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MEDIATING AND MODERATING FACTORS  
IN ASSOCIATIONS BETWEEN PHYSICAL  
AND RELATIONAL VICTIMIZATION AND  
SOCIAL AND ACADEMIC COMPETENCE  
AMONG URBAN ADOLESCENTS

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MEDIATING AND MODERATING FACTORS IN ASSOCIATIONS BETWEEN  
PHYSICAL AND RELATIONAL VICTIMIZATION AND SOCIAL AND  
ACADEMIC COMPETENCE AMONG URBAN ADOLESCENTS

A thesis submitted in partial fulfillment of the requirements for the degree of Master of  
Science at Virginia Commonwealth University

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## Abstract

### MEDIATING AND MODERATING FACTORS IN ASSOCIATIONS BETWEEN PHYSICAL AND RELATIONAL VICTIMIZATION AND ACADEMIC AND SOCIAL COMPETENCE AMONG URBAN ADOLESCENTS

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Peer victimization is prevalent among school-aged youth and is associated with difficulties including decreased academic and social competence. Although relations between victimization and academic and social competence have been examined, fewer studies have considered how underlying processes linking these constructs are related or whether relations differ for adolescent subgroups. The current study's purpose was to examine potential mediating and moderating effects in associations between physical and relational victimization and academic and social competence. Participants included a

predominantly African American sample of 271 adolescents participating in a longitudinal violence prevention project. Path models showed significant negative associations between teacher-rated physical victimization and academic and social competence, between student-rated relational victimization and academic competence and teacher-rated relational victimization and social competence. Only learning disability status in the teacher-rated victimization model moderated relations between victimization and competence. No mediating effects were found. Practical implications and directions for future research are discussed.

Mediating and Moderating Factors in associations between Physical and Relational  
Victimization and Academic and Social Competence among Urban Adolescents

Peer victimization is unfortunately a widespread and frequently occurring problem with prevalence rates for school-aged children and adolescents ranging from 40% to 80% (Juvonen & Graham, 2001). Being victimized by peers can have serious negative consequences including a wide variety of internalizing and externalizing behaviors (e.g., Hawker & Boulton, 2000; Sullivan, Farrell, & Kliewer, 2006). For example, physical and relational subtypes of peer victimization have been associated with internalizing behaviors such as social anxiety and emotional distress (e.g., Crick & Bigbee, 1998) and externalizing behaviors including aggression, delinquency, and drug use (e.g. Sullivan et al., 2006) among school-aged youth. Negative repercussions of peer victimization may fade with time for some children. However, for others, the consequences of being victimized can have negative impacts far into the future (Juvonen & Graham, 2001).

Several studies have documented negative associations between peer victimization and school-related factors including school bonding, school attendance (e.g., Dupper & Myer-Adams, 2002; Kochenderfer & Ladd, 1996), and academic functioning (e.g., Nakamoto & Schwartz, 2009) as well as social competence (e.g., Greco, Freeman, & Dufton, 2007; Hoggund, 2007). In their meta-analysis, Nakamoto and Schwartz (2009) found an overall modest negative correlation between peer victimization and academic functioning. These authors suggested that directions for future research included identifying potential “third” variables that may partially explain relations

between peer victimization and academic functioning as well as testing for potential subgroup differences in these relations (Nakamoto & Schwartz, 2009). Schwartz, Hopmeyer-Gorman, Dodge, Pettit, & Bates (2008) noted several potential links between peer victimization and academic competencies in that peer victimization can increase: (a) depression and loneliness that can then decrease attention and focus during learning activities, (b) negative attitudes and beliefs about school and academics leading to disengagement, and (c) difficulty with self-regulation interfering with classroom performance. Victimized youth may also experience social exclusion and lack of access to positive peer models as well as decreased belief in their social skills' ability based on these victimization experiences (Shea & Weiner, 2003) that then may be related to lower levels of social competence (e.g., Greco et al., 2007).

Academic and social competencies are important outcomes to study because these areas of competence can significantly impact adolescents' development. For example, a lack of social competence for adolescents may limit their current and future possibilities for not only for career success, but for friend and peer relationships as well. Those lacking academic competence are at risk for academic problems, which could ultimately limit high school and college success and/or career choices (e.g. Trost & El-Khoury, 2008). Academic competence is negatively associated with disruptive behavior and peer victimization among adolescents and positively associated with friendship quality and support and school liking (e.g., Erath, Flanagan, & Bierman, 2008). Better understanding of relations between peer victimization and competence in academic or social areas is important because such links could inform the scope of negative outcomes related to peer

victimization and consequently the range of outcomes that may be impacted by decreasing these experiences as part of school-based youth violence prevention efforts.

For both academic and social competence, researchers have highlighted the importance of understanding the processes by which relations between peer victimization and these competencies work and for whom (e.g., Kingery, Erdley, Marshall, Whitaker, & Reuter, 2010; Nakamoto & Schwartz, 2009). Although several studies have found no gender differences in associations between peer victimization and academic functioning (e.g., Nakamoto & Schwartz, 2009; Schwartz et al., 2005; Thijs & Verkuyten, 2008) or social competence (e.g., Greco et al., 2007), few have examined the moderating role of gender on associations between physical and relational subtypes of peer victimization and these areas of competence. One exception is a study that examined relations between these subtypes of victimization and academic achievement (Hoglund, 2007). This author found negative relations between physical victimization and academic achievement for girls and between relational victimization and academic achievement for boys in a predominately Caucasian sample of early adolescents. Greco et al. (2007) examined the relations between overt and relational subtypes of victimization and social competence, but found no significant differences in these relations across gender.

Crick and Bigbee (1998) note that physical and relational victimization represent distinct constructs with the former referring to acts or threats of physical harm and the latter referring to acts designed to damage or manipulate social relations with others. Crick and colleagues (e.g., Crick et al., 2001) noted that relational forms of victimization may be more hurtful and harmful for girls as compared to boys based on the central

nature of social bonds for girls. Researchers have found that being the target of relational versus physical aggression is rated as being more hurtful by girls than boys, and conversely physical victimization is rated as more hurtful by boys than girls (e.g., Galen & Underwood, 1997). Based on gender differences in the hurtful and harmful nature of relational versus physical victimization, it is important to consider potential differences in the strength of relations between each subtype of victimization and academic and social competencies for boys and girls.

Another potential moderator of relations between peer victimization and academic and social competencies is learning disability status. There are several reasons that relations between peer victimization and academic and social competence may be stronger for youth with learning disabilities as opposed to typically developing youth. The higher rates of peer victimization experienced by youth with versus without learning disabilities, especially in the form of peer rejection (Greenham, 1999; Kavale & Forness, 1996) may significantly limit their potential social interactions with peers, further contributing to poor social competence. Understanding the social intention of peers and responding to them appropriately both in general or after being victimized may be more difficult for many youths with learning disabilities because of difficulties with social information processing and long-term memory recall (Bauminger, Edelstein, & Morash, 2005). Peer victimization may also be more prevalent for youth with versus without learning disabilities in the form of teasing during learning activities (e.g., Sullivan et al., 2010). For example, peer rejection may extend to academic-related projects as well, such as those involving paired or group learning activities. Furthermore, peer victimization is

associated with decreased ability to regulate attention and concentration (Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1998) which is one hypothesized pathway to leading to decreased academic competence (Schwartz et al., 2008). The impact of this may be heightened among youth with learning disabilities, a number of whom have challenges in areas of attention and self-regulation (Kavale & Forness, 1996).

Additionally, another area that is not well understood concerning relations between peer victimization and academic and social competencies is potential underlying mechanisms that could offer explanations concerning how these constructs may influence each other. One such potential mediating factor is self-efficacy beliefs. Bandura (2000) theorized that self-efficacy beliefs about individual abilities in a particular area are related to subsequent success in terms of competency in this area. One study to date has examined how academic self-efficacy beliefs may influence relations between peer victimization and aspects of academic competence. In this study, Thijs and Verkuyten (2008) found that academic self-efficacy mediated relations between a composite of peer victimization and academic achievement. The current study adds to this literature by testing a mediational model to determine the indirect effect of self-efficacy beliefs on relations between physical and relational subtypes of peer victimization and academic and social competencies utilizing an urban, predominantly African American sample of adolescents. A better understanding of these relations can guide work with youth at risk for negative repercussions from peer victimization and identify significant mediating processes to target in intervention activities.

## **Review of the Literature**

The following sections review the literature on study constructs including peer victimization and social and academic competence as well as potential moderators, (gender and learning disability status) and mediators (self-efficacy beliefs) of these relations. First, the peer victimization literature is discussed with a focus on physical and relational subtypes of victimization including prevalence rates, correlates, and outcomes. Literature detailing associations between peer victimization and competence across social and academic domains is then presented. Subsequently, research related to the potential moderating roles of gender and learning disability status on associations between peer victimization and each area of competence is reviewed. Lastly, research on the potential mediating role of self-efficacy beliefs on relations between peer victimization and social and academic competence is discussed along with the goals of the current study.

### **Peer Victimization**

Peer victimization can be defined broadly as overt confrontation (e.g., physical or verbal) or social/relational acts, such as controlling, manipulating, or damaging the victim's social relationships (e.g. exclusion or rumor spreading) (e.g., Juvonen & Graham, 2001). Reported literature is somewhat divided on the conceptualization of victimization. Some researchers use composite measures (e.g., combining physical, verbal, and relational forms of victimization) (e.g., Graham, Bellmore, & Juvonen, 2003). Others however, explore the unique contributions of specific subtypes of victimization experiences including physical and relational victimization (e.g., Prinstein, Boergers, & Vernberg, 2001; Sullivan et al., 2006) to psychosocial outcomes. Physical victimization

encompasses both physical harm inflicted on another person and threats of physical harm, whereas relational victimization refers to being the recipient of a relationally aggressive act in which an individual aims to manipulate, control, and/or harm others' relationships (e.g. spreading rumors about another, purposeful exclusion, or name calling) (Crick & Grotpeter, 1996; Crick et al., 2001 Sullivan et al., 2006). These two distinct subtypes of victimization have been highlighted in the literature on peer victimization (e.g., Crick & Bigbee, 1998; Crick & Grotpeter, 1996; Prinstein et al., 2001) and are foci of the current study.

Peer victimization is unfortunately a relatively frequently occurring phenomenon for children and adolescents. More specifically, both physical and relational subtypes of victimization are serious and common problems among children and adolescents. A national survey of high school students found that 7.8% were threatened with, or were victims of, violence involving a weapon in the previous year (Centers for Disease Control and Prevention, 2007). More broadly, students aged 12 to 18 experienced 1.7 million crimes, (e.g. theft and violent crimes) excluding fatalities in 2006, and 32% of children were bullied during this timeframe (National Center for Education Statistics, 2007). Another national study revealed that 8.5% of children reported being physically victimized, "sometimes," and 8.4% reported being physically victimized "once a week" (Nansel et al., 2001). In addition, among a sample of predominately African American eighth graders living in an inner-city context, 49% reported experiencing physical victimization at least once in the past 30 days and 33% had been victimized multiple times within this timeframe (Sullivan et al., 2006).

Similar to physical victimization, relational victimization is also fairly common among school-aged youth. Crick and Grotpeter (1996) found that relational victimization alone was experienced by 8% of children in their elementary school sample. An additional 9% of children in this sample were both relationally and physically victimized (Crick & Grotpeter, 1996). Bauman (2008) found similar results in a primarily Hispanic third to fifth grade sample with 8% of children being only relationally victimized and 6% of children experiencing both relational and overt victimization. Additionally, Sullivan et al. (2006) found in their sample of primarily African American adolescents that 61% of the sample had been relationally victimized at least once in the preceding 30 days, and 38% had been victimized multiple times in the same period.

With respect to gender differences in the prevalence of victimization experiences, several researchers have found higher prevalence rates for overt victimization among boys as compared to girls (e.g., Crick & Grotpeter, 1996; Sullivan et al., 2006). For example, Crick and Grotpeter (1996) found that among a sample of mostly Caucasian third to sixth graders, boys experienced significantly more overt victimization than girls. In another study of Canadian sixth and seventh graders, boys were also physically victimized more frequently than girls (Hoglund, 2007). Finally, Sullivan et al., (2006) found that boys experienced significantly more physical victimization than girls (i.e., being hit, pushed, and threatened with physical harm) in a sample of predominantly African American adolescents.

Unlike physical victimization, studies reveal mixed findings concerning gender differences in the frequencies of relational victimization. Some studies have found that

boys and girls are equally as likely to be relationally victimized. In a study of urban, mostly African American middle school students, no significant gender differences were found in overall rates of relational victimization (Sullivan, et al., 2006). Similarly, Høglund (2007) found that, for a sample of Canadian middle school students, there were no significant differences in relational victimization between boys and girls. Crick and Grotpeter (1996) also failed to find gender differences in prevalence rates for relational victimization among a sample of mostly Caucasian youth. Finally, Bauman (2008) also found a lack of gender differences in rates of relational victimization among a predominately Hispanic, third through fifth grade sample. Other studies, however, have found that girls are relationally victimized more often than boys. Crick and Bigbee (1998) found this to be true in a sample of 383 predominately Caucasian fourth and fifth graders. In another sample of elementary school students including African American, Hispanic, and Caucasian youth, girls experienced higher rates of relational victimization than did boys (Cullerton-Sen & Crick, 2005). Taken together, these findings suggest a developmental trajectory where experiences of relational victimization become increasingly common across gender as youth enter adolescence.

Peer victimization, including physical and relational subtypes, are linked to adjustment difficulties, such as internalizing and externalizing problems (Card & Hodges, 2008; Hanish et al., 2004; Høglund, 2007; Schwartz et al., 1998), school avoidance (Nishina, Juvonen, & Witkow, 2005), and difficulties in social and academic domains (e.g. Greco et al., 2007; Nakamoto & Schwartz, 2009). For example, Schwartz et al. (1998) found that in a sample of 530 primarily Caucasian youth, victimization was

positively correlated with aggression and delinquency across teacher- and mother-report. Similarly, Hanish et al. (2004) found that for a primarily Caucasian sample of 154 kindergarten and first graders, peer victimization was positively associated with anger and aggression. In terms of internalizing behaviors, peer victimization is positively related to depression, loneliness, general anxiety, social anxiety, suicidal ideation, decreased social concept, self-concept, and self-esteem (Card & Hodges, 2008; Hawker & Boulton, 2000; Rigby, 2001; Schwartz et al., 1998). Schwartz et al. (1998) also examined a composite of internalizing problems, consisting of withdrawn, anxious/depressed, and somatic complaints, and found it to be positively correlated with peer victimization. In addition, Rigby (2001) found that for a sample of 1103 Australian adolescents, victimized girls and boys suffered from increased suicidal ideation.

