THINKING AND DOING: ATTRIBUTIONS AND COPING OF CHILDREN AND

THEIR FRIENDS THAT ARE ASSOCIATED WITH THE CONTINUITY OF

VICTIMIZATION AND BULLYING

By

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Abstract

Over the past three decades, childhood bullying research has developed. Although bullying was first understood as an individual problem, researchers now understand that bullying is a relationship problem. Children come to a social exchange with their own cognitions and coping strategies, but are also impacted by their peers. Developmental contextualism forms the macro level framework of these studies and states that change occurs reciprocally and across many levels including the individual, interpersonal, community, and society. Social cognitive theory (and social information processing, in particular) helps at the individual and interpersonal levels in understanding the role cognitions play in affecting children's responses in social exchanges. The series of papers in this dissertation focus on: (1) How attributions and coping styles interact within victimized children and how that affects victimization; (2) How attributions and coping styles are associated in children who bully others and how that interaction affects bullying behaviour; and (3) How children's friendships protect or put them at risk for victimization. Overall, results suggest that children's attributions and coping are directly associated with victimization and bullying, but do not work together in a mediational relationship. Rather specific types of attributions and coping strategies are related to involvement in bullying and victimization both within and across time and differences exist between boys and girls. With regards to friendships, the identity and communication skills of one's friends appear to be important. Findings suggest the need for interventions that teach victimized children and their friends how to cope effectively with victimization and communicate with each other about their needs.

Co-Authorship

I assumed primary responsibility for the conceptualization and analysis of the research described in this thesis. My supervisor, Dr. Wendy Craig, assisted in all aspects of the research and in the preparation of the manuscripts: she is co-author on all three manuscripts. The third study, "Childhood Friendships and Victimization: Do They Hurt or Protect?" was conducted using archival data from a study led by Wendy Craig, Debra Pepler, and Jennifer Connolly. They are therefore included as coauthors on the third manuscript.

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Table of Contents

List of Tables

List of Figures

Chapter 1:

General Introduction

General Introduction

The health and safety of children consistently receive attention across the country, with bullying and victimization at the forefront of this movement over the past few decades (Morrison, 2009; Networks of Centres of Excellence in Canada, 2006). Researchers have provided a rich body of investigative work pertaining to children's experiences at school and in their community. Every child has a right to feel safe at school, and it is the responsibility of adults to ensure that this right is upheld (United Nations, 1998). Only through rigorous research can we understand how children come to be victimized, bully others, and find ways out of these unsafe relationships. The ways people think about their world impacts their behaviours (Bandura, 2001), and children's victimization experiences are no exception. As well, the help children receive from their social support network also may impact their behaviours and subsequent experiences. The following three studies are guided by developmental contextualism and social cognitive frameworks in an effort to more fully understand bullying behaviours in children. The series of papers in this dissertation focus on: (1) How attributions and coping styles interact within victimized children and how that affects victimization; (2) How attributions and coping styles are associated in children who bully others and how that interaction affects bullying behaviour; and (3) How children's friendships protect or put them at risk for victimization.

Lerner's (1996) developmental contextualism formed the macro level theoretical framework for the current research. Lerner postulates that development occurs across multiple levels, including within the individual as well as within the surrounding context. As well, these levels interact together in a reciprocal manner whereby developmental

change occurs in the relations that exist among the different levels of organization (e.g., biological, psychological, social, cultural, and physical ecologies). Lerner (1996) argues that examination and analysis at any one level to the exclusion of all others are not adequate because they reject the interplay between levels. Rather, he suggests developmental change be studied through the examination of multiple levels of organization. Accordingly, the first two studies in the current research examined factors at the individual level and the third study examined factors at the social level.

At the individual and interpersonal levels, bullying research is often guided by social cognitive theories (Espelage & Swearer, 2009). Current understanding suggests that bullying is best understood through a systemic framework that acknowledges the interplay between the individuals aggressing, being victimized, standing by as observers (i.e., other children), and regulating children's social interactions (i.e., adults). As well, there are unique individual characteristics that contribute to the likelihood of bullying and victimization, including children's cognitions and behaviours. Social cognitive theories, in particular, place an important emphasis on the role of individual cognitions about an event in determining how that individual will respond and subsequently impact the social exchange. The social cognitive perspective also guided the design of the studies in this dissertation.

Specifically, Crick and Dodge's (1994) social information processing (SIP) model of social adjustment provides a flexible, multistage schema of how children think about and act upon events in their social environment. The SIP model involves a recursive structure of decision making comprised of: 1) encoding internal and external cues; 2) interpreting those cues through the formation of attributions; 3) selecting a goal or set of

goals; 4) generating possible responses to the event; 5) deciding on a response; and 6) enacting on the chosen response. At all stages of the process, children may access their internal data base containing memory stores, acquired rules, social schemas, and social knowledge. Once children act on their decision, they experience evaluation from their peers and re-enter the process to respond to their peers' responses. Thus, the cycle of social information processing continues and provides ongoing, developmental social exchanges affected by each individual's unique characteristics. The first two studies in this dissertation use Crick and Dodge's (1994) SIP model as a guide for examining the interactions among children's attributions, coping styles, and involvement in victimization and bullying. More specifically, the general attributional styles (i.e., the interpretation of encoded cues) of children were expected to be associated with specific coping behaviours (e.g., reaching out to others for support), which would then act as mediators to impact involvement in victimization and bullying over time.

Previous researchers have examined the cognitions of victimized children and children who perpetrate bullying. Among victimized children, researchers have identified commonalities in their tendency to exhibit emotional reactions to provocation that may invite further victimization (Camodeca & Goossens, 2005; Mahady-Wilton, Craig, & Pepler, 2000), their propensity to hold self-blaming attributions (Graham & Juvonen, 1998), and their predisposition to somatic problems (Gibb & Abela, 2008). Aggressive children also have been found to have errors in their cognitions especially concerning hostile attribution biases and errors in social information processing (Crick & Dodge, 1996; Dodge, 2006; Dodge & Frame, 1982). The current dissertation examined the attributional styles of children who are victimized and those who aggress on others. We

predicted that children would respond in different ways to similar scenarios because of differences in their attributional styles. While not directly applying Crick and Dodge's (1994) social information processing (SIP) model, the SIP model was used as a guide to postulate and evaluate the mediational pathway from attributions to coping responses and ultimately to the involvement in bullying.

The past few decades have yielded a plethora of research on victimization and bullying. Today, knowledge about bullying includes prevalence rates (Craig & Harel, 2004), mental health correlates (Rigby, 2003), developmental trajectories (Goldbaum, Craig, Pepler, & Connolly, 2003; Pepler, Jiang, Craig, & Connolly, 2008), and intervention strategies (Smith, Pepler, & Rigby, 2004). The research provides evidence indicating the harmful consequences of bullying, including depression, loneliness, anxiety, somatic complaints, and in extreme cases, suicide (Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007; Nishina, Juvonen, & Witkow, 2005; Slee, 1994; Woods, Done, & Kalsi, 2009). In the current research, we focus on the unique coping styles associated with protection against victimization and bullying. Coping strategies are analogous to stages 4 and 5 of the SIP model where children generate possible response decisions to address a given social event. Therefore, children can theoretically engage in coping strategies that lead to continued or discontinued involvement in bullying. By identifying the earlier step of attribution formation (step 3; cue interpretation) and following it through to the coping strategies generated, we may be able to determine the likelihood of continued involvement in bullying.

The current research is divided into three manuscripts. In the first study, we examined the cognitions and experiences of victimized children. We hypothesized that

children's attributional style (i.e., way of explaining causes of events in their lives, not specific to bullying) would be related to particular coping styles (i.e., cognitive and behavioral responses to the events in their lives), which would in turn be related to different levels of involvement in victimization. In other words, one goal was to examine if the ways children think and respond to nonspecific events (i.e., not bullying events) relate to their involvement in victimization and bullying. Further, it was hypothesized that children who made self-blaming attributions aimed specifically at characterological qualities (i.e., qualities less conducive to alterations) and/or attributions that constituted a more general depressive style (i.e., internal, global, and stable attributions for the causes of negative events) would be at a greater risk to experience victimization at a given point in time (cross-sectionally) as well as at a later point in time (longitudinally). After identifying the attributions related to victimization, I found it of particular interest to identify specific coping strategies related to changes in victimization experiences over time. I hypothesized that coping styles characterized by reaching out to others and using proactive problem solving would be related to decreases in victimization over time. With respect to the proposed mediational model, it was hypothesized that internalizing coping strategies would mediate the relationship between the self-blaming and depressive attributions, and continued victimization. A child's coping strategies were predicted to be the link between attributions and victimization, thus supporting a mediational model. We tested this mediational model involving attributions, coping, and victimization among 10 to 12 year old students using a longitudinal design.

For the second study, a similar model was applied to a sample of children involved in bullying others. Again, we tested a mediational model derived from the

general SIP model proposed by Crick and Dodge (1994). Data were collected in the same manner as in Study 1, with 220 children between the ages of 10 and 12 years at two points in time. Where other researchers have examined hostile attribution biases in aggressive children, the current goal was to examine depressive attribution styles (attributions characterized by internal, stable, and global causes of negative events) in the continued perpetration of bullying through the use of different coping styles. We hypothesized that self-blaming attributions would be negatively related to bullying, and that a generally depressive attribution style would be related to increases in bullying because of the attempt of these children to alter the balance of power in their relationships using the antisocial practice of bullying others. In terms of coping styles, it was hypothesized that coping characterized by externalizing and revenge seeking would mediate the relationship between attributions and bullying whereby bullying would increase over time. Children who employ social support as a means of coping with conflict were expected to report lower levels of bullying behaviour over time, possibly because of their ability to procure their needed acceptance in their peer group through prosocial methods.

Lerner's developmental contextualism suggests that it is not only the individual attributions and coping styles of children that need to be examined to understand continued bullying involvement, but also the culture within the larger peer network. Given the central role of peer relationships in bullying, and as a potential coping style (i.e., social support), the third study examined the individual characteristics of the peer group members as predictors of future victimization. Bullying is a relationship problem. Consequently, we need an understanding of children's interactions with others and the

role peers play in promoting positive social development. Beginning as early as three years of age, children form friendships with same-aged peers. Initially, the focus/role of these relationships centers on play (Hartup & Stevens, 1999). As children mature and develop, the purpose of friendships shifts to emotional socialization (Hartup & Stevens, 1999). Within these relationships children learn valuable skills related to, for example, communication, conflict resolution, and reciprocity. To navigate these social relationships, children develop social schemas (i.e., mental scripts that help to guide the interpretation of experiences in the world) and these schemas form the basis for expectations about future relationships and experiences. When children do not appropriately manage these relationships, problems may arise such as bullying and victimization. Because bullying is a relationship problem and typically occurs within the peer context, understanding the role of peers in bullying is critical to intervening and preventing bullying in childhood and adolescence.

Social relationships provide the opportunity for learning appropriate social exchanges and principles (Hartup, 1993). Also, a child's peer group as well as his/her friendship network provide a context in which that child may or may not gain the social support needed to be protected from the effects of bullying. Some friendship theorists postulate friends as protective factors in the face of adverse experiences, such as victimization (Hartup, 1993). From this perspective, friends help children to overcome the otherwise negative impact bullying can have by providing intimacy, trust, and support. For example, researchers have found that having friends is related to both lower levels of victimization and feelings of loneliness (Hodges, Malone, & Perry, 1997; Parker & Asher, 1993).

In contrast to the stance that friends provide a protective function, there is some evidence that friends can place a child at risk for negative experiences. For example, Mrug, Hoza, and Bukowski (2004) found that choosing aggressive children for friends during middle childhood (grades 3 to 5) led to a higher likelihood of internalizing and externalizing problems two years later. Vitaro, Tremblay, Kerr, Pagani, and Bukowski (1997) found that moderately disruptive boys who had aggressive-disturbing friends were more delinquent one year later than moderately disruptive boys who did not report similar friendships. Vitaro et al., (1997) concluded that deviant peer associations play a partial causal role in the development of delinquent behaviour. Work by Sieving, Perry, and Williams (2000) also demonstrates the negative role of peer friendships. These researchers found that friends' drug use led to increases in alcohol use over time. Sieving, Perry, and Williams (2000) concluded that drinking behaviours are more related to peer influence than processes of peer selection. In addition, co-rumination among friends, particularly between females, is related to the perpetuation of depression (Rose, 2002). Finally, research on deviancy training indicates that friends provide reinforcement around the process of engaging in delinquent behaviours (Dishion, McCord, & Poulin, 1999). Deviant friends exhibit positive affect toward each others' generations of deviant solutions to problem solving, thus reinforcing such deviant behaviour. Following this evidence, three studies were conducted among this group of researchers (Dishion, McCord, & Poulin, 1999) that demonstrated the impact of reinforced deviant problem solving on adolescent boys' future deviant behaviour two years later, including increases in drug use, delinquency, and violence.

The same iatrogenic processes may be involved in bullying interactions. On one hand, a child may be part of a friendship network characterized by prosocial supportive exchanges where support and protection from bullying occurs. On the other hand, a child may be part of a friendship network that reinforces bullying behaviour and/or does not provide appropriate social support to those victimized by bullying. Depending on the specific identity and characteristics of a child's friends, we expected a different outcome regarding adjustment and continued involvement in bullying.

In the third study, we examined the structural characteristics and the individual characteristics of a child's friends as predictors of future victimization. We used a 6-month longitudinal sample of 1694 children in grades 4 to 8, ages 9 to 14 years old. We hypothesized that smaller peer groups, and lower levels of social support, and higher levels of internalizing and externalizing problems among individual friends would be found in groups of children with increasing levels of victimization over time. We also hypothesized that social support and high quality friendships among a child's individual friends would be protective and be found in groups of children with lower levels of victimization over time. Thus, while the first two studies examined the role of individual characteristics in peer victimization, in the third study we examined the role of the social context of the peer group in peer victimization.

In accordance with Lerner's (1996) developmental contextualism, we divided the current research into three manuscripts, each addressing a particular aspect of the social-ecological framework. Children exist in a social world whereby their own cognitions and behaviours interact with the cognitions and behaviours of their peers to create a climate of inclusion or exclusion. From a social cognitive perspective, it is a child's cognitions

that lead them to react, or behave, in a particular manner to a given stimulus or event, thus, leading them to cope in ways that lead to victimization or no victimization. Alternatively, children's behavioural decisions may involve coping in ways defined as bullying others or not bullying others. In other words, children who bully others may hold cognitions that perpetuate their role as an aggressor. Not all children enter the social world and immediately experience victimization or engage in perpetration. Instead, they arrive at those social roles over time. It is the aim of the current research to investigate possible cognitive and behavioural pathways to those roles characterized by bullying involvement.

Not only are individual cognitive and behavioural processes related to bullying and victimization, but so is the social context of children's peer groups. Each peer's individual characteristics come together to create a social context and the whole peer group acts as a socialization agent to protect a child or put him at risk for victimization. Through supportive or preventative processes, peers may contribute to terminating, maintaining, or exacerbating peer victimization. Peers' own internalizing and externalizing difficulties as well as their ability to provide and receive friendships characterized as supportive may impact an individual's propensity to continue in the victimized role. Taken together, the three studies in this dissertation attempt to answer some of these questions and bring further clarity to the body of research concerned with bullying behaviours among children. In other words, these studies will further elucidate the interplay between cognitions and coping among children involved in bullying. Secondly, we hope these studies will provide additional knowledge about the peer

group's role in preventing or perpetuating bullying. Overall, this research has the

potential to inform bullying prevention and intervention efforts.

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Forward to Chapter 2

Chapter 2 consists of a manuscript that has been accepted for published in the Canadian Journal of School Psychology, scheduled to appear in the Winter of 2010. Chapter 2 adheres to APA format. My supervisor, Dr.Wendy Craig, assisted in all aspects of the research and she appears as a co-author on the manuscript.

Chapter 2:

Attributions and Coping Styles in Reducing Victimization

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Abstract

To examine the role of attributions and coping on children's victimization over time, 220 children completed questionnaires twice over a 6-month period. Direct and mediational models were tested using regressions, cross-sectionally and longitudinally. Characterological self-blame was positively related to victimization within and across time for boys and girls. Depressive attributions were positively related to victimization only for girls. No coping styles were associated with reduced victimization over time for boys, whereas social support coping was for girls. Avoidant, revenge, and social support coping were positively related to victimization for boys. Avoidant coping directly predicted victimization for girls. No coping styles were significant mediators over time, which suggests situational mechanisms are relevant. Support emerged for strategies for girls to reduce victimization; more research is needed to help boys.

Attributions and Coping Styles in Reducing Victimization

Bullying is a relationship problem wherein power and aggression are used to harm others (Pepler, Jiang, Craig, & Connolly, 2008). Bullying research has developed from reporting of prevalence to identifying correlates and underlying mechanisms (e.g., attributions may influence coping styles children employ to address victimization). Social cognitive theory can assist our current understanding on the underlying mechanisms in victimization through a consideration of the links between attributions and coping. Research in other areas (e.g., depression) has shown connections among attributions and coping (Farrokhi, Guilani, Zamani, & Kohsar, 2006). Links between attributions and coping in children's experiences of bullying have rarely been studied. This study examined relationships among children's attributions, coping, and victimization from a social cognitive perspective.

Social cognitive theory provides a framework for understanding differences in interpretations and responses children make about their social environment. Crick and Dodge (1994) suggest that children's social interactions are influenced by the cues they observe and the interpretations they make about these cues. Children interpret cues by accessing relevant memories and making causal and intent attributions of the events in question. Attributions, thus, impact the child's behaviour, or coping responses. The current study examines the attributions children make about their social experiences and how these are associated with coping responses and victimization.

Attributional styles explain why individuals react differently, but predictably, to events and are used to explain events (Weiner, 1986). Researchers who study general attributions often refer to three characteristics: locus (i.e., internal or external cause),

stability, and controllability. A globally negative attributional style, for example, reflects a depressive style and represents internal, stable, and uncontrollable causal beliefs about events, which may negatively influence children's victimization experiences. Indeed, Prinstein, Cheah, and Guyer (2005) found that negative internal attributions were associated with increased peer victimization and loneliness. Moreover, Rosen, Milich, and Harris (2007) found that children ages nine to 13 who made internal attributions about victimization reported more frequent victimization than children who did not make internal attributions. Victimized children may hold generally depressive attributions leading them to believe they lack control over their victimization and cannot change their experiences.

