

**Testing a Social-Cognitive Model of Bystander Responses to Bullying:
Towards an Understanding of Why Bystanders Respond as They Do**

by

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ABSTRACT

TESTING A SOCIAL-COGNITIVE MODEL OF BYSTANDER RESPONSES TO BULLYING: TOWARDS AN UNDERSTANDING OF WHY BYSTANDERS RESPOND AS THEY DO

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The current study tests a social-cognitive model of bystander responses to bullying in an attempt to better understand why bystanders respond as they do. Three forms of bystander responses were predicted by adult and friend responses to bullying and the bystander's reasons for intervening. The present study involved 326 children from grades 4-8 who completed the PREVNet Assessment Survey, a novel wide-ranging measure of bullying phenomena. Sound psychometric properties were found for the four measures used in the present study. In elucidating the effects of social context, the differential impact of adult and friend responses on bystander responses was examined. Results indicate that friends are more influential than are adults in predicting bystander responses. Further, results of serial multiple mediation analysis generally support a social-cognitive model, suggesting that social context impacts intervention reasoning, which in turn, impact bystander responses. Implications for future research and policy are discussed.

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Table of Contents	4
List of Tables, Figures, and Abbreviations	5
Introduction	6
Methods	18
Results	23
Discussion	30
References	40
Tables	
Table 1	47
Table 2	48
Table 3	49
Table 4	50
Table 5	51
Figures	
Figure 1	52
Figure 2	53
Appendix	54

List of Tables

Table 1. Participant characteristics by grade and sex

Table 2. Inter-correlations among scales

Table 3. Change statistics for all variables and beta weights of a simultaneous regression using all variables

Table 4. Serial multiple mediation model of adult anti-bullying response as predictor, friend anti-bullying response and moral reasoning as mediators, and defending responses as outcomes.

Table 5. Serial multiple mediation model of adult bully supportive response as predictor, friend bully supportive response and reasons-to-not-act as mediators, and passive responses as the outcome

List of Figures

Figure 1. Depiction of all simple paths used in a serial multiple mediation model of bystander responses.

Figure 2. Full serial multiple mediation model (path $a_1d_2b_2$) testing the social-cognitive model.

List of Abbreviations

H1 – friend responses will account for more variance in bystander responses than will adult responses

H2 – friend responses and intervention reasoning will act as serial mediators of adult and bystander responses

H2a – friend anti-bullying responses and moral reasoning will act as serial mediators of adult anti-bullying responses and bystander defending responses

H2b – friend bully-supportive responses and morally disengaged reasoning will act as serial mediators of adult bully-supportive responses and bystander passive responses

PAS – PREVNet Assessment Survey

Testing a Social-Cognitive Model of Bystander Responses to Bullying: Towards an Understanding of Why Bystanders Respond as They do

Overview

Bullying has been defined as a repetitive act of aggression characterized by an intent to harm and a difference in power between the bully and victim (Oelwus, 1993). As such, bullying uses social dominance and relationships as a means of aggressing against victims. Bullying is a devastating and ubiquitous global phenomenon (Forero, McLellan, Rissel, & Bauman, 1999; Pepler et al., 2006, Rigby & Slee, 1993; Smith et al., 1999, for example). Detrimental health and mental health outcomes have been observed in bullies, victims, and bully-victims ranging from violent offending and externalizing disorders (Prinstein, Boergers, & Vernberg, 2001) to internalizing disorders and in some recent highly publicized cases, suicide (Juvonen, Graham, & Schuster, 2003; Prinstein, Boergers, & Vernberg, 2001). Although bullying can be expressed in several different forms (physical, verbal/ emotional, relational, sexual, and cyber bullying), it is the chronicity, maliciousness, and difference in power which has been credited as instrumental in making bullying uniquely devastating (Olweus, 1993).

Intervention programs have been developed to prevent bullying and to ameliorate its effects (Smith, Pepler, & Rigby, 2004). Whereas programs were initially focused on either the bully or the victim as individuals, more recent approaches view bullying as a social phenomenon and seek to alter the responses of the bystanders who witness bullying. Indeed, bullying is now recognized as a socially visible form of aggression embedded within a social context. Although bystanders are affected by the social context, bystander responses also help shape the context and can ameliorate the effects that bullying has on the victim (Salmivalli et al, 1996; Salmivalli,

Voeten, & Poskiparta, 2011). Bystanders who witness bullying can respond in different ways such as supporting the bully, defending the victim, or remaining passive (Salmivalli et al, 1996). Randomized control trials have demonstrated that bystander defending responses can reduce bullying incidence (Salmivalli, Karna, & Poskiparta, 2011). Because social contexts that treat bullying as unacceptable are associated with higher levels of bystander defending responses (Salmivalli & Voeten, 2004), fostering an anti-bullying social context and encouraging bystanders to defend victims are now seen as essential components of effective programs (Espelage, Holt, & Henkel, 2003; Gini, 2006; O'Connell, Pepler, & Craig, 1999; Salmivalli, Lagerspetz, Björkqvist, Österman, & Kaukiainen, 1996; Stueve, et al., 2006; Wiens & Dempsey, 2009).

In recent years, research examining the predictors of defending responses in bystanders to bullying has burgeoned and this research highlights the importance of both social and cognitive factors (Barchia & Bussey, 2011; Salmivalli & Voeten, 2004). Nonetheless, there is a paucity of research investigating how the social and cognitive predictors of bystander responses actually operate with one another to encourage defending. This research gap is problematic because it hampers the development of more effective programs targeting bystander responses and current interventions attempting to change bystander responses are only moderately effective (Plonin, Espelage, & Holt, 2012). Thus, a more thorough understanding of how social and cognitive factors interact to foster defending behavior is required to develop more robust interventions.

Although it remains untested, some authors suggest that a social-cognitive model may partially explain how social context and cognitions impact the behavior of bystanders (Barchia & Bussey, 2011; Salmivalli & Voeten, 2004, for example). A social-cognitive model asserts that social contexts impact bystander responses to bullying, in part, by impacting the cognitions of

bystanders (Karna, Voeten, Little, Poskiparta, and Salmivalli, 2013; Nesdale & Scarlett, 2004; Salmivalli & Voeten, 2004). In this light, social contexts that discourage bullying are associated with higher rates of bystander defending behavior because they increase cognitions that view bullying as unacceptable and hold bystanders responsible for intervening. Similarly, social contexts that do not actively discourage bullying are associated with higher levels of passive responses among bystanders, in part, because they are associated with cognitions that view bullying as more acceptable or because they are associated with cognitions that remove the responsibility of intervention from the bystander.

The present study contributes to the research by testing a social-cognitive model in an attempt to better understand why bystanders to bullying respond as they do. With respect to social context, the current study examines the impact of adult responses to bullying (school administrators, staff, and teachers) and friend responses to bullying on the responses of bystanders. An *anti-bullying* social context is one where adults and friends try to stop bullying and defend the victim. In contrast, adults and friends in a *bully-supportive* social context make excuses and defend the bully. To better understand how social context shapes bystander responses, the current study examines relative impact of *adult responses* and *friend responses* on the responses of bystanders. With respect to cognitive factors, the current study examines impact of *intervention reasoning* on bystander responses. Intervention reasoning is to be understood as the reasons that bystanders use to explain their behavior. Bystanders can either evoke *moral reasoning* with a focus on fairness, empathic concern, and a responsibility to defend the victim, or bystanders can evoke *morally disengaged reasoning* which focuses on negative consequences that may befall the helper, or on the reasons allowing an avoidance of responsibility. As applied to the present study, a social-cognitive model predicts that anti-bullying social contexts influence

anti-bullying cognitions (moral reasoning) which impact defending responses, whereas, bully-supportive contexts influence bully-supportive cognitions (morally disengaged reasoning) and passive responding. The current study contributes to the research by testing the context-reasoning mechanism and by inference, a social-cognitive model of bystander responses to witnessing bullying.

