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Children's Peer Relationship Quality and Changes in Peer Victimization: The Search for Viable Intervention Targets

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Children's Peer Relationship Quality and Changes in Peer Victimization:
The Search for Viable Intervention Targets

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy in Psychology

by

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Abstract

Stable peer victimization during childhood and adolescence has been linked to both concurrent and future social and psychological maladjustment (e.g., Hawker & Boulton, 2000; Juvonen, Graham, & Schuster, 2003; Kaltiala-Heino, Rimpela, Rantanen, & Rimpela, 2000; Reijntjes, Kamphuis, Prinzie, & Telch, 2010). Currently, there is evidence to suggest the quality of children's peer relationships is associated with the level and course of their victimization experiences (e.g., Fox & Boulton, 2006; Schwartz, McFayden-Ketchum, Dodge, Petit, & Bates, 1999; Wolke, Woods, & Samara, 2009). Although the link between peer relationship quality and victimization has been well-documented in the literature; lacking is a thorough understanding of the differential predictive utility of specific aspects of peer relationship quality. Also lacking is a clear conceptual model of social risk and assets capable of explaining the different functions aspects of peer relationship quality serve. The current study used a sample of 676 fourth-grade students assessed multiple times over the course of an academic year to examine whether aspects of peer relationship quality were related to changes in and stability of peer victimization. Results revealed that peer rejection was the most reliable predictor of future and stable victimization. Results offered partial supported for the proposed conceptual model of risk for peer victimization grounded in resource control theory and social stigma. Practical applications of the conceptual model to future research and practice are discussed.

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Dedication

This dissertation is dedicated to the memory of my grandmothers, Eileen Bergsten and Jean Craig. Their examples of strength, love, and kindness inspire me every day to be a better person and psychologist. They taught me that true strength is the power to lift up the hearts, minds, and spirits of the people you share this world with. I hope this project honors that truth in some small way.

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Children's Peer Relationship Quality and Changes in Peer Victimization: The Search for Viable Intervention Targets

Peer victimization during childhood is associated with an increased risk for a host of concurrent and future negative social and emotional consequences (e.g., Hawker & Boulton, 2000; Reijntjes, et al., 2010). Negative outcomes associated with peer victimization are more frequent and more severe for children who experience chronic or worsening patterns of peer victimization over time compared to children who experience transient periods of victimization (Goldbaum, Craig, Pepler, & Connolly, 2007; Scholte, Engels, Overbeek, de Kemp, & Haselager, 2007). There is ample evidence to suggest that children with low quality peer relationships are at greater risk for peer victimization relative to children with high quality peer relationships (Card, Isaac, & Hodges, 2007; Fox & Boulton, 2006; Schwartz et al., 1999; Wolke et al., 2009). One potential implication from this work is that altering children's peer relationship quality could reduce their risk of future peer victimization (e.g., Elledge, Cavell, Ogle, & Newgent, 2010). Research directly examining this possibility is lacking, however. It is also unclear which aspects of children's peer relationships are most predictive of children's risk for continued peer victimization. Three commonly used indices of the quality of children's peer relations are their level of peer acceptance, their ability to form and maintain reciprocated friendships with high status peers, and the degree to which they are actively rejected by peers. Lacking is a comprehensive model that articulates an expected pattern of association among these three indices and children's peer victimization experiences. The current paper examines these three measures of peer relationship quality at two points in school year and tests whether these measures are associated with changes in children's level of peer victimization across the school year.

Peer Victimization

Bullying refers to behaviors that are (a) aggressive or intentionally harmful, (b) done repeatedly over time, (c) in the context of an interpersonal relationship marked by an actual or perceived imbalance of power (Olweus, 1993; Olweus, 2013). *Peer victimization*, is a related term that has been defined as repeated exposure to interactions with peers that (a) convey harmful intent, (b) produce harmful effects, and (c) are sanctioned either explicitly or implicitly by the peer group (Elledge et al., 2010; Juvonen & Graham, 2001; Salmivalli & Voeten, 2004). In contrast to *bullying*, the term *peer victimization* places greater emphasis on the plight and circumstances of victims and acknowledges that power differences and acts of harassment often extend beyond bully–victim dyads and involve the broader social group including bystanders, supporters of bullying, defenders, and other peers who witness peer victimization (Craig & Pepler 1997; Rodkin and Hodges, 2003; Salmivalli, 2010). The current paper focuses on children’s peer relations and their risk for peer victimization but the terms *victimized* and *bullied* will be used interchangeably when referring to children who report being bullied, victimized, or harassed by their peers.

Extant research on the prevalence of peer victimization suggests the majority of children in North America (approximately 60% and up to 70%) report some experience of peer victimization when monitored over the course of one to three academic years (Baly, Cornell, & Lovegrove, 2014; Dempsey, Fireman, & Wang, 2006; Kochenderfer-Ladd & Wardrop, 2001; Nansel et al., 2001). Similarly, up to 30% of school-age children can be identified as *victims* of school bullying at some point during an academic year (Kochenderfer-Ladd & Wardrop, 2001; Nicolaides, Toda, & Smith, 2002; Nansel et al., 2001; Swearer & Hymel, 2015). Despite the high percentage of children who report being victimized, most research on the course of peer

victimization shows that the experience of being bullied is typically unstable and that the overall prevalence of victimization declines as children move into the upper grades (Juvonen & Graham, 2014; Kochenderfer-Ladd & Wardrop, 2001; Nansel, et al. 2001; Nicolaidis et al., 2002; Rosen et al., 2009). Studies on the course of peer victimization have shown a predictable increase in both the frequency and stability of victimization from early childhood to early adolescence that peaks in middle school (Rosen et al., 2009; Swearer & Hymel, 2015) and is followed by a steady decline from middle adolescence to adulthood (Nicolaidis et al., 2002; Nylund, Bellmore, Nishina, & Graham, 2007). For example, Nylund and colleagues (2007) found that 20% of children in the sixth grade reported frequent victimization, but only 6% reported frequent victimization at the end of the eighth grade. Most longitudinal studies find that few children identified as victims at a single time point are identified as victims again at subsequent time points, with the greatest instability in victim status observed in studies with durations of several months or years (Juvonen & Graham, 2014; Kochenderfer-Ladd & Wardrop, 2001). These findings indicate that most children find ways to cope with peer harassment and escape the threat of chronic victimization without formal intervention or support. However, a small number of children, typically estimated at about 10%, experience stable or increasing levels of peer victimization throughout childhood and adolescence (Kochenderfer-Ladd & Wardrop, 2001; Reijntjes, Kamphuis, Prinzie, & Telch, 2010). These *chronic* or *stable victims* are believed to represent a minority subgroup that is at risk for a host of negative developmental outcomes (Goldbaum, et al., 2003; Juvonen, Nishina & Graham, 2000; Kochenderfer-Ladd & Wardrop, 2001; Pouwels, Souren, Lansu, & Cillessen, 2016).

Children who experience peer victimization have an increased likelihood of negative outcomes that include, school absenteeism, behavior problems, anxiety, depression, and risk of

suicide (Hawker & Boulton, 2000; Juvonen, et al., 2003; Kaltiala-Heino et al., 2000; Kim, Leventhal, Koh, & Boyce, 2009; Nansel, Haynie, & Simons-Morton, 2003; Ttofi, Farrington, Lösel, & Loeber, 2011; Zwierynska, Wolke, & Lereya, 2013). Further work examining risks associated with stable victimization revealed that chronic victims are at greater risk for social maladjustment and lasting psychological distress when compared to children whose experiences of victimization are more transient (Burk et al., 2010; Goldbaum, et al., 2003; Kochenderfer-Ladd & Wardrop, 2001; Pouwels et al., 2016). Children who experience prolonged periods of victimization were also found to be at an increased risk for extreme problem behaviors, such as bringing a weapon to school (Nansel, et al., 2003).

Age-related shifts in the prevalence and course of peer victimization appear to be linked to the timing of key social developmental tasks as well as larger systematic changes in children's school environment (Card et al., 2007; Rosen et al., 2009). Bullying behavior typically emerges as children begin structured educational experiences that involve regular interactions among groups of same-aged peers, with the first instances of bullying typically observed in preschool-age children (Hymel & Swearer, 2015; Vlachou, Andreou, Botsoglou, & Didaskalou, 2011). During the primary grades, children spend more time interacting with peers and considerably less time interacting with adults (Gifford-Smith & Brownell, 2003). The size of peer groups increase across the primary grades and become more complex as children begin to form cliques, friendships, and best friendships. Elementary-aged children also become increasingly aware of their own and others' socially constructed identities and reputations such as "popular", "cool", "uncool", or "weird" and of the influence these labels have on peer relationships (Gifford-Smith & Brownell, 2003; Juvonen & Galvan, 2008). As social identities begin to crystalize and

children begin to find their place in the social hierarchy of elementary schools, peer victimization increases and becomes more stable (Juvonen & Galvan, 2008; Rosen et al., 2009).

The transition to middle school brings further developmental challenges that are thought to impact rates of peer victimization. The peer group expands dramatically as elementary schools fold into larger middle schools and children are reorganized into new social groups (Pellegrini & Bartini, 2000). The introduction of new peers comes with increased competition for social status and friendships with desirable peers. This transitional stage also corresponds with increased interest in forming romantic relationships, fueling further competition for dominance within same-sex peer groups (Espelage & Swearer, 2003; Pellegrini & Bartini, 2000; Pellegrini & Long, 2003). Developmentally normative challenges faced by children in this transition, along with decreased adult supervision at school, can produce environments that are particularly amenable to peer-to-peer aggression and peer victimization (Pellegrini & Bartini, 2000).

Gender has also been recognized as an important contributor to the frequency and type of victimization children experience. Boys have been repeatedly found to experience higher levels of victimization than girls (see Card et al., 2007). Boys are also found to experience physical forms of victimization (e.g., hitting, pushing, kicking) more often than their female counterparts (see Card et al., 2007; Hymel & Swearer, 2015; Rosen et al., 2009). Although girls experience physical forms of victimization less frequently than boys, it is generally found that verbal (e.g., teasing, name-calling) and relational victimization (e.g., harmful gossip, exclusion) occur with relatively equal frequency and intensity for boys and girls (Card et al., 2007; Hymel & Swearer, 2015; Prinstien, Boergers, & Vernberg, 2001). Boys are also more likely to be identified as stable victims than girls (Goldbaum, Pepler, & Connolly, 2003; Pastrana et al., 2016), but this discrepancy may be due, at least in part, to boys being more likely to report higher levels of

victimization when first assessed in studies of stable victimization. Wolke, and colleagues (2009) found that girls who reported being targets of overt (verbal or physical) forms of victimization at baseline were at a greater risk than boys to maintain their victim status two to four years later. In sum, stable victims are more often male but girls identified as victims have been found to be at greater risk to experience stable victimization than boys.

Boys and girls appear to evince similar difficulties as result of being victimized by peers. Rosen and colleagues (2009) found that both boys and girls who reported persistent relational victimization during the middle school years experienced heightened levels of anxiety, depression, and somatic complaints that did not differ statistically. Some researchers have found gender-specific differences in distress following victimization. For example, some studies find that girls experience greater distress than boys following instances of relational victimization (Crick, Casas, & Nelson, 2002; Paquette & Underwood, 1999). Baly, Cornwell, and Lovegrove (2014) found that both boys and girls experienced negative effects from prolonged peer victimization; however, boys evinced more problem behaviors related to aggression and alcohol use, whereas girls were more likely to report sadness and suicidal ideation.

Peer Victimization and Peer Relations

Research on children's peer relations has long recognized that peer victimization is rarely an isolated dyad-specific phenomenon and that bullying behaviors occur within the broader context of children's peer relationships and dynamic social processes (e.g., Saarento et al., 2013; Salmivalli, 2010; Salmivalli, Lagerspetz, Bjorkqvist, Osterman, & Kaukiainen, 1996; Vernberg, 1990). A large body of work suggests that children's risk for experiencing victimization varies predictably as a function of the quality of their peer relationships, including their social standing or status among peers (Card, et al., 2007; Hanish & Gurerria, 2000). There are a number of ways

to measure the quality of children's peer relations and their standing within the peer group. These include: 1) level of social acceptance or liking by peers, 2) degree of active dislike or rejection by peers, 3) sociometric status, 4) level of social impact, and 5) number of reciprocated friendships. Each of these indices has been shown to relate to children's risk for involvement in bullying behavior or peer victimization.

Acceptance and Rejection

Perhaps the most frequently studied indices of children's peer relations are the degree to which they are accepted or rejected by classmates or same-grade peers (Buhs, 2005; Buhs & Ladd, 2001; Card et al., 2007; Hodges & Perry, 1999; Ladd, Kochenderfer-Ladd, & Coleman, 1997; Pellegrini, Bartini, & Brooks, 1999). Peer acceptance and rejection are typically measured using peer nominations or other sociometric procedures (e.g., Asher & Dodge, 1986) that quantify the number of positive and negative ties children have with peers in their same class or grade. For example, peer acceptance can be indexed by counting the number of peers in a class who identify a target child as someone they "like most" or "like to play with the most" (Bukowski, Sippola, Hoza, & Newcomb, 2000; Coie, Dodge, & Coppotelli, 1982; Gregus et al., 2015). Similarly, children's level of peer rejection can be calculated by counting the number of peers who identify a target child as someone they "like least" or "like to play with the least".

Measures of peer acceptance and rejection are routinely found to be inversely related, and are often combined to form a single index of children's level of *social preference* in the eyes of peers (Bukowski et al., 2000). It is important to recognize that, despite the widespread use of social preference scores, acceptance and rejection represent distinct dimensions of a children's social standing among peers (Coie et al., 1982; Bukowski et al., 2000). More importantly, acceptance and rejection appear to have somewhat distinct associations with children's risk for

peer victimization concurrently and over time (Hodges & Perry, 1999; Schwartz et al., 1999; Salmivalli et al., 1996; Sentse, Kretschmer, & Salmivalli, 2015).

Research has documented that children accepted by peers have a decreased likelihood of being bullied compared to children who have relatively low levels of peer acceptance (see Card et al., 2007). Children who report being victimized but are accepted by peers are also less likely to experience stable victimization compared to victims who are not accepted by peers (Wolke et al., 2009). However, the relation between acceptance and peer victimization is often found to be less robust than the relation between rejection and peer victimization (Card et al., 2007). High levels of peer acceptance protect children from victimization but it is less clear whether low peer acceptance necessarily translates into heightened risk for continued victimization (Card et al., 2007; Schuster, 1999; Sentse et al., 2015; Warden & MacKinnon, 2003). Conversely, research consistently finds that children actively rejected by peers are at increased risk for both concurrent and future peer victimization (Boulton & Smith, 1994; Hodges & Perry, 1999; Perry, Kusel, & Perry 1988; Salmivalli et al., 1996). Peer rejection has been shown to uniquely predict future peer victimization when accounting for measures of psychological adjustment (internalizing and externalizing symptoms) as well as the number of children's friendships (Hodges & Perry, 1999). Furthermore, Sentse and colleagues (2015) found that rejection was a consistent and robust predictor of concurrent and future peer victimization, whereas acceptance was an inconsistent predictor of concurrent and future victimization.

Another way of indexing the quality of children's peer relationships is to determine their *sociometric status* using positive and negative nominations from peers. In their landmark study on peer sociometric classification, Coie and colleagues (1982) used a bi-dimensional system to classify children into one of five distinct groups of social risk (i.e. *average, neglected, rejected,*

accepted, and *controversial*). Importantly, this system separated children who experience low peer acceptance (few positive nominations) into two groups: those who are sociometrically *rejected* (low positive nominations and high negative nominations) and those who are sociometrically *neglected* (low positive and low negative nominations). Research examining the link between sociometric status and peer victimization has found that victimization is more common among rejected children compared to children classified as neglected (Schuster, 1999; Salmivalli et al., 1996; Warden & MacKinnon, 2003). For instance, Schuster (1999) found that children who fell in the rejected category were significantly more likely to be identified as victims by both peer- and self-reported victimization when compared to all other status groups. In contrast, of the 68 children in the study classified as neglected, none were identified as victims by either peer- or self-reports of victimization. In a similar study of 9- and 10-year-olds, Warden and MacKinnon (2003) found that in a sample of 131 children, only 2 were identified as both neglected and as victims of bullying. Interestingly, in both of these studies children in the accepted/popular group, those youth with a high number of positive nominations and low number of negative nominations, were seldom, or never, identified as victims. Of interest to the current study, is the observation that although the association between acceptance and victimization is routinely found to be weaker than the relation between rejection and victimization (Card et al., 2007), it would appear that children who experience the highest levels of peer acceptance are immune from becoming the targets of peer harassment (Schuster, 1999; Warden & MacKinnon, 2003).

Measuring children's *social impact* is yet another way to understand their position in the peer group. Social impact scores are formed by adding liked most and liked least peer nominations (Coie et al., 1982), and are considered an indicator of how visible or engaged

children are with the peer group (Coie, Dodge, & Kupersmidt, 1990). Rodkin & Hodges (2003) described social impact as a hybrid construct that blends the recognition of social power and active dislike by peers. The construct of social impact helps us to understand that children can vary widely in their likelihood of participating in social exchanges (Coie, et al., 1990). Children in the *neglected* sociometric classification are low on peer acceptance but differ from rejected children on the dimension of social impact and, unlike rejected children, are more likely to go unnoticed by potentially aggressive peers. In one study of all male playgroups, boys classified as neglected were found to engage in solitary play more often and avoid engagement in rambunctious play compared to boys in other status groups (Coie et al., 1990). Boys who fell on the opposite end of the social impact spectrum, those classified as *controversial* (high liked least and high liked most nominations), showed an opposite pattern of behavior: They engaged in a high frequency of both prosocial and rambunctious behavior. High social impact scores have been linked to children's engagement in bullying behavior, reflecting that bullies are often found to experience a mix of peer support as well as a proneness to using aggression as a means to assert dominance, which can engender active dislike among peers, especially those who are victimized (Wolke, Copeland, Angold, & Costello, 2013).

Finally, the quality of children's relationships can also be understood by measuring the number and quality of their friendships (Card et al., 2007). Friendships are commonly defined as mutually positive affiliations between two peers (Hodges, Malone & Perry, 1997; Terry, 2000). The number of friendships a child engages in is typically indexed by counting the number of reciprocated peer nominations a child receives as someone liked most or considered a friend (e.g., Fox & Boulton, 2006; Hodges, et al., 1997; Salmivalli et al., 1996). Studies on friendships have found that children who participate in dyadic friendships are at a decreased risk for

victimization compared to children with no or few friends (e.g., Card et al., 2007; Fox & Boulton, 2006; Hodges, et al., 1997). There is also evidence that having friends can function to protect children from recurring victimization. In a longitudinal study, Kochenderfer and Ladd (1997) found that boys who were victimized in the fall were less likely to be victimized in the spring if they reported finding a friend to help them following times when they were bullied. Schwartz and colleagues (1999) observed that the presence of friendships moderated the relation between children's behavioral problems and future experiences of peer victimization, even after accounting for the baseline levels of social preference. Children with behavioral problems were more likely to be later victimized, but this effect was attenuated for those who had friends. In a related study, Fox and Boulton (2006) found that both the number of reciprocated friends and the presence of a "very best friend" significantly moderated the relation between children's level of social skill and future victimization. Further research revealed that having a best friend can protect children from the negative consequences of peer victimization (Hodges et al., 1999). Hodges and colleagues found that children who were victimized were more likely to experience increased internalizing and externalizing symptoms over the course of one year, but this relation was not significant for children who had a best friend.

Although friendships are thought to decrease children's risk for both social and psychological maladjustment, it has been suggested that not all friendships are equally effective in this protective function (Salmivalli, 2010). It has been proposed that in order for a friend to prevent a peer from being victimized, that friend must first have a certain level of status or influence in the peer group (Salmivalli, 2010; Salmivalli et al., 1996). Hodges and colleagues (1997) found that having a reciprocated friend that was a victim or viewed as physically weak by peers did not protect children from future victimization. These findings lend support to the

assumption that the quality of one's friends can serve an important protective function with regard to preventing continued victimization and psychological maladjustment (Card et al., 2007; Hodges et al., 1999).