Specific attributions, such as self-blame, also may be associated with victimization. Self-blame is a causal attribution commonly divided into two forms: characterological and behavioural (Graham & Juvonen, 1998). Characterological self-blame involves attributing cause to character (relatively non-modifiable) and is associated with the belief that one deserves the negative outcome. Behavioural self-blame involves attributing cause to behaviour (modifiable) and is associated with the possibility of avoiding a negative future outcome. Characterologically self-blaming children blame themselves for their victimization and are more likely to report feeling lonely, socially anxious, and unworthythan children who behaviourally self-blame (Graham & Juvonen, 1998). We examine depressive and self-blaming attributions in relation to victimization, and predict that a depressive attributional style and characterological self-blaming are associated with victimization over time.

Children also make decisions about how to respond to experiences. Coping is the behavioural enactment of attributions, and the specific strategy can aggravate or ameliorate the situation. Cognitive distancing, self reliance, internalizing, and externalizing are avoidant strategies because the child does not attempt to stop the stressor, but manages the cognitive and/or emotional reaction. In contrast, conflict resolution, revenge seeking, and social support seeking are examples of approach coping strategies, whereby the child confronts the stressor. Social support seeking protects victimized girls from social problems, but has the opposite effect for boys (Kochenderfer-Ladd & Skinner, 2002). The effectiveness of coping styles may depend on the victimization status of the child; problem solving strategies are beneficial for nonvictimized children, but not for victimized children (Kochenderfer-Ladd & Skinner, 2002). Bullied children may demonstrate deficits in their attributions and consequent coping, supporting a circular relationship between attributions and coping responses (Camodeca & Goossens, 2005a). Victimized children express the most sadness after negative experiences (compared to children who bully, those who follow children who bully, those who defend victimized children, outsiders, and those not involved) and use reactive aggression as a coping mechanism for their victimization (Camodeca & Goossens, 2005a, 2005b). The current study examines specific coping styles and their relateship to specific attributional styles.

Researchers have demonstrated relationships between attributions and victimization, and between coping and victimization, but how all three constructs are associated is not clearly understood. Social cognitive theory suggests that attributions influence coping, which, influences victimization. Two questions will be addressed in the

current research. How are attributions, coping, and victimization related to each other?

We hypothesize that specific attributions (depressive, characterological) and coping (e.g.,

internalizing, revenge seeking, conflict resolution, social support, etc.) will be directly

related to victimization and that coping will mediate the relationship between attributions

and victimization. The second focus is to examine longitudinally whether particular

coping styles affect changes in victimization over time.

Method

Participants

Approximately equal numbers of girls (Time 1 n = 147; Time 2 n = 124) and boys

(Time 1 n = 120; Time 2 n = 113) participated, with 220 participating at both times. At

Time 1, children where in grades 5 and 6 and their ages ranged between 10 and 12 years.

Eighteen percent of children dropped out of the study. Attrition analyses show no

significant differences on the demographic or study variables between completers and

non-completers.

Seventy-three percent of participants reported living with both parents, 12% in

joint custody, 6% with their mother only, 6% with a parent and stepparent, and 3% in

another arrangement. These family compositions are comparable to Canada's 2006

census data (www.statcan.ca, June 21, 2008). Seventy-two percent identified themselves

as White/Caucasian, 2% as Native, 2% as South Asian or Chinese, 6% as Other, and 18%

as Don't Know, which is comparable to the Canadian population in 2006

(www.statcan.ca, June 21, 2008). The educational attainment and average income of the

sample is comparable to the 2006 Canadian census data (www.statcan.ca, June 21, 2008).

Design

Data were collected during class time in Spring 2006 and 6 months later in Fall 2006. Children obtained parental consent. All participants were treated in accordance with the ethical codes stated by the American Psychological Association (APA, 2001).

Measures

Victimization. Victimization was assessed with a revised 8-item version of the Safe Schools Survey (Hymel, White, & Ishiyama, 2003). Students indicated how often they bullied others and were victimized by three bullying behaviours (i.e., physical, verbal, and social bullying) using a 4-point scale ("never in 4 weeks" to "many times a week"). Victimization and bullying severity scores were calculated by summing reports of all types ($\alpha = .78$, .80 for Victimization Severity at Time 1 and 2, respectively; $\alpha = .73$, .80 for Bullying Severity at Time 1 and 2, respectively).

Self-Blame. Characterological and behavioural self-blaming attributions were assessed using two vignettes requiring the participant to imagine being victimized by peers. Participants rated 14 statements about the reason the situation had occurred (e.g., "They do this to me because I won't fight back") on a 5-point scale. Both scales had good reliability ($\alpha = .92$, .93 for characterological self-blame at Time 1 and 2, respectively; $\alpha = .79$, .81 for behavioural self-blame at Time 1 and 2, respectively).

The Children's Attributional Styles Questionnaire – Revised (CASQ-R; Kaslow, & Nolen-Hoeksema, 1991) assesses general attributional styles through 24 statements. The child chose between two explanations (e.g., "You make a new friend." Choose the explanation that best explains the sentence: "I am a nice person" or "The people that I meet are nice."). Twelve items were summed into a composite score for negative events

and 12 items summed into a positive events score. A total score was calculated by subtracting the negative score from the positive score. For interpretation purposes, we reverse coded the scale so that high scores represent depressive attributional styles. The CASQ-R has moderate internal consistency ($\alpha = .61$ for both times; Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998).

Coping. A modified 43-item version of Causey and Dubow's (1992) Self-Report Coping Scale, in addition to scales developed by Kochenderfer-Ladd (2004), assessed coping. Children indicated how often, on a 5-point scale, they would use each strategy. Causey and Dubow's (1992) scale consists of five subscales with moderate to good reliability: seeking social support (8 items, $\alpha = .89$ for both times), self-reliance (8 items, $\alpha = .88, .85$ for Time 1 and 2, respectively), distancing (6 items, $\alpha = .67, .71$, for Time 1 and 2, respectively), internalizing (7 items, $\alpha = .74, .80$ for Time 1 and 2, respectively), and externalizing (4 items, $\alpha = .72, .77$ for Time 1 and 2, respectively). The two additional subscales (Kochenderfer-Ladd, 2004) are conflict resolution (5 items, $\alpha = .75$, .74 for Time 1 and 2, respectively) and revenge (4 items, $\alpha = .82, .88$ for Time 1 and 2, respectively).

<div align="center">Results</div>

Direct Relationships between Coping and Victimization

Correlations among all variables are displayed in Table 1. Regressions were run separately for boys and girls, and controlling for bullying. All models were significant. For boys, externalizing, internalizing, revenge, and social support coping significantly predicted higher levels of Time 1 victimization. For girls, externalizing, internalizing, and

Table 1

Correlations among Boys' and Girls' Attributions, Coping, and Victimization and Bullying at Times 1 and 2

Scale	Sex	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Victimization Time 1	Boys	--	.31**	.54**	.25*	.15	.07	.18	.31**	.27**	.08	.38**	.59**	.53**	.15
	Girls	--	.34**	.72**	.45**	.03	.02	-.03	.23**	.42**	.25**	.36**	.56**	.34**	.30**
2. Bullying Time 1	Boys		--	.06	.45**	-.21*	-.16	-.12	.20*	.19*	-.02	.08	.12	.14	.30**
	Girls		--	.26**	.41**	-.10	-.17*	-.11	.37**	.41**	.08	.16	.11	.11	.26**
3. Victimization Time 2	Boys			--	.25*	.05	-.01	.03	.29**	.33**	.32**	.43**	.52**	.44**	.22*
	Girls			--	.55**	-.08	-.11	-.19*	.19*	.37**	.14	.34**	.63**	.29**	.42**
4. Bullying Time 2	Boys				--	-.12	-.15	-.17	.19	.24	.05	.05	.18	.19	.35**
	Girls				--	-.27**	-.23*	-.26**	.43**	.48**	.10	.14	.34**	.18	.49**
5. Conflict Resolution Coping	Boys					--	.78**	.77**	-.14	-.06	.02	.49**	.15	.13	-.34**
	Girls					--	.72**	.70**	-.13	-.10	.05	.30**	.12	.21*	-.31**
6. Self-Reliant Coping	Boys						--	.75**	-.21*	-.09	-.07	.43**	.12	.16	-.41**
	Girls						--	.65**	-.13	-.12	-.07	.29**	.15	.21*	-.31**
7. Social Support Coping	Boys							--	.02	.05	.02	.51**	.13	.15	-.38**
	Girls							--	-.13	-.03	-.05	.29**	-.02	.10	-.39**
8. Revenge Coping	Boys								--	.70**	.33**	.18	.16	.15	.28**
	Girls								--	.64**	.24**	.35**	.14	.14	.30**
9. Externalizing Coping	Boys									--	.44**	.29**	.25**	.22*	.28**
	Girls									--	.14	.47**	.33**	.28**	.38**
10. Distancing Coping	Boys										--	.20*	.05	.04	.08
	Girls										--	.12	.14	.10	.13
11. Internalizing Coping	Boys											--	.39**	.31**	.01
	Girls											--	.42**	.47**	.17*
12. Characterological Self-Blame	Boys												--	.88**	.29**
	Girls												--	.59**	.35**
13. Behavioural Self-Blame	Boys													--	.31**
	Girls													--	.23**
14. Depressive Attribution Style	Boys														--
	Girls														--

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

distancing coping significantly predicted higher levels of Time 1 victimization. These findings were replicated at Time 2; results are not shown. See Table 2.

Cross-Sectional Relationships among Attributions, Coping, and Victimization

Before examining how attributions and coping are related to changes in victimization over time, it is important to establish the more basic mediational associations among these constructs (i.e., Spring 2006). Linear regressions were used to assess how children's coping styles mediate the relationship between children's attributional styles and victimization. According to Baron and Kenny (1986), three conditions must be met in order to establish a mediational relationship. First, in regressing the mediator on the independent variable, the independent variable must be related to the mediator (i.e., attributional styles must predict coping styles). Second, in regressing the dependent variable on the independent variable, the independent variable must be related to the dependent variable (i.e., attributional styles must predict victimization). Third, in regressing the dependent variable on both the independent and mediator variables, the mediator must predict the dependent variable (i.e., coping styles must predict victimization above and beyond the effect of attributional styles on victimization). When results meet these three criteria, a fourth condition is that the relationship between the independent and dependent variable decreases in the third regression, compared to the same relationship in the second regression. See Figure 1. Bullying perpetration and sex were controlled for. When sex was significant, models were run separately for boys and girls.

Table 2

Direct Relationships between Coping and Time 1 Victimization

| | Time 1 Victimization | | | |
| | Boys | | Girls | |
Predictors	*B*	*S.E.*	*B*	*S.E.*
Bullying Time 1	.49**	.18	.46**	.16
Externalizing Coping	.73**	.28	1.02***	.26
Bullying Time 1	.56**	.16	.61***	.14
Internalizing Coping	1.42***	.32	1.01***	.25
Bullying Time 1	.53**	.18	.60***	.16
Revenge Coping	.63**	.23	.35	.26
Bullying Time 1	.66***	.17	.71***	.15
Social Support Coping	.60*	.21	.02	.21
Bullying Time 1	.63***	.17	.68***	.15
Distancing Coping	.32	.29	.81**	.28

**p < .01, ***p < .001

A

Coping Styles
-Externalizing
-Internalizing
-Revenge
-Social Support
-Distancing
-Conflict Resolution
-Self-Reliant
Control Variables
-Bullying
-Sex

C

Attributions
-Characterological
 Self-Blame
-Behavioural Self-Blame
-Depressive Attributional
 Style
Control Variables
-Bullying
-Sex

B

Victimization

Condition 1 = A
Condition 2 = B
Condition 3 = B+C
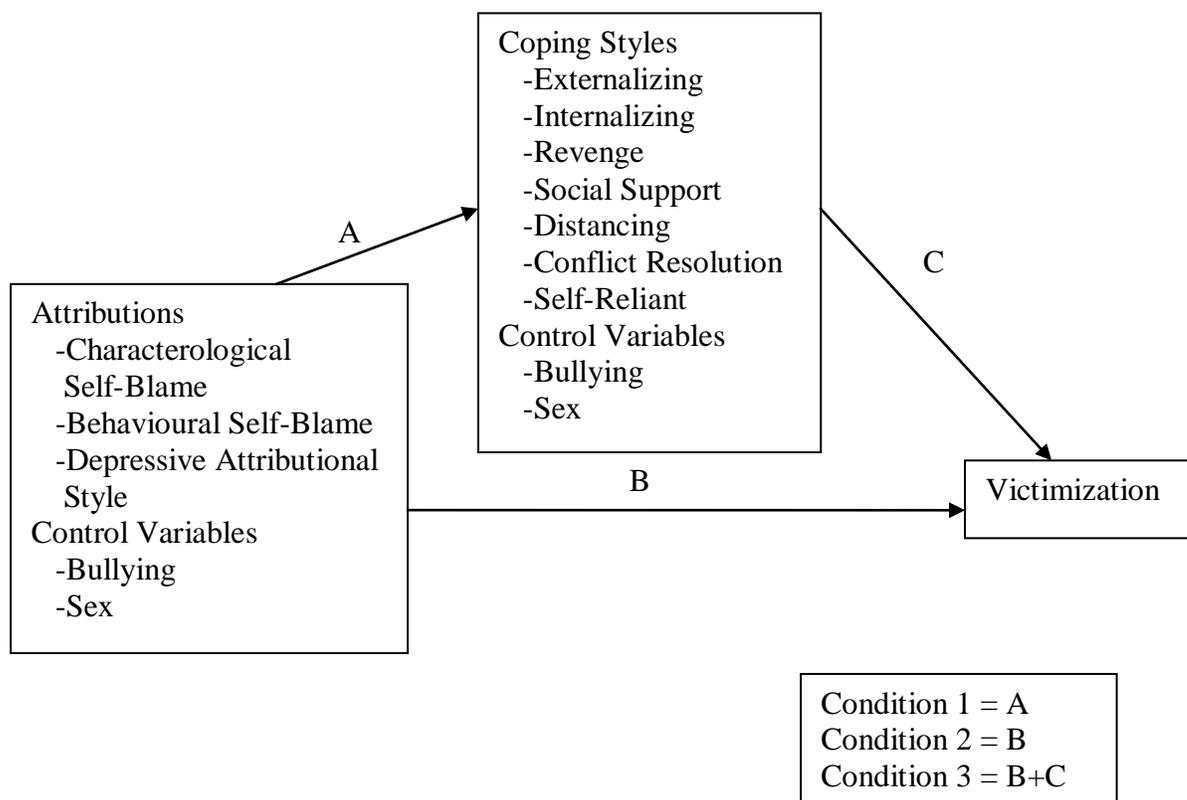
Figure 1. Conceptual model of mediational analyses.

Externalizing coping mediating self-blame attributions and victimization. When regressing externalizing coping onto characterological and behavioural self-blame, while controlling for bullying and sex (Condition 1), the overall model was significant, $F(4, 241)= 12.15$, $p < .001$ (Adjusted $R^2= .16$). Higher levels of bullying ($B = .17$, $S.E. = .04$, $p < .001$) and characterological self-blame ($B = .18$, $S.E. = .07$, $p < .01$) predicted externalizing coping. In condition 2, victimization was regressed onto characterological

and behavioural self-blame, while controlling for bullying and sex. As predicted, victimization was significantly related to characterological self-blame attributions, $F(4, 250) = 40.56$, $p < .001$ (Adjusted $R^2 = .39$). In addition, when victimization was regressed onto both externalizing coping and self-blame attributions while controlling for bullying and sex, as depicted in condition 3, the results are significant, $F(5, 241) = 34.14$, $p < .001$ (Adjusted $R^2 = .41$). However, contrary to my predictions, externalizing coping was found not to be a significant mediator between characterological self-blame and victimization (Sobel's test $= 1.80$, $p = .07$). See Table 3.

Externalizing coping mediating depressive attributional style and victimization. When regressing externalizing coping onto depressive attributional style, while controlling for bullying and sex, the overall model was significant, $F(3, 250) = 16.99$, $p < .001$ (Adjusted $R^2 = .16$). Higher levels of bullying ($B = .15$, *S.E.* $= .04$, $p < .001$) and depressive attributional style ($B = .06$, *S.E.* $= .01$, $p < .001$) predicted higher levels of externalizing coping, as predicted. Condition 2 was significant, $F(3, 261) = 12.37$, $p < .001$ (Adjusted $R^2 = .12$), whereby depressive attributional style predicted higher levels of victimization, as predicted. Also, condition 3 was significant, $F(4, 250) = 14.65$, $p < .001$ (Adjusted $R^2 = .18$). As predicted, externalizing coping was found to be a significant mediator between depressive attributional style and victimization (Sobel's test $= -3.61$, $p < .001$). See Table 3.

Internalizing coping mediating self-blame attributions and victimization. Boys' overall model for condition 1 was significant, $F(3, 108) = 7.47$, $p < .001$, (Adjusted $R^2 = .15$). High levels of characterological self-blame ($B = .34$, *S.E.* $= .12$, $p < .01$) predicted high levels of internalizing coping, as predicted. Condition 2 was significant, $F(3, 108) =$

24.10, $p < .001$, (Adjusted $R^2 = .39$) for boys, with characterological self-blame and

bullying predicting higher levels of victimization. Condition 3 was significant, $F(4, 108)$

$= 19.88, p < .001$,

Table 3

Regression Analyses for Mediation of Attributions and Victimization by Externalizing

Coping

Predictors	Condition 2		Condition 3	
	B	*S.E.*	*B*	*S.E.*
Self Blame				
Bullying Time 1	.50***	.09	.44***	.10
Sex	-.24	.24	-.09	.24
Characterological Self-Blame	1.27***	.17	1.19***	.18
Behavioural Self-Blame	.08	.20	.06	.20
Externalizing Coping			.43*	.17
Depressive Attributional Style				
Bullying Time 1	.53***	.11	.45***	.12
Sex	.00	.28	.23	.27
Depressive Attributional Style	.11*	.04	.07	.05
Externalizing Coping			.80***	.19

Note: Header spans "Time 1 Victimization"

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

(Adjusted R^2 = .41) for boys. Specifically, characterological self-blame, bullying, and internalizing coping predicted higher levels of victimization, as predicted. Girls' overall model for condition 1 was significant, $F(3, 139) = 16.21$, $p < .001$, (Adjusted R^2 = .25). High levels of characterological self-blame ($B = .15$, S.E. = .07, $p < .05$) and behavioural self-blame ($B = .31$, S.E. = .08, $p < .001$) predicted high levels of internalizing coping. Condition 2 was significant, $F(3, 141) = 29.35$, $p < .001$, (Adjusted R^2 = .38) for girls, with characterological self-blame and bullying predicting higher levels of victimization. Condition 3 was significant, $F(4, 139) = 23.96$, $p < .001$, (Adjusted R^2 = .40) for girls, with characterological self-blame and bullying, but not internalizing coping (contrary to my predictions), predicting higher levels of victimization. The models differed for boys and girls whereby internalizing coping predicted higher levels of victimization for boys, but not for girls. However, when testing for significant mediation using Sobel's Test, internalizing coping did not hold as a significant mediator for boys (Sobel's Test = 1.72, $p = .09$), contrary to my predictions. See Table 4.