The Importance of Bystanders

Encouraging bystander defending responses is important for several reasons. For instance, factor analytic studies reveal that bystanders constitute a distinct group from that of bullies and victims (Wiens & Dempsy, 2006) and research has demonstrated that bystander defending behavior can be increased and maintained through intervention (Plonin, Espelage, & Holt, 2012). Together these findings indicate that research on the mechanisms facilitating defending behavior in bystanders to bullying has a practical application. Furthermore, 85% of all bullying incidences occur in the presence of bystanders and in over 50% of instances, bullying stops within 10 seconds of a bystander intervening (Craig & Pepler, 1997). Not only does bystander intervention stop bullying as it occurs but bystander defending has also been shown to reduce the negative impact of victimization (Salmivalli et al, 1996) and to reduce future incidence of bullying in the classroom (Salmivalli, Voeten, & Poskiparta, 2011). Of the many ways bystanders can defend victims of bullying, seeking help from adults has been identified as an especially important form of defending behavior because it is associated with future reductions in classroom bullying (Novick & Isaacs, 2010; Salmivalli, Voeten, & Poskiparta, 2011) and excludes the possibility of using bullying as a defensive act (i.e., bullying the bully). Irrespective of the form of defending, however, it is clear that bystanders constitute a unique group from bullies and victims and motivating bystanders to defend victims effectively prevents

bullying and ameliorates its effects (Novick & Isaacs, 2010; Salmivalli, Voeten & Poskiparta, 2011; Stueve et al, 2006).

Unfortunately, the majority of bystanders either assist the bully or remain passive on-lookers (Craig & Pepler, 1997; Salmivalli et al, 1996). By remaining passive, outsiders actually exacerbate the effects of bullying because they normalize the behavior and isolate the victim (Cowie, 2000). As such, it is no surprise that victims tend to perceive passive bystanders as supporting the perpetrator (Cowie, 2000). There are several documented reasons bystanders use to explain their passivity: they do not know what to do, they are fearful of becoming a victim, or they are fearful of exacerbating the situation (Hazler, 1996). Additionally, bullying is a social process involving social pressure to conform to the bullying when it occurs. Since bullying is a social process, it is not surprising that only 20-30% of bystanders act as defenders, depending on the sample (Craig & Pepler, 1997; Salmivalli et al, 1996). As a result several programs have been developed to encourage bystander defending responses as a mechanism of preventing bullying (Plonin, Espelage, & Holt, 2012). Nonetheless, a recent meta-analysis revealed that current intervention programs are unable to increase bystander defending behavior more than approximately 21% (Plonin, Espelage, & Holt, 2012), indicating that more research is needed on understanding the mechanisms by which bystander defending behavior can be fostered. Thus, the majority of bystanders do not engage in defending responses and current attempts to increase defending responses have only demonstrated modest success, indicating a need for more research.

Salmivalli and colleagues (1996) demonstrated that bystanders to bullying tend to adopt one of four possible *participant roles* which include: two bully-supportive roles, (*assistants* who join the bully, *reinforces* who cheer the bully on), *passive-bystanders* who merely observe, and

defending-bystanders who intervene. The current study only examines passive and defending responses to witnessing bullying.

Taken together research has consistently demonstrated that the responses of bystanders to bullying serve an important role in either facilitating or reducing bullying. Bystanders to bullying can respond in several ways such as helping the bully, helping the victim, or remaining passive (Salmivalli et al 1996). By defending the victim, bystanders prevent future bullying and ameliorate the negative consequences for the victim (Novick & Isaacs, 2010; Salmivalli, Voeten, & Poskiparta, 2011). Nonetheless, bystanders are unlikely to defend victims because of both cognitions justifying their non-intervention and because of social pressure to conform (Cowie, 2000; Craig & Pepler, 1997; Salmivalli et al, 1996). Furthermore, programs attempting to increase bystander defending responses demonstrate only modest effects (Plonin, Espelage, & Holt, 2012). Because bystander defending responses are so important, more research is needed to better understand why bystanders respond as they do so that more effective programs targeting bystanders can be developed.

Social Context as Predictive of Bystander Responses

Advocates of the social context perspective argue that creating an anti-bullying context effectively prevents bullying (Galloway & Roland, 2004). For instance, anti-bullying social contexts, characterized by a sense of school connectedness and community altruism, are associated with reduced rates of bullying and changes in context are associated with demonstrable reductions in bullying incidence (Bacchini, Esposito, & Affuso, 2009; Cunningham, 2007; Lorion, Feinberg, Settani, & Faunce, 2004; You, Furlong, Felix, Sharkey, & Tanigawa, 2008). Further supporting the importance of social context, other research has demonstrated that the way adults respond to bullying impacts bullying incidence, especially

those responses pertaining to classroom management strategies (Roland & Galloway, 2002). Effective responses by adults include high levels of playground supervision, disciplinary talks with bullies, sending bullies to the principal's office, making bullies stay close to teacher during recess, and the deprivation of privileges for offenders (Ttofi & Farrington, 2011). Furthermore, the behavior of friends also impacts bullying prevalence. For instance pairing offenders together is associated with increased rates of re-offending (Ttofi & Farrington, 2011). The increase in reoffending is attributed to a peer learning process whereby offenders engage in a type of deviance training in which they learn from each other and normalize bullying (Dishion, McCord, & Poulin 1999; Ttofi & Farrington, 2011). Thus, social context can either foster or prevent bullying and the responses of adults and the behavior of friends are important contributors to bullying frequency.

One study attempted to compare the differential effects of social context and cognitions (normative beliefs) in influencing the responses of bystanders. The authors found that social context predicts participant role behavior over and above the effects of self-reported bullying attitudes (Salmivalli & Voeten, 2004), suggesting that anti-bullying attitudes are less important than an anti-bullying social context. This study demonstrated that social context robustly affects bystander responses to bullying and it has been used as an important piece of evidence in the construction of new programs that target bystander responses to bullying (Karna Voeten, Little, Poskiparta, & Salmivalli, 2012). Unfortunately, that study did not investigate the degree to which social context impacted attitudes about bullying, further confusing the mechanisms by which social context might impact participant role behavior. Moreover, rather than examining the reasoning strategies students employ when engaging in different roles, the authors measured bullying attitudes more generally. The authors implicitly argued that holding anti-bullying

attitudes influences the decisions individuals make when they witness bullying, thereby impacting participant role behavior. In this light, anti-bullying attitudes impact the reasoning strategy employed in the moment bullying is observed, and by consequence, a response elicited. By not measuring the actual reasoning strategies employed by students, this study likely underrepresents the importance of cognitive variables in predicting participant role behavior. Thus, while this study is influential in demonstrating the importance of social context, it may misrepresent the roles of cognitions in bystander responses. It is clear that social context impacts both bullying prevalence and the responses of bystanders to bullying; however the specific mechanisms by which this occurs remains elusive.

To develop more effective programs that alter bystander responses to witnessing bullying, the specific characteristics of social context associated with positive changes must be understood. While research has demonstrated that the responses of adults and the behaviors of friends are important determinants of bullying prevalence, research on the relative impact of adult and friend response on bystander responses is lacking. As a result, there is confusion in the literature regarding whether adults or peers should implement programs targeting bystander responses. Some programs argue that adults should provide programming because it demonstrates that adults align with anti-bullying practices (Karna, et al 2012; Salmivalli, Kaukiainen & Voeten, 2005, for example); however, it is currently unknown whether adults or peers should provide such training. Despite being effective in reducing bullying incidence, when adults provide anti-bullying programs, increases in bystander defending responses are only modest (Salmivalli, Kaikiainen, & Voeten, 2005). Moreover, students tend to be resistant towards anti-bullying messages provided by teachers (Boulton & Boulton, 2012). Additionally, research on cognitive and affective development has shown that during late childhood and into

adolescence behaviors are impacted more by friend behaviors than by the behaviors of adults at school (Keating, 2004), especially for those behaviors that are socially visible. Given the social visibility of bullying and the degree to which bullying is embedded within a social context, it is highly plausible that friends would be more influential in changing bystander responses than would adults. Nonetheless, the relative impact of adults and friends on bystander responses remains unknown. The paucity of research on the relative impact of adult and friend responses on bystander responses to witnessing bullying hampers the development of more robust programs targeting bystander responses to witnessing bullying.

In summary, research has consistently demonstrated the importance of social context in preventing bullying behavior. Nonetheless, the specific mechanisms by which social context influences anti-bullying behavior remain unclear and this lack of clarity is a detriment to the development of powerful bullying prevention methods. Furthermore, the relative impact of adults and friends remains unknown, further complicating our understanding of why bystanders who witness bullying respond as they do.