There is substantial evidence to suggest a predictive relationship between indices of peer relationship quality and peer victimization; however, research is still needed to clarify the direction of these relations, particularly as they apply to future and stable victimization. It is important to note that the association between peer relationship quality and victimization has been cast as involving reciprocal processes in which the temporal sequence of developments (e.g., peer rejection → victimization vs. victimization → peer rejection) is difficult to discern (Pellegrini & van Ryzin, 2011; Hodges et al., 1999). On one hand, peer rejection and a lack of friendships are known to reliably predict continued victimization even when accounting for baseline levels of peer victimization (Card et al., 2007; Hodges & Perry, 1999). On the other hand, studies have shown that peers are less likely to affiliate with children known to experience peer victimization due to fears that associating with bullied children will increase their own risk for becoming a target of peer harassment (e.g., Boulton, 2013). Stable victimization seems to represent a circumstance that has been described as a “vicious cycle” involving multiple interconnected social phenomena capable of keeping children stuck in a social role characterized by social isolation, rejection, and repeated victimization (Pellegrini & van Ryzin, 2011, p. 94; Schwartz et al., 1999).

Despite repeated findings linking peer relationship quality to victimization, few studies have examined longitudinal relations among children's peer relationship quality and victimization. Fewer still are studies that have examined the impact of changes in peer relationship quality on levels of victimization. This is somewhat surprising given the growing

concern for the plight of stable victims and the general consensus in the literature that peer relations play an important role in determining children's risk for continued victimization. Whether changes in peer relations, either brought about by intervention or natural shifts in children's relationships, are capable of reducing victimization or changing children's status as a victim is a question that remains largely unanswered. What is needed are stronger unifying theories that explain how specific aspects of peer relations relate to future risk for victimization and studies that show if changes in aspects of peer relationship quality benefit bullied children. Once available, theory-informed studies could be used to enhance existing anti-bullying interventions to help identified victims avoid stable victimization and its negative consequences.

Anti-Bullying Interventions and the Link Between Peer Relations and Peer Victimization

Because of the risks associated with children's exposure to peer victimization, the last few decades have witnessed the development of several prevention programs designed to reduce the incidence of bullying in primary and middle schools (e.g., Kärnä et al., 2011; Kärnä et al., 2013; Olweus, 1991; Olweus & Limber, 2010). Currently available anti-bullying programs focus primarily on system-level variables to reduce the overall occurrence of bullying behavior in schools (Kärnä et al., 2011, Olweus, 1991; Olweus & Limber, 2010). Formalized anti-bullying programs often use behavioral principles to change school-wide rules and policies in order to create a climate in which bullying behavior is explicitly restricted among students, staff provide increased supervision in places bullying is likely to occur, and consistent consequences for bullying behavior are delivered (Olweus, 1993). Programs like the KiVa Anti-Bullying Program (KiVa) extend this behavioral approach by including additional social learning theory components that are designed to modify problematic peer beliefs and social norms that promote bullying and create greater awareness and empathy for children who experience victimization

(Kärnä, et al., 2011; Kärnä et al., 2013). Thus, the presumed mechanisms of action for KiVa include both the provision of consistent behavioral intervention in instances of bullying and the support of anti-bullying attitudes and norms among students (Kärnä et al., 2011). Notably absent from this approach is a focus on enhancing the quality of children's peer relationships.

When implemented consistently, universal anti-bullying programs have broad positive impacts on children's social experiences at school, and have been shown to lower school-wide prevalence of bullying in multiple efficacy trials (Farrington & Ttofi, 2009; Kärnä et al., 2011; Kärnä et al., 2013; Olweus, 1993; Olweus & Limber, 2010; Salmivalli, Poskiparta, Ahtola, & Haataja, 2013). These programs carry several distinct advantages when addressing the issue of bullying at the system level. Programs like KiVa target the peer culture within a school and place the onus of stopping bullying on both staff and students (Kärnä et al., 2011). Another strength unique to the KiVa program is the inclusion of both universal programming and indicated intervention components. The indicated components of KiVa, designed to reduce the risk for recurring victimization, involve direct intervention after a bullying incident is reported. After an incident is reported, a small group of teachers speak to bullies, victims, and prosocial peers to find ways to support the victim and prevent the incident from reoccurring (Garandreau, Poskiparta, & Salmivalli, 2014; Kärnä et al., 2011). Research on this selective component has shown promise, but currently lacks rigorous scientific study (Garandreau et al., 2014).

The available empirical evidence reveals that extant anti-bullying programs are capable of lowering school-wide prevalence rates of victimization. What is less clear is whether these programs create long-term benefits for bullied children and reduce the prevalence of stable victimization. One barrier to addressing this issue is that most studies on school-wide anti-bullying initiatives use anonymous self-reports to assess outcomes, making it difficult to know

how effective these program are at helping individual bullied children (Chan, Piira, & Betts, 2005; Stassen Berger 2007). Research examining the benefits of universal anti-bullying programs for chronically bullied children remains scant, but promising results were obtained in a recent study by Juvonen, Schacter, Sainio, & Salmivalli (2016). These investigators examined 12-month outcomes of the KiVa program for children who had reported high levels of victimization at baseline. The authors found that identified victims in intervention schools perceived the school climate as safer and more positive than children in control schools after 12 months of intervention. The authors also found some improvements in self-esteem and depression among victims, but this finding did not hold across all age groups. Not reported in this study was whether children who reported high levels of victimization at baseline reported declines in victimization after intervention, or whether those declines were significantly different from those reported by victims in control schools. It was also not possible to determine if the KiVA program benefitted children who experienced stable victimization because victim and non-victim groups in the study were formed based only on a single baseline measurement of victimization. Less positive were findings from another KiVA study that suggested that stable victims often go largely unnoticed even when anti-bullying initiatives are in place. Haataja, Sainio, Turtonen, and Salmivalli (2015) found that only 24% of stable victims in schools implementing the KiVa program were recognized by school personnel to receive additional support; the great majority of stable victims did not report victimization to staff and received no additional support. In sum, although there is some evidence that victimized children benefit from existing universal anti-bullying programs, other evidence suggested that bullied children remain at risk even when state-of-the-art programs are in place.

Because of the risks associated with stable victimization, scholars have recognized the need for prevention and intervention programs that provide more focused support for identified victims, either in the context of universal programs or as stand alone interventions (Card et al., 2007; Nation, 2007; Pepler, 2006; Rodkin & Hodges, 2003). There are several possible reasons for the lack of interventions that effectively address the issue of chronic victimization. Two possible reasons are central to the current study: 1) potential concerns about the effectiveness of adults or peers directly intervening to help bullied children, and 2) lack of a conceptual model that can guide the development of interventions that build on the empirical link between children's peer relationship quality and their victimization experiences.

There is some evidence that adult-driven efforts to confront bullies and victims or force them into adult-supervised mediation might inadvertently draw unwanted attention to the victim and may confirm stigmatizing beliefs about victims (e.g., weak, "weird", incapable of taking care of themselves) that are held by peers who engage in or condone bullying behavior (Young & Holdorf, 2003). There is limited support that confrontational approaches help bullied children and some findings suggest that direct efforts by adults to aid bullied children makes matters worse for victims (e.g., Fekkes, Pijpers, & Verloove-Vanhorick, 2005). There also appears to be risk involved with interventions, such as KiVA, that ask prosocial peers to intervene on behalf of bullied children. Research has suggested that children fear that defending victims who are not well liked will come at significant social cost to the defender (Juvonen & Galvan, 2008; Peets, Poyhonen, Juvonen, & Salmivalli, 2015). Peets and colleagues (2015) noted that popular children were not always willing to intervene directly in instances of victimization and whether they engaged in defending behavior depended mainly on group norms about bullying. They found that high status peers were unlikely to defend victims when peer norms generally

supported bullying behavior. More troublesome still, were results from Meter and Card (2015) that provided evidence that children who defended victims experienced a loss of peer acceptance over time. In sum, interventions that rely on direct interventions from adults or peers might not be effective at stopping bullying behavior and could incur disadvantages to both victims and defenders.

Underappreciated are approaches to helping bullied children that take advantage of the commonly found relation between peer relationship quality and peer victimization. Given the established connection between the quality of children's peer relations and peer victimization, efforts to bolster children's peer relations would seem like a potentially fruitful avenue (Elledge, et al., 2010). With this more indirect approach, intervention would focus on improving children's social standing in the group or the quality of their peer relationships rather than directly stopping or preventing the occurrence of victimization. By building up bullied children's relationships with peers, interventions may, in theory, be capable of reducing victimization while also encouraging protective factors that extend beyond individual instances of bullying and have broader positive impacts on social development. Interventions aimed at the betterment of social relationships also avoid the risks associated with more direct adult- or peer-driven interventions (Elledge et al., 2010).

Currently, there exists some evidence that approaches aimed at improving children's peer relations benefit bullied children; however, questions remain about whether these programs reliably reduce victimization and whether these programs reduce victimization by their assumed mechanisms of action. For example, studies that examined school-based programs designed to promote social skills among marginalized children (including victimized, rejected, and socially anxious children) found evidence that participation in social skills training can increase peer

acceptance and self-esteem while decreasing internalizing symptoms (Arora, 1991; DeRosier & Marcus, 2005). These studies did not find that social skills training specifically reduced levels of peer victimization and, because of the broad inclusion criteria in at least one of these studies (DeRosier & Marcus, 2005), it was difficult to determine if improvements in peer relations (e.g., acceptance) applied specifically to the subgroup of bullied children included in the sample. In another attempt at helping bullied children through enhancing peer relations, Elledge et al. (2010) examined whether participation in Lunch Buddy (LB) mentoring, a specific type of school-based mentoring, could help reduce children's level of peer victimization. LB mentoring is guided by the rationale that recurring visits from LB mentors can strengthen relationships with peers by improving bullied children's interactions with and reputation among lunchtime peers, and that improved peer relations among lunchtime peers can lead indirectly to reductions in peer victimization (Gregus et al., 2015). Using a quasi-experimental design, Elledge and colleagues found that children who were matched with a LB mentor for one semester were perceived by peers as less victimized than children who did not have a LB mentor at their school (Elledge et al., 2010). In a second study of LB mentoring, Gregus and colleagues (2015) found that children victimized by peers and matched with a different LB mentor for three successive semesters also showed significant declines in self- and teacher-rated peer victimization. Problematic with both of these trials of LB mentoring was the authors' inability to explore the presumed processes that led to decreases in victimization. First, although intended to decrease children's experience of victimization indirectly by improving peer relationships, it was unclear if participation in the LB mentoring program was indeed associated with improved peer relations, as indices of peer relations beyond peer victimization (e.g., acceptance, rejection, friendship) were not reported as part of these evaluations. Second, it was unclear whether other mechanisms such as increased

supervision of peer behavior by the mentor, or the formation of a positive relationship with a caring adult may have accounted for the observed changes instead of improved relationships with peers.

There is some, be it limited, evidence that indirect approaches to selective interventions for bullied children work via their intended mechanisms and can facilitate more positive interactions with peers. For instance, a recent study on LB mentoring found that mentored children evinced improvements in their relationships with nearby lunch mates, as rated by their mentor, and that positive changes in lunchtime relationships were associated with gains in class-wide social preference and reductions in peer-rated victimization (Craig, Gregus, Burton, et al., 2016). However, conclusions drawn from this study were limited by small sample size ($N = 24$) and methodological limitations that made it impossible to determine whether observed changes in social acceptance preceded reductions in peer victimization, if changes in peer acceptance occurred only after reductions in victimization, or if these changes occurred simultaneously. Also at issue is *how* relationships changed in this study, as it is unclear whether children who participated in the program made friends, gained acceptance, or reduced levels of rejection as a result of participation in the intervention.

In summary, currently available anti-bullying programs show promise but do not adequately address the problem of chronic victimization. This is due, in part, to challenges unique to helping bullied children but can also be attributed to an under appreciation of how to take advantage of the reliable association between the quality of children's peer relationships and their level of peer victimization. Indeed, there is little evidence that enhancing key aspects of children's peer relations (acceptance, rejection, or number of friends) can lead to reductions in peer victimization. Also lacking is research on whether interventions can lead to reliable and

significant changes in peer rejection, peer acceptance, or children's friendships or which of these targets is likely to produce the greatest reduction in victimization. Identifying how these indices of peer relationship quality are differentially related to changes in peer victimization requires a conceptual model that draws from extant theory and empirical research on children's peer relationships.

Developmental Theories that link Peer Relations and Peer Victimization

When considering the merits of enhancing peer relationship quality as a means to reduce children's experience of victimization, it is important to examine developmental theories that explain the hypothesized link between peer relationship quality and peer victimization. As discussed earlier, peer victimization has been conceptualized as a group-based phenomenon involving not just bullies and victims, but also other members of the broader social system, including bystanders, friends, protectors, and uninvolved children that can exert influence on the behaviors of bullies and victims (Salmivalli et al., 2010). Thus, it is important to understand the broader theoretical frameworks that make sense of human behavior in social groups, particularly those theories that apply to aggression among group members. Predominant in this literature is *Social Dominance Theory*; a framework for understanding group behavior that originated in ethological research on animal behavior (Hawley, 1999). In its initial conceptualization, social dominance theory proposes that animals living in groups engage in aggressive acts in order to compete for access to the most desired or scarce resources such as food or desirable mates and to help establish order within the social group (Craig, 1986; Hawley, 1999; Pellegrini et al., 2007). It has been reasoned that in-group acts of aggression occur in service of establishing a dominance hierarchy that is generally helpful to the survival of the group as a whole and reduces in-group acts of aggression over time. Social dominance theory predicts that when a new group

is created, or when new individuals are introduced to a pre-existing group, a period begins during which there is an increase in aggressive contests. Not unlike when children enter a new grade or school (e.g., middle school), juvenile animals will engage in non-lethal forms of aggression such as, “mock fighting bouts or playful trials of strength” to establish their place in newly formed groups (Craig, 1986, p. 1120). After initial group formation, the frequency of aggressive actions within the group declines as a dominance hierarchy emerges—a pattern that has been repeatedly observed in both animals and children (Pellegrini et al., 2007). Once a hierarchy is established, aggression declines and lower ranking animals are able to retain group membership and, although cut-off from the most desired resources, are not at risk for further harm from group members (Craig, 1986). Interestingly, and particularly relevant to the current study, comparative psychologists have acknowledged that animals’ positions in their social hierarchy are not solely dependent on their ability to win 1-on-1 contests for dominance. For example, chickens, as well as other species including primates, have been observed working in pairs or subgroups during aggressive contests to advance their position in the social hierarchy, thus creating a dominant subgroup as opposed to a dominant individual (Craig, 1986).

Developmental psychologists adopted social dominance theory as a framework for understanding aggressive behavior in groups of children and adolescents (Hawley, 1999; Pellegrini, 2008). When viewed from the perspective of social dominance theory, bullying behaviors are understood as children’s strategic attempts to advance their position in the social dominance hierarchy by gaining and maintaining access to valued or scarce resources and forcing peers into submission (Hawley, Little, & Pasupathi, 2002; Pellegrini, 2008). Indeed, studies find that children with high levels of social dominance often perpetrate acts of bullying and are less likely to experience peer victimization compared to children with low social dominance (Oltlof,

Goosens, Vermande, Aleva, & Meulen, 2011).

Traditional social dominance theory has been criticized by developmental psychologists for a number of reasons (Hawley, 1999; Hawley & Williford, 2014). Developmental psychologists have faulted traditional social dominance theorists for being overly focused on coercive and aggressive strategies children use to gain power their social system while underestimating the influence of prosocial strategies children use to obtain the same goals. In response to these criticisms, Hawley proposed an extended view of social dominance theory redefined as *Resource Control Theory*. Resource control theory maintains the assumption that children's peer systems are hierarchical in nature and that children compete for status within the group hierarchy; however, Hawley (1999) asserted that an individual's social status primarily reflects their ability to win key resources through a variety of diverse social tactics. Hawley maintained that children use bullying behaviors as one strategy for obtaining and maintaining control over valued resources in their environment (Hawley, Little, & Pasupathi, 2002). Resource control theory extends the traditional view of social dominance by acknowledging the value of gaining and maintaining social power and control over valued resources through prosocial behaviors (Hawley, 1999; Hawley et al., 2002). Hawley's work has suggested that children who enjoy the highest level of power and status in their peer groups, children deemed *resource controllers*, are children who are able to effectively form positive affiliations with peers *and may or may not* use coercive tactics to win valuable resources. Hawley and colleagues (2002) have argued that one category of resources children compete with one another for control of are relationships with protective and nurturing peers. Control of these *social resources* can further children's emotional development and insulate them from aggressive peers, thus reducing their risk for experiencing peer victimization (Hawley et al., 2002).

Resource control theory posits that victims of bullying are children who control no or few social resources and thus lack protection from aggressive peers looking to advance their own position in the group (Hawley et al. 2002). This hypothesis was partially supported in one study that found victims of bullying to have “extremely low resource control” when compared to other groups (Oltlof et al., 2011 p. 335). Another important, and somewhat surprising, finding from this study was that bullied children were not, as the authors initially predicted, more likely to use coercive or antisocial strategies for gaining resources when compared to peers. Instead, victims endorsed the use of both prosocial and aggressive strategies in their attempts to win resources, a pattern similar to the strategies used by more socially successful groups of children. This later finding suggests that identified victims were not necessarily those children who simply attempted to use aggression unsuccessfully or failed to use prosocial skills appropriately, but those children who struggle to find ways of gaining valued resources, despite employing a mix of social tactics.

Looking back on the research supporting the links among acceptance, friendships and victimization, it is not surprising that children who are successful in their attempts to form positive relations with peers, especially by befriending powerful peers, are at a reduced risk for victimization. Resource control theory explains these findings by affirming that children who have positive affiliations with powerful peers gain status in the group and are, in turn, protected from victimization when their social resources are sufficient to deter or respond to bullying behavior effectively.

Another set of social developmental theories worth mentioning when considering the social circumstances that lead to victimization are those related to social stigma and group-based biases. *Stigma*, refers to the process by which individuals are labeled by members of the dominant group as deviant from the socially constructed norm, assigned negative stereotypes,

and subjected to discrimination and/or a loss of status that results in the unequal or harmful treatment of members of the stigmatized group (Link & Phelen, 2001). Developmental researchers have argued that children's social cognitive abilities are sophisticated enough to recognize socially constructed biases by age six, and clear examples of stigmatization have been documented in children in grades 4 and 5 (Hanish, Ryan, Martin, & Fabes, 2005; Thornberg, 2015). It also seems that stigmatization plays an important role in the social processes involved in bullying behavior and the plight of victims (Thornberg, 2015). There are many ways children acquire a stigma that increases their risk for victimization, these reasons typically involve deviation from group norms and include obesity, physical size, emotion dysregulation, anxiety, depression, developmental delays, and academic delays (Card et al., 2007; Espelage & Swearer, 2003; Juvonen & Graham, 2014; Rose, Mondo-Amaya, & Espelage, 2010; Van Cleave & Davis, 2006). A complete examination of these factors is outside of the scope of the current review, however, what is common among these groups of children is a departure from social norms and increased risk for rejection.

For children who bully, or children who actively or passively support peers who bully (supporters or bystanders), aggression toward and exclusion of rejected peers can function as a self-serving tactic to establish group norms and solidify one's membership in the "normal" non-deviant peer group (Juvonen & Galvan, 2008; Thornberg, 2015). This same process then contributes to the creation of social expectations that implicitly inform group members that it is permissible or even *correct* to bully children that do not conform to the group's expectations for appearance or behavior (Thornberg, 2015). Once a child is stigmatized and rejected by the group, the victimization of this individual is not only permissible to group members, but beneficial to peers who seek to establish themselves as part of the dominant in-group and advance their own

social standing (Juvonen & Galvan, 2008). The repercussions of this process on victims can have damaging and sometimes irreversible effects on their social resources and mental health.