Revenge coping mediating depressive attributional style and victimization. Boys' overall model for condition 1 was significant, $F(2, 108) = 5.21$, $p < .01$, (Adjusted R^2 = .07). Low levels of depressive attributional style ($B = .07$, S.E. = .03, $p < .05$) predicted low levels of revenge coping. The overall model for Condition 2 was significant, $F(2, 115) = 6.13$, $p < .01$, (Adjusted R^2 = .08) for boys with higher levels of bullying predicting higher levels of victimization; however, depressive attributional style was not a significant predictor of victimization, contrary to predictions. Therefore, analyses were stopped. Girls' overall model for condition 1 was significant, $F(2, 140) = 15.05$, $p < .001$, (Adjusted R^2 = .17). High levels of bullying (the control variable; $B = .19$, S.E. = .05, $p <$

.001) and depressive attributional style ($B = .05$, $S.E. = .02$, $p < .01$) predicted high levels of revenge coping. Condition 2 was significant, $F(2, 145) = 13.64$, $p < .001$, (Adjusted $R^2 = .15$) for girls indicating higher levels of depressive attributional style and bullying predicted higher levels of victimization, as predicted. The overall model for Condition 3 was significant, $F(3, 140) = 9.50$, $p < .001$, (Adjusted $R^2 = .15$) for girls with higher levels of depressive attributional style and bullying predicting higher levels of victimization; however, revenge coping was not a significant predictor, indicating that it is not a significant mediator. See Table 4.

Social support coping mediating depressive attributional style and victimization. Boys' overall model for condition 1 was significant, $F(2, 112) = 9.51$, $p < .001$, (Adjusted $R^2 = .13$). This indicates that low levels of depressive attributional style ($B = -.10$, $S.E. = .03$, $p < .001$) predicted high levels of social support coping. Condition 2 was tested previously and failed to meet criteria for mediational analyses. Girls' overall model for condition 1 was significant, $F(2, 144) = 12.92$, $p < .001$, (Adjusted $R^2 = .14$). Low levels of depressive attributional style ($B = -.10$, $S.E. = .02$, $p < .001$) predicted high levels of social support coping. Condition 2 was shown previously with higher levels of depressive attributional style and bullying predicting higher levels of victimization. The overall model for Condition 3 was significant, $F(3, 144) = 10.99$, $p < .001$, (Adjusted $R^2 = .17$) for girls with higher levels of depressive attributional style and bullying predicting higher levels of victimization; however, social support coping was not a significant predictor, and therefore not a mediator, which was contrary to predictions. See Table 4.

Table 4

Regression Analyses for Mediation of Attributions and Victimization by Internalizing, Revenge, and Social Support Coping

	Time 1 Victimization							
	Boys				Girls			
Predictors	Condition 2		Condition 3		Condition 2		Condition 3	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
Internalizing coping as mediator								
Bullying Time 1	.51**	.15	.50**	.15	.49***	.12	.56***	.13
Characterological Self-Blame	1.35**	.39	1.11**	.39	1.23***	.19	1.16***	.20
Behavioural Self-Blame	.05	.42	.12	.41	.05	.24	-.08	.25
Internalizing Coping			.69*	.32			.39	.25
Revenge coping as mediator								
Bullying Time 1	.57**	.18			.50**	.14	.53**	.16
Depressive Attributional Style	.05	.07			.15**	.05	.13*	.06
Revenge Coping							.21	.26
Social support coping as mediator								
Bullying Time 1					.50**	.14	.60***	.15
Depressive Attributional Style					.15**	.05	.17**	.06
Social Support Coping							.27	.22

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

Summary of Cross-sectional Results

      Only externalizing coping was a significant mediator of attributions and victimization. There were multiple significant direct relationships. For both sexes, higher levels of externalizing and internalizing coping and characterological self-blame

significantly predicted higher levels of victimization, as expected. Higher levels of revenge and social support coping predicted higher levels of victimization for boys, whereas higher levels of distancing coping and a depressive attributional style predicted higher levels of victimization for girls.

Longitudinal Relationships between Attributions, Coping, and Changes in Victimization

Whether coping styles are related to changes in victimization over time remains a question. Using mediational analyses, predictor variables at Time 1 included attributions and coping, while controlling for Time 1 victimization and bullying; Time 2 victimization was the outcome. Children who did not experience a change in victimization across times were excluded from the analyses. Because sex was significant, the models were run separately by sex.

Direct relationships between coping and victimization over time. In examining the relationship between coping styles and Time 2 victimization, only two overall models were significant for boys, whereas all overall models were significant for girls. For boys, internalizing and distancing coping significantly predicted higher levels of Time 2 victimization. For girls, social support coping significantly predicted lower levels of Time 2 victimization, as predicted. See Table 5.

Externalizing coping mediating self-blame attributions and victimization over time. Condition 1 was significant, $F(4, 54) = 3.87$, $p < .001$, (Adjusted $R^2 = .18$) for boys. Higher levels of Time 1 bullying ($B = .35$, $S.E. = .11$, $p < .01$) predicted higher levels of externalizing coping. Condition 2 was significant, $F(4, 56) = 3.00$, $p < .05$, (Adjusted $R^2 = .13$) for boys with higher levels of characterological self-blame at Time 1 predicting

Table 5

Direct Relationships between Coping Styles and Time 2 Victimization

| | Time 2 Victimization | | | |
| | Boys | | Girls | |
Predictors	B	S.E.	B	S.E.
Victimization Time 1			.52***	.11
Bullying Time 1			.00	.21
Externalizing Coping			.37	.30
Victimization Time 1	.18	.12	.48***	.11
Bullying Time 1	-.04	.24	.12	.20
Internalizing Coping	1.04*	.46	.40	.20
Victimization Time 1			.52***	.11
Bullying Time 1			.08	.21
Revenge Coping			.17	.27
Victimization Time 1			.52***	.10
Bullying Time 1			.07	.20
Social Support Coping			-.51*	.26
Victimization Time 1	.25*	.12	.55***	.10
Bullying Time 1	-.04	.24	.15	.20
Distancing Coping	.87*	.35	-.31	.34

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

higher levels of victimization at Time 2. Condition 3 was significant, $F(5, 54) = 2.67$, $p <$ .001, (Adjusted $R^2 = .13$) for boys with higher levels of characterological self-blame at Time 1 predicting higher levels of victimization at Time 2; however, externalizing coping was not a significant predictor, and therefore not a mediator, contrary to predictions. Girls' overall model for Condition 1 was significant, $F(4, 68) = 8.34$, $p < .001$, (Adjusted $R^2 = .30$). Higher levels of Time 1 bullying ($B = .20$, $S.E. = .08$, $p < .05$) and characterological self- blame ($B = .35$, $S.E. = .12$, $p < .01$) predicted higher levels of externalizing coping. Condition 2 was significant, $F(4, 72) = 16.77$, $p < .001$, (Adjusted $R^2 = .47$) for girls with higher levels of characterological self-blame at Time 1 predicting higher levels of victimization at Time 2. Condition 3 was significant, $F(5, 68) = 13.90$, $p < .001$, (Adjusted $R^2 = .49$) for girls, again with higher levels of characterological self-blame at Time 1 predicting higher levels of victimization at Time 2; however, contrary to predictions externalizing coping was not a significant predictor, and therefore not a mediator. See Table 6.

Internalizing coping mediating self-blame attributions and victimization over time. Condition 1 was significant, $F(4, 56) = 2.97$, $p < .05$, (Adjusted $R^2 = .12$) for boys, but none of the individual predictors significantly predicted internalizing coping. No other analyses were run. Girls' overall model for Condition 1 was significant, $F(4, 71) = 6.65$, $p < .001$, (Adjusted $R^2 = .24$). Higher levels of behavioural self-blame ($B = .29$, $S.E. = .11$, $p < .05$) predicted higher levels of internalizing coping. Condition 2 was shown previously. Condition 3 was significant, $F(5, 71) = 13.08$, $p < .001$, (Adjusted $R^2 = .46$) for girls with characterological self-blame at Time 1 predicting higher levels of

victimization at Time 2; however, contrary to predictions internalizing coping was not a significant predictor, indicating it is not a mediator. See Table 6.

Revenge coping mediating depressive attributional style and victimization over time. Boys' overall model for Condition 1 was significant, $F(3, 55) = 5.79$, $p < .01$, (Adjusted $R^2 = .21$). Higher levels of Time 1 victimization ($B = .12$, $S.E. = .06$, $p < .05$) and bullying ($B = .31$, $S.E. = .12$, $p < .01$) predicted higher levels of revenge coping. Boys' overall model for Condition 2 was not significant, $F(3, 60) = 2.57$, $p = .06$, (Adjusted $R^2 = .07$). No further analyses were done. Girls' model for Condition 1 was significant, $F(3, 70) = 2.79$, $p < .05$, (Adjusted $R^2 = .07$); but none of the individual predictors significantly predicted higher levels of revenge coping. Further analyses were not run.

Externalizing coping mediating depressive attributional style and victimization over time. As Condition 2 was previously shown to be nonsignificant for boys, further analyses were not conducted here. Girls' overall model for Condition 1 was significant, $F(3, 69) = 9.09$, $p < .001$, (Adjusted $R^2 = .26$). Lower levels of depressive attributional style ($B = .06$, $S.E. = .03$, $p < .05$) predicted lower levels of externalizing coping. Condition 2 was significant, $F(3, 73) = 17.40$, $p < .001$, (Adjusted $R^2 = .40$) for girls with higher levels of depressive attributional style and victimization at Time 1 predicting higher levels of victimization at Time 2, as predicted. Condition 3 was significant, $F(4, 69) = 12.32$, $p < .001$, (Adjusted $R^2 = .40$) for girls with higher levels of depressive attributional style and victimization at Time 1 predicting higher levels of victimization at Time 2; however, externalizing coping was not a significant predictor and not a mediator. See Table 6.

Table 6

Regression Analyses for Mediation of Attributions and Victimization by Externalizing,

Internalizing, and Social Support Coping Over Time

Predictors	Time 2 Victimization							
	Boys				Girls			
	Condition 2		Condition 3		Condition 2		Condition 3	
	B	S.E.	B	S.E.	B	S.E.	B	S.E.
	Externalizing coping as mediator							
Victimization Time 1	.12	.14	.12	.14	.18	.12	.22	.12
Bullying Time 1	.09	.25	.05	.31	.30	.15	.24	.19
Characterological Self-Blame	1.33*	.62	1.24	.62	1.20***	.27	1.21***	.29
Behavioural Self-Blame	-.68	.64	-.69	.64	-.28	.26	-.21	.26
Externalizing Coping			.44	.37			-.07	.28
	Internalizing coping as mediator							
Victimization Time 1					.18	.12	.18	.12
Bullying Time 1					.30	.15	.28	.18
Characterological Self-Blame					1.20***	.27	1.17***	.28
Behavioural Self-Blame					-.28	.26	-.33	.28
Internalizing Coping							.17	.29
	Externalizing coping as mediator							
Victimization Time 1					.39***	.10	.42***	.11
Bullying Time 1					.11	.16	-.03	.20
Depressive Attributional Style					.21**	.06	.19**	.07
Externalizing Coping							.16	.30
	Social support coping as mediator							
Victimization Time 1					.39***	.10	.41***	.10
Bullying Time 1					.11	.16	.03	.19
Depressive Attributional Style					.21**	.06	.20**	.07
Social Support Coping							-.06	.29

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

Social support coping mediating depressive attributional style and victimization over time. Girls' overall model for Condition 1 was significant, $F(3, 72) = 10.69$, $p <$ .001, (Adjusted $R^2 = .29$). Lower levels of depressive attributional style ($B = -.13$, *S.E.* = .03, $p < .001$) predicted higher levels of social support coping. Condition 2 was shown previously. Condition 3 was significant, $F(4, 72) = 12.87$, $p < .001$, (Adjusted $R^2 = .40$) for girls with higher levels of depressive attributional style and victimization at Time 1 predicting higher levels of victimization at Time 2; however, contrary to predictions social support coping was not a significant predictor and cannot be a mediator. See Table 6.

Summary of Longitudinal Results

Higher levels of characterological self-blame and internalizing and distancing coping directly predicted higher levels of victimization over time for boys. For girls, higher levels of characterological self-blame and depressive attributional style, and lower levels of social support coping predicted higher levels of victimization over time, as predicted. Contrary to hypotheses, none of the coping styles were significant mediators.

Discussion

Temporal sequencing among attributions and coping to support Crick and Dodge's (1994) social cognitive theory was not found. Attributions showed stability over time in their relationships to victimization and these relationships generally were not mediated by coping. Some coping styles were directly related to victimization, but differed between boys and girls. Coping that related to lower levels of victimization within time was different from coping that was related to lower levels of victimization across time.

The relationships between attributions and victimization remained stable within and across time, although different for boys and girls. Higher levels of victimization were related to characterological self-blaming for both sexes, suggesting these children may be less likely to change their behaviours or try other strategies because characterological qualities are more static and uncontrollable than behavioural features (Graham & Juvonen, 1998). Through intervention, these children could understand that they have the right to be free from abuse and obtain the support required to do so.

A depressive attributional style was related to higher levels of victimization only for girls. Compared to boys, the higher rates of depression reported by adolescent girls in other research (Prinstein, Cheah, & Guyer, 2005) may reflect higher levels of a depressive attributional style found here. The relationship between depressive attributions and victimization was present at the initial assessment and persisted over time. Depressive attributions may place girls at risk for victimization by maintaining anticipatory perceptions that victimization is inevitable. Beck's (Clark, Beck, & Alford, 1999) cognitive model of depression postulates reciprocity whereby depressive attributions lead to negative experiences, confirming cognitive perceptions. These girls may come to expect being victimized, inadvertently signaling peers that they are vulnerable to victimization.

Contrary to attributions, coping styles showed a lack of stability with victimization over time. Only avoidant styles of coping were consistently related to higher levels of victimization within and over time for boys. Avoidant styles (internalizing, externalizing, and distancing coping) manage thoughts and feelings related to the stressor; they do not stop the stressor itself (Causey & Dubow, 1992). Managing

feelings rather than stopping the stressor is not a proactive strategy and may not reduce future victimization. Inadvertently, their avoidance may signal a vulnerability to peers by communicating their inability to cope, resulting in continued victimization. Boys may need to engage in more proactive assertive coping to avoid victimization.

Within time, higher levels of victimization in boys also were related to social support and revenge seeking coping, suggesting ineffective strategies. While social support seeking protects victimized girls, it does the opposite for boys (Kochenderfer-Ladd & Skinner, 2002), which may reflect the nature of friendships for boys. Compared to girls, boys' friendships are characterized less by intimacy, emotional support, and self-disclosure (Berndt & Perry, 1986). When boys seek social support, they may not receive the emotional support they need and it may not be a normative behaviour. Additionally, revenge was an ineffective strategy in reducing victimization. Previous research has demonstrated that aggressive coping strategies increased the severity of aggression during a bullying episode (Mahady-Wilton, Craig, & Pepler, 2000). None of the coping styles assessed were associated with reduced victimization for boys, while some were associated with increased victimization over time. Furthermore, prosocial strategies (e.g., social support seeking) were also ineffective; perhaps because of their stereotypically non-masculine nature.

Girls also showed differences in coping within and across time. Within time, girls who utilized avoidant coping reported higher levels of victimization. These girls may lack the confidence or skills to actively and prosocially address their victimization. The approach coping styles (i.e., social support and conflict resolution) were not related to victimization in the short-term; however, social support was related to lower levels of

victimization over time. The benefits of social support may emerge over time through the development of interpersonal relationships, characterized by intimacy, support, trust, and communication. In contrast to boys, girls' friendships are characterized by the sharing of thoughts and feelings (Bukowski & Kramer, 1986). Girls may learn that avoidant styles of coping are not effective in reducing victimization, and over time they use their social networks for managing or obtaining support for their victimization.

Children's coping was directly related to their victimization, but social cognitive theory suggests temporal sequencing among attributions, coping, and outcomes. The only support for this theory was found within time, where externalizing coping explained some of the relationship between depressive attributions and higher levels of victimization. According to Beck's (Clark, Beck, & Alford, 1999) cognitive theory, depressive attributions lead to expecting negative experiences. To cope with these expectations, avoidance may occur because of the self-belief in the inability to affect change, while externalizing behaviours are used to manage feelings. These externalizing behaviours may inadvertently signal to peers to increase aggression. Thus, it is perceptions and behavioural enactment based on those beliefs that explain some of the "in the moment" victimization but not victimization over time.

Unlike cross-sectionally, none of the coping styles was a mediator over time, where direct associations more accurately accounted for how these constructs are related. Mediational relationships may be dependent on the unique and complex components of a particular bullying interaction. For example, a coping style (i.e., externalizing behaviour) that works in one interaction may not work with a different peer because it is impacted by numerous factors, such as the peer's characteristics or the composition of the peer group.

Attributions and coping appear to be related to victimization individually, but not interactively. The reciprocal nature of Beck's (Clark, Beck, & Alford, 1999) cognitive theory may best explain these relationships. The current findings did not support a social cognitive theory of mediation over time, but do support direct effects of attributions and behavioural enactment on day-to-day experiences.

While there are many strengths to this study, there are limitations. Mediation may have been difficult to detect because of changing academic years between data collection (grades, classrooms, peer groups), which could impact their social experiences. Additionally, our models account for a small proportion of variance in victimization; they do, however, find significant relationships. Future research should be directed at examining other possible social cognitive and behaviourial correlates. Finally, data were self-report and shared method variance may be an issue. Using multiple reporters can reduce biases associated with self-report; however, there is evidence to suggest that children's self reports have high validity, especially when examined over time.

Conclusions

This study offers a preliminary understanding of the factors related to continued or discontinued victimization. Girls can benefit from social support, but the same is not necessarily true for boys. This difference calls for more research to learn what we can do to help boys end their victimization experiences. The current study provides hope that for some children some coping styles will result in reduced peer victimization. Future research is required to inform interventions to help children cope more effectively with peer victimization.

