Peer Victimization and Internalizing Symptoms in Children

The primary purpose of this study was to examine the relationship between peer victimization and internalizing symptomology. Furthermore, this study intended to determine the potential roles of self-esteem and social support in either moderating or mediating this proposed relationship.

Empirical literature regarding childhood internalizing disorders, specifically anxiety and depression, has flourished over the past several years. Although the term anxiety has been used to describe a variety of symptoms, the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; APA, 1994) has identified eight distinct categories that are subsumed under the anxiety disorders classification section. These include: separation anxiety disorder, panic disorder with or without agoraphobia, specific phobia, social phobia, obsessive-compulsive disorder, post-traumatic stress disorder, and generalized anxiety disorder. In a more general sense, anxiety has been defined as a complex interaction among three types of reactions to a perceived threat: motor responses (e.g., avoidance, stuttering, nail biting), physiological responses (e.g., heart rate, muscle tension), and subjective responses (e.g., thoughts of being scared, thoughts of inadequacy; Wicks-Nelson & Israel, 1991). Thus, in addition to research regarding the DSM diagnostic groups, an extensive amount of empirical literature has emerged which has examined anxiety at the symptom level, especially in non-clinical samples. With this approach, researchers investigate anxiety along a continuum of symptoms in terms of severity and frequency (Seligman & Ollendick, 2000) using self-report measures such as the Multidimensional Anxiety Scale for Children (MASC; March, 1997) and the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978).

Regarding depression in children, the dominant view in the last few years has been that the essential features of this disorder parallel those manifested in adults (Wicks-Nelson & Israel, 1991). This view is further supported by the fact that the most recent version of the DSM does not provide separate diagnostic categories for childhood and adult depressive disorders (APA, 1994). According to the DSM-IV, the primary features of a major depressive episode have been described as depressed or irritable mood and a loss of interest or pleasure. Additional associated symptoms include: weight changes, sleep disturbances, psychomotor agitation or retardation, fatigue, feelings of worthlessness or inappropriate guilt, loss of concentration or indecisiveness, and recurrent thoughts of death or suicidal ideation. In order for a diagnosis of major depressive disorder to be made, at least five of these symptoms must be present nearly everyday for at least two weeks (APA, 1994). However, similar to anxiety disorders, there exists an extensive amount of literature regarding feelings of depression in children as measured by self-reported frequency and severity of symptoms. The Children's Depression Inventory (CDI; Kovacs, 1992) and the Reynolds Adolescent Depression Scale (RADS; Reynolds, 1986) are scales that have been developed to investigate depressive symptomology in this manner.

In addition to the feelings of fear and sadness inherent within descriptions of anxiety and depression, researchers have found that a number of negative behavioral and psychological problems are also commonly associated with them. For instance, studies have found that anxious and depressed children often also evidence school refusal behaviors (Bernstein & Garfinkel, 1986), social incompetence (La Greca, Dandes, Wick, Shaw, & Stone, 1988; Strauss, Last, Hersen, & Kazdin, 1988), and feelings of loneliness

(Asher, Hymel, & Renshaw, 1984; Crick & Ladd, 1993). These associated problems share an interpersonal component and suggest that social concerns may also become prominent in children who have feelings of anxiety and depression.

Despite recent empirical attention, epidemiological studies continue to reveal high rates of anxiety and depression in children (Kearney, Eisen, & Schaefer, 1995). For example, anxiety disorders have been consistently cited as the most common disorders in children (Beidel, 1991) with estimated prevalence rates of 8 to 11% (Kearney et al., 1995). Although lower, studies of childhood depression have also yielded high prevalence rates, ranging from 2 to 5% in community samples (Wicks-Nelson & Israel, 1991).

Furthermore, researchers have consistently cited a strong relationship between anxiety and depression (Bernstein & Garfinkel, 1986; King, Gullone, & Ollendick, 1990; King, Ollendick, & Gullone, 1991; Last, Strauss, & Francis, 1987; Ollendick & Yule, 1990; Seligman & Ollendick, 1998; Strauss et al., 1988) as illustrated by the high rates of comorbidity found among children diagnosed with both an anxiety and a depressive disorder. Bernstein and Garfinkel (1986), for instance, examined the comorbidity of anxiety and depression in a sample of clinic-referred adolescent school refusers. The results of this examination revealed that 69% of the adolescents met diagnostic criteria for depression, 62% for an anxiety disorder, and 50% for both depression and an anxiety disorder. Similarly, Strauss et al. (1988) found that 28% of children who received a diagnosis of an anxiety disorder in their study also received a concurrent diagnosis of major depression.

In addition, studies of nonclinical child samples have consistently yielded significant relationships between self-reported anxiety and depressive symptoms using self-report measures (Norvell, Brophy, & Finch, 1985; Saylor, Finch, Spirito, & Bennett, 1984). For instance, Ollendick and Yule (1990) found a significant positive relationship between measures of anxiety (RCMAS; Reynolds & Richmond, 1978) and depression (C DI; Kovacs, 1981) in both British ( $r = .64$ ) and American ( $r = .61$ ) children.

Thus, in view of the high rates of internalizing disorders found in children and adolescents, as well as the numerous difficulties associated with these disorders, it seems pertinent that researchers continue to explore factors that may influence their development. Two such factors will be highlighted in the current study: social support and self-worth.

### Social Support and Self-Worth

Social support and self-worth are two factors that have consistently been identified as developmental precursors to anxious and depressive symptomology in children (Bennett & Bates, 1995; DuBois, Felner, Brand, Adan, & Evans, 1992; LaGreca & Fetter, 1995; Renouf, Kovacs, & Mukerji, 1997). For example, supportive peer and familial relationships as well as high self-worth have been enlisted as potential protective factors regarding the development of internalizing symptomology in the face of life stressors (LaGreca & Fetter, 1995; Renouf et al., 1997). In contrast, children who are rejected by their peers or lack familial support as well as those who display low self-worth have been found to be at a greater risk for the development of anxiety and depressive disorders (Bennett & Bates, 1995; DuBois et al., 1992).

Evidence regarding the effects of supportive versus non-supportive family relationships has been demonstrated in a number of recent investigations. For instance, Bennett and Bates (1995) found that young adolescents who perceived their peer and familial relationships as supportive reported less depressive symptoms. Furthermore, Sheeber, Hops, Alpert, Davis, and Andrews (1997) conducted a 2-year longitudinal study to examine the effects of familial support on adolescents using a battery of depression and family environment measures. Results of this study demonstrated the importance of family support, such that less supportive family environments were related to higher ratings of depression both concurrently and prospectively over a 1-year period. In addition, the adolescents' depressive symptoms at 2-year follow-up continued to be influenced by problematic family relationships. Similarly, Windle (1992) found that low family support, as reported by adolescent girls, served as a predictor of later depressive symptomology.

The relationship between peer social support and internalizing symptoms is illustrated by the abundance of reports indicating that children who experience interpersonal difficulties with their peers (e.g., social rejection/neglect) also tend to lack close supportive peer relationships. In addition, these children have been found to be at substantial risk for a myriad of emotional problems (LaGreca & Fetter, 1995; Ollendick, Greene, Weist, & Oswald, 1990; Ollendick, Weist, Borden, & Greene, 1992; Wicks-Nelson & Israel, 1991). A number of possible models have been hypothesized to explain the relations among these factors (e.g., causal model, vulnerability model, incidental marker model). Among these, a number of researchers have suggested that the causal model has the most promise in terms of explaining the development of maladaptive

behaviors (Kupersmidt, Coie, & Dodge, 1990; LaGreca & Fetter, 1995; Parker & Asher, 1987).

The basic assumption underlying the causal model is that children who are not liked by their peers fail to obtain the normal socialization experiences that are important for social, affective, and cognitive development. Furthermore, two possible mediating pathways have been suggested to link poor peer relations and later maladjustment (Kupersmidt et al., 1990). The first potential pathway builds on the notion that peer acceptance allows for positive interactions with peers, which in turn, bolsters the development of social and affective competencies. Accordingly, children with low peer acceptance (e.g., social neglect) as well as those who are actively excluded by their peers (e.g., social reject), may develop social-emotional deficiencies which can then lead to later maladjustment. In the second proposed pathway, it is suggested that peer rejection leads to higher levels of internal distress (feelings of loneliness or inadequacy), which may foster maladaptive behaviors (Kupersmidt et al., 1990).

Support for this causal model has been demonstrated through findings which show that peer acceptance is associated with positive social skills and adaptive emotional functioning whereas peer rejection and neglect are associated with internal distress and behavioral problems (LaGreca & Fetter, 1995; Parker & Asher, 1987). For example, low levels of peer acceptance during the fifth and sixth grades have been found to predict rates of school dropout in adolescence (Kupersmidt, 1983 as cited in LaGreca & Fetter, 1995). Moreover, children who are rejected or neglected by their peers in elementary school, as compared with their more peer accepted classmates, have been found to display a greater number of mental health problems during late adolescence and early adulthood

(Cowen et al., 1973). In addition, a number of studies have shown that children who present with anxiety disorders often also report feeling more socially neglected than their non-anxious peers (Strauss, Lease, Kazdin, Dulcan, & Last, 1989).

Similar to the findings regarding social support, there appears to be a well established association between self-worth and mood states such as depression, loneliness, and anxiety (Fennell, 1997). Due to these findings, some researchers have suggested that low self-worth may act as an additional risk factor for depression (Orvaschel, Beeferman, & Kabacoff, 1997). Orvaschel et al. (1997), for example, examined the relationship between depression and self-worth in children and adolescents who were consecutively referred to an outpatient mood disorder clinic. These researchers found a significant negative correlation between self-worth and depression such that children who reported greater levels of depression also indicated lower self-worth on self-report measures.

In summary, there is an abundance of literature establishing a link between low social support and self-worth with childhood symptoms of psychopathology, in general. In addition, there appears to be consensus among researchers that low self-worth, as well as a lack of positive social support, places children at particular risk for later developing symptoms of depression and anxiety. However, several questions remain regarding the exact nature of these relationships. For instance, it could be that self-worth and social support mediate relationships between antecedent factors and internalizing symptomology. On the other hand, self-worth and social support may act as moderating variables. In particular, these two factors in combination with antecedent conditions may serve to either increase or decrease the likelihood of developing anxious and depressive

symptomology, more so than the antecedents acting alone. With these questions in mind, it seems equally pertinent to investigate the antecedent conditions which may be associated with self-worth and social support. One potential antecedent that has recently begun to receive attention is peer victimization, also commonly referred to as bullying or teasing.

### Peer Victimization

Although there have been a number of recent studies which have examined the effects of peer victimization on children, one major problem with the empirical literature in this area is the lack of conceptual clarity regarding what constitutes such behavior (Pawluk, 1989). For example, terms such as “victimizing”, “bullying”, “teasing”, “taunting”, and “mobbing” abound in the early literature, often times with studies using completely different definitions of the same term or similar definitions across terms. Nevertheless, there appears to be a growing amount of consensus and usage of the comprehensive definition of peer victimization put forth by Olweus (1991; 1993a,b,c; 1997a,b).

According to Olweus (1991; 1993a,b,c; 1997a,b), a person is considered victimized if he or she is repeatedly exposed to negative actions from at least one other person over time. A negative action is defined as an intentional attempt or infliction of discomfort which may take the form of: physical contact, words, facial expressions and gestures, intentional defiance of one’s wishes or requests, or social isolation and exclusion. In addition, some researchers have further distinguished between direct or openly confrontational acts (e.g., physical or verbal assaults) and indirect or covertly manipulative acts (e.g., ostracism, social manipulation) of victimization (Maynard &

Joseph, 2000). Similarly, some have suggested a distinction between passive and provocative victims (Olafsen & Viemero, 2000; Olweus, 1991; 1993a; 1997a,b). Passive victims tend to evidence an anxious reaction pattern, cry and withdraw in response to victimization, express more negative views of violence, are physically weaker, and possess more negative views of themselves. In contrast, provocative victims tend to evidence a combination of anxious and aggressive behaviors and are frequently hyperactive (Olweus, 1991; 1993a; 1997a,b).

It is important to note that although the majority of studies in this area have focused on the problems inherent within children who are identified as bullies, victims, or both, due to the particular relevance to the present investigation, only the findings regarding victims will be discussed here.