Cognitive Factors as Predictive of Bystander Responses

Previous literature has identified both social context (school community, adult responses and friend responses) and cognitive factors (i.e. attitudes, efficacy, empathy, and moral reasoning/disengagement) as important in impacting participant role behaviors. One possible mechanism by which social context could impact bystander responses is a social-cognitive model (as described above). Within the context of a social-cognitive framework one can inductively generate several possible mechanisms by which social context could influence the behavior of bystanders such as social modelling, competition for social dominance, a bystander effect, and establishing of normative beliefs or attitudes, among others. Because normative beliefs are

directly established from social context (Huesmann & Guerra, 1997), examining the role of normative beliefs is a relevant factor to consider as a mechanism by which the social-cognitive model might operate. Normative beliefs have been defined as cognitive standards about the acceptability of behavior (Huesmann & Guerra, 1997). Although normative beliefs have not been studied in the context of bullying, bullying attitudes (unlike typical attitude scales) are typically operationalized and measured as a cognitive standard about the acceptability of bullying related behaviors. As such, anti-bullying attitude measures typically measure normative beliefs (see Salmivalli & Voeten, 2004 for a discussion). Research has demonstrated that normative beliefs are informed by people's perception of how others in their peer group behave (Boivin, Dodge, & Coie, 1995; Stormshak, Bierman, Bruschi, Dodge, & Coie, 1999). As applied to bullying, individuals would find bullying less acceptable if they are in social contexts that have little or no bullying and would therefore score higher on measures of anti-bullying attitudes (Barchia & Bussey, 2011; Gini, Albiero, Benelli, & Altoe, 2008; Oberman, 2011). Thus, to study a social-cognitive model of bystander responses, normative beliefs (and by consequence bullying attitudes) are a practical factor to consider because they are directly informed by social context.

The link between attitudes and behavior has been well established as individuals tend to act in a manner consistent with their attitudes (Ajzen, 1991). As applied to bullying research, a negative relationship between anti-bullying attitudes and bully perpetration has been consistently observed (Boulton, Bucci, & Hawker, 1999; Boulton & Flemington, 1997; Boulton, Lanitis, Manoussou & LEMONI, 1997) and a positive relationship between anti-bullying attitudes and defending responses in bystanders has also been observed (Salmivalli & Voeten, 2004). Nonetheless, holding anti-bullying attitudes is not a sufficient condition for defending victims of bullying because while most children and adolescents hold anti-bullying attitudes (Boulton,

Bucci, & Hawker, 1999; Boulton & Flemington, 1997; Boulton, Lanitis, Manoussou & Lemoni, 1997, Rigby & Slee 1991) and intend to defend the victim (Whitney & Smith, 1993), only 20 - 30% of students actually engage in defending responses when witnessing bullying (Craig & Pepler, 1997; Salmivalli, 1996). Thus, although bullying attitudes are powerful predictors of bullying generally, they are not a powerful predictor of bystander responses.

To explain the poor correspondence between attitudes and bystander responses, a second line of research on cognitive factors has investigated the role of moral disengagement as a predictor of defending behavior in response to witnessing bullying. Moral disengagement is understood as a process (involving specific reasons) used to convince one's self that ethical standards do not apply in a specific situation, thereby avoiding self-critical emotions that would normally result from the transgression of a more general ethical standard (Hymel, Rocke-Henderson, & Bonanno, 2005). As applied to bystander responses, attitudes may not predict bystander responses because individuals may employ a morally disengaged reasoning strategy to justify their non-intervention. In this light, while one may generally find bullying unacceptable, when witnessing bullying a bystander may remain passive and justify this passivity through morally disengaged reasoning. In support of this hypothesis, one study demonstrated that levels of empathy and anti-bullying attitudes are unrelated to defending behavior when individuals agree with specific moral disengagement reasons (Hymel, Rocke-Henderson, & Bonanno (2005). Thus, while an individual may believe that bullying is wrong and unacceptable, he or she may also believe that when witnessing a bullying event, defending the victim would be problematic because it leads to negative personal consequences. As such, morally disengaged reasoning would usurp the impact of attitudes leading to a lack of defending behavior. Morally disengaged reasoning likely interferes with the attitude-behavior link.

To balance the issues between measuring attitudes and moral disengagement, one could measure *Intervention Reasoning*. Intervention reasoning is to be understood as the reasons bystanders use to explain their response. By allowing respondents to select among several different reasons for their behavior respondents could choose among reasons pertaining to normative beliefs and morally disengaged beliefs. This provides a measure of response with less error arising from the inconsistent application of both normative beliefs and morally disengaged beliefs as means of deciding upon a behavior.

Given that cognitions employed in the moment bullying occurs are impacted both by social psychological forces and moral disengagement strategies, a poor attitude-behavior link would be expected (Salmivalli & Voeten, 2004). Rather than measuring bullying attitudes generally, the current study examines intervention reasoning, the reasons a person uses to explain their response. *Intervention reasoning* implicitly addresses both bullying attitudes and moral disengagement as applied to bystander responses to witnessing bullying.

Aims of the Current Study

As previously stated, there is a paucity of research investigating the interplay of factors which impact bystander responses to witnessing bullying, making the development of programs that effectively alter bystander responses more difficult. One mechanism frequently discussed in the literature is a social-cognitive model, however this model has never been tested. The current study tests a social cognitive model of bystander responses to witnessing bullying. Generally, the social cognitive model asserts that social context impacts bystander responses, in part, by impacting cognitions (Salmivalli & Voeten, 2004). Two elements of social context are considered in the present study: *adult responses* and *friend responses*, and social context is to be understood as indicating both of these features. Cognitions are measured in the present study as

intervention reasoning, that is, the reasons individuals use to explain their behavior. Three forms of bystander responses are tested using this model: two forms of defending responses (seeking help from adults at school and directly intervening) and one form of passive behavior.

To better understand social context and the relative importance of adults as compared to friends, it is hypothesized that: (H1) friend responses will account for more variance in bystander responses than will adult responses. This will be examined through a series of hierarchical regressions with adult and friend responses entered in separate orders. If the pattern of results suggests that friends account for additional variance after accounting for the impact of adults, but adults do not account for additional variance after accounting for the impact of friends, H1 will be confirmed. With respect to testing a social-cognitive model more fully, it is predicted that (H2) adult response will impact friend responses, which will impact intervention reasoning, which will impact bystander responses. This will be evidenced through a serial multiple mediation with friend responses and intervention reasoning acting as mediators operating in serial. More specifically, it is predicted that (H2a) anti-bullying social contexts (adult and friend anti-bullying responses) predict moral reasoning and defending responses whereas (H2b) bully-supportive social contexts (adult and friend-bully supportive responses) predict morally disengaged reasoning and passive responses.

Methods

Participants and Procedures

Participants were 326 students (166 male, 160 female), grades 4 to 8 drawn from three elementary schools in southwestern Ontario with relatively equal numbers from each of the three schools (see Table 1). The ethnic composition was predominantly White/Caucasian (85.6%). Provincial reports describe the targeted schools as fairly transient, low-income families with a

large number of single parent families (Johnson, 2007). Children completed an on-line questionnaire on netbook computers set up in group format in an available school room. Individual computer stations were set up on separate tables with a three-sided, approximately 18 inch-high cardboard screen surrounding each student's computer to ensure confidentiality of responding. Questionnaires were completed with a research assistant who read the questions aloud to students as the students progressed through the questionnaire. Several other research assistants were available in the room to respond to student questions.

Measures

The measures used in the current study were drawn from the the *PREVNet Assessment Survey* (PAS), an instrument intended to assess a wide range of perceptions and behaviors pertaining to the assessment of school bullying (e.g., perceived school and neighbourhood safety, bullying/victimization, bystander responses, where and when bullying occurs, intervention reasoning). The PAS was adapted from the National Public Health Association and the National Crime Prevention Strategy's Safe Schools Survey (Totten, Quigley, & Morgan, 2004) and is one of the four key pillars of PREVNet's national Canadian anti-bullying strategy¹. The current study is the first to employ the PAS. Four measures from the PAS were used in the present study: bystander responses to witnessing bullying, adult and friend responses to bullying, and intervention reasoning. Of necessity, the breadth and ease of administration of the PAS comes at the expense of brevity in the number of items measuring a particular construct and the range of the responses options (see Appendix for measures used in the current study). Since this is the first study to employ the PAS, the factor structure of subscales is described.

¹ PREVNet (Preventing Relationship and Eliminating Violence Network) `` is a national network of Canadian researchers, non-governmental organizations (NGOs) and governments committed to stop bullying`` (<http://prevnet.ca/>) and assessment is one of their four institutional pillars and goals.