Once children acquire a stigma, it becomes incredibly difficult for them to alter their reputation among peers even when positive changes in behavior are evident (Hymel, 1986; Thornberg, 2015). Escaping peer rejection caused by stigma is difficult because of the reciprocal processes that can create an escalating cycle of rejection and victimization (Pellegrini & van Ryzin, 2011; Thornberg, 2015). Research has revealed that being victimized can reinforce beliefs held by the group about the victim and make affiliating with them dangerous to others due to fears about the repercussions of befriending a bullied peer (Boulton, 2013). In fact, initial attempts at establishing positive relationships with peers may even invite further problems for victims, as peers attempt to discourage others who are willing to affiliate with victims or directly sabotage the victims' attempts at forming positive relationships with desirable peers (Boulton, 2013; Pellegrini & van Ryzin, 2011; Thornberg, 2015).

Theories of social stigma further explain the connection between the quality of peer relations and victimization. It is commonly observed in studies of children's peer relations that children rejected by peers are at risk for higher levels of victimization (see Card et al., 2007). Stigma allows us to understand that victimization of a rejected peers is both permissible and functional for other youth (Juvonen & Galvan, 2008). Theories on stigma also provide a helpful compliment to resource control theory. Research suggests that stigmatizing beliefs among peers create a cycle of rejection and victimization that diminish the victim's ability to gain access to social resources, such as friendships and peer acceptance that could help them avoid or escape future victimization (Boulton 2013; Hanish et al., 2005). Put simply, rejection obviates, or at least complicates, the acquisition of resources that allow children to cope with victimization

successfully.

Why are Children Chronically Victimized?

This next section considers theories capable of explaining the relationship between peer relationship quality and chronic or stable victimization. Specifically, the question of who becomes a chronic victim, given the framework provided by social dominance theory, resource control theory, and social stigma.

In line with social dominance theory and resource control theory, some involvement in peer victimization is a developmentally normative challenge that most children experience and overcome as they build the repertoire of social behaviors (prosocial and antisocial) needed to flourish in organized social groups. Indeed, prevalence estimates of peer victimization at 60% or greater support this supposition (see Nansel et al., 2001). Less clear from these theoretical perspectives is why some children persist as victims while others escape victimization.

Traditional social dominance theory predicts that children low in social status are at greater risk for victimization (Pellegrini et al., 2007; Schafer, Korn, Brodbeck, Wolke, & Schulz, 2004).

Some proponents of social dominance theory have posited that the stability of victimization experiences is determined primarily by group-level factors (Mikami et al., 2010; Schafer et al., 2004). For example, Schafer and colleagues (2004) argue that groups that are more hierarchical and stable in nature are more likely to produce chronic victims than groups that are characteristically egalitarian and unstable. They conclude that “The more hierarchical the peer structure, the higher would be the likelihood for victims to remain at the bottom of the structure” (Schafer et al., 2004, pp. 7). Although empirical work lends some support to this supposition, and it is reasonable that hierarchical groups could limit children’s ability to advance their social status, this application of social dominance to the case of the chronic victims fails for a key

reason. When predicting which children are stably victimized, one would expect, based on ethological studies that are at the foundation of social dominance theory, that acts of aggression towards low ranking members of the social group would decrease once the status of group members is defined and a hierarchy emerges. In short, from this perspective, there is little to gain from continually harassing individuals near the bottom of the hierarchy (Pellegrini et al., 2007). Thus, there is no conceptual rationale for high status group members to continuously attack low status group members when embedded in groups with strong social dominance hierarchies that are relatively stable.

Resource control theory posits that victims are children who lack status and have few social resources to protect them from aggressive peers looking to advance their own social status by bullying peers (Hawley et al. 2002). Applied to the case of stable victims, resource control theory would predict that children who consistently try and fail to obtain social resources are more likely to experience repeated victimization. A strength of resource control theory in comparison to traditional social dominance theory is that in resource control theory, children are competing for resources and not a fixed position in the social hierarchy. Control of resources is not necessarily assumed to stabilize after a period of time, as is the case with social dominance (Pellegrini, 2008; Pellegrini et al., 2007). New resources are constantly being introduced into the social system of an elementary school student, such as new attractive peers move from other schools, intermittent attention from valued adults, or access to a new toy or ability to participate in a new game introduced into the social system (Hawley, 1999; Hawley et al., 2002). It could be reasoned that, if peers must constantly compete for these scarce resources, then this creates the opportunity for some children to chronically lose bouts for resources and repeatedly face victimization as other, more skilled resource controllers, thwart their bids at obtaining desirable

resources.

Despite this strength of resource control theory relative to traditional social dominance theory, viewing consistently low resource control as the chief cause of chronic victimization fails to recognize that some children who lack resources are victims and some are not (Oltlof et al., 2011). It seems important to make a distinction between children at the bottom of the social hierarchy who consistently attempt to win social resources and fail and those that take steps to remove themselves from competition. Some studies of resource control have identified other groups of non-controllers including “outsiders”, and this group has been observed to experience less victimization when compared to victim or bully-victim groups (Oltlof et al., 2011).

Hawley’s theory is quite helpful in explaining which children are buffered from peer victimization, but is silent on the issue of how to differentiate between types of children at the bottom of the social hierarchy. One possible extension of resource control theory that could explain this difference is the idea that children with low social status, who continue to make unsuccessful attempts to gain control over valued resources, through either prosocial or coercive strategies, are at the greatest risk for repeated victimization. Conversely, children who have low status but make few attempts to gain resources avoid continued harassment. It would seem, therefore, that we would expect the stably bullied child to be an individual who has low status, few resources, *and* continues to compete for resources. This conceptualization of the chronically victimized child is similar to Dodge’s conceptualization of an actively rejected child (1983). In a landmark study with somewhat surprising results, Dodge found that children who were actively rejected by peers were not those children whom avoided social interactions, and were instead children who made the most social bids to win the attention of peers, but did so unsuccessfully and were unable to sustain bouts of play with peers. Although, the rejected children in Dodge’s

study were observed engaging more frequently in inappropriate social behavior, these children also were observed using the same appropriate social skills, at similar frequencies, as those used by less rejected peers. The chronically victimized child thus can be seen as a youth that continues to make attempts to win social resources through a variety of strategies, but consistently fails in these attempts or falls short of their goal as a result of low status.

Theories on social stigma may offer a complementary explanation of why some children at the bottom of the social hierarchy are repeatedly victimized while others are not. Stigma points to the possibility that active peer rejection can further complicate victimized children's attempts at winning social resources and invite continued victimization. Research on stigma and reputational bias make important contributions to predicting which children are stably victimized because of how closely group rejection relates to continued victimization (Mikami, Lerner, & Lun, 2010). As discussed earlier, rejection is generally the most robust predictor of victimization (see Card et al., 2007). Once a child is rejected by the group and they acquire a negative reputation among peers, it can be very difficult to change the peer group's biases (Hymel, 1986; Mikami et al., 2010). In-group members employ cognitive biases to interpret the behavior of rejected children in ways that maintain their rejected status (Mikami et al., 2010). For example, children are more likely to view neutral behaviors of children with a negative reputation as hostile, while viewing these same behaviors as be amiable when performed by a friend (Mikami et al., 2010; Peets, Hodges, Kikas, & Salmivalli, 2007). Children are also predisposed to remember the negative behaviors of a rejected peer and fail to remember their positive behaviors that disconfirm stereotyped beliefs (Mikami et al., 2010). Absent information that counters these biases, the bullying of children who are stigmatized is supported by group norms while the befriending these children is viewed as dangerous by peers (Boulton, 2013; Juvonen & Galvan,

2008). If social norms push peers away from children who are disliked and victimized, and push them toward committing or supporting acts of victimization, then obtaining evidence that disconfirms stigma is even less likely to occur and children may become trapped in the victim role. Taken together, theory would predict that children's experiences of stigma and rejection contribute to a reciprocal process that exert considerable influence on which low status children escape victimization and which children persist as victims.

Prospective Studies Examining Multiple Indices of Peer Relationship Quality

Based on the theories reviewed here, we would expect to find strong links between certain aspects of peer relations, particularly the number of friends, level of acceptance, and level of rejection, in prospective studies of peer victimization. At this point in time, several studies have been conducted that provide clear evidence that these aspects of peer relationships predict peer victimization when examining these variables in isolation (see Card et al., 2007), but only a handful examine multiple indices of peer relationship quality variables together. I examine these studies in the following section.

Before discussing specific studies, it is important to acknowledge that although acceptance, number of friendships, and rejection are often found to be uniquely related to children's risk for victimization and maladjustment (Ladd, Kochenderfer, & Coleman, 1997; Schwartz et al., 1999), these variables are also consistently found to be related to one another (e.g., Hodges & Perry, 1999; Pellegrini, Bartini, & Brooks, 1999; Schwartz et al., 1999). Given the degree that indicators of peer relationship quality overlap, it seems unlikely that these variables impact children's risk for peer victimization in a compartmentalized fashion (Card et al., 2007). For this reason, it is important to consider how these variables work both independently and in combination to impact children's risk for continued peer victimization.

Few studies have examined reciprocated friendship, peer acceptance, and peer rejection together, and fewer still have examined how these variables can be used in combination to predict future or stable victimization. Four prospective studies are particularly relevant to establishing the associations between peer relationship quality and victimization over time.

Schwartz and colleagues (1999) conducted a longitudinal study that examined the role of behavioral problems, friendships, and peer acceptance-rejection, as defined by social preference scores, in predicting future peer victimization. In this study, the authors found that children's level of social preference mediated the relation between behavioral problems and future victimization. Interestingly, the authors found that participation in reciprocated friendships moderated the relation between behavioral problems and future victimization, even when controlling for peer rejection. This study provided evidence that rejection and participation in friendships contribute uniquely to children's risk of peer victimization.

This study also had a few limitations worth mentioning. First, acceptance and rejection were not separated and instead combined into a single index of social preference. Measuring peer relationship quality in this way assumes that rejection and acceptance exist along a single continuum of acceptance-rejection. This strategy for measuring peer relations is somewhat problematic in that it is 1) incongruent with research demonstrating that acceptance and rejection relate differently to peer victimization (e.g. Card et al., 2007; Warden & MacKinnon, 2003; Wolke et al., 2009) and 2) the strategy fails to differentiate between children who vary in their level of social impact (i.e., controversial vs. neglected children) and are known to differ with regard to their risk for negative social experiences (Coie et al., 1982; Salmivalli, 1996; Salmivalli, 2010; Schuster, 1999). A second limitation of this study was that the authors did not account for the social status of friends, making it difficult to discern if the social status of friends

contributed to later victimization. Finally, Schwartz and colleagues did not report whether *changes* in children's level of rejection or number of friendships over the course of the study predicted future experiences of peer victimization. Provided that this was not the primary focus of the study, it would seem important to know whether peer relations were static or more flexible over the observation period and whether shifts in these indices contributed to increases or decreases in children's experience of victimization.

In a similar study, Fox and Boulton (2006) gathered data from children ages 9-11 at two time points during a single school year to examine which personal and peer relationship variables predicted increases in peer victimization. Variables used to predict end of the year peer victimization were peer-rated social problems, social skill deficits related to peer victimization (e.g., "looks upset when picked on" p. 114), social preference scores, number of reciprocated friend nominations, the presence or absence of a reciprocated "very best friend" nomination, (each child was only allowed to nominate 1 child as their very best friend), and various qualities of their best friendship, including the social status of friends. The authors predicted that social problems would predict increased victimization, but that this relation would be moderated by one or more social factors. Results revealed no main effect for the number of reciprocated friends but did reveal a significant interaction with regard to social problems and friendship. The interaction suggested that children perceived by peers as having more social problems were more likely to experience peer victimization at Time 2 compared to children with fewer social problems; however, the relation between social problems and victimization was attenuated by the number of reciprocated friendship nominations children received. Similarly, the authors found that the presence of a 'very best friend' attenuated the relation between social problems and Time 2 peer victimization; however, this moderating effect was only observed for children whose "very best

friend” had high levels of social preference (Fox & Boulton, 2006). No other social factors (i.e., social preference scores, friendship qualities, presence of a best friend) predicted changes in peer victimization over time.

This study provided further evidence that the presence of friendships and the characteristics of children’s friends carry specific importance in determining their risk for victimization. The study gleaned further support for the supposition that not all friendships can protect children from increased victimization and that having friends with high social status protect children from victimization. These results are convergent with other work in this area suggesting that only friendships with peers who are socially accepted, not victimized themselves, and not seen as physically weak by peers can offer protection from continued victimization (Hodges et al., 1997; Pellegrini et al., 1999). Despite the value of this study, it had several limitations and left important questions unanswered. As seen in the Schwartz study, Fox and Boulton also combined peer acceptance and rejection into the single index of social preference. Furthermore, although Fox and Boulton examined changes in peer victimization, they did not examine changes in children’s peer relationship quality or explore how changes in peer relations might explain increases, decreases, or stability in experiences of peer victimization.

Wolke and colleagues (2009) conducted a person-centered study that examined 11 different personal and peer relationship quality factors thought to contribute to children’s likelihood of escaping or remaining a victim of bullying. Wolke and colleagues began by identifying children who were either victims of direct or relational victimization at the time of baseline measurement (ages 6-9) and then conducted a series of logistic regressions to determine which factors predicted stable victimization 2-4 years after initial measurement. Peer relationship quality factors included in their analyses included peer rejection (number of disliked

nominations), peer acceptance (number of liked most nominations), social preference (Liked Most – Liked Least nominations), peer social status as rejected or neglected (Coie et al., 1982), and class-wide social structure (hierarchical structure vs. egalitarian structure). Of the 11 variables included in the initial regression models, only 5 emerged as significant predictors of stable direct or relational victimization. Significant predictors were gender (girls experienced more stable direct victimization), peer acceptance, peer rejection, class social structure, and children's emotional problems. This study suggested that peer acceptance and peer rejection play important and distinct roles in predicting whether children escape or remain in the role of victim. Not addressed in this design was whether friendships played a role in predicting which children escaped or remained in the victim role.

Wolke and colleagues' findings provided valuable clues about which children are likely to experience stable victimization and about the conditions that promote stable victimization (e.g., hierarchical group structure), but their findings did not address the processes by which children escaped the victim role. This study only examined whether social factors observed at Time 1 contributed to later victimization. The study did not examine whether changes in a children's level of acceptance or rejection contributed to future victimization status. It would seem important to understand whether change in children's social factors (e.g., decreases in rejection) would predict whether children escaped or remained victimized. Despite providing compelling evidence that social factors contribute to children's risk for continued victimization, important questions remain about *how* children escape a cycle of escalating social risk.

Although these studies provide answers to important questions about the role of peer relations on children's risk for future victimization, none specifically address the question of whether *changes* in children's peer relations over time can predict their risk for future

victimization. Recently, Sentse and colleagues (2015) conducted a longitudinal examination of relations among peer acceptance, rejection, popularity, bullying, and victimization over the course of 1-year. This study's cross-lagged design provided the opportunity to look at the dynamic relations among indices of peer relationships and peer victimization. For children in grades 3-6, baseline levels of peer rejection predicted concurrent levels of victimization as well as peer victimization 6 months later. Mid-year levels of peer rejection also predicted victimization levels at the end of the year, even when controlling for mid-year levels of victimization. The study also found that baseline peer acceptance predicted concurrent victimization and victimization at mid-year. However, mid-year peer acceptance did not predict end of year victimization after controlling for mid-year victimization. Victimization at the beginning of the year and at mid-year was predictive of continued declines in peer acceptance. This study offered further support for a complex interplay among peer acceptance, rejection, and victimization and suggested that changes in one of these variables can impact future levels of the other variables. The authors speculated that the robust statistical link between peer rejection and victimization was best explained in part by the similarity between the constructs of rejection and victimization, both of which involve negative interactions with or hostile attitudes toward specific peers. The authors explained predictive differences in acceptance and rejection by pointing out that being accepted by peers is seen as normative within the group, whereas the experience of rejection marks children as different from others and could suggest broader problems with adjustment. This study raised several points relevant to the current project. First, this study provided further support for the importance of differentiating among various aspects of children's peer relationships when predicting peer victimization experiences. The study also suggested that the quality of children's peer experiences can change over a relatively short period

of time and that changes in one aspect of peer relationships is often associated with changes in other key aspects of children's social experiences. The study also pointed to the separate and relative influences of rejection and acceptance on children's future victimization. Important limitations to note from this study were that 1) acceptance and rejection were not examined simultaneously in predictive models and 2) that children's friendships were not included as a predictor variable.

The longitudinal studies reviewed here point to a reliable relation between the quality of children's peer relations and peer victimization but also suggest variability in the predictive utility for different indices of peer relationship quality. Lacking is a conceptual model that can explain these findings and guide future inquiry in this area. I propose a view of the available findings in this area that combines resource control and social stigma theories. For example, the making and keeping of friends, particularly friends with high social status and well-liked peers, can be viewed as successfully gaining control of important resources within the peer context (Hawley et al., 2002). Peer acceptance represents children's position in the social hierarchy but also a resource that could protect them against future stigmatization by peers. Thus, one would predict that children who are generally accepted by peers *and* liked by several well-liked peers have acquired sufficient social resources capable of protecting them from peer victimization and stigma.

How do these same theories explain the robust relation between peer rejection and future levels of peer victimization (Sentse et al., 2015; Wolke et al., 2009)? Rejection is thought to signal low social dominance (Boulton, 2013; Lease, Musgrove, & Axelrod 2002) as well as a negative reputation among peers (Mikami, 2010). As noted earlier, stigma identifies for the group those individuals toward whom it is permissible to aggress and justifies aggressive actions

towards stigmatized group members (Juvonen & Galvan, 2008; Thornberg, 2015). Once stigmatized, children face increasingly difficult challenges in their efforts to enhance their social standing or gain valued social resources, such as friendships, that can protect them from future harassment. Thus, peer rejection is unique in that it directly invites victimization while also impeding children's access to protective social resources. This is the reason why rejection is found to be the strongest predictor of a children's risk for continued struggles with peer victimization.

The Current Study

Significant associations between peer victimization and peer relationship quality are frequently found in the research literature, but there is limited research examining the relative predictive utility of different indices of peer relationship quality (i.e., acceptance, rejection, friendship). Lacking is an overarching conceptual framework to guide studies examining different aspects of children's peer relationships and their unique relations to peer victimization. The current study builds upon previous work linking the quality of children's peer relationships and peer victimization and extends it in two ways. First, I examined separately and in combination the predictive utility of three different indices of peer relationship quality using both cross-sectional and longitudinal data. Results will clarify the mix of findings from previous work on the predictive utility of these three indices. Second, I tested a model of social assets and risks that borrows from the theories of resource control and social stigma. Results will help clarify how peer acceptance, peer rejection, and children's friendships can be conceptualized from the dual lens of resource control and social stigma. Tested models will also examine whether these three indices of risk and protection are related to victimization when measured at the same time and whether these indices relate to changes in peer victimization across the school year.

I propose the following model of how social assets and risks contribute to children's risk for experiencing peer victimization. Key assumptions of this conceptual model are a) children compete with peers for status and control of limited social resources, b) that children's ability to gain social status by winning key social resources can buffer children from being bullied by peers, and c) that children stigmatized by peers are more likely to be targeted for victimization and less likely to access important protective social resources than children who are not socially stigmatized (Hawley et al. 2002; Thornberg, 2015). Based on this model, I first predicted that children's level of rejection by peers would demonstrate the strongest associations with ratings of victimization. Rejection was predicted to be the strongest predictor because it serves as both an indicator of both low social status and social stigma. The presence of social stigma simultaneously places children at risk for being targeted for aggressive behavior and impedes efforts to raise their social status or acquire key social resources (e.g., acceptance from powerful peers, friendships), making rejected children dually vulnerable to peer victimization. Second, I predicted that children's level of victimization would be inversely related with their level of social resources, as defined as their number of reciprocated friendships and positive relationships with well-liked peers. The supposition here is that these resources will function to reduce the risk for victimization because they signal a level of social status and resource control capable of deterring potential aggressors. Conversely, children who lack these protective resources are likely to be more vulnerable to peer victimization. Absent from this model is the prediction that acceptance will independently predict peer victimization. Based on the proposed conceptual model, I assumed that acceptance would not provide additional information about children's status within the group when included along with more specific indicators of social stigma and social resource control. I also reasoned that low peer acceptance can exist apart from social

stigmatization, especially if children are low in acceptance because they go largely unnoticed by peers (Coie et al., 1990). Given the interrelation among indices of peer relationship quality, I predicted that peer acceptance would be significantly correlated with children's level of victimization at the bivariate level, as it signals a degree of social resources to the peer group and the absence of stigma. However, I predicted that peer acceptance would not be significantly related to peer victimization when included in a predictive model that also included rejection and social resource control. This prediction is in keeping with previous research in which direct links from acceptance to peer victimization were inconsistently found or were absent in prospective statistical models (Sentse et al., 2015).