Several studies indicate that both subtypes of victimization (i.e., physical and relational) are related to similar internalizing behaviors across ethnically diverse populations and for developmental periods including middle childhood and adolescence (Crick & Grotpeter, 1996; Hoglund, 2007; Prinstein et al., 2001). For example, Crick and Grotpeter (1996) found that both overt and relational victimization were significantly related to loneliness, depression, and social anxiety in a predominately Caucasian sample of elementary school youth. Prinstein et al. (2001) also found that physical and relational forms of victimization were associated with similar internalizing problems, with the addition of low self-esteem in a predominately Hispanic sample of, low SES ninth through twelfth graders. Finally, in a sample of 337 sixth and seventh grade Canadian youth, Hoglund (2007) found that a composite of internalizing problems consisting of

depression, anxiety, and social stress was positively associated with physical and relational victimization. Overall these studies indicate that both subtypes of victimization are related to internalizing problems.

Physical and relational subtypes of victimization are also related to externalizing behavior problems. Physical victimization is positively associated with externalizing behaviors such as lying, fighting, delinquency, and aggression (Hodges, Boivin, Vitaro, & Bukowski, 1999; Hoglund, 2007; Sullivan et al., 2006). Greater frequencies of physical and relational victimization were also related to higher levels of delinquency, physical and relational aggression, cigarette use, and alcohol use among middle school students (Sullivan et al., 2006). In addition, Hoglund (2007) found that a composite of externalizing problems consisting of aggression and hyperactivity was positively associated with both physical and relational victimization.

Youth who experience peer victimization may also respond by avoiding school and having decreased bonds to school (Hoglund, 2007; Lopez & DuBois, 2005; Nishina, Juvonen, & Witkow, 2005). For example, in a sample of Canadian sixth and seventh graders, peer victimization was associated with greater rates of school disengagement (Hoglund, 2007). Another study found that peer victimization negatively impacted school functioning, as measured by GPA and unexcused absences, in a sixth grade ethnically diverse sample (Nishina, Juvonen, & Witkow, 2005). In addition, Lopez and DuBois (2005) found that, for a predominantly Caucasian, Midwestern sample of seventh graders, there was a significant, positive path between social, physical, and verbal victimization and academic problems (measured by decreased GPA and increased absences). More

generally, youth may seemingly deal with victimization by peers through avoiding school, a place where they may be likely to be victimized by other youth.

### **Relations between Peer Victimization and Social and Academic Competence**

Prior to examining relations between peer victimization and social and academic competence, it is important to define these forms of competence. Competence more generally refers to the quality of achieving an adequate skill level needed to perform well in a specific area, whether it is socially in interactions with friends and peers or across academic subject matter. One of the challenges in conceptualizing competence is defining exactly how it is achieved. This involves establishing the behaviors of which competence is comprised. Some researchers have examined self-perceptions of competence, specifically how well a person thinks that he or she does something (e.g. Mikami & Hinshaw, 2006). Others have utilized more objective means to measure competence, such as behavioral observations or ratings of actual skill sets by teachers and/or parents (e.g. Gresham & Elliott, 1990). In the current study, the assessments of competencies consist of an independent rating, (i.e., by teachers) because self-ratings by children can be closely related to the construct of self-efficacy beliefs (i.e. a child's perceived ability to do things).

Some researchers define academic competence as the student's skills, behaviors, and attitudes that contribute to academic success (DiPerna & Elliott, 2002). For example, teacher-ratings may include general perceptions of the quality of a child's schoolwork. Other researchers, however, conceptualize academic competence strictly in relation to the child's academic performance (i.e., measures of grades, standardized scores, and

educational attainment such as earning a high school diploma) (Erath, Flanagan, & Bierman, 2008; Fletcher, Nickerson, & Wright, 2003; Park, 2006; Trost, & El-Khoury, 2008). For purposes of the current study, the two definitions are merged to assess academic competence in terms of both teachers' judgment of children's competencies and in terms of classroom behaviors and specific academic areas.

Social competence is an area with fairly consistent agreement among researchers regarding its definition. Broadly, there is consensus that social competence consists of prosocial behaviors (e.g., Brown & Brown, 1982; Fogle, Huebner, & Laughlin, 2002; Vaughn & Hogan, 1990). Gresham, Sugai, and Horner (2001) add that to be termed, "social competence," the success of these social acts must be evaluated by others. Specific components of social competence include social skills, thoughts, and behaviors, and assertiveness, cooperation, leadership, and perspective taking (Argyle & Lu, 1990; Connolly, 1989; Mavrovelli, Petrides, Rieffe, & Bakker, 2007; Semrud-Clikeman, 2007; Vaughn & Hogan, 1990). Additionally, researchers report that certain negative behaviors should be absent for a child to be socially competent such as self-consciousness, disruption, aggression, and social anxiety (Argyle & Lu, 1990; Mavrovelli et al., 2007; Vaughn & Hogan, 1990).

With regard to relations between peer victimization and academic functioning, a finding of concern for educators is that peer victimization is associated with lower levels of academic competence (e.g. Schwartz et al., 2005). In keeping with the definition of academic competence as consisting of: a) skills sets related to academic achievement, and

b) performance in specific academic subjects, it is important to understand and review relations between peer victimization and each aspect of academic competence.

According to Gresham and Elliott (1990), skills sets comprising academic competence involve displaying behaviors that are adaptive to learning and attending to the teacher in a classroom. However, little research exists on relations between peer victimization and such skills set comprising academic competence which is unfortunate given that some hypothesized pathways between peer victimization and lower rates of academic functioning highlight disruptions in learning behaviors and attending (Schwartz et al., 2008).

Concurrent and prospective studies have found direct relations between peer victimization and lower academic achievement in childhood and adolescence (e.g. Estell, Farmer, & Cairns, 2007; Schwartz, Farver, Chang, & Lee-Shin, 2002). Several studies examined composites of peer victimization. Estell et al. (2007) examined these relations in a predominately African American middle school sample and found that victims of peer bullying had significantly lower scores on academic achievement. Schwartz et al. (2002) reported the same finding among self-reported, but not peer or teacher-reported victimization and teacher-reported academic achievement in a sample of 10 to 12 year old South Korean youths. Abou-ezzeddine et al. (2007) conducted two separate cross-sectional studies and found that peer victimization was significantly and negatively related to academic achievement among two Asian adolescent samples. In Study 1, peer victimization experiences were associated with low academic achievement based on peer- and teacher-report among a sample of 296 fifth and sixth graders from China. In Study 2,

inverse relations were also found between peer victimization and academic achievement among 122 South Korean elementary school children (Abou-ezzeddine et al., 2007).

Thus, studies using composites of peer victimization have demonstrated a link between peer victimization and academic achievement, but more studies are needed to understand the links between subtypes of peer victimization and academic competence.

A few studies have also examined these relations by victimization subtypes, (i.e. physical and relational victimization). In a cross-sectional study comprised of a mostly female sample of 120 youth, Greco et al. (2007) examined the relations between overt and relational victimization and academic achievement for youth with and without abdominal pain. Results indicated that overt but not relational victimization was associated with lower academic competence. Similarly, Hoglund (2007) examined these relations by gender and found that for a primarily Caucasian early adolescent sample, negative relations existed between physical victimization and academic achievement for girls, and between relational victimization and academic achievement for boys.

Few longitudinal studies have examined the directionality of these relations using teacher or peer ratings of victimization. Schwartz et al. (2005) conducted a longitudinal study and examined whether peer victimization (a combined score of peer- and teacher-rated overt and relational victimization) predicted academic achievement, as measured by reading and math GPAs and standardized test scores. They found that, in a racially diverse sample of 199 predominately low SES third and fourth grade children, peer victimization predicted decreased academic achievement over a one-year period, but that low academic achievement did not predict increased peer victimization. Also, in a

longitudinal study utilizing a primarily Hispanic and African-American sample of elementary school youth, peer-reported victimization at time 1 did not predict reading or math achievement at time 2 (Hanish & Guerra, 2002). Additional studies are clearly needed to more definitively determine the directionality of these relations.

In accordance with definitions of social competence found in the literature, this construct consists of behaviors that result in positive social outcomes including cooperation, assertion, responsibility, empathy, and self-control (Gresham & Elliott, 1990). A number of cross-sectional efforts consistently indicate that social competence is negatively related to peer victimization (e.g. Greco et al., 2007; Toblin et al., 2005). For example, in an elementary school sample, social avoidance was associated with higher levels of overt and relational victimization (Crick & Grotpeter, 1996). Schuster (2001) also reported that rejected children are more prone to exhibiting social failures. An additional cross-sectional study found that passive victims (i.e., youth who were victimized but not aggressive) had lower ratings on social skills than both aggressive-victims and non-victimized children in an ethnically diverse, low SES, fourth and fifth grade sample (Toblin et al., 2005). A study by Greco et al. (2007) also supported these findings in that overt and relational victimization were found to correlate negatively with social competence. Finally, social competence (as measured by adaptive social information processing) was associated with lower rates of physical and relational victimization in a predominately African American Head Start sample (Garner & Lemerise, 2007).

Several researchers have examined longitudinal relations between peer victimization and social competence and have found mixed results. As an example, Hoglund and Leadbeater (2004) found that peer victimization predicted lower levels of social competence after controlling for initial levels of social competence in a Canadian, predominately Caucasian first grade sample. Moreover, peer victimization predicted decreases in social competence in a predominantly Caucasian sample of 9 to 11 year-olds (Schwartz, et al., 1998). In addition, Dhimi, Hoglund, Leadbeater, and Boone (2005) found that low social competence predicted physical, but not relational victimization for Canadian, predominately Caucasian first graders in a year-long study. More generally, Card and Hodges (2008) posit that low social competence is both a cause and result of peer victimization. Significantly, these authors note that a lack of friends puts youth at risk for peer victimization, and youth who are victimized also lose their current friends because those friends will distance themselves from the child so as not to become victimized themselves.

Generally, researchers have found that higher rates of peer victimization are associated with lower levels of academic and social competence. Significant negative relations have been found between composites of peer victimization and academic achievement (e.g. Abou-ezzeddine et al., 2007; Schwartz et al., 2005), and between overt victimization and academic achievement (Greco et al., 2007), and between relational victimization and academic achievement for boys but not girls (Hoglund., 2007). More research is needed however, to discern more conclusively how subtypes of peer victimization, (i.e. physical and relational) are related to academic competence. Both

composites of peer victimization as well as the relational and physical subtypes show negative relations with social competence (e.g. Crick & Grotpeter, 1996; Toblin et al., 2005). However, only a few studies have examined relations between these victimization subtypes and academic and social competence, and fewer still considered both teacher and student reports of victimization.

### **Differences in Relations between Peer Victimization and Social and Academic Competence by Gender**

This section addresses the potential moderating role of gender on relations between physical and relational forms of peer victimization and academic and social competence. Overall, relatively little research has been conducted in this area. For academic achievement, results from two studies indicated no significant differences in the strength of the relations between peer victimization and academic achievement by gender for fourth through sixth graders (i.e., Greco et al., 2007; Schwartz et al., 2005; Thijs & Verkuyten's, 2008). Additionally, a recent meta-analysis examined the effect sizes of 16 studies that have examined relations between peer victimization and academic achievement, finding no significant gender differences in these relations (Nakamoto & Schwartz, 2009). However, Hoglund (2007) found that relations between higher rates of physical but not relational victimization and lower school achievement were stronger for girls, and that higher rates of relational, but not physical victimization were associated with lower levels of achievement for boys.

Several researchers have also examined potential gender differences in the relation between peer victimization and social competence. Greco et al. (2007) found that

gender did not moderate relations between overt or relational peer victimization and social competence in a sample of middle school youth. However, Schwartz et al. (1998) found that the inverse in that the relation between peer victimization and social competence was stronger for boys than for girls. Moreover, Dhimi et al. (2005) discovered that for boys but not girls, low versus high social competence upon entering the first grade predicted increased physical victimization as the school year progressed. However, there were no differences in relational victimization by gender based on initial levels of social competence.

In conclusion, the few studies to date examining gender differences in relations between peer victimization and academic and social competence reveal mixed findings and few have been conducted with samples of urban minority youth. These inconsistent findings might partially be explained through researchers' use of several different measures to assess peer victimization, its' subtypes, academic achievement and social competence. For example, youths are able to account for their behavior across all contexts, unlike their parents and teachers however their views of their own behavior can be subjective which could result in finding weaker effect sizes between peer victimization and academic competence (Nakamoto & Schwartz, 2009).

Additional research using similar methodologies is needed in this area generally, and in particular for studies that consider relations between subtypes of physical and relational victimization and academic and social competence as well as those employing urban, adolescent samples. It is important to explore potential gender differences in associations between physical and relational victimization and academic and social

competencies because boys and girls may perceive the hurtful and harmful nature of these subtypes of victimization in different ways. In other words, being a victim of physical versus relational aggression can cause differing amounts of hurt or emotional damage to youth depending on their gender. For example, in a sample of 234 predominately Caucasian, lower SES youth, girls reported social and physical victimization to be equally harmful, however they rated social victimization, (a similar construct to relational aggression), as being more hurtful than did the boys (Galen & Underwood, 1997). These researchers also found that boys rated being physically victimized as more hurtful than did girls (Galen & Underwood, 1997).

Underwood (2004) speculated that one reason girls perceive relational victimization as more hurtful is because female friendships involve a focus on social bonds and increased emphasis on intimacy in adolescence, so being socially excluded in friendship and peer contexts can be particularly threatening for girls. Additionally, Crick, Bigbee and Howes (1996) also found gender differences in perceptions of the harmful nature of relational, verbal, and physical victimization. In a sample of 162 primarily Caucasian 9 to 11 year olds, researchers found that being the recipient of relational and verbal aggression was considered more harmful than being the victim of physical aggression for girls. Another key gender difference emerged in that boys reported physical aggression and verbal insults to be more harmful than relational aggression (Crick et al., 1996). Understanding how gender moderates relations between peer victimization and academic and social competence is vital because interventions tailored for gender could generate different and potentially better outcomes.