Due to the numerous definitions of peer victimization found in the literature it is difficult to clearly identify the prevalence rates for victims of these behaviors. For example, Byrne (1994) reported that the incidence of peer victimization in American children and adolescents has been found to differ considerably, with ranges varying between 3% and 38%. However, when more specific definitions of victimization were employed in samples of Australian elementary school children, Slee and his colleagues (Slee, 1995; Slee & Rigby, 1993) identified somewhat lower rates. Specifically, approximately 8% of subjects in both studies indicated that they were victimized on most days or more and approximately 20% of the remaining students reported that they were victimized once a week or more (17%; Slee, 1995; 26%; Slee & Rigby, 1993).

Despite the variability in cited prevalence rates, it is clear that victimization is a common problem reported by school children. Furthermore, due to the intimidation

tactics often associated with peer victimization, it seems likely that reported percentages actually underestimate occurrences of these behaviors (Ross, 1996). In addition, it seems that the child who experiences victimization only once is the exception. That is, a child who has been labeled as victimized at one point in time, tends to preserve that label years later (Kumpulainen, Rasanen, & Henttonen, 1999; Olweus, 1997a,b; Perry, Kusel, & Perry, 1988), even when the child has been moved to a new classroom (Salmivalli, Lappalainen, & Lagerspetz, 1998).

Due to their repeated exposure to potentially harmful situations, children who are victimized may become hypervigilant to their surroundings and the opinions of others. Therefore, it should not be surprising if children who are victimized by their peers develop symptoms of anxiety, particularly in social situations, and depression. Furthermore, Roth, Coles, and Heimberg (in press) have suggested that a vicious cycle may develop in victimized children who come to experience these internalizing feelings. This cycle is fueled by children's desire to avoid/escape their anxiety in social situations, thus potentially leading to their avoidance of social activities altogether. Without exposure to these activities, however, children are denied the normative socialization experiences necessary for learning appropriate social skills as well as discovering that they can experience positive social events. Thus, this social distress/avoidance cycle may also potentially make children further targets for peer victimization (Roth et al., in press). Regarding depression, it has been suggested that a negative cognitive style characterized by thoughts of learned helplessness and lack of control over one's life may develop in victimized children (Roth et al., in press). Thus, it seems apparent that this cognitive style, in combination with the poor feelings about the self that frequently follow a peer

attack, could lead victimized children to struggle with depression. These suggested relationships have been supported by results of several recent investigations which have identified an association between peer victimization and internalizing symptomology both while the victimization is occurring and later in life.

Regarding the immediate effects of victimization, it has been found that victims report significantly higher levels of anxiety (Craig, 1998), social anxiety (Craig, 1998; Walters & Inderbitzen, 1998), and depressive symptoms (Callaghan & Joseph, 1995; Craig, 1998; Kumpulainen et al., 1998; Neary & Joseph, 1994; Slee, 1995). For example, Slee (1994) found a significant correlation between victimization and fear of negative evaluation (a component of social anxiety) in male and female fourth through seventh grade children as well as between victimization and social avoidance in female children. Investigators have also consistently found significant associations between victimization and depression in both male (Olweus, 1993b,c; Slee, 1995) and female (Neary & Joseph, 1994; Slee, 1995) adolescents. Finally, in a large study of middle school children classified as bullied, victimized, or comparison, Craig (1998) found that victimized children reported significantly greater anxiety than children in either of the two other groups (i.e., bullies and comparison) as well as more depression than comparison children.

Although it has been reported that victimizing behaviors tend to decrease with age (Byrne, 1994), others have found that the negative effects of having been teased as a child persist into the adolescent years (Bernstein & Watson, 1997; Fabian & Thompson, 1989; Kumpulainen et al., 1999; Kutner, 1991; Olweus, 1993b,c; Roth et al., in press; Warm, 1997). The results of several recent investigations illustrate the relationships among peer

victimization and later symptoms of psychopathology. For example, Fabian and Thompson (1989) found a significant relationship between a history of teasing and levels of depression reported by adolescent females aged 13-15. Similarly, Olweus (1993b,c) found that adult males (age 23) who were victimized in grades 9-11, but no longer continued to be so, were more likely to evidence symptoms of depression and low self-worth. In addition, the degree of adult depressive symptoms endorsed was strongly related to the severity of childhood victimization reported (Olweus, 1993b,c). Roth et al. (in press) have reported findings from a recent unpublished study (McCabe et al., 2000 as cited in Roth et al., in press) related to the long-term effects of victimization with regard to social anxiety. That is, McCabe et al. (2000, as cited in Roth et al., in press) reportedly found that 85% of their social anxiety disordered subjects indicated that they had been bullied or severely teased at one time. Finally, in their own study, Roth et al. (in press) examined the relationship between a history of being teased and adult internalizing symptoms in a large number of college students. These researchers found that retrospective reports of victimization were significantly more related to adult levels of trait anxiety, social anxiety, and depression than to adult levels of worry.

In addition, several studies have found that for both male and female children, peer victimization is associated with lower self-worth (Andreou, 2000; Callaghan & Joseph, 1995; Neary & Joseph, 1994; Ross, 1996), greater isolation and lack of support from peers (Ross, 1996; Slee & Rigby, 1993), and lower social acceptance and competence (Callaghan & Joseph, 1995; Neary & Joseph, 1994). In addition, victimization has been related to unhappiness (Ross, 1996; Slee, 1995; Slee & Rigby,

1993), fear (Bernstein & Watson, 1997), and avoidance (Peterson & Rigby, 1999; Slee, 1994) of school.

Relatedly, Perry et al. (1988) discovered that children who were victims of either physical or verbal peer aggression also tended to be socially rejected by their peers. As previously described, social rejection has been associated with elevated levels of loneliness, distress, and depression (Crick & Ladd, 1993) as well as increased risk of school drop-out (Parker & Asher, 1987; Perry et al., 1988). Thus, it seems likely that a lack of social support in combination with victimization may place children at further risk for the development of internalizing symptoms. In fact, Fabian and Thompson (1989) proposed that a lack of social support from family, peers, and others led to the development of depression in the adolescent girls in their study who were victimized. Furthermore, a number of researchers have recently argued that peer victimization directly affects self-worth (Boulton & Underwood, 1992; Ross, 1996; Slee & Rigby, 1993), since students generally report feeling worse about themselves following a peer attack (Peterson & Rigby, 1999; Slee, 1995). Children who are classified as victims have also generally been found to report lower self-worth than their bullying and uninvolved peers, who tend not to differ from one another (Andreou, 2000; Boulton & Underwood, 1992). Thus, as is proposed in the current study, it seems likely that social support and self-worth play an important role in the relationship between victimization and internalizing symptomology (Ross, 1996).

Although a number of different questions and measures have been utilized in the assessment of peer victimization, it has been argued that using a direct measure of such behaviors may lead to responses masked by social desirability or fears of peer retaliation

(Austin & Joseph, 1996). In order to quell such issues, Neary and Joseph (1994) developed a 6-item self-report index of peer victimization (Peer Victimization Scale; PVS), which is subsequently embedded in a frequently used measure of competence, the Self-Perception Profile for Children (SPPC; Harter, 1985). Half of the items on this brief scale are designed to measure peer victimization in terms of negative physical acts whereas the other half are designed to measure negative verbal acts. In a sample of 60 Irish schoolgirls, Neary and Joseph (1994) found that the Peer Victimization Scale discriminated between bullied and non-bullied children as demonstrated through significant self and peer reported mean score differences. These researchers also found that children who indicated higher levels of victimization also indicated lower competency levels on all of the SPPC subscales with the exception of the athletic competence subscale. Of particular interest to the current investigation, a significant relationship was also found between the PVS and global self-worth as well as self-reported depression (Neary & Joseph, 1994). Furthermore, Neary and Joseph's (1994) results have been fully replicated in a subsequent study of schoolgirls by Callaghan and Joseph (1995) as well as in a study of boys and girls by Austin and Joseph (1996).

In summary, results from numerous empirical studies suggest a network of relationships among peer victimization, self-worth, social support, and internalizing symptomology. Nevertheless, the specific pathways among these variables are less clear. Therefore, the current study attempts to examine two competing models (see Figures 1 and 2) based on the available literature regarding the relationships among peer victimization, self-worth, social support, and internalizing symptomology (e.g., anxiety

and depression). In addition, social anxiety concerns were specifically assessed in this study due to the interpersonal components at play during a victimization experience.

### The Mediator Model

The first, or mediated, model (see Figure 1) proposes that peer victimization will negatively affect social support and self-worth in victimized children which will, in turn, lead to greater levels of anxiety, social anxiety, and depression as indicated on self-report measures of these variables. Specifically, since it has been found that peer rejection often follows the occurrence of victimization (Parker & Asher, 1987; Ross, 1996), it seems likely that victimized children will lack supportive peer relationships. In addition, victimized children may fear retaliation for reporting the occurrence of the behaviors (e.g., to school officials or parents), thus preventing them from turning to others for support. Regarding self-worth, it seems that the blatant personal attacks made by peer victimizers would lead to decreased views about the self. This notion is further supported by the previously cited studies, which determined that negative feelings about the self were often found to follow peer victimization (Boulton & Underwood, 1992; Ross, 1996; Slee & Rigby, 1993). Finally, consistent with empirical findings linking a lack of social support and low self-worth with increases in children's ratings of internalizing psychopathology, this model proposes that a negative relationship will be found between measures of social support and self-worth with anxious (overall and social) and depressive symptomology. Thus, it is suggested that social support and self-worth may serve as mediators in the anticipated relationship between levels of peer victimization and symptoms of anxiety, social anxiety, and depression.

Accordingly, the current study examined the potential mediating role of social support and self-worth in the anticipated relationship between peer victimization and self-reported internalizing symptoms. Specifically, it was hypothesized that social support and self-worth would explain much of the anticipated variance in the number of depressive and anxious symptoms reported by victims. A mediating effect for social support and self-worth would be established if the statistical relationship between victimization and internalizing symptoms was found to abate once the associations between social support and self-worth with internalizing symptoms was determined (Baron & Kenny, 1986; Holmbeck, 1997).

#### Mediating Model Hypotheses

1. Peer victimization will be associated with social support, self-worth, anxiety, social anxiety, and depression.
2. Social support and self-worth are expected to be associated with anxiety, social anxiety, and depression.
3. Once social support and self-worth are controlled for, the relationships established between peer victimization and anxiety, social anxiety, and depression will abate.

#### The Moderator Model

The second model (see Figure 2) investigated in the present study concerned the potential moderating role of social support and self-worth in the relationship between peer victimization and internalizing symptomology. Specifically, this model assessed whether the amount of social support and self-worth indicated by children differentially influences the behavioral responses to being victimized by peers. This model is based on empirical findings indicating that greater social support or higher self-worth may act as a

protective factor whereas less social support or lower self-worth may act as a risk factor in the development of internalizing symptomology.

Thus, the current study also examined the potential moderating role of social support and self-worth in the anticipated relationship between peer victimization and self-reported internalizing symptoms. Specifically, it was hypothesized that degree of social support and self-worth would affect feelings of anxiety and depression in victimized children. A moderating effect for these variables would be established if the statistical relationship between victimization and internalizing symptoms were found to be stronger for children indicating lower social support and self-worth than for children indicating higher levels of social support and self-worth (Baron & Kenny, 1986; Holmbeck, 1997).

#### Moderator Model Hypotheses

1. The relationships between peer victimization and total anxiety, social anxiety, and depression will be moderated by social support, such that the peer victimization x social support interaction will predict a significant amount of variance in these outcome measures.
2. The relationships between peer victimization and total anxiety, social anxiety, and depression will be moderated by global self-worth, such that the peer victimization x global self-worth interaction will predict a significant amount of variance in these outcome measures.

### Method

#### Participants

All sixth grade ( $N = 280$ ) students in attendance at Blacksburg Middle School over a two-day period participated in this study. Of these children, there were 148 females

(53%) and 131 males (47%) who ranged in age from 11-13 years ( $M=11.75$ ;  $SD=.53$ ).

The majority of children were Caucasian (83.4%), followed by African American (6.0%), Asian-American (3.4%), Bi-racial (2.6%), Hispanic (1.1%), and Other (3.4%).

### Measures

Demographic Information Form. A brief demographic information form (see Appendix A) was created for purposes of the present study. This form asked children to record their age, gender, and ethnicity.