A separate but related prediction drawn from my conceptual model involves children's degree of competitiveness within their social ecology. In outlining how resource control is linked to peer victimization, Hawley and colleagues (1999; 2002) described the various ways children compete for resources but her model is silent on whether some children compete more than others and on what happens when children withdraw from competition. In fact, I did not find a single study in which researchers attempted to measure the degree to which children are actually competing for social resources. I propose that children who openly compete for social resources are at greater risk for victimization simply because they actively compete for what might well be a limited pool of resources in their environment. When children compete for resources and win, they reduce their risk for victimization and when they compete for resources and lose, they increase that risk (Hawley et al., 2002). This extended view of my conceptual model assumes that children high on social resource control will be at reduced risk for victimization, regardless of their level of competitiveness. The issue here is about children who limit the extent to which they compete for social resources, perhaps by avoiding social

interactions or consistently deferring to others. Is it possible that these children also reduce their risk of victimization? I predict that children low on resource control will experience greater peer victimization if socially competitive but will experience less victimization if low in social resource control and also low in social competitiveness.

To summarize, the expectation here is that social status, resource control, and social stigma play key roles in explaining the link between peer relationship quality and children's level of peer victimization. For the purposes of this study, I operationalized social status using traditional sociometric measures of peer acceptance and peer rejection. These variables are cast primarily as indices of children's position in their social dominance hierarchy and less as measures of control over key social resources. Peer rejection, however, is also considered in this study as an index of the degree children are stigmatized by peers (Mikami, 2010). I operationally defined *social resource control* in this study as a composite of the degree to which children are able to form reciprocally positive relationships and the extent to which they are accepted by high status or well-liked peers. Finally, as a way to index social competitiveness, I used children's social impact scores, which are often considered a measure of how visible children are to peers (Coie et al., 1982; Coie et al., 1990). Given that I could not find an existing measure of children's social competitiveness, social impact seemed the best example of an established measure that could be used as a proximal indicator of how intensely children are competing for social resources within the peer group.

Although not a primary focus of this study, it was also necessary to account for gender when testing my hypotheses. As previously discussed, there is consistent evidence throughout the literature that boys are generally more likely than to experience peer victimization than girls (Card et al., 2007; Juvonen & Graham, 2014; Olweus, 1993; Scheithauer, Hayer, Petermann, &

Jugert, 2006). For this reason, I treated gender as a covariate in all predictive hypotheses examining levels of peer victimization and stable victimization. I presented means for variables of interest for boys and girls separately.

Primary Hypotheses

The conceptual model offered here provides novel, testable hypotheses regarding the anticipated associations between children's peer relations and their level of peer victimization. For this study, I used both traditional (i.e., acceptance, rejection, social impact) and novel (i.e., social resource control) indices of peer relationship quality to test two sets of hypotheses that follow from my proposed model. The first set was designed to deconstruct the often-found association between peer victimization and peer relationship quality; the second set was more exploratory and examined whether a proxy measure of children's level of social competitiveness predicted their risk for peer victimization.

Question 1: Are Indices of the Children's Peer Relationship Quality Differentially Related to Their Risk for Concurrent Victimization?

My first research question was whether key aspects of peer relationship quality predict risk for peer victimization concurrently using data gathered at two separate time points in the fall and spring of an academic year. Guided by resource control theory and social stigma, along with consistent findings linking peer victimization to rejection, I offered the following hypotheses:

Hypotheses H1-A and H1-B. My first hypothesis (H1-A) was that children's level of rejection would be the strongest predictor of youth's concurrent level of peer victimization in analyses that also included peer acceptance and resource control. My second hypothesis (H1-B) was that social resource control would also significantly predict risk for peer victimization when included in the model with both acceptance and rejection. Congruent with my proposed theoretical

model, I predicted that children' level of acceptance would not predict stable victimization when included at the same step as rejection and social resource control.

Hypothesis H1-C. I hypothesized that both peer acceptance and rejection would interact with resource control to predict peer victimization. I reasoned that the relation between acceptance and victimization would depend, in part, on whether accepted children have reciprocated friends and are accepted by peers who are well-liked by classmates. I reasoned that the relation between rejection and victimization would be attenuated in the presence of greater social resources.

Question 2: Do Indices of Children's Peer Relationship Quality Differentially Predict Their Risk for Future Victimization?

My second set of hypotheses address the question of whether indices of children's social status at the end of the year (T3) predicted victimization after accounting for victimization and peer relationship quality indices measured near the beginning of the school year (T1). This question focused on the issue of whether levels of rejection, acceptance, and resource control across the school year were associated with changes in levels of peer victimization. These prospective hypotheses paralleled those put forth in the previous section, and were as follows:

Hypotheses H2-A and H2-B. I hypothesized (H2-A) that T3 levels of rejection would be the strongest predictor of T3 levels of victimization after accounting for T1 victimization and peer relationship quality variables. I also predicted (H2-B) that T3 levels of social resource control would predict end of the year victimization after controlling for T1 victimization and peer relationship quality variables. As in the previous model, I did not expect to find that T3 levels of acceptance would predict T3 peer victimization when included in the same model as

social resource control and rejection, after accounting for T1 victimization and peer relationship quality variables.

Hypothesis H2-C. I predicted that T3 levels of social resource control would interact with both acceptance and rejection in to predict T3 levels of peer victimization, after accounting for T1 measures of victimization and peer relationship quality.

Question 3: Can Indices of Children's Peer Relationship Quality Predict Their Status as Stable Victims?

My next set of hypotheses addressed the person-centered question of whether indices of peer relationship quality gathered near the beginning of the school year (T1) can be used to identify children who experience stable victimization over the course of an academic year. For these analyses, a subgroup of children was identified as stable victims based on reports from three informants (self, teacher, peers) at T1 and T3. I predicted that membership in this stable victimization category would be significantly related to the quality of children's relationships with peers. I also provided hypotheses that addressed the differential predictive utility of indices of peer relationship quality in identifying those children who were stable victims. Specific hypotheses were as follows:

Hypothesis H3-A. I predicted that measures of children's peer relations, as a set, would significantly predict children's status as stable victims (H3-A).

Hypothesis H3-B and H3-C. I predicted that peer rejection would be the strongest predictor of children's status as stable victims (H3-B). I also hypothesized that social resource control would significantly contribute to analyses predicting children's membership in the stable victim group when included alongside peer rejection and acceptance. I did not expect that

children' level of acceptance would predict stable victimization, when included in the same logistic model with rejection and social resource control.

Hypothesis H3-D. Similar to the hypotheses proposed for variables centered analyses, I hypothesized that both rejection and acceptance would interact with resource control to predict stable peer victimization.

Exploratory Hypotheses:

Question 4: Does the Degree to which Children Compete for Social Resources Relate to their Risk for Peer Victimization Concurrently and Over Time?

In this set of hypotheses, I explored whether children's level of social competitiveness, as indexed by their social impact score, predicted their risk for peer victimization. As in the primary analyses, I examined these hypotheses using both cross sectional and longitudinal regression analyses gathered over the course of a single school year.

Cross-Sectional Hypotheses

Hypotheses H4-A and H4-B. I anticipated that children's levels of social competitiveness would be positively associated with concurrent levels of victimization (H4-A). I also hypothesized a significant interaction between resource control and social impact such that children high in competitiveness and low in resource control would experience greater victimization than children low in resource control and low in competitiveness (H4-B).

Prospective Hypotheses

Hypotheses H4-C and H4-D. I hypothesized that children's levels of social competitiveness at T3 would be positively associated with T3 peer victimization after controlling for T1 levels of peer victimization, social impact, and resource control (H4-C). Finally, I hypothesized a significant interaction (similar to that in H4-B) between T3 social impact and T3 resource control

that would be significant after controlling for T1 levels of peer victimization, social impact, and resource control (H4-D). The nature of this interaction was expected to conform to the same pattern hypothesized in the cross-sectional analyses.

Method

Participants

Participants in this study were 676 fourth grade students from 37 mainstream classrooms in 10 public schools in northwest Arkansas. All fourth grade students ($N = 954$) were eligible for participation and consent forms in both English and Spanish were provided to parents. Seventy-one percent of consent forms were returned and 91% of returned consent forms indicated consent for participation. The average age for children in the sample was 9.3 years ($SD = .50$), and ranged from 8 to 11 years. Female students comprised 51.1% ($n = 346$) of the sample. Congruent with previous samples drawn from this school district (Elledge, et al., 2010; Craig, Gregus, Elledge, Pastrana, & Cavell, 2016), the ethnic/racial background of the sample was predominantly Hispanic: 41.2%. Other ethnicities included in the sample were Caucasian non-hispanic: 29.8%, Pacific Islander: 9.9%, bi/multiracial: 7.2%, other/unreported: 11.9%. Regarding languages spoken in the home, 74.2% of children reported speaking English at home, 48.2% reported Spanish, and 10.3% reported speaking Marshallese in the home.

Peer nomination procedures were used to index peer victimization, acceptance, rejection, social impact, and participation in reciprocated friendships in this study. Because of concerns about the validity of data gained from class-wide nomination procedures it was necessary to trim our sample to include only those classes with an adequate number of participating classmates. Past research on peer nomination procedures comparable to those used in the current study suggested that reliable and valid data can be obtained from classrooms that have a participation

rate of at least 40% (Marks, Babcock, Cillessen, & Crick, 2013; Terry, 2000). Thus, I limited my analyses to children from classes with a 40% or greater participation rate. This resulted in each in a minimum of 10 potential peer raters for each class in the study. Finally, participants were excluded if they refused to provide sociometric ratings at any time point, were not present on one or more of the days during which sociometric data were collected, or if they moved schools prior to the completion of the study. This resulted in a final sample of 591 children with complete data at both time points.

Measures

Peer Acceptance, Rejection, Social Impact, Friendship, and Social Resource Control.

Peer acceptance, rejection, social impact, reciprocated friendships, and social resource control were assessed with a standard sociometric assessment (Bukowski, et al., 2000). Children were provided a numbered roster that included the names of all participating classmates as well as each child's unique study identification number. Children were then asked to identify three or more classmates that they "liked to play with the most" and three or more classmates that they "liked to play with the least" by circling their peers identification numbers on the report form provided. Past work examining the reliability and validity of peer-report measures typically reveals that score derived using peer-report methods are remarkably stable (Coie et al., 1990; Hodges & Perry, 1999) and valid predictors of a wide range of social difficulties and behavioral problems in children (e.g., Coie et al., 1982; Masten, Morrison, & Pellegrini, 1985).

Peer Acceptance. In this study, peer acceptance was indexed by tallying the number of positive nominations (liked most) a child received from their peers. This number was then standardized within class and converted to a z-score to account for class-level differences in both the number of potential raters and classroom norms of peer liking.

Peer Rejection. Similarly, peer rejection was indexed by tallying the number of negative nominations (like least) children received from their peers. This number was then standardized within class and converted to a *z*-score to account for class-level differences in both the number of potential raters and classroom norms of peer rejection.

Social Impact. Social impact was indexed by tallying the number of positive and negative nominations children received from their peers. This number was then standardized within class and converted to a *z*-score to control for both class-level differences in the number of potential raters and classroom norms of social impact.

Friendship. Following procedures used elsewhere in the literature (e.g., Hodges & Perry, 1999), participation in friendships was defined as the presence of reciprocated positive nominations. Children's number of friends was calculated by counting the number of times the target child is nominated by a peer-rater as someone they "like to play with the most" when a target child reciprocally identified the peer-rater as someone they "like to play with the most." The number of reciprocated positive nomination was then standardized by class and converted to a *z*-score to account for class-level differences in both the number of potential raters and classroom norms regarding friendship.

Social Resource Control. The computation of social resource control represents an initial attempt to quantify the level of social resources a child controls in their peer system and was developed specifically for this study. Guided by Hawley's (1999) conceptualization of resource control theory, I reasoned that acceptance by and friendships with classroom peers represent valuable resources that children compete to acquire and serve a protective function against victimization. To index the degree to which children acquire protective relationships with peers, I combined the standardized number of reciprocated friendships children received with the

number of positive (“Like to play with most”) nominations they received from peers whose level of acceptance in the classroom was at or above the class mean. There is some methodical overlap between these two indices such that children who are nominated more often by well liked peers are also more likely to have a higher number of reciprocated friendships purely on the basis of mathematical probability. For this reason, I thought it best to combine these two indices into a single metric of social resource control. Scores on these two indices were well correlated both at T1 ($r = .57$) and T3 ($r = .52$), further supporting the decision to combine the two into a single social resource control variable.

Level of peer victimization. Children’s level of peer victimization was assessed using multiple informants including children’s self-ratings, teacher-ratings, and peer-nominations of victimization. Common in the literature are studies that limit the assessment of victimization to self-report instruments; however, researchers have pointed to the value of using reports from multiple informants (Card & Hodges, 2008; Hernandez Rodriguez et al., 2014). The available evidence suggests that incorporating information from multiple sources (child-, teacher- and peer-reports) on children’s level of peer victimization can account for unique portions of variance related to children’s risk for negative outcomes when compared to single reporter methods (e.g., Ladd & Kochenderfer-Ladd, 2002). Furthermore, the use of multiple sources can help balance concerns related to the use of self-report measures in isolation. Multiple studies have found that children can be reluctant to self-disclose incidents of victimization to adults and that the willingness to disclose victimization can vary based on certain child characteristics such as gender, perceived social support, and level of negative emotion (Boulton et al., 2013; Hunter, Boyle, & Warden, 2004; Mishna & Alaggia, 2005). The use of teacher- and peer-report

measures can help avoid these concerns and provide a more thorough and potentially less biased perspective on peer victimization.

Child self-reports. Self-reported victimization was assessed using an adapted version of the *School Experiences Questionnaire* (SEQ; Craig, Gregus, Elledge et al., 2016; Kochenderfer-Ladd, 2004; Gregus et al., 2014). The SEQ assesses three dimensions of peer victimization: physical victimization (e.g., being hit, pushed, kicked), verbal victimization (e.g., called mean names, teased), and relational victimization (e.g., being excluded, being the target of hurtful rumors) using three items for each type of victimization. Children rated items using a 5-point scale (0 = *Never*, 1 = *Almost Never*, 2 = *Sometimes*, 3 = *Almost Always*, 4 = *Always*), with higher scores representing greater levels of victimization. The SEQ also contained three items assessing children's bullying behaviors as well as four filler items that asked about positive peer relationships. Only victimization scores were used in the current study. Children's self-reported peer victimization scores were computed by creating a mean score across the nine victimization items. Past studies that have used this same instrument have reported reliability estimates (alpha) that range from .82-.87 and are significantly correlated with both teacher and peer-reports of victimization (Craig, Gregus, Elledge et al., 2016; Elledge et al., 2010). Internal reliability coefficients (Cronbach's α) for the current sample were .86 at T1 and .89 at T3.

Teacher-reports. Teachers rated all participating students in their class on three items that paralleled subscales of the SEQ and described physical, verbal, and relational victimization (Elledge et al., 2010). Items were rated on a 5-point scale (0 = *Never*, 1 = *Almost Never*, 2 = *Sometimes*, 3 = *Almost Always*, 4 = *Always*), with higher scores representing greater levels of peer victimization. Teacher-rated peer victimization scores were averaged across the three victimization items and standardized within classroom. Past studies that have used this same

instrument, report reliability estimates (alpha) that range from .76-.80 and find that teacher ratings of victimization are significantly correlated with both self- and peer-reports of victimization (Craig, Gregus, Elledge et al., 2016; Elledge et al., 2010). Reliability coefficients for the current sample were .86 at T1 and .87 at T3.

Peer-reports. Peer-ratings of victimization were assessed using a modified version of the *Revised Class Play* (RCP), a commonly used peer-rating instrument with established predictive validity (Masten, et al., 1985). The RCP asks children to imagine themselves at the director of a class play and to identify three classmates who best fit various parts described in the questionnaire. For this study, peers were asked to nominate peers who would best fit the role of someone who is victimized by peers. Three items were used that paralleled items from the SEQ and included items describing the roles of children who are the target of physical, verbal, and relational victimization. For example, the verbal victimization item asked peers to nominate classmates who “could play the part of someone who gets teased, called mean names, or gets told hurtful things”. Children used a numerical roster of names and were asked to nominate three participating classmates that fit each role described. Scores for each type of victimization were averaged to create single peer-report score and standardized within class to account for class-level differences in victimization. Internal reliability for this three-item measure in the current study were limited at T1 ($\alpha = .67$) and good at T3 ($\alpha = .82$). Past studies that have used this measure have not examined its internal reliability; however, reported correlations suggest that scores obtained using this method are significantly related to both self- and teacher-reported victimization (Craig, Gregus, Elledge et al., 2016).

Procedures

Measures were gathered from a larger study and administered at three time points during a single academic year. The first assessment (T1) was administered in October, the second assessment (T2) in December, and the third assessment (T3) in May. The current study used only those data gathered at T1 and T3. Assessments were administered by trained graduate students and advanced undergraduate research assistants. Directions and individual items for all peer-report measures were read aloud to children by one of the research assistants. Children completed measures in a group setting (e.g., lunchroom, library, classroom) during a class period lasting approximately one hour. To minimize discussion and interruptions, children were adequately spaced, asked to keep answers covered, and given distractor activities (e.g., mazes, word searches) between questionnaires. Measure order was counterbalanced—randomly and by school—to balance response fatigue and bias across assessments. Teachers completed all measures at school and returned them to the experimenters within approximately two weeks of the children's assessments.

Identifying Stable Victims. For person-centered analyses, it was necessary to identify children who were stable victims of peer harassment. Research supports the use of information from multiple informants (child-, teacher- and peer-reports) when assessing peer victimization, especially when determining those children at the greatest risk for negative consequences (e.g., Ladd & Kochenderfer-Ladd, 2002). For these reasons, I identified children who had T1 and T3 standardized victimization scores from a single source (child, teacher, peer) that were at or above 1 *SD* above the mean as stable victims.

Data Analytic Plan

Primary hypotheses were evaluated using a series of multiple regression analyses and a logistic regression. In line with previous research (e.g., Ladd & Kochenderfer-Ladd, 2002), I

found modest overlap among self-, peer-, and teacher-reports of peer victimization (range $r = .19$ - $.38$); therefore, analyses predicting peer victimization were run separately for each reporter. Hypotheses predicting levels of peer victimization based on peer relationship quality were evaluated using a set of three regression analyses separated by the report source of victimization (Self, Teacher, and Peer) and time point. The specific hypotheses listed under Questions 1 and 2, as well as exploratory analyses (Question 4), were examined using a combination of variables including gender and variables representing aspects of peer relationship quality (acceptance, rejection, social resource control, social impact). For each multiple regression model, I entered gender at the first step of the model to account for the anticipated gender effect on peer victimization (boys > girls). For cross-sectional models that examined the relation between peer relationship quality variables and victimization I entered peer relationship quality variables at Step 2 and interaction terms at Step 3. For prospective models, I was primarily interested in shifts in peer victimization scores. For this reason, I entered Gender at Step 1 and T1 levels of peer victimization at Step 2. Because I was interested in how peer relationship quality related to changes in peer victimization, I endeavored to look at the predictive utility of T3 peer relationship quality variables after accounting for T1 peer relationship quality. To accomplish this goal, I entered T1 peer relationship variables at Step 3 and T3 peer relationship variables at Step 4. Finally, I used variables derived from T3 peer relationship quality to form interaction terms that were entered at Step 5 to examine the unique contributions of the hypothesized interactions.