Bystander Responses

Bystander responses to witnessing bullying. The measure is composed of ten items that were expected to comprise three subscales each reflecting a different response to witnessing bullying. Two forms involve defending the victim, either through *help seeking* (e.g., “I got an adult to help stop it”) or *direct intervention* (e.g., “At the time, I helped the student being bullied”). A third response to witnessing involves *passive responding* (e.g., “I walked away”). Participants responded using a checklist format indicating all the responses they performed after witnessing bullying in the past month. To examine the factor structure of the measure, items were submitted to a principal component analysis with varimax rotation. The resultant scree plot and a further parallel analysis (for procedural details and random eigenvalue generator see O’Connor, 1995) both suggested the extraction of three factors (eigenvalues 2.74, 1.45, 1.20, 0.94) accounting for 53.9% of variance. Subscales were created with items that loaded on their respective factor $> .40$ and did not cross load on any other factor $> .40$. One item (“I got back at them later”) was dropped due to crossing loading on both direct intervention and passive responding subscales. Help-seeking was composed of four items with an internal consistency in the current study of .59. The other form of defending, direct intervention, contained 2 items and demonstrated an internal consistency of .68. The passive response subscale contained 3 items and demonstrated an internal consistency of .62. An examination of zero-order correlations among the measures indicates that both victim-defending responses (help seeking and direct intervention) were positively associated with one another and were both negatively associated with passive responding (see Table 2), supporting the proposed division of subscales.

Social Context

Adult responses to bullying. Seven items were used to measure perceptions of how adults responded to bullying in the past month, forming two subscales. Four items formed the *anti-bullying* subscale (e.g., “do adults at your school defend the student being bullied”) and three items formed the *bully-supportive* subscale (e.g., “do adults at your school ignore bullying... make excuses for those who did it”). Participants responded using a 4-point rating scale ranging from 0 (*never*) to 4 (*always*). Items were submitted to a principal component analysis with varimax rotation. The resultant scree plot suggests the extraction of two factors (eigenvalues: 2.95, 1.07, .78), however, parallel analysis reveals only one factor explaining 57.4% of variance. Although parallel analysis revealed only revealed one factor, it is a very conservative analysis. Following the current conceptualization and scree plot, a two factor solution was retained. Further, supporting a 2 factor solution, all items loaded onto their respective factors $>.40$ and all cross-loadings were conceptually valid as no items cross-loaded on both factors in the same direction. Moreover, adult anti-bullying and bully-supportive responses are negatively associated with each other (see Table 2). Scale reliabilities for the anti-bullying and bully-supportive subscales were .64 and .69, respectively.

Friend responses to bullying. A seven item scale was used to measure perceptions of how friends respond to bullying over the past month. Participants rated each item on a 4-point rating scale from 0 (*never*) to 4 (*always*). Five items represented friend anti-bullying responses (e.g., “defend the student being bullied”) and two items represented friend bully-supportive responses (e.g., “make excuses for those who bully”). Items were submitted to a principal component analysis with a varimax rotation. The resultant scree plot and parallel analysis

indicated a two factor solution (eigenvalues: 2.22, 1.50, .89) accounting for 53.12% of variance. Subscales were created with items that loaded on their respective factor $>.40$ and did not cross load $>.40$ on the other factor. Reliability for the anti-bullying and bully supportive subscales were .65 and .62, respectively. Friend anti-bullying and bully-supportive responses are negatively associated with each other (see Table 2), supporting the proposed division.

Intervention Reasoning

Act – Moral reasoning. Participants completed a seven-item checklist asking about various reasons for acting after witnessing bullying the last time they saw bullying occur (e.g. *“I intervened because it is not fair”*; *“I intervened because stopping bullying is everyone’s responsibility”* *“I intervened because the person needed help”*). Principal component analysis was inconsistent. The Kaiser rule revealed 2 factors (eigenvalues: 2.90, 1.03, .82), the scree plot revealed 2 factors, and parallel analysis revealed 1 factor. When examining a two factor solution, the second factor contained only one item *“I intervened because I felt like joining in”*. If that item is deleted both the Kaiser rule and parallel analysis reveal a single factor solution (component 1 = 2.90, component 2 = .83). Accordingly, this item was removed from analysis and 1 factor was retained, explaining 48.26% of the variance. Internal consistency of the 6 item subscale = .78. As such, a six-item subscale was used with higher scores indicating higher levels of moral reasoning.

Not-Act – Morally disengaged reasoning. Participants completed a ten-item checklist about reasons why they did not act after witnessing bullying the last time they saw bullying occur; however one item was removed from the final scale resulting in a nine item measure comprised of two subscales. On the basis of item content, it was expected that two factors would emerge. Four items measure negative consequential reasoning (sample item: *“I did not intervene*

because I worried I would be bullied next”) and five items measure non-responsibility reasoning (sample item: “I did not intervene because it wasn’t my problem, it wasn’t my business”). When analysing all ten items, principal component analysis was inconsistent. The Kaiser rule and scree plot indicated 3 factors (component 1 = 2.44, component 2 = 1.70, component 3 = 1.02) whereas parallel analysis reveals 2 factors. One item from the two factor solution did not load $\geq .40$ on either factor. The item “I did not intervene because no one would do anything if I told someone” may represent a third type of reasoning not captured in the current measure. Since this item did not load $> .40$ it was removed. When the item is removed, both the Kaiser rule and parallel analysis reveal a 2 factor solution explaining 44.56% of the variance. No items cross loaded between the two factors, supporting the proposed division into negative consequential reasoning and non-responsibility reasoning. The negative consequential reasoning and non-responsibility reasoning subscales demonstrated internal consistency of .65 and .59 respectively. Morally-disengaged subscales are positively correlated with one-another and either negatively correlated or uncorrelated with moral reasoning (see table 2) supporting the proposed division of subscales.

Results

Bullying remains a common problem facing youth. In the current study and reporting over the past month, 49.84% of students report bullying others at least once, 52.0 % report being victimized at least once, and 83% of students report witnessing bullying at least once. Bystanders have been established as a primary target for anti-bullying intervention. The present study examined predictors of three bystander responses: two forms of defending (help seeking and direct intervention) and one form of passive responding. Generally, results supported the social-cognitive model of bystander responding. In response to witnessing bullying, 73.3% of students

reported seeking help at least once (e.g. “I told an adult at school about it”), 59.2% reported directly intervening at least once (e.g. “I stood up to the student doing it”), and 41.7% reported remaining passive at least once (e.g. “I walked away”).

Preliminary Analyses

The current study is the first to examine the PREVNet Assessment Survey (PAS). Given a trade-off between breadth of measuring bullying-related behaviors, ease of administration and internal consistency, the current study found relatively good psychometric properties associated with four measures used in the current study (bystander responses, adult, and friend response, intervention reasoning). Subscales for each of the four measures were established using principal component analysis. Results indicated relatively good factor structure with most items loading on their proposed factors and minimal cross loading (see Measures section for fuller description).

To determine whether sex and grade should be considered as control variables, a 2 sex (male, female) X 5 grade (Grades 4 to 8) MANOVA was conducted for each of the three bystander responses (help seeking, direct intervention, and passive responding). The overall MANOVA was significant for both sex ($F(3,314) = 2.58, p = .05$) and grade ($F(12,948) = 4.27, p < .001$), but the sex X grade interaction was not significant ($F(12,948) = .92, p = .53$).

Descriptively, males engage in less help seeking and more passive responding as compared to females and help seeking becomes less common with increased grade, whereas, passive responding becomes more common with increased grade. Given age and gender differences, subsequent analyses will include both as control variables.

Social Factors: The Relative Impact of Adults and Friends

Hypothesis 1 (H1) states that friends will have a greater influence than adults in predicting bystander response as measured by a series of hierarchical regressions. This is expected

for all three forms of bystander responses (help seeking, direct intervention, passive responding). Before examining the hypothesis, however, it is interesting to note that the pattern of zero-order correlations is consistent with what would be expected if the hypothesis were true. For instance, the relationship between friend and bystander response is generally stronger than that between adults and bystander response (see Table 2). Correlations more specifically indicate that defending the victim (help seeking and direct intervention) is more likely in an anti-bullying context which is established when adults or friends engage in anti-bullying response. Conversely, passive responding is more likely when adults or friends foster a bully supportive context. These cursory findings lend support to H1.

To examine the relative contributions of adult and friend responses on the responses of bystanders, a hierarchal regression was conducted with sex and grade entered in Step 1 as control variables, adult responses entered in Step 2, and friend responses entered in Step 3. A second hierarchal regression was then conducted with the Steps 2 and 3 reversed in order to determine the independent contribution of friend and adult influence. In support of H1 after controlling for sex and grade which accounted for between .4 and 12 % of the variance (depending on the form of bystander response), when adults are entered next they account for a further and significant 3% of the variance in bystander responses. Friends finally contributed a further significant 5-8% of variance depending on the form of response. When friends are entered prior to adults, however, adults account for only a further non-significant 0% of variance for help seeking ($F(1,326) = .79, ns$), a further 1% of variance for direct intervention ($F(1, 326) = .84, ns$) and a further 1% of variance for passive responding ($F(1,326) = 2.18, ns$). These results indicate that although adult responses to bullying contribute to the prediction of bystander response, their

effect is overshadowed by the effect of friend responses. Beta weights from a simultaneous regression of the first model with adults entered prior to friends are reported in Table 3.