Self-Perception Profile for Children (SPPC; Harter, 1985). The SPPC is a 36-item scale designed to assess children's self-competence in a number of domains as well as global perceptions of self-esteem. Each item contains two statements that are antithetical to the other (e.g., "Some kids like the kind of person they are BUT Other kids wish that they were different"). The child chooses one of the statements and then rates it as really true or sort-of true. Although this scale provides a score for 6 subscales (i.e., scholastic competence, social acceptance, athletic competence, physical appearance, behavioral conduct, and global self-worth), only the global self-worth (GSW) subscale was used in the present study (see Appendix B). This subscale contains 6 items with half of the items reverse worded. Total scores range from 6-24, with higher scores reflecting more positive feelings of self-worth. Furthermore, the total score on the GSW is divided by six (the number of items comprising the subscale), thus resulting in a subscale mean item score ranging from one to four. Normative and psychometric data for this scale are available for children in grades three through eight. Harter (1985) has reported acceptable internal consistency coefficients for the GSW, ranging from .78 to .84.

Peer Victimization Scale (PVS; Neary & Joseph, 1994). Embedded within the Self-Perception Profile for Children (SPPC), this scale (see Appendix C) contains 6 items designed to measure aspects of victimization through negative physical actions (e.g., being hit and pushed, picked on, and bullied) and negative verbal actions (e.g., being teased, called horrible names, and being laughed at). Created identically in format to the original items on the SPPC, each of the items are antithetical (e.g., “Some children are often teased by other children BUT Other children are not teased by other children”) and scored according to instructions provided by Harter (1985). Thus, for each subject a total score ranging from 6-24 (with higher scores representing more victimization) is computed as well as a subscale mean item score ranging from one to four. This scale has been utilized in several studies with children aged 8-12 years (Austin & Joseph, 1996; Callaghan & Joseph, 1995; Neary & Joseph, 1994) and has been found to possess acceptable internal consistency (Cronbach’s alpha = .83; Neary & Joseph, 1994).

Social Support Scale for Children (SSSC; Harter, 1986). This questionnaire (see Appendix D) consists of 24 antithetical statements (e.g., “Some kids have a close friend who they can tell problems to BUT Other kids don’t have a close friend who they can tell problems to”) that subjects choose and rate as really true or sort-of true for themselves. This scale yields four subscales corresponding to individuals from whom support is received (e.g., parent, classmate, teacher, close friend). Total scores for each subscale range from 6-24 with higher scores representing higher levels of support. In addition, similar to the scoring of the GSW and PVS, each subscale item mean is calculated and may range from one to four. Internal reliability has been demonstrated for each of these subscales among children in grades three through eight with Cronbach’s alpha’s ranging

from .71-.88. It should be noted that in the present study, a composite social support score was calculated and used in all analyses.

Multidimensional Anxiety Scale for Children (MASC; March, 1997). The MASC (see Appendix E) is a 39-item measure which assesses four domains of anxiety (e.g., physical symptoms, harm avoidance, social anxiety, and separation/panic) as well as total anxiety. This measure also provides two additional indexes: one for anxiety disorder and the other for inconsistency ratings. Each item on the MASC is rated on a 4-point Likert Scale ranging from 0 (never true for me) to 3 (often true for me). The present study utilized only the MASC total (MASCT) and Social Anxiety Scale total (SAST) scores. Internal reliability coefficients for all domains of the MASC as well as the total anxiety and anxiety disorders indexes have been reported at acceptable levels, ranging from .61 to .89. Three month test-retest reliability coefficients for all domains of the MASC have also been reported within the satisfactory to excellent range (.70-.93). Normative and psychometric properties for this scale are available for children aged 8-19 years.

Reynolds Adolescent Depression Scale (RADS; Reynolds, 1986). The RADS is a 30-item measure (see Appendix F) designed to assess symptoms associated with depression, including cognitive, motoric-vegetative, somatic, and interpersonal symptoms. All items on this questionnaire are rated on a four point Likert scale (almost never, hardly ever, sometimes, or most of the time) with total scores ranging from 30-120. All but 7 of the items on this scale measure depressive symptomology. The remaining 7 items are inconsistent with depression and are subsequently reverse scored and entered into the total depression score. Internal reliability of the RADS has been estimated in a number of studies (c.f., Reynolds, 1986) with ranges of .91 to .96 reported.

This scale has also been found to possess good test-retest reliability at six weeks (.80), three months (.79), and one year (.63).

### Procedure

All children in grade six from Blacksburg Middle School who were present on the two days of assessment participated in this study. School and administrative consent (e.g., superintendent's office) was granted for these children, thus guaranteeing full participation. All measures were completed under the supervision and guidance of a doctoral level graduate student by children within their last class period, a flex classroom. Counterbalancing was used in the presentation of the questionnaires to prevent order effects and all children included in this study were assessed within the same school week in order to control for extraneous effects.

## Results

### Measure Descriptions

Internal consistency coefficients and norm comparisons were computed for all scales utilized in the current study (see Table 1). All scale mean scores and standard deviations were found to be consistent with their respective published norms. In addition, acceptable internal consistency coefficients were found for all of these scales with Cornbach's alphas ranging from .81 to .91.

To examine potential gender differences in the measures used, a series of independent t-tests were calculated (see Table 2). These analyses revealed significant gender differences for ratings of victimization, social support, and anxiety. Boys reported more victimization than girls on the PVS [ $t(271) = -3.144, p = .002$ ]. In addition, boys reported less social support than girls on the SSSC [ $t(270) = 4.861,$

$p < .000$ ]. Girls, however, reported more anxiety than boys on the MASCT [ $t(276) = 2.799$ ,  $p = .005$ ]. There were no gender differences found on the other measures used (e.g., GSW, SAST, RADS).

#### Sample Reported Peer Victimization

In an earlier study with the PVS, Austin and Joseph (1996) reported utilizing a cut-off score of 2.5 to identify those children who were considered victimized by their peers. Using this criterion, 27.7% ( $N = 76$ ) of the children in the current study reported being victimized. Of these children, 41 (54%) were male, 34 (45%) female, and one (1%) did not specify gender. Specific to the current sample, percentages of children who scored one and two standard deviations ( $SD = .7346$ ) above the mean ( $\bar{X} = 2.0103$ ) were also computed. These calculations revealed that 17.5% and 4.7% of the children scored one (2.75) and two (3.48) standard deviations above the mean, respectively. Due to significant gender differences found on this measure, percentages of males and females who scored one and two standard deviations above the mean were also computed separately (see Table 3).

#### Relationships Among Self-Report Measures

Correlations were calculated among the total scores of the PVS, GSW, SSSC, MASCT, SAST, and RADS; all analyses conducted were one-tailed (see Table 4). Bonferroni corrections to control for experiment-wise error rates were applied.

Significant negative correlations were found between the PVS (higher scores indicate more victimization) and the GSW as well as the PVS and SSSC. This finding indicates that children who reported more victimization experiences also tended to report lower feelings of self-worth and fewer social supports. In addition, significant positive

correlations were observed among the PVS and the MASCT, SAST, and RADS, indicating that children who reported more victimization also tended to report increased feelings of overall anxiety, social anxiety, and depression.

The GSW scale showed a significant positive correlation with the SSSC, indicating that children who indicated lower feelings of self-worth also reported having fewer social supports. In addition, a significant negative correlation was found between this scale and the MASCT, SAST, and RADS, indicating that children who reported lower feelings of self-worth also reported greater total anxiety, social anxiety, and depression. Children who reported fewer social supports also expressed greater social anxiety and depression, as revealed in the significant negative correlations found among the SSSC, SAST, and RADS.

Finally, significant positive correlations were found among the MASCT, SAST, and RADS. These results indicate that children who described themselves as having greater feelings of anxiety (total or social) tended to indicate greater feelings of depression as well.

Thus, as hypothesized, significant correlations were found among all of the measures with the exception of the SSSC total, which did not correlate with the MASCT total. This finding indicates that children's self-report ratings of overall social support were not significantly related to their reported anxiety scores on the MASCT.

#### Mediator Model Tests

Five separate analyses were conducted to examine the potential mediating roles of global self-worth and social support (mediators) in the relationships between peer victimization (predictor variable) and anxiety, social anxiety, and depression (dependent

or criterion variables). As recommended by Holmbeck (1997) and Baron and Kenny (1986), three prerequisites were necessary to examine the mediating role in each of these analyses. That is, a statistically significant relationship had to be established between the predictor and criterion variables, predictor and mediator variables, and mediator and criterion variables. As shown in Table 4 and reported above, these prerequisites were met for all relationships of interest, with the exception of social support and total anxiety. Therefore, the mediating role of social support in the peer victimization-overall anxiety relationship could not be examined. All other mediating tests were pursued.

Peer Victimization (PVS), Social Support (SSSC), and Depression (RADS). To examine the potential mediating role for social support on depression, a partial correlation between victimization and depression was computed while controlling for social support. This analysis resulted in the reduction of the correlation between PVS and RADS from .378 to .272. A one-tailed Fisher's  $r$  to  $z$  transformation was conducted to determine whether there was a significant difference in these two correlations. The correlation between PVS and RADS, controlling for social support, was not significantly reduced, suggesting that social support did not mediate the relationship between peer victimization and depression. Moreover, the relationship between PVS and RADS remained statistically significant ( $p < .001$ ).

Peer Victimization (PVS), Social Support (SSSC), and Total Social Anxiety (SAST). To examine the potential mediating role for social support on total social anxiety, a partial correlation between victimization and social anxiety was computed while controlling for social support. This analysis resulted in the reduction of the correlation between PVS and SAST from .248 to .202. A one-tailed Fisher's  $r$  to  $z$

transformation was conducted to determine whether there was a significant difference in these two correlations. The correlation between PVS and SAST, controlling for social support, was not significantly reduced, suggesting that social support did not mediate the relationship between peer victimization and total social anxiety. The relationship between PVS and SAST remained statistically significant ( $p < .001$ ).

Peer Victimization (PVS), Global Self-Worth (GSW), and Depression (RADS).

To examine the potential mediating role for global self-worth on depression, a partial correlation between victimization and depression was computed while controlling for global self-worth. This analysis resulted in the reduction of the correlation between PVS and RADS from .378 to .118. A one-tailed Fisher's  $r$  to  $z$  transformation was conducted to determine whether there was a significant difference in these two correlations. The correlation between PVS and RADS was significantly reduced ( $p < .01$ ), suggesting that global self-worth partially mediated the relationship between peer victimization and depression. The relationship between PVS and RADS, although significantly reduced by the inclusion of global self-worth, remained statistically significant ( $p < .05$ ).

Peer Victimization (PVS), Global Self-Worth (GSW), and Total Anxiety (MASCT). The potential mediating role for global self-worth on total anxiety was assessed by computing a partial correlation between victimization and total anxiety while controlling for global self-worth. This analysis resulted in the reduction of the correlation between PVS and MASCT from .192 to .098. A one-tailed Fisher's  $r$  to  $z$  transformation was conducted to determine whether there was a significant difference in these two correlations. The correlation between PVS and MASCT, controlling for global self-worth, was not significantly reduced, suggesting that global self-worth did not mediate

the relationship between peer victimization and total anxiety. The relationship between PVS and MASCT remained statistically significant ( $p = .05$ ).

Peer Victimization (PVS), Global Self-Worth (GSW), and Total Social Anxiety (SAST). To examine the potential mediating role for global self-worth on social anxiety, a partial correlation between victimization and total social anxiety was computed while controlling for global self-worth. This analysis resulted in the reduction of the correlation between PVS and SAST from .248 to .082. A one-tailed Fisher's  $r$  to  $z$  transformation was conducted to determine whether there was a significant difference in these two correlations. The correlation between PVS and SAST was significantly reduced ( $p < .05$ ), suggesting that global self-worth partially mediated the relationship between peer victimization and social anxiety. Once reduced by the inclusion of global self-worth, the relationship between PVS and SAST did not remain statistically significant.

Summary of Mediator Analyses. In summary, two of the three mediation models examined regarding global self-worth and none of the mediation models involving social support were found to be significant. Global self-worth was found to partially account for the variance in the peer victimization-social anxiety and peer victimization-depression relationships.

#### Moderator Model Tests

Six separate hierarchical regression analysis were conducted in order to examine the hypothesized moderating roles of social support and global self-worth. In each of these analyses, peer victimization was first entered into the regression, followed by the proposed moderating variable (i.e., social support or global self-worth), and finally the interaction variable (e.g., peer victimization x social support).