Given that a set of 3 analyses were used to evaluate each question, it was necessary to correct alpha to reduce the potential risk for committing Type I errors (Gelman, Hill, Yajima, 2012; Mundfrom, Perrett, Schaffer, Piccone, & Roozeboom, 2006). To minimize the risk of

Type I error, a Bonferroni adjustment (α / number of analyses) was used to evaluate the significance of each step in the regression analyses. This correction yielded a p -value of .016, and thus, alpha for individual steps was constrained to .016 across all regression analyses. After correcting for the number of tests conducted at the macro level of analyses, it was not deemed necessary to apply additional alpha restrictions on individual regression coefficients and these values were evaluated such that coefficients with p -values less than .05 were identified as statistically significant. Effect sizes for individual steps of multiple regression analyses were indexed using R^2 and ΔR^2 and effect sizes for individual regression coefficients were indexed using sr^2 statistics. Research Question 3 was evaluated using a single logistic regression, to discriminate between stable victims and non-victim groups (see Procedures). For the logistic regression, alpha was set to .05 when evaluating both steps of the regression and individual coefficients. Effect size estimates were indexed by odds ratios (OR) for the logistic regression.

Results

Data Preparation

Stable Victims and Non-Victims. Children were classified as *Stable Victims* if their standardized victimization scores fell at or above 1 *SD* for one or more reporters at both T1 and T3. This procedure resulted in the identification of 92 stable victims, representing 15.6% of children with complete data. *Non-Victims*, were defined as children whose victimization scores were below 1 *SD* at both time points for measures of peer victimization. This procedure led to the identification of 290 Non-Victims, representing 49.1% of children with complete data.

Treatment of Gender. Gender was used as a covariate for all of the predictive models. For each analysis, boys were coded as 1 and girls were coded as 0. Thus, beta weights and odds ratios with positive values indicate that boys had higher levels of peer victimization than girls.

Descriptive Analyses. Raw mean scores and standard deviations at T1 and T3 are displayed separately for boys and girls in Table 1. Prior to computing correlations and running predictive models, all peer-rated variables were standardized within class. Pearson's product-moment correlations were computed for all variables included in prospective models to assess the stability of each source of peer victimization and each variable used to assess peer relationship quality over the course of the school year. These correlations indicated that measures of peer victimization for all reporters (Self, $r = .55, p < .001$; Teacher, $r = .61, p < .001$; Peer, $r = .58, p < .001$) were relatively stable from T1-T3, with self-rated victimization showing the highest level of variability over the school year. When comparing peer relationship quality variables, rejection scores ($r = .28, p < .001$) were notably less stable than peer victimization scores and less stable than indices of acceptance ($r = .50, p < .001$), and social resource control ($r = .42, p < .001$).

To examine direct correlations among variables of interest to the primary analyses, bivariate correlations were computed and results for T1 and T3 are displayed separately in Table 2 and Table 3. In line with my hypotheses, rejection had the strongest correlation with peer-rated victimization at both T1 and T3, among the peer relationship quality variables examined. Contrary to my hypotheses, acceptance was the strongest correlate with both teacher-rated victimization and self-rated victimization at T1 and T3. Rejection was not significantly correlated with self-rated victimization at T1, but was significantly correlated with self-rated victimization at T3. In line with my primary hypotheses, acceptance and social resource control were both significantly correlated with all three reports of peer victimization at both time points. Also of note, correlations among peer relationship quality variables and peer victimization

reports were consistently stronger at end of the school year (T3) when compared to correlations at the beginning of the school year (T1).

Primary Analyses.

Prior to conducting multiple regression analyses, missing data were examined and the assumptions for multiple regression were evaluated. Less than 4% of data were missing for any one variable for participants included in the final sample; thus data imputation was deemed unnecessary. *Z*-scores for each variable included in the primary analyses were used to identify univariate outliers. Because more extreme values were of particular interest to the current study (children with many friends or children with high levels of victimization), I adopted the liberal decision criterion for the identification of univariate outliers of $\alpha < .005$ for variables included in primary analysis; resulting in the cut-off value of *z*-score = 4.0, after correcting for sample size (Cousineau & Chartier, 2010). When these criteria were applied to the data, 11 cases were identified as univariate outliers (1.8% of the sample). Outlying scores were identified only for the social resource control variable for the primary analyses. One additional case was removed from the exploratory analyses due to a T3 social impact *z*-score greater than 4. Multivariate outliers were identified by computing the Mahalanobis distance for each case and computing the probability estimates for each Mahalanobis score. Mahalanobis estimates with a probability score $< .001$ were removed from the data set. This resulted in the removal of three additional cases from the sample.

No variables in the data set were significantly skewed or had elevated levels of kurtosis after removing identified outliers. The assumption of multicollinearity was assessed by examining zero-order correlations and variance inflation factor (VIF) scores computed in the multiple regressions. No variables included in the data set were correlated at or above .80 (See

Table 1 & Table 2) and no VIF scores exceeded the recommended cut-off value ($VIF = 10$) for colinearity for this metric in any of the predictive models (Hair, Anderson, Tatham, & Black, 1995). Correlations and visual analyses of scatter plot graphs suggested that all variables used in multiple regressions were linearly related. Visual examination of scatter plots revealed some evidence to suggest quadratic relations between acceptance and victimization and between social resource control and victimization; however, further tests of non-linear relations revealed that inclusion of quadratic terms did not improve model fit after entering linear terms in models predicting peer victimization.

Question 1: Are Indices of the Children's Peer Relationship Quality Differentially Related to Their Risk for Concurrent Victimization?

Two sets of 3 multiple regression analyses were used to examine cross-sectional associations between indices of peer relationship quality and peer victimization. The first set examined relations among variables of interest gathered in October (T1) and the second set examined relations among these variables in May (T3). For both sets of analyses, Step 1 controlled for participant gender, Step 2 introduced peer relationship quality variables: Acceptance, rejection, and social resource control, and Step 3 introduced the interaction terms Acceptance X Social resource control and Rejection X Social resource control.

Cross-Sectional Analyses Predicting T1 Peer Victimization. Models predicting self-, teacher-, and peer-rated victimization were run separately to evaluate my first set of hypotheses using data gathered at T1. The results of these analyses are summarized in Table 4. The model predicting T1 self-rated peer victimization was significant at Step 1 ($F = 9.65, p < .01, R^2 = .02$) and gender significantly predicted victimization with boys rating themselves higher on peer victimization than girls ($\beta = .13, p < .001, sr^2 = .02$). Step 2 was not significant and no indices of

peer relationship quality predicted self-rated peer victimization. Step 3 was also not significant and neither hypothesized interaction term contributed to the prediction of self-rated peer victimization. The model predicting T1 teacher-rated peer victimization was significant at Step 1 and fell just beyond the criteria for significance ($p < .016$) after the Bonferonni correction was applied ($F = 6.01, p < .016, R^2 = .01$) and indicated that boys were rated higher than girls on peer victimization ($\beta = .13, p < .05, sr^2 = .01$). Step 2 was significant, and peer relationship quality variables, as a set, predicted peer victimization ($\Delta F = 6.26, p < .001, \Delta R^2 = .04$). Rejection scores significantly contributed to the model ($\beta = .09, p < .05, sr^2 = .01$); however, rejection accounted for only a small portion of variance on its own. Acceptance and social resource control did not significantly predict teacher-rated peer victimization independently, but contributed 3% (combined $sr^2 = .03$) variance explained at Step 2. Step 3 was not significant and neither of the hypothesized interactions predicted teacher-rated peer victimization. The model predicting T1 peer-rated victimization was significant at Step 1 ($F = 84.19, p < .001, R^2 = .14$) and boys were rated as experiencing higher levels of victimization than girls by peers ($\beta = .37, p < .001, sr^2 = .14$). The model was also significant at Step 2. As a set, peer relationship quality variables predicted peer-rated victimization ($\Delta F = 27.68, p < .001, \Delta R^2 = .12$) and both rejection ($\beta = .30, p < .001, sr^2 = .09$) and social resource control ($\beta = -.13, p < .05, sr^2 = .02$) significantly contributed to the model and all coefficients were in the expected direction. As hypothesized, acceptance was not a significant predictor in the model. Step 3 was not significant and neither hypothesized interaction term predicted peer-rated peer victimization.

Results examining associations at T1 provided mixed support for my hypotheses. Hypothesis H1-A was supported by models predicting T1 teacher- and peer-rated victimization but was not supported in the model predicting self-rated peer victimization. Hypothesis H1-B

was supported by analyses predicting peer-rated victimization, but was not supported in models predicting self- or teacher-rated victimization. As expected, acceptance was not a significant predictor of peer victimization in any of the models predicting T1 peer victimization. Finally, Hypothesis H1-C was rejected in all of the models predicting T1 victimization with no significant interactions found.

Cross-Sectional Analyses Predicting T3 Peer Victimization. Three multiple regression analyses were conducted to evaluate my first set of hypotheses using data gathered at T3. The results of these analyses are summarized in Table 5. Step 1 of the model predicting T3 self-rated peer victimization was not significant; gender did not predict peer victimization ($F = .79$, $p = ns$, $R^2 = .00$). Peer relationship quality variables entered at Step 2 significantly predicted T3 self-rated peer victimization as a set ($\Delta F = 4.55$, $p < .01$, $\Delta R^2 = .03$), and revealed a significant and inverse relation between acceptance and T3 self-rated victimization ($\beta = -.15$, $p < .05$, $sr^2 = .01$). Step 3 was not significant and neither interaction term predicted self-rated peer victimization. The model predicting T3 teacher-rated peer victimization was significant at Step 1 ($F = 6.07$, $p < .016$, $R^2 = .01$) and indicated that boys were rated higher than girls on peer victimization ($\beta = .11$, $p < .016$, $sr^2 = .01$). Variables entered at Step 2 predicted teacher-rated peer victimization as a set ($\Delta F = 26.15$, $p < .001$, $\Delta R^2 = .13$). Rejection ($\beta = .17$, $p < .001$, $sr^2 = .03$) and acceptance ($\beta = -.36$, $p < .001$, $sr^2 = -.05$) both significantly predicted T3 levels of teacher-rated peer victimization and associations were in the expected directions. Social resource control was also a significant predictor at Step 2 ($\beta = .15$, $p = .03$, $sr^2 = .01$); however, social resource control was, unexpectedly, positively associated with unique variance of T3 peer victimization when included in the model with acceptance, rejection, and gender. Interaction terms entered at Step 3 did not significantly contribute to the model. Step 1 of the model

predicting T3 peer-rated victimization was significant ($F = 68.29, p < .001, R^2 = .11$) with boys rated higher on peer victimization than girls ($\beta = .34, p < .001, sr^2 = .11$). Step 2 was also significant and accounted for a large portion of variance in peer victimization ($\Delta F = 47.23, p < .001, \Delta R^2 = .19$). Rejection positively predicted peer victimization ($\beta = .33, p < .001, sr^2 = .10$) and social resource control was, as expected, negatively associated with peer victimization ($\beta = -.12, p < .05, sr^2 = .01$). Acceptance was not a significant predictor of peer victimization in this model. Step 3 in the model predicting peer-rated victimization was significant ($\Delta F = 11.88, p < .001, \Delta R^2 = .03$) and revealed that the interaction term Acceptance X Social Resource Control significantly predicted T3 peer-rated victimization, but accounted for a modest portion of variance explained ($\beta = .14, p < .01, sr^2 = .004$). The nature of this interaction aligned with my hypothesis and demonstrated that children with low acceptance experienced higher victimization than children with high acceptance and those with high acceptance and high in social resource control showed lower levels of peer victimization than children high in acceptance but low in social resource control. The Rejection X Social Resource Control term was not statistically significant.

In sum, T3 analyses revealed stronger statistical relations between peer relationship quality and peer victimization than T1 analyses. Similar to T1 analyses, results from T3 provided mixed support for my primary hypotheses. Hypothesis H1-A was not supported by analyses predicting self-rated peer victimization, but was fully supported in the analyses predicting peer-rated victimization. The model predicting teacher-rated peer victimization partially conformed to H1-A indicating that rejection was a significant predictor of victimization; however, contrary to my predictions, acceptance was both a significant predictor and the strongest predictor of peer victimization at this step. Hypothesis H1-B was not supported in the

model predicting self-rated peer victimization, but was supported in the model predicting peer-rated victimization. In the model predicting teacher-rated victimization, H1-B was rejected because social resource control was positively related to unique variance of victimization, opposite the direction than was hypothesized and opposite to the observed zero-order correlation. The models predicting self- and peer-rated victimization conformed to my expectation that acceptance would not significantly predict peer victimization when included alongside rejection and social resource control. However, models examining teacher-rated peer victimization did not conform to this pattern. Hypothesis H1-C was rejected in both the models examining self- and teacher-rated peer victimization. The model predicting peer-rated victimization lent modest support to H1-C and revealed a significant interaction effect between acceptance and resource control in the expected direction, although explaining a modest portion of variance. This finding supported the hypothesis that children who are well-liked and have high levels of social resources are more insulated from peer victimization than children who are liked, but lack social resource control.

Question 2: Do Indices of Children's Peer Relationship Quality Differentially Predict Their Risk for Future Victimization?

My second set of hypotheses was assessed using a set of three multiple regression models predicting self-, teacher-, and peer-rated victimization at using T3 peer relationship quality variables, controlling all T1 variables of interest. As in the preceding models, gender was entered at Step 1. T1 levels of peer victimization were entered at Step 2 to control for beginning of the school year levels of victimization. T1 Peer relationship quality variables were entered at Step 3 to control for beginning of the year levels of acceptance, rejection, and social resource control. To test whether T3 peer relationship quality uniquely predicted peer victimization these variables

were entered at Step 4. Finally, hypothesized interaction terms were entered at Step 5. The results of these analyses are summarized in Table 6. Results for Step 1 are identical as those reported in the section summarizing T3 cross-sectional analyses and will not be reported again here.

For the model predicting T3 self-rated peer victimization, Step 2 was significant ($\Delta F = 222.35, p < .001, \Delta R^2 = .29$) and T1 self-rated peer victimization ($\beta = .55, p < .001, sr^2 = .29$) accounted for a large portion of the variance associated with T3 self-rated peer victimization. Step 3 was not significant in the model predicting T3 self-rated peer victimization ($\Delta F = .84, p = ns, \Delta R^2 = .00$) and T1 levels of peer relationship quality did not predict T3 self-rated peer victimization as a set or as individual predictors. Step 4 was not significant ($\Delta F = 1.96, p = ns, \Delta R^2 = .01$) and did not indicate that T3 levels of peer relationship quality were uniquely associated with T3 levels of peer victimization. Step 5 was also not significant and did not support the hypothesized interactions ($\Delta F = .63, p = ns, \Delta R^2 = .00$). For the model predicting teacher-rated peer victimization, Step 2 was significant ($\Delta F = 312.93, p < .001, \Delta R^2 = .37$) and T1 teacher-rated victimization ($\beta = .62, p < .001, sr^2 = .37$) significantly predicted T3 peer victimization. Step 3 was not significant after applying the planned Bonferonni correction and peer relationship quality variables at the beginning of the year did not significantly predict T3 teacher-rated victimization as a set ($\Delta F = 3.45, p = .016, \Delta R^2 = .01$). Step 4 was significant in this model ($\Delta F = 11.45, p < .001, \Delta R^2 = .04$). T3 rejection predicted peer victimization after controlling for T1 variables ($\beta = .09, p < .05, sr^2 = .01$) and T3 acceptance was also a significant inverse predictor of peer victimization at this step ($\beta = -.26, p < .001, sr^2 = .03$). T3 social resource was a significant predictor of T3 teacher-rated victimization ($\beta = .14, p < .01, sr^2 = .01$), but, as was observed in cross-sectional models, the relationship was in the opposite direction

than expected. Step 5 was not significant and did not support the hypothesized interactions ($\Delta F = 1.98, p = ns, \Delta R^2 = .00$). In the model predicting T3 peer-rated victimization, Step 2 was significant ($\Delta F = 215.95, p < .001, \Delta R^2 = .25$) and revealed that T1 levels of peer-rated victimization ($\beta = .54, p < .001, sr^2 = .25$) significantly predicted T3 levels of peer-rated victimization. Step 3 was also significant ($\Delta F = 11.76, p < .001, \Delta R^2 = .04$) and revealed that T1 peer relationship quality variables predicted T3 peer victimization as a set. At Step 3, T1 levels of rejection ($\beta = .14, p < .001, sr^2 = .01$) and T1 levels of social resource control ($\beta = -.11, p < .05, sr^2 = .004$) significantly predicted T3 peer-rated victimization and in the expected directions. Step 4 was also significant and T3 peer relationship quality variables predicted T3 peer-rated victimization as a set, ($\Delta F = 16.69, p < .001, \Delta R^2 = .05$). Only the regression coefficient for rejection was significant at this step ($\beta = .20, p < .001, sr^2 = .03$). Step 5 was also significant ($\Delta F = 6.33, p < .01, \Delta R^2 = .01$) and revealed a significant Acceptance X Social Resource Control interaction ($\beta = .10, p < .01, sr^2 = .01$). The nature of the interaction indicated that children high in acceptance at T3 experienced lower levels of peer victimization, regardless of their level of social resource control; however, children with low acceptance, but high in social resource control had lower levels of victimization compared to children low in both acceptance and social resource control. This pattern of results suggested that natural shifts in acceptance levels are related to peer victimization, but that this relation was dependent on the level of social resource control children have at the end of the school year.

Overall, results from predictive analyses offered mixed support for my primary hypotheses. Hypothesis H2-A was fully supported in the model predicting peer-rated victimization and T3 rejection was also a significant predictor in the model predicting teacher-rated victimization, although it was not as strong a predictor as acceptance. H2-A was not

supported in the model predicting self-rated victimization. H2-B was not supported in any of the three analyses predicting peer victimization. As expected, acceptance did not predict peer-rated victimization or self-rated victimization, but was a significant predictor of teacher-rated peer victimization. H2-C was not supported in models predicting self- or teacher-rated peer victimization, but evidence for a significant interaction was obtained in the analyses predicting peer-rated victimization, suggesting that the effect of peer acceptance on level of peer victimization was moderated by level of social resource control.

Question 3: Can Indices of Children's Peer Relationship Quality Predict Their Status as Stable Victims?

To examine my third research question, a logistic regression was conducted to examine whether peer relationship quality variables measured at T1 predicted membership in Stable Victim and Non-Victim risk groups (See Method). For this model, gender was entered at Block 1, T1 acceptance, rejection, and social resource control were entered at Block 2, and hypothesized interaction terms Acceptance X Social resource control and Rejection X Social resource control were entered at Block 3. Prior to conducting logistic regression analyses, assumptions necessary for logistic regression were examined. The assumption of independence of observations was met based on study design, outliers were identified and removed using the same procedure used for the multiple regressions described in the Data Preparation section. Results from multiple regressions also confirmed the assumed absence of multicollinearity. The assumption of linearity of the logit was examined using a Box-Tidwell Test. To perform this test, I computed the natural log for each predictor variable. For the natural log computations, I used raw scores (nomination counts) for acceptance, rejection, and for social resource control (raw score for number of reciprocated friends + raw score for number of well-liked nominators)

and added 1 to each score to eliminate values = 0. Box-Tidwell tests revealed no significant interaction terms (p -values ranged from .29-.88), and thus the assumption of linearity of the logit was met.

Results from the logistic regression predicting stable victimization are summarized in Table 7. Gender significantly contributed to the model and boys were found to be more than three times as likely as girls to be classified in the stable victim category ($B = 1.21, p < .001, OR = 3.32$). Block 2 was significant as a step ($\chi^2 = 36.22, p < .001$), resulted in a non-significant Hosmer-Lemeshow test ($p = .13$), and accounted for a .13 increase in Nagelkerke R^2 indicating approximately a 13% increase in variance explained by peer relationship quality variables. T1 rejection scores were the only significant predictor at Block 2 ($B = .61, p < .001, OR = 1.84$) with higher scores increasing risk for stable victimization. Neither T1 acceptance nor T1 social resource control significantly contributed to the prediction of stable victim status as independent predictors, but contributed in combination to overall model fit. Block 3 was not significant as a step ($\chi^2 = 1.89, p = ns$) and neither interaction term was a significant predictor of stable victimization.