Cognitive Factors: The Relative Intervention Reasoning

Having examined the social context of bystander responding, the impact of cognitive variables (intervention reasoning) is now examined; however, no hypotheses are specifically tested in this section. Confirming the importance of cognitive variables, intervention reasoning variables are the strongest predictors of bystander response (see Table 2) and if they are entered in the final step of a hierarchical regression they account for additional variance (see Table 3). Moral reasoning is strongly associated with help seeking and direct intervention in a positive direction and is strongly associated with passive responding in a negative direction (see Table 3). Interestingly, negative consequential reasoning is positively associated with help seeking, a form of defending, and passive responding (see Table 3). Although unexpected, it is not surprising that someone fearful of negative consequence would prefer to seek help than directly intervene if he or she were to defend the victim. On the other hand and in support of the social-cognitive model, non-responsibility reasoning is negatively associated with direct intervention and is positively associated with passive responding (see Table 3). These findings suggest that reasoning variables are more strongly associated with bystander responses than social context variables.

The Social-Cognitive Model: A Test via Serial Multiple Mediation

Overview and analytic strategy. The social-cognitive model suggests that social context will impact bystander response, at least in part, by impacting intervention reasoning. A social-cognitive model would suggest that anti-bullying contexts will be associated with anti-bullying reasoning (moral reasoning) and anti-bullying responses (both forms of defending), whereas bully-supportive contexts will be associated with bully-supportive reasoning (morally

disengaged reasoning) and bully-supportive responses (passive responding). To test a social-cognitive model of bystander responses the current study predicts that (H2) adult responses will impact friend responses, which will impact intervention reasoning, which will impact bystander responses. More specifically, it is predicted that (H2a) anti-bullying social contexts predict moral reasoning and defending responses whereas (H2b) bully-supportive social contexts predict morally disengaged reasoning and passive responses. In both cases, a social-cognitive mechanism will be evidenced through a serial multiple mediation with friend responses and intervention reasoning acting as mediators operating in serial (see Figure 1 for full mediation model; see Figure 2 for the path which tests H2).

In line with theory, mediation analyses will be organized into two anti-bullying analyses (testing H2a) and two bully-supportive analyses (testing H2b). It is important to limit the mediation analyses to reflect theory because a combined total of 24 (2 adult responses X 2 friend response X 3 intervention reasoning by 3 bystander response) mediations are logically possible. Nonetheless, theory suggests that anti-bullying contexts should be associated with moral reasoning and defending responses, whereas, bully-supportive contexts should be associated with morally disengaged reasoning and passive responses. On the basis of theory the total number of mediations conducted is restricted to four (two anti-bullying and two bully supportive).

Supporting the proposed division of analyses by anti-bullying and bully supportive contexts, zero-order correlations reveal that anti-bullying variables are positively associated with each other, bully supportive variables are positively associated with each other, and anti-bullying variables are negatively associated with bully supportive variables (see Table 2). Furthermore, when friend responses are treated as outcomes in a simultaneous regression no significant relationship exists between adult bully-supportive responses and friend-anti bully responses ($\beta =$

.1021, $t = 1.71$ $p = .08$). Similarly, when intervention reasoning variables are treated as outcomes in a simultaneous regression, no significant relationships exist between adult anti-bullying behavior and either negative consequential reasoning ($\beta = .0031, t = .10$ $p = .92$), or non-responsibility reasoning ($\beta = .0031, t = .10$ $p = .92$) and no relationship exists between adult bully-supportive responses and moral reasoning ($\beta = .00, t = .18$ $p = .85$).

To examine Hypothesis 2, that the relationship between adult responses and bystander response is mediated by friend responses and intervention reasoning, serial multiple mediation analyses were conducted using the SPSS PROCESS macro (Hayes, 2013; see Figure 1 for the full mediation model). A variable M (see Figure 1) is thought to be a mediator when the bootstrapped confidence intervals of an indirect path (calculated as the product of the path coefficients from X to M and M to Y) do not pass through zero (Hayes, 2009). In a serial multiple mediation model, three indirect paths must be calculated. Path a_1b_1 tests the simple mediation model of adult responses on bystander response as mediated by friend response. Path a_2b_2 tests the simple mediation model of adult responses on bystander responses as mediated by intervention reasoning. Lastly, path $a_1d_2b_2$ tests the full model of adult response impacting friend response which impact intervention reasoning, which in turn, impact bystander response (see Figure 2). The current test of the Social-cognitive model (and by consequence H2) will be confirmed when the path $a_1d_2b_2$ is significant. H2a will be confirmed if anti-bullying contexts predict moral reasoning which predicts both forms of defending. H2b will be confirmed if bully-supportive contexts predict either form of morally disengaged reasoning which would predict passive responding. Although not required for mediation, in three separate regressions, paths a_1 ; a_2 and d_2 ; b_1 and b_2 are estimated using the SPSS Macro described above. Indirect paths and c' are estimated simultaneously in a fourth regression. For causal modelling, Hayes (2013)

recommends using listwise deletion to treat missing data and this method was employed in the current analysis.

Mediation results: H2a

Help seeking. Results of the serial multiple mediation analysis support H2a in the case of help seeking responses. In addition to contributing directly to bystander response, adult responses influence bystander responses through the proposed social-cognitive mechanism. That is, adult responses influence friend responses which influence intervention reasoning which, in turn, influence bystander response (see Table 4, path $a_1d_2b_2$). It is also important to note that independent of the social-cognitive path (path $a_1d_2b_2$), adult responses also increase bystander defending behavior through friend responses (see Table 4, path a_1b_1) highlighting the importance of social context and the importance of friend responses to bullying. In contrast, adult response do not directly influence moral reasoning (see Table 4, path a_2) and the subsequent indirect effect is non-significant (see path a_1b_2), suggesting that friends are a primary mechanism for cognitive change (thereby lending additional support to H1).

Direct intervention. Results of the serial multiple mediation analysis support H2 in the case of direct intervention. Rather than contributing directly to bystander response, adult responses influence friend responses which influence intervention reasoning which, in turn, influence bystander response (see Table 4, path $a_1d_2b_2$). As such, it is important to note that adult responses do not directly influence bystanders to engage in direct intervention (see Table 4, path c'). Furthermore, as in the case of help seeking, adult responses also increase bystander defending behavior through friend responses (see Table 4, path a_1b_1) highlighting the importance of social context and the importance of friend responses to bullying. In contrast, adult responses do not directly influence moral reasoning (see Table 4, path a_2) and the subsequent indirect effect

is non-significant (see path a_1b_2), suggesting that friends are a primary mechanism for cognitive change.

Mediation results: H2b

Passive responding. Results indicate that a social-cognitive model does not account for passive responding when negative consequential reasoning is used but it does predict passive responding when non-responsibility reasoning is used (see Table 5, path $a_1d_2b_2$). Indeed, when negative consequential reasoning is considered, no direct or indirect paths are significant other than the relationship between reasoning and passive responding (see Table 5, path b_2). Given that negative consequential reasoning is also associated with help seeking, it is not surprising that this type of reasoning responds differently than others considered in the present study. On the other hand and in support of the model, when non-responsibility is considered, the results confirm H2 (see Table 5, path $a_1d_2b_2$). Furthermore the relationship between adult responses and passive responding is mediated by friend responses (see Table 5, path a_1b_1) highlighting the importance of social context and the importance of friend responses to bullying. In contrast, adult responses do not directly influence non-responsibility reasoning (see Table 5, path a_2) and the subsequent indirect is non-significant (see path a_1b_2), suggesting that friends are a primary mechanism for cognitive change.

Discussion

Summary of Findings

Generally, the major hypotheses of the present study were supported. As such, friends are stronger predictors of bystander responses than are adults and a social-cognitive model appropriately predicts different bystander response.

Bullying is a prevalent and harmful form of aggression. As a result, programs to prevent bullying and ameliorate its effects have been developed. Increasingly, these programs target bystanders as an important element of change. Nonetheless, current programs directed at increasing bystander intervention demonstrate only modest effects (Ttoffi & Farrington, 2011). Although much is currently known about predictors of bystander responses to witnessing bullying, research on the interplay between factors is lacking. In an attempt to better understand how social context and cognitive factors impact bystander responses, the current study tested an instance of the social-cognitive model. In testing this model, the present study also examined the relative impact of adults and friends on bystander responses to better understand the nature of social context. This study was the first to employ the PREVNet Assessment Survey (PAS), a wide ranging measure of bullying phenomena. Two forms of defending behavior, help seeking and direct intervention, and one form of passive response were used to measure bystander responses. Social context was measured as adult and friend responses to bullying and the cognitive factor used was reasons for intervening.