Peer Victimization (PVS), Social Support (SSSC), and Depression (RADS). In order to examine whether social support moderated the relationship between peer victimization and depression, depression was first regressed on the peer victimization scale and then on social support. Then, the social support x victimization interaction variable was entered into the regression equation (see Table 5). The  $R^2$  regressing RADS on PVS was .140. Including social support increased the  $R^2$  to .191, a significant increase. Including the victimization x social support interaction resulted in no change in  $R^2$ , however. Although inclusion of this interaction did not account for a statistically significant amount of the variance, the overall model predicting depression was significant.

Peer Victimization (PVS), Social Support (SSSC), and Total Anxiety (MASCT). In order to examine whether social support moderated the relationship between peer victimization and anxiety, total anxiety was first regressed on the peer victimization scale and then on total social support. Then, the social support x victimization interaction variable was entered into the regression equation (see Table 6). The  $R^2$  regressing MASCT on PVS was .033. Including total social support increased the  $R^2$  to .041, a non-significant increase. Including the victimization x social support interaction did not result in an  $R^2$  increase, and therefore did not account for a statistically significant amount of the variance. Although moderation was not demonstrated, the overall model predicting total anxiety was significant.

Peer Victimization (PVS), Social Support (SSSC), and Total Social Anxiety (SAST). In order to examine whether social support moderated the relationship between peer victimization and social anxiety, total social anxiety was first regressed on the peer

victimization scale and then on social support. Then, the social support x victimization interaction variable was entered into the regression equation (see Table 7). The  $R^2$  regressing SAST on PVS was .058. Including social support did not significantly increase the  $R^2$  (.061). Furthermore, the addition of the victimization x social support interaction decreased  $R^2$  by .5%. Although including this interaction in the model did not account for a statistically significant amount of the variance, the overall model predicting social anxiety was significant.

Peer Victimization (PVS), Global Self-Worth (GSW), and Depression (RADS).

In order to examine whether global self-worth moderated the relationship between peer victimization and depression, depression was first regressed on the peer victimization scale and then on global self-worth. Then, the global self-worth x victimization interaction variable was entered into the regression equation (see Table 8). The  $R^2$  regressing RADS on PVS was .141. The addition of global self-worth increased the  $R^2$  to .418, a significant increase (27.7%). Including the victimization x self-worth interaction,  $R^2$  increased to .419. This increase did not account for a statistically significant amount of variance; however, the overall model predicting depression was significant.

Peer Victimization (PVS), Global Self-Worth (GSW), and Total Anxiety

(MASCT). In order to examine whether global self-worth moderated the relationship between peer victimization and anxiety, anxiety was first regressed on the peer victimization scale and then on global self-worth. Then, the global self-worth x victimization interaction variable was entered into the regression equation (see Table 9). The  $R^2$  regressing MASCT on PVS was .034. Including global self-worth increased the  $R^2$  to .056, a significant increase. With the addition of the victimization x self-worth

interaction,  $R^2$  increased by 1.6%, accounting for a statistically significant amount of the variance. As shown in Figure 3, this interaction effect revealed that children who reported higher self-worth scores also reported lower total anxiety scores than children who reported lower self-worth scores under conditions of high peer victimization [ $t(106) = 2.57; p < .05$ ]. Furthermore, the overall model predicting anxiety was statistically significant.

Peer Victimization (PVS), Global Self-Worth (GSW), and Total Social Anxiety (SAST). In order to examine whether global self-worth moderated the relationship between peer victimization and social anxiety, total social anxiety was first regressed on the peer victimization scale and then on global self-worth. Then, the global self-worth x victimization interaction variable was entered into the regression equation (see Table 10). The  $R^2$  regressing SAST on PVS was .059. Including global self-worth increased the  $R^2$  to .151, a significant increase. With the addition of the victimization x self-worth interaction,  $R^2$  increased by only .1% and did not account for a statistically significant amount of the variance. Although moderation was not demonstrated in this analysis, the overall model predicting social anxiety was significant.

Summary of Moderator Analyses. To summarize, results of the moderation model tests revealed only one significant finding: global self-worth differentially influenced the overall anxiety responses children exhibited in conjunction with the level of peer victimization reported. Nevertheless, all of the overall models tested were statistically significant.

## Discussion

### Peer Victimization

Overall, children in the current sample tended to report levels of victimization similar to those found in previous studies. Specifically, 27.7% of the overall sample indicated elevated levels of victimization on the PVS utilizing the cut-off score advocated by Austin and Joseph (1996; 22% classified as victims in their study). However, it has been suggested that this cut-off score may be too high for the identification of victimized children (Austin & Joseph, 1996). Results of this study appear to conform with this suggestion, such that the percentages of victimized children dropped when the sample mean plus one or two standard deviations was calculated (e.g., 17.5% and 4.7%, respectively). Nevertheless, the fact remains that many children felt that they experienced physical and/or verbal attacks from their peers. These findings have numerous potential implications regarding the manner in which children may respond to such victimization. The following discussion will attempt to address these implications in terms of how they may be related to global self-worth, social support, and internalizing symptoms.

### Gender Differences

Several gender differences were noted in the current study. First, a significant gender difference was found regarding victimization, such that boys tended to report greater levels of victimization than girls. Although this finding is consistent with several previous studies (Boulton & Underwood, 1992; Callaghan & Joseph, 1995; Lagerspetz, Bjoerkqvist, Berts, & King, 1982; O'Moore & Hillery, 1989; Paquette & Underwood, 1999), others have found that gender differences emerge only when a broader variety of victimization experiences are examined. For example, several studies have found that boys report significantly more direct (e.g., physical assault, overt confrontation)

victimization than girls, whereas girls report significantly more indirect (e.g., social manipulation) victimization than boys (Bjoerkqvist, Lagerspetz, & Kaukiainen, 1992; Crick & Grotpeter, 1995; Mynard & Joseph, 2000; Olweus, 1991; Whitney & Smith, 1993).

One potential explanation for the gender differences revealed in these studies further draws upon the distinctions among victimization types. First, in general, it is believed that boys tend to exhibit more overt aggression than girls. Further, peer attacks have been found to most commonly occur in same-gender dyads or groups. Finally, boys may feel more embarrassed by victimization experiences thus preventing them from turning to others to help terminate the attacks, and potentially perpetuating their victim status. Thus, it could be argued that boys are more likely to be both perpetrators and targets of direct peer victimization. In fact, this is exactly what has been found in previous studies that assessed both victim and perpetrator status (Boulton & Underwood, 1992; Lagerspetz et al., 1982; Olweus, 1991; O'Moore & Hillery, 1989). It is important to note that the present study did not employ a measure of indirect victimization. Thus, it could be that the overall gender differences found in the present study would abate if indirect victimization had also been assessed.

Results of the present study also revealed a significant gender difference regarding social support, with boys reporting significantly less social support than girls. This finding may be related to the stereotypical child rearing practices associated with children. For example, boys in our society tend to be praised for acting less emotional and more independent whereas the reverse tends to be true for girls. Thus, boys may perceive others as less supportive, seek support less often, and act in a manner that

conveys that they do not need support; behaviors that could prevent others from reaching out to them and further affirm their view that support is not available. In contrast, females tend to seek out support from others. In addition, they tend to express themselves both communicatively and emotionally with greater frequency, which may be more likely to attract social support. Thus, these types of behaviors may lead to both the perception of greater social support as well as actual increases in the amount of support available to girls.

A final gender difference was found regarding children's reported total anxiety symptoms, such that girls tended to indicate more elevated levels of anxiety than boys. This finding corresponds with the existing literature on anxiety symptoms in childhood (Bell-Dolan, Last, & Strauss, 1990; Muris, Merckelbach, Mayer, & Meesters, 1998; Muris, Merckelbach, Van Brakel et al., 1998). For example, in previous studies, girls have been found to score significantly higher than boys regarding symptoms of environmental-situation phobia, animal phobia, blood-injection-injury phobia, separation anxiety disorder, panic disorder, and total anxiety (c.f., Muris, Merckelbach, Mayer et al., 1998; Muris, Merckelbach, Van Brakel et al., 1998). Although the exact nature of this finding remains unclear, differences in gender role expectations, similar to those previously described regarding social support, have been proposed (e.g., it may be more acceptable for girls to express internalizing anxiety concerns and/or others may expect girls to be described in this way; Unger & Crawford, 1996).

### Relationships Among Study Variables

In general, results of this study were consistent with previous research and provided support for the relationships among peer victimization, global self-worth, social support, and internalizing symptomology (e.g., anxiety, social anxiety, and depression).

First, as predicted, significant relationships between peer victimization and depression as well as overall anxiety and social anxiety were found, suggesting that children who reported a higher degree of victimization from their peers also tended to endorse these negative affects. The inter-relationships found among these constructs could be explained in a number of ways. For example, it could be that children who experience feelings of anxiety and depression are targeted for victimization, perhaps due to an apparent vulnerability. In contrast, repeated victimization experiences may lead children to develop internalizing symptoms. To illustrate, children who are victimized may begin to incorporate the negative associations attributed to them through peer attacks (e.g., name-calling; weakness) into their self-views. In addition, feelings of learned helplessness may develop in victimized children due to their inability to stop peer attacks (Besag, 1989 as cited in Roth et al., in press). Thus, depressive symptoms may result from the feelings and cognitions that occur in response to victimization. Similarly, symptoms of anxiety, especially social anxiety, may develop in anticipation of future attacks. For example, victimized children may become hypervigilant and develop a view of the world as an unsafe place. In addition, they may become especially fearful of their peers and social situations due to the negative evaluations inherent in peer attacks.

Next, the expected associations among peer victimization, global self-worth, and social support were supported such that children who reported experiencing greater

victimization also tended to report feeling worse about themselves and having less support from their social network. Similar to what was previously described regarding internalizing symptoms, it is possible that the children in this study experienced negative self-views prior to victimization experiences. However, it seems more likely that children experience an attrition of self-worth following exposure to peer attacks.

Likewise, it could be that children are targeted for victimization due to the perpetrators' knowledge that they lack supportive adult and peer relationships. However, it is also possible that children who are victimized subsequently have less social support. Although it could be that victimization affects the level of peer or classmate support (e.g., children choose not to befriend or terminate friendships with a child who is victimized), it is less clear how such experiences could affect familial or other adult support (e.g., teachers).

Finally, results of this study fall in line with previous research indicating that lower self-worth and fewer supportive relationships tend to be associated with greater symptoms of internalizing problems. Interestingly, the only predicted relationship that was not supported in this study concerned social support and total anxiety. Contrary to what was expected, this finding suggests that amount of social support was not related to the degree of total (or overall) anxiety reported by children in this study. One possible explanation for this finding is that anxiety, in general, does not necessarily involve an interpersonal component. For instance, whereas having supportive social networks may help boost children's feelings of self-worth or make them feel more comfortable in social situations, thus reducing feelings of depression and social anxiety, a more general state of fearfulness or anxiety may be unaffected by the degree of social support received. To

illustrate, the child who is extremely fearful of animals or who worries excessively about taking tests will likely maintain this fear or anxiety regardless of whether they have close friendships. Social fears or anxieties, on the other hand, may be more likely to be affected by *social* support from one's peers.

In summary, the proposed network of inter-relationships among peer victimization, global self-worth, social support, and internalizing symptoms was supported. Although results of a recent study suggested that maladjustment at school tended to occur following victimizing experiences rather than prior to them (Kochenderfer & Ladd, 1996), as previously discussed, it is unclear whether victimized children in the current study possessed internalizing symptoms, negative self-views, and lack of support prior to their experiences of victimization. Nevertheless, even in this case it seems likely that these negative states would be exacerbated by victimization.

#### Mediator and Moderator Analyses

In order to further examine relationships among these variables, competing mediation and moderation models were examined separately for each combination of peer victimization, global self-worth, social support, overall anxiety, social anxiety, and depression.

Results failed to demonstrate the role of social support as either a moderator or a mediator in the relationships among peer victimization and internalizing symptoms. That is, the relationships among peer victimization and depression, total anxiety, and social anxiety were not influenced by the amount of social support reported. Likewise, the interaction between peer victimization and social support did not differentially affect the reported levels of these internalizing symptoms.

