

THE ROLES OF SCHOOL CLIMATE AND PEERS IN BULLYING

by

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Abstract

Bullying is a serious and common problem in Canadian schools. Despite three decades of comprehensive research on this complex behavioural problem, much remains to be understood. The general purpose of the current studies was to comprehensively examine bullying from an ecological perspective and the roles that school climate and peer processes play in the development of this behaviour, in order to elucidate mechanisms for intervention. The first study was a multilevel analysis of the relative importance of individual and school characteristics in bullying in Canadian schools. In a second study, we examined the experiences of peers who witnessed bullying incidents in order to investigate whether there were factors that predicted a decrease in witness behaviour. Finally, we conducted an evaluation of a peer-mediated bullying prevention program using a pre/post controlled study design. We assessed the impact of this program on behaviour, socioemotional skills, and school climate. Overall, our findings were consistent with the view that bullying is a problem of destructive relationships that needs to be addressed from this perspective. We found that relationships among peers and adults at school contributed to the overall climate of a school, and an overall climate of peer connectedness was associated with less bullying. Provicim attitudes and emotional supportiveness predicted change in bystander behaviour, although the nature of these changes differed for boys and girls. Finally, we did not find evidence of an effect of the prevention program on bullying behaviour or school climate, and we discuss the lack of findings with regard to program implementation and future program evaluations.

This research has implications for understanding the influence of peers and peer group processes on the development of bullying. It is our hope that these studies will

contribute important information to the bullying literature to expand our knowledge of the ways in which school climate and peers affect and are affected by bullying and victimization. In turn, this information may help to inform intervention efforts and encourage future program evaluation research and research examining the mechanisms by which we might mobilize peers to behave in ways that could help to stop bullying and victimization.

Statement of Co-Authorship

The three manuscripts included in this dissertation are the result of a collaboration between the doctoral candidate, Alexandra E. Sutherland, and her supervisor, Dr. Wendy M. Craig. As the principal investigator, Ms. Sutherland was responsible for the design and conceptualization of the research, as well as data collection, analysis, and preparation of the manuscripts. Dr. Craig assisted with all aspects of the research and provided editorial feedback during the preparation of these manuscripts.

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Chapter 1

General Introduction

In the past three decades, bullying and victimization among children and youth has become a major area of concern for parents, schools, service providers, and researchers (Smith et al., 1999). Once thought to be a “rite of passage”, or a normative part of growing up, it is now widely accepted that bullying has the potential to be extremely harmful to those involved. Bullying is a form of aggressive behaviour where a powerful individual intentionally harms another, less powerful individual (Olweus, 1991). Bullying may involve one or more perpetrators and recipients (Farrington, 1993), and can take many forms. The power imbalance involved in bullying interactions is a major feature that differentiates bullying from other aggressive situations where individuals of equal strength or power engage in conflict with one another. Furthermore, it has been well-documented that bullying involvement extends far beyond those individuals who directly participate in a given interaction, and research has established that bullying is a group process that involves most, if not all, students in different ways (Salmivalli, 1999; 2010). Thus, bullying is a destructive relationship whereby the aggressor has more power than the child being victimized (Craig & Pepler, 2007). Some of the more common types of bullying include physical, verbal, and social bullying. Physical and verbal bullying involve direct behaviours, such as hitting, kicking, or name-calling; while social bullying involves the use of indirect forms of aggression, such as gossiping or exclusion, to harm someone else (Lagerspetz et al., 1988). In recent years we have also seen the evolution of electronic bullying, or cyberbullying, whereby individuals

use electronic means such as cell phones, computers, or the internet to harass or intimidate others (Raskauskas & Stolz, 2007).

Recent international data from the 2005-06 Health Behaviours of School-Aged Children (HBSC) survey conducted by the World Health Organization (WHO) revealed that 1% – 23% of girls and 3% - 38% of boys aged 11-15 years reported bullying others at least once or twice in the past couple of months. Corresponding rates of victimization ranged from 2% - 30% for girls and 3% - 37% for boys. In Canada, rates of bullying were 5% - 8% for girls and 10% - 13% for boys and rates of victimization were 9% - 19% for girls and 9% - 21% for boys (WHO, 2008). While Canada is not at the highest end of the spectrum, bullying is still a common and serious problem in our schools.

The negative correlates of bullying are well-established and vary widely. For example, a large body of research has established that being victimized by peers is associated with depression and anxiety (for a review, see Hawker & Boulton, 2000). In other research, victimization has been linked to introversion and poor self-esteem (Slee & Rigby, 1993), eating disorders (Bond, Carlin, Thomas, Rubin, & Patton, 2001), delinquency (Ireland & Monaghan, 2006), and school refusal (Foltz-Gray, 1996), not to mention the potential for serious physical harm. Moreover, these problems may persist into later adolescence and adulthood (Pepler, Jiang, Craig, & Connolly, 2008; Smokowski, 2005). Similarly, children and youth who engage in the perpetration of bullying often show a long-standing pattern of negative behaviours, such as delinquency and conduct problems (Kaltiala-Heino, Rimpela, & Rimpela, 2000), hyperactivity and externalizing behaviour problems (Kumpulainen & Rasanen, 2000), antisocial behaviour (Pepler et al., 2008), and aggression toward their own children and spouses (Roberts,

2000). Significant efforts have been made to develop programs to address bullying; however, the literature has been mixed with regard to the effectiveness of the existing programs, as well as the quality of the evaluation research itself (Ryan & Smith, 2009).

Theoretical Framework

The present research utilized a social-ecological perspective to investigate bullying and bullying prevention. Research examining the dynamic processes and power imbalances associated with bullying has led to the conclusion that bullying is not simply an individual behaviour problem, but rather a problem of relationships (Craig & Pepler, 2007). Ecological theory (Bronfenbrenner, 1979) provided a systemic and dynamic framework within which to consider different levels of relationships relevant to the development of bullying. According to ecological theory, individuals live within, and are affected by, a hierarchy of embedded, interacting contexts (Bronfenbrenner, 1979). For example, an individual child exists and develops within a number of broader ecologies, including the home, school, and community. Within each of these environments, children engage in relationships with peers and adults who act as socializing agents and who help to shape development.

School is a particularly important context for children, and it follows that the climate of relationships at school would, therefore, have a substantial influence on behaviour. Studies have shown that the overall climate of a school plays a major role in internalizing and externalizing behaviour problems (Kuperminc, Leadbeater, Emmons, & Blatt, 1997; Kuperminc, Leadbeater, & Blatt, 2001), school violence (Khoury-Kassabri, Benbenishty, Astor, & Zeira, 2004), and specific problem behaviours, such as stealing or skipping school (Wang, Selman, Dishion, & Stormshak, 2010). We know less, however,

about the role of school climate in bullying and victimization in particular. Through the present research, we aimed to close some of the gaps in the literature regarding the interaction between school climate and individual factors in bullying by applying a multilevel, ecological framework. We considered school climate to be defined by the relationships among all members of a school, including peers and teachers.