More specifically, the goal of the current study was to investigate the interplay between social context (the influence of adults and friend responses) and cognitive factors (intervention reasoning) as determinants of bystander responses to witnessing bullying (help-seeking, direct intervention, passive). Results indicated that while victim defending responses (help-seeking, direct intervention) were positively related to each other, both were negatively related to passive responding. This suggests that increasing defending behavior may also lead to an additional reduction in passive responding.

To better understand the interplay between social context and cognitive factors, the current study examined the relative influence of adults and friends in predicting bystander

responses. Results of hierarchical regressions indicate that friend responses have a greater influence on bystander responses than do adult responses. The relationship between adults, friends, and bystander responses is further supported by the evidence which supports hypothesis 2. Hypothesis 2 asserts that social context impacts cognition which impacts bystander response and in the current study social context was divided into adult responses and friend responses. The serial multiple mediation was structured such that adult responses impact friend responses and friend responses impact intervention reasoning (which ultimately impacts bystander response). Although the serial indirect path was significant, the simple indirect path from adults to response as mediated by reasoning was never significant. This suggests that individuals look to friends to inform their cognitions about responding to bullying.

Since previous research has demonstrated substantial effects for adult responses and has highlighted these as central elements of any bullying prevention program (Ttoffi & Farrington, 2011), it is possible that adult responses exert their effect on the environment by shaping the actual prevalence of bullying. Irrespective of the substantial impact which adults have on the environment, individuals still look to their friends to inform their own behavioral response when witnessing bullying. In support of this explanation, Boulton and Boulton (2012) demonstrated that students are resistant to anti-bullying messages provided by adults suggesting that adults exert their influence without students being aware of their importance.

With respect to a social-cognitive model more generally, results of serial multiple mediation analyses generally support H2. By supporting hypothesis 2, the relationship between social context and cognitive factors is better understood. It is now established that in addition to impacting bystander responses directly, adult responses also impact the cognitions of bystanders through the effect of friend responses. More specifically, anti-bullying social contexts impact

moral reasoning which then impacts both forms of defending responses. Although the present study found support for H2b in the case of non-responsibility reasoning, the serial multiple mediation was not significant for negative consequential reasoning. This is likely because negative consequential reasoning also predicts help seeking when examining regression coefficients. Furthermore, negative consequential reasoning is unrelated to all measures of social context other than bully-supportive friend responses (which is a weak relationship). It is possible that negative consequential reasoning is impacted more by other variables like personal experience or personality than social context. Nonetheless, the current study found fairly consistent support for a social-cognitive model of bystander responses.

Taken together, the results of the present study demonstrated strong support for a social-cognitive model of bystander responses. Specifically, anti-bullying contexts predict anti-bullying cognitions which predict defending responses, whereas bully-supportive contexts predict bully-supportive cognitions, which predict passive responses. Regarding social context, results indicate that friends are more influential than adults. Furthermore, results indicate that while friend responses predict intervention reasoning, adult responses do not. Results also suggest that the reasons individuals use to explain their behavior are the strongest predictor of bystander response. As such, it is especially important to consider how the social context will shape cognitions in young people. To this end, results supporting H1 demonstrated that impacting cognitions about appropriate responses to witnessing bullying will be best achieved by using friends rather than adults.

In addition to testing the social-cognitive model of bystander responses to bullying, the current study was also the first study to employ the PAS in a research context. Although the internal consistency was relatively weak, this was expected due to the small number of item

numbers and curtailed response ranges. The pattern of inter-correlations among the subscales in addition to the robust factor structure indicates that relatively strong psychometric properties were found for the subscales of the PAS employed. Future revisions of the PAS should include more items and larger response ranges for the factors discovered in the current study to avoid an artificial suppression of effect sizes. Preliminary evidence of criterion validity was established in the current study as the predictor measures appropriately predicted outcomes. Convergent validity was demonstrated in the current study as anti-bullying social variables and responses correlate with one-another and bully-supportive social variables and intervention reasoning strategies correlate with one another. Although internal consistency was weak for each scale, employing the Spearman-Brown Prophecy formula for an 8 item scale increases all internal consistency above .85, suggesting that the factor structures are true and internally consistent.

Limitations

Although the results of the present study found consistent support for both major hypotheses, the effect sizes uncovered were small. Regarding the relative impact of friends and adults, studies which found large effects for the influence of adults tend to do so by investigating adult responses *in vivo*, rather than as a perception of students. Thus, the current study may under-represent the impact of adults at school by not having a measure of adult responses independent of student perception. If the influence of adults is largely outside of the consciousness of students, it is not surprising that student perceptions of adult responses would have a small impact on bystander response.

In the case of hypothesis 2, small effect sizes were observed for all multiple mediation models. These effect sizes were attenuated for two reasons. First, the few items and curtailed response range artificially decreases measurable variance, thereby suppressing effect sizes

(Aguinis, Pierce, & Culpepper, 2008). Second, the optimal measure of effect size for multiple mediation is maximum possible indirect effect (Preacher & Kelley, 2011). Given that the possible amount of variance explained is restricted by the variance of individual scales (Olkin, 1986), comparing the amount of variance explained by the model to this mathematical maximum is the most valid measure of effect size (Preacher & Kelley, 2011). Unfortunately, this metric has not been developed for serial multiple mediation and so a less robust metric was used which lead to a further suppression of effect size. Although the total possible indirect effect was suppressed, current findings suggest that the serial multiple indirect path accounts for a significant portion of the variance in the indirect effect.

Results of the current study also uncovered large effects for intervention reasoning. In some ways, the large effect size is an artifact of the question format. Because these questions ask about reasons for behavior, a strong reason-response link is expected. This may misrepresent the importance of cognitions in prospectively predicting bystander responses; nonetheless, this finding does highlight the overwhelming importance of intervention reasoning as an explanatory variable.

Implications for Policy

Increasingly, governments around the world are calling for a national evidence-based policy for bullying prevention and remediation. Indeed this is a laudable goal because many practices such as zero-tolerance policies are frequently used but tend to be ineffective (APA zero tolerance task force, 2008) and an evidence-based national policy would help avoid these practices. Current evidence suggests that comprehensive anti-bullying programs must contain a component targeting bystanders (Salmivalli, Kaukiainen, & Voeten, 2005). Nonetheless, little is currently known about the mechanisms by which bully prevention initiatives exert their influence

on bystander responses and this limits the size of the effect these programs can have. The national bully prevention program in the Netherlands, KiVa, has been demonstrated to reduce the incidence of bullying by a up to of 19% in randomized controlled field trials (Karna et al, 2013). While this is among the most impressive results consistently recorded in the literature, given that 1 in 3 students have been recently bullied (Molcho, et al, 2009) the program would theoretically reduce the incidence to 1 in 4 children, leaving bullying as an incredibly prevalent issue. If the mechanisms by which prevention programs caused change were better understood, it is possible that more effective programs could be developed. Appropriate national policies on bullying should entail a research component dedicated to understanding the mechanisms of change and the policies should be reflective of that evidence.

The current study was the first to explicitly investigate the mechanism by which social context impacts bystander responses to bullying. Results of the current study confirm that, in part, social context impacts bystander`s cognitions which then impact their defending responses. Furthermore, the current study demonstrated that cognitive variables are more strongly impacted by friend responses than by adult responses, suggesting that peer mediated training programs may be more effective at increasing anti-bullying cognitions than adult-mediated training programs. This finding stands in contrast to the perspective of some authors who argue that adults in the school should administer the programs because it identifies them as being aligned with anti-bullying attitudes (Karna, et al, 2013). As an alternative to adult providing the training programs, adults could function by facilitating workshops conducted by peer trainers. If adults facilitated peer trainers, adults would still appear to align with anti-bullying attitudes but peers provide training about appropriate and acceptable responses as bystanders. Because results of the current study suggest that intervention reasoning is impacted more by friends than adults, having

peers provide training would likely lead to greater increases in defending behavior without trading off the importance of having adults appear to align with anti-bullying practices.

Irrespective of the implementation, results of the current study suggest that national policies on bullying should consider the important role peers play in informing the beliefs and reasoning strategies of bystanders.

Lastly, this study demonstrates that the cognitions of bystanders and bystander responses are impacted by social context. As such, this study provides more evidence about the mechanisms by which bystander defending responses can be fostered. Given the important role bystanders play in preventing bullying and ameliorating its effects, national policies on bullying should entail a component directed at increasing bystander defending behavior. Having peers deliver this component of bully prevention programs would be particularly beneficial as it would further normalize defending behavior and reinforce social acceptability of defending responses.