## **Differences in Relations between Peer Victimization and Social and Academic Competence by Learning Disability Status**

This section examines the potential effects of learning disability status on relations between subtypes of peer victimization and academic and social competence. Learning disabilities are common among school-aged children. Specifically, among children between the ages of 6 and 21 in the United States 5.4% have some form of learning disability (Department of Education, 2008). Also, the overall prevalence of children and adolescents diagnosed with learning disabilities during the 2006-2007 school year was 5.4% (National Center for Education Statistics, 2009). According to the Individuals with Disabilities Education Act (IDEA; Department of Education, 2004), several criteria must be met for a child to have a learning disability. The first criterion is that he or she be underachieving for her age, or not meeting the state standards in at least one of the following areas: oral expression, listening comprehension, written expression, basic reading skills, reading fluency skills, reading comprehension, mathematics calculation, or mathematics problems solving when sufficiently instructed (Department of Education, 2004). This pattern of low achievement also must not be accounted by visual, hearing, or motor disabilities, mental retardation, emotional disturbance, cultural factors, environmental deficiencies, or restricted knowledge of English (Department of Education, 2004).

Learning disabilities can be challenging to cope with and are associated with difficulties in relationships with others and in overall adjustment. For example, in a study of 13 to 18 year-olds with either learning disabilities, a dual diagnosis of attention deficit

hyperactivity disorder (ADHD) and learning disabilities, or a control group comprised of typically developing youth, children with learning difficulties only and combined ADHD and learning disabilities had more difficult relationships with parents, lower self-esteem, and were more depressed (McNamara, Willoughby, & Chalmers, 2005). In another study, researchers found African American and Caucasian middle school students with learning disabilities participated less in school activities, felt lonelier and less integrated into their schools as compared to students without learning disabilities (Sabornie, 1994).

Although no research has directly examined these relations, youth with learning disabilities may also be more vulnerable to the impact of peer victimization than typically developing peers in areas of academic and social competence (e.g. Elliott & McKinnie, 1994, Lackaye & Margalit, 2006, Sabornie, 1994). Researchers have found that children and adolescents with disabilities have lower levels of teacher-reported academic (e.g., Elliott & McKinnie, 1994; Gresham, MacMillian & Bocian, 1997; Lackaye & Margalit, 2006) and social (e.g., Elliott & McKinnie, 1994; Sabornie, 1994) competence. Youth with learning disabilities who already struggle in academic and social areas may be particularly sensitive to these issues, and the added stress of experiencing peer victimization, especially targeted toward academic and social situations (e.g., Sullivan et al., 2010) could possibly worsen their competence in these areas relative to their typically developing peers.

Many youth with learning disabilities face neurological, emotional, and cognitive challenges that can negatively impact social-cognitive information processing efforts. According to Crick and Dodge (1994), information processing in social situations begins

when social cues are encoded and interpreted, goals clarified, responses accessed or constructed, a specific response decided upon, and lastly, that response performed and evaluated. Through every step, individuals refer to a database containing memories, rules, social schemas, and knowledge. As compared to typically developing peers, many adolescents with learning disabilities experience difficulty with social information processing including encoding social cues, identifying fewer goals and acceptable resolutions, and not consistently identifying solutions that meet stated goals (Bauminger, Edelstein, & Morash, 2005).

Youth with learning disabilities may also struggle to access long-term memories based on difficulties in utilizing organizational strategies that inhibits recall and makes timely social responses difficult (McNamara, & Diwadkar, 1996). Language difficulties can also make dealing with victimization problematic for youth with learning disabilities as they may have more difficulty understanding what others are suggesting, when others are deceiving them, and knowing how to say “no“ in an acceptable manner (Pearl & Byran, 1990). Such neurological deficits make processing social information for many victimized youth with learning disabilities much more problematic. In general, when an adolescent is victimized, social skills and processing are greatly tested, and youth need to be able to use and demonstrate adaptive social cognition. Social-cognitive processing difficulties associated with learning disabilities greatly strain these systems, and many youth with learning disabilities are thus placed at a higher risk of not demonstrating social competence. Other cognitive processes which might impair academic functioning and performance that have been shown to be impaired in youth with learning disabilities

include attention and self-regulation (Kavale & Forness, 1996). Such deficits are important as Schwartz et al. (1998; 2008) found peer victimization to be negatively associated with attending and the ability to focus on learning activities. Furthermore, Hazler (1994) drew connections between peer victimization, impaired attention regulation, and resulting academic competence

### **Relations between Peer Victimization, Self-Efficacy, and Competence**

In considering self-efficacy beliefs, at a general level this construct is “not a measure of the skills one has but a belief about what one can do under different sets of conditions with whatever skills one possesses” (Bandura, 2000, *p.* 37). A key aspect of this definition is that self-efficacy reflects a belief about one’s ability to do something, not how well he or she actually does with the task at hand. This differentiates self-efficacy from competence, or the actual ability to enact a behavior or behaviors. Because self-efficacy can be applied to numerous types of skills, specific definitions of this construct will vary somewhat based on the skill to which the definition is being applied.

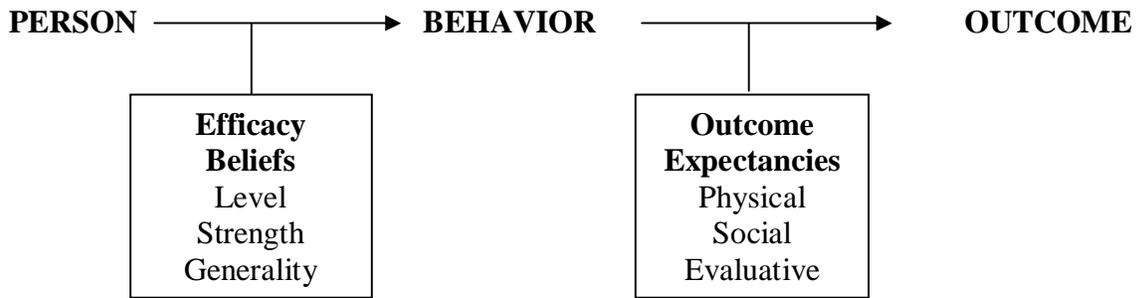
The current study focuses on social and academic self-efficacies. These definitions are similar in that they both relate to the broader concept of general self-efficacy, but they have different foci. Concerning academic self-efficacy, several researchers have specifically defined the term as a person’s perceived capability to meet academic expectations, to deal with his or her education reasonably well, and to master various academic subjects (Bandura, 1999; Muris, 2001). It is usually measured by using items concerning the components of the definition; however, it has also been measured by examining learning and performance self-efficacy (Andreou & Metallidou, 2004).

Social self-efficacy is concerned with the perceived capability to both make and maintain friendships, to work out conflicts in effective, prosocial ways, be assertive, and to appropriately work with others (Bandura, 1999; Muris, 2001). This would signify that a person believes that he or she can utilize appropriate behaviors across a spectrum of social behaviors. In the current study, academic self-efficacy consists of youths' perceived capability to manage their learning behavior, achieve academic subject mastery, and meet academic expectations. Social self-efficacy consists of youths' perceived capability to be appropriately assertive and have positive peer relationships.

Researchers have established links between peer victimization and aspects of academic and social competence (e.g. Greco et al., 2007; Schwartz et al., 2005; Toblin et al., 2005). However, it is also important to understand underlying processes by which peer victimization may lead to changes in these areas of competence. One way that peer victimization and subsequent declines in academic and social competence may be linked is through self-efficacy beliefs. For example, victimization by peers which can include negative personal messages about personal attributes or behaviors such as appearance, cognitive ability, or social skills (e.g., Sullivan et al., 2010), which may decrease adolescents' confidence or belief in their ability to do well in social and academic arenas, leading to actual decreases in these areas of competence. Related lines of research focusing on children and adolescents have highlighted the role of peer victimization in adversely impacting social-cognitive processes (e.g., increasing negative self-attributions) for youth that then mediated relations between peer victimization and passive withdrawal from and active rejection by peers in social settings (Graham & Juvonen, 2001). Self-

efficacy beliefs are another aspect of social cognitive processing that may be adversely affected by peer victimization with consequences extending to key areas of competence in the school setting (i.e., academic and social).

Bandura defines self-efficacy as a person's belief in his or her ability to do something, and self-efficacy is seen as converting beliefs concerning abilities into actual abilities. As Bandura states, "Through the proactive exercise of self-efficacy belief in self-development, capacity is converted into capability. Belief in one's learning efficacy activates and sustains effort and thought needed for skill development," (Bandura, 2000, *p.* 61). Self-efficacy then, enables people to persist in trying to do something that may be new or difficult because they think that they can do it. If individuals do not believe in their ability to do various things, they may not try new things or may avoid difficult tasks because of the thought that they would not be able to complete the skill or action. In other words, individuals may not bother to try, or may quit a task quickly because they have already told themselves that they will not be successful, and that trying would simply not be worthwhile. On the other hand, high levels of self-efficacy seem to enhance the chance that people will actually try hard enough to successfully achieve positive outcomes (Bandura, 2000). Bandura (2000, *p.* 22) illustrated the concept using the following diagram.



**Figure 1.** Bandura's Model

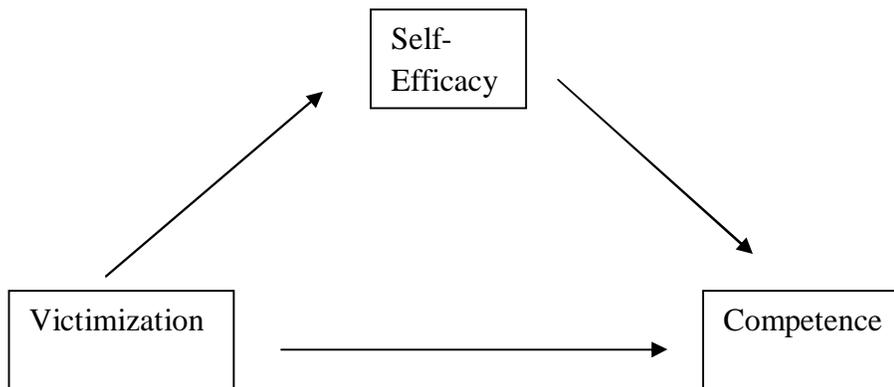
According to Baron and Kenny (1986), assumptions in testing mediational models include significant relations between the: a) predictor and outcome, b) predictor and mediator, and c) mediator and outcome, however, other researchers have stated that mediation may exist in absence of the predictor to outcome relation (MacKinnon, 2008). As noted previously, higher rates of peer victimization have been significantly related to lower levels of academic and social functioning among child and adolescent samples (e.g., Greco et al., 2007; Nakamoto & Schwartz, 2009). In contrast, relatively few studies have explored relations between peer victimization and youths' self-efficacy beliefs in social and academic areas. In fact, only one study was found that included peer victimization and social self-efficacy, with no significant relation found between these constructs in a predominately Caucasian, lower SES sample of fifth and sixth graders (Coleman, 2003). Similarly lacking in the literature are studies concerning the nature of the relations between academic self-efficacy and peer victimization. Only two studies, by Andreou and Metallidou (2004) and Thijs and Verkuyten (2008), have been found that examined associations between peer victimization and self-efficacy beliefs specifically related to academic functioning. Andreou and Metallidou (2004) found that academic

self-efficacy was negatively related to peer victimization in a sample of Greek fourth through sixth graders. Similarly, Thijs and Verkuyten (2008) found that, for an ethnically diverse sample of sixth grade Dutch students, academic self-efficacy was also negatively associated with peer victimization. Based on the mixed results of the few studies conducted to date, more research focusing on adolescents across diverse populations is needed to better understand how victimization by peers may impact individuals' beliefs about their abilities in social and academic areas.

In the current study, academic and social self-efficacies are specifically examined as to how these constructs relate to academic and social competencies, respectively. Researchers have found that social self-efficacy is positively correlated with social competence among high school students (Connolly, 1989; Fogle, Huebner, & Laughlin, 2002). Social self-efficacy has also been shown to be positively related to academic competence as measured by grades (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999). Additionally, academic self-efficacy was positively correlated with academic achievement, (using measures such as grades and test scores) (Adeyemo, 2007; Bandura, et al. 1999), however, no studies could be found that examined relations between academic self-efficacy and academic competence. In general, several studies demonstrate positive relations between self-efficacy and aspects of competence in academic and social domains, however, some relations between these constructs have not been thoroughly examined.

Given the potential negative consequences of peer victimization experiences for youth in the areas of social and academic competence, a main goal of this study is to

better understand the nature of relations between peer victimization and these competencies along with the potential mediating role of self-efficacy. Relatively little research has been conducted on the interrelations between these constructs. One exception is a study by Thijs and Verkuyten (2008) who found that academic self-efficacy mediated relations between peer victimization and academic achievement in a sample of Dutch youth. Whether academic self-efficacy mediates associations between physical and relational victimization and academic competence remains to be explored. Therefore, a key goal of the current study will be to test whether each type of self-efficacy (i.e., academic and social) mediates relations between physical and relational victimization and the respective type of competence. The theoretical model on which the current study is based is presented below.



**Figure 2.** Self-efficacy as a Mediator of the Relations of Victimization and Competence

## **Purpose of the Study**

Early adolescence is an exciting time for many youth that includes both accomplishments and challenges. At this age, youth are growing and changing as they experience the biological and physical changes associated with puberty as well as substantial social, emotional, and cognitive development (Yoon et al., 2004). This development enables them to better understand and navigate complex social relationships (Yoon et al., 2004). Adolescents are also beginning to achieve increased independence and broaden their social circles to include those of the opposite sex (Yoon et al., 2004). During this developmental time period, the opinions and perspectives of youth in an adolescent's social circle become more important (Yoon et al., 2004); however, navigating these social arenas can be at times both confusing and stressful.

As development progresses, competencies in the social and academic areas can accordingly become more advanced. However, growth in social cognition, such as mutual perspective-taking, may also engender increased self-consciousness with peers. More generally, peers become more influential in adolescents' lives as does peer acceptance and image, status, and reputation with peers. Adolescents are beginning to rely more and more on their peers for support (Furman & Buhrmester, 1992) and fitting in with a group of peers is important. Espelage, Holt, and Henkel (2003) report that peers associate with those who are similar to them (e.g., in terms of beliefs, values, attitudes, and behaviors) and may resemble each other more in terms of these variables as time goes on. They further found that this effect extends to common minor acts of aggression and victimization (Espelage et al., 2003). Boys and girls in early adolescence are figuring out

who they are, and in doing so, they many times seek to define themselves in relation to others. Although this self-exploration can take place in many positive ways, the urge to define each other can also lead to victimization and marginalizing others (e.g., from peer group membership) in various ways, such as labeling and name calling. Through such incidents of victimization, some adolescents may seek to demonstrate that they have a higher social status than others (Espelage et al., 2003).

Unfortunately, a substantial number of early adolescents experience victimization at the hands of their peers. This is especially problematic because peer victimization, including relational and physical victimization, can negatively impact multiple domains of functioning. In particular, peer victimization has been shown to be negatively associated with aspects of academic and social competence (Greco et al., 2007; Nakamoto & Schwartz, 2009).