In the course of this research, we also sought to explore some of the socioemotional processes that may help us to understand how to help children to build relationship capacity and engage in healthy, positive relationships rather than destructive relationships characterized by power imbalance, aggression, and bullying. Social learning theory (Bandura, 1977) proposes that individual behaviour is shaped through interactive and reciprocal social processes, such as observation, modeling, and imitation. This perspective suggests that the behaviour of individual group members is influenced by the behaviour of those around them, both directly and indirectly. The opportunities to model and foster prosocial behaviour can be pursued most effectively in the context of healthy relationships with positive socializing agents, such as parents, teachers, and peers.

With development, the relative influence of the different levels of relationships shifts. With regard to bullying in elementary school and high school, the behaviour of peers who are present during bullying incidents (i.e., bystanders) has a significant impact and often reinforces bullying behaviour, by the power that the presence of an audience gives to the student who is bullying others (Poyhonen & Salmivalli, 2008). Furthermore, once developed, behaviour can be continuously reinforced through association with other peers who engage in similar behaviours. This process is known as the peer contagion effect (Dishion & Dodge, 2005), and has been used to explain the increase in problematic

behaviour that can occur when deviant peers are in close contact with one another. However, understanding the peer processes that reinforce bullying may also provide us with a useful mechanism through which to intervene and prevent bullying behaviour. Thus, in the current research, we examined the role of peers as members of the peer group and as socializing agents. We also considered several socioemotional processes associated with building relationship capacity, in order to investigate their association with bullying and bullying prevention.

Purpose of the Current Studies

The general purpose of the current research was to examine the roles of school climate and peer processes in bullying and bullying prevention. We see bullying as a problem of destructive relationships and, in order to comprehensively explore this topic, we used ecological and social learning theories to provide a framework, within which three studies were conducted. The first study investigated relationships at school among peers and teachers and assessed the contributions of both individual- and school-level factors to bullying and victimization. Using data collected through the Health Behaviours of School-Aged Children (HBSC) survey, we employed hierarchical linear modeling procedures to investigate the relative influences of individual risk factors, as well as school climate, measured at both the individual and school level. This study contributes to the existing literature by: 1) applying an ecological framework and multilevel approach to explaining risk for involvement in bullying and victimization; and 2) exploring the potential protective effect of school climate, as defined by the collective perceptions of the students in a school.

In a second study, we investigated peer relationships more specifically and

examined bystander behaviour among a sample of high school students. Using survey data collected at two points in time, we used logistic and multiple regression procedures to investigate change in bystander behaviour. The findings of this study add to the extant literature by: 1) providing a description of the nature and extent of bystander behaviour over time; and 2) gathering preliminary information exploring the individual, behavioural, and socioemotional processes associated with decreasing bystander behaviour.

Finally, we conducted a third study to evaluate a peer-mediated, whole-school bullying prevention program designed to change the way students behave in relationships at school. We used a longitudinal controlled design to evaluate the impact of this program on behaviour, attitudes, empathy, social competence, and school climate. This study expands on previous research by: 1) providing an objective assessment of a bullying prevention program with a specific focus on school climate and peer roles; and 2) building upon previous program evaluation literature by using a more stringent study design and broader measures of effectiveness.

In this series of studies, we applied an ecological framework to investigate the impact of school climate, peer behaviour, and social learning processes on bullying. Furthermore, we expanded upon this research by evaluating a bullying prevention program designed to address these constructs. Bullying is a problem embedded in destructive, negative relationships and the goal of these studies was to contribute to the research that is focused on finding a way to teach children and adolescents how to engage in relationships that are positive, healthy, free from bullying, and demonstrate respect for self and others.

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Chapter 2:

Individual and school level predictors of bullying and victimization

Abstract

This study uses hierarchical linear modeling (HLM) to examine the relative importance of student-level variables (i.e., gender, grade, socioeconomic status, and feelings about school, teachers and peers), and school climate in bullying and victimization. Participants were 8479 students (53% female) in Grades 6 – 10 from 185 Canadian schools. Being male and being victimized increased risk for involvement in bullying at the individual level, whereas engaging in bullying and being younger were associated with higher levels of victimization. Students who saw their school as a nice, safe place reported less bullying and victimization, and students who felt connected to their peers were less likely to report being victimized. Interestingly, students who perceived their teachers as supportive were less likely to report bullying others but more likely to report being victimized. At the school level, schools with climates characterized by high levels of peer connectedness had less bullying and victimization. These data are cross-sectional and do not allow for conclusions regarding the direction of effects; however, these findings are consistent with research emphasizing the importance of relationships and school climate in bullying. We discuss implications for schools and intervention programming.

INDIVIDUAL AND SCHOOL LEVEL PREDICTORS OF BULLYING AND VICTIMIZATION

Bullying is a serious problem among children and youth that can have severe consequences, including internalizing and externalizing behaviour problems (Craig, 1998), poor self-esteem (Slee & Rigby, 1993), delinquency, and conduct problems (Kaltiala-Heino, Rimpela, & Rimpela, 2000). In order to address the issue of bullying and intervene effectively, we must first be aware of the factors that place children and youth at increased risk for becoming involved in bullying. Traditionally, researchers have focused on identifying individual risk factors for engaging in bullying and experiencing victimization, such as age, gender, and personal exposure to violence (e.g., Olweus, 1994; Sawyer, Bradshaw, & O'Brennan, 2008; Shields & Cicchetti, 2001). More recently however, researchers have suggested that it may be more appropriate to apply a broader framework when studying risk for involvement in bullying and victimization, and take into account factors outside of the individual, such as school climate (e.g., Khoury-Kassabri, Benbenishty, Astor, & Zeira, 2004). Bronfenbrenner's ecological theory (1979) is one such framework that emphasizes the importance of considering the hierarchy of broader contexts in which an individual exists and develops when aiming to explain behaviour. Research on bullying and victimization has begun to address the issue of context (e.g., Khoury-Kassabri et al., 2004; Parault, Davis & Pellegrini, 2007), however, much remains to be learned about the role of important contextual factors, such as school climate.