Future Research

The current study demonstrated a link between adult and friend responses, intervention reasoning, and bystander responses to witnessing bullying. Future research should investigate the link between social context and other cognitive variables like empathy and perceived efficacy, and their impact on intervention reasoning. Moreover, the current study used intervention reasoning as a cognitive variable because it is assumed that the relationship between attitudes and bystander responses are mediated by intervention reasoning; however, this relationship was not tested. Future research should investigate the correspondence between attitudes and intervention reasoning and the factors that contribute to any lack of correspondence. This is important because intervention programs invested in changing intervention reasoning strategies would need to be aware of the barriers between attitudes and reasoning. Furthermore,

other cognitive factors such as attitudes towards bullying, empathy, and perceived efficacy have been demonstrated to impact participant role behavior (Barchia & Bussey, 2011; Gini, Albiero, Benelli, & Altoe, 2008; Oberman, 2011) and to date, little research has examined how social context impacts these variables.

The current study demonstrated that adult responses impact friend responses, which impact intervention reasoning, which in turn, impact bystander responses to witnessing bullying. Furthermore, the current study demonstrated that after controlling for the impact of friends, adults do not explain additional variance in bystander responses. Nonetheless, the current study did not examine whether friend responses mediate the relationship between adult responses and intervention reasoning and this link should be studied explicitly.

Increasingly, authors are advocating for bully prevention programs to include a component targeted at increasing bystander defending behavior. Nonetheless, to date no published research has examined the effect defending victims of bullying has on the defender. This is problematic because it is possible that defending victims has negative outcomes for the defender, thereby posing possible ethical and practical barriers requiring consideration. Given that the effect of defending on the defender is still unknown, future research should explore the issue.

Conclusion

Despite its limitations, the current study provides evidence which supports that a social-cognitive model explains the relationship between social context and bystander defending behavior for intervention reasoning strategies other than negative consequential reasoning. The current study also demonstrated that friends have a tremendous impact on bystander responses to

bullying. Together these findings highlight implications for bullying prevention program delivery, implicating peers as an important mechanism for change and intervention reasoning as an important target of change.

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Table 1
Participant characteristics by grade and sex

grade	sex		Total
	male	female	
4	6	9	15
5	9	8	17
6	51	47	98
7	61	59	120
8	39	37	76
	166	160	326

Table 2*Inter-correlations among scales*

	2.	3.	4.	5.	6.	7.	8.	9.	10.
<i>Bystander Response</i>									
1. Defend-Help Seeking	.31**	-.25**	.14*	-.01	.31**	.01	.42**	.24**	-.13*
2. Defend-Direct Intervention		-.34**	.08	.08	.27**	.16**	.45**	-.03	-.19**
3. Passive			-.13*	.16**	-.24**	.13*	-.31**	.17*	.37**
<i>Adult Response</i>									
4. Anti-Bullying				-.52**	.29**	-.03	.17**	-.03	-.11
5. Bully Supportive					-.11*	.26**	-.08	.08	.21**
<i>Friend Response</i>									
6. Anti-Bullying						-.12*	.32**	-.01	-.26**
7. Bully Supportive							-.11	.12*	.27**
<i>Intervention Reasoning</i>									
8. Intervene- Moral								.07	-.22**
9. Non Intervene - Negative Consequences									.18**
10. Not-intervene - Non-responsibility									

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

Table 3

Change statistics for all variables and beta weights of a simultaneous regression using all variables

	Help Seeking			Direct Intervention			Passive		
	ΔR^2	ΔF	β	ΔR^2	ΔF	β	ΔR^2	ΔF	β
Step 1. Demographic	.12	22.11***		.00	.61		.06	9.62***	
Grade			-.19***			.03			.08
Gender			.06			-.05			-.17***
Step 2. Adult Response	.03	5.66**		.03	4.37*		.03	4.36*	
Anti-Bullying			.08			.00			-.02
Bully Supportive			.06			.09			.06
Step 3. Friend Response	.04	8.21***		.08	14.86***		.03	5.52**	
Anti-Bullying			.15**			.15**			-.06
Bully Supportive			.07			.24***			-.01
Step 4. Reasoning	.10	15.42***		.19	28.47***		.13	18.41***	
Act - Moral			.30***			.43***			-.20***
Not Act - neg. consequence			.16**			-.05			.23***
Not Act - non responsibility			-.03			-.14**			.19***

* <.05 ** <.01 *** 0 <.001

Table 4

Serial multiple mediation model of adult anti-bullying response as predictor, friend anti-bullying response and moral reasoning as mediators, and defending responses as outcomes.

	Help Seeking				Direct Intervention			
	B(SE)	β	p	Effect Size	B(SE)	β	p	Effect Size
Path a₁	.25(.05)	.32	<.001	-	.24(.05)	.30	<.001	-
Path a₂	.05(.03)	.11	.11	-	.04(.03)	.08	.19	-
Path b₁	.08(.03)	.13	.02	-	.10(.05)	.12	.049	-
Path b₂	.24(.06)	.24	<.001	-	.48(.08)	.35	<.001	-
Path d₂₁	.06(.03)	.10	.046	-	.08(.03)	.13	.02	-
Path c	.04(.03)	.08	.11	-	-.01(.04)	-.02	.83	-
Path c'	.07(.03)	-	<.001	-	.04(.04)	-	.23	-
Path a_{1b1}	.02(.001)	-	CI: .004 -.0403	.57	.02(.01)	-	CI: .003 -.0491	.40
Path a_{2b2}	.01(.01)	-	CI: -.0008 -.03	.29	.02(.01)	-	CI: -.0079 -.0531	.40
Path a_{1d21b2}	.004(.00)	-	CI: .0005 -.01	.11	.01(.01)	-	CI: .0019 -.0207	.11
Total R²	.32	-	.001		.35	-	<.001	
Total Indirect	.035(.012)	-	.0158-.0615		.05(.02)	-	.0163-.0909	

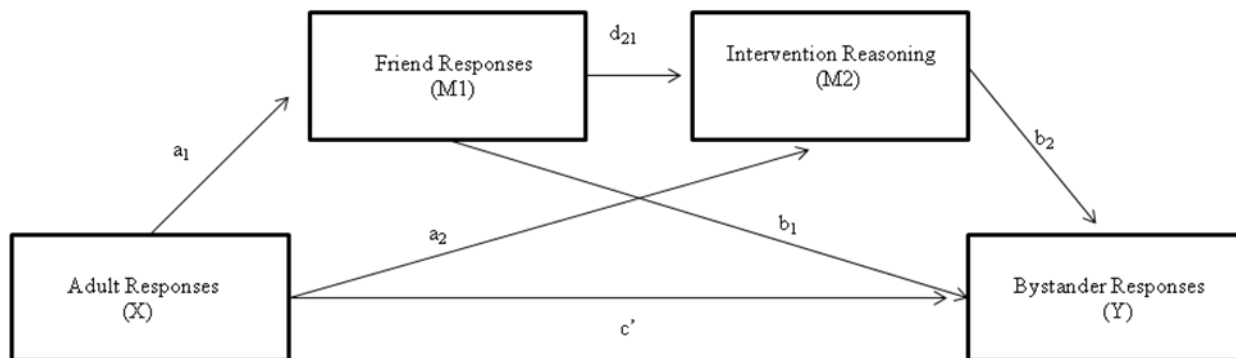
Note: CI represents the lower limit and upper limit of 95% bootstrapped confidence intervals. Grade, Sex, Adult bullying supportive response, friend bully supportive response, non-responsibility reasoning, and negative consequential reasoning are included as covariates. Effect size is calculated as the proportion of indirect effect.