The goal of this study is to better understand several factors that may influence relations between peer victimization and academic and social competence. The first aim is to examine associations between relational and physical subtypes of victimization for the total sample and social and academic competence. Based on results of the literature conducted to date, I anticipate significant negative relations between both subtypes of peer victimization and each type of competence. The second aim is to determine if relations between physical and relational victimization and academic and social competence differ for two specific subgroups; boys and girls and youth with and without learning disabilities. Based on research exploring differences in the hurtful and harmful nature of relational and physical aggression and victimization by gender, I anticipate

stronger negative associations between relational victimization and each area of competence for girls versus boys and stronger negative associations between physical victimization and each area of competence for boys versus girls. I also anticipate stronger negative associations between physical and relational victimization and social and academic competencies for youth with versus without learning disabilities based on the extant literature. A final question concerns the potential mechanisms by which changes in peer victimization may result in changes in levels of academic and social competence, and specifically examines the potential mediating role of self-efficacy on these relations. I anticipate that academic self-efficacy will mediate relations between peer victimization and academic competence and that social self-efficacy will mediate relations between peer victimization and social competence.

## **Method**

### **Settings and Participants**

This study was conducted utilizing data from sixth graders attending two middle schools serving an urban public school system located in the Southeastern United States who were participating in a larger study designed to evaluate a school-based violence prevention program. The majority of students served by these schools qualified for the federal free or reduced lunch program and lived in areas characterized by high rates of poverty. As part of the larger study, sixth grade elective classrooms (e.g., health and physical education) were randomly assigned to either the intervention or control conditions. Of the students in these classrooms, active student assent and parental consent

was received from 308 youth (83% participation rate). Data used in the present study was collected at the second time point, at post-test, in Spring 2009. Of the sixth graders who provided survey data in Fall 2008, 271 provided data six-months later at the second time point (88% retention rate). For the final sample, the majority of participants identified themselves as African-American (84%), 11% endorsed multiple ethnicities, 2% identified themselves as Hispanic or Latino, 1% as European American, and the remainder of youth endorsed other ethnic backgrounds. Youth ranged in age from 11 to 14 ( $M = 11.3$ ,  $SD = 0.6$ ) and included approximately equally numbers of boys and girls (51.9% female). Thirty-nine students with learning disabilities were represented in the sample (14.4%) based on having an Individual Education Plan with this educational category.

### **Procedure**

Study procedures were approved by the University Institutional Review Board. Consent and assent forms were sent home with students, and all youth received a \$5 gift certificate for reviewing the consent and assent forms with their parent(s) and returning them, regardless of whether or not they or their parents opted to participate. Student surveys were conducted in the school media center and used computer-assisted technology that allowed students to listen to questions on headphones as well as read each question. Students could also replay the audio for each question as needed. Surveys took approximately 45 to 60 minutes to complete and study staff were readily available to assist students (e.g., answer questions about the survey, read questions to students) as needed. Students received a \$10 gift certificate for completing the student survey in appreciation of their time and effort. For each student participant, one of their core

academic teachers was identified and asked to complete a report of the student's behavior (including peer victimization, academic, and social competence). Study staff explained the purpose of the study to teachers and informed consent was obtained prior to data collection. All teachers who were approached opted to participate. Each survey took approximately 15-20 minutes to complete and teacher received \$20 per survey in appreciation of their time and effort. For both students and teachers, the voluntary nature of participation was stressed, and participants were able to stop the survey or not to answer questions as they desired.

## **Measures**

**Problem Behavior Frequency Scale** (PBFS: Farrell, Kung, White & Valois, 2000; Miller-Johnson, Sullivan, Simon, & MVPP, 2004). This scale contained 8 subscales measuring physical, nonphysical, and relational aggression, overt and relational victimization, delinquency, drug use, and effective nonviolent behavior including both self-report and a recently developed teacher-report measure. The current study utilized the overt and relational victimization subscales from both the student-report and teacher-report measures. For the overt victimization subscales, one item not measuring physical victimization (i.e., "Been yelled at or called mean names by another kid") was deleted to create student- and teacher-reported physical victimization scales. For all items, students and teacher were asked to indicate the frequency that behaviors happened to them or the student, respectively, in the past 30 days using a six-point response scale ranging from 1 – *Never* to 6 – *20 or more times*. The four-item physical victimization subscale assessed the frequency of behaviors that included physical harm or the threat of physical harm

(e.g., “Been hit by another kid.”), with the items containing the same content in both scale versions. The student- and teacher-report of relational victimization included six and five items, respectively, that measured how often a child was manipulated or his/her peer relationships were harmed by others (e.g., “Been left out on purpose by other kids when it was time to do an activity”) (Sullivan et al., 2006). Content for 5 items were the same for the relational victimization across teacher and student report. The item that was present in the self-report that was not present in the teacher-report version was, “Had a kid say they won’t like you unless you do what he/she wanted you to do”. For the student-report version, alpha coefficients were .74 for physical victimization and .82 for relational victimization. For the teacher-report version, alpha coefficients were .81 for physical victimization and .90 for relational victimization.

**The Self-Efficacy Questionnaire for Children** (SEQ: Landon, Ehrenreich, & Pincus, 2007). This 24-item scale is a modified version of The Self-Efficacy Questionnaire for Children (Landon, Ehrenreich, & Pincus, 2007), and was originally based on a measure developed by Muris (2001). This scale measured children’s self-efficacy and included three subscales in the social, emotional, and academic domains, each having 8 items per subscale. For this study, the Social and Academic Self-Efficacy subscales were used. The Social Self-Efficacy subscale measured the extent to which adolescents think that they can have various positive social interactions with others (e.g. “I can make friends with other children.”). The Academic Self-Efficacy subscale assessed the degree to which adolescents think that they can perform positive academic behaviors (e.g. “I can finish my homework every day.”). Ratings are assessed on a five-point scale,

with responses ranging from 1 = *Definitely Cannot* to 5 = *Definitely Can*. Higher scores corresponded with higher rates of self-efficacy. For the present study, the Academic and Social Self-Efficacy subscales had alphas of .79 and .68, respectively.

**Social Skills Rating System** (SSRS: Gresham & Elliott, 1990). This measure was used to determine adolescents' social and academic skills. There are parent, teacher, and child report forms, for the preschool, elementary, and secondary school periods, but only the elementary school teacher form, (which is used for youth in the kindergarten through sixth grades), was used for the current study, which contained three subscales, Social Skills, Academic Competence, and Problem Behaviors. The Social Skills and Academic Competence subscales were used for this study. The Social Skills subscale included 30 items and measured teachers' perceptions of their student's social skills in an academic setting (e.g. "Accepts peers' ideas for group activities,"). It is based on a three-point response scale ranging from 1 - *Never*, to 3 - *Very Often*. The Academic Competence subscale consisted of nine items assessing the teacher's perception of students' academic abilities, (e.g. "In terms of grade-level expectations, this child's skills in reading are:"). Teachers then rated the student's abilities as compared to other students on a five-point scale ranging from, 1- *Lowest 10 percent* to, 5 - *Highest 10 percent*. Content validity was established through the authors recruiting experienced researchers to develop an item pool, and parents, teachers, and students to rate the importance of the items (Gresham & Elliott, 1990). Gresham and Elliott (1990) demonstrated criterion validity for the elementary teacher scale through its correlations in the moderate to high range with the teacher versions of the Social Behavior Assessment and the Child Behavior Checklist.

Construct validity was established through the continuity of the SSRS scores across development (Gresham & Elliott, 1990). For the present study, Cronbach's alphas of .96 and .97 for the Academic and Social Competence subscales, respectively, were found.

Table 1

*List of Constructs with Sample Items*

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Table 1 continued

<u>Construct</u>	<u>Measures</u>	<u>Items</u>
Peer Victimization (Student report):	Relational Victimization Subscale	Relational Victimization: Had a kid say they won't like you unless you do what he/she wanted you to do.
The Problem Behavior Frequency Scale		Had a kid try to keep others from liking you by saying mean things about you.
	Physical Victimization Subscale	Physical Victimization: Had a kid who is mad at you try to get back at you by not letting you be in their group anymore. Been hit by another kid. Been pushed or shoved by another kid. Been threatened or injured by someone with a weapon (gun, knife, club, etc.).
Peer Victimization (Teacher report):	Relational Victimization Subscale (RVS)	Relational Victimization: Had a kid say they won't like him or her unless did what they wanted
The Problem Behavior Frequency Scale		Been left out on purpose by other kids when it was time to do an activity Had a kid tell lies to make other kids not like him or her

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Table 1 continued

		anymore
	Physical Victimization Subscale (PVS)	Physical Victimization: Been hit by another kid Been pushed or shoved by another kid Another kid threatened to hit or physically harm him or her
Social Skills (Teacher Report):  The Social Skills Rating System:	Social Competence Subscale	Social Competence:  Examples include independently making introductions, being able to compromise in conflict situations, and prosocial behavior toward others.
	Academic Competence Subscale	Academic Competence:  Examples include ranking areas of the child's academic performance and classroom behavior with other students.
Self-Efficacy (Student Report):  The Self-Efficacy Questionnaire for Children :	Academic Self-Efficacy Subscale	Academic Self-Efficacy:  I can study when there are other fun things to do.  I can finish my homework every day.  I can pass all subjects at school.
	Social Self-Efficacy Subscale	Social Self-Efficacy:  I can express my opinions when classmates disagree with me  I can make friends with other children.  I can comfortably talk with new people.

## **Results**

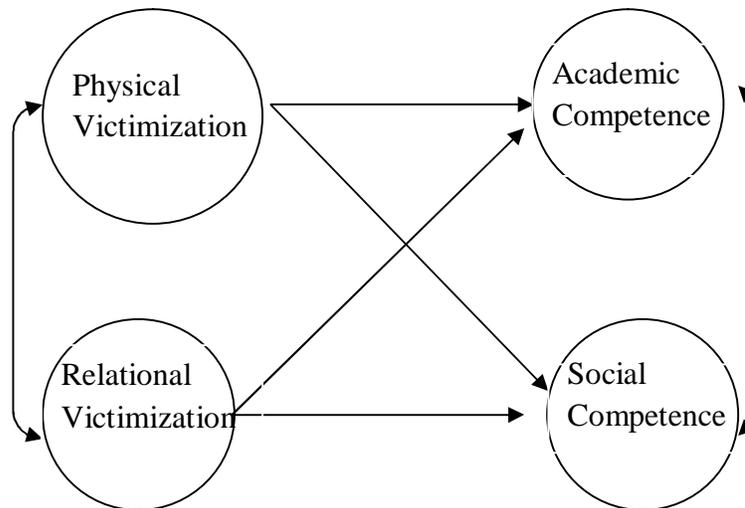
### **Data Analysis**

First, descriptive statistics were run for the study constructs including means and standard deviations for both the total sample and to examine differences in mean scores for study variables by gender and learning disability status. The skewness and kurtosis of study variables were examined and log transformations made as needed based on the distribution of the variables. The range of scale scores was also calculated to examine and as a data check to assure the range was within the possible scale score range for each construct.

Prevalence rates were then calculated for self- and teacher-reported physical and relational victimization items to determine how frequently adolescents experienced specific acts of victimization within the past 30 days. Correlations among study variables were also then calculated to examine relations between student- and teacher-rated peer victimization, self-efficacy, competence, learning disability status, and gender.

Study hypotheses were examined using path models via Version 3.1 of M-Plus (Muthén & Muthén, 1998). As an initial step, tau-equivalent models were run to assess the underlying structure of the peer victimization, self-efficacy, and competence constructs. Goodness of fit indices were examined to compare the fit of the tau-equivalent models including: a) the comparative fit index (CFI) b) the root mean square error of approximation (RMSEA), and c) and the Bayesian Information Criterion (BIC) as well as chi-square difference tests.

Significant negative direct effects were hypothesized between both physical and relational victimization and academic and social competence. To test this hypothesis, path models were run using manifest variables to examine direct relations between physical and relational victimization and social and academic competence for the total sample, controlling for the intervention condition (dummy-coded so 0 = no intervention and 1 = intervention). The intervention condition reflects whether or not participants received a violence prevention program administered as part of the larger project. Two models were run; one for self-reported and one for teacher-rated peer victimization. Fit indices were not calculated for this model as it was fully saturated and thus had no degrees of freedom. Figure 3 depicts the path diagram with these hypothesized relations.

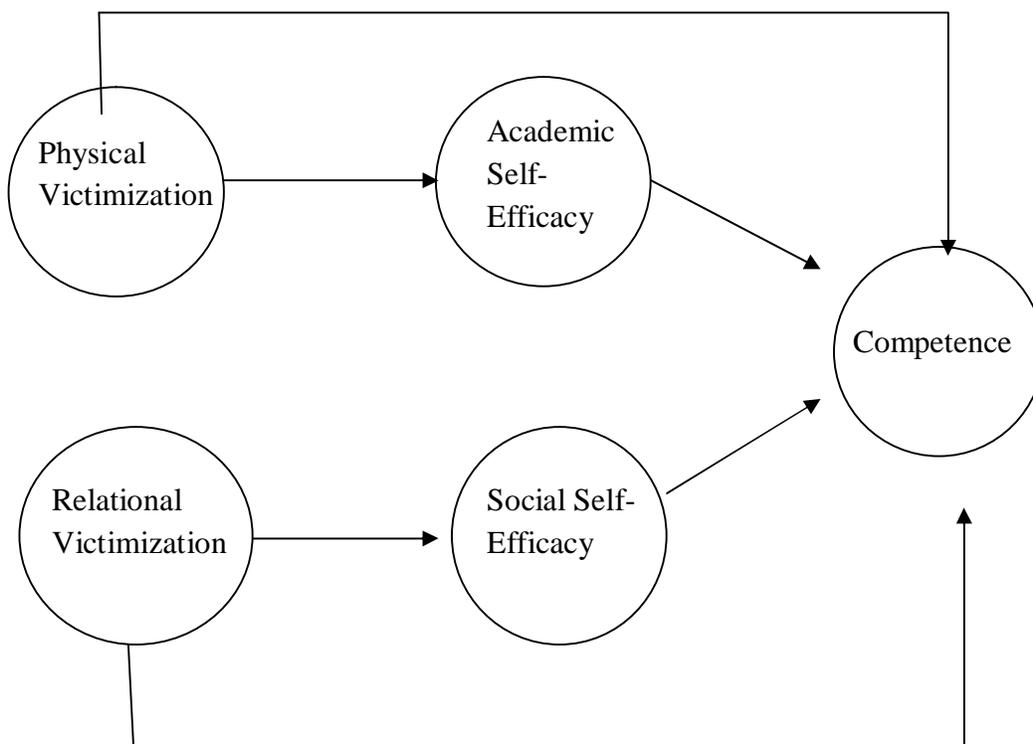


**Figure 3.** Relations between Peer Victimization and Competence

Gender and learning disability status were hypothesized to moderate relations between physical and relational victimization and academic and social competence. To test these hypotheses, a multiple group constrained path model in which paths were fixed

to be equal across the moderator variable (i.e., either gender or learning disability status) was compared to a multiple-group unconstrained path model where the paths were allowed to vary across gender or learning disability status. For each potential moderator, two models were run; one for self-reported peer victimization and one for teacher-rated peer victimization. Because the multiple-group unconstrained models were fully saturated, chi-square difference tests between the constrained and unconstrained models were calculated to determine which model best fit the data.