Bronfenbrenner's (1979) ecological theory posits that individuals exist within, and are affected by, a hierarchy of embedded contexts or environments. For example, an

individual child develops within a number of broader contexts, including the home, school, and community, and that child's behaviour is, therefore, shaped by factors at all of those levels. Children and youth spend a great deal of their time in school, making it one of the primary contexts in their lives, where they develop peer relationships and have various interpersonal experiences, both positive and negative, including engaging in bullying and being victimized. Thus, from an ecological perspective, without taking into account school-level factors, we would not be able to fully understand the risk of bullying and victimization for students in that school. Duncan and Raudenbush (1999) have suggested the use of multilevel statistical approaches as the most appropriate way to investigate the relative contributions of individual and contextual factors in the prediction of various aspects of youth development. Very little research has been conducted using this approach to studying bullying and victimization behaviour (Khoury-Kassabri et al., 2004). In a recent study conducted in Taiwan, researchers employed a multilevel approach to investigate the relative contributions of individual and organizational characteristics to school bullying (Wei, Williams, Chen, & Chang, 2009). The results showed no additional contribution of organizational factors to bullying behaviour over and above individual factors. In this study, however, the school-level factors used were school size and teacher-student ratio. At the individual level, student-rated perceptions of teacher support and maltreatment were associated with both verbal and physical bullying (Wei et al., 2009). In the present study, we used hierarchical linear modeling procedures to examine the risk for bullying and victimization associated with perceptions of several aspects of school climate, including feelings of safety, peer connectedness, and perceptions of teachers as caring, helpful, and supportive. Furthermore, in order to

investigate the relative importance of individual and contextual risk factors, these and other individual characteristics were considered within the context of overall school climate, as defined by the perceptions of the entire student body.

Individual Risk Factors

Bullying is a complex psychosocial problem that is affected by a multitude of factors (Smith, Schneider, Smith, & Ananiadou, 2004). In the present study, we included three individual risk factors that are often shown to be associated with bullying and victimization: gender, grade, and socioeconomic status. We were interested in the way in which the effect of these risk factors may vary according to school climate. In addition, we were particularly interested in the role that students' perceptions of their school may play in bullying and victimization, as it has been established that the way that children and youth feel about their school and their experiences in it influences the way that they behave (Welsh, Greene, & Jenkins, 1999).

Traditionally, studies have shown that boys are more likely than girls to be involved in bullying and victimization (Olweus, 1994). Other data, however, suggests that while boys bully others more than girls, there is no gender difference for victimization (Craig & Pepler, 2003). More recent Canadian data showed that significantly more boys than girls were involved in both bullying and victimization (WHO, 2008). Differences associated with gender are further complicated when different types of bullying are considered. For example, Wang, Iannotti and Nansel (2009) found that boys were more likely than girls to be involved in physical and verbal bullying, whereas girls were more likely to be involved in social bullying. In the present study we

investigated overall bullying and victimization of any type, and we expected that boys would be more likely than girls to report both bullying and victimization.

Studies have also revealed an interesting pattern of results regarding the developmental progression of bullying and victimization. Nansel and colleagues (2001) found higher rates of bullying in childhood compared to adolescence, whereas Pepler and colleagues (2006) found lower rates of bullying in elementary school (Grades 6-8) than in high school (Grades 9-12), with the highest rates being reported in Grade 9. With regard to victimization, findings have been fairly consistent that the percentage of children who report being victimized by others seems to decrease with age (e.g., Olweus, 1994; Sawyer et al., 2008). Data from the HBSC survey indicate that both bullying and victimization decrease with age (WHO, 2008). Pepler and colleagues (2006) suggested that risk for bullying others increases with the transition to high school, perhaps in part because of the increase in stress and change in organizational peer group structure. This interpretation is consistent with an ecological perspective that a change in the context associated with being in a particular grade would be important in predicting students' behaviour, independent of chronological age and maturity level. Indeed, it has been suggested that the use of grade, rather than age, more accurately reflects the importance of peer groupings and social context, particularly in adolescence (Pepler et al., 2006) and therefore, in the present study, we investigated the difference in rates of bullying and victimization associated with grade. We predicted that victimization rates would be lower in higher grades, whereas rates of bullying were expected to be higher after the transition to high school (i.e., Grade 9).

Even less clear than the relationship with gender and grade, is that between socioeconomic status (SES) and bullying (Jankauskiene, Kardelis, Sukys, & Kardeliene, 2008). With regard to serious physical violence, studies have found that children from low-SES families tend to report higher levels of victimization (Guerra et al., 1995; Haapasalo & Tremblay, 1994); however, Khoury-Kassabri et al. (2004) suggest that this may not apply to all types of victimization, as they found that higher levels of moderate verbal and social victimization occurred in schools with families of higher SES. Two recent studies of bullying reported that children from wealthier families were more likely to report bullying others, whereas children from poorer families were more likely to be victimized (Dake, Price, & Telljohann, 2003; Jankauskiene et al., 2008). On the other hand, Borg (1999) found no relationship between father's SES or mother's employment and the likelihood of being involved in bullying. The reason for this discrepancy is unclear; however, one reason may be the methodological issues associated with measuring SES. In fact, one of the problems that has been identified when investigating SES in adolescent health research in general, is that adolescents are not able to reliably estimate family SES (Boyce, Torsheim, Currie, & Zambon, 2006). A promising measure of SES is the Family Affluence Scale (FAS; Currie, Elton, Todd, & Platt, 1997) that was designed specifically to address this issue in the HBSC data and was used in the present study. This measure asks about material resources that adolescents are better able to report on (e.g., "Does your family own a car?"), rather than parents' job or income level, which adolescents often report that they do not know (Boyce et al., 2006). Using this measure, we predicted that children and youth from families with greater affluence would

report higher levels of bullying and that children and youth from less affluent families would report higher levels of victimization.

Perceptions of School Climate

Further to the role of the aforementioned demographic characteristics, we were interested in the impact that students' feelings about their school may have on their behaviour, in particular their involvement in bullying and victimization.

School climate has been studied from different theoretical and methodological perspectives and with regard to a myriad of developmental and organizational outcomes (Kuperminc, Leadbeater, Emmons, & Blatt, 1997). Social-ecological theorists suggest that perceptions are paramount in understanding the way in which individuals function within their environments (Lewin, 1935). This hypothesis has received support in a substantial body of research examining the role of perceptions of school climate in a variety of important outcomes. For example, Solomon, Battistich, Kim, and Watson (1996) found that teacher supportiveness was associated with more positive behaviour in the classroom and positive perceptions of connectedness among students. In other research, Kuperminc and colleagues (1997) demonstrated that perceptions of school climate were associated with psychosocial maladjustment in adolescents, both in terms of internalizing and externalizing problems. Similarly, Griffith (1999) found that perceptions of an orderly and fair school with positive student-teacher relationships moderated both internalizing and externalizing problems among students. Students' sense of connectedness to their school has been investigated as a buffer between exposure to violence and later violent behaviour (Brookmeyer, Fanti, & Henrich, 2006) and the investigators found that students who felt more connected to their schools showed a

reduction in violent behaviour over time. Feeling connected to school may make it more likely that students will confide in teachers or peers about experiences of victimization, which may in turn help them to cope with these problems or avoid behaving violently themselves (Brookmeyer et al., 2006). In another study, Totura and colleagues (2009) found that perceptions of school climate as being characterized by misconduct or as having higher adult monitoring impacted the likelihood that students with internalizing or externalizing behaviour problems would be classified as “bullies” or “victims” by teachers. In the current study, we predicted that students who indicated feeling that their school is a fair and safe place, that they feel connected to their peers, and that they perceive their teachers as helpful and supportive would report lower rates of bullying and victimization. Furthermore, we saw these perceptions as integral to understanding the overall climate of a school.