Although it appears that amount of social support was unrelated to victimization experiences, a significant association was found between these variables. Therefore, as previously indicated, one potential explanation for this finding is that children's level of social support contributes to whether they are chosen as targets for victimization. For example, it has been suggested that children who lack social support are targeted because there is less chance of retaliation or peer ostracism following victimization of such children (Hodges, Boivin, Vitaro, & Bukowski, 1999). Furthermore, Troy and Sroufe (1987) found that victimized children tended to have poor social skills and suggested that resulting awkward behaviors may have further influenced their victim status. Preliminary support for this explanation has been provided by findings that children without mutual friendships tend to be more victimized and those who are targeted for victimization tend to be socially isolated or rejected (Boulton, Trueman, Chau, Whitehand, & Amatya, 1999; Hodges & Perry, 1999; Hodges et al., 1999; Olweus, 1991; 1993a).

In general, results of this study provided some support for global self-worth as both a mediator and moderator of the relationship between peer victimization and internalizing symptoms. Specifically, this study revealed that global self-worth may mediate the connection between peer victimization and depression as well as peer victimization and social anxiety. Thus, as predicted, it appears that victimization experiences negatively influence children's views of themselves and help explain the elevated levels of depression and social anxiety also reported by them. It seems likely that the negative evaluations inherent within peer attacks serves as a primary factor in both of these relationships. For example, a child may internalize the negative feedback received from their peers during victimization experiences. If that child comes to believe

in this negative feedback, depressive symptoms may ensue. Likewise, the child who becomes distressed in anticipation of social interactions and the potential for receiving further negative evaluations may develop anxiety specifically related to social situations.

Regarding the related issue of whether global self-worth serves to moderate the relationships among victimization and internalizing symptoms, another clear trend emerged. That is, victimization differentially affected the number of total anxiety symptoms reported by children with high versus low global self-worth: children with higher global self-worth reported fewer total anxiety symptoms than children with lower global self-worth. Thus, for children who report high levels of victimization, higher self-worth appears to act as a protective factor against anxiety whereas lower self-worth appears to serve as a risk factor for greater anxiety symptomology.

In conclusion, it is clear that symptoms of depression, social anxiety, and total anxiety are experienced by children who are victimized. In the cases of depression and social anxiety, peer victimization appears to negatively influence children's views of their self-worth, which in turn, partially accounts for their internalizing symptoms. Feelings of low self-worth in combination with peer victimization also appear to increase the likelihood that a child will experience symptoms of total, or more global, anxiety. However, victimized children who have high global self-worth seem to be protected from developing these feelings of anxiety.

These findings present a conundrum, such that it is unclear why global self-worth may mediate two of the anticipated relationships yet moderate the third, related relationship. In particular, why is it that children with high self-worth are protected from anxiety but not depression or social anxiety? One potential explanation will be explored

in the ensuing discussion. As previously suggested, the interpersonal nature of peer victimization may be an important factor contributing to these different paths. For example, it seems that having high self-worth may protect children from developing more global feelings of anxiety (e.g., viewing the world as a fearful place), such that they may feel generally competent in their abilities. Consequently, when victimized, the level of overall anxiety experienced by these children does not change. However, high self-worth may not protect children from feeling sad or concerned about social interactions. In this regard, victimization may affect children's feelings of depression as well as their views of competence in social situations.

While statistically significant results were revealed in the present study, it is also important to remark on the clinical significance of these findings. Regarding the mediation analyses, global self-worth was found to account for a moderate amount of the variance in the peer victimization-depression (12.9%) and peer victimization-social anxiety (5.2%) relationships. However, in the moderation analysis, only 1.6% of the variance was explained by the peer victimization x global self-worth interaction. In terms of the clinical implications of these findings, it seems that global self-worth should be targeted in interventions. However, although a modest portion of the relationships among peer victimization and internalizing symptoms can be explained by the effects of global self-worth, there are clearly other variables involved. Therefore, it seems that future research should explore other potential mediator and moderator variables (e.g., locus of control, coping mechanisms), as well as other preexisting conditions, such as social status and prior history of victimization in order to fully understand these relationships and establish the most effective intervention programs.

### Limitations

It is important to note limitations of the present study as well as some future directions for research within this area. First, the present study employed the sole use of self-report measures. Although it has been suggested that use of self-reports is not as problematic for measures of internalizing problems (Craig, 1998), others have proposed that children may underestimate the degree of victimization experienced in their self-reports (Olafsen & Viemero, 2000). Relatedly, only using self-report measures allows for the confounding of shared method variance. Thus, it would be useful for future research to include objective reports of others (e.g., classmates, teachers) in addition to the child's own subjective report.

Second, the present sample was limited in that the majority of children were Caucasian and all children were from the same grade in a small suburban town. Therefore, the findings presented herein may not generalize to more diverse ethnic populations, regional settings, or developmental periods. Furthermore, the school that the children in the present study attend is regarded as having many guidance and support resources available. Inspection of the mean and range of scores on the social support scale appears to support this finding, such that this sample of children tended to report elevated levels of support. As such, the lack of relationships found with social support, as compared with global self worth, may be a reflection of the fact that the majority of children reported highly supportive social networks. Thus, future studies are necessary to determine whether similar results would be found in schools and communities that have fewer resources.

Regarding the measure of peer victimization utilized in the current study, an additional limitation is apparent. As previously described, the PVS measures verbal and physical victimization experiences; both of which are classified as direct forms of victimization. Thus, it may be that the relationships examined within the present study operate differently with regard to indirect forms of victimization experiences. For example, assessment of direct and indirect forms of victimization may have altered the gender differences found in reference to degree of victimization reported. Furthermore, the role of social support may have been further explained had a measure of indirect victimization been included; such that level of social support may mediate or moderate the relationships among indirect peer victimization and internalizing symptoms. Accordingly, future replications of this work should attempt to examine relationships with both types of victimization.

Perhaps the most significant limitation of this study concerns the correlational nature of the research design, which prevented concrete conclusions from being drawn regarding the mediating roles of global self-worth and social support. Although causation is inferred by the present findings, longitudinal studies are necessary to firmly establish the causal connections among peer victimization, global self-worth, social support, and internalizing symptoms.

Finally, because this is the first known study to test the mediating and moderating roles of global self-worth and social support in the relationships among peer victimization and internalizing symptoms, replication with independent samples is necessary in order to establish the strength of these findings.

### Implications

Results of this study and the numerous others that have revealed similar findings have a number of implications for all those potentially involved with victimized children (e.g., parents, teachers, peers, clinicians). Clearly, these findings point to the devastating effects that peer victimization may have, particularly on a child's views of self-worth as well as feelings of depression and anxiety. Furthermore, based on previous research, it seems likely that without intervention, victimized children will continue to experience these difficulties. Specifically, these results indicate that victimized children may need help coping with their feelings following peer attacks. Since global self-worth was implicated in the relationships among peer victimization, anxiety, social anxiety, and depression, it seems that strategies should be employed which help children develop or maintain high self-worth in the face of victimizing experiences.

As previously noted, a similar influence was not demonstrated regarding social support. That is, while social support was found to be related to the other variables examined, it was not found to specifically affect the relationship between peer victimization and internalizing symptoms. In terms of the implications of these findings, the importance of addressing social support within intervention programs for children who experience victimization appears minimal. However, intuitively it seems that increasing support, particularly peer friendships, may deter future victimization experiences if a child gains greater peer acceptance. Furthermore, as suggested earlier, it may be that children become targets for victimization because they lack social support. If this suggestion is true, then the earliest possible identification of children who are neglected or rejected by their peers would seem pertinent. Once identified, such children

could be provided social skills training and social support building techniques with the goal of preventing victimization from occurring.

Finally, intervention strategies need to reach beyond the level of the victimized children. That is, to be most effective it seems that interventions need to incorporate the assistance of all those involved in children's lives (e.g., parents, peers, teachers, community members). Olweus has utilized such strategies with school children in Norway (1983-1985) and found promising results; such that significant reductions (50-70%) in peer victimization were reported for both genders and across all grades. In addition, these decrements were observed for both direct (e.g., hitting) and indirect (e.g., social exclusion) victimizing behaviors (c.f., Olweus, 1991; 1993a,b,c; 1997a,b for detailed description of this intervention).

In conclusion, results of the present study add to the growing literature on the associations with and consequences of peer victimization. Future research should continue to examine these relationships, particularly from a longitudinal stance, as well as address the concerns previously raised. Furthermore, intervention policies, such as that designed by Olweus (1991; 1993a,b,c; 1997a,b), should be implemented and evaluated with American school children in order to examine their effectiveness within our culture. Finally, results of the present study suggest that including strategies for building or maintaining self-worth in intervention procedures would be beneficial for reducing symptoms of anxiety, social anxiety, and depression.

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Table 1

**Scale Descriptives**

|                 | N valid | N Missing | Mean   | SD    | Instrument Range | Observed Range | Reliability Coefficient |
|-----------------|---------|-----------|--------|-------|------------------|----------------|-------------------------|
| PVS mean score  | 274     | 6         | 2.0103 | .7346 | 1-4              | 1-4            | .8467                   |
| GSW mean score  | 273     | 7         | 3.1996 | .5990 | 1-4              | 1-4            | .8063                   |
| SSSC mean score | 273     | 7         | 3.3532 | .4070 | 1-4              | 2.21-4         | .8692                   |
| MASCT           | 279     | 1         | 43.21  | 15.02 | 0-117            | 3-88           | .8761                   |
| SAST            | 279     | 1         | 10.96  | 5.75  | 0-27             | 0-24           | .8236                   |
| RADS total      | 279     | 1         | 56.00  | 13.91 | 30-120           | 31-96          | .9095                   |

Note: PVS = Peer Victimization Scale; GSW = Global Self-Worth; SSSC = Social Support Scale; MASCT = Multidimensional Anxiety Scale for Children total; SAST = Social Anxiety Scale total; RADS = Reynolds Adolescent Depression Scale.

Table 2

**Gender Differences**

| Scale           | Gender | N   | Mean   | SD    | t      | df  | Sig.<br>(2 tailed) |
|-----------------|--------|-----|--------|-------|--------|-----|--------------------|
| PVS mean score  | Female | 145 | 1.8782 | .7263 | -3.144 | 271 | .002               |
|                 | Male   | 128 | 2.1536 | .7183 |        |     |                    |
| GSW mean score  | Female | 144 | 3.2454 | .6183 | 1.246  | 270 | .214               |
|                 | Male   | 128 | 3.1549 | .5725 |        |     |                    |
| SSSC mean score | Female | 144 | 3.4627 | .3614 | 4.861  | 270 | .000               |
|                 | Male   | 128 | 3.2314 | .4231 |        |     |                    |
| MASCT           | Female | 148 | 45.54  | 14.87 | 2.799  | 276 | .005               |
|                 | Male   | 130 | 40.54  | 14.86 |        |     |                    |
| SAST            | Female | 148 | 11.38  | 5.70  | 1.303  | 276 | .194               |
|                 | Male   | 130 | 10.48  | 5.82  |        |     |                    |
| RADS total      | Female | 148 | 55.20  | 13.99 | -.904  | 276 | .367               |
|                 | Male   | 130 | 56.71  | 13.71 |        |     |                    |

Note: PVS = Peer Victimization Scale; GSW = Global Self-Worth; SSSC = Social Support Scale; MASCT = Multidimensional Anxiety Scale for Children total; SAST = Social Anxiety Scale total; RADS = Reynolds Adolescent Depression Scale.

Table 3

**Sample Reported Peer Victimization by Gender**

| Gender | $\bar{X}$ | SD    | $\bar{X} + 1 \text{ SD}$ | N (%)      | $\bar{X} + 2 \text{ SDs}$ | N (%)    |
|--------|-----------|-------|--------------------------|------------|---------------------------|----------|
| Male   | 2.1536    | .7183 | 2.8719                   | 21 (16.4%) | 3.5902                    | 5 (3.9%) |
| Female | 1.8782    | .7263 | 2.6045                   | 24 (16.6%) | 3.3308                    | 5 (3.4%) |

Table 4

**Inter-Scale Correlations**

|                                   | PVS                       | GSW                       | SSSC                      | MASCT                    | SAST                     | RADS  |
|-----------------------------------|---------------------------|---------------------------|---------------------------|--------------------------|--------------------------|-------|
| PVS<br>Pearson Coefficient<br>N   | -----                     | -----                     | -----                     | -----                    | -----                    | ----- |
| GSW<br>Pearson Coefficient<br>N   | -.460 <sup>a</sup><br>273 | -----                     | -----                     | -----                    | -----                    | ----- |
| SSSC<br>Pearson Coefficient<br>N  | -.397 <sup>a</sup><br>272 | .565 <sup>a</sup><br>272  | -----                     | -----                    | -----                    | ----- |
| MASCT<br>Pearson Coefficient<br>N | .192 <sup>a</sup><br>274  | -.216 <sup>a</sup><br>273 | .008<br>273               | -----                    | -----                    | ----- |
| SAST<br>Pearson Coefficient<br>N  | .248 <sup>a</sup><br>274  | -.381 <sup>a</sup><br>273 | -.144 <sup>a</sup><br>273 | .539 <sup>a</sup><br>279 | -----                    | ----- |
| RADS<br>Pearson Coefficient<br>N  | .378 <sup>a</sup><br>274  | -.640 <sup>a</sup><br>273 | -.355 <sup>a</sup><br>273 | .468 <sup>a</sup><br>279 | .533 <sup>a</sup><br>279 | ----- |

Note: PVS = Peer Victimization Scale; GSW = Global Self-Worth; SSSC = Social Support Scale; MASCT = Multidimensional Anxiety Scale for Children total; SAST = Social Anxiety Scale total; RADS = Reynolds Adolescent Depression Scale.