Self-efficacy (academic and social) was hypothesized to mediate relations between self- and teacher-reported physical and relational victimization and academic and social competence, respectively. Fit indices for the two models (one for self- and one for teacher-report of peer victimization) were not calculated as the models were fully saturated. M-Plus output included direct effects between: (a) the predictor and outcome variable, (b) the predictor and mediator, and (c) the mediator and outcome variable. M-Plus output also included output for hypothesized indirect effects of self-efficacy on relations between victimization and competence which represented the product of the path coefficients (i.e., predictor to mediator and mediator to outcome.). The path diagram for the mediating model is presented in Figure 4.



**Figure 4.** Self-efficacy as a Mediator of the Relations between Victimization and Competence

### **Preliminary Analyses**

Student- and teacher-reported physical and relational victimization subscales were measured using the Problem Behavior Frequency Scale with ratings ranging from 1 to 6 for the student and teacher versions, and higher scores indicating higher rates of peer victimization. Academic and social self-efficacy beliefs were assessed using the Self-Efficacy Questionnaire with ratings ranging from 1 to 5 and higher scores indicating higher levels of self-efficacy. The Social Skills Rating Systems was used to assess

academic and social competence, within which ratings could range from 1 to 5 for academic competence and 1 through 3 for social competence.

Descriptive statistics were calculated including means, standard deviations, and the range for each measure for the total sample (see Table 2). The skewness and kurtosis of study variables was also examined to assess the normality of the distribution for each variable. According to Kline (2005), a variable is skewed or kurtotic if its absolute value exceeds 3.00. Tabachnick and Fidell (2007) also note that variables should have values as close to zero as possible and encourage the examination of histograms to determine whether variable distributions are skewed or kurtotic. Based on these criteria, all 4 victimization variables, (teacher and self-rated physical and relational victimization), were positively kurtotic. To normalize the distribution of these variables, they were log transformed and then multiplied by 10 for reporting purposes.

Table 2

*Means and standard deviations for peer victimization, self-efficacy, and competence variables for sixth graders*

Measure	M	SD	Range
Relational Victimization (Student Report)	9.72	4.82	6-31
Physical Victimization (Teacher Report)	6.55	3.36	4-20
Physical Victimization (Student Report)	6.43	2.49	5-20
Physical Victimization (Teacher Report)	5.17	1.78	4-13
Academic Self-Efficacy	33.28	5.20	10-40

Table 2  
Continued

Social Self-Efficacy	32.80	4.87	10-40
Academic Competence	30.21	9.72	9-45
Social Competence	65.74	13.81	32-90

*Note:* Ns ranged from 263 to 271 due to missing data

Descriptive statistics were also calculated including means and standard deviations by gender and learning disability status (see Tables 3 and 4). There were few significant differences in the mean values of study variables by gender (see Table 3). The only significant finding was that teacher-reported physical victimization was significantly higher for boys than girls ( $F = 10.69, p < .01$ ). Few significant differences were found in mean values in comparing youth with versus without learning disabilities (see Table 4). Children without learning disabilities were rated as significantly more academically ( $F = 20.29, p < .001$ ) and socially competent ( $F = 11.68, p < .01$ ) by their teachers, and reported significantly higher levels of social self-efficacy ( $F = 5.22, p < .05$ ).

Table 3

*Means and standard deviations for peer victimization, self-efficacy, and competence variables for sixth graders by gender*

Measure	Boys		Girls		F-value	Partial Eta-Squared
	M	SD	M	SD		
Table 3 continued						
Relational Victimization (Student Report)	9.64	4.78	9.70	4.80	0.10	.00
Physical Victimization (Student Report)	6.70	3.31	6.45	3.44	0.36	.00
Relational Victimization	6.43	2.70	6.40	2.20	0.01	.00

Table 3  
Continued

(Teacher Report)						
Physical Victimization (Teacher Report)	5.51	2.11	4.82	1.30	10.69**	.04
Academic Self-Efficacy	33.64	4.76	33.02	5.50	0.94	.00
Social Self-Efficacy	32.94	4.47	32.66	5.22	0.23	.00
Academic Competence	29.32	10.08	30.97	9.39	1.93	.01
Social Competence	64.22	13.63	67.34	13.60	3.50	.01

*Note:* Ns ranged from 258 to 268 due to missing data; \* $p < .05$ . \*\* $p < .01$ .

Table 4

*Means and standard deviations for peer victimization, self-efficacy, and competence by learning disability status*

Measure	With LD		Without LD		F-value	Partial Eta Squared
	M	SD	M	SD		
Relational Victimization (Student Report)	9.81	4.54	9.53	4.83	0.10	.00
Physical Victimization (Student Report)	7.00	4.54	6.43	3.16	0.87	.00
Relational Victimization (Teacher Report)	5.97	1.51	6.36	2.39	0.95	.00
Physical Victimization (Teacher Report)	5.18	1.14	4.92	1.58	0.95	.00
Academic Self-Efficacy	32.14	4.96	33.67	4.91	3.18	.01
Social Self-Efficacy	31.66	5.49	33.45	4.27	5.22*	.02
Academic Competence	24.41	9.65	31.84	9.39	20.29***	.08
Social Competence	59.77	10.62	67.83	13.95	11.68**	.05

*Note:* Ns ranged from 231 to 248 due to missing data. For the analyses comparing students with learning disabilities to typically developing youth, students with other disabilities were excluded; \* $p < .05$ ., \*\* $p < .01$ , \*\*\* $p < .001$ .

Prevalence rates for self-reported physical and relational victimization for the total sample and by gender and learning disability status are reported in Table 5. For physical victimization, approximately half of the students experienced some type of physical victimization. Forty-eight percent of youths reported being pushed or shoved by another kid in the past 30 days and around 40% reported being hit or that another kid threatened to hit them during this timeframe. Fewer youth (11%) reported that someone had threatened them with a weapon in the past 30 days. No significant differences were found in self-reported prevalence rates of physical victimization by either gender or learning disability status.

For relational victimization, 50% of youth reported experiencing some type of relational victimization in the past 30 days (see Table 5). Half of the students reported that someone spread a false rumor about them, and approximately 40% of youth reported that another peer tried to get others to stop liking them by saying mean things about them or by telling lies to make others not like them anymore. About 25% of youth reported being left out of an activity by others, or having another peer say that they wouldn't like them unless they did what he/she wanted. Only one significant difference was found in the examination of prevalence rates by gender and learning disability status, with boys experiencing other kids trying to get back at them by not letting them be part of their group more often than did girls ( $F = 4.96, p < .05$ ).

Table 5

*Self-reported physical and relational victimization prevalence in the previous 30 days for sixth graders by gender and learning disability status*

	Total (%)	Boys (%)	Girls (%)	X <sup>2</sup>	Total %	LD (%)	Not LD (%)	X <sup>2</sup>
Physical Victimization								
Been hit by another kid	43	48	39	1.96	41	36	42	0.49
Been pushed or shoved by another kid	48	52	43	1.94	47	46	47	0.01
Another kid threatened to hit or physically harm you	40	41	38	0.23	39	32	40	1.00
Been threatened or injured by someone with a weapon (gun, knife, club, etc.)	11	14	9	1.08	10	13	9	0.50
Relational Victimization								
Had a kid say they won't like you unless you do what he/she wanted you to do	25	24	27	0.28	24	24	24	0.01
Table 5 continued	50	49	51	0.06	50	63	47	3.34
Been left out on purpose by other kids when it was time to do an activity	26	29	23	1.32	25	30	24	0.63
Had a kid try to keep others from liking you by saying mean things about you	42	43	42	0.08	40	47	38	1.02
Had a kid tell lies about you to make other kids not like you anymore	41	40	42	0.13	40	39	40	0.04
Had a kid who is mad at you try to get back at you by not letting	21	27	16	4.96*	21	22	21	0.01

Table 5  
Continued

you be in their group anymore

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Note: For these analyses, *N*s ranged from 232 to 266 due to missing data. For the analyses comparing students with learning disabilities to typically developing youth, students with other disabilities were excluded; \* $p < .05$ .

Prevalence rates for teacher-report of physical and relational victimization are presented in Table 6. Teachers reported that approximately half of the students experienced at least one type of victimization. Teachers reported that more than 30% of students experienced some type of physical victimization. They reported that approximately 30% of youths had been pushed or shoved, or hit or threatened with physical harm by another kid, but that fewer (5%) had been threatened or injured by someone with a weapon. In examining gender differences in prevalence rates, the only significant findings were that boys were rated as being hit by another kid significantly more often than girls ( $F = 6.85, p < .05$ ), and that boys were pushed or shoved significantly more often than girls ( $F = 10.77, p < .01$ ). No significant differences in the teacher-reported prevalence of physical victimization were found between youth with and without learning disabilities.

Teachers indicated that over one-fifth of students experienced some form of relational victimization. Teachers reported that having kids say that they had a kid try to keep other kids from liking them by saying mean things about them and/or had false rumors spread about them by peers were the most prevalent items, occurred among 26% of students. Around 20% of students were reported to have been left out on purpose by other kids when it was time to do an activity, had a kid tell lies about the student to make other kids not like them anymore, or had a kid who is mad at the student try to get back at

them by not letting the student be in their group anymore. There were no significant differences in the frequency of items of relational victimization across gender or learning disability status.

It is important to note that the teacher ratings paint a very different picture than student ratings in terms of both physical and relational victimization. With one exception, teachers reported lower prevalence rates of physical and relational victimization in the preceding 30 days. In some cases, teacher-reported prevalence rates were less than half of the incidence of physical and relational victimization that students reported.

Table 6

*Teacher report of students' physical and relational victimization prevalence in the previous 30 days for sixth graders by gender and learning disability status*

	Total (%)	Boys (%)	Girls (%)	X <sup>2</sup>	Total (%)	LD (%)	Not LI (%)	X <sup>2</sup>
Physical Victimization								
Table 6 continued	27	34	20	6.85*	24	31	22	1.36
Been pushed or shoved by another kid	34	43	25	10.77**	30	39	28	1.71
Another kid threatened to hit or physically harm him/her	31	36	27	2.70	27	44	24	6.23
Been threatened or injured by someone with a weapon (gun, knife, club, etc.)	5	3	6	1.10	4	5	4	.10
Relational Victimization								
Had someone spread a false rumor about him/her	26	24	28	.51	25	21	26	.55
Been left out on purpose by	21	22	21	.04	21	21	22	.23

Table 6  
Continued

other kids when it was time to do an activity								
Had a kid try to keep others from liking him/her by saying mean things about you	26	24	27	.38	24	26	24	.05
Had a kid tell lies about you to make other kids not like him/her anymore	20	17	23	1.48	19	15	20	.36
Had a kid who is mad at you try to get back at you by not letting him/her be in their group anymore	21	19	23	.51	20	15	21	.58

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Note: Ns ranged from 246 to 277 due to missing data. For the analyses comparing students with learning disabilities to typically developing youth, students with other high incidence learning disabilities were excluded from these analyses; \* $p < .05$ . \*\* $p < .01$ .

Correlations among peer victimization, self-efficacy, and competence variables are shown in Table 7. A per-test significance rate of  $p < .002$  was established based on a Bonferroni correction with a familywise Type I error rate of  $p < .10$ . Student-rated physical and relational victimization was significantly correlated ( $r = .59, p < .001$ ) as were teacher-report of physical and relational peer victimization ( $r = .69, p < .001$ ). Academic and social self-efficacy were positively correlated ( $r = .56, p < .001$ ) as were academic and social competence ( $r = .58, p < .001$ ). Student-reported physical ( $r = -.29, p < .01$ ) and relational victimization ( $r = -.20, p < .01$ ) were negatively associated with social self-efficacy. With the exception of student-reported physical victimization, all other victimization variables were negatively associated with academic competence ( $r$ s ranged from  $-.19$  to  $-.29$ ). Social competence however, was significantly negatively correlated with both teacher-rated physical ( $r = -.50, p < .001$ ) and relational ( $r = -.48, p < .001$ ) victimization, but not either subtype of student-rated victimization. Gender was

only significantly correlated with teacher-rated physical victimization ( $r = -.20, p < .01$ ).

Learning disability status was only significantly negatively correlated with academic ( $r = -.26, p < .01$ ) and social ( $r = -.19, p < .01$ ) competence.

Table 7

*Intercorrelations among victimization, self-efficacy, and competence variables for sixth graders.*

Variable	1	2	3	4	5	6	7	8	9	10
1. Physical Victimization (Student)	-	.59	.17	.12	-.29	-.18	-.07	-.13	-.04	.06
2. Relational Victimization (Student)		-	-.18	-.18	-.20	-.12	-.19	-.17	.01	.01
3. Physical Victimization (Teacher)			-	.69	-.13	-.14	-.29	-.50	-.20	.05
4. Relational Victimization (Teacher)				-	-.06	-.07	-.23	-.48	-.02	-.08
5. Social Self-Efficacy					-	.56	.11	.05	-.03	-.15
6. Academic Self-Efficacy						-	.18	.18	-.06	-.12
7. Academic Competence							-	.58	.10	-.26
8. Social Competence								-	.13	-.19
9. Gender									-	-.09
10. Learning Disability Status										-

Note: Ns ranged from 231 to 281 due to missing data. For the correlation analyses including students with learning disabilities, students with other high incidence disabilities were excluded. The Bonferroni Correction resulted in a significance level of  $p < .002$  based on a family-wise error rate of  $p < .10$ , all correlations are significant at  $r = 0.19$  and above.