School Climate

An important consideration when measuring the overall climate of a particular environment is how one chooses to conceptualize it. Various studies have used different indicators of school climate, including school and class size, principal and teacher reports of climate, and number of suspensions (Welsh, et al., 1999). Other researchers, however, have used aggregates of the perceptions of all of the individuals within a school to describe the overall climate (e.g., Khoury-Kassabri et. al, 2004). In fact, Owens (1987) argued that the way in which the members of an organization perceive their experience is the “only reality to be described.” Consistent with social-ecological theory, we defined school climate as the summation of the experiences and relationships of everyone within the school environment, as reflected in the perceptions and feelings toward school

reported by all students. We hypothesized that greater feelings of safety, peer cohesion, and teacher support expressed by the entire student body would be associated with a lower prevalence of bullying and victimization. Furthermore, we expected that the effect of school climate on bullying and victimization would be apparent over and above the impact of students' own perceptions and demographic characteristics.

In summary, the goal of the present study was to investigate, from an ecological perspective, the relative importance of student and school characteristics in understanding bullying and victimization. We addressed this question using hierarchical linear modeling procedures. We predicted that being male, starting high school, and being from a more affluent family would increase risk for engaging in bullying behaviour. Additionally we predicted that being male, in a lower grade and being from a less affluent family would place students at higher risk for being victimized. On the other hand, we expected that positive feelings toward school, peers and teachers would function as protective factors and reduce risk for bullying and victimization. Furthermore, we expected that a school environment where there is a general perception of safety, peer connectedness, and teacher support would also have a protective effect and that this effect would function over and above individual risk factors.

Method

Design

Data for the present study were collected through the Health Behaviours of School-Aged Children (HBSC) survey conducted in Canada during the 2005-06 school year. The HBSC survey is an international initiative of the World Health Organization that began in 1983 and has been administered every four years since 1985 and is now in

41 countries and regions across Europe and North America (WHO, 2008). Students completed anonymous in-school questionnaires that assessed a wide variety of demographic and school, family, peer, and health-related variables, including bullying and victimization.

Participants

According to procedures designed by the World Health Organization (WHO, 2008), schools, and then school classes, were selected using a weighted probability technique to ensure that the sample was representative by regional geography and key demographic features (religion, community size, school size, language of instruction).

The original sample consisted of 9672 students (51% female) in Grades 6 - 10 in 187 schools across Canada. Due to missing data on variables of interest, 1193 students were excluded, resulting in a final sample of 8479 students (53% female) in 185 schools. Attrition analyses were conducted to determine whether the students who were missing data were more likely to be students with higher levels of involvement in bullying or victimization. No significant differences were found on bullying behaviour scores, gender, or grade.

Measures

Dependent Variables.

Bullying and Victimization Behaviour. Experiences of bullying and victimization were assessed using two items derived from the Olweus Bully/Victim Questionnaire (Olweus, 1986; 1996). This measure is a widely used measure of bullying and victimization. Students were provided with the following definition of bullying: *We say a student is being bullied when another student, or group of students, says or does*

nasty and unpleasant things to him or her. It is also bullying when a student is teased repeatedly in a way he or she doesn't like, or when (he or she is) deliberately left out of things. But it is not bullying when two students of about the same strength quarrel or fight. It is also not bullying when the teasing is done in a friendly and playful way.

Students were then asked to rate how often they have been bullied or have bullied others in the past couple of months on a 5-point Likert scale, ranging from 0 = "I have not been bullied in the past couple of months," to 4 = "Several times a week." In the current sample, the reliability of this measure was estimated at .71.

Independent Variables.

Two groups of independent variables were used in the present study. The first group (Level-1 variables) included individual demographic characteristics and perceptions of school climate, and the second group (Level-2 variables) included school-level perceptions of climate averaged across all individuals in each school.

Level-1 Variables.

Demographics. The demographic variables that were included were gender, grade, and socioeconomic status. Gender was coded as male = 0 and female = 1 and grade was entered as 6-10. Socioeconomic status was computed using the four-item Family Affluence Scale (FAS; Currie et al., 1997). The four items are as follows: "Does your family own a car, van, or truck?" (No = 1, Yes = 2); "Do you have your own bedroom for yourself?" (No = 1, Yes = 2); "During the past 12 months, how many times did you travel away on holiday with your family?" (Not at all = 1, Once = 2, Twice = 3, More than twice = 4); and, "How many computers does your family own?" (None = 1, One = 2, Two = 3, More than two = 3). A composite FAS score was then calculated and

respondents were given a score corresponding with low (1), medium (2) or high (3) levels of family affluence. In the current sample, 8.9 % of respondents were classified in the low group, 39.4% in the medium group, and 57.1% in the high group. This measure is highly correlated with national Gross Domestic Product (GDP; $r = .87$) and maintains good criterion validity (Boyce et al., 2006).

School Climate. Twelve items comprising three subscales were used to measure school climate. A Principal Components Factor Analysis revealed that all items on each scale had factor loadings above .65. Each scale consisted of several statements that were each rated on a 5-point Likert scale ranging from 0 = “Strongly agree”, to 4 = “Strongly disagree”. The first subscale included four statements indicative of feeling that school is a fair and safe place: “The rules in this school are fair,” “Our school is a nice place to be,” “I feel I belong at this school,” and “I feel safe at this school.” The second subscale included 3 statements reflecting feelings of peer cohesion: “The students in my class enjoy being together,” “Most of the students in my class are kind and helpful,” and “Other students accept me as I am.” The third subscale was made up of five items suggesting that teachers at the school are supportive and helpful: “I am encouraged to express my own views in my class,” “Our teachers treat us fairly,” “When I need extra help I can get it,” “My teachers are interested in me as a person,” and “Most of my teachers are friendly.” Responses were reverse coded, such that higher scores indicated more positive perceptions of school climate. Cronbach’s alphas for these subscales were .79, .73, and .81, respectively.

Level-2 Variables.

Overall School Climate. School means on the school climate measures described above were centered on the grand mean for all schools and included as a measure of school-level perceptions of school safety, peer cohesion, and teacher support.

Data Analyses

To determine whether rates of bullying and victimization varied according to individual- and school-level variables, multilevel regression procedures were employed, using Hierarchical Linear Modeling software designed by Raudenbush, Bryk, & Congdon (HLM Version 6.06; 2008). Students (Level-1) were nested within schools (Level-2) with the following Level-1 predictors: gender, grade, family affluence, and individual perceptions of school climate. Each of these predictors was centered on the group mean for each school (with the exception of gender), so that students were being compared to other students in their own school at Level-1. We did this because we were interested in whether students with particular characteristics were more likely to engage in bullying or be victimized within the context of their own school (Khoury-Kassabri et al., 2004). Bullying and victimization were also entered as control variables at Level-1 in the analyses for the opposite behaviour (i.e., bullying was included in victimization analyses, and vice versa) because these behaviours are closely related and students often engage in both behaviours.