<sup>a</sup>  $p < .01$ , one-tailed

Table 5

**Summary of Hierarchical Regression Analyses for Peer Victimization, Social Support, and Depression**

| Variable            | R <sup>2</sup> | B      | SE B  | $\beta$ | t      | p    |
|---------------------|----------------|--------|-------|---------|--------|------|
| Step 1 <sup>a</sup> |                |        |       |         |        |      |
| PVS                 | .140           | 7.106  | 1.071 | .374    | 6.634  | .000 |
| Step 2 <sup>a</sup> |                |        |       |         |        |      |
| PVS                 |                | 5.256  | 1.134 | .277    | 4.636  | .000 |
| SSSC                | .191           | -8.402 | 2.042 | -.246   | -4.114 | .000 |

|                     |      |         |       |       |        |      |
|---------------------|------|---------|-------|-------|--------|------|
| Step 3 <sup>a</sup> |      |         |       |       |        |      |
| PVS                 |      | 2.429   | 9.697 | .128  | .250   | .802 |
| SSSC                |      | -10.230 | 6.554 | -.299 | -1.561 | .120 |
| PVS x SSSC          | .191 | .843    | 2.873 | .138  | .294   | .769 |

Note: PVS = Peer Victimization Scale; SSSC = Social Support Scale for Children.

<sup>a</sup> Model significance;  $p < .01$

Table 6

**Summary of Hierarchical Regression Analyses for Peer Victimization, Social Support, and Total Anxiety**

| Variable            | R <sup>2</sup> | B     | SE B   | $\beta$ | t     | p    |
|---------------------|----------------|-------|--------|---------|-------|------|
| Step 1 <sup>a</sup> |                |       |        |         |       |      |
| PVS                 | .033           | 3.664 | 1.200  | .183    | 3.053 | .002 |
| Step 2 <sup>a</sup> |                |       |        |         |       |      |
| PVS                 |                | 4.424 | 1.305  | .221    | 3.391 | .001 |
| SSSC                | .041           | 3.450 | 2.350  | .095    | 1.468 | .143 |
| Step 3 <sup>a</sup> |                |       |        |         |       |      |
| PVS                 |                | 5.507 | 11.159 | .275    | .493  | .622 |
| SSSC                |                | 4.150 | 7.542  | .115    | .550  | .583 |
| PVS x SSSC          | .041           | -.323 | 3.306  | -.050   | -.098 | .922 |

Note: PVS = Peer Victimization Scale; SSSC = Social Support Scale for Children.

<sup>a</sup> Model significance;  $p < .01$

Table 7

**Summary of Hierarchical Regression Analyses for Peer Victimization, Social Support, and Social Anxiety**

| Variable            | R <sup>2</sup> | B     | SE B | $\beta$ | t     | p    |
|---------------------|----------------|-------|------|---------|-------|------|
| Step 1 <sup>a</sup> |                |       |      |         |       |      |
| PVS                 | .058           | 1.867 | .458 | .241    | 4.080 | .000 |
| Step 2 <sup>a</sup> |                |       |      |         |       |      |
| PVS                 |                | 1.689 | .499 | .218    | 3.387 | .001 |

|                     |      |        |       |       |        |      |
|---------------------|------|--------|-------|-------|--------|------|
| SSSC                | .061 | -.809  | .898  | -.058 | -.901  | .368 |
| Step 3 <sup>a</sup> |      |        |       |       |        |      |
| PVS                 |      | -3.400 | 4.253 | -.439 | -.799  | .425 |
| SSSC                |      | -4.099 | 2.874 | -.294 | -1.426 | .155 |
| PVS x SSSC          | .056 | 1.518  | 1.260 | .608  | 1.205  | .229 |

Note: PVS = Peer Victimization Scale; SSSC = Social Support Scale for Children.

<sup>a</sup> Model significance;  $p < .01$

Table 8

**Summary of Hierarchical Regression Analyses for Peer Victimization, Global Self-Worth, and Depression**

| Variable            | R <sup>2</sup> | B       | SE B  | $\beta$ | t       | p    |
|---------------------|----------------|---------|-------|---------|---------|------|
| Step 1 <sup>a</sup> |                |         |       |         |         |      |
| PVS                 | .141           | 7.122   | 1.069 | .375    | 6.661   | .000 |
| Step 2 <sup>a</sup> |                |         |       |         |         |      |
| PVS                 |                | 1.945   | .993  | .102    | 1.960   | .051 |
| GSW                 | .418           | -13.788 | 1.215 | -.593   | -11.344 | .000 |
| Step 3 <sup>a</sup> |                |         |       |         |         |      |
| PVS                 |                | 4.764   | 4.223 | .251    | 1.128   | .260 |
| GSW                 |                | -11.834 | 3.094 | -.509   | -3.824  | .000 |
| PVS x GSW           | .419           | -.888   | 1.293 | -.137   | -.667   | .493 |

Note: PVS = Peer Victimization Scale; GSW = Global Self-Worth.

<sup>a</sup> Model significance;  $p < .01$

Table 9

**Summary of Hierarchical Regression Analyses for Peer Victimization, Global Self-Worth, and Total Anxiety**

| Variable            | R <sup>2</sup> | B     | SE B  | $\beta$ | t     | p    |
|---------------------|----------------|-------|-------|---------|-------|------|
| Step 1 <sup>a</sup> |                |       |       |         |       |      |
| PVS                 | .034           | 3.737 | 1.207 | .185    | 3.095 | .002 |

|                     |      |        |       |       |        |      |
|---------------------|------|--------|-------|-------|--------|------|
| Step 2 <sup>a</sup> |      |        |       |       |        |      |
| PVS                 |      | 2.188  | 1.346 | .108  | 1.625  | .105 |
| GSW                 | .056 | -4.125 | 1.648 | -.167 | -2.502 | .013 |
| Step 3 <sup>a</sup> |      |        |       |       |        |      |
| PVS                 |      | 14.047 | 5.684 | .695  | 2.471  | .014 |
| GSW                 |      | 4.095  | 4.165 | .165  | .983   | .326 |
| PVS x GSW           | .072 | -3.736 | 1.741 | -.539 | -2.147 | .033 |

Note: PVS = Peer Victimization Scale; GSW = Global Self-Worth.

<sup>a</sup> Model significance;  $p < .01$

Table 10

**Summary of Hierarchical Regression Analyses for Peer Victimization, Global Self-Worth, and Social Anxiety**

| Variable            | R <sup>2</sup> | B      | SE B  | $\beta$ | t      | p    |
|---------------------|----------------|--------|-------|---------|--------|------|
| Step 1 <sup>a</sup> |                |        |       |         |        |      |
| PVS                 | .059           | 1.889  | .459  | .243    | 4.117  | .000 |
| Step 2 <sup>a</sup> |                |        |       |         |        |      |
| PVS                 |                | .666   | .492  | .085    | 1.354  | .177 |
| GSW                 | .151           | -3.259 | .602  | -.342   | -5.413 | .000 |
| Step 3 <sup>a</sup> |                |        |       |         |        |      |
| PVS                 |                | 1.908  | 2.093 | .245    | .912   | .363 |
| GSW                 |                | -2.398 | 1.533 | -.251   | -1.564 | .119 |
| PVS x GSW           | .152           | -.391  | .641  | -.147   | -.611  | .542 |

Note: PVS = Peer Victimization Scale; GSW = Global Self-Worth.

<sup>a</sup> Model significance;  $p < .01$

Figure 1

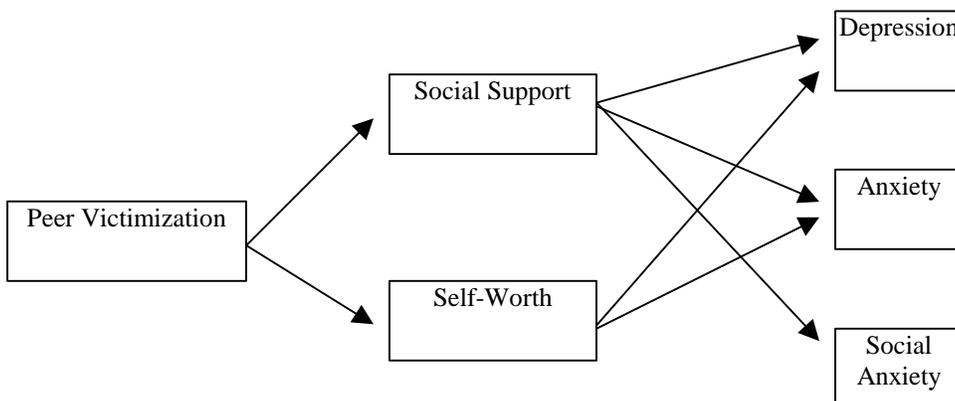
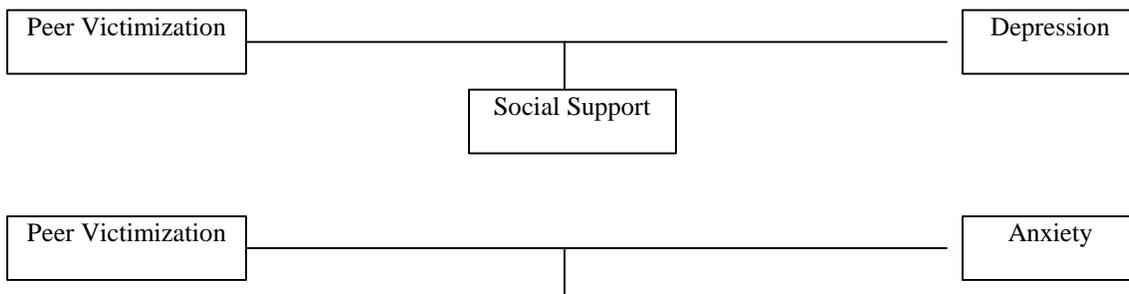