To determine the underlying structure of the study constructs including peer victimization, self-efficacy, and competence, tau-equivalent models were run (see Table 8). Models were compared using goodness-of-fit indices including the CFI, RMSEA, and BIC and the chi-square difference test was also computed. The CFI represents the model fit improvement compared to the baseline model (Kline, 2005). CFI values were compared between the models with differences greater than .01 considered to indicate evidence of differences in the fit of the models favoring the CFI with the greater value (Marsh & Hoecvar, 1985). More generally, values closer to 1.0 indicating better fit and values above .90 are considered to have an acceptable fit (Browne & Cudek, 1993). The RMSEA represents the size of the differences between the predicted and observed values (MacKinnon, 2008). Models with values below 0.05 indicate few differences between the observed and predicted values, and thus are indicative of better fit (MacKinnon, 2008) The BIC is a predictive fit index that shows the amount of estimated variability that the model accounts for while adjusting for sample size and parsimony (Kline, 2005). Differences of 10 or more provide substantial evidence of differences between models that favor the lower value as representing the data more parsimoniously (Raftery, 2003).

Four models were compared for peer victimization including: a) a 1-factor model comprised of self- and teacher-reported physical and relational victimization (V-1), b) a 2-factor subtype model comprised of self- and teacher-reported relational victimization and self- and teacher-reported physical victimization (V-2), c) a 2-factor reporter model comprised of self-reported physical and relational victimization and teacher-reported physical and relational victimization (V-3), and d) a 4-factor model comprised of self-reported physical victimization, self-reported relational victimization, teacher-reported physical victimization, and self-reported

relational victimization (V-4). The 1-factor model (V-1) was first compared to the 2-factor subtype model (V-2) with the latter model favored based on comparison of CFIs of .324 and .356; RMSEAs of .20 and .20), differences in the BIC values of 79.85 and a significant chi-square difference test. Next, the 2-factor victimization subtype model (V-2) was compared to the 2-factor victimization reporter model (V-3) with the latter model favored based on comparison of the fit indices (CFIs of .356 and .572; RMSEAs of .20 and .16), differences in the BIC values of 611.30 and a significant chi-square difference test. Finally, the 2-factor reporter model (V-3) was compared to the 4-factor model (V-4) with the latter model again favored based on comparison of the fit indices (CFIs of .572 and .625; RMSEAs of .16 and .15), differences in the BIC values of 115.93 and a significant chi-square difference test. Thus, peer victimization was examined separately by reporter and subtype.

Two models were compared for both self-efficacy and competence. For self-efficacy, these included: a) a 1-factor self-efficacy model, and b) a 2-factor model comprised of academic and social self-efficacy. The 1-factor model was compared to the 2-factor model with the latter model favored based on comparison of the fit indices (CFIs of .770 and .815; RMSEAs of .08 and .07), differences in the BIC values of 31.94 and a significant chi-square difference test. For competence, two models were compared including: a 1-factor competence model and a 2-factor model comprised of academic and social competence. The latter model was favored based on comparison of the fit indices (CFIs of .522 and .744; RMSEAs of .16 and .12), differences in the BIC values of 2572.27 and a significant chi-square difference test.

Table 8

*Tau-equivalent models comparing the underlying structure of peer victimization, self-efficacy, and competence*

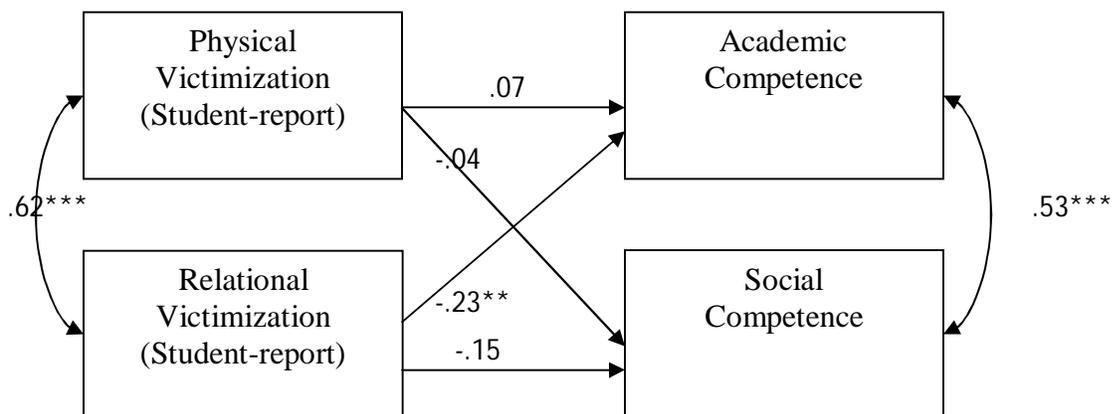
Model	$X^2$	$df$	CFI	BIC	RMSEA
<b>Victimization</b>					
Victimization 1-factor (V-1)	2077.21	170	0.324	11345.73	0.20
Victimization 2-factor subtype (V-2)	1986.08	168	0.356	11265.88	0.20
Victimization 2-factor reporter (V-3)	1374.78	168	0.572	10654.58	0.16
Victimization 4-factor (V-4)	1219.38	161	0.625	10538.65	0.15
<b>Self-Efficacy</b>					
1-factor	330.72	119	0.770	11920.64	0.08
2-factor (Academic vs. Social)	287.58	117	0.815	11888.70	0.07
<b>Competence</b>					
1-factor	6297.25	740	0.522	18917.49	0.16
2-factor (Academic vs. Social)	3713.71	738	0.744	16345.22	0.12

### **Direct Effects**

#### **Relations between Peer Victimization and Competence**

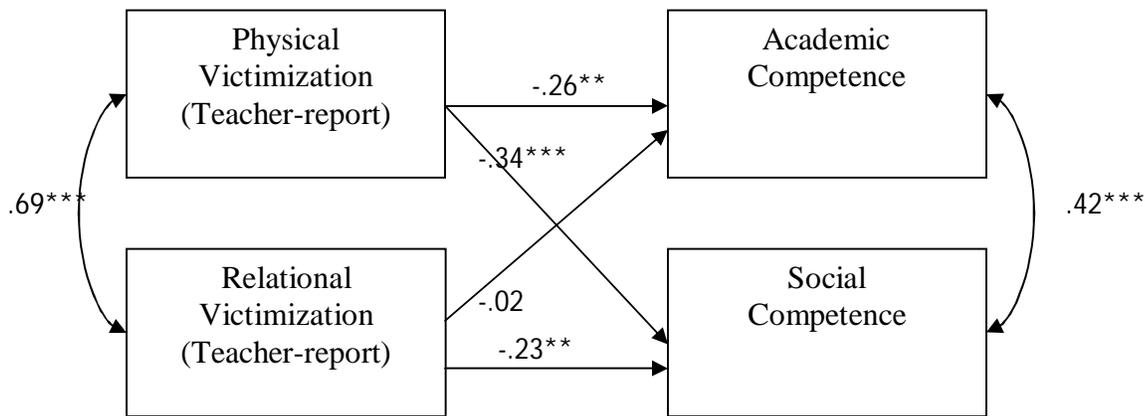
Path model analyses were conducted using M-Plus Version 3.1 to examine direct relations between peer victimization and competence. Two separate models were run; one for self- and one for teacher-rated peer victimization, controlling for the intervention condition in each model. For the self-reported peer victimization path model (see Figure 5), relational

victimization was significantly related to academic competence, ( $\beta = -.23, p < .01$ ) such that higher levels of relational victimization were associated with lower levels of academic competence. Physical and relational victimization were significantly correlated ( $r = .62, p < .001$ ) such that higher levels of physical victimization were associated with higher levels of relational victimization. Similarly, academic and social competence were significantly and positively correlated ( $r = .53, p < .001$ ). For the teacher-rated peer victimization path model (see Figure 6), physical victimization was significantly related to academic ( $\beta = -.26, p < .01$ ) and social competence, ( $\beta = -.34, p < .001$ ). Relational victimization was also significantly related to social competence, ( $\beta = -.23, p < .01$ ). For each of these significant relations, higher levels of peer victimization were associated with lower levels of academic or social competence. Relational and physical victimization were also correlated ( $r = .69, p < .001$ ), as were academic and social competence were correlated as well ( $r = .23, p < .01$ )



**Figure 5.** Path model representing the relations between student-reported peer victimization and competence for the total sample.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$



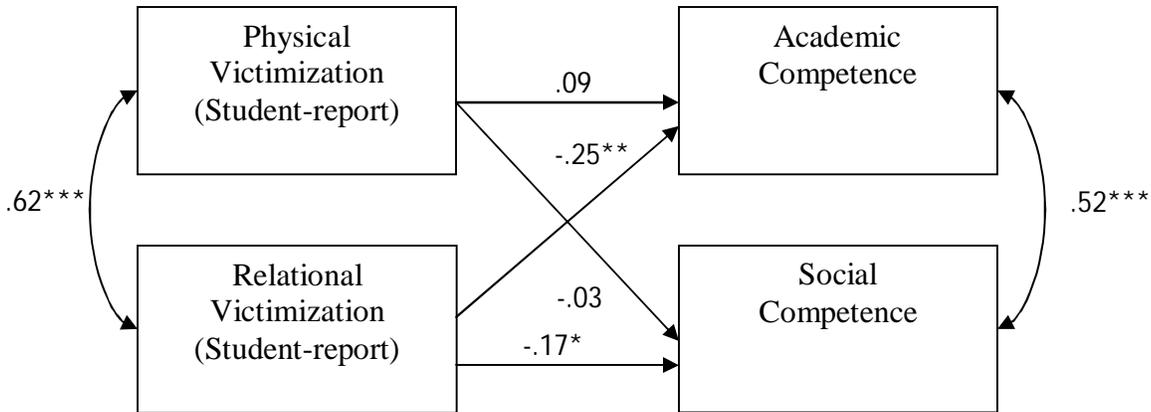
**Figure 6.** Path model representing the relations between teacher-reported peer victimization and competence for the total sample.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

### Moderation Analyses

To examine potential differences in the strength of relations between peer victimization and competence by gender and learning disability status, a multiple-group constrained path model where paths were fixed to be equal across gender or learning disability status was compared to a multiple-group unconstrained path model where paths were estimated independently by gender or learning disability status. In testing each moderator (i.e., gender or learning disability status), two separate models were run; one for self-reported peer victimization and one for teacher rated peer victimization, controlling for the intervention condition. The multiple-group unconstrained path models were fully saturated, and thus differences in the chi-square values for the multiple-group constrained versus unconstrained models were examined to determine which model best fit the data. For the self-reported peer victimization path models, no significant differences in chi-square values were found for gender, ( $\chi^2 = 1.1$ ,  $p = 0.90$ ), or

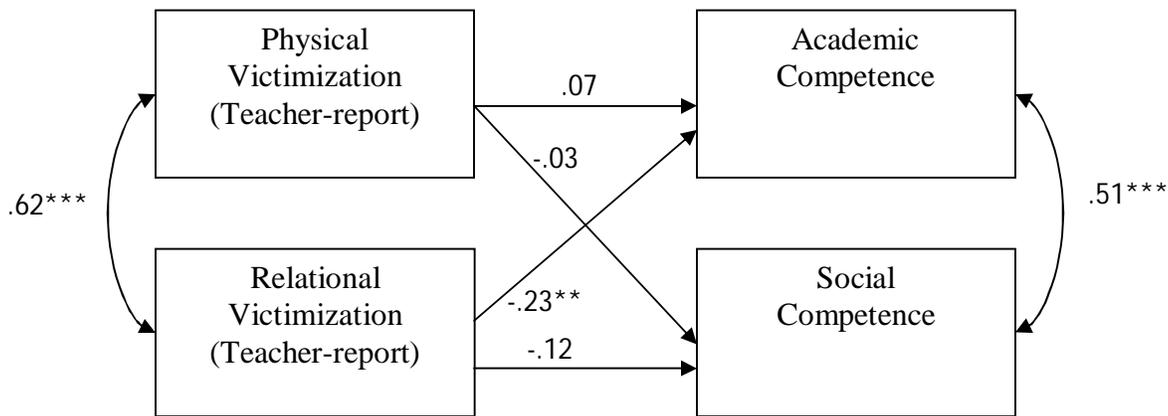
learning disability status, ( $\chi^2 = 3.25, p = 0.52$ ) in comparing constrained and unconstrained models and thus the constrained models were favored as they represented the data in a more parsimonious way.



**Figure 7.** Path model representing the relations between student-reported peer victimization and competence constrained across gender

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Note:* Standardized path coefficients were reported for boys.

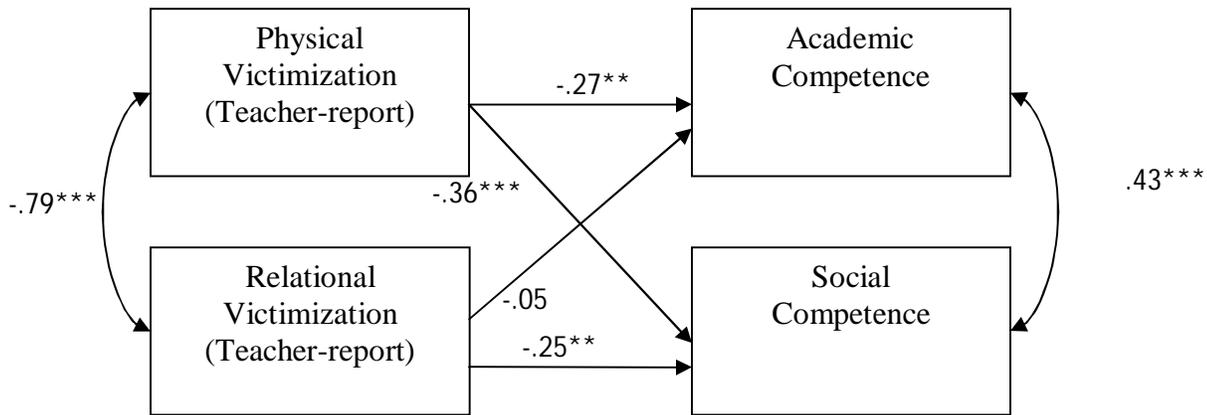


**Figure 8.** Path model representing the relations between student-reported peer victimization and competence constrained across learning disability status

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

*Note:* Standardized path coefficients were reported for youth without learning disabilities.