At Level-2, aggregate scores on the school climate variables were calculated for each school and were added as predictors at Level 2, centered on the grand mean for all schools. Outcomes were rates of bullying and victimization.

Results

Descriptive Statistics

Table 1 summarizes the means, standard deviations, and ranges of all Level-1 and Level-2 variables.

Table 1

Descriptive Statistics for Level-1 and Level-2 Variables

	Mean	SD	Minimum	Maximum
Level-1 Variables (N = 8366)				
Grade	8.17	1.37	6	10
Gender (0 = Male, 1 = Female)	0.53	0.50	0	1
SES (Family Affluence Scale)	2.43	0.65	1	3
Bullying	1.53	0.84	1	5
Victimization	1.59	1.00	1	5
School Safety	3.65	0.81	1	5
Peer Cohesion	3.67	0.73	1	5
Teacher Support	3.80	0.70	1	5
Level-2 Variables (N = 185)				
School Safety	3.68	0.32	2.91	4.51
Peer Cohesion	3.69	0.24	3.12	4.44
Teacher Support	3.85	0.27	3.30	4.71

Notably, the mean scores on both bullying and victimization were quite low, and Table 2 shows that nearly two thirds of the sample reported no involvement at all. However, approximately one third of students had bullied others or been the victim of bullying at least once or twice in the past couple of months, and a small minority reported that it occurred as often as several times a week.

Table 2

Percentage of Students who Report Involvement in Bullying or Victimization

	Bullying	Victimization
Never	61.9	65.3
Once or twice	28.8	21.4
2 or 3 times a month	4.9	6.2
Once a week	2.8	3.5
Several times a week	1.6	3.6

It is a common finding in bullying research that these behaviours are highly positively skewed, as they were in this study. In order to address this issue for our analyses, they were entered as dichotomous predictors in the model as control variables (i.e., 0 = No bullying/victimization, 1 = Any bullying/victimization). The distributions of these new dichotomous variables were as follows: 62 % of students reported no involvement in bullying and 38 % reported bullying others at least once or twice in the past couple of months. Similarly, 65 % of students reported not being victimized at all in the past couple of months and 35 % reported that it happened at least once in the past couple of months.

Table 3 summarizes the correlations among all continuous Level-1 variables, and among all Level-2 variables. At the individual level, bullying was positively correlated with family affluence and negatively correlated with all measures of school climate.

Table 3

Correlation Matrices for Level-1 and Level-2 Variables

	Victimization	Bullying	SES	Safety	Peers	Teachers	Grade
Level-1 Variables							
Victimization	-						
Bullying	.26**	-					
SES	-.01	.03*	-				
School Safety	-.17**	-.19**	.06**	-			
Peer Cohesion	-.32**	-.16**	.06**	.44**	-		
Teacher Support	-.09**	-.19**	.05**	.57**	.39**	-	
Grade	-.12**	.00	.00	.08**	.06**	.16**	-
	Safety	Peers	Teachers				
Level-2 Variables							
School Safety	-						
Peer Cohesion	.59**	-					
Teacher Support	.69**	.65**	-				

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

Victimization was positively correlated with bullying and negatively correlated with grade, as well as all three measures of school climate. The three school climate measures were all positively associated with each other, SES, and grade. At the school level, all three measures of school climate were positively correlated with each other, indicating that students who felt positively about their school in one domain were more likely to also feel positively about it in other domains. None of these correlations exceeded .80 however, indicating that multicollinearity was not a problem.

Hierarchical Linear Models

HLM 6.06 (Raudenbusch, Bryk & Congdon, 2008) was used to produce two-level hierarchical linear models investigating the effect of individual and school level factors on bullying and victimization. Individual students were nested within schools. For each dependent variable (i.e., bullying or victimization), the first step was to create a null model with no predictors in order to partition the variance into within- and between-school variance. In the second step, Level-1 predictors were added to determine the proportion of the variance accounted for by individual level factors (i.e., grade, gender, family affluence, and feelings towards one's school). In the third and final step, Level-2 predictors were added in order to determine the additional proportion of the between-school variance accounted for by adding school level factors.

Bullying.

Table 4 summarizes each of the models for bullying. Investigation of the variance components of the null model revealed that approximately 6% of the variance in bullying can be accounted for across schools and 94% within schools. Although the majority of

the variance can be explained within schools, the percentage between schools is significant ($\chi^2 = 660.87, p < .001$) and large enough to model using HLM.

Table 4

HLM Results for Bullying

	Null Model	Level-1 Model Coefficient (SE)	Level-2 Model Coefficient (SE)
<i>Individual Variables</i>			
Victimization (No = 0, Yes = 1)		0.34 (0.02)***	0.34 (0.02)***
Grade		0.02 (0.01)	0.02 (0.02)
Gender (Male = 0, Female = 1)		-0.15 (0.02)***	-0.15 (0.02)***
SES(FAS)		0.02 (0.02)	0.02 (0.02)
School Safety		-0.09 (0.02)***	-0.10 (0.02)***
Peer Cohesion		0.00 (0.02)	0.00 (0.02)
Teacher Support		-0.13 (0.02)***	-0.13 (0.02)***
<i>School Variables</i>			
School Safety			-0.01 (0.06)
Peer Cohesion			-0.29 (0.07)***
Teacher Support			-0.06 (0.07)
<i>Variance</i>			
Between Schools (Tau)	0.0417 (5.8%)	0.0299	0.0237
Between Students (Sigma squared)	0.6682 (94.2%)	0.5929	0.5926
Total Variance	0.7099 (100%)		

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

When the Level-1 variables were entered into the model, involvement in victimization and being male were associated with higher rates of bullying. Individual reports of feeling safe in one's school, as well as perceptions of teachers as supportive and helpful were both associated with lower levels of bullying. This model explained 11.3% of the within school variance and 28.3% of the variance observed between schools.

At the school level (Level-2 Model), overall peer cohesion was associated with bullying. That is, over and above individual risk factors, students in schools with an overall positive peer climate tended to report lower levels of bullying. Neither school safety nor teacher support was associated with bullying at the school level. The addition of Level-2 variables into the model explained an additional 14.7% of the variance between schools.

Victimization.

Table 5 summarizes the results from the HLM analyses for victimization. According to the null model, 7% of the variance in victimization occurred between schools and 93% within schools. Thus, similar to bullying, while the proportion of variance in victimization between schools was small compared to within schools, it was still significant ($\chi^2 = 804.27, p < .001$).

When the Level-1 variables were entered into the model, involvement in bullying, lower family affluence, and being in a lower grade were associated with higher rates of victimization. Feeling safe in one's school and feeling more connected to peers were associated with less victimization. Surprisingly, individuals who reported feeling that their teachers were supportive and more involved tended to report higher levels of victimization. The inclusion of these individual-level variables explained 17.7% of the variance within schools, and 22.9% of the variance between schools.