Results from the logistic regression supported the first hypothesis for my person-centered research question (H3-A) and I found that the quality of children's peer relations was significantly related to their risk for being classified as a stable victim. My second hypothesis examined the differential predictive utility of rejection scores (H3-B) and was also supported by my results as higher levels of rejection increased risk for stable victimization. H3-C was not supported as T1 social resource control did not contribute to risk for stable victimization, based on these analyses. As expected, acceptance did not significantly contribute to children's risk for stable peer victimization when included in the same model as rejection and social resource

control. H3-D was not supported by these analyses and the model did not indicate the presence of the hypothesized interactions contributed to risk for stable peer victimization.

Exploratory Analyses.

Question 4: Does the Degree to which Children Compete for Social Resources Relate to their Risk for Peer Victimization Concurrently and Over Time?

Exploratory analyses addressed my fourth research question with a series of multiple regression models. The selected analytic approach paralleled that used to answer Questions 1 and 2 and involved 2 sets of 3 multiple regression analyses used to examine the relation between competitiveness and peer-, teacher- and self-rated peer victimization at T1 and T3. A final set of three regression models was used to evaluate prospective associations among variables of interest across the two time points.

Regression models were used to test whether the degree to which children compete for social resources was related to their risk for concurrent and future peer victimization. For these analyses, competitiveness was operationalized as children's social impact scores. Analyses also explored whether social competitiveness was moderated by children's success in winning social resources using the interaction term social resource control X social impact. Gender was entered at Step 1 for all of the regression models that follow. Social resource control and social impact were entered at Step 2 and the interaction term social resource control X social impact was entered at Step 3. Findings related to gender are redundant with those discussed in Questions 1 and 3 and are not reported here.

Concurrent analyses. Results of models examining concurrent associations among social impact, social resource control and peer victimization are summarized in Table 8 and Table 9. The model predicting T1 self-rated peer victimization was not significant at Step 2 (ΔF

= 1.90, $p = ns$, $\Delta R^2 = .01$) or Step 3 ($\Delta F = 2.42$, $p = ns$, $\Delta R^2 = .00$) and social impact, social resource control, and the interaction term failed to predict self-rated victimization at Step 2 or 3. The model predicting T1 teacher-rated victimization was significant at Step 2 ($\Delta F = 8.10$, $p < .001$, $\Delta R^2 = .03$), but social resource control was the only significant predictor in the model ($\beta = -.20$, $p < .01$, $sr^2 = .03$). Step 3 was not significant and did not indicate a significant interaction for social resource control X social impact. The model predicting T1 peer-rated victimization was significant at Step 2 ($\Delta F = 31.95$, $p < .001$, $\Delta R^2 = .09$) with significant main effects for both social resource control ($\beta = -.30$, $p < .001$, $sr^2 = .07$) and social impact ($\beta = .27$, $p < .001$, $sr^2 = .06$) in the expected directions. Step 3 was not significant and indicated no significant interaction for social resource control X social impact predicting T1 peer-rated victimization.

The model predicting peer-rated victimization supported Hypothesis (H4-A) and suggested that competition was positively associated with level of victimization. Results from models predicting T1 self- and teacher-rated peer victimization did not support H4-A. H4-B was not supported by any of the models assessing the hypothesized interaction effect at T1.

The model predicting T3 self-rated victimization from T3 variables was not significant at Step 2 ($\Delta F = 2.14$, $p = ns$, $\Delta R^2 = .01$) or Step 3 ($\Delta F = 1.22$, $p = ns$, $\Delta R^2 = .00$) and indicated no significant main effects or interaction effects related to self-rated victimization. The model predicting T3 teacher-rated peer victimization was significant at Step 2 ($\Delta F = 8.92$, $p < .001$, $\Delta R^2 = .03$), but resource control represented the only significant predictor in the model ($\beta = -.19$, $p < .05$, $sr^2 = .03$). Step 3 was not significant ($\Delta F = .58$, $p = ns$, $\Delta R^2 = .00$) and suggested no significant interaction effects. The model predicting T3 peer-rated victimization was significant Step 2 ($\Delta F = 45.72$, $p < .001$, $\Delta R^2 = .13$) and revealed significant main effects for both social resource control ($\beta = -.38$, $p < .001$, $sr^2 = .12$) and social impact ($\beta = .23$, $p < .001$, $sr^2 = .04$) in

the expected directions. Step 3 was not significant and did not indicate an interaction between social resource control X social impact predicting T3 peer-rated victimization. In summary, results from T3 provided evidence for identical conclusions as the results obtained from data gathered at T1.

Prospective analyses. To evaluate my second set of exploratory hypotheses, I used a set of three prospective multiple regression models predicting T3 peer self-, teacher-, and peer-rated peer victimization from T1 peer victimization, social resource control, and social impact. This approach mirrors that used to evaluate prospective links in the primary analyses. As before, I entered gender at Step 1 for these models. In order to control for beginning of the year levels of peer victimization I entered reporter-specific T1 peer victimization levels at Step 2. At Step 3, I entered T1 levels of social resource control and social impact. At Step 4, T3 social impact and social resource control scores were introduced to the model and at Step 5 the T3 social impact X social resource control interaction term was entered into the model. Results of these analyses are summarized in Table 10.

For the model predicting T3 self-rated peer victimization, Step 2 was significant ($\Delta F = 221.41, p < .001, \Delta R^2 = .29$) and T1 self-rated victimization predicted T3 self-rated peer victimization ($\beta = .55, p < .001, sr^2 = .29$). Step 3 was not significant ($\Delta F = 1.23, p = ns, \Delta R^2 = .00$) as neither T1 social resource control nor social impact predicted T3 levels of self-rated peer victimization. Neither Step 4 ($\Delta F = .16, p = ns, \Delta R^2 = .00$) nor Step 5 ($\Delta F = .97, p = ns, \Delta R^2 = .00$) significantly predicted T3 self-rated peer victimization. The model predicting T3 teacher-rated peer victimization was significant at Step 2 ($\Delta F = 312.93, p < .001, \Delta R^2 = .38$) and T1 teacher-rated victimization ($\beta = .62, p < .001, sr^2 = .38$) was related to T3 teacher-rated peer victimization. Step 3 was not significant ($\Delta F = 3.05, p < ns, \Delta R^2 = .01$) indicating that T1 social

resource control and social impact did not predict T3 teacher-rated peer victimization as set. Neither Step 4 ($\Delta F = 1.41, p = ns, \Delta R^2 = .00$) nor Step 5 ($\Delta F = .25, p = ns, \Delta R^2 = .00$) significantly predicted T3 teacher-rated peer victimization. For the model predicting T3 peer-rated victimization, Step 2 was significant ($\Delta F = 217.85, p < .001, \Delta R^2 = .26$); T1 peer-rated victimization ($\beta = .55, p < .001, sr^2 = .18$) predicted T3 peer-rated peer victimization. Step 3 was also significant ($\Delta F = 13.97, p < .001, \Delta R^2 = .03$). At Step 3, both T1 social impact ($\beta = .11, p < .01, sr^2 = .01$), and T1 social resource control ($\beta = -.21, p < .001, sr^2 = .03$) significantly contributed to the model. Step 4 was also significant ($\Delta F = 15.75, p < .001, \Delta R^2 = .03$) with both social impact ($\beta = .13, p < .001, sr^2 = .01$) and social resource control ($\beta = -.21, p < .01, sr^2 = .02$) significantly contributing to the prediction of T3 peer-rated victimization after controlling for T1 scores. The interaction term entered at Step 4 ($\Delta F = 0.00, p = ns, \Delta R^2 = .00$) did not predict T3 peer-rated peer victimization.

In conclusion, results from predictive analyses examining peer-rated victimization, supported hypothesis H4-C indicating that increases in children's level of competition increased risk for peer victimization. This hypothesis was not supported by predictive models of self- or teacher rated peer victimization. The proposed interaction between social impact and social resource control was not supported by any of the models predicting T3 peer victimization and thus, H4-C was rejected.

Discussion

Previous studies have linked children's peer relationship quality to risk for future and stable peer victimization (Schwartz et al., 1999; Sentse et al., 2015; Wolke et al., 2009). Specific aspects of peer relationship quality, such as the degree to which children are actively rejected by peers, level of peer acceptance, and their ability form protective friendships have also been

shown to relate to both concurrent and future risk for peer victimization (Fox & Boulton, 2006; Hodges et al., 1997). Although the link between peer relationship quality and victimization has been well-documented in the literature; lacking is a thorough understanding of the differential predictive utility of specific aspects of peer relationship quality. Needed is conceptual clarity about how aspects of peer relationship quality relate to experiences of peer victimization both in combination, and as independent predictors of risk. Understanding more clearly the relationship between aspects of peer relationship quality and victimization will inform interventions for bullied children by helping these programs identify the most viable targets for intervention.

This study represented an effort to clarify the relations between aspects of peer relationship quality and peer victimization. In this effort, I developed an underlying conceptual model based on theories of social dominance, resource control, and social stigma to explain the relations between aspects of peer relationship quality and victimization. I then used this conceptual model, along with empirical evidence from the existing literature, to develop specific hypotheses about how three aspects of peer relationship quality would relate independently to children's risk for peer victimization. Predictions derived from my conceptual model were that 1) rejection would be the strongest predictor of levels of peer victimization and the strongest predictor of stable victimization among aspects of peer relationship quality examined, 2) that social resource control would be related to levels of peer victimization and predict stable victimization when included along with indices of rejection and acceptance, and 3) that social resource control would interact with both acceptance and rejection to predict levels of peer victimization. I also offered two exploratory hypotheses about the relation between competitiveness and peer victimization: 1) That children's level of competition among peers would be positively related to levels of peer victimization and 2) that children's level of

competition would interact with their level of social resource control to predict victimization. Primary and secondary hypotheses were examined using data collected from sample of 676 fourth grade students and their teachers at two times during a single school year.

In line with my conceptual model, I expected to find that peer rejection would be the strongest predictor of concurrent and future levels of peer victimization. I also expected to find that peer rejection would be the strongest predictor of stable victimization across the school year. As expected, zero-order correlations revealed that peer rejection was correlated with teacher-, and peer-rated victimization at the beginning of the school year and self-, teacher- and peer-rated victimization at the end of the school year. Results from regression models predicting concurrent levels of peer victimization found that rejection significantly related to peer victimization in 4 of the 6 models tested, after controlling for gender. Rejection was also found to be statistically related to peer victimization in 2 of the 3 prospective models, after controlling for gender, beginning of the year peer victimization, and beginning of the year levels of peer relationship quality. Finally, logistic regression analyses revealed that rejection was independently associated with stable victimization and was the only peer relationship quality variable that uniquely differentiated between stable victim and never victim groups.

In summary, I found that rejection was the most consistent predictor of peer victimization when compared to the other aspects of peer relationship quality and predicted changes in peer victimization from the beginning to the end of the school year. However, rejection was not always the most robust predictor of victimization and, in some models, was not statistically related to peer victimization. In models predicting end of the year teacher-rated peer victimization, rejection was positively associated with victimization, but acceptance was found to be a more robust predictor in both cross-sectional and prospective models. Furthermore,

rejection was not found to be predictive of self-rated peer victimization either at T1 or T3, when included in models with other variables of interest.

In line with the assumed protective function of social resources (i.e., reciprocated friendships and acceptance by well-liked peers), I predicted a significant relation between social resource control and peer victimization. As expected, bivariate correlations revealed that social resource control was significantly and inversely related to self-, teacher-, and peer-rated victimization at both the beginning and the end of the school year. Correlations also revealed a strong relationship between social resource control and acceptance scores. Regression analyses revealed that social resource control predicted peer-rated levels of victimization in cross-sectional models controlling for gender and including levels of acceptance and rejection as simultaneous predictors. Prospective models also showed that social resource control measured at the beginning of the year significantly predicted peer-rated victimization at the end of the year, after controlling for gender and beginning of the year levels of peer victimization.

Contrary to my hypotheses, social resource control scores were not inversely related to self- or teacher-rated peer victimization when included in models with other peer relationship quality indices. Furthermore, end of the year social resource control was not found to be uniquely related to peer victimization in prospective models after controlling for gender, beginning of the year peer victimization, and beginning of the year peer relationship quality indices. Surprisingly, models examining teacher-rated peer victimization revealed a statistical suppression effect, evidencing an inverse bivariate relation between social resource control and victimization, but a positive relation between social resource control and teacher-rated peer victimization in the full model. Finally, social resource control was not found to significantly

differentiate between risk groups of stable victims and never victims, when included in the same logistic model as gender, rejection, and acceptance.

Acceptance by peers has been found to be predictive of children's experiences of peer victimization in past studies (Card et al., 2007; Wolke et al., 2009); although some studies have not found strong prospective associations between acceptance and peer victimization (Sentse et al., 2015). Given the mixed findings in the literature, I conceptualized acceptance as being of lesser importance to risk for peer victimization than rejection and social resource control. Thus, I expected to find that acceptance would be correlated with levels of peer victimization at the bivariate level, but would not be a significant predictor of peer victimization when included along with rejection and resource control in predictive models. Congruent with my conceptual model were results that indicated no statistically significant relationship between acceptance and peer victimization in 6 of the 9 models predicting concurrent and future levels of victimization. Acceptance was not found to be related to levels of self-, teacher- or peer-rating of victimization at T1 and was not related to peer-ratings of peer victimization at T3, when accounting for gender and other aspects of peer relationship quality. Similarly, acceptance was not found to be related to self- or peer-rated victimization in prospective models. Finally, acceptance did not uniquely predict victim status in the logistic regression analysis, when included at the same step as rejection and social resource control.

Contrary to my predictions about acceptance as it relates to peer victimization and other indices of peer relationship quality, 3 sets of analyses revealed a significant association between acceptance and peer victimization. Acceptance was found to be related to both self- and teacher-rated victimization in models predicting peer victimization at the end of the school year. Furthermore, T3 acceptance was the strongest predictor of changes in peer victimization in

models controlling for gender, beginning of the year peer victimization, and beginning of the year indices of peer relationship quality. These results challenged fundamental assumptions of my conceptual model related to acceptance and speak to the potentially unique association between class-wide acceptance and changes in teachers' estimations of peer victimization.

My third set of primary hypotheses predicted that there would be a significant interaction between peer acceptance and social resource control and a similar interaction between rejection and social resource control predicting peer victimization. Results evaluating the hypothesized interaction effects across cross-sectional and prospective models revealed scant evidence in support of the proposed interactions. Only 2 significant interactions terms were discovered across the 9 models examining the predictive associations with victimization. Significant results revealed that T3 acceptance interacted with T3 social resource control to predict levels of peer-rated victimization both in the cross-sectional model and the prospective model. For both of these models, the inclusion of the interaction term explained 1% or less of variance in peer-rated victimization scores. Based on this overall pattern of findings, the interaction hypotheses were ultimately rejected.

Based on an extended view of my conceptual model, I also hypothesized that children's level of competitiveness, as indexed by social impact scores, would be positively related to risk for peer victimization. Across the 9 exploratory regression models evaluating the proposed association between social impact and peer victimization, only the 3 models predicting peer-rated victimization revealed a significant relationship between social impact and peer victimization. All of these models suggested that increased competition was related to higher rates of peer victimization. I also proposed that children low on resource control would experience greater peer victimization if socially competitive but would experience less

victimization if low in social resource control and also low in social competitiveness. This hypothesis was not supported by any of the models examined and was thus rejected.

This study adds to existing literature on peer victimization that supports the differential predictive role of rejection on children's risk for peer victimization in comparison to acceptance and other indices of peer relationship quality (Card et al., 2007; Sentse, 2007). My finding point to the conclusion that, in comparison to acceptance and social resource control, rejection is the most reliable predictor of children's concurrent and future risk for experiences of peer victimization. Rejection was also found to be the only aspect of peer relationship quality that uniquely predicted children's experiences of stable victimization, using a method that combined ratings from all three informants.

There are several compelling explanations for why rejection was found to be the most reliable predictor of victimization. As originally proposed by Hawley and colleagues (2002), the ability to access, acquire, and maintain social partnerships, represents a key challenge for children seeking protection from victimization. Control of social resources is presumed to foster healthy development, signal high status to peers, and buffer children from antagonistic peers that seek to use aggression as a way to further their own standing in the group (Hawley et al., 2002). From the perspective of resource control theory, rejection can be viewed as an important competitive disadvantage for children seeking to control rare and valuable social resources in their ecology, specifically friendships with preferred peers. A rejected child is, by definition, undesirable as a playmate and thus is unlikely to be sought out by others as a friend, when more desirable playmates are available. As a result, rejected children lack the protective function that high social status and positive peer relationships provide to non-rejected youth, leaving children with higher levels of rejection more vulnerable to bullying (Hawley et al., 2002).

The finding that rejection was related to both increases in victimization over the course of the year and stable experiences of victimization throughout the year, further supports the assumption that social stigma plays a critical role in determining which children experience stable or increasing victimization, and for which children victimization is a transient and presumably less harmful experience. Children who acquire a social stigma or negative reputation among peers are at greater risk for victimization for two principle reasons: First, stigma signals to group members that it is permissible to aggress against an individual because they differ from the norm due to a negative attribute (Juvonen & Galvan, 2008; Link & Phelen, 2001; Thornberg, 2015). It is believed that, once a stigmatized child is outcast from the group, peers strategically use aggression toward the rejected child as a way to cement their own place within the in-group and gain approval from other members of the in-group, while incurring minimal risk for negative social repercussions (Juvonen & Galvan, 2008; Pellegrini & van Ryzin, 2011).

The second reason why social stigma is critical to experiences of stable victimization ties back to the assumed protective function of positive affiliations with preferred peers and may further explain the observed relation between rejection and stable and worsening victimization. Befriending a rejected child presents a liability to high status peers who wish to maintain their standing in the peer group (Meter & Card, 2015). Forming a relationship with a rejected child creates fear that one's own position in the social hierarchy may be lost or that one will become a target of bullying themselves (Boulton, 2013; Meter & Card, 2015; Peets et al., 2015). In short, stigma results in a contextual circumstance that disinhibits aggression toward rejected peers (Hodges & Perry, 1999), reinforces peers who bully rejected children (Juvonen & Galvan, 2008), and threatens to punish children's attempts at forming relationships with rejected children

(Boulton, 2013; Peets et al., 2015). The circumstance of social stigma further complicates rejected and victimized children's efforts to gain any sort of foothold in their social ecology and may result in them becoming stuck in a reciprocal processes involving repeated rejection and victimization (Pellegrini & van Ryzin, 2011).

Although generally supportive of my conceptual model, my findings that rejection was reliably linked to victimization should be viewed with a degree caution. Children in the current study used a similar peer nomination procedure to identify both rejected and bullied peers. Similarities in this method of selection introduce the possibility that shared method variance may have contributed to the observed pattern of findings. Another explanation for my findings is that conceptual overlap between the constructs of rejection and victimization accounts for the significant findings because it is conceivable that both rejection and victimization reflect common aspects of generally low social status. When asked to identify rejected and victimized peers, children may simply be nominating children who occupy the lowest positions in the social group for both items. With this note of caution in mind, it is also important to recognize that the data revealed a similar, although less robust, pattern of relations between peer-rated rejection and teacher-rated victimization. Teachers did not rate children's level of rejection and rated all children in their class on a Likert scale of victimization as opposed to the nomination procedure used by peers. The fact that findings from peer-rated victimization models converged with teacher-rated models reduces concerns related to shared method variance. With regard to concern about conceptual overlap, it is also worth noting that both T1 rejection and T1 peer victimization independently contributed to T3 levels of peer-rated levels of victimization. This finding offers some support to the notion that rejection and victimization are conceptually distinct phenomena that relate differently to future risk for victimization.