Figure 2



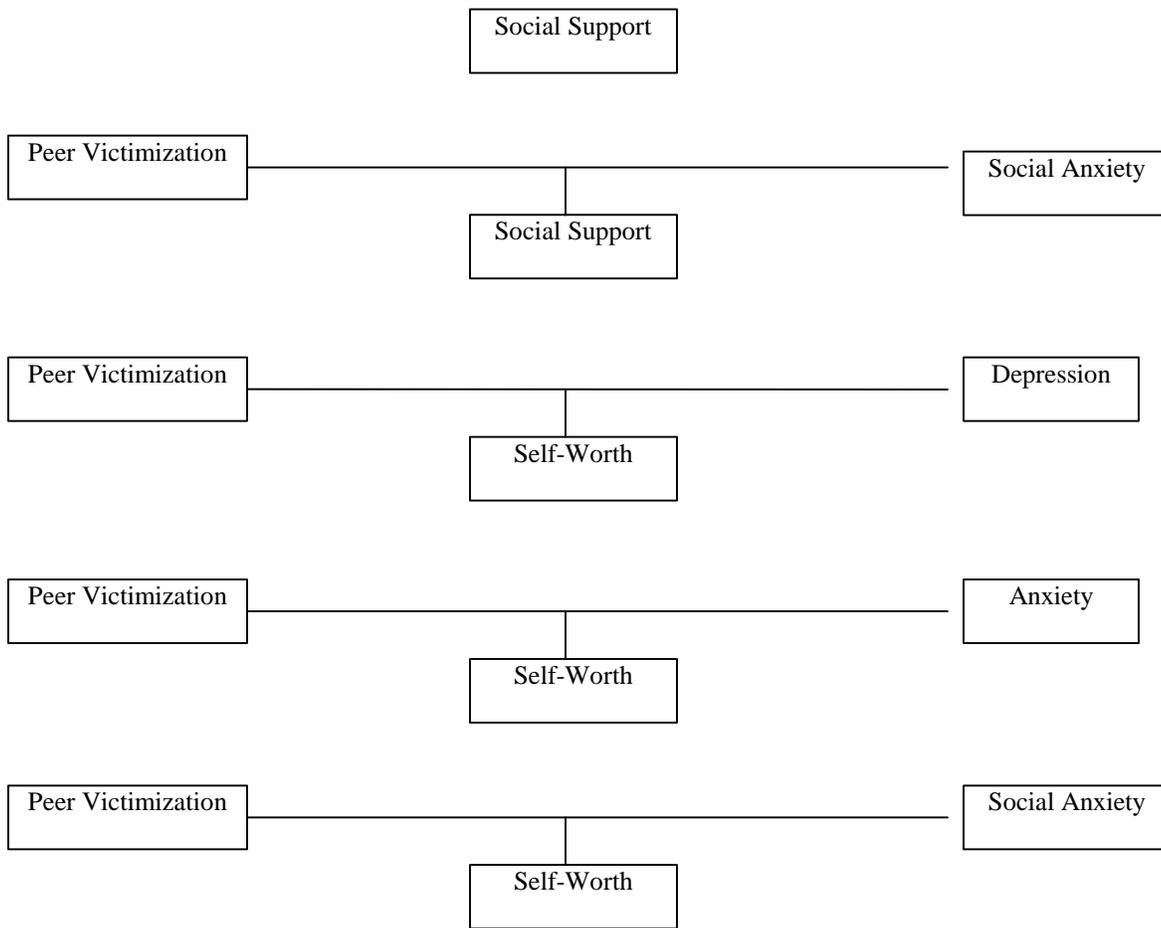
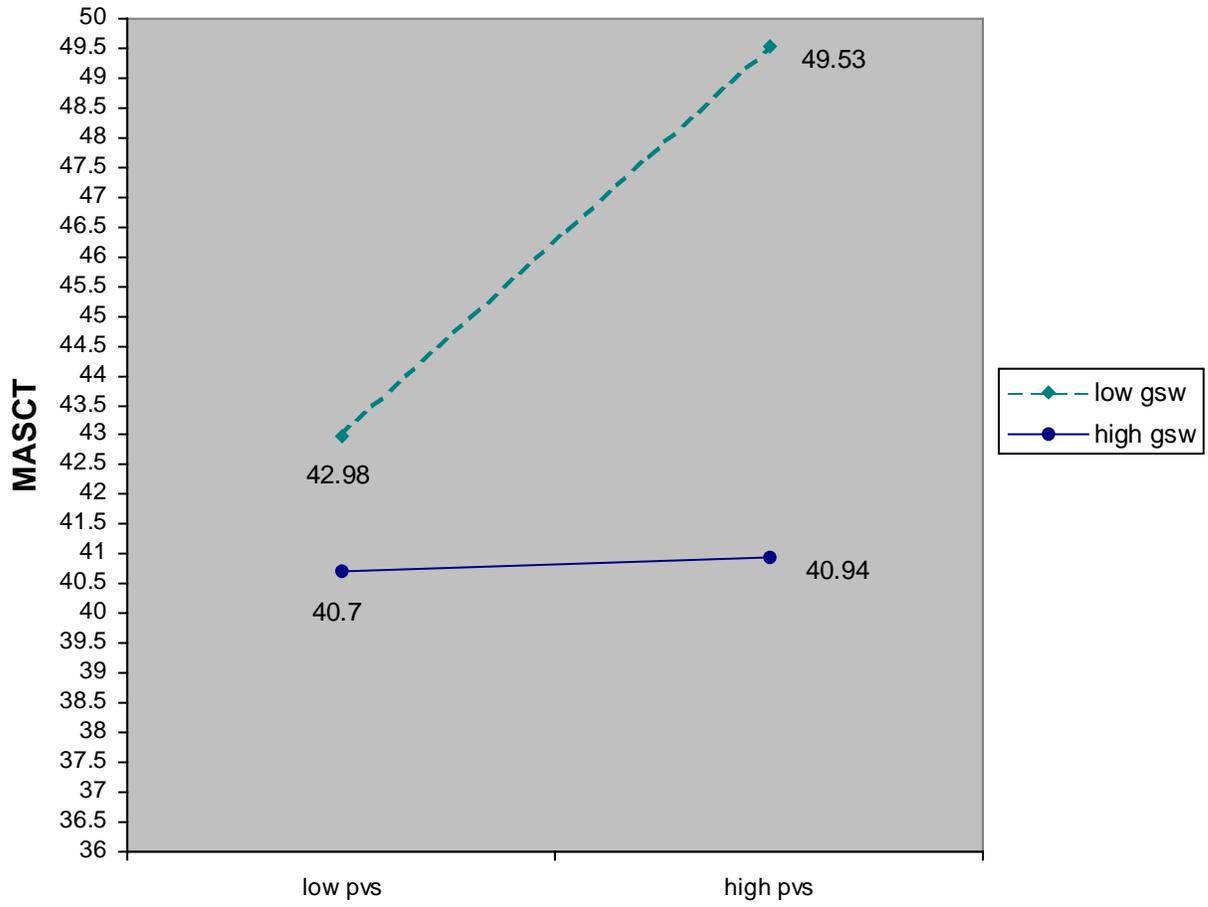


Figure 3



## List of Appendices

- B. Demographic Information Form
- B. Self-Perception Profile for Children-Global Self-Worth Subscale (Harter, 1985)
- C. Peer Victimization Scale (Neary & Joseph, 1994)
- D. Social Support Scale for Children (Harter, 1986)
- E. Multidimensional Anxiety Scale for Children (March, 1997)
- F. Reynolds Adolescent Depression Scale (Reynolds, 1986)

## Appendix A

**Demographic Information**

Age: \_\_\_\_\_

Sex: M F

Race: \_\_\_\_ American Indian or Alaskan Native

\_\_\_\_ African-American

\_\_\_\_ Asian or Pacific Islander

\_\_\_\_ Caucasian

\_\_\_\_ Hispanic (non-white)

\_\_\_\_ Bi/Multiracial (specify)

\_\_\_\_\_

Please list any after-school activities that you were a part of this year on the lines below:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

Appendix B

**Self-Perception Profile for Children – Global Self Worth Subscale**

| <b>Really true for me</b> | <b>Sort of true for me</b> |   | <b>BUT</b> |  | <b>Sort of true for me</b> | <b>Really true for me</b> |
|---------------------------|----------------------------|---|------------|--|----------------------------|---------------------------|
| <input type="checkbox"/>  | <input type="checkbox"/>   | Some kids are often unhappy with themselves                                   | <b>BUT</b> | Other kids are pretty pleased with themselves                        | <input type="checkbox"/>   | <input type="checkbox"/>  |
| <input type="checkbox"/>  | <input type="checkbox"/>   | Some kids don't like the way they are   | <b>BUT</b> | Other kids do like the way they are                                  | <input type="checkbox"/>   | <input type="checkbox"/>  |
| <input type="checkbox"/>  | <input type="checkbox"/>   | leading their life<br>Some kids are usually happy with themselves as a person | <b>BUT</b> | leading their life<br>Other kids are often not happy with themselves | <input type="checkbox"/>   | <input type="checkbox"/>  |
| <input type="checkbox"/>  | <input type="checkbox"/>   | Some kids like the kind of person they are else                               | <b>BUT</b> | Other kids often wish they were someone                              | <input type="checkbox"/>   | <input type="checkbox"/>  |
| <input type="checkbox"/>  | <input type="checkbox"/>   | Some kids are very happy being the way they are                               | <b>BUT</b> | Other kids wish they were different                                  | <input type="checkbox"/>   | <input type="checkbox"/>  |
| <input type="checkbox"/>  | <input type="checkbox"/>   | Some kids are not happy with the way they do a lot of things                  | <b>BUT</b> | Other kids think the way they do things is fine                      | <input type="checkbox"/>   | <input type="checkbox"/>  |

## Peer Victimization Scale

| Really true for me       | Sort of true for me      |  | BUT |   | Sort of true for me      | Really true for me       |
|--------------------------|--------------------------|--|-----|---|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Some children are often teased by other children             |     | Other children are not teased by other children                 | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some children are often bullied by other children            |     | Other children are not bullied by other children                | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some children are not called horrible names                  |     | Other children are often called horrible names                  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some children are often picked on by other children          |     | Other children are not picked on by other children              | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some children are not hit and pushed about by other children |     | Other children are often hit and pushed about by other children | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some children are not laughed at by other children           |     | Other children are often laughed at by other children           | <input type="checkbox"/> | <input type="checkbox"/> |

## Appendix D

## Social Support Scale for Children

| Really | Sort of |  | Sort of | Really |
|--------|---------|--|---------|--------|
|--------|---------|--|---------|--------|

| true<br>for me           | true<br>for me           |   | BUT |   | true<br>for me           | true<br>for me           |
|--------------------------|--------------------------|---|-----|---|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have parents<br>parents<br>who don't really<br>understand them                        | BUT | Other kids have<br>who really do<br>understand them                                       | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have class-<br>mates who like them<br>the way they are                                | BUT | Other kids have class-<br>mates who wish they<br>were different                           | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have a teacher<br>who helps them if they are<br>them<br>upset and have a problem      | BUT | Other kids don't have a<br>teacher who helps<br>if they are upset and<br>have a problem   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have a close<br>friend who they can tell<br>problems to                               | BUT | Other kids don't have<br>a close friend who they<br>can tell problems to                  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have parents<br>that don't seem to want to<br>hear about their children's<br>problems | BUT | Other kids have parents<br>who do want to listen<br>to their children's<br>problems       | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have class-<br>mates that they can<br>can<br>become friends with                      | BUT | Other kids don't have<br>classmates that they<br>become friends with                      | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids don't have a<br>teacher who helps them to<br>do their very best                       | BUT | Other kids do have a<br>teacher who helps them<br>to do their very best                   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have a close<br>friend who really under-<br>stands them                               | BUT | Other kids don't have a<br>close friend who<br>understands them                           | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have parents<br>parents<br>who care about their<br>feelings                           | BUT | Other kids have<br>who don't seem to care<br>very much about their<br>children's feelings | <input type="checkbox"/> | <input type="checkbox"/> |

|                          |                          |  |     |   |                          |                          |
|--------------------------|--------------------------|--|-----|---|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have classmates who sometimes make fun of them                         | BUT | Other kids don't have classmates who make fun of them                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids do have a teacher who cares about them                                 | BUT | Other kids don't have a teacher who cares about them                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have a close friend who they can talk to about things that bother them | BUT | Other kids don't have a close friend who they can talk to about things that bother them | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have parents who usually treat them like a person who really matters   | BUT | Other kids have parents who don't treat their children like a person who really matters | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have classmates who pay attention to what they say                     | BUT | Other kids have classmates who usually don't pay attention to what they say             | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids don't have a teacher who is fair to them                               | BUT | Other kids do have a teacher who is fair to them  | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids don't have a close friend who they like to spend time with             | BUT | Other kids do have a close friend who they like to spend time with                      | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids have parents who like them the way they are                            | BUT | Other kids have parents who wish their children were different                          | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids don't get asked to play in games with classmates very often            | BUT | Other kids often get asked to play in games by their classmates                         | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids don't have a teacher who cares if they feel bad                        | BUT | Other kids do have a teacher who cares if they feel bad                                 | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | Some kids don't have a close friend who really                                   | BUT | Other kids do have a close friend who really  | <input type="checkbox"/> | <input type="checkbox"/> |

listens to what they say

Some kids have parents  
parents  
who don't act like what  
their children do is  
important

Some kids often spend  
recess  
recess being alone

Some kids have a  
teacher who treats them  
them  
like a person

Some kids don't have a  
close friend who cares  
about their feelings

listens to what they say

BUT Other kids have    
who do act like what  
their children do is  
important

BUT Other kids spend    
playing with their  
classmates

BUT Other kids don't have a    
teacher who treats  
like a person

BUT Other kids do have a    
close friend who cares  
about their feelings

## Appendix E

**Multidimensional Anxiety Scale for Children**

**Directions.** This questionnaire asks you how you have been thinking, feeling, or acting recently. For each item, please circle the number that shows how often the statement is true for you. If a sentence is true for you a lot of the time, circle 3. If it is true for you some of the time, circle 2. If it is true for you once in a while, circle 1. If a sentence is hardly ever true about you, circle 0. Remember there are no right or wrong answers, just answer how you have been feeling recently.