Similar to the Level-2 findings for bullying, schools with an overall climate of positive peer interactions tended to have lower rates of reported victimization. Neither of the other school climate variables was significantly related to victimization. The addition

of school-level climate variables explained an additional 10 % of the variance in victimization between schools.

Table 5

HLM Results for Victimization

	Null Model	Level-1 Model Coefficient (SE)	Level-2 Model Coefficient (SE)
<i>Individual Variables</i>			
Bullying (No = 0, Yes = 1)		0.38 (0.02)***	0.37 (0.02)***
Grade		-0.11 (0.01)***	-0.11 (0.01)***
Gender (Male = 0, Female = 1)		0.00 (0.02)	-0.01 (0.02)
SES (FAS)		-0.03 (0.02)*	-0.04 (0.02)*
Safety		-0.09 (0.02)***	-0.09 (0.02)***
Peer Cohesion		-0.41 (0.02)***	-0.42 (0.02)***
Teacher Support		0.13 (0.02)***	0.13 (0.02)***
<i>School Variables</i>			
School Safety			-0.04 (0.08)
Peer Cohesion			-0.36 (0.12)**
Teacher Support			0.11 (0.09)
<i>Variance</i>			
Between Schools (Tau)	0.0711 (7.0%)	0.0548	0.0478
Between Students (Sigma squared)	0.9395 (93.0%)	0.7736	0.7734
Total Variance	1.0107 (100%)		

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

Discussion

The purpose of this study was to investigate the relative role of individual factors and school climate in the risk for bullying and victimization. Taken together, our findings indicated that while individual-level characteristics accounted for a large proportion of the variance in bullying and victimization, there was still a significant amount that occurred between schools, which could in part be explained by the overall climate of the

school. Being male and being victimized increased risk for being engaged in bullying, and being in a lower grade and bullying others increased risk for victimization. More affluent students reported less victimization. We also found that in addition to their demographic characteristics, students' perceptions of their school were connected to bullying and victimization in several ways. Students who saw their school as a safe place were less likely to report bullying others, and students who saw their school as a safe place with a positive peer climate were less likely to report being victimized. Interestingly, students who perceived their teachers as caring and involved in their lives were less likely to report bullying others but more likely to report being victimized. Finally, over and above these individual factors, students in schools that were characterized by a climate of positive peer connectedness were less likely to report either bullying others or being bullied themselves.

With regard to individual characteristics, some of our hypotheses were supported, while others were not. The high correlation between bullying and victimization, while not surprising, continues to be a concerning pattern in the literature, as children who are involved in both behaviours are considered at the highest risk for negative outcomes (Craig, 1998). The only other individual level risk factor for engaging in bullying behaviour was being male, again, a consistent pattern in the literature. The fact that there was no difference between boys and girls in terms of their risk for being victimized was contrary to our expectations but consistent with some previous findings (e.g., Craig & Pepler, 2003). Findings associated with grade also partly supported our predictions in that students in higher grades reported lower levels of victimization. However, there were no differences in bullying associated with grade. Finally, the pattern of findings related to

socioeconomic status in the literature is mixed, as are the findings in the present study. We predicted that higher socioeconomic status would serve as a protective factor against victimization, which was supported, but as a risk factor for engagement in bullying, which was not supported.

It is clear that these individual characteristics are important in understanding bullying and victimization, however the pattern of inconsistent findings is somewhat puzzling. Developmental contextualism, an extension of ecological theory, provides a helpful model within which to understand these inconsistencies (Lerner, 1996). Lerner (1996) suggests that the contexts that make up our experience are organized hierarchically and that they constantly change and interact, which in turn affects our own development and behaviour. This interaction would mean that risk factors at one level or context would operate differently depending on the presence or absence of other factors at each level. Therefore, it is imperative to consider risk factors within the broader context(s) in which they function. Given the frequency with which bullying occurs at school, the school climate is a particularly important contextual risk factor to consider.

As suggested by ecological theory, we investigated school climate both from an individual perspective and from a school perspective. As expected, students who reported feeling that their school was a fair and safe place were less likely to report involvement in bullying or victimization. Also as expected, being victimized was associated with feeling less connected to one's peers; however, contrary to our predictions, bullying others was not. The fact that those who bully others do not report a negative impact on their peer relationships is consistent with previous research suggesting that bullying may actually be used as a way of gaining social acceptance (Baumeister & Leary, 1995). Interestingly,

some research has shown that while students may target other students in an effort to gain acceptance by certain peers, they may in fact be rejected by other students in general (Olthof & Goossens, 2008). Thus, children and youth who engage in bullying may be more likely to be part of a peer group where bullying is more acceptable and may not be aware of, or concerned by, the disapproval of the peer group as a whole. On the other hand, students who are victimized would likely feel less of a sense of connection to other students, particularly when they are one of few students, or the only one, being victimized (Salmivalli, 2010). This finding is relevant to research investigating the role of bystanders in bullying behaviour. Bystanders have the opportunity to support or deter bullying behaviour in a number of ways. Unfortunately research has shown that bystanders often support bullying behaviour by watching or even imitating bullying behaviour (Craig, Pepler & Atlas, 2000).

With regard to the role of teachers, our findings are somewhat surprising at first glance. While students who report feeling that their teachers are supportive and available to them tend to be less likely to report bullying others, the opposite is true for victimization. Research has shown that teachers who are more involved with their students are more likely to notice and respond to bullying incidents (Nesdale & Pickering, 2006), which may explain why students who see their teachers as involved may be less likely to bully others. On the other hand, students who reported feeling supported by their teachers actually reported higher rates of victimization. It is possible that students who have a more positive relationship with their teachers may be seen by other students as being “teacher’s pets” and this could perhaps lead to them being the targets of bullying. Another explanation could be that students who feel a greater sense of

support from their teachers may feel more comfortable reporting victimization and asking for help (Brookmeyer et al., 2006). Similarly, it may be that the level of confidence that students have in their teachers' ability to help influences the degree to which they feel safe reporting victimization. Researchers have found that reporting bullying to teachers has the potential to be the safest and most immediate recourse for a student (Smith & Shu, 2000). Unfortunately however, research shows that many students do not see teachers as intervening frequently or effectively (Craig et al., 2000).

Students in schools characterized by an overall climate of positive peer relationships were less likely to report either bullying or victimization. From an intervention perspective, this is important because it suggests that intervening at a school level and focusing more broadly on the development of positive peer relationships may be a more efficient alternative to targeting individual behaviour. Bullying is a group process and the majority of bullying incidents involve a number of participants beyond the student being victimized and the student perpetrating the bullying (Salmivalli, 1999; 2010). This view of bullying as a group process has led to arguments suggesting that the most appropriate way to intervene with bullying is a systemic approach, involving the whole school (Salmivalli, 2010). The findings of this study support this argument and suggest that peers in particular may provide the most effective voice for conveying the message that bullying is unacceptable. It has been suggested that bystanders may be easier to influence and may therefore bring about change in the overall climate by altering their own role in the group process of bullying (Salmivalli, 2010). Therefore, interventions that are targeted toward changing bystander behaviour may have an impact both on bullying behaviour and on the overall school climate.