There are also conceptual reasons for why, as my model predicted, rejection was found to be a more consistent and robust predictor of peer victimization than acceptance and social resource control. Generally speaking, this pattern of findings was congruent with other literature demonstrating that rejection is a better predictor of risk for peer victimization than children's involvement in protective peer relationships. Hodges and Perry (1999) found that rejection was a better predictor of future peer victimization than number of friends and Sentse and colleagues (2015) found that acceptance did not predict future victimization in a cross-lag design while rejection did predict future victimization. Sentse explained this pattern of findings by arguing that acceptance had weaker associations with peer victimization than rejection because being accepted is a normal condition for children and, like other normative attributes, is generally unnoticed by peers. Rejection, the authors argued, reflects poor behavioral adjustment and deplorable social behaviors that are more apparent and offensive to peers. Hodges and Perry (1999) argued that rejection was a better predictor of future victimization than number of friends because rejection served to disinhibit peer aggression toward rejected children and because rejected children were more often alone than accepted children and thus were more vulnerable targets for acts of aggression. Although my conclusions are similar to those offered by Hodges and Perry, I would offer a further explanation for the finding that protective relationships were not as reliable a predictor of victimization as rejection. I argue that while a lack of acceptance or friendships with preferred peers indicates a deficiency in social power and the absence of a protective buffer, low status and lack of friends are not necessarily indicative of social stigma or negative reputation among peers. Children who are low in acceptance may indeed lack protective resources, but my findings, along with findings from other studies of neglected children (Salmivalli et al., 1996; Schuster, 1999; Warden & MacKinnon, 2003), do not suggest

that the absence of protective resources is sufficient to permit or encourage repeated abuse by peers.

The observed difference in predictive utility of negative (rejection) vs positive social attributes (acceptance, social resource control) points to the necessity of separating the group-based processes of *passive* marginalization from *active* oppression. On the one hand, a lack of positive ties represents the absence of a protective buffer against peer victimization. Children without this buffer may be victimized; but they also may be simply neglected or ignored by peers. Children neglected by peers are subsequently relegated to the margins of the peer ecology; however, although lacking social power, marginalized children do necessarily exhibit personal characteristics or interpersonal behaviors that invite maltreatment from peers. Active rejection, on the other hand, represents a phenomenon that is more harmful than simple marginalization in the peer group and instead reflects *oppression* of the rejected peer. This oppression can then lead into a repeated cycle of stigmatization, exclusion from peer relationships, and repeated experiences of peer victimization that create the observed psychological plight of the stable victim (Burk et al., 2010; Goldbaum, et al., 2003; Kochenderfer-Ladd & Wardrop, 2001; Pouwels et al., 2016). My findings suggest that in order to accurately determine which children are at risk to become stuck in this harmful social role requires separating the effects of active rejection from the effects of low acceptance and resource control.

Although the overall pattern of my findings did not suggest a reliable link between acceptance and victimization; 3 of the 6 models predicting self- and teacher-rated victimization revealed a significant inverse relation between acceptance and victimization. These findings suggest that from some perspectives, particularly the perspective of teachers, accepted children

experienced decreases in victimization over the course of the school year. These findings lend partial support to an alternative conclusion about the way levels of classroom-based acceptance relate to risk for victimization. It is likely the case that general acceptance by the peer group signals to peers that aggression towards accepted children will not be encouraged or rewarded by the group (Juvonen & Galvan, 2008). Findings provided some credence to this assumption, especially from the view of adults in the school.

In line with my conceptual model, I offer another explanation for my results that provided inconsistent support for my hypotheses related to acceptance and peer victimization. I argue that acceptance is a relevant but imprecise indicator of children's position in their social dominance hierarchy. The problem with acceptance scores is that they assume that acceptance by a well-liked peer is equivalent to acceptance by a not well-liked or rejected peer in terms of social dominance. For example, consider the case of a child who is well-liked by several members of a low status group of friends. Although these friendships may be helpful in several ways to the child's development, they do not signal high social dominance or social resource control. Acceptance scores that are inflated by nominations by disliked or low status peers complicate associations between acceptance and victimization as evidenced by weaker statistical associations than other, presumably more precise indices of social status (e.g., social resource control and rejection).

Another explanation for the inconsistent findings related to acceptance and rejection lies in differences between reporters of peer victimization. As has been long recognized (Olewus, 1987; Perry, Kusel, & Perry, 1998), overt instances of victimization mostly occur in areas within the school not well supervised by teachers. It follows from this logic that overt manifestations of rejection also occur outside of the teachers' view. In contrast, peer-to-peer behaviors that signal

acceptance, including many forms of prosocial behavior, happen in contexts where the teacher is present. Teachers may accurately perceive accepted children as having fewer problems with victimization than children who do not receive the overt affections of peers. However, teachers may then be less aware of peer victimization that is closely related to covert forms of rejection and victimization, because both the setting events for peer victimization, such as gossip among peers that can create stigma, and instances of covert victimization itself occur outside of teachers' awareness.

This study also aimed to test the assumed relation between social resource control and peer victimization. The construct of social resource control was developed as a novel way of indexing social power by calculating the degree to which children succeed in acquiring and maintaining reciprocal friendships and positive relationships with high status peers. I proposed that a variable that accurately captured social resource control would be a more precise indicator of children's position in the dominance hierarchy than acceptance and rejection alone. I found that social resource control scores were correlated with self-, teacher-, and peer-rated victimization at both time points, with correlations that were as strong or stronger than those observed among acceptance, rejection, and victimization. However, the hypothesis that social resource control would differentially predict variance in levels of peer victimization when included alongside indices of acceptance and rejection was only supported in cross-sectional models of peer-rated victimization. A couple of questions related to this finding deserve further discussion here. First, why was social resource control not consistently related to self- or teacher-rated peer victimization when included in models with rejection and acceptance? Second, why was social resource control uniquely related to peer-rated victimization?

The most parsimonious answer to this first question is that social resource control, as a construct, is not sufficiently distinct from acceptance and rejection to add meaningful information about children's position in their social hierarchy. Through the lens of resource control theory, the constructs of rejection, acceptance, and social resource control each represent somewhat overlapping indicators of children's capability to win and maintain resources. When considered together, rejection and acceptance may provide an accurate estimate of children's overall competitive fitness and approximate social resource control well. The addition of the newly created social resource control variable may simply not represent a statistically distinct dimension of peer relationship quality or social dominance. In line with this explanation, was the finding that social resource control and acceptance, although not redundant, were strongly correlated ($r = .77-.78$) and that social resource control and rejection were also significantly related ($r = .29-.31$). This observed mathematical and perceived conceptual overlap may succinctly explain why my hypotheses about social resource control were not supported in models that included both acceptance and rejection.

I offer the following explanations for why associations between social resource control and peer victimization were only significant in cross-sectional models predicting peer-rated victimization. The most parsimonious explanation is that these findings simply reflect the influence of shared method variance. The sociometric procedure used to assess social resource control was methodologically similar to the nomination procedure used to index peer-rated victimization. This similarity may explain why results derived from peer-report models conformed to my hypotheses, while other models did not. A competing explanation is that the observed pattern of findings speaks to the potential salience of perceived social resource control to peers. Collectively, peers who see a child as controlling important social resources in their

environment may be simultaneously less likely to view that child as victimized. Peers may also be more attuned to classmates' engagement in, or lack of friendships with well-liked peers than teachers. It was also interesting that social resource control predicted peer victimization in these models when acceptance did not. This speaks to the potential that this novel construct does indeed capture aspects of peer relationship quality that are distinct from acceptance and may be particularly relevant to peers.

The finding that a novel measure of social resource control predicted peer-rated victimization is not an unimportant one. It has long been recognized that peer-ratings of children's social behavior represent remarkably stable and valid estimates of children's social adjustment (Coie et al., 1985; Morison & Masten, 1991). Peer ratings of victimization also offer specific advantages over self- and teacher-rated victimization (Perry, Kusel, & Perry, 1998). One advantage is that peer-report measures use information from a large pool of observers and thus are less influenced by subjective experience or biases that are present in reports from a single informant (see Perry et al., 1998). Peers are also more often aware of instances of peer victimization that take place when teachers are not present (Crick & Bigbee, 1998; Hernandez-Rodriguez et al., 2014; Perry et al., 1998). Although it is tempting to conclude that these findings support the potentially meaningful role of social resource control as a unique indicator of social power; it is more circumspect to conclude that the overall findings support further inquiry into this new metric and likely reflect, at least in part, the effects of shared method variance.

A secondary aim of this study was to examine whether the degree to which children compete for resources, as indexed by social impact scores, was related to their risk for peer victimization. The observed main effect for competition in models examining both concurrent

and future peer-reported victimization offered modest support for the conclusion that competing with peers is risky and that visibility in the peer group can translate into more frequent exposure to peer victimization. Conversely, children who withdraw from competition for social resources may be at a decreased risk for future peer victimization. No previous research has specifically explored the proposed association between competitiveness and peer victimization. Although I found modest support for my hypotheses related to competitiveness, the predominantly null findings with regard to the competition hypothesis were somewhat congruent previous work examining the association between perceived popularity and peer victimization. Sentse and colleagues (2015) found that changes in peer-rated popularity over time were unrelated to peer victimization. Sentse and colleagues (2015) reasoned that increased visibility was conceptually distinct from acceptance and rejection, but that changes in this visibility were not directly related to risk for peer victimization.

The fact that findings linking social impact to peer victimization were only observed in models predicting peer-rated victimization raises additional questions about how shared method variance that may have contributed to these findings. Children who were nominated often as liked most, liked least, and as victims of bullying may simply be those children are highly visible and come to mind easily to classmates when asked to nominate peers for various social roles. From this perspective, visibility increases children's likelihood of being nominated as someone who is victimized, but it may be that visible peers are at an increased likelihood for being nominated on any peer-report item. It should also be noted that, due to the exploratory nature of this hypothesis, the association between social impact and peer victimization was not tested in more comprehensive models that included acceptance or rejection. Given weak results in my exploratory models, it is foreseeable that significant associations between social impact and

victimization may become null if social impact was included along more established risk factors for victimization.

Complicating the appraisal of my overall conceptual model and my specific hypotheses were observed differences in the pattern of relations among variables based on informant. In both concurrent and prospective models, I found differing patterns of associations among peer relationship quality variables and peer victimization variables based on the report source of victimization. Past research on the use of cross-informant strategies to index children's involvement in peer victimization has shown that self, teacher, and peer reports of victimization are each valid although often differing estimates of children's involvement in victimization, all of which are predictive of psychosocial adjustment (Ladd & Kochenderfer-Ladd, 2002; Hernandez-Rodriguez et al., 2014). For example, Ladd and Kochenderfer-Ladd concluded in their study of self, peer, teacher, and parent reported victimization that "no single-informant measure proved to be the best predictor of relational adjustment, and... a multi-informant composite measure yielded better estimates of relational adjustment than any single informant measure." (Ladd & Kochenderfer-Ladd, 2002, p. 74). Absent further research on the relative merits of different informants, it is not currently possible to conclude that findings from one source were more important than another or represent a more accurate understanding of how aspects of peer relationship quality relate to peer victimization. Useful are methods that combine the perspectives of multiple informants, similar to the strategy used in the current study to examine stable victimization. However, it is safer to conclude that each informant provides a unique clue to the growing understanding of the complex interplay between aspects of peer relationship quality and peer victimization and that results from single informant or single metric combining reports of victimization are incomplete.

The pattern of findings that emerged in the current study was that models predicting peer-rated victimization more closely conformed to my hypotheses. This pattern may have resulted from issues related to shared method variance in the measurement of peer relationship quality and peer-rated victimization. However, as discussed earlier, it may also be the case that the view of peers is particularly salient to understanding how peer relationship quality impacts risk for social maladjustment. It is reasonable to assume that peer relationship quality and social power were more influential for peers when they were asked to assess their classmates' involvement in peer victimization, compared to teachers or individual children's self-reports.

Implications for Future Research

Findings from the current study have implications for future research on children's peer relationships. The current work represents one of only a few examples of studies that have examined the differential predictive utility of aspects of peer relationship quality and sheds light on how these aspects uniquely relate to risk for peer victimization. This study is also one of only a few that looks at prospective links between aspects of peer relationship quality and changes in peer victimization over time.

I found mixed support for the merits of my proposed conceptual model that used the dual lens of resource control theory and social stigma to predict children's experiences of peer victimization. On the one hand, my results offered further support for the critical role of stigma and supported the proposed superior predictive utility of rejection compared to other aspects of peer relationship quality. On the other hand, results related to acceptance, social resource control, and competitiveness offered mixed support for the proposed protective role of social resources and danger of competition. This mix of findings suggests that it is necessary to reappraise my conceptual model to accommodate my findings and guide future research.

Specifically, a more nuanced view of social resource control and acceptance may be needed to fully test how these factors relate to risk for victimization and stable victimization in combination and as independent predictors.

To guide future research on peer relationship quality and victimization, I propose a revised conceptual model of risk. This revised model maintains the assumption that children compete with peers for status and control of valued resources, including collaborative relationships with attractive peers. I also maintain that stigmatized peers are a) more likely to be targeted for harassment because of group norms that support aggression towards stigmatized youth and b) are less likely to gain access to social resources that serve as a protective buffer for non-stigmatized youth. In this revised model, I also propose a broader view of social resource control. Given partial support for both acceptance and social resource control as predictors of current and future peer victimization, it seems that both constructs captured somewhat different aspects of the same protective function that positive peer relationships serve children. Findings suggest that acceptance, although still seen as a less precise index of resource control compared to other metrics (e.g., friendships with high status peers), is nonetheless a relevant signal to peers and teachers that aggression towards children who are accepted will not be sanctioned by the group, even if peers who provide acceptance do not occupy a strong position in the group. Thus, even positive associations with peers that are not reciprocated or with peers with lower than average status, may represent protective social resources. The revised model maintains that friendships and positive affiliations with high status peers serve a distinct protective function; however, my results suggest that this function may not be as critical to children's vulnerability to peer victimization as initially assumed. Further tests of this model need to critically examine the function of relationships with high status peers relationships with low status peers.

My findings also provide mixed support for the application of resource control theory to models of risk for peer victimization. It seems that resource control theory, particularly as it applies to positive peer relationships (Hawley et al., 2002), can be helpful in predicting which children are buffered from negative social experiences by virtue of their social standing within the peer group. With this strength in mind, resource control theory alone may not be a sufficient framework for understanding which children are most at risk for repeated peer victimization. I conclude that it is necessary to include theories of social stigma as an integral part of risk models based on theories of social dominance to better understand which children who occupy low social stations are most likely to targeted for peer victimization. Finally, the revised model maintains that children's level of competitiveness for social resources can be positively related to their risk for peer victimization; however, this model assumes that competitiveness is less important to children's risk for peer victimization than other aspects of peer relationship quality. Furthermore the revised model does not maintain that children with low levels of competitiveness and low levels of resource control are at decreased risk for peer victimization relative to children high on competitiveness and low on resource control.

My findings also suggest that it is necessary for future research to continue to refine the techniques used to measure aspects of peer relationship quality. Complicating the evaluation of the conceptual model was a lack of understanding both how best to quantify peer relationship quality and how best to make use of multiple informants of peer victimization. Answering these methodological questions was beyond the scope of the current study, but my findings speak to the critical need for further examination of these issues in order to understand how children's peer relationships relate to risk for psychosocial maladjustment.

My findings supported the supposition that rejection is strongly related to peer victimization both concurrently and over time. These findings serve as a useful complement to other research that has demonstrated the more reliable and differential association between peer rejection and peer victimization in comparison to other indices of peer relationship quality. Future research on peer relationships would benefit from accounting for levels of rejection before introducing other indices of peer relationship quality into models of risk for peer victimization. Failing to adequately account for the variance explained by rejection may result in illusory findings related to other aspects of peer relationship quality (e.g., friendship, acceptance, popularity) that are indirectly related to rejection, but do not predict variance in peer victimization above and beyond what could be gleaned from assessing rejection alone.

My conceptual model points to a conceptual link between rejection and stigmatization. However, direct relations between stigma/negative peer reputations and rejection were not measured here and have not been fully explored in other studies outside of qualitative methodologies (Thornberg, 2015). Future research that clearly links measures of stigma to rejection may be helpful in clarifying the merits of the proposed link between stigma and rejection. My findings revealed that levels of rejection uniquely predicted future victimization, even when controlling for earlier ratings of peer victimization; however, the current study could not speak to the social processes that were associated with rejection. Future research is needed that explains the processes leading up to peer rejection, including behaviors in groups that contribute to the formation of social stigma among children. If research could illuminate the upstream processes that result in stigma and rejection, then this research could be used to inform more effective methods of primary prevention.

My results revealed that rejection was linked to experiences of worsening and stable victimization, but results did not fully address the question of whether changes in levels of peer rejection contribute to risk for worsening or stable victimization. More complex methodologies are needed to establish a clear connection between rejection and risk for chronic victimization. For example, it would be useful for future research to examine whether changes in rejection predict whether children escape or remain in the victim role. Finally, it would be useful for further research to help illuminate the processes by which children effect change in their levels of rejection. Whether changes in rejection are preceded by changes in other aspects of peer relationship quality could help clarify the reasons why some children escape a cycle of rejection and victimization while others remain at risk. For example, a study could examine whether isolative behaviors lead to changes in rejection, or if the making of a single friend might help to reduce children's levels of rejection, in turn leading to reductions in victimization. The answers to such questions could help expand the proposed model and further its application to interventions aimed at helping rejected victims.

The current study also supports further inquiry into the value of social resource control as a construct that may be related to forms of social risk. To the author's knowledge, this study was the first attempt to examine children's engagement in reciprocal relationships and success in forming relationships with well-liked peers from the lens of resource control theory. Future research may benefit from returning to the question of whether control over key social resources is important, and more thoroughly exploring what aspects of peer relationships represent key social resources. Because this was the first attempt at quantifying social resource control, future work is necessary to establish the validity of the approach used here. It is necessary for future work to examine whether number of reciprocated friendships and acceptance by high status peers

are consistently related to other indices of social power. For example, future studies would be useful that demonstrate a connection between these indices of social resource control and perceived popularity among peers or other indices of prosocial power in the peer group.

Similarly, it would seem necessary to examine whether social resource control is correlated with more general measures of resource control, like the self- and teacher-report instruments used by Oltlof and colleagues (2011) to index resource control.

Implications for Practice.

Currently available anti-bullying interventions rely primarily on behavioral mechanisms of action and some include components aimed at changing peer attitudes toward bullying (Kärnä et al., 2013). Existing anti-bullying programs rarely take advantage of the connection between peer relationship quality and peer victimization to help bullied youth. I found support for the conclusion that, absent intervention, strong peer relationship quality was associated with reductions in peer victimization over the course of the school year. These findings supported the potential merits of using peer relationship-oriented intervention strategies to reduce risk for bullied children both as stand alone efforts and adjunctive components of universal bullying prevention programs.

My findings also shed light on which aspects of peer relationship quality represent the most viable targets for intervention. Specifically, my results supported the assumption that reducing levels of rejection may lead to reductions in peer victimization over time. Results also pointed to the conclusion that peer rejection represents the most salient target for intervention efforts, among the aspects of the peer relationship quality examined in this study. Interventions that succeed in reducing bullied children's level of rejection hold promise for helping children

who experience peer victimization escape and escalating cycle of rejection, chronic victimization, and psychosocial maladjustment.

The notion that reducing peer rejection can have positive impacts on the lives of socially at-risk youth is not new to the literature on peer relationships, and many interventions have been developed over the last four decades to improve the social standing of rejected youth (Mikami, Boucher, & Humphries, 2005). Although not typically examined in samples of bullied children, some selective interventions aimed at reducing peer rejection have demonstrated efficacy in improving peer relationship quality. Interventions aimed at reducing rejection generally fall into two categories: 1) traditional social skills training program that focus on building prosocial skills, reducing unwanted social behaviors, and improving problem solving skills (see Bierman, Miller, & Staab, 1987; DeRosier & Marcus, 2005; Lochman, Coie, Underwood, & Terry, 1993) and 2) more recent social contextual approaches to intervention that focus on indirectly reducing rejection by encouraging children to engage in more positive interactions with peers (Craig, Gregus, & Burton, et al., 2016; Gregus et al., 2015; Mikami et al., 2005). Although not without merit, traditional social skills training programs have been criticized in meta-analytic reviews (Moote, Smyth, & Wodarski, 1999) for poor rates of success in reducing peer rejection, despite documented improvements in other domains of functioning (La Greca & Santagrossi, 1980; Mikami et al., 2005). Despite reservations about the efficacy of these programs in reducing rejection, more recently developed social skills training programs such as “S.S. GRIN” (DeRosier & Marcus, 2005) show promise in reducing rejection among bullied children. DeRosier and Marcus found that in a sample of bullied, rejected, aggressive, and socially anxious children, participation in social skills training was related to changes in rejection, with children in the treatment condition showing significantly less peer rejection at follow-up than

children in the control group (*Cohen's d* = .20). Although promising, it is unclear how these findings related specifically to changes in rejection for bullied children included in the sample. It would seem that replicating these findings in a sample composed entirely of bullied children would represent a significant step forward in understanding the potential merits of recently developed social skills training programs for assisting bullied youth.