Here are two example to show you how to complete the questionnaire.

In Example A, if you were hardly ever scared of dogs, you would circle 1, meaning that the statement is rarely true about you. In Example B, if thunderstorms sometimes upset you, you would circle 2, meaning that the statement is sometimes true about you.

| Never<br>true<br>about<br>me | Rarely<br>true<br>about<br>me | Sometimes<br>true<br>about<br>me | Often<br>true<br>about<br>me |
|------------------------------|-------------------------------|----------------------------------|------------------------------|
|------------------------------|-------------------------------|----------------------------------|------------------------------|

|                                       |   |   |   |   |
|---------------------------------------|---|---|---|---|
| Example A I'm scared of dogs.....     | 0 | 1 | 2 | 3 |
| Example B Thunderstorms upset me..... | 0 | 1 | 2 | 3 |

Now try these items yourself.

|   |   |   |   |   |
|---|---|---|---|---|
| 1. I feel tense or upset.....                           | 0 | 1 | 2 | 3 |
| 2. I usually ask permission.....                        | 0 | 1 | 2 | 3 |
| 3. I worry about other people laughing at me.....       | 0 | 1 | 2 | 3 |
| 4. I get scared when my parents go away.....            | 0 | 1 | 2 | 3 |
| 5. I have trouble getting my breath.....                | 0 | 1 | 2 | 3 |
| 6. I keep my eyes open for danger.....                  | 0 | 1 | 2 | 3 |
| 7. The idea of going away to camp scares me.....        | 0 | 1 | 2 | 3 |
| 8. I get shaky or jittery.....                          | 0 | 1 | 2 | 3 |
| 9. I try hard to obey my parents and teachers.....      | 0 | 1 | 2 | 3 |
| 10. I'm afraid that other kids will make fun of me..... | 0 | 1 | 2 | 3 |
| 11. I try to stay near my mom or dad.....               | 0 | 1 | 2 | 3 |
| 12. I get dizzy or faint feelings.....                  | 0 | 1 | 2 | 3 |
| 13. I check things out first.....                       | 0 | 1 | 2 | 3 |
| 14. I worry about getting called on in class.....       | 0 | 1 | 2 | 3 |
| 15. I'm jumpy.....                                      | 0 | 1 | 2 | 3 |
| 16. I'm afraid other people will think I'm stupid.....  | 0 | 1 | 2 | 3 |

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

## Appendix F

**Reynolds Adolescent Depression Scale**

**Directions.** Listed below are some sentences about how you feel. Read each sentence and decide how often *you* feel this way. Decide if you feel this way: almost never, hardly ever, sometimes, or most of the time. Fill in the circle under the answer that best describes how you really feel. Remember, there are no right or wrong answers. Just choose the answer that tells how you usually feel.

---

|   | Almost<br>Never       | Hardly<br>Ever        | Some-<br>times        | Most of<br>the time   |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. I feel happy.....                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. I worry about school.....                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. I feel lonely.....                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. I feel my parents don't like me.....             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I feel important.....                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. I feel like hiding from people.....              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. I feel sad.....                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. I feel like crying.....                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. I feel that no one cares about me.....           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10. I feel like having fun with other students..... | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 11. I feel sick.....                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. I feel loved.....                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. I feel like running away.....                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. I feel like hurting myself.....                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. I feel that other student's don't like me.....  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. I feel upset.....                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 17. I feel life is unfair.....                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 18. I feel tired.....                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 19. I feel I am bad.....                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 20. I feel I am no good.....                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 21. I feel sorry for myself.....                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 22. I feel mad about things.....                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 23. I feel like talking to other students.....      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 24. I have trouble sleeping.....                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 25. I feel like having fun.....                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 26. I feel worried.....                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 27. I get stomachaches.....                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 28. I feel bored.....                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 29. I like eating meals.....                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 30. I feel like nothing I do helps anymore.....     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Vita

**Amie E. Grills**

**CAREER OBJECTIVE:**

To obtain a Ph.D. in clinical psychology, with a specialization in clinical child psychology, from Virginia Polytechnic Institute and State University and to secure a position in academia.

**EDUCATION**

1994-1998 Smith College Northampton, MA

A.B.: Psychology, with a concentration in Clinical Psychology

Departmental High Honors and Magna Cum Laude

Honors: Dean's List (1994-1998)

First Group Scholar (1995-1996; 1997-1998)

Phi Beta Kappa (1998-present)

Psi Chi, Smith Chapter (1996-present)

Sigma Xi, Smith Chapter (1997-present)

G.P.A.: 3.79, Major G.P.A.: 3.94

1998-present Virginia Polytechnic Institute and State University Blacksburg, VA

Clinical Psychology, APA Accredited Program

M.S.: August, 2000

Ph.D.: expected May, 2003

**RESEARCH EXPERIENCE**

**Masters Thesis, Virginia Polytechnic Institute and State University (Aug 98-Aug 00)**

*Supervisor: Thomas H. Ollendick, Ph.D.*

"The relationship between peer victimization and internalizing symptomology." This investigation examined the effects of teasing behaviors on middle school children. Participants completed measures of peer victimization (teasing), self-worth, social support, social competence, depression, and anxiety across a number of domains. Competing models of the relationships among these variables were tested and discussed.

**Research Assistant**

**(Jun 00-Aug 00)**

*Supervisor: Thomas H. Ollendick, Ph.D.*

Integrated and managed large-scale clinical and research databases; Conducted reliability analyses on clinical diagnoses derived from structured interviews; Revised manual for

child assessment clinic procedures; Trained graduate clinicians in child assessment procedures, administration, and techniques.

**Honors Research Thesis, Smith College**  
**98)**

**(Sep 97-Apr**

*Supervisor: Patricia M. DiBartolo, Ph.D.*

“Multiple informant reliability and the prediction of anxious behaviors in children.” This study examined the reliability of child, parent, and teacher reports of social anxiety in a non-clinical sample. For a subsample of children, the ability of each informant’s report to predict the children’s responses to a Behavioral Assessment Task of reading aloud while being videotaped was also investigated. Furthermore, children’s anxiety ratings, behavioral responses, and thought listing data were collected during the BAT procedure.

**Clinical Psychology Research Internship, Smith College**

**(Spring 97)**

*Supervisor: Patricia M. DiBartolo, Ph.D.*

Intern and Research Assistant for a clinical psychology faculty member; prepared and revised manuscripts for publication on “Social Anxiety in Children” and “Dating Violence among Adolescents”; tabulated, integrated, and analyzed SPSS data files regarding Adolescent Social Phobia; analyzed and critiqued a thought listing training program; reviewed and summarized literature bases; established correspondences.

**PROFESSIONAL PRESENTATIONS AND PUBLICATIONS**

Ollendick, T.H., Grills, A.E., & Alexander, K. (in press). Fear and anxiety in children and adolescents. In C.A. Essau and F. Petermann, Anxiety in Children and Adolescents: Epidemiology, Risk factors, and Treatment. London: Harwood Academic Publishers.

DiBartolo, P.M., & Grills, A.E. (in process). Multiple informant reliability and the prediction of socially anxious behavior in children. Manuscript to be submitted to the Journal of Abnormal Child Psychology.

Grills, A.E., & Ollendick, T. H. (in process). Peer Victimization and Internalizing Symptoms in Middle School Children. Manuscript to be submitted to the Journal of Clinical Child Psychology.

Ollendick, T. H., & Grills, A.E. (2000, March). Self-Efficacy, Outcome Expectancy, and Social Anxiety in Socially Withdrawn and Neglected Children. Symposium presentation to be given at the annual Anxiety Disorders Association of America Conference, Washington, DC.

Grills, A.E., & DiBartolo, P.M. (1999, March). Multiple informant reliability and the prediction of socially anxious behavior in children. Symposium presentation given at the annual Anxiety Disorders Association of America Conference, San Diego, CA.

Grills, A.E., & DiBartolo, P.M. (1998, November). Multiple informant reliability and the prediction of socially anxious behavior in children. Paper presented at the Association for the Advancement of Behavior Therapy, Washington, D.C.

Grills, A.E., & DiBartolo, P.M. (1997, November). The influence of perfectionism and social anxiety on perceived self-efficacy in school-age children. Paper presented at the Association for the Advancement of Behavior Therapy, Miami, FL.

## TEACHING EXPERIENCE

### **Virginia Polytechnic Institute and State University, Psychology (Aug 98-May 99)**

*Supervisor: Helena Chandler, M.A.*

Teaching Assistant for Introductory Psychology; prepare for and lecture two class sections; administer quizzes and paper topics; evaluate/grade quizzes and papers; conduct discussion groups and study sessions; tutor students.

### **Smith Summer Science Program, Smith College (Summer 97)**

*Supervisor: Patricia M. DiBartolo, Ph.D.*

Intern and Teaching Assistant for a class on *Eating Disorders* offered by the Smith College Summer Science Program; created class syllabus; co-facilitated class lectures and in-class research investigations; organized and conducted an eating disorders workshop for all students involved in the program; helped implement the Smith Summer Science Program study of the media's influence on students' eating attitudes; motivated, encouraged, and was on call 24 hours a day for students in the program.

### **Psychology Department, Smith College (Jan 97-May 97)**

*Supervisor: Randy O. Frost, Ph.D.*

Proctor/Teaching Assistant for the Introduction to Psychology course; helped prepare and tutor students; administered oral exams; evaluated/graded papers; conducted discussion groups and facilitated individual study projects.

## CLINICAL AND COMMUNITY EXPERIENCE

### **Montgomery County School Department, Blacksburg, VA (Sep 00-May 01)**

*Supervisor: Bonita Sims-Gude, Ph.D.*

School Counselor. Externship placement within the Montgomery County School System: Conduct assessments and counseling sessions with children; prepare and administer weekly group counseling sessions; create progress notes; weekly supervision meetings; participate in children's individualized educational program conferences and parent meetings.

**Psychological Services Center, Blacksburg, VA (Sep 99-present)**

*Supervisors: Thomas H. Ollendick, Ph.D. and Lee D. Cooper, Ph.D.*

Graduate Student Assessment Clinician. Conduct assessments of clients (children, parents, adults); prepare and administer intelligence, behavioral, and psychological tests; score measures and prepare reports; participate in assessment team client conferences.

**Psychological Services Center, Blacksburg, VA (Sep 98-Aug 00)**

*Supervisors: George Clum, Ph.D. and Lee D. Cooper, Ph.D. (1998-1999); Lee Cooper, Ph.D. (summer 1999); Thomas H. Ollendick, Ph.D. (1999-2000)*

Graduate Student Clinician. Conduct initial intake and assessments of clients (children, adults, families); prepare and administer weekly therapy sessions; create progress notes; participate in practicum team client conferences.

**Virginia Polytechnic Institute and State University, Psychology (Sep 98-Jun 00)**

*Supervisors: Thomas H. Ollendick, Ph.D. and Russell T. Jones, Ph.D.*

Residential Fire Grant. Conduct assessments of experimental and control subjects who have experienced a fire in their homes; administer self-report and interview measures; administer child, parent, and adult versions of the Longitudinal Interval Follow-up Evaluation, Diagnostic Interview for Children and Adolescents, and the Anxiety Disorders Interview Schedule for DSM-IV.

**Northampton Public Schools, Northampton, MA (May 97-98)**

Intervention Program Designer. Created an intervention program for middle and high school students regarding violence within dating relationships which included: a training program for peer counselors, modes of contacting counselors for help, and teacher training; designed an interactive prevention component for middle school students which included: teaching about dating violence as well as information on where to get help and how to help a friend; corresponded with local agencies; prepared proposal for the Northampton Public School Committee; project discussed in terms of potential for future inclusion in current violence protocol.

**PROFESSIONAL AFFILIATIONS**

Student Member, American Psychological Association

Student Member, Society of Clinical Psychology, Division 12 of the American Psychological Association

Student Member, Association for Advancement of Behavior Therapy

Student Member, Anxiety Disorders Association of America

Psi Chi

Sigma Xi

Phi Beta Kappa