Interestingly, an overall climate of safety across the whole school was not associated with lower rates of reported bullying or victimization. This finding suggests that other factors besides experiences of bullying contribute to an overall climate of safety. Furthermore, our findings suggest that even students in a safe school can feel unsafe if they are victimized or involved in bullying. This finding supports our use of perceptions as important in understanding the reality for students in a school. Consideration of organizational variables alone would miss important information in determining risk and the impact of bullying and victimization experiences. These data are however, cross-sectional and preclude statements related to the direction of this relationship. It will be important to have longitudinal data in order to determine whether it is lower levels of bullying that make students feel safe, or if feeling safe protects against antisocial and aggressive behaviours. Furthermore, it would be helpful to learn more about the way in which students are defining safety and whether it involves more factors than the prevalence of bullying, for example, the prevalence of more serious types of violence, illegal activities, or the safety of the neighbourhood.

There are a number of important implications for schools that can be derived from this study. First, although individual characteristics that schools do not have control over contribute to students' risk for involvement in bullying, such as demographic characteristics, there are also school climate factors that schools can change that impact this risk over and above personal characteristics. Second, teachers play an important role in the prevention of bullying and victimization and have the potential to intervene not only directly but also indirectly, by being present and involved with their students. Finally, our results highlight the importance of peers and peer interactions in

discouraging bullying and buffering victimization. These findings support the use of whole-school bullying prevention programs geared toward all members of a school and targeting the overall school environment, rather than focusing on bullying and victimization in isolation. Based on the findings of this study, it is clear that fostering the development of a positive climate characterized by healthy peer relationships and prosocial peer roles is imperative in order to address the serious problem of bullying and victimization in our schools.

Limitations and Future Directions

There are a number of limitations to this study that should be addressed in future studies to further examine the role of the school context in bullying and victimization. First, this study was cross-sectional and therefore we were unable to determine causality. Longitudinal data are needed in order to be able to understand whether these perceptions of school and school climate are a result of bullying and victimization in the schools or whether the pre-existing climate leads to higher rates of these behaviours. Additionally, while the factors considered in this study account for some of the variance both within and between schools, there is still a large proportion that remains unexplained by our models and future studies should include more variables at both levels. In this study, we defined school climate as the average of the perception of all students in the school; however, other researchers have examined school climate from an organizational, and arguably more objective, perspective such as class size, diversity of the student population, and the availability of extracurricular activities. It would be useful to include both measures of school climate in order to investigate the relative contributions of each.

Finally, future studies should examine mediational models in order to elucidate the processes by which school climate influences these behaviours.

This study contributes to the growing body of research that is beginning to accrue in the investigation of contextual and ecological factors that contribute to bullying and victimization. This trend in the research reflects an extremely important and promising endeavour that has been made possible by the development of multi-level statistical procedures. As these continue to become more advanced, we will be able to take into account more complex contextual variables that will hopefully provide us with a greater understanding of bullying and victimization and enable the adults in children's worlds; parents, teachers, community personnel and policy makers, to intervene more effectively and help keep our children and youth safe from bullying and victimization.

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Chapter 3:

Investigating change in witnessing bullying

Abstract

The experiences of students who witnessed bullying were examined over time to explore the extent of these experiences, and to investigate change in levels of reported witnessing, as peer presence can often be reinforcing for students who bully others. Participants were 478 (56% female) high school students, 382 of whom (80%) reported witnessing bullying at least twice in the past four weeks. Two months later, 351 (70%) of these students continued to act as bystanders. Girls were more likely than boys to witness bullying at Time 1, although boys were more likely to witness physical bullying. Younger students were more likely to be classified as witnesses, although older students were more likely to observe social bullying. Students in Grade 11 were more likely to stop acting as witnesses compared to Grade 9 students. At higher levels of provictim attitudes, boys showed a decrease in levels of reported witnessing whereas there was no difference for girls. With regard to emotional supportiveness, boys who scored high on emotional supportiveness reported a decline in the amount of bullying they witnessed, whereas more emotionally supportive girls increased their presence in bullying situations. Building social competence and relationship capacity skills may be important in bullying prevention; however, strategies may need to be tailored differently for boys and girls.

INVESTIGATING CHANGE IN WITNESSING BULLYING

Bullying is a peer process that often occurs in the presence of other students not directly involved in the bullying interaction (Craig & Pepler, 1997). These individuals are commonly referred to as bystanders. The term “bystander” implies passivity or a lack of involvement; however, Salmivalli and colleagues (1999; 2010) have argued that peers who are present during bullying incidents are in fact involved in the interactions simply by being present. Peers who serve as bystanders during bullying incidents behave in a variety of ways that can exacerbate or ameliorate bullying behaviour, and can also affect the impact of victimization on those who are the targets of bullying (Salmivalli, 2010). While the majority of research in this area has focused on those who engage in bullying or are victimized, a body of research has begun to accrue in the past decade that investigates bystander behaviour and the ways in which bullying situations may be impacted by the behaviour of witnesses (see Salmivalli, 2010, for a review). It has become widely accepted that bystander behaviour has a significant impact on bullying situations and studies have shown that peer presence more often serves to encourage bullying than it does to deter it (Poyhonen & Salmivalli, 2008). Given the degree and impact of peer presence, bystander behaviour may be a particularly important target for intervention in programs designed to reduce bullying in schools. Compared to bullying and victimization, however, we still know relatively little about the experience of witnessing bullying. In the present study, we investigated the incidence of witnessing bullying over time in a sample of high school students. We were particularly interested in describing the types of bullying incidents witnessed, as well as analyzing the stability of

acting as a witness, and the socioemotional factors that may predict change in the tendency to observe bullying incidents.

From a peer process perspective, Pellegrini (2002) has argued that individuals who engage in bullying behaviour do so in order to acquire dominance and high status in the peer group. In order for this goal to be successful, other students must be present to witness these displays of dominance and power. Indeed, research has shown that bullying occurs very infrequently outside of the presence of peers. O'Connell, Pepler, and Craig (1999) have argued that most, if not all, students in a classroom are at least aware of bullying taking place. Observational studies have revealed peer presence in 85-88% of bullying incidents (Craig & Pepler, 1997; Hawkins, Pepler & Craig, 2001), and self-report studies have also shown that the majority of students report some degree of bystander behaviour. For example, 60% of students in Grades 3-6 reported witnessing verbal bullying in the past 4 weeks (Aboud & Miller, 2007). In another study, Trach, Hymel, Waterhouse, & Neale (2010) found that 68% of elementary school and high school students reported witnessing bullying in the past year. Interestingly, observational studies suggest that a higher proportion of peers may engage in bystander behaviour than are reporting involvement in self-report studies.