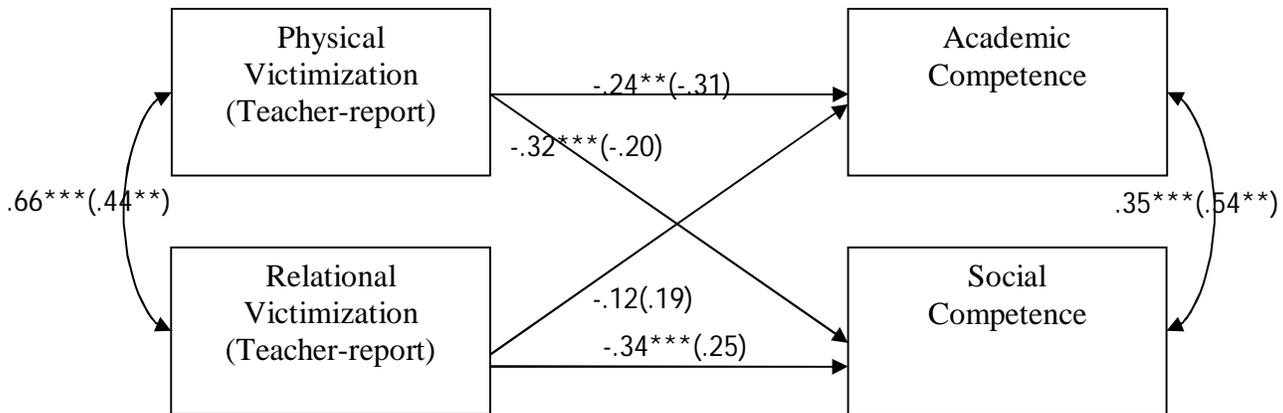
For the teacher-report path models, no significant differences in the chi-square values for the unconstrained versus constrained path models were found for gender ( $\chi^2 = 8.31, p = 0.08$ ), thus favoring the constrained path model. For the multiple-group constrained and unconstrained path models by learning disability status, a significant difference was found in comparing the chi-square values for these models ( $\chi^2 = 14.1, p < 0.01$ ), suggesting that relations between peer victimization and competence differ by learning disability status (see Figure 10). Examination of path coefficients indicated significant relations between physical victimization and academic ( $\beta = -.24, p < .01$ ) and social competence ( $\beta = -.32, p < .01$ ) for youth without but not with learning disabilities. Relational victimization was also significantly related to social competence ( $\beta = -.34, p < .01$ ) for youth without but not with learning disabilities.



**Figure 9.** Path model representing the relations between teacher-reported peer victimization and competence constrained across gender

\* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$

Note: Standardized path coefficients were reported for boys.



**Figure 10.** Path model representing the relations between teacher-reported peer victimization and competence unconstrained across learning disability status

Note: Standardized path coefficients within the parentheses signify values for youths with learning disabilities.

\* $p < .05$ , \*\* $p < .01$ , \*\*\*  $p < .001$

## Mediation Analyses

Two path models (one for self-reported peer victimization and one for teacher-rated peer victimization) were used to test whether self-efficacy beliefs mediated relations between peer victimization and competence, controlling for the intervention condition.

Because the models were fully saturated, no fit indices were calculated. The direct, indirect, and total effects of the self- and teacher-rated peer victimization models are reported in Tables 9 and 10, respectively. For each model, the percentage of the total effect was calculated by dividing the sum of the indirect effects by the total effect of victimization on competence (for hypothesized relations involving each subtype of victimization, self-efficacy, and competence). The standardized path coefficients are reported in Figures 11 and 12 for the self- and teacher-rated peer victimization models, respectively.

For the self-reported peer victimization model, significant paths were found between relational ( $\beta = -.22, p < .01$ ) but not physical ( $\beta = .09, p > .05$ ) victimization and academic competence such that higher rates of relational victimization were associated with lower levels of academic competence. No significant paths were found between physical ( $\beta = -.14, p > .05$ ) or relational ( $\beta = -.05, p > .05$ ) victimization and academic self-efficacy beliefs. A significant path was found between academic self-efficacy beliefs and academic competence ( $\beta = .18, p < .01$ ) such that higher levels of academic self-efficacy beliefs were related to higher levels of academic competence. The indirect effect of relational victimization on academic competence via lower rates of academic self-efficacy beliefs was not significant ( $\beta = -.01, p > .05$ ). The indirect effect of physical victimization on academic competence via lower rates of academic self-efficacy beliefs was not significant ( $\beta = -.02, p > .05$ ).

For the self-reported peer victimization model, no significant pathways were found between physical ( $\beta = -.04, p > .05$ ) or relational ( $\beta = -.15, p > .05$ ) victimization and social competence. Physical victimization was significantly associated with social self-efficacy beliefs such that higher rates of physical victimization were related to lower levels of social self-efficacy beliefs ( $\beta = -.24, p < .01$ ), but relational victimization was not significantly related to social self-efficacy beliefs ( $\beta = -.07, p > .05$ ). No significant pathways were found between social self-efficacy beliefs and social competence ( $\beta = -.12, p > .05$ ). The indirect effect of relational victimization on social competence via lower rates of social self-efficacy beliefs was not significant ( $\beta = .01, p > .05$ ). The indirect effect of physical victimization on social competence via lower rates of social self-efficacy beliefs was not significant ( $\beta = .03, p > .05$ ).

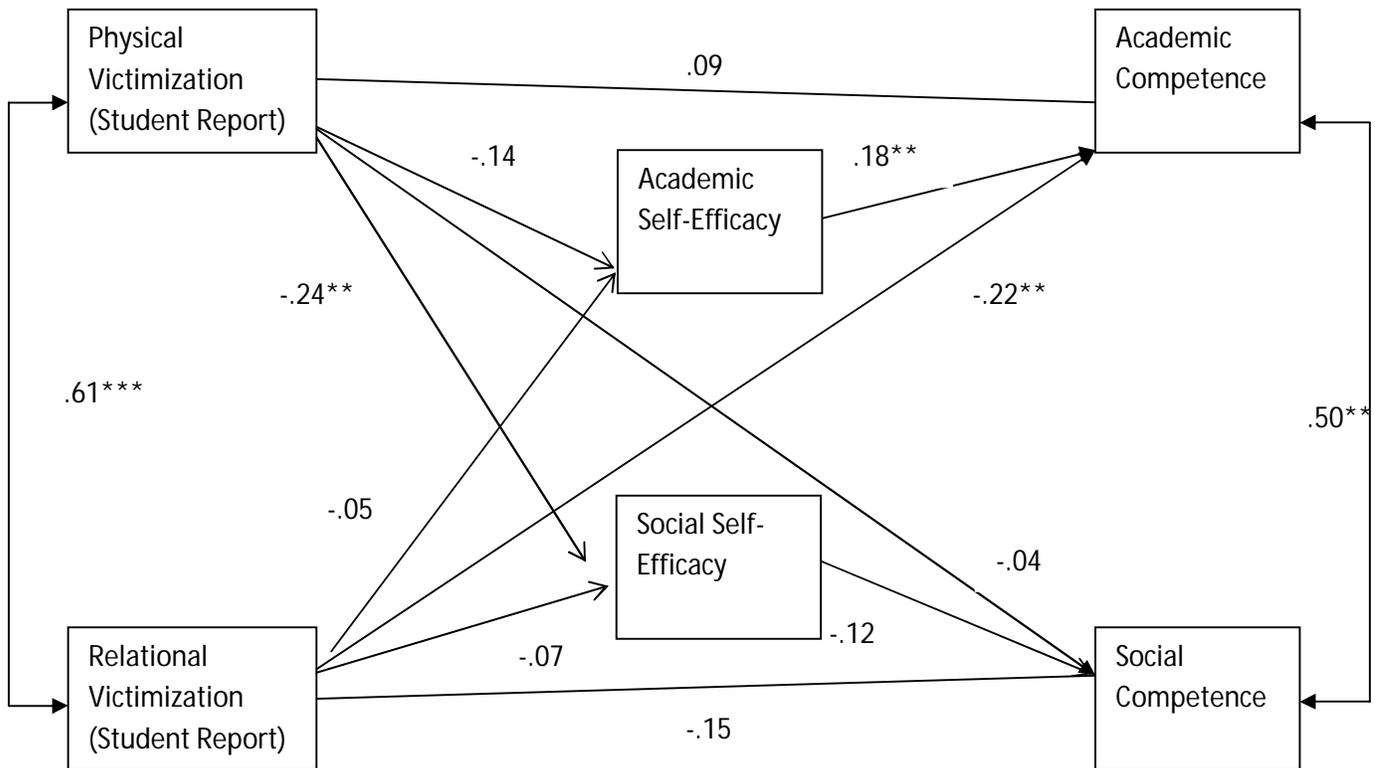
Table 9  
*Students' Reports of Victimization: Indirect Effects, Direct Effects, and Total Effects for Academic and Social Competence*

	Academic Competence	Social Competence
Physical Victimization		
Indirect Effects		
Via Academic Self-Efficacy	-.024	-.029
Via Social Self-Efficacy	.008	.028
Total Indirect Effect of Self-Efficacy	-.016	-.001
Direct Effect of Physical Victimization	.085	-.039
Total Effect of Physical Victimization	.069	-.040
% of Indirect Effect	23%	3%

Table 9 continued

Relational Victimization		
Indirect Effect		
Via Academic Self-Efficacy	-.010	-.012
Via Social Self-Efficacy	.002	.008
Total Indirect Effect of Self-Efficacy	-.008	-.004
Direct Effect of Relational Victimization	-.220*	-.145
Total Effect of Relational Victimization	-.228*	-.149
% of Indirect Effect	4%	3%

\* $p < .01$



**Figure 11.** Mediating model using student-rated physical and relational victimization

\* $p < .05$ , \*\* $p < .01$ .

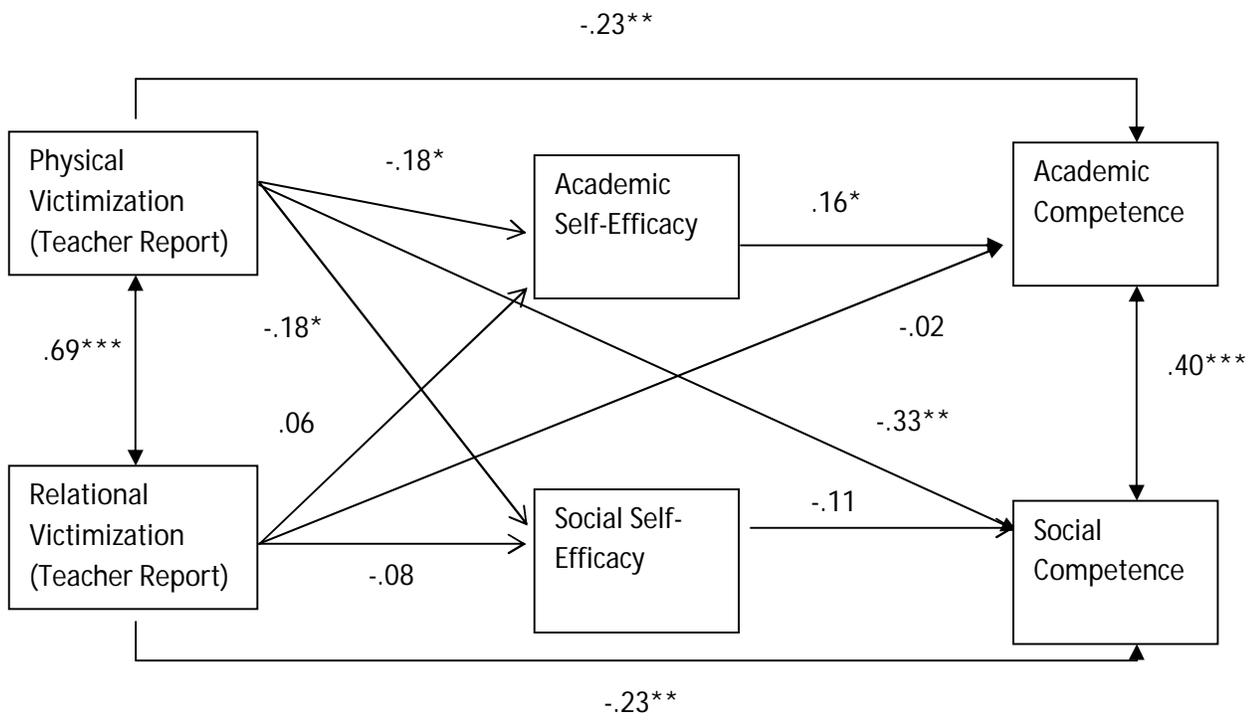
For the teacher-rated peer victimization model, significant paths were found between physical ( $\beta = -.23, p < .01$ ), and also relational ( $\beta = -.02, p > .05$ ) victimization and academic competence such that higher frequencies of physical victimization were significantly related to lower levels of academic competence. A significant path was found between physical ( $\beta = -.18, p < .05$ ), but not relational ( $\beta = .06, p > .05$ ) victimization and academic self-efficacy beliefs such that higher frequencies of physical victimization were associated with lower levels of academic self-efficacy beliefs. Higher levels of academic self-efficacy beliefs were significantly associated with higher rates of academic competence ( $\beta = .16, p < .05$ ). Neither the indirect effect of relational ( $\beta = .01, p > .05$ ), or physical ( $\beta = -.03, p > .05$ ) victimization on academic competence via lower rates of academic self-efficacy beliefs was significant.

For the teacher-rated peer victimization model, significant associations were found between physical ( $\beta = -.33, p < .001$ ) and relational ( $\beta = -.23, p < .01$ ) victimization and social competence, such that higher rates of physical and relational victimization were significantly related to lower levels of social competence. Significant paths were found between physical ( $\beta = -.18, p < .05$ ) but not relational ( $\beta = .08, p > .05$ ) victimization and social self-efficacy beliefs, such that higher levels of physical victimization were significantly related to lower levels of social self-efficacy beliefs. There were not significant relations between social self-efficacy beliefs and social competence ( $\beta = -.11, p > .05$ ). Neither the indirect effect of physical ( $\beta = .02, p > .05$ ) nor relational ( $\beta = -.01, p > .05$ ) victimization on social competence via social self-efficacy beliefs was significant.