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Forward to Chapter 3

Chapter 3 consists of a manuscript that has been submitted to Aggressive Behavior for publication and has been revised and resubmitted for the second round of the review process. Chapter 3 adheres to APA format. My supervisor, Dr. Wendy Craig, assisted in all aspects of the research and in the preparation of the manuscript and she appears as a co-author on the manuscript.

Chapter 3:

Attributions and Coping Strategies Associated with Bullying Others

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Abstract

To examine the role of attributions and coping on children's involvement in bullying over time, 220 children completed questionnaires twice over 6 months. Direct and mediational models were tested using regressions, cross-sectionally and longitudinally. Measures included the revised Safe School Survey for bullying, the Children's Attributional Styles Questionnaire – Revised for global attributions, two vignettes for self-blaming attributions, and a modified version of the Self Report Coping Scale for coping behaviours. Self-blame attributions were not related to bullying within or across time for boys or girls. Depressive global attributions were positively related to bullying for boys and girls. No coping styles were associated with reduced victimization over time for boys, whereas conflict resolution and social support coping were for girls. Conflict resolution, self-reliance, and social support coping were negatively related to bullying for boys and self-reliance coping was negatively related to bullying for girls within time. Externalizing and revenge coping directly predicted bullying for girls. No coping styles were significant mediators over time, suggesting situationally specific mechanisms. Support emerged for strategies for boys and girls to reduce their involvement in bullying.

Attributions and Coping Strategies Associated with Bullying Others

Researchers, news media, and community groups have focused attention over the past three decades on bullying in children. Research, specifically, has evolved from a focus on differentiating bullying from general aggression, describing its prevalence, and tracking its correlates (Bosworth, Espelage, & Simon, 1999; Craig & Pepler, 1997; Olweus, 1991; Smith, 2004) to the development and application of theoretical models explaining the mechanisms and pathways pertaining to bullying involvement (Dill, Vernberg, Fonagy, Twemlow, & Gamm, 2004; Goldbaum, Craig, Pepler, & Connolly, 2003; Hanish & Guerra, 2004; Pepler, Jiang, Craig, & Connolly, 2008). The current study is guided by two cognitive theories of development. Crick and Dodge (1994) developed the comprehensive social information processing (SIP) theory for understanding aggressive behavior patterns. Beck's (1964; 1991) cognitive theory of depression, while not specific to bullying, also provides an important framework for understanding bullying. Within these two social cognitive theories, we examined the sex differences among the direct and mediational roles of attributions and coping styles in bullying experiences using cross-sectional and longitudinal data.

Social cognitive theory provides a framework for understanding differences in the way children respond to and interpret social situations, and how some choose to bully others. Through their SIP model, Crick and Dodge (1994) postulated that children learn to behave through a cognitive process of attending to cues in their environment, interpreting those cues based on past experiences and schema (i.e., they make attributions about the causes of those cues), generating a selection of possible responses to the cues, and acting upon a chosen response. One robust finding related to this model is that

aggressive children, children who bully, and children who are victimized, tend to form hostile attribution biases and tend to respond with aggression (Camodeca & Goossens, 2005; Dodge & Frame, 1982; Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2000). Researchers have traditionally used social information processing to understand aggression in children. Beck (1964; 1991) also used a theory involving cognitions for understanding depression. Both theories postulate a similar view of how cognitions are linked to behavior, specifically aggression and depression. Beck (1964; 1991) focused on the beliefs, or attributions, an individual holds about the causes of events in life and postulated that individuals react to their experiences based on their attributions. While he theorized specifically about depression, Beck's model (1964) of the interplay between cognitions and behavior may illustrate the processes involved in bullying.

Two important components of these social cognitive theories include attributions and coping strategies. Attributions refer to how people explain events that happen to themselves and to others (see reviews in Weiner, 1986, 1995) and why individuals react differently, but predictably, to events. Attributions can refer to a global style or specific type of interpretation. Coping behaviors are the efforts made in the face of difficulties to overcome those difficulties. Coping can be viewed, in part, as the behavioral enactment of attributions. In other words, when an individual attributes a particular cause to an event (i.e., makes an attributions), he will necessarily choose to respond in a particular manner (i.e., cope). Some commonly assessed coping styles include problem solving, social support seeking, cognitive distancing, internalizing, and externalizing behaviors (Causey & Dubow, 1992). Causey and Dubow (1992) identify self-reliant problem solving and

social support seeking as approach coping strategies, which involve a child confronting the stressor in some manner (Fields & Prinz, 1997). The same authors (Causey & Dubow, 1992) identify cognitive distancing, internalizing, and externalizing as avoidant coping strategies because, as described by Fields and Prinz (1997), the child does not attempt to stop the stressor, but manages the cognitive and/or emotional reaction to the stressor. In addition to these five coping strategies, Kochenderfer-Ladd (2004) suggested two additional approach coping strategies that specifically tap into behaviors related to bullying, namely conflict resolution and revenge seeking. On the one hand, conflict resolution involves behaviors that are often taught in bullying prevention programs (e.g., assertiveness, collaboration, speaking with an adult) and that are aimed at resolving the conflict in a prosocial manner. This coping strategy differs conceptually from self-reliant problem solving (referred to as self-reliance from here on) in that conflict resolution involves a collaborative component lacking in self-reliant coping. Conversely, revenge seeking taps behaviors aimed at harming the child who is perceived to have wronged the individual and differs conceptually from externalizing behaviors by its more targeted goal. Externalizing behavior can be thought of as more general behavior that turns feelings outward, whereas revenge seeking is the specific behavior of retaliating against the one who initiated the conflict. By systematically examining the attributions and coping behaviors a child employs, we may be better able to understand that child's involvement in bullying (i.e., beliefs about a peer interaction may lead a child to generate specific coping options that are particularly associated with the behavioral enactment of bullying).

A globally negative, or depressive, attributional style (Abramson, Metalsky, & Alloy, 1989) may be particularly detrimental to children's interpretations of neutral events by increasing their tendency to respond in a negative, reactive way. The word "depressive" is used here to describe a triad of cognitions characterized by internal, global, and stable attributions about negative events, and not in the sense of a depressive disorder. This depressive style of attributing cause to events may play a role in children's decisions to aggress, and specifically to bully, against others. Elements of this depressive style of attributions have been studied previously. For example, Lansford, Malone, Dodge, Crozier, Pettit, and Bates (2006) found that the more encoding errors and negative attribution biases children made across multiple steps of the social information processing model, the more they engaged in externalizing behaviors. Similarly, aggressive boys were more likely to make negative intent attributions for ambiguous events than were nonaggressive boys (Dodge, 1980). VanOostrum and Horvath (1997) demonstrated, in an adolescent male sample, that negative intent attributions were related to aggressive responses to ambiguous situations. While the majority of research on social information processing does not specifically examine bullying behavior and tends to focus solely on boys, these studies do examine social information processing deficits among aggressive children. Given that bullying is a subtype of aggressive behavior, the findings from these studies suggest that children who bully others may hold depressive attribution styles in addition to or in conjunction with hostile attributions (as studied by others, for example, Crick & Dodge, 1994). All of these findings reflect the same negative attribution biases found in depressed individuals (Beck, 1991). If children form negative intent attributions and these attributions are linked with higher rates of

externalizing behaviors, it is plausible to hypothesize that globally depressive attribution styles also may explain some children's tendency to engage in bullying behavior. Bullying can be understood as a specific form of aggression that occurs within the context of established peer relationships and is characterized by an abuse of power. When children make negative attributions about the behaviors of their peers, they may choose to respond in ways that attempt to alter the balance of power in their favor in an effort to ameliorate their internal cognitions about their status in the peer group. We predicted that depressive attribution styles would predict increases in bullying behavior over time.

Individuals also make specific types of attributions within particular contexts or situations. Self-blame is an example of a specific attribution and is commonly divided into two forms: characterological and behavioral (Graham & Juvonen, 1998; Janoff-Bulman, 1979). Characterological self-blame is common in a globally depressive style and involves attributing cause to one's character, a relatively non-modifiable source, and is associated with the belief that one deserves the negative outcome. Behavioral self-blame involves attributing cause to one's behavior, a modifiable source, and is associated with the possibility of avoiding a negative outcome in the future. While there is research supporting these different forms of self-blame among children who are victimized (Graham & Juvonen, 1998), there is a dearth of research examining self-blame in children who bully. Beck's theoretical model (1964) suggests that viewing negative events as the responsibility of others would not be related to self-blame. As children who bully tend to externalize blame, it was hypothesized that bullying would be negatively associated with self-blaming attributions.

While researchers have explored the relationship between attributions and bullying, the role of coping in bullying perpetration is less understood. Camodeca and Goossens (2005) found that children who bully others demonstrated deficits in their attributions and consequent reactions, or coping styles, supporting a circular relationship between attributions and coping responses. Children who bully were the only group of children who employed both reactive and proactive aggression (to respond to a bullying situation), whereas victimized children only used aggression reactively (Camodeca & Goossens, 2005). The children who bullied others also were more likely to report wanting to react with retaliation (i.e., coping response characterized by externalizing and revenge seeking) to provocation than were children who assumed the defender role (Camodeca & Goosens, 2005). Burgess, Wojslawowicz, Rubin, Rose-Krasnor, and Booth-LaForce (2006) found that aggressive children were more likely to use avoidant coping and revenge coping than were nonaggressive children, particularly with unfamiliar peers. In the current study, externalizing and revenge seeking coping were hypothesized to be related to increases in bullying behavior over time.

Researchers have demonstrated the correlations between attributions and bullying; however, there is limited information on the relationships between coping styles and bullying. As well, the process by which all three constructs are associated lacks clarity. The current study examined which coping styles are related to specific attributional styles in boys and girls, and how they are related to bullying. Crick and Dodge's (1994) theory implicitly suggests that attributions influence coping, where coping comprises the response construction and decision making steps of the SIP model. The process involved between attributions and coping may necessarily influence the perpetration of bullying, as

bullying behaviour is one of many behavioral decisions a child can choose to enact. The depressive attribution styles children make likely leads them to cope in ways that they believe will increase their power over another child, resulting in bullying. However, few applications of Crick and Dodge's SIP model exist that are specific to bullying; and there is limited research examining multiple steps of the model. Additionally, it is possible that attributions and coping styles are independently related to bullying. Therefore, the goal of this research was to expand the literature on bullying by examining multiple steps of Crick and Dodge's model in a longitudinal model using a sample of children who bully others. Children who persistently bully may form different attributions about their interactions with peers than do children who do not bully. It was hypothesized that the attributions children make about their experiences and their sense of control over these experiences correlates with their coping styles. In turn, these coping styles were expected to correspond to various levels of future bullying.

<div align="center">Method</div>

Participants

The current study used the same data set as was used in Chapter 2. To review, approximately equal numbers of girls (Time 1 $N = 147$; Time 2 $N = 124$) and boys (Time 1 $N = 120$; Time 2 $N = 113$) participated. At Time 1, children were in grades 5 and 6 and their ages ranged between 10 and 12 years ($M = 10.92$, $SD = .73$). Two hundred and twenty children participated at both times. Eighteen percent of children dropped out of the study. Attrition analyses did not show significant differences on the demographic, attribution, coping, or bullying variables between completers and non-completers.

Seventy-three percent of participants reported living with their mother and father, 12% in joint custody, and 6% with their mother only, 6% with a parent and stepparent, and 3% in some other arrangement. These family composition values are comparable to Canada's 2006 census data (Statistics Canada, 2008). Seventy-two percent of participants identified themselves as White/Caucasian, 2% as Native, 2% as South Asian or Chinese, 6% as Other, and 18% as Don't Know. Based on child report, the current sample is comparable to the Canadian population in 2006, which is 80% Caucasian (Statistics Canada, 2008). Children reported that 29% of their fathers had a university education, 15% had a college education, 8% had a high school education, 2% did not complete high school, and 46% did not know their father's educational attainment. Children reported that 21% of their mothers had a university education, 11% had a college education, 11% had a high school education, 5% did not complete high school, and 52% did not know their mother's educational attainment. The educational attainment of the current sample is fairly comparable to the 2006 Canadian census data (Statistics Canada, 2008). Based on average hourly wages in 2007, mothers' average annual income was $31,031 (*SD*= $11,666) and fathers' average annual income was $36,309 (*SD*= $11,138) (Service Canada, 2007). The families represented in the current sample live within the average income bracket for Canada in 2006 (Statistics Canada, 2008).

Design

The study was longitudinal and data were collected during class time by trained research assistants in Spring 2006 and 6 months later in the Fall 2006. Children were required to obtain parental consent. Student identification lists were kept for the duration of the study in a locked cabinet and included each student's name, class, and

identification number. Questionnaires were kept in a separate locked cabinet and were identified only by the child's identification number. School principals provided the researchers with class lists prior to the second data collection period because students changed classrooms between data collection points. This allowed for accurate administration of the questionnaires over time. Confidentiality was explained to students and their parents and all class lists were destroyed at the completion of the data collection. All participants were treated in accordance with the ethical codes stated by the American Psychological Association (APA, 2001).

Measures

    Demographics. Demographic information including age, sex, family composition, race, country of origin, parental occupation, and parental education was assessed.

    Bullying. Bullying perpetration and victimization were assessed with a revised version of the Safe Schools Survey (Hymel, White, & Ishiyama, 2003) at both points in time. Students indicated how often they had bullied others and were the victims of three bullying behaviors (i.e., physical, verbal, and social) using a 4-point scale (from "never in 4 weeks" to "many times a week"). A bullying severity score was calculated by summing a child's report of physical, verbal, and social bullying; a victimization severity score was calculated using the same method for victimization items ($\alpha =.73$, .80 for Bullying Severity at Time 1 and 2, respectively; $\alpha =.78$, .80 for Victimization Severity at Time 1 and 2, respectively). Possible scores ranged from zero to nine, with higher scores representing more bullying or victimization across the three types of behaviors. See Table 1 for means and standard deviations.

Self-Blame. Self-blaming attributions were assessed at Time 1 using two vignettes followed by a series of questions that measured the degree to which an individual blames him/herself for events. The two vignettes required the participant to imagine being a victim of

Table 1

Means and Standard Deviations for Boys' and Girls' Bullying and Victimization Scores at Both Times

	Victimization Severity Time 1		Victimization Severity Time 2		Bullying Severity Time 1		Bullying Severity Time 2	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Boys	2.18	2.46	1.62	2.05	0.85	1.25	0.73	1.25
Girls	2.16	2.32	1.75	2.25	0.86	1.28	0.99	1.65

peer harassment. Participants were asked to rate 14 statements about the reason each of the two situations had occurred on a five point scale from zero (not at all true) to four (very true) for a total of 28 items. Ten statements such as, "This would happen because of the kind of person I am" were designed to assess characterological self-blame for a total of 20 characterological self-blame items ($\alpha = .92$). The other four statements (e.g., "This happens because of something I did or did not do") were designed to assess behavioral self-blame with a total of eight behavioral self-blame items ($\alpha = .79$). Similar methods (Cole, Peeke, & Ingold, 1996; Graham & Juvonen, 1998; Renshaw & Brown, 1993) of measuring self-blaming attributions have found moderate levels of internal consistency. Mean values were calculated for each scale and possible scores ranged from 0 to 4 (*M* =

1.34, $SD = 0.99$, and $M = 1.49$, $SD = 0.99$, for boys and girls respectively on characterological self-blame and $M = 1.33$, $SD = 0.92$, and $M = 1.44$, $SD = 0.78$, for boys and girls respectively on behavioral self-blame).

An additional measure, The Children's Attributional Styles Questionnaire – Revised (CASQ-R; Kaslow, & Nolan-Hoeksema, 1991) assessed attributional styles at Time 1 along the dimensions of stability, globality, and locus of control. The CASQ-R is comprised of 24 statements requiring the child to choose between one of two possible explanations for the statement. For example, for the statement "You make a new friend" the child chooses the explanation that best explains the sentence for them: "I am a nice person" or "The people that I meet are nice." Twelve items are summed to create a composite score for negative events and the other 12 items are summed to create a composite score for positive events. Finally, a total score is calculated by subtracting the negative score from the positive score. The total score was reverse coded so that high scores represent depressive attribitonal styles, whereby a child explains bad events as global, internal, and stable and explains good events as external, unstable, and specific. The CASQ-R has moderate internal consistency (Thompson, Kaslow, Weiss, & Nolen-Hoeksema, 1998). Possible scores ranged from -12 to12 ($M = -4.95$, $SD = 3.19$, and $M = -5.09$, $SD = 3.41$, for boys and girls respectively).

Coping with Problems. A modified version of Causey and Dubow's (1992) Self-Report Coping Scale, along with two additional coping subscales developed by Kochenderfer-Ladd (2004), assessed children's coping strategies at Time 1. Children indicated how often, on a 5-point scale, they would use each strategy following the modified stem from Kochenderfer-Ladd and Skinner's (2002), "When I have a problem

with another kid at school, I…" Causey and Dubow's (1992) scale consists of five

subscales: seeking social support (8 items, e.g., "Ask a friend for advice", α = .89), self-

reliance (8 items, e.g., "Try to think of different ways to solve it", α = .88), distancing (6

items, e.g., "Refuse to think about it", α = .67), internalizing (7 items, e.g., "Worry that

others will think badly of me", α = .74), and externalizing (4 items, e.g., "Get mad and

throw or hit something", α = .72). The two additional subscales (Kochenderfer-Ladd,

2004) are conflict resolution (5 items, e.g., "Make a plan with the kid to get along", α =

.75) and revenge (4 items, e.g., "Think about getting even with the kid", α = .82). A total

of 42 items were included in this measure with possible mean scores ranging from 0 to 4.

See Table 2 for means and standard deviations for each coping strategy.

Table 2

Means and Standard Deviations for Boys' and Girls' Coping Strategies

	Social Support		Self-Reliance		Distancing		Internalizing		Externalizing		Conflict Resolution		Revenge	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Boys	1.34	0.86	1.87	0.82	1.51	0.74	0.99	0.63	0.91	0.79	1.71	0.84	1.12	0.99
Girls	1.98	0.87	2.32	0.83	1.37	0.64	1.35	0.71	0.76	0.75	2.12	0.87	0.68	0.76

Results

Attributions and Coping and their Association with Victimization and Bullying

A preliminary examination of the relationships between the variables of interest is

displayed in Table 3, with boys' correlations above the diagonal and girls' correlations

below the diagonal. Attributions and coping were measured at Time 1, whereas bullying

and victimization were measured at Time 1 and Time 2. Bullying and victimization at

both times were moderately positively correlated for both boys and girls. For boys, characterological and behavioral self-blame were positively correlated with victimization at both times, but not with bullying at either time. For girls, characterological and behavioral self-blame were positively correlated with victimization at both times, whereas characterological self-blame was also positively correlated with bullying at Time 2. For boys, depressive global attribution style was positively correlated with bullying at both times, but only with victimization at Time 2, whereas for girls, depressive global attribution style was positively correlated with bullying and victimization at both times.