Contextual interventions have also shown some promise in reducing levels of peer rejection. Mikami and colleagues (2005) created a program that involved mixing groups of accepted and rejected peers together and requiring them to work together while adults encouraged cooperation. Results from this study suggested that children in the intervention group evinced lower self-reported levels of rejection than children in the control group. Craig and colleagues (2016) also examined the processes through which LB mentoring may benefit bullied children including an examination of changes in rejection-acceptance (social preference) scores. LB mentoring is a program in which adult mentors are tasked with improving bullied children's lunchtime relationships with surrounding peers, but are not specifically tasked with reducing rejection (Gregus et al., 2015). Craig and colleagues did not find that participation in the program resulted in overall changes in acceptance-rejection; however, results showed that when children in the intervention were successful in improving lunchtime relationships, they experienced corresponding gains in social preference. It is important to note that, with the exception of Mikami's work, few contextual interventions have specifically identified reducing peer rejection as the principle goal of intervention, and none have identified targeting rejection as the principle mechanism of change in interventions for bullied children. This leaves the potential of selective interventions for bullied children that are focused on reducing rejection completely untested. The results of the current study support the development of contextual interventions

aimed at reducing bullied children' level of rejection among peers in order to help reduce the risk for worsening or stable experiences of victimization.

School-wide anti-bullying programs such as KiVa often include intervention components aimed at changing group norms related to victimization, but the degree to which these program include components specific to discouraging rejection is unclear. The results from the current study suggest that more focused attention on reducing bullied children's experience of rejection in the context of school-wide anti-bullying programs could improve these programs' ability to produce meaningful changes in bullied children's risk for continued or worsening peer victimization.

Another practical implication from the current study was that results speak to the potential merits of interventions aimed at helping bullied children by enhancing their social standing in peer group by fostering acceptance from peers, encouraging close friendships, or helping bullied children form relationships with well-liked peers. Evidence from the current study with regard to this issue was mixed and raised questions about whether improvement in these areas are sufficient to reduce victimization. Nonetheless further inquiry into this avenue for intervention is warranted. Interventions that increase acceptance or social resource control may have downstream benefits on levels of rejection that lead to decreases in peer victimization. My results offered support for a moderately strong correlation between rejection and resource control; but the direction of this relationship was unknown. Thus, I concluded that efforts to help bullied children by increasing acceptance and resource control may hold promise, but improvements in these areas should be considered secondary goals for interventions aimed at enhancing bullied children's peer relationship quality as a means to reduce victimization. At the moment, there is no clear evidence from either prospective studies or intervention studies to

suggest that connecting bullied children with friends or prosocial peers translates to meaningful change in their experiences of peer victimization.

Despite somewhat discouraging findings related to the potential of increasing social resource control as a way to reduce peer victimization, it is also worth considering whether interventions aimed at increasing social resource control could promote more positive psychosocial adjustment following experiences of victimization. As discussed earlier, previous work has suggested the presence of a “best friend” can moderate the relation between peer victimization and both internalizing and externalizing symptoms (Hodges et al., 1999). The current study cannot speak to the potential that greater social resource control may have to decrease the psychosocial consequences following victimization, but this point should not be omitted in future intervention research aimed at helping bullied children.

Limitations

The current study had several key limitations worth mentioning. First, sample specific characteristics limited the generalizability of the findings. The current study was conducted with a sample of fourth grade students from a single geographic region, and with limited ethnic diversity. Thus, the findings of the present study may be sample specific and may not generalize to youth from other age groups, ethnic backgrounds, or geographic regions. The issue of generalization among age groups is also particularly important given past research (Sentse et al., 2015) showing different patterns of relations among peer relationship quality variables and peer victimization for children from different age groups. Further research replicating the associations between peer relationship quality and victimization found here in more diverse age groups is necessary to improve the generalizability of these findings and the overall application of the conceptual model.

Another limitation of the current study was that testing the proposed conceptual model necessitated the creation of new measurement techniques. Although the assessment of the novel constructs social resource control and competitiveness were based in traditional sociometric procedures, these constructs were indexed with newly developed methods of computation. Because these methods were novel, there was no support for their use in previous literature. Thus, the validity and reliability of these measures is unsupported outside of the results of this study. The social resource control variable was intended to capture the degree to which children maintain social power by virtue of positive peer relationships with classmates. There are certainly other ways of indexing social power, for example the use of peer reports of popularity (Sentse et al., 2015), friendship, and best friendship nomination procedures (Fox & Boulton, 2006), or by simply asking children to nominate peers who display qualities related to social resource control such as, “who is someone in your class who is friends with popular children”. These methods all represent viable alternatives to the procedures used in this study, and reexamining the construct of social resource controls using these alternative methods may carry specific advantages, such as ameliorating concerns about the mathematical overlap between social resource control and acceptance scores. At the time, there is no extant evidence in the literature to suggest that one method of measuring social resource control is more valid than another, leading to lingering concerns about the validity of the measure of social resource control used here. Keeping this limitation in mind, it is necessary to view the results related to social resource control obtained in the current study as exploratory in nature. Future research on the psychometric properties of social resource control and studies that examine the comparative utility of other novel measurement strategies are needed to more thoroughly evaluate the hypothesized relation between resource control and peer victimization.

Similar methodological limitations apply to the use social impact as a proxy for children's level of competitiveness. I presumed that social impact would reflect the degree to which children engaged with peers and thus actively seek control over resources. However, this presumption was based more so on theory rather than empirical data linking social impact to increased competition. No previous studies directly examined the competitiveness hypothesis resulting in a paucity of available measurement strategies. As was the case with social resource control, more refined measurement strategies may be necessary to fully appreciate the value of social competitiveness as it relates to peer victimization. There are several advantages to examining, for example, how direct observations of children's attempts to engage peers in interactions might be a particularly salient indicator of competition. It may be that social impact scores correspond well with direct observations of competitiveness, but this link has not yet been established in the literature. Given the resources needed to gather such data, other survey methods may also prove more feasible and appropriate than the method used here. Further research is needed to establish the validity and reliability of measures of social competitiveness before strong conclusions about its relation to concurrent and future victimization can be drawn.

Limitations of the statistical approach used in this study are also worth noting. One of the aims of the current study was to examine whether changes in peer relationship quality variables corresponded with changes in peer victimization. To fully address this question, other statistical methods that are more appropriately suited than the multiple regressions approach used here. Using change scores, for example, could more aptly answer the question of whether changes in peer relationship quality were related to changes in peer victimization. However, the current study indexed aspects of peer relationship quality using established sociometric procedures that obviated the opportunity to use change scores. Ratings of rejection and

acceptance were indexed using a single peer-report item. This makes the use of change scores impractical because it is difficult to conclude whether change scores derived from changes in these measures are adequately reliable for use in regression models, due to difficulty estimating the standard error and internal reliability of single item measures. Future studies that index rejection and acceptance using a different approach to measurement, such as the instrument used by Mikami and colleagues (2005), may be more capable of addressing the question of whether changes in peer relationship quality variables predicted changes in peer victimization. Future studies might also consider how the use of cross-lagged designs or latent growth curve analyses could better address related questions about corresponding changes in peer relationship quality and peer victimization than the current study.

Conclusions

This study adds to a growing body of literature that supports a connection between the quality of children's peer relationships and their risk for experiencing peer victimization and stable victimization. The current study provides a conceptual framework for understanding how resource control theory and social stigma theory can be used in combination to understand the observed associations between peer relationship quality and risk for peer victimization. Overall, I found that the degree to which children were rejected by peers was the most reliable predictor of future and stable victimization, even when accounting for other relevant risk factors. Mixed support for my hypotheses related to the role social resource control and class-wide acceptance led to the formulation of a revised conceptualization of how these aspects of resource control serve to protect children from victimization. My findings suggest that positive peer relations represent social resources that buffer children from experiences of peer victimization; however, understanding the strength of this buffer was not sufficient to predict risk for peer victimization.

This finding points to the critical role that stigma plays in determining risk for peer victimization. My results suggest that future intervention efforts at helping bullied children should focus on reducing rejection among peers as an intervention target. Intervention components that focus on building positive peer relationships may also be helpful as indirect strategies for reducing peer victimization; however, components aimed at building relationships should be viewed as secondary to efforts to reduce rejection. I did not find that children who were more competitive for social resources were at a markedly increased risk for peer victimization, at least in relation to self-, or teacher-reported ratings of peer victimization. Further research is needed to understand the association between competitiveness and risk for future victimization.

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Appendices

Table 1

Raw Means and Standard Deviations for Ratings of Peer Victimization for Liked Most, Liked Least, Reciprocated Liked Most Nominations and The Number of High Status Liked Most Nominators, Separated by Report Source and Time Point

Source	Boys (n = 301)				Girls (n = 288)				Total (N = 589)			
	T1		T3		T1		T3		T1		T3	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
PV-Child	.92	.76	.93	.79	.74	.71	.97	.81	.83	.75	.95	.80
PV-Teacher	.74	.67	.95	.67	.62	.61	.83	.63	.68	.64	.88	.64
PV-Peer	10.31	4.86	10.38	6.18	7.01	3.56	6.86	4.99	8.60	4.53	8.57	5.86
LL Nom.	4.60	2.33	4.32	2.34	4.29	2.32	4.02	2.01	4.44	2.33	4.16	2.18
LM Nom.	3.47	2.06	3.57	2.01	3.99	2.03	4.06	1.96	3.74	2.06	3.83	2.00
Recip. Nom.	1.73	1.23	1.93	1.35	2.12	1.34	2.32	1.31	1.92	1.30	2.13	1.34
HS Nom.	1.45	1.30	1.74	1.44	2.07	1.50	2.36	1.71	1.77	1.44	2.06	1.61

Note. PV-Child = children's self-rated levels of peer victimization; PV-teacher = teacher-rated levels of peer victimization; PV-Peer = children's peer-rated levels of peer victimization; LL Nom. = the raw number of liked least nominations received; LM Nom. = the raw number of liked most nominations received; Recip. Nom. = the raw number of reciprocated liked most nominations received; HS Nom. = The raw number of liked most nominations received from peers with average or higher levels of acceptance.

Table 2

Correlations Among Peer Victimization and Peer Relationship Quality Variables at T1

Variable Name	1	2	3	4	5	6
1. PV-Self	--					
2. PV-Teacher	.23**	--				
3. PV-Peer	.24**	.31**	--			
4. Rejection	.08	.14**	.31**	--		
5. Acceptance	-.09*	-.14**	-.19**	-.37**	--	
6. SRC	-.10*	-.16**	-.23**	-.29**	.78**	--

Note. PV-Self = PV-Child = children's self-rated levels of peer victimization; PV-teacher = teacher-rated levels of peer victimization; PV-Peer = children's peer-rated levels of peer victimization; SRC = Social Resource Control. * = $p < .05$ ** = $p < .01$.

Table 3

Correlations Among Peer Victimization and Peer Relationship Quality Variables at T3

Variable Name	1	2	3	4	5	6
1. PV-Self	--					
2. PV-Teacher	.19**	--				
3. PV-Peer	.24**	.38**	--			
4. Rejection	.09*	.24**	.41**	--		
5. Acceptance	-.13**	-.30**	-.32**	-.37**	--	
6. SRC	-.07	-.17**	-.32**	-.31**	.77**	--

Note. PV-Self = PV-Child = children's self-rated levels of peer victimization; PV-teacher = teacher-rated levels of peer victimization; PV-Peer = children's peer-rated levels of peer victimization; SRC = Social Resource Control. * = $p < .05$ ** = $p < .01$

Table 4

Multiple Regression Analyses Predicting Level of Peer Victimization Post-mentoring from Gender and Quality of Children's Peer Relationships at Time 1

Predictor	Source of peer victimization					
	Self		Teacher		Peer	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.02**		.01*		.14**	
Gender		.13**		.11*		.37*
Step 2	.01		.04**		.12**	
T1 Rejection		.05		.09*		.30**
T1 Acceptance		-.06		-.03		.03
T1 SRC		-.03		-.12		-.13*
Step 3	.01		.00		.00	
T1 Rej.XSRC		-.09		-.02		.00
T1 Accept.XSRC		-.02		-.02		.02
Total R ²	.04		.05		.26	

Note. SRC = Social Resource Control, T1 Rej.XSRC = Interaction Term for Rejection and Social Resource Control, T1 Accept.XSRC = Interaction term for Acceptance and Social Resource Control. For ΔR^2 * = $p < .016$, ** = $p < .01$; for β * = $p < .05$, ** = $p < .01$.

Table 5

Multiple Regression Analyses Predicting Level of Peer Victimization Post-mentoring from Gender and Quality of Children's Peer Relationships at Time 3

Predictor	Source of peer victimization					
	Self		Teacher		Peer	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.00		.01*		.11**	
Gender		-.03		.11*		.34**
Step 2	.03*		.13**		.19**	
T3 Rejection		.05		.17**		.33**
T3 Acceptance		-.15*		-.36**		-.09
T3 SRC		.04		.15*		-.12*
Step 3	.00		.01*		.03**	
T3 Rej.XSRC		.03		.06		-.07
T3 Accept.XSRC		.03		-.07		.14**
Total R ²	.03		.15		.33	

Note. SRC = Social Resource Control, T3 Rej.XSRC = Interaction Term for Rejection and Social Resource Control, T3 Accept.XSRC = Interaction term for Acceptance and Social Resource Control. For ΔR^2 * = $p < .016$, ** = $p < .01$; for β * = $p < .05$, ** = $p < .01$.

Table 6

Multiple Regression Analyses Predicting Level of Peer Victimization Post-mentoring from Gender and Quality of Children's Peer Relationships at Time 3, Controlling for T1 Peer Victimization and T1 Quality of Children's Peer Relationship Quality

Predictor	Source of peer victimization					
	Self		Teacher		Peer	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.00		.01*		.11**	
Gender		-.02		.12**		.34**
Step 2	.29		.37**		.25**	
T1 Peer Vic		.55**		.62**		.54**
Step 3	.00		.01		.04**	
T1 Rejection		.06		.03		.14**
T1 Acceptance		.05		-.09		-.03
T1 SRC		-.02		-.01		-.11*
Step 4	.01		.04**		.05**	
T3 Rejection		.03		.09*		.20**
T3 Acceptance		-.12		-.26**		-.05
T3 SRC		.06		.14**		-.06
Step 5	.00		.00*		.01**	
T3 Rej.XSRC		.05		-.04		-.03
T3 Accept.XSRC		.02		.04		.10**
Total R ²	.31		.45		.47	

Note. SRC = Social Resource Control, T3 Rej.XSRC = Interaction Term for Rejection and Social Resource Control, T3 Accept.XSRC = Interaction term for Acceptance and Social Resource Control. For ΔR^2 * = $p < .016$, ** = $p < .01$; for β * = $p < .05$, ** = $p < .01$.

Table 7

Logistic Regression Predicting Stable Victim vs. Non-Victim Group Membership from T1 Gender and T1 Peer Relationship Quality.

	<i>B</i>	OR	95% CI	<i>p</i>
Step 1				
Gender	1.21	3.32	1.99 – 5.56	< .001
Step 2				
T1 Rejection	.61	1.84	1.36 – 2.48	<.001
T1 Acceptance	-.02	.97	.61 – 1.56	.92
T1 SRC	-.25	.78	.58 – 1.04	.09
Step 3				
T1 Rej.XSRC	.09	1.06	.75 – 1.10	.35
T1 Accept.XSRC	.06	1.27	.90	.45

Note. SRC = Social Resource Control, T1 Rej.XSRC = Interaction term for Rejection and Social Resource Control, T1 Accept.XSRC = Interaction term for Acceptance and Social Resource Control.

Table 8

Multiple Regression Analyses Predicting Level of Peer Victimization from Gender, Social Resource Control and Social Impact at T1

Predictor	Source of peer victimization					
	Self		Teacher		Peer	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.02*		.01		.14**	
Gender		.13**		.11		.34**
Step 2	.01		.03**		.09**	
T1 SRC		-.09		-.20**		-
T1 Social Impact		.03		.07		.30**
Step 3	.00		.00		.00	
T1 SRC X SI		-.07		-.03		.00
Total R ²	.03		.04		.23	

Note. SRC = Social Resource Control, T1 SRC X SI = Interaction term for Social resource control X Social Impact. For ΔR^2 * = $p < .016$, ** = $p < .01$; for β * = $p < .05$, ** = $p < .01$.

Table 9

Multiple Regression Analyses Predicting Level of Peer Victimization from Gender, Social Resource Control and Social Impact at T3

Predictor	Source of peer victimization					
	Self		Teacher		Peer	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.00		.01		.11**	
Gender		-.02		.11		.33**
Step 2	.01		.03**		.13**	
T3 SRC		-.10		-.19**		-.38**
T3 Social Impact		.02		.03		.23**
Step 3	.00		.00		.00	
T3 SRC X SI		.05		-.03		.01
Total R ²	.01		.04		.24	

Note. SRC = Social Resource Control, T3 SRC X SI = Interaction term for Social resource control X Social Impact. For ΔR^2 * = $p < .016$, ** = $p < .01$; for β * = $p < .05$, ** = $p < .01$.

Table 10

Multiple Regression Analyses Predicting Level of Peer Victimization from Gender, Social Resource Control and Social Impact at T3, Controlling for T1 Peer Victimization, Social Resource Control, and Social Impact.

Predictor	Source of peer victimization					
	Self		Teacher		Peer	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.00		.01*		.11**	
Gender		-.01		.12*		.33**
Step 2	.29**		.38**		.26**	
T1 Peer Vic		.55**		.62**		.55**
Step 3	.00		.01		.03**	
T1 Social Impact		.06		.00		.11**
T1 SRC		-.02		-.09		-.21**
Step 4	.00		.00		.03**	
T3 Social Impact		-.02		-.01		.13**
T3 SRC		.00		-.06		-.21**
Step 5	.00		.00		.00	
T3 SI X SRC		.04		-.02		.00
Total R ²	.29		.40		.43	

Note. SRC = Social Resource Control, T3 SRC X SI = Interaction term for Social resource control X Social Impact. For ΔR^2 * = $p < .016$, ** = $p < .01$; for β * = $p < .05$, ** = $p < .01$.



Office of Research Compliance
Institutional Review Board

December 2, 2015

MEMORANDUM

TO: Timothy Cavell
James Thomas
Samantha Gregus
Freddie Pastrana
Juventino Hernandez Rodriguez
Michelle Ocampo

FROM: Ro Windwalker
IRB Coordinator

RE: PROJECT CONTINUATION

IRB Protocol #: 06-11-102

Protocol Title: *Peer Safety Project (PSP)*

Review Type: EXEMPT EXPEDITED FULL IRB

Previous Approval Period: Start Date: 11/01/2006 Expiration Date: 12/04/2015

New Expiration Date: 12/04/2016

Your request to extend the referenced protocol has been approved by the IRB. If at the end of this period you wish to continue the project, you must submit a request using the form *Continuing Review for IRB Approved Projects*, prior to the expiration date. Failure to obtain approval for a continuation on or prior to this new expiration date will result in termination of the protocol and you will be required to submit a new protocol to the IRB before continuing the project. Data collected past the protocol expiration date may need to be eliminated from the dataset should you wish to publish. Only data collected under a currently approved protocol can be certified by the IRB for any purpose.

This protocol is closed to enrollment. If you wish to make *any* modifications in the approved protocol, including enrolling more participants, you must seek approval *prior to* implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 109 MLKG Building, 5-2208, or irb@uark.edu.