Table 10  
*Teachers' Reports of Self-Efficacy: Indirect Effects, Direct Effects, and Total Effects for Academic and Social Competence*

Effects	Academic Competence	Social Competence
Physical Victimization		
Indirect Effects		
Via Academic Self-Efficacy	-.029	-.031
Via Social Self-Efficacy	.006	.019
Total Indirect Effect of Self-Efficacy	-.023	-.012
Table 10 continued	}	-.328***
Victimization		
Total Effect of Physical Victimization	-.256	-.340
% of Indirect Effect	9%	4%
Relational Victimization		
Indirect Effect		
Via Academic Self-Efficacy	.009	.010
Via Social Self-Efficacy	-.002	-.009
Total Indirect Effect of Self-Efficacy	-.007	.001
Direct Effect of Relational Victimization	-.017	-.233
Total Effect of Relational Victimization	-.035	-.234
% of Indirect Effect	4%	0%

\* $p < .05$ , \*\*  $p < .01$



**Figure 12.** Mediating model using teacher-rated physical and relational victimization

\* $p < .05$ , \*\* $p < .01$

## Discussion

The goals of this study were to examine relations between adolescents' physical and relational victimization experiences and academic and social competence, to test whether the strength of these relations differed based on gender or learning disability status, and to explore a potential mediating process (self-efficacy beliefs) that may partially explain these relations. The first hypothesized relation that physical and relational victimization would be negatively associated with academic and social competence for the total sample was partially supported

with relations differing by self- and teacher-rated peer victimization. For teacher-rated peer victimization, physical victimization but not relational victimization was negatively associated with academic competence. In contrast, for self-reported peer victimization, relational but not physical victimization was negatively associated with academic competence. These findings might reflect that relational victimization is covert and may occur out of the sight of many teachers. Instances of relational victimization, such as social exclusion, can be quite subtle, and possibly undetectable to teachers, which could explain the lack of significant relations between relational victimization and academic competence. To my knowledge, few studies in the peer victimization literature examined overt and relational victimization separately in relation to academic competence (e.g. Greco et al., 2007). This study utilized peer-report of victimization experiences and found that overt but not relational victimization was negatively associated with academic competence (Greco et al., 2007). The current study adds to the literature by examining relations between physical and relational victimization and academic competence in a predominantly African American sample, and also underscores the importance of considering the type of rater when soliciting information about peer victimization. Additional research is needed using multiple raters to more clearly establish the pattern of associations between physical and relational victimization and academic competence among adolescents.

For relations between peer victimization and social competence, teacher- but not self-reported physical and relational victimization were found to be negatively associated with social competence in this study. This finding is supported by studies that found composite measures of teacher-rated peer victimization are associated with lower levels of teacher-rated social competence (e.g., Hoggins & Leadbeater, 2004). Other studies using peer ratings of overt and

relational victimization have found that both of these subtypes of victimization experiences were negatively related to social competence (e.g., Dhimi et al., 2005; Greco et al., 2007).

Hypothesized relations that stronger negative associations would be found between physical victimization and academic and social competence for boys as compared to girls, and conversely, between relational victimization and academic and social competence for girls as compared to boys were not supported for either self- or teacher-rated peer victimization experiences. These findings are inconsistent with some literature on the hurtful and harmful nature of relational versus physical victimization for girls and boys, respectively (e.g., Galen & Underwood, 1997; Paquette & Underwood, 1999). These studies emphasized the differential distress that relational victimization and physical victimization caused for girls and boys, respectively (Galen & Underwood, 1997; Paquette & Underwood, 1999). Because relational victimization is particularly distressing for girls, stronger negative relations would be expected between relational victimization and academic and social competence for girls than for boys. Relations between physical victimization and academic and social competence would also be expected to be stronger for boys than for girls. However, the lack of significant findings is supported by Greco et al. (2007) who failed to find moderating effects for gender in relations between peer victimization subtypes (i.e., overt and relational) and social competence. Also, in a recent meta-analysis, no significant gender differences in relations between studies using composite measures of peer victimization and academic achievement were found (Nakamoto & Schwartz, 2009). This lack of significant findings could be accounted for through the increasing prevalence of cross-gender relationships as youths become adolescents. Because these relationships become more salient and are more intimate in nature, the hurtful and harmful nature

of relational victimization may become more equal across gender.

Hypothesized relations that students with learning disabilities would have stronger relations between physical and relational victimization and social and academic competence as compared to their typically developing peers were not supported in this study. For self-reported victimization, the strength of these relations did not differ by learning disability status. For teacher-rated peer victimization, stronger relations were found for students without versus with learning disabilities between physical victimization and social and academic competence and between relational victimization and social competence. There are several possible reasons that the anticipated stronger relations between peer victimization and competence were not found for youth with learning disabilities as compared to typically developing youth. The lack of differences in relations between self-rated peer victimization and social competence for youth with versus without learning disabilities may reflect differences in social awareness of peer-based victimization experiences. Pearl and Bryan (1990) reported that youth with learning disabilities have difficulties understanding the actions of others and also may have fewer positive peer-based social interactions to draw from and accordingly might not recognize the hurtful or harmful intent behind instances of peer victimization. For findings that relations between peer victimization and decreased social and academic competence were stronger for typically developing youth than for those with learning disabilities, it is possible that provisions of individualized education plans such as collaborative learning, special education settings, and resource support may protect youth with disabilities from the negative impact of peer victimization experiences.

The final hypothesized associations in this study concerned whether self-efficacy beliefs mediated relations between physical and relational victimization and social and academic competence and they were not supported. Based on social cognitive theory, self-efficacy beliefs (e.g., those related to social and academic competencies) are thought to offer confidence and help individuals to persist in a task until they can achieve it (Bandura, 2000). The peer victimization literature highlights a number of social-cognitive variables such as attributes about self versus others and norms and attitudes about aggressive and non-violent responses) (e.g., Graham & Juvonen, 1998) as processes that may mediate relations between peer victimization and negative outcomes. For the present study, one potential explanation for the lack of significant findings is positive illusory bias. This phenomenon has been mostly researched in children with Attention-Deficit Hyperactivity Disorder but has been exhibited in youth without the disorder as well (Evangelista, Owens, Golden, & Pelham, 2008; Gresham et al., 2001). Specifically, elevated self-perceptions of one's abilities could be adaptive in terms of protecting one's self-esteem and also account for the lack of mediation found in this study. Gresham et al. (2001) found positive illusory bias among third graders exhibiting difficulties in the academic and/or social domains and some children not exhibiting those difficulties. These youth demonstrated a positive view of their academic and/or social performances that was not confirmed by observers.

It is also possible that relations between peer victimization, self-efficacy beliefs, and competencies may be moderated by the degree to which adolescents hold characterological instead of behavioral self-blame related to victimization experiences by peers (Graham & Juvonen, 1998). Characterological self-blame following peer victimization experiences is blame

that is “perceived as uncontrollable by the self and stable” whereas behavioral self-blame is viewed as “controllable by the self and unstable.” Thus, the degree to which self-efficacy beliefs are impacted by peer victimization may depend on whether youth perceive these events as controllable or uncontrollable and stable or unstable.

It is important to note that other factors might influence relations between subtypes of peer victimization and competence. Ma, Phelps, Lerner, & Lerner (2009) found that victims had lower self-reported grades, and that several factors could influence these relations. Such factors include increased depression and decreased concentration and attention. Ma et al. (2009) linked victimization with subsequent depression. They point out that depression could be shown through adolescents’ beliefs in their low levels of academic achievement (Ma et al., 2009). Similarly, dealing with victimization can be difficult for children, and the distraction of attempting to deal with being victimized can result in lower levels of concentration and attention which could contribute to victimized students’ lower self-ratings of academic achievement (Ma et al., 2009). Teacher support could also play a part in moderating these relations (e.g. Ma et al., 2009). Having a teacher support and listen to a child could potentially be a protective factor or lessen the distress that bullying elicits.

### **Limitations of the Present Study**

In understanding the results of this study, it is also important to note the study’s limitations. One key limitation is the cross-sectional nature of the data. The use of cross-sectional data signifies that causal statements cannot be made concerning the direction of relations between variables in the model. As Kline (2005) reports, the three criteria needed to report causal relations are: establishing time precedence, that relations between the variables are not

spurious, and the model's causal relations are in the correct directions. In order to establish time precedence, a longitudinal design is needed with multiple data points over time. In this study, all data were collected concurrently, and this condition was not met. One future area for research would be to examine these relations with a longitudinal design, obtaining three data points at separate times so that the causality of these relations can be established (MacKinnon, 2008). Optimally, a study demonstrating causation would have 3 data points and use the predictor variable at Time 1, the mediating variable at Time 2, and the outcome variable at Time 3 (MacKinnon, 2008).

An additional limitation involves two of the measures used in this study. For the teacher-report version of the Problem Behavior Frequency Scale (PBFS; Farrell, et al., 2000; Miller-Johnson, et al., 2004), more research is needed to determine whether teachers can accurately assess the frequency of peer victimization experiences (especially those that are relationally-based) among adolescents. For the teacher-report of academic competence, results of a recent meta-analytic study suggest that the use of different indicators makes a difference in assessing relations between peer victimization and academic proficiency. Indeed, effect sizes varied widely according to the type of rater used, and in addition, although there were not significant differences between self- and teacher-report, there were significant differences between self- and both peer and multiple informant reports (Nakamoto & Schwartz, 2009). Finally, the Self-Efficacy Questionnaire for Children (SEQC: Landon et al., 2007) was originally validated on a Dutch sample, translated by the author, and reworded for this study to better conform with Bandura's (2000) theoretical definition of self-efficacy. It is possible that the SEQC could be altered to better fit the population used in this study. Additionally, having multiple raters of

concepts like physical and relational victimization is particularly important to understand differences in relations between peer victimization and academic and social competence based on teacher versus student report, and vice versa.

Final limitations include issues pertaining to the sample. The small number of youths with a learning disability included in this study was a limitation. Across 2 schools, only 39 participants with learning disabilities took part in this study which limited the power to detect potential moderating effects. Additionally, the sample used in this study was predominately African American, urban, sixth grade adolescents from low-income families. Because this is a fairly specific population, the results found in this study may not generalize to a wider population. Specifically, they may not generalize to youth who come from families of a different socio-economic status, a different age group, or those of different racial and/or ethnic groups.

### **Implications and Future Research**

This study has several important implications and offers a number of directions for future research. Significant relations between physical and relational victimization and academic and social competence highlight the importance of addressing peer victimization via school-based violence prevention efforts that may include interventions at the individual, classroom, and school levels. However, more research about the study constructs and potential mediating and moderating variables that may explain the subgroups for whom and processes by which relations between peer victimization and academic and social competence may work is needed. Very little research has focused on peer victimization in the context of learning activities or directed toward

an adolescent's academic proficiency. In the future, researchers could develop a measure of peer-based academic victimization and determine its relation to academic competence.

Interestingly, when considering the role of gender and learning disability status in examining relations between peer victimization and academic and social competencies, these factors largely did not moderate these relations. Only the teacher-rated peer victimization model showed differences in the strength of these relations according to learning disability status. These results seem to indicate it is important to educate both boys and girls and youth with and without learning disabilities similarly about both physical and relational victimization across school-wide interventions. It also is important to consider in future research school-related variables, which may moderate the relations examined in this study. Ma et al., (2009) found that teacher support can increase academic competence in fifth through seventh grade victims. Accordingly, teacher support might be a moderator to examine in the future within the context of relations between peer victimization and academic competence. It could also be an important component in a violence prevention program. Similarly, a more complex model of the relations between peer victimization and competencies could more fully explain these relations. Mediated moderation, with variables found to influence these relations, such as attention and concentration and teacher support (e.g. Ma et al., 2009), and even examining factors like self-blame for being victimized added into the present mediated model may more fully explain these findings.

One final area for future research would include the study of these models among different populations. The lack of many significant findings could signify that these models do not work in the present sample but could work for other populations. Thijs and Verkuyten (2008), for example, found that academic self-efficacy mediated relations between peer

victimization and academic achievement. Although they did not partition peer victimization into relational and physical victimization, and used academic achievement instead of academic competence, their findings raise the possibility that academic self-efficacy does in fact influence relations between peer victimization and academic constructs among some youth.

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## Appendix 1

### Peer Victimization (Student Version)

#### Problem Behavior Frequency Scale (PBFS: Miller-Johnson et al., 2004)

For each statement, participants were asked to indicate how many times the following behaviors occurred in the past 30 days using the following six-point response scale: 1 – *Never*, 2 – *1-2 times*, 3 – *3-5 times*, 4 – *6-9 times*, 5 – *10-19 times*, and 6 – *20 or more times*.

The next questions are about things that may have happened to you in the **LAST 30 DAYS**, or in about the past month.

In the **LAST 30 DAYS**, how many times has this happened to you?

36. Had a kid say they won't like you unless you do what he or she wanted you to do.
37. Had someone spread a false rumor about you.
38. Been left out on purpose by other kids when it was time to do an activity.
39. Had a kid try to keep others from liking you by saying mean things about you.
40. Been hit by another kid.
41. Been pushed or shoved by another kid.
42. Been yelled at or called mean names by another kid.
43. Another kid threatened to hit or physically harm you.
44. Been threatened or injured by someone with a weapon (gun, knife, club, etc.).
45. Another kid tried to get you to fight.
46. Had a kid tell lies about you to make other kids not like you anymore.
47. Had a kid who is mad at you try to get back at you by not letting you be in their group anymore.

### Peer Victimization (Teacher Version)

#### Problem Behavior Frequency Scale (PBFS: Miller-Johnson et al., 2004)

For each statement, participants were asked to indicate how frequently the following happened to this student in the past 30 days using the following four-point scale: 1 – *Never*, 2 – *Sometimes*, 3 – *Often*, 4 – *Frequently*.

46. Had someone spread a false rumor about him/her
47. Been left out on purpose by other kids when it was time to do an activity
48. Had a kid try to keep others from liking him or her by saying mean things
49. Been hit by another kid
50. Been pushed or shoved by another kid
51. Been yelled at or called mean names by another kid
52. Another kid threatened to hit or physically harm him or her
53. Been threatened or injured by someone with a weapon

54. Another kid tried to get him or her to fight
56. Had a kid tell lies to make other kids not like him or her anymore
57. Had a kid who is mad at him or her not let him or her be in their group anymore

Self-Efficacy Questionnaire (SEQ: Landon et al., 2007)

For each statement, participants select from the following 5-point response scale; 1 - *Definitely Cannot* , 2 – *Probably Cannot*, 3 – *Not Sure*, 4 – *Probably Can*, and 5 – *Definitely Can*.

Please select the response that is most like you:

1. I can express my opinions when classmates disagree with me.
3. I can study when there are other fun things to do.
  
5. I can make friends with other children.
6. I can study well for tests.
7. I can comfortably talk with new people.
  
9. I can finish my homework every day.
10. I can cooperate with my classmates.
12. I can pay attention during all my classes.
13. I can tell other children that they are doing something that I don't like.
15. I can pass all subjects at school.
16. I can tell a joke to a group of kids.
18. I can please my parents with my school work.
19. I can keep friends.
21. I can pass tests.
22. I can ask teachers for help with schoolwork.
24. I can avoid fights with other children.

## Vita

Lisa Jane Ulmer was born in Richmond, VA on December 1, 1985. She is a citizen of the United States of America. In 2004, she graduated from Midlothian High School in Midlothian, VA. She attended James Madison University and the University of St. Andrews (Scotland), and received her B.A. in Psychology with a minor in French in 2008. Her graduate work at Virginia Commonwealth University began in 2008.