For boys, revenge, externalizing, and internalizing coping were positively associated with victimization at both times, while distancing coping was positively associated with victimization only at Time 2. A different pattern was seen for boys' bullying, where conflict resolution was negatively correlated with bullying at Time 1 and revenge and externalizing coping were positively correlated with bullying at Time 1, but no coping styles were associated with bullying at Time 2. A different pattern was observed for girls where revenge, externalizing, and internalizing coping were positively correlated with victimization at both times, distancing coping was positively correlated with victimization at Time 1, and social support coping was negatively correlated with victimization at Time 2. With regards to girls' bullying, revenge and externalizing coping were positively associated with bullying at both times and self reliance coping was negatively associated with bullying at both times. Conflict resolution and social support coping changed from being uncorrelated with bullying at Time 1 to being negatively correlated with bullying at Time 2.

Table 3

Correlations among Boys' and Girls' Attributions, Coping Styles at Time 1 and Severity of Victimization and Bullying at Times

1 and 2

Scale	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Victimization Severity Time 1	--	.31**	.54**	.25*	.15	.07	.18	.31**	.27**	.08	.38**	.59**	.53**	.15
2. Bullying Severity Time 1	.34**	--	.06	.45**	-.21*	-.16	-.12	.20*	.19*	-.02	.08	.12	.14	.30**
3. Victimization Severity Time 2	.72**	.26**	--	.25*	.05	-.01	.03	.29**	.33**	.32**	.43**	.52**	.44**	.22*
4. Bullying Severity Time 2	.45**	.41**	.55**	--	-.12	-.15	-.17	.19	.24	.05	.05	.18	.19	.35**
5. Conflict Resolution Coping	.03	-.10	-.08	-.27**	--	.78**	.77**	-.14	-.06	.02	.49**	.15	.13	-.34**
6. Self-Reliance Coping	.02	-.17*	-.11	-.23*	.72**	--	.75**	-.21*	-.09	-.07	.43**	.12	.16	-.41**
7. Social Support Coping	-.03	-.11	-.19*	-.26**	.70**	.65**	--	.02	.05	.02	.51**	.13	.15	-.38**
8. Revenge Coping	.23**	.37**	.19*	.43**	-.13	-.13	-.13	--	.70**	.33**	.18	.16	.15	.28**
9. Externalizing Coping	.42**	.41**	.37**	.48**	-.10	-.12	-.03	.64**	--	.44**	.29**	.25**	.22*	.28**
10. Distancing Coping	.25**	.08	.14	.10	.05	-.07	-.05	.24**	.14	--	.20*	.05	.04	.08
11. Internalizing Coping	.36**	.16	.34**	.14	.30**	.29**	.29**	.35**	.47**	.12	--	.39**	.31**	.01
12. Characterological Self-Blame	.56**	.11	.63**	.34**	.12	.15	-.02	.14	.33**	.14	.42**	--	.88**	.29**
13. Behavioral Self-Blame	.34**	.11	.29**	.18	.21*	.21*	.10	.14	.28**	.10	.47**	.59**	--	.31**
14. Depressive Attribution Style	.30**	.26**	.42**	.49**	-.31**	-.31**	-.39**	.30**	.38**	.13	.17*	.35**	.23**	--

Note: Boys' correlations are above the diagonal and girls' correlations are below the diagonal.
* *p* <.05, **p* <.01

Three coping styles (conflict resolution, self reliance, and social support) were significantly negatively related and two (revenge and externalizing) were significantly positively related to depressive global attribution styles for boys, whereas only two (externalizing and internalizing) were significantly positively related to each of the self-blame attributions. Of the seven coping styles, three (revenge, externalizing, and internalizing) were significantly positively related and three (conflict resolution, self-reliance, and social support) were negatively related to a depressive global attribution style for girls, whereas only two (externalizing and internalizing) of the coping styles were positively related to characterological self-blame. For girls, conflict resolution, self-reliance, externalizing, and internalizing coping were positively related tobehavioral self-blame. Fewer boys' coping styles were significantly related to bullying behaviors than girls' coping styles, particularly when examining coping styles with bullying at Time 2.

Cross-Sectional Relationships among Children's Attributions, Coping Styles, and Bullying

Before examining how attributions and coping are related to changes in bullying over time, it is important to establish the more basic mediational associations among these constructs (i.e., Spring 2006). Linear regressions were used to assess how children's coping styles mediate the relationship between children's attributional styles and bullying perpetration. As was already explained in Chapter 2, Baron and Kenny (1986) state that three conditions must be met in order to establish a mediational relationship. To review, first, in regressing the mediator on the independent variable, the independent variable must be related to the mediator (i.e.,

attributional styles must predict coping styles). Second, in regressing the dependent

variable on the independent variable, the independent variable must be related to the

dependent variable (i.e., attributional styles must predict bullying). Third, in

regressing the dependent variable on both the independent and mediator variables, the

mediator must predict the dependent variable (i.e., coping styles must predict bullying

above and beyond the effect of attributional styles on bullying). When results meet

these three criteria, a fourth condition is that the relationship between the independent

and dependent variable decreases in the third regression, compared to the same

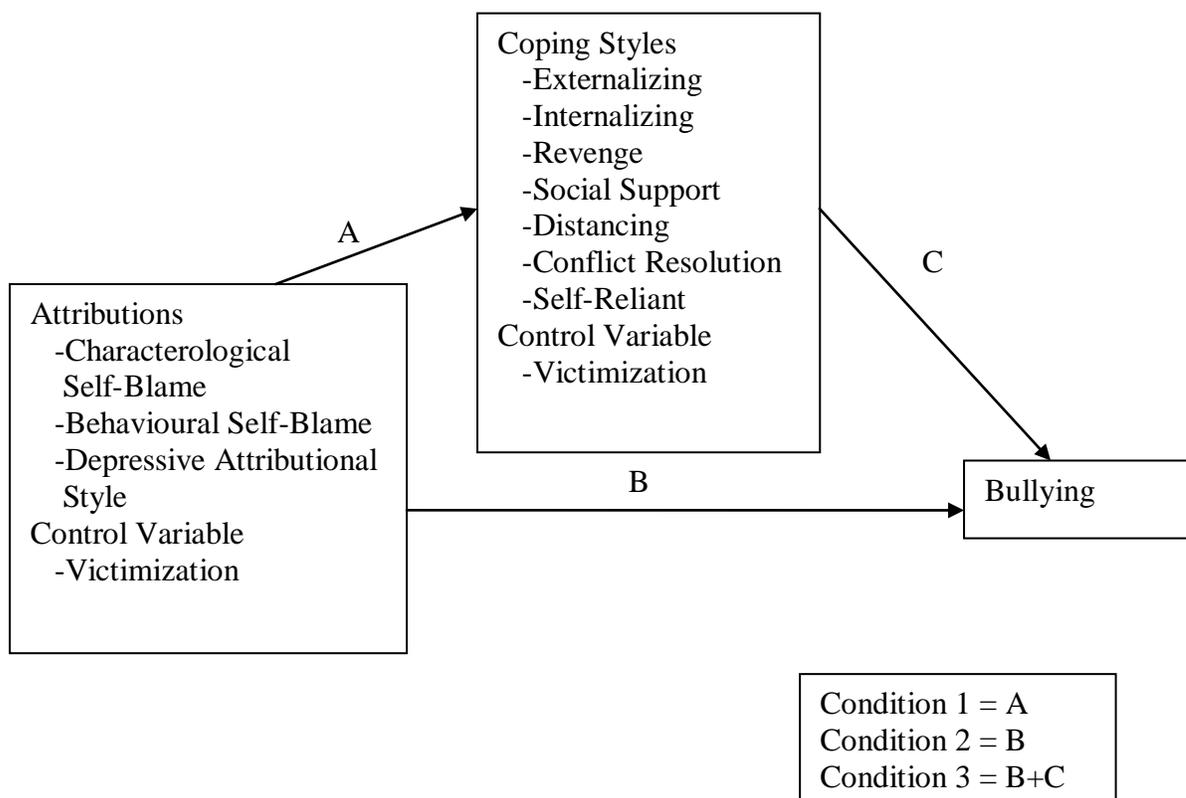relationship in the second regression. See Figure 1 for the conceptual model of all

Figure 1. Conceptual model of mediational analyses.

mediational analyses. At all steps victimization was entered into the model to control for its effects as victimization and bullying are correlated (see Table 3). As sex was a significant predictor, the models were run separately for boys and girls rather than using sex as a control variable as was done for some analyses in Chapter 2. Stepwise regressions were used for the purpose of entering Time 1 Victimization Severity at Step 1 (and Bullying Severity at Time 1 for the longitudinal analyses) for control purposes, as bullying and victimization are correlated and it was the goal of this paper to examine the variance in bullying due to attributions and coping after controlling for levels of bullying involvement at Time 1. Only significant findings are reported.

Direct relationships between attributions, coping styles, and bullying. To determine the relationship between various attributions, coping styles, and bullying severity at Time 1, regressions were run, separately for boys and girls, while controlling for victimization severity. For boys, depressive attribution styles predicted higher levels of bullying, while conflict resolution, self reliance, and social support coping all significantly predicted lower levels of bullying severity at Time 1, as predicted. For girls, self reliance coping predicted lower levels of bullying whereas depressive attribution styles and revenge and externalizing coping significantly predicted higher levels of bullying severity at Time 1, as predicted. See Table 4.

Conflict resolution, self-reliance, and social support coping as mediators of depressive attribution style and bullying. While all conditions were met for boys and girls in the mediational analyses examining conflict resolution, self-reliance, and social support coping as mediators, Sobel's test indicated that none of these coping

Table 4

Direct Relationships between Attributions, Coping Styles, and Bullying Severity at

Time 1

	Boys			Girls		
	B	*S.E. B*	β	*B*	*S.E. B*	β
Step 1		$R^2 = .09$			$R^2 = .11$	
Victimization Severity	.16	.05	.31**	.18	.04	.34***
Step 2		$\Delta R^2 = .07**$			$\Delta R^2 = .03*$	
Victimization Severity	.14	.04	.27**	.16	.05	.28**
Depressive Attribution Style	.10	.03	.26**	.07	.03	.17*
Step 1		$R^2 = .10$				
Victimization Severity	.17	.05	.32**	.18	.04	.34***
Step 2		$\Delta R^2 = .07**$			$\Delta R^2 = ns$	
Victimization Severity	.19	.05	.36***	.19	.04	.34***
Conflict Resolution Coping	-.39	.13	-.26**	-.17	.12	-.11
Step 1		$R^2 = .11$			$R^2 = .13$	
Victimization Severity	.17	.05	.32**	.19	.04	.37***
Step 2		$\Delta R^2 = .03*$			$\Delta R^2 = .03*$	
Victimization Severity	.17	.05	.34***	.19	.04	.37***
Self Reliance Coping	-.28	.14	-.18*	-.25	.11	-.17*
Step 1		$R^2 = .10$				
Victimization Severity	.17	.05	.32**	.19	.04	.37***
Step 2		$\Delta R^2 = .03*$			$\Delta R^2 = ns$	
Victimization Severity	.18	.05	.35***	.19	.04	.37***
Social Support Coping	-.26	.13	-.18*	-.13	.11	-.10
Step 1					$R^2 = .13$	
Victimization Severity	.17	.05	.33**	.19	.04	.36***
Step 2		$\Delta R^2 = ns$			$\Delta R^2 = .09***$	
Victimization Severity	.15	.05	.29**	.15	.04	.29***
Revenge Coping	.14	.12	.11	.49	.12	.30***
Step 1					$R^2 = .14$	
Victimization Severity	.15	.05	.29**	.19	.04	.37***
Step 2		$\Delta R^2 = ns$			$\Delta R^2 = .08***$	
Victimization Severity	.13	.05	.26**	.12	.04	.24**
Externalizing Coping	.18	.15	.12	.50	.14	.31***

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

styles were significant mediators of the relationship between depressive attribution style and bullying for boys or girls.

Revenge coping as a mediator of depressive attribution style and bullying. Boys' overall models for each condition were significant; however, Sobel's test indicated that revenge coping is not a significant mediator of the relationship between depressive attribution style and bullying for boys. Girls' overall model for Condition 1 was significant, $F(2, 140) = 8.72$, $p < .01$, (Adjusted $R^2 = .10$), with higher levels of depressive attribution style ($B = .06$, *S.E.* = .02, $p < .01$) predicting higher levels of revenge coping. Girls' overall model for Condition 2 was significant, $F(2, 145) = 1.60$, $p < .001$, (Adjusted $R^2 = .13$). Girls' overall model for Condition 3 was significant, $F(3, 140) = 13.27$, $p < .001$, (Adjusted $R^2 = .21$). As predicted, revenge coping did significantly mediate the relationship between depressive attribution style and bullying for girls (Sobel's test = -2.25, $p < .05$). See Table 5.

Externalizing coping as a mediator of depressive attribution style and bullying. Boys' overall models for each condition were significant; however, Sobel's test indicated that externalizing coping is not a significant mediator of the relationship between depressive attribution style and bullying for boys. Girls' overall model for Condition 1 was significant, $F(2, 139) = 22.44$, $p < .001$, (Adjusted $R^2 = .24$), with higher levels of depressive attribution style ($B = .06$, *S.E.* = .02, $p < .01$) and higher levels of victimization ($B = .11$, *S.E.* = .03, $p < .001$) predicting higher levels of externalizing coping. Girls' overall model for Condition 2 was significant, $F(2, 145) = 1.60$, $p < .001$, (Adjusted $R^2 = .13$). Girls' overall model for Condition 3 was significant, $F(3, 139) = 12.84$, $p < .001$, (Adjusted $R^2 = .20$). As predicted,

externalizing coping was a significant mediator of the relationship between depressive attribution style and bullying for girls (Sobel's test = -2.22, $p < .05$). See Table 5.

Table 5

Hierarchical Regressions of Mediational Relationships between Girls' Attributions, Coping, and Bullying at Time 1

	Condition 2			Condition 3		
	B	*S.E. B*	β	*B*	*S.E. B*	β
	Revenge Coping as a Mediator					
Step 1	$R^2 = .11$			R $R^2 = .13$		
Victimization Severity	.18	.04	.34***	.19	.04	.36***
Step 2	$\Delta R^2 = .03*$			$\Delta R^2 = .10***$		
Victimization Severity	.16	.05	.28**	.14	.04	.26**
Depressive Attribution Style	.07	.03	.17*	.04	.03	.11
Revenge Coping				.44	.13	.28**
	Externalizing Coping as a Mediator					
Step 1	$R^2 = .11$			$R^2 = .14$		
Victimization Severity	.18	.04	.36***	.19	.04	.37***
Step 2	$\Delta R^2 = .03*$			$\Delta R^2 = .08**$		
Victimization Severity	.16	.05	.28**	.12	.04	.23**
Depressive Attribution Style	.07	.03	.17*	.03	.03	.09
Externalizing Coping				.46	.14	.28**

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

Summary of Cross-sectional Results

Two of the coping styles (i.e., revenge and externalizing coping) were found to be significant mediators of depressive attributions and bullying, but only for girls. There were significant direct relationships between attributions and bullying and coping styles and bullying with some differences by sex. In support of hypotheses, conflict resolution and social support coping were negatively predictive of bullying only for boys, whereas revenge and externalizing coping were positively predictive of bullying only for girls. For both sexes, higher levels of self- reliance coping and lower levels of depressive attribution style significantly predicted lower levels of bullying. The only predictors that were not related to bullying for either boys or girls were characterological and behavioral self-blame, which had been predicted to have a negative association with bullying.

Longitudinal Relationships between Attributions, Coping Styles, and Changes in Bullying

The above results add to our understanding of the relationships among these constructs at a single point in time (Time 1); however, it remains a question whether these coping styles are related to changes in bullying perpetration over time. Mediational analyses were conducted to examine this question. Predictor variables at Time 1 included depressive attribution style and coping, while reports of victimization and bullying severity at Time 1 were controlled for. The outcome of bullying severity was measured at Time 2.

As the following analyses are focused on the examination of change in bullying experiences over time, children who did not experience an increase or a

decrease in bullying perpetration from Time 1 to Time 2 (absolute change of bullying severity score equal to zero) were excluded from the longitudinal analyses. Victimization and bullying at Time 1 continued to be controlled for in Step 1 for all analyses so that any effect of attributions or coping (entered in Step 2) translated into explaining variance in the change of bullying over time.

Direct relationships between coping styles and bullying over time. To determine the relationship between various coping styles and bullying severity at Time 2, regressions were run. None of the models were significant for boys, whereas four overall models were significant for girls. Therefore, analyses are reported for girls only. For girls, as predicted, conflict resolution and social support coping significantly predicted lower levels of bullying severity at Time 2, whereas revenge and externalizing coping significantly predicted higher levels of bullying severity at Time 2. See Table 6.

Mediational relationships between attribution, coping styles, and bullying over time. To determine the sequential relationships among attributions, coping, and bullying over time, regressions were used following Baron and Kenny's (1986) guidelines. However, none of the hypothesized mediational relationships were found between attributions, coping styles, and bullying over time. Results are not presented in detail.

Summary of Boys and Girls' Cognitions and How They Relate to Involvement in Bullying Perpetration

Changes in boys' involvement in bullying perpetration over time were not related to their coping styles, contrary to predictions. On the other hand, girls'

Table 6

Hierarchical Regressions of the Direct Relationships between Girls' Coping Styles at

Time 1 and Bullying Severity at Time 2

	B	S.E. B	β
Step 1		$R^2 = .29$	
Victimization Severity Time 1	.24	.06	.36***
Bullying Severity Time 1	.38	.11	.31***
Step 2		$\Delta R^2 = .09$***	
Victimization Severity Time 1	.17	.06	.25**
Bullying Severity Time 1	.32	.10	.26**
Depressive Attributional Style	.16	.04	.33***
Step 1		$R^2 = .29$	
Victimization Severity Time 1	.24	.06	.36***
Bullying Severity Time 1	.38	.11	.31***
Step 2		$\Delta R^2 = .05$**	
Victimization Severity Time 1	.25	.06	.37***
Bullying Severity Time 1	.24	.10	.27**
Conflict Resolution Coping	-.43	.15	-.28**
Step 1		$R^2 = .27$	
Victimization Severity Time 1	.26	.06	.39***
Bullying Severity Time 1	.30	.11	.23**
Step 2		$\Delta R^2 = .04$*	
Victimization Severity Time 1	.26	.06	.39***
Bullying Severity Time 1	.27	.11	.20*
Social Support Coping	-.38	.15	-.20*
Step 1		$R^2 = .25$	
Victimization Severity Time 1	.24	.06	.37***
Bullying Severity Time 1	.30	.11	.24**
Step 2		$\Delta R^2 = .08$***	
Victimization Severity Time 1	.22	.06	.33***
Bullying Severity Time 1	.19	.11	.15
Revenge Coping	.63	.17	.31***

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

involvement in bullying perpetration over time does change in relation to their attribution style and the coping styles they engage in, as predicted. A depressive attribution style directly predicted higher levels of bullying, as did higher levels of revenge and externalizing coping. Conversely, higher levels of conflict resolution and social support coping predicted lower levels of bullying over time. These two positive effects did not emerge in the cross-sectional analyses and suggest the importance of developing supportive relationships over time as a strategy for protecting against negative peer interactions. None of the coping styles were significant mediators over time, suggesting that attributions and coping styles are independently related to changes in bullying over time.