Table 5

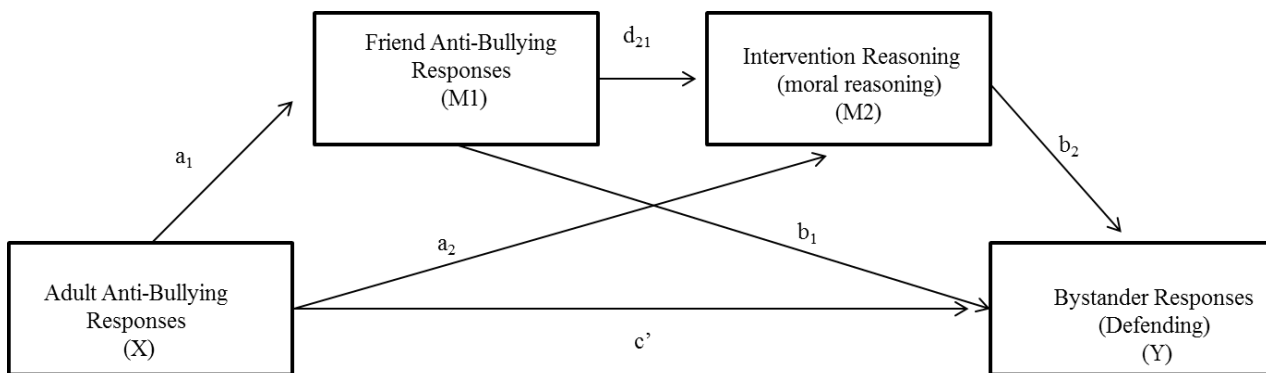
Serial multiple mediation model of adult bully supportive response as predictor, friend bully supportive response and reasons-to-not-act as mediators, and passive responses as the outcome

	Passive Responding (with Negative Consequential Reasoning)				Passive Responding (with Non-responsibility Reasoning)			
	B(SE)	β	P	Effect Size	B(SE)	β	p	Effect Size
Path a₁	.24(.08)	.25	.02	-	.24(.08)	.25	.02	-
Path a₂	.02(.03)	.04	.63	-	.02(.03)	.05	.53	-
Path b₁	.03(.03)	.06	.43	-	.03(.03)	.06	.42	-
Path b₂	.18(.06)	.20	.002	-	.18(.06)	.15	.002	-
Path d₂₁	.06(.04)	.10	.10	-	.06(.04)	.14	.10	-
Path c	.04(.03)	.08	.15	-	.04(.03)	.08	.15	-
Path c'	.04(.03)	-	.15	-	.04(.03)	-	.15	-
Path a₁b₁	.01(.01)	-	CI:-.001 - .0247	.77	.01(.01)	-	CI:-.0077-.0244	.77
Path a₂b₂	.004(.006)	-	CI:-.0065-.0193	.30	.004(.01)	-	CI: -.0063-.0192	.30
Path a₁d₂₁b₂	.003(.006)	-	CI: -.0007 -.0192	.23	.003(.002)	-	CI: .0001-.0087	.23
Total R²	.30	-	<.001		.30	-	<.001	
Total Indirect	.013(.011)	-	-.005 - .0372		.013(.011)	-	CI: -.005 - .0374	

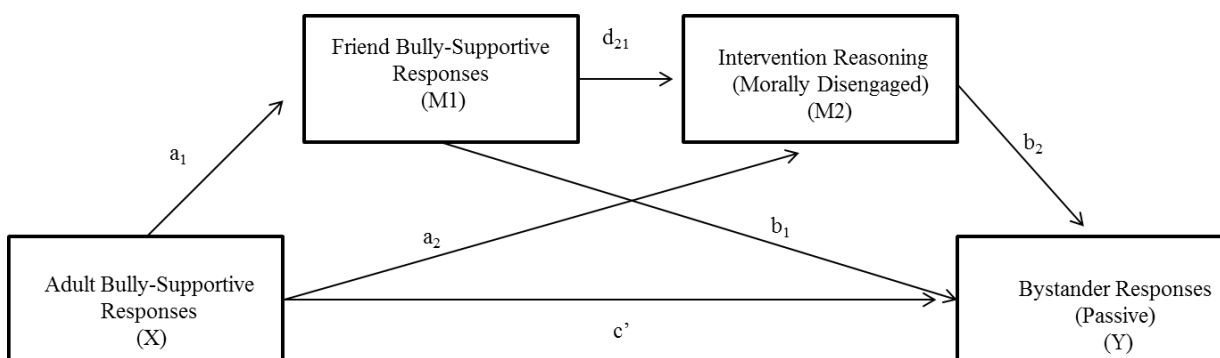
Note: CI represents the lower limit and upper limit of 95% bootstrapped confidence intervals. Grade, Sex, Adult bullying supportive response, friend bully supportive response, non-responsibility reasoning, and negative consequential reasoning are included as covariates. Effect size is calculated as proportion of indirect effect.



Note: general model



Note: model for H2a



Note: model for H2b

Figure 1. Depiction of all simple paths used in a serial multiple mediation model of bystander responses.

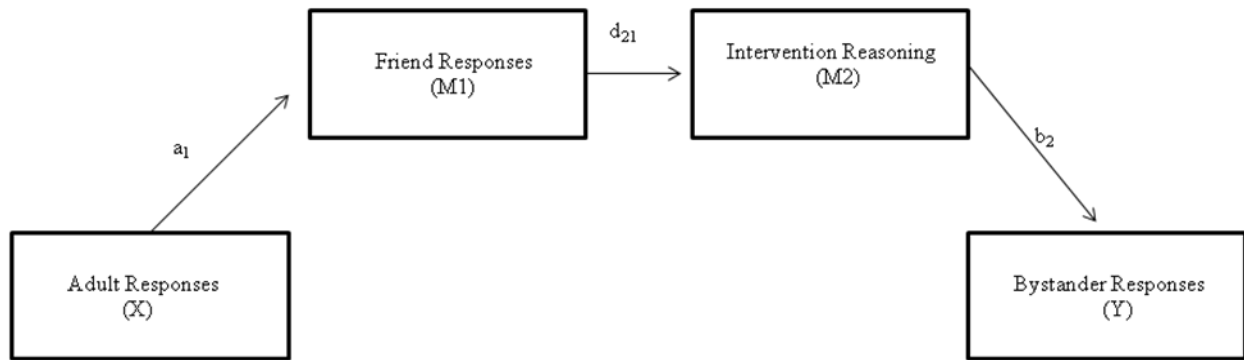


Figure 2. Full serial multiple mediation model (path $a_1d_{21}b_2$) testing the social-cognitive model.

Appendix

Bystander Responses

Instructions

What did you do?

Think of the last time that you saw or heard another student being bullied. What did you do? CLICK ON ALL THAT APPLY

Help Seeking

- I told my parents about it.
- I told an adult at school about it.
- I told another student about it.
- I got someone to help stop it

Direct Intervention

- At the time, I helped the student being bullied.
- I stood up to the student doing it.

Passive

- I ignored it.
- I walked away.
- I made a joke of it.

Adult Responses

Instructions

For the next couple of questions think about how adults such as teachers, administrators, and support staff, respond to bullying at your school.

Anti-Bullying

They talk openly about bullying	Never	Sometimes	Often	Always
They defend the student being bullied.	Never	Sometimes	Often	Always
They discipline those who do it.	Never	Sometimes	Often	Always
They listen to both sides of the story.	Never	Sometimes	Often	Always

Bully-supportive

(reverse code) They try to stop bullying.	Never	Sometimes	Often	Always
They ignore bullying.	Never	Sometimes	Often	Always
They make excuses for those who do it	Never	Sometimes	Often	Always

Friend Responses

Instructions

For the next couple of questions think about how much your friends at school influence bullying. **Do your friends...**

Anti-bullying

Try to stop bullying?	Never	Sometimes	Often	Always
(reverse code) Ignore bullying?	Never	Sometimes	Often	Always
Talk openly about bullying?	Never	Sometimes	Often	Always
Defend the student being bullied?	Never	Sometimes	Often	Always
Listen to both sides of the story?	Never	Sometimes	Often	Always

Bully supportive

Make excuses for those who bully?	Never	Sometimes	Often	Always
Bully other students themselves?	Never	Sometimes	Often	Always

Intervention reasoning

Instructions – Moral reasoning

For the next couple of questions think about the last time you saw someone being bullied and you did something about it. CHECK ALL THAT APPLY.

- I intervened because it was not fair.
- I intervened because stopping bullying is everyone's responsibility.
- I intervened because I wanted to help.
- I intervened because I wanted to make a difference.
- I intervened because the person needed help.
- I intervened because no one deserves to be bullied.

Instructions – Morally Disengaged Reasoning

For the next couple of questions think about the last time you saw someone being bullied and you did NOT do something about it.
CHECK ALL THAT APPLY.

Negative Personal Consequences

- I did NOT intervene because I was afraid.
- I did NOT intervene because I did not know what to do.
- I did NOT intervene because I didn't want to get in trouble for telling.
- I did NOT intervene because I worried I would get bullied next

Non-responsibility

- I did NOT intervene because I didn't want to get involved
- I did NOT intervene because the bullying wasn't so bad.
- I did NOT intervene because the student being bullied deserved it.
- I did NOT intervene because it wasn't my business; it wasn't my problem
- I did NOT intervene because it wouldn't have made a difference.