Discussion

The findings from the current study provide important information about the role of attributions and coping and their relationship to bullying behavior. Findings only minimally supported Crick and Dodge's (1994) social information processing theory; mediational relationships between attributions, coping, and bullying were rarely found. Instead, consistent support was found for direct relationships between attributions and bullying as well as between coping and bullying. Furthermore, the relationships among these constructs generally were different for boys and girls and suggest theoretically gender-specific processes. The role of peer relationships in coping was particularly important and protective for girls over time. Beck's (1964) cognitive theory of depression helps to make sense of the associations found between children's general beliefs and behaviors and their involvement in bullying.

Direct relationships among attributions and bullying within time were the only area consistent between boys and girls. Both boys and girls' attributions about negative events characterized by a depressive style (internal, stable, and global reasons) were associated with higher levels of bullying perpetration within time. These children may hold beliefs about their inability to change circumstances and their own aggressive behavior. Previous research on aggression has highlighted a hostile attribution bias among those who aggress toward others (Dodge & Frame, 1982; Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). It may be that these children see the world as aggressive and unchangeable (i.e., a hostile attribution bias) and consequently react with bullying. As in Beck's (1964) theory, these children come to see the world as aggressive and hostile and believe that they have no control over what happens to them (depressive view). As a result of these attributional biases, these children may come to believe that the only way to protect themselves from negative events in their lives is by behaving aggressively toward others (i.e., bullying). Interestingly, the relationship between a depressive attributional style and bullying did not hold over time for boys, but did for girls. Girls who hold depressive attributions may remain isolated from peers and in an attempt to reconnect with peers these girls may use bullying as an ineffective means of orchestrating friendships. Over time, their gender atypical behavior may further isolate them, reinforcing their depressive style. Overall, holding depressive cognitions about experiences was related to higher reports of bullying others.

A promising picture emerged for boys whereby prosocial coping protected them against involvement in bullying. The more boys were able to solve problems

prosocially (conflict resolution coping) and utilize social support (social support coping), as well as their own strengths and abilities (self-reliance coping), the lower levels of bullying involvement they reported. These patterns were found cross-sectionally, but did not hold over time. The lack of persistent patterns over time suggests that successful strategies are specific to an isolated bullying interaction and do not necessarily predict changes in bullying involvement over time. Still, it is promising to know that boys are able to use coping styles in the moment that are related to fewer reports of bullying. It will be important for future research to determine what mechanisms help boys to retain these positive effects over time and across bullying situations.

Girls, on the other hand, showed a different pattern of relationships between coping and bullying. Gender nonnormative behaviors, such as externalizing and revenge coping (Causey & Dubow, 1992), were related to higher levels of bullying. These girls may be unable to negotiate appropriately in social situations. A similar process can be seen with seemingly positive coping styles. While girls who rely on themselves (self-reliance coping) showed lower associations with bullying within time, this relationship was not evident across time. Instead, girls who reported engaging in conflict resolution and social support showed associations with decreased bullying over time. It may take time for these social relationships to develop and have an influence on girls' use of bullying. Girls' friendships function to serve as supportive and reciprocated relationships where thoughts and feelings are shared openly (Bukowski & Kramer, 1986; Rivenbark, 1971). Girls may learn that bullying others is not effective for maintaining relationships, so that over time they may learn

to obtain support from peers prosocially to reconcile differences or conflicts. Taken together, these findings highlight the importance of developing positive relationships for girls. When girls are able to connect in a prosocial way with peers, it is associated with less bullying in their social interactions.

A second goal of this study was to investigate for mediational relationships in support of Crick and Dodge's (1994) cognitive theory. None of the mediational models were significant for boys, suggesting the direct relationships provide the best explanation for the processes involved among attributions, coping, and bullying. Minimal support for Crick and Dodge's social information processing model was found for girls within time. Girls who hold depressive attributional styles and who subsequently choose coping styles characterized by revenge and externalizing behaviors were more likely to report higher levels of bullying. Unlike the girls who are able to find prosocial connections through social support, these girls were more likely to have sought power through antisocial means. While some girls may have been able to fulfill their need for social status by reaching out to their peers, some girls were less able to meet their needs prosocially. These girls turned to aggressive coping styles, which may have opened the pathways to bullying others as a means of obtaining status in their social groups. Interestingly, this mediational process did not hold over time, suggesting that the direct relationships are still the more salient pathways. Support was not found for coping behaviors mediating between attributions and bullying over time.

While there are many strengths to this study, there are limitations and they may have influenced the mediational results in particular. Mediation may have been

difficult to detect because of the change of academic years between the data collection points. Children changed grades, classrooms, and peer groups as a result of this change and these changes may have significantly impacted the experiences of the children. With such significant changes, difficulties in determining mediational relationships among the constructs of interest may arise. As children change grades and presumably classrooms, their peer relationships may change and the individuals engaging in the bullying may change. These changes may impact the coping styles needed to move away from bullying others, making continuity in coping inappropriate; a strategy in one bullying episode may not work in another situation or with another individual. Therefore, it is essential to know about these interpersonal relationships to best understand the processes involved in continued versus discontinued bullying. Observational studies of these reciprocal relationships may increase our understanding. In future studies, researchers should examine factors such as classroom differences, teachers' influence, and peer relationships in conjunction with the various coping styles and attributions a child engages in when faced with adversity.

Two other limitations relate to the sample. The community sample may have made it difficult to detect the proposed relationships because of the relative lack of severe bullying. In the current sample, only 3% of children reported severe levels of bullying perpetration, while approximately 60% of children reported no bullying perpetration. A clinical sample could provide a concentrated sample of children who engage in more severe bullying and provide a less heterogeneous population. Thus, using a subsample of clinically significant aggressive children would allow for the

examination of entrenched relationships among attributions, coping styles, and bullying. Maintaining the community sample would provide a comparison for a clinical sample. It may be that a community sample is comprised of children who are more successful at employing strategies that end bullying. By including a clinical sample, these relationships may be clearer.

Secondly, the method was based on self-report and hence there may be a problem with shared method variance. Each child may hold systematic biases in their cognitions and may have difficulty providing an objective report of their own cognitions. Using multiple reporters, such as parents, teachers, and peers can help to reduce the biases and problems associated with self-report. Some research has demonstrated that self-report for the assessment of bullying is less accurate than peer reports, which are better at uncovering physical bullying in a peer group (Pellegrini & Bartini, 2000). The benefits of self-report also deserve mention. By obtaining self-reports longitudinally, it is possible to examine the personal experiences of children and the effects their perceptions have on their experiences. Bullying can be a very personal and subjective experience and there is only moderate agreement among raters. For this reason, self-report is an important method of assessment when examining individuals' experiences and beliefs about those experiences. Furthermore, recent research on bullying has started to involve other roles besides those who bully and are victimized, including defenders of each party and bystanders (Salmivalli, 1999).

Conclusions

Although more research is needed in this area of study to clarify the relationships among attributions, coping, and bullying, this study offers a preliminary model for identifying factors which may lead children to continued or discontinued involvement in bullying perpetration. Moving away from simplistic models is an important step for elucidating the complex mechanisms involved in children's cognitions and subsequent negative peer experiences. Using modeling techniques with the inclusion of constructs on the individual (cognitive and behavioral) and group (peers, classrooms, parents, and neighborhoods) levels may assist in gaining a fuller understanding of the issues involved in continuity or discontinuity of bullying behaviors. Longitudinal designs that incorporate the examination of reciprocal relationships and how those relationships evolve over time are needed.

Overall, the SIP model proposed by Crick and Dodge (1994) was not supported in the current study; however, a general social cognitive framework remains a viable structure for understanding the direct relationships between attributions, coping, and bullying. Children's bullying behavior was consistently associated with biased cognitions, particularly with depressive attributions. Beck's (1964; 1991) cognitive theory provided a valuable mechanism for interpreting the patterns found in this study. There also emerged positive messages about prosocial coping for boys and girls. Girls can benefit from social support over time, while boys only benefit from it within time. Teaching children how to engage in positive relationships with peers, for girls in particular, can be a protective factor for bullying involvement. We still have limited understanding of what cognitive factors relate to

discontinued bullying over time and there were fewer answers for boys than for girls. This relative lack of findings for boys may be related to the relational nature of bullying and the different roles relationships play for boys and girls. The findings from the current study provide hope that children are able to try a variety of coping styles and when they utilize styles that meet their interpersonal needs, they experience changes in their bullying behaviors.

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Forward to Chapter 4

Chapter 4 adheres to APA format. My supervisor, Dr. Wendy Craig, assisted in all aspects of the research and in the preparation of the manuscript and she appears as a co-author on the manuscript. The present study used archival data collected in the Early Adolescent Friendship study. The principal authors for the Early Adolescent Friendship study, Dr.'s Wendy Craig, Debra Pepler, and Jennifer Connolly are included as co-authors on the manuscript.

Chapter 4:

Childhood Friendships and Victimization: Do They Hurt or Protect?

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Abstract

To examine the peer group characteristics on children's victimization experiences over time, 1694 children in grades 4 to 8 completed questionnaires twice over 6 months. Sex and victimization group differences were tested longitudinally using repeated measures MANOVAs. Measures included the revised Safe School Survey for bullying, the Peer Relationship Questionnaire, Network of Relationships Inventory, Inventory of Parent and Peer Attachment, Youth Self Report, Conflict Resolution Scale, and the Perception of Parental Reciprocity Scale. Nonvictimized children report more reciprocated friendships, more stable friendships, and are listed by more children as friends than children involved in victimization. Consistently victimized children have friends who experience higher levels of their own victimization than nonvictimized children. Finally, consistently victimized children communicate less with their friends than do nonvictimized children. Findings support Hartup's (1993) proposal that the identity of one's friends matters. As well, findings suggest the need for interventions that teach victimized children and the members of their peer networks how to cope effectively with victimization and communicate with each other about their needs.

Childhood Friendships and Victimization: Do They Hurt or Protect?

For decades, bullying has received increasing attention in the research literature and has historically been understood as an individual problem. Research has traditionally focused on correlates of the 'victim' or 'bully' role and often has examined individual characteristics (Card & Hodges, 2008; Mahady-Wilton, Craig, & Pepler, 2000; Nansel, Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001). Some researchers have expanded the scope of investigation by including characteristics of best friend dyads or classroom environments (Doll, Song, & Siemers, 2004; Mishna, Wiener, & Pepler, 2008; Orobio de Castro, 2007). More recently, researchers understand bullying as a relationship problem; a phenomenon that occurs in the context of social relationships (Pepler, Jiang, Craig, & Connolly, 2008). From a relationship perspective, it is important to understand the larger context of a child's relationships with his/her peer network and close friends. However, there is limited research on the friendships and peer networks of victimized children. Victimization by bullying typically occurs within the school and community settings where children are most often surrounded by same-aged peers. This group of peers is most available to provide support and other forms of influence to children experiencing victimization. The individual characteristics of each peer network member combine, creating an environment for socializing the child, which potentially increases risk or protection for victimization. For example, peer social support is related to lower levels of victimization over time, particularly for girls (Shelley & Craig, in press). The current study examined peer network structure and individual

peer network members' characteristics and their relationship to decreasing, increasing, or maintaining victimization over time.

The presence or absence of friendships, a structural aspect of peer networks, has been examined through questions related to how many friends a child has or whether the number of friends relates to protection against problems such as victimization or loneliness (Bukowski, Hoza, & Boivin, 1994; Hartup, 1993; Hodges, Boivin, Vitaro, & Bukowski, 1999). These researchers found that the presence of friendships does provide protection against negative factors such as loneliness and victimization. One goal of this study was to replicate previous research on the structure of a child's peer network and to add to this research area by investigating how the structure of a child's friendship network related to different pathways of victimization over time (none, decreasing, increasing, or consistent victimization). We predicted that children's friendships characterized by more friends, more reciprocity among friends, and more stability would be more protected from victimization within and over time.

Building upon previous research, the individual characteristics of each peer network member may interact to contribute to how much a child's environment supports or discourages victimization. Hartup (1995; 1996) stressed the importance of examining not only if children have friends, but also the characteristics of those friends and the quality of the friendships. While he did find that children with friends were typically more socially competent and less troubled than children without friends, it was difficult to determine whether the friendships promoted these qualities or if these qualities (e.g., social competence) promoted the friendships. Depending on

the characteristics of one's friends, relationships may increase or decrease a child's risk for involvement in victimization. Hodges, Boivin, Vitaro, and Bukowski (1999) found that fewer friendships were related to increased victimization over time and hypothesized that friends of victimized children have their own internalizing problems and are unable to provide the necessary support to the victimized child. The individual characteristics of these friends may provide a peer context for being victimized. Peer groups provide a learning environment for children and a friendship network characterized by internalizing difficulties that may not provide opportunities for learning prosocial, assertive, and protective ways of interacting. The relative impact of such friendship characteristics may be different for boys and girls. For example, boys' friendships have shown higher concordance on reports of shyness than girls, whereas no differences were found on reports of withdrawn behaviour (Haselager, Hartup, Van Lieshout, & Riksen-Walraven, 1995). The current study examined multiple indices of internalizing difficulties, including anxiety, withdrawn behaviours, and victimization experiences within the individual members of a child's peer network to better understand the risk and proactive factors associated with pathways of victimization. We predicted that children with peers who had higher levels of internalizing problems would be at a higher risk for being victimized within and over time.

There also exists a body of research demonstrating the power of friendships to maintain and perpetuate aggressive behaviour (Adams, Bukowski, & Bagwell, 2005; Newcomb, Bukowski, & Bagwell, 1999; Poulin & Boivin, 2000). Boxer, Guerra, Huesmann, and Morales (2005) found that peer groups' aggression influences an

individual's level of aggression whereby the average level of aggression in the group pulls the individual toward that value – either by increasing or decreasing their aggression over time so that it is closer to the average of the group. Aggression is an externalizing problem that can be characterized as a risk factor for other problems, including victimization (Pepler, Jiang, Craig & Connolly, 2008). When children at risk for victimization surround themselves with aggressive peers, they may become the target for victimization within that aggressive peer group, as these friends may not act protectively against victimization. Again, sex differences may exist within peer networks where girls' networks may have higher concordance on levels of antisocial behaviour than boys' networks because such gender non-normative behaviours may have greater social implications for girls than for boys (Haselager, Hartup, Van Lieshout, & Riksen-Walraven, 1995). The current study examined general aggression along with delinquency and responding to conflict with aggression within the individual members of a child's peer network to better understand the risk factors associated with pathways of victimization. We predicted that children with peers who had higher levels of these externalizing problems would be at a higher risk for victimization within and over time.

While the findings related to internalizing and externalizing behaviours provide direction in how friendships may impact victimization, these findings tend to focus on the risk of friendships. There also are protective factors of friendships, such as social support, that may protect against future victimization. Having social support relies on the presence of friendships, and has been linked to changes in individuals' behaviours and well-being (Furman & Buhrmester, 1985; Rubin, Bukowski, &

Parker, 2006). The findings related to social support provide important information about the specific characteristics of friendships that might act as protective factors against victimization. High quality friendships that are characterized by positive affective bonds (i.e., trust, commitment, affection, intimacy, communication) may contribute to a safe peer connection and reduce the risk of victimization. When children who are at risk for victimization surround themselves with friends who provide supportive environments, they may be able to express themselves freely, experience affection and intimacy, and have defenders against their victimization. Alternatively, when children have peers who lack these supportive skills and instead alienate each other, they may experience increased levels of victimization. The protective role of friendships may differ between boys and girls, with girls having higher levels of prosocial behaviours and higher levels of intimacy (Bukowski & Kramer, 1986). These sex differences may impact the associations among social support and victimization. The specific constructs related to social support investigated in the current study include friendship closeness, stability, reciprocation, communication, trust, affection, intimacy, commitment, and the lack of alienation. Each of these protective factors was examined within the peer network at the individual level to better understand the socializing environment and how it related to the continuity or discontinuity of victimization. We predicted that higher levels of these protective factors would be related to lower levels of victimization within and over time.

Previous findings support the importance of investigating children's friendships to better understand how peer networks characterized by high or low

levels of social support interact to protect or exacerbate experiences of victimization. The main goals of the current study were to examine differences in individual friendship structure and characteristics among children who do not experience victimization, or who experience decreasing, increasing, or consistent levels of victimization over time. It was hypothesized that increased victimization over time would be related to smaller peer groups, lower levels of social support, and higher levels of internalizing and externalizing behaviours in peer group members.

<div align="center">Method</div>

Participants

The sample comprised 1694 elementary school students (843 boys, 851 girls) in grades 4 through 8 (within schools that went up to grade 8) who completed measures at two points in time. The children ranged in ages between 9 and 14 years and the average age was 11.7 years (*S.E.* = .03) at Time 1. One hundred and seventy nine students did not complete the study, but attrition analyses showed no significant differences on the demographic or dependent and independent variables between completers and non-completers. Seventy-four percent of children identified themselves as European Canadian, 4% as African/Caribbean Canadian, 10% as Asian Canadian, 3% as South Asian Canadian, and 9% as Other. Based on reports of family composition, 77% lived with both biological parents, 6% lived in step-families, 14% in single parent families, and 3% lived in other family configurations. Twenty-one percent of participants reported that the highest degree their mothers achieved was a graduate degree, 32% a university degree, 6% a college degree, 9% a high school diploma, 4% who did not graduate high school, 1% who achieved some other level of

education, and 27% of participants did not know level of education their mothers had achieved. Thirty percent of participants reported that the highest degree their fathers achieved was a graduate degree, 26% a university degree, 5% a college degree, 6% a high school diploma, 4% who did not graduate high school, 1% who achieved some other level of education, and 28% of participants did not know level of education their fathers had achieved.

Design

Data were obtained from a longitudinal study of children's antisocial behaviour, psychosocial adjustment, and their relationships with their peers in a large Canadian city. The study involved two data collection points, 6 months apart beginning in the Fall of a school year. Participants completed self-report measures during class time.

Measures

Demographic Information. Demographic information was collected using the Focus on You questionnaire (Connolly & Konarski, 1994). This self-report questionnaire gathered information including age, ethnicity, languages spoken in the home, family composition, parental education, and marital status.

Bullying Status. Information on students' experiences with bullying and victimization in school was collected using the *Safe School Questionnaire*, a shortened version of the *Bullying and Victimization Student Questionnaire* (Olweus, 1989). The questions "How often have you been bullied at school [in the last six weeks]?" and "How often have you taken part in bullying other students [in the last six weeks]?" were used to measure involvement in victimization and bullying.

Reports of involvement ranged from "Not at all [in the last six weeks]" to "several times a week." Using the first question, children were placed into one of four groups: no victimization (i.e., not been bullied in the past six weeks at both times), decreasing victimization (i.e., bullied 2 or more times in the past six weeks at Time 1, but not bullied at all at Time 2), increasing victimization (i.e., not bullied at Time 1, but bullied 2 or more times in the past six weeks at Time 2), and consistent victimization (i.e., been bullied 2 or more times in the past six weeks at both times).

Peer Network Structure Variables. Students nominated peers as their friends using *The Peer Relationship Questionnaire* (Connolly & Konarski, 1994) by listing the names of up to15 of their closest friends and providing information on the gender and age of each friend, and the closeness of that friendship. Four peer network structure variables were computed: closeness, number of children who listed participant as a friend, reciprocated friendships, and stability of friendships. Closeness of friendships was a proportional value of friendships identified as close out of the total number of friends listed. The number of children who identified each participant as a friend was summed at each time. Reciprocated friendships were then identified using the Friends computer program developed by Craig and Drake (unpublished). Stability of friendships was determined based on whether a child listed each of his/her friends at both times and a proportional value was calculated out of the total number of friends listed.

Individual Peer Network Characteristics and Peer Network Relationship Processes. These measures assessed the characteristics of the participant's peer network including internalizing behaviours, externalizing behaviours, friendship

quality, and communication. Peer networks were established using the Match computer program developed by Drake and Craig (unpublished). Subsequently, for each of the measures listed below a peer network score was calculated by creating the mean peer group scores on each scale.

Peer Network's Internalizing Measures. Withdrawn behaviours and anxious behaviours were measured using the *Youth Self Report* (Achenbach, 1991). Statements such as "I would rather be alone than with others" and "I am nervous or tense" were responded to on a three-point scale, ranging from 0, (*not true*), to 2, (*very true or often true*). High scores reflected high levels of withdrawn and anxious behaviours. These scales had moderate to good reliability at both times (7 withdrawn items, $\alpha = .66, .71$ for Time 1 and 2, respectively; 14 anxious items, $\alpha = .86, .88$, for Time 1 and 2, respectively). Peers' victimization also was measured by the previously discussed *Safe Schools Survey* (Olweus, 1989).

Peer Network's Externalizing Measures. Delinquency and aggression were measured using the *Youth Self Report* (Achenbach, 1991). Statements such as "I steal at home" and "I get in many fights" were responded to on a three-point scale, ranging from 0, (*not true*), to 2, (*very true or often true*). High scores reflected high levels of delinquent and aggressive behaviours. These scales had moderate to good reliability at both times (11 delinquency items, $\alpha = .75, .83$ for Time 1 and 2, respectively; 19 aggression items, $\alpha = .69, .86$ for Time 1 and 2, respectively).

Responding to conflict with aggression was measured using the *Conflict Resolution Scale*, which was adapted from the *Friendship Scale* (Parker & Asher, 1993), with statements such as, "My friends and I yell at each other" and participants

responded on a 5-point scale ranging from 1 (not at all) to 5 (almost all the time).

High scores reflected more frequent conflict accompanied by aggression. This scale

had good reliability at both times (4 conflict with aggression items, $\alpha = .78, .75$ for

Time 1 and 2, respectively).

      Peer Network's Friendship Quality Measures. Friendship quality was

measured using the *Network of Relationships Inventory* (Furman & Bulmester, 1985).

Three subscales were used: affection (2 items), commitment (3 items), and intimacy

(3 items). For each scale, participants responded to statements such as "My friends

care about me", "I feel sure that this relationship with my friends will last no matter

what", and "I tell my friends everything" on a 5-point scale, ranging from 0 (never

true) to 5 (always true). High scores reflected higher levels of affection, commitment,

and intimacy among friends. These scales had moderate to good reliability (2

affection items, $\alpha = .67, .75$ for Time 1 and 2, respectively; 3 intimacy items, $\alpha = .80$,

.87 for Time 1 and 2, respectively; and 3 commitment items, $\alpha = .75, .79$ for Time 1

and 2, respectively). As well, two subscales from the *Inventory of Parent and Peer*

Attachment (Armsden & Greenberg, 1987) were used to measure trust and alienation

among friends. Participants answered statements, such as "My friends respect my

feelings" and, "My friends don't understand what I'm going through these days" by

rating the degree to which each statement described their relationship with friends on

a five-point scale. Higher scores indicated greater relationship quality along the

dimension of trust and lower relationship quality along the dimension of alienation.

These scales had moderate to good reliability at both times (11 trust items, $\alpha = .89$,

.93 for Time 1 and 2, respectively; 4 alienation items, α = .58, .68 for Time 1 and 2,
respectively).

General communication in peer relationships was measured using a modified
version of the *Perception of Parental Reciprocity Scale* (Wintre, Yaffe, & Crowley,
1995). Participants reported on how often they speak to their close friends about six
different topics, such as friendship, dating, the future, and personal problems.
Responses were recorded on a five point scale with higher scores reflecting higher
levels of communication. This scale showed good reliability (six general
communication items, α = .79, .81 for Time 1 and 2, respectively).

The *Inventory of Parent and Peer Attachment* (Armsden & Greenberg, 1987)
was used to measure friends' communication about difficulties. Statements such as "I
talk to my friends when I'm having a problem" were responded to on a 5-point scale,
ranging from 0 (never true) to 5 (always true). High scores reflected higher levels of
communication with friends about difficulties. This scale had good reliability (4
items, α = .85, .88 for Time 1 and 2, respectively).

Results

Eighty percent of participants reported no victimization at either time point.
The remaining 20% of children experienced significant victimization at either one of
the time points, or both, which is a consistent finding in other research (Nansel,
Overpeck, Pilla, Ruan, Simons-Morton, & Scheidt, 2001; Solberg & Olweus, 2003).
Relative to the No and Decreasing Victimization Groups, there were proportionally
significantly fewer participants in the Consistent Victimization group (No
victimization vs. Consistent victimization, $\chi^2 = 1158.22$, $p < .001$; Decreasing

Victimization vs. Consistent Victimization, $\chi^2 = 31.61$, $p < .001$; and increasing

victimization vs. consistent victimization, $\chi^2 = 2.61$, $p > .05$). More boys reported

experiences of consistent victimization than girls, $\chi^2 = 5.41$, $p < .05$. No other sex

differences existed between the victimization groups. See Table 1.

Table 1

Victimization Group by Sex

	Victimization Group			
Sex	No Victimization	Decreasing Victimization	Increasing Victimization	Consistent Victimization
Boys	654 (78%)	90 (11%)	52 (6%)	47 (5%)
Girls	711 (84%)	70 (8%)	43 (5%)	27 (3%)

Victimization status and sex differences on peer group structure over time

To examine group differences over time on peer group structure (i.e.,

closeness of friendships, number of children who listed the participant as a friend, and

the number of reciprocated friendships), a 2 (sex) by 4 (victimization group) repeated

measures MANOVA was run. There were significant multivariate effects found for

victimization group, $F(9, 4593) = 8.42$, $p < .001$ (small effect; Partial $\eta^2 = .02$), and

sex, $F(3, 1529) = 6.54$, $p < .001$ (small effect; Partial $\eta^2 = .01$). For victimization

group, univariate analyses revealed significant differences on the number of children

who listed the child a friend and the number of reciprocated friendships, with children

in the no victimization group being listed by more children as friends ($M = 6.85$, *S.E.*

= .10) than all three of the other victimization groups (M = 5.10, 5.24, 4.32; *S.E.* =

.30, .39, .47, respectively, for the decreasing, increasing, and consistent groups) and

having significantly more reciprocated friendships (M = 4.02, *S.E.* = .06) than all

three of the other groups (M = 2.78, 2.88, 2.66; *S.E.* = .19, .25, .30, respectively, for

the decreasing, increasing, and consistent groups). Univariate analyses revealed

significant sex differences with girls reporting more reciprocated friends (M = 3.44,

S.E. = .16) than did boys (M = 2.73, *S.E.* = .14).

To examine group differences on the peer group structure variable of

friendship stability, a 2 (sex) by 4 (victimization group) MANOVA was run. There

were significant multivariate effects for victimization group, $F(3, 1604)$ = 17.32, p <

.001 (small effect; Partial η^2 = .03). Univariate analyses showed that children in the

no victimization group (M = 0.65, *S.E.* = .01) reported significantly more stable

relationships compared to all three of the victimization groups (M = 0.54, 0.55, 0.46;

S.E. = .02, .03, .04 for the decreasing, increasing, and consistent victimization groups,

respectively).

Victimization status and sex differences on peer group characteristics and processes

over time

We also examined individual characteristics of children's peers (i.e.,

internalizing and externalizing problems), as well as the quality of support and

communication of the child's peer group using repeated measures MANOVAs.

Individual Peer Network Characteristics: Internalizing problems. In the first

2 (sex) by 4 (victimization group) repeated measures MANOVA, the within subject

factors were withdrawn behaviours, anxious behaviours, and victimization, all mean

values for a participant's peer group. Significant multivariate effects were found for sex, $F(3, 1513) = 20.16$, $p < .001$ (small effect; Partial $\eta^2 = .04$), victimization group, $F(9, 4545) = 2.31$, $p < .05$ (small effect; Partial $\eta^2 = .01$), and time, $F(3, 1513) = 16.20$, $p < .001$ (small effect; Partial $\eta^2 < .01$). Univariate sex effects were found for peer group withdrawn behaviours, $F(1, 1515) = 8.24$, $p < .01$, peer group anxious behaviours, $F(1, 1515) = 18.28$, $p < .001$, and peer group victimization experiences, $F(1, 1515) = 24.84$, $p < .001$. Boys' peer groups reported higher levels of victimization experiences ($M = 0.57$, $S.E. = .02$) than did girls' peer groups ($M = 0.41$, $S.E. = 03$), whereas girls' peer groups reported higher levels of withdrawn ($M = 2.82$, $S.E. = .07$) and anxious ($M = 5.58$, $S.E. = .15$) behaviours than did boys' peer groups ($M = 2.55$, $S.E. = .06$; $M = 4.74$, $S.E. = .13$, for withdrawn and anxious behaviours, respectively). Univariate effects for victimization group were found for peer group victimization experiences, $F(3, 1515) = 5.50$, $p < .01$. Post hoc analyses showed that the peer groups of children in the no victimization group reported lower levels of victimization experiences ($M = 0.42$, $S.E. = .01$) than did the peer groups of children in the increasing ($M = 0.53$, $S.E. = .04$) and consistent ($M = 0.54$, $S.E. = .05$) victimization groups. Univariate time effects were found for peer group withdrawn behaviours, $F(1, 1515) = 25.07$, $p < .001$, peer group anxious behaviours, $F(1, 1515) = 40.46$, $p < .001$, and peer group experiences of victimization, $F(1, 1515) = 17.60$, $p < .001$. At the end of the school year, compared to the beginning, peer groups exhibited lower levels of withdrawn ($M = 2.52$, $S.E. = .06$ versus $M = 2.85$, $S.E. = .06$) and anxious ($M = 4.76$, $S.E. = .11$ versus $M = 5.56$, $S.E. = .12$) behaviours and experiences of victimization ($M = 0.44$, $S.E. = .02$ versus $M = 0.55$, $S.E. = .02$).

Individual Peer Network Characteristics: Externalizing Problems. In the second MANOVA, the within subject factors included responding to conflict with aggression, delinquency, and aggression, all mean values for a participant's peer group. A significant multivariate interaction was found between time and sex, $F(3, 1507) = 3.07$, $p < .05$ (small effect; Partial $\eta^2 = .01$). Univariate effects for this interaction were not significant. Significant multivariate effects were found for sex, $F(3, 1507) = 11.56$, $p < .001$ (small effect; Partial $\eta^2 = .02$), and time, $F(3, 1507) = 5.96$, $p < .001$ (small effect; Partial $\eta^2 = .01$). Univariate sex effects were found for peer group responding to conflict with aggression, $F(1, 1509) = 5.85$, $p < .05$, and peer group delinquency, $F(1, 1509) = 15.17$, $p < .001$. Boys' peer groups reported higher levels of delinquency ($M = 3.07$, $S.E. = .10$) than did girls' peer groups ($M = 2.45$, $S.E. = .12$), whereas girls' peer groups reported higher levels responding to conflict with aggression ($M = 7.93$, $S.E. = .09$) than did boys' peer groups ($M = 7.65$, $S.E. = .08$). Univariate time effects were only at the trend level and are not reported here.

Peer Network Relationship Processes: Friendship Quality. In the third MANOVA, the within subject factors were five friendship qualities of a participant's peer group including alienation, trust, affection, intimacy, and commitment. A significant multivariate interaction was found between time and victimization group, $F(15, 4470) = 2.05$, $p = .01$ (small effect; Partial $\eta^2 = .01$). Univariate effects for this interaction were found for peer group trust, $F(3, 1492) = 2.95$, $p < .05$, and peer group commitment, $F(3, 1492) = 5.68$, $p < .01$. Post hoc analyses did not reveal any differences among the groups. Significant multivariate main effects also were found

for sex, $F(5, 1488) = 33.41$, $p < .001$ (medium effect; Partial $\eta^2 = .10$), and time, $F(5,$ 1488) $= 21.18$, $p < .001$ (medium effect; Partial $\eta^2 = .07$). Univariate sex effects were found for all friendship qualities: peer group members' alienation, $F(1, 1492) = 9.23$, $p < .01$, trust, $F(1, 1492) = 70.97$, $p < .001$, affection, $F(1, 1492) = 65.38$, $p < .001$, intimacy, $F(1, 1492) = 151.30$, $p < .001$, and commitment, $F(1, 1492) = 26.84$, $p <$ .001. Boys' peer group members reported higher levels of alienation ($M = 8.81$, *S.E.* = .08) than girls' peer group members ($M = 8.42$, *S.E.* = .10), whereas girls' peer group members reported higher levels of on all other friendship qualities (Trust $M =$ 46.84, *S.E.* = .23; Affection $M = 8.83$, *S.E.* = .05; Intimacy $M = 11.44$, *S.E.* = .10; Commitment $M = 12.35$, *S.E.* = .08) than did boys' peer groups (Trust $M = 44.32$, *S.E.* = .20; Affection $M = 8.32$, *S.E.* = .04; Intimacy $M = 9.85$, *S.E.* = .09; Commitment $M = 11.82$, *S.E.* = .07). Univariate time effects were found for peer group alienation, $F(1, 1492) = 77.76$, $p < .001$, trust, $F(1, 1492) = 26.34$, $p < .001$, and commitment, $F(1, 1492) = 6.43$, $p < .05$. Comparing from the beginning of the school year to the end of the school year, peer group members have lower levels of alienation ($M = 9.12$, *S.E.* = .09 versus $M = 8.11$, *S.E.* = .08), higher levels of trust ($M = 45.01$, *S.E.* = .18 versus $M = 46.14$, *S.E.* = .19) and commitment ($M = 11.99$, *S.E.* = .06 versus $M = 12.18$, *S.E.* = .07).

Peer Network Relationship Processes: Communication. In the fourth MANOVA, the within subject factors were two variables capturing communication between children and their peers: general communication and communication about difficulties. A significant multivariate interaction was found between time and sex, $F(2, 1497) =$ 4.45, $p < .05$ (small effect; Partial $\eta^2 = .01$). Univariate effects for this interaction

were found for general communication, $F(1, 1498) = 8.23$, $p < .01$. Boys' peer groups did not differ on their general communication over time, whereas girls' peer groups reported higher levels of general communication at Time 2 ($M = 19.67$, $S.E. = .19$) than at Time 1 ($M = 19.18$, $S.E. = .22$). Significant multivariate effects were found for victimization group, $F(6, 2996) = 2.48$, $p < .05$ (small effect; Partial $\eta^2 = .01$), time, $F(2, 1497) = 4.81$, $p < .01$ (small effect; Partial $\eta^2 = .01$), and sex, $F(2, 1497) = 140.00$, $p < .001$ (large effect; Partial $\eta^2 = .16$). Univariate effects for victimization group were found for peer group general communication, $F(3, 1498) = 3.75$, $p < .05$ (small effect; Partial $\eta^2 = .01$), and peer group communication about difficulties, $F(3, 1498) = 2.81$, $p < .05$ (small effect; Partial $\eta^2 = .01$). Post hoc analyses showed that children in the no victimization group had higher scores on both communication variables ($M = 18.05, 14.72$; $S.E. = .07, .05$, for general communication and communication about difficulties, respectively) than the consistent victimization group ($M = 17.13, 14.08$; $S.E. = .34, .22$, for general communication and communication about difficulties, respectively) and higher scores on general communication compared to the decreasing victimization group ($M = 17.68$, $S.E. = .21$). See Figure 1. Univariate time effects were found for peer group communication about difficulties, $F(1, 1498) = 9.39$, $p < .01$ (small effect; Partial $\eta^2 = .01$). At the end of the school year, compared to the beginning, peer groups exhibited higher levels communication about difficulties ($M = 14.70$, $S.E. = .10$ versus $M = 14.35$, $S.E. = .10$). Univariate sex effects were found for peer group general communication, $F(1, 1498) = 187.91$, $p < .001$ (large effect; Partial $\eta^2 = .11$), and peer group communication about difficulties, $F(1, 1498) = 236.57$, $p < .001$ (large effect; Partial

$\eta^2 = .15$). Girls' peer groups reported higher levels of communication, both with general topics ($M = 19.30$, *S.E.* $= .19$) as well as with difficulties ($M = 15.75$, *S.E.* $= .12$), than did boys' peer groups ($M = 15.93$, *S.E.* $= .16$; $M = 13.30$, *S.E.* $= .11$, for communication about general topics and difficulties, respectively).
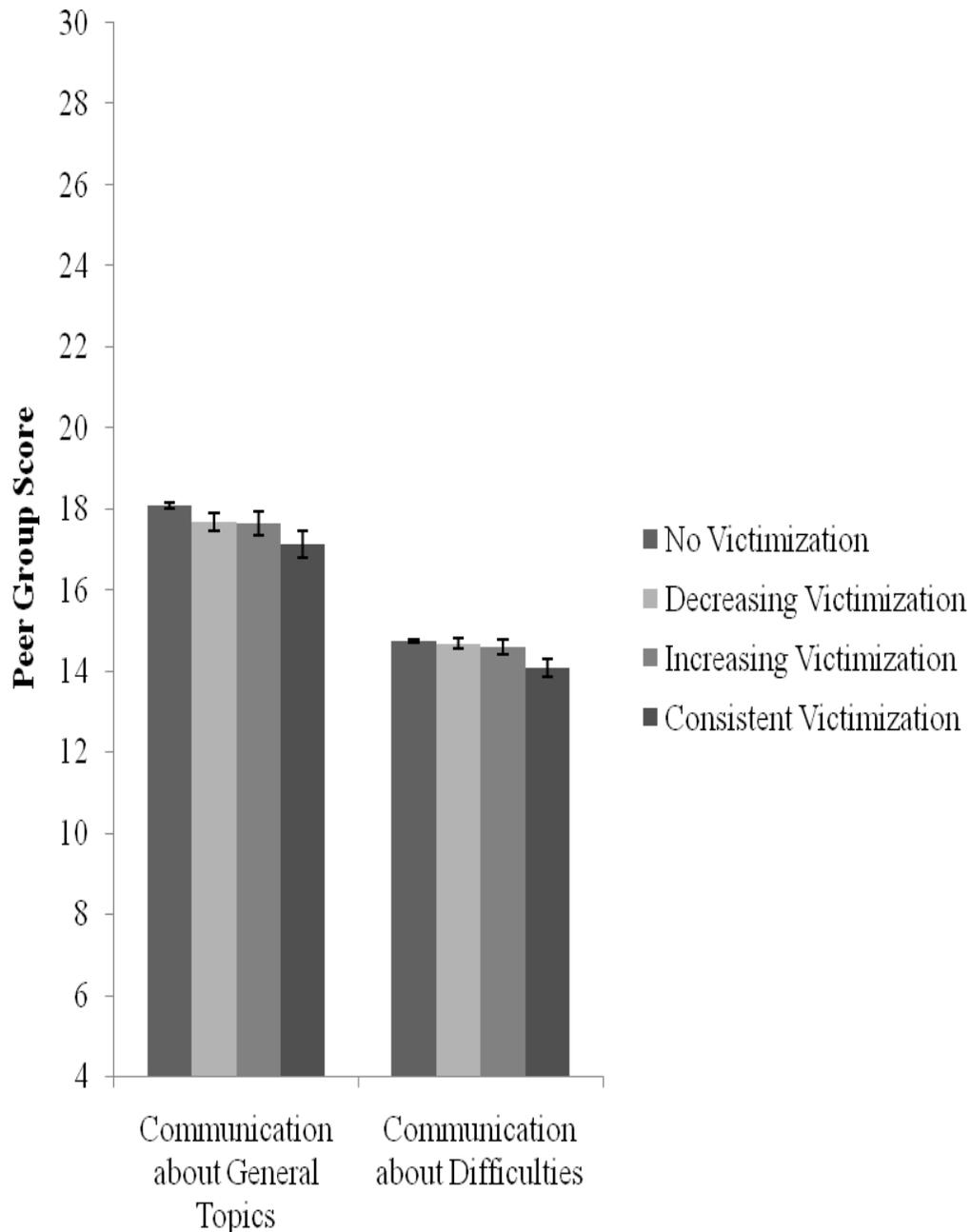

Figure 1. Victimization group differences on peer group communication.

Discussion

The purpose of this study was to replicate previous research on the role of peer network structure (e.g., number of friends) on victimization and to examine characteristics of individual peer network members and how they related to the continuity or discontinuity of victimization. The findings replicated earlier research indicating that having stable, reciprocated friendships protected against victimization. The findings indicated an interesting pattern related to the second goal whereby peers of victimized children provide comparable friendship quality compared to nonvictimized children, but lacked effective communication skills to protect each other from victimization. In other words, having friends protects against victimization and so does having friends with the specific relationship skill of communication.

The findings replicated previous research indicating the importance of peer network structure (Bukowski, Hoza, & Boivin, 1994; Hartup, 1993; Hodges, Boivin, Vitaro, & Bukowski, 1999). Children who did not experience victimization at either time consistently reported more reciprocated friends, more stable friendships, and were listed by others more often than all three victimization groups. Having friends may provide the protection children need against victimization whereby stable and reciprocated friendships provide the protective function necessary to avoid victimization. These findings support the notion that having friends protects children from victimization experiences.

It is not only the power of having friends, but also the individual characteristics of those friends that are important, particularly their victimization experiences. Having friends with their own victimization difficulties put a child at

increased risk for victimization. All other internalizing and externalizing problems did not differentiate between victimization groups. This finding suggests that victimized children find each other and form friendships together. Similar associations are found in previous research related to aggressive behaviour (Boxer, Guerra, Huesmann, & Morales, 2005). Unfortunately, it is these similarities (i.e., victimization experiences) that may increase the risk for future victimization because these friends may lack the necessary skills to intervene effectively on each other's behalf and may become a targeted group of individuals. By hanging around together, these children may provide peers with increased access for victimizing others. Over time, the children in these peer networks may develop reputations as individuals who get victimized. This process of homophily whereby victimized children find others similar to them heightens the risk of future victimization instead of diminishing the risk.

The second pattern of characteristics found was related to friendship quality and communication skills (i.e., protective friendship interactions). Victimized children had comparable levels of friendship quality, but lower levels of communication, compared to their nonvictimized peers. The findings suggest that victimized children are part of a network that is characterized by positive relationship skills and interactions such as trust, affection, commitment, and intimacy. Similar to nonvictimized children, these children have the emotional support in their peer relationships, but this emotional support does not provide the behavioural support to protect them from victimization. Children who reported consistent victimization had friends who communicated less with their peers than did children who reported no

victimization. Peer networks that do not promote communication likely translate into not communicating about victimization experiences and subsequently not obtaining the protection they need. If children are not able to effectively communicate their distress to their friends, they in turn will be less able to solicit the support they need. As well, the friends of victimized children may not be able to communicate effectively with others in an effort to stop the victimization reported to them by their victimized peer. Conversely, being in a peer group where communication is more normative may provide an avenue to talk about victimization experiences and access the support necessary to avoid victimization in the future. Thus, having high quality friendships is not enough to protect from victimization. Children need friends with the skills to intervene effectively, which may be related to the ability to communicate successfully about experiences such as victimization.

Contrary to our hypotheses, no sex by victimization group differences were found and boys and girls only differed on friendship structure and peer network characteristics independent of victimization group. Girls' peer groups consist of more reciprocated friendships, higher levels of internalizing behaviours, lower levels of externalizing behaviours, and higher levels of friendship quality and communication than boys' peer groups. These sex differences are similar to those seen in previous research (Bukowski & Kramer, 1986; Haselager, Hartup, Van Lieshout, & Riksen-Walraven, 1995).

While there were many strengths of this study, there also were some limitations. The expected effects were small, and a larger sample of children in the increasing and consistent victimization groups may have been necessary. As well, it

may be that the protective function of friendships may require a longer interval of time to detect changes over time. Friendship characteristics such as trust, intimacy, and commitment do not develop overnight and once these characteristics are established, it may require an addition period of time before they initiate change in how peers outside of the friendship respond to the alliance. Ideally, the constructs examined in this paper would be followed for multiple years to best understand the changing nature of friendships and the impact they have on victimization experiences.

Conclusions

Children's social relationships are important to experiences of peer victimization. Stable and reciprocated friendships protect children from victimization. Through the process of homophily, victimized children befriend each other, but are unable to provide the protective function against victimization while still reporting high quality friendships. Their friendships lack the necessary communication skills for successful intervention in victimization experiences. It is important to understand why these children communicate less with each other and what they communicate about to inform prevention and intervention efforts. Children in peer networks characterized by limited communication need support in developing skills that open communication lines to solicit help from friends to stop their victimization. One of the cornerstones of friendships is effective communication and while victimized children may feel positively about their close friendships, they are missing this essential characteristic that may be the very component necessary to break away from their victimization experiences.

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Chapter 5:

General Discussion

General Discussion

The goals of this dissertation were to: (1) further clarify the interplay between cognitions and coping among children involved in bullying, and (2) provide additional knowledge about the peer group's role in preventing or perpetuating bullying. These goals were approached from a developmental contextual and social cognitive framework to best understand the different levels of individual and peer influences on bullying behaviour. The results of the studies add to the literature. Results identify unique and distinct attributional styles in children who are victimized and those who bully others; social cognitions are important. In addition, results show that accessing social support, avoiding antisocial coping strategies, and engaging in open communication with friends protects against victimization; the social context is important.

Social Cognitive Models

Crick and Dodge's (1994) social information processing (SIP) model provided the theoretical framework for the first two studies and postulates that children move through a series of five recursive steps in processing information that influences behavioural enactment. Their model proposes that children's particular style of processing social cues is causally related to behaviours that impact their social standing and role in the peer group. Children who attend to cues in their environment and make hostile attributions about the causes of those cues are more likely to formulate aggressive responses to those cues and act accordingly (Camodeca & Goossens, 2005; Dodge & Frame, 1982; Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2000). The current research extended this research through an

examination of a different set of attributional styles: self-blaming and depressive styles of attribution. Hypotheses linking these attributional styles to specific internalizing and externalizing coping strategies led to mediational tests of pathways to victimization and bullying. The first two studies found minimal support for this mediational model. Rather than detecting pathways from attributions through coping to victimization or bullying, it was the direct, independent impact of attributions and coping styles on bullying involvement that appeared more salient. In relation to victimization and bullying, the current research found differences in cognitions and coping strategies, and differences within and across time. These findings still support a social cognitive basis for children's involvement in bullying and highlight the importance of monitoring cognitions and assisting children in developing socially appropriate coping styles.

The current research found direct relationships from attributions to bullying involvement and from coping to bullying involvement rather than relationships characterized by the mediation of attributions and bullying involvement by coping. Social cognitions represented by characterological self-blaming and depressive styles of attributions directly predicted higher levels of victimization, whereas depressive attributions directly predicted higher levels of bullying. These relationships existed regardless of the coping strategies employed by children. Thus, children's thoughts are directly related to the social behaviours they engage in. If interventions focus solely on children's behaviours, some children's involvement in bullying may continue because the underlying cognitions supporting their behaviour may not change. Similarly, coping behaviours are directly related to victimization and

bullying, regardless of the associated cognitions. Therefore, intervention efforts need to directly address individual cognitions and behaviours.

The intervention efforts to help children also need to consider the specific social role (i.e., engaging in bullying others or is victimized by others) of the child. The current research found important differences between the victimization and bullying models. Victimized children tend to make characterological self-blaming attributions whereas children who bully others tend to make depressive attributions. Therefore, victimized children need assistance in shifting their focus away from blaming their own character to help them develop healthier cognitions (e.g., attributions about behaviour rather than character, or balanced cognitions that avoid black and white thinking). In contrast, children who bully others need assistance in developing a more balanced view of the causes of negative versus positive events. Rather than only seeing negative events as caused by the individual and positive events caused by an external factor, children who bully others need help to see the role they play in both negative and positive events as well as the role external factors play in each of those types of events.

The current research also found differences between the victimization and bullying models with regards to coping strategies. For victimization, coping strategies characterized by externalizing, internalizing, revenge seeking, distancing, and avoidance of resolving the bullying interaction were related to victimization. For bullying, coping strategies characterized by actively seeking to resolve the bullying interaction were related to lower levels of bullying for both sexes, whereas strategies characterized by externalizing and revenge seeking were related to higher levels of

bullying for girls. Together, the differences between the victimization and bullying models suggest different approaches to intervening depending on the role of the target child. Teaching victimized children to resist avoiding the problem while simultaneously coaching them to employ problem solving strategies may reduce their victimization role. Children who bully others need to learn to build on their active problem solving and social support seeking abilities. For girls in particular, alternatives to externalizing and revenge seeking are needed. Consequently, the findings suggest tailored intervention approaches depending on the bullying role of the child.

Not only did the current research find differences among bullying roles, but it also found differences within and across time. In the victimization model, attributional styles were consistent within and over time, but finding were different for coping strategies. In fact, for boys, the only coping strategy that remained related to victimization across time was internalizing coping. Boys who coped with problems by internalizing and distancing themselves from the problem were more likely to experience continued victimization over time. Girls, on the other hand, who coped by externalizing, internalizing, and distancing strategies within time experience higher levels of victimization, but across time these relationship do not hold. Instead, all coping strategies associated with higher levels of victimization cease to predict victimization across time and social support emerges as a strategy that protects girls from victimization. Therefore, girls' use of social support may take time to develop as a protective function, and over time this strategy provides protection from future victimization.

The bullying model revealed an entirely different pattern. For boys, none of the cognitions or behavioural coping strategies showed relationships across time. It may be that boys' bullying behaviours are impacted by concurrent rather than cumulative processes. On the other hand, girls' bullying behaviour was related to higher levels of depressive attributions within and across time, as well as higher levels of externalizing and revenge coping within and across time. As with the victimization model, girls' use of social support coping and conflict resolution coping demonstrated a delayed impact where they protect against bullying behaviours across time, but not within time. Again, these findings highlight important considerations for intervention. First, boys and girls hold similar cognitive attributions, but employed different coping strategies. While interventions aimed at cognitive restructuring may be the same for boys and girls, the help aimed at developing coping strategies needs to be gender specific. Secondly, the same strategies that work at one point in time may not work across time. Children need multiple strategies in their repertoire to maximize the efficacy of their efforts. Finally, when attempts to foster social support are initially ineffective in reducing a girl's involvement in bullying (in either role), it is important to persevere because relationships take time to develop, as do their positive effects.

Friendships

Based on the protective function of social support, the current research also examined the role of peer networks in protecting against victimization over time. Researchers have studied children's friendships for decades (for review see Rubin, Fredstom, & Bowker, 2008) and have consistently shown that having friends during

childhood is normative. As well, researchers have documented similarities among friends on constructs such as, academic achievement (Kupersmidt, DeRosier, & Patterson, 1995), substance use (Hamm, 2000), and aggression (Kupersmidt, DeRosier, & Patterson, 1995). While victimization experiences are correlated among friends, having friends helps to protect against victimization (Hodges, Malone, & Perry, 1997). However, not all children who have friends are able to avoid being victimized. Therefore, the third study examined aspects of children's peer networks to determine what characteristics specifically protected against victimization.

The third study found that victimized children do have fewer reciprocated friendships than nonvictimized children, but did not find any differences in the quality of their friendships. Thus, victimized children's reports do not suggest the need for intervention based on improving the quality of their friendships. However, the current research found differences between victimized and nonvictimized children's friends' own experiences of victimization. Victimized children are friends with other children who also report high levels of victimization. Given these problems with victimization, it is reasonable to conclude that those friends may have difficulty providing the protection needed against bullying. Therefore, intervening with one child in a peer network may not be enough to reduce victimization because multiple members of a peer network may be simultaneously experiencing victimization. A peer-group-wide strategy aimed at increasing positive cognitive attributions and coping strategies may be more effective than helping one child at a time. Current intervention evaluations demonstrate that a systemic school wide

approach is more effective than individual interventions (National Crime Prevention Centre, 2009).

As well, victimized children belong to peer networks characterized by less frequent communication, which suggests that they may not communicate about their victimization experiences or actively seek social support and protection from their friends. To help answer questions posed by Hartup (1995; 1996), the identity of a child's friends is important, but the impact of those friends' identities may be specific to the instrumental needs of the child (i.e., provision of social support for victimization). When a child's friends are also experiencing their own victimization and possess less developed or effective communication skills, obtaining protection from future victimization may be less likely. Interventions that incorporate the development of communication skills may help increase the social skills of children at risk for victimization. The findings from the current research provide evidence that comprehensive interventions addressing the individual cognitive and behavioural processes as well as the broader social skills are needed.

Conclusions

Together, these three studies contribute to the understanding of children's experiences of victimization and bullying. Researchers have yet to identify the cognitions or coping strategies that consistently protect children from being victimized. The current research highlights the complexity of bullying and suggests that this complexity likely impacts the lack of a clear effective coping strategy that reduces victimization. Children may have coping strategies that enable them to manage a given situation, but that same strategy may not impact their future

experiences due to the intricacies of bullying. However, the current research shows that using social support and other prosocial methods of addressing difficult peer experiences can help to lower the risk for continued victimization. Social support is a promising form of coping that, over time, can be fostered to aid children in navigating social exchanges. As well, finding ways to communication openly with friends may help to develop the skills necessary for appropriate intervention in bullying episodes.

The findings can inform intervention practices. Studies 1 and 2 provide evidence for the need for targeted cognitive behavioural strategies to help children develop alternative and balanced attributions about the causes of events while also learning how to use more appropriate coping strategies. Study 3 provides evidence that communication skill development among peer networks at a peer group may help children to not only express themselves better, but also to help protect them from future victimization. This research suggests that when adults see children who are alone on the playground, they need to facilitate social interactions among peers and in this way, they may be preventing bullying.

Future Research

While these three studies add to the body of knowledge about social cognitive correlates to bullying, there is still much to learn. Advanced analytic tools are now available that allow researchers to examine the complex interplay between numerous constructs at multiple levels of a child's ecology. At the individual level, the research model should bring together the various cognitions that have previously been studied independently (i.e., hostile attributions, self-blaming attributions, etc.) and the different coping strategies used by children (global strategies as well as those specific

to bullying episodes). At the social level, the research model should examine peer networks and the unique characteristics of each network member, including the cognitions and coping behaviours previously mentioned. It would be important not only to examine the interrelationship among the individual and social level in the analyses but also to conduct longitudinal analyses. As well, randomized intervention trials should be conducted to examine how specific intervention strategies directed at each of the levels are related to reduced bullying and victimization experiences.

Bullying and victimization are significant problems in the lives of children and youth. This research provides some preliminary understanding of how we can more effectively support children who are involved in bullying at both an individual level and within their peer groups. If we are to be effective in reducing bullying problems, adults need to actively support children in developing the skills to successfully navigate their social relationships, as well as facilitate the development of healthy friendships.

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