Self-report studies of bystander behaviour assess students' responses to bullying situations, and Salmivalli, Lagerspetz, Bjorkqvist, Osterman, and Kaukiainen (1996) devised a classification system based on the types of responses reported. They identified four primary patterns of bystander behaviour, which they referred to as "participant roles". They found that the largest group (i.e., 24%) was comprised of students who reported that they did not respond in any way and were therefore deemed "outsiders". It

has been argued, however, that even students who consider themselves to be uninvolved in bullying incidents that they observe may actually be reinforcing the behaviour by their inaction, sending a silent message that bullying is acceptable (Trach et al., 2010). Approximately 20% of students behaved in ways that encouraged bullying behaviour (i.e., “reinforcers”) and an additional seven percent of students joined in the bullying, and were therefore referred to as “assistants” or “followers”. Only 17% of the sample reported responding in ways that were supportive of the victims of bullying, either actively or emotionally. These students were called “defenders”. Boys were more likely to be classified in the roles of “reinforcer” and “assistant”, whereas girls were more likely to report acting as “defenders” and “outsiders” (Salmivalli et al., 1996).

The association between bullying and power in the peer group, as well as the entrenchment of social norms, would represent formidable barriers to acting in opposition to bullying behaviour. Bullying can be a successful tool in achieving power and popularity (Caravita, DiBlasio, & Salmivalli, 2009; Juvonen, Graham, & Schuster, 2003; Vaillancourt, Hymel, & McDougall, 2003) and it is likely that probullying norms exist in classes where bullying is taking place (Salmivalli & Voeten, 2004). Poyhonen and Salmivalli (2008) found that many students reported that while they believed that defending the victimized student would help, they often did not do so, either out of fear or because they did not know how to help. Therefore, students who do not occupy positions of power in the peer group may feel as though they might be putting themselves at risk by acting on behalf of a student who is being victimized. Hawkins and colleagues (2001) found that, although peers intervened in only 19% of bullying incidents, they were successful 57% of the times that they did take action, suggesting that peers can be

powerful in their efforts to intervene in bullying situations when they feel able or inclined to do so.

There are some differences in the literature with regard to the frequency with which bystander behaviour is reported versus how often it is observed. Furthermore, there appear to be significant discrepancies between the attitudes and actions reported by students who witness bullying. Despite the small percentage of students who actively intervene or defend the victims of bullying, the majority of students report positive attitudes toward victims of bullying and negative attitudes toward bullying (Poyhonen & Salmivalli, 2008). It is possible that students may not report witnessing bullying incidents if they felt that they were not directly involved. Alternatively, however, students may be reluctant to report witnessing bullying if they have not responded in a prosocial manner. This discrepancy may reflect the classic “demand characteristic” often referred to in social psychology (Orne, 1962), in this case, associated with reporting attitudes about behaviour about which there is general social disapproval. Additionally, Salmivalli and colleagues (1996) found that, compared to peer report, individuals tended to underestimate their own aggressive behaviour and overemphasize prosocial responses, which the authors attributed to a “self-serving attribution bias” (Osterman et al., 1994).

For the purposes of the present study, we were interested in the experience of witnessing bullying, regardless of an individual’s response to the incident. By doing this, we were able to investigate the experience of witnessing bullying and avoid the effects of demand characteristics and attribution biases.

In contrast to students directly involved in bullying or victimization, we know relatively little about the experiences associated with being a witness to bullying. Studies

have suggested that as many as a third of students report involvement in bullying, victimization, or both (e.g., WHO, 2008). With regard to the types of bullying and victimization experienced, a recent study by Wang, Ianotti and Nansel (2009) reported that 54% of students reported involvement in verbal bullying and/or victimization at least once in the past two months, 51% in social or relational bullying, 21% in physical bullying and 14% in cyberbullying. The authors also found that boys were more likely than girls to be involved in physical and verbal bullying, whereas girls were more likely to be involved in social bullying. Interestingly, boys were more likely to engage in cyberbullying, whereas girls were more likely to report being victimized by cyberbullying. We do not, however, know the types of bullying incidents that are witnessed by others. Thus, an initial goal of the present study was to explore the frequency with which students reported witnessing physical, verbal, social, and electronic (or cyber) bullying, as well as bullying related to race, ethnicity, or religion.

In addition to understanding the nature of the incidents witnessed, we were also interested in the stability of observing bullying over time. Studies have shown that participant roles were fairly stable over time, although this varied somewhat with regard to the type of behaviour reported (Salmivalli, Lappalainen, & Lagerspetz, 1998). Trach et al. (2010) found that elementary school students and girls were more likely to take direct action in bullying situations compared to secondary school students and boys. However, boys and girls were equally likely to report that they ignored or avoided the person who was perpetrating the bullying. Salmivalli and Voeten (2004) found that anti-bullying attitudes and norms, as well as defending behaviour, decreased with age. These studies were cross-sectional, however, and it is not clear whether these differences represent a

true shift over time or age-related change. Caravita, DiBlasio, and Salmivalli (2010) found that students with higher affective empathy and better developed theory of mind were more likely to report engaging in defending behaviour, and that this association existed for both boys and girls. With regard to intentions to intervene, Rigby and Johnson (2006) found that gender, expressed self-efficacy and provictim attitudes were associated with reported readiness to intervene. Specifically, they found that girls were more likely to be willing to intervene, as were students with higher self-efficacy and more positive attitudes toward the victims of bullying.

These studies provide an understanding about the pattern of responses and intentions to respond to bullying, but they do not provide knowledge about the individuals who stop acting as witnesses. In the present study, we explored the likelihood of continuing to witness bullying over time. Given previous findings with regard to individual differences in bystander responses, we investigated the role of gender and grade, as well as ethnicity, and family composition. We were also interested in the impact of previous involvement in bullying, victimization, and witnessing bullying at school.

It is possible that while students may not intervene to stop bullying behaviour, they may decrease their presence and hence stop reinforcing the bullying. Thus, in addition to investigating the tendency to continue or discontinue observing bullying, we were also interested in examining change in overall levels of witnessing and the socioemotional processes that may be associated with such changes. We hypothesized that students who were more empathic and supportive of students who were being victimized and who were more adept socially, would understand the negative impact of watching others being victimized. Therefore, we predicted that students with more

supportive attitudes toward victimized peers, as well as higher levels of empathy and social competence would report a greater decrease in witnessing bullying over time.

In summary, the present study was designed to investigate the experience of witnessing bullying in a sample of high school students, with a particular focus on the types of bullying being observed and how they might vary by gender and grade. We examined whether various demographic and behavioural variables predicted whether an individual continued to report witnessing bullying over a period of two months. Additionally, we investigated whether various socioemotional factors predicted change in the extent of incidents individuals reported witnessing over time.

Method

Design

Data for this study were collected using a survey that was administered twice during the school year, approximately 8 weeks apart. Surveys were distributed to students in their homeroom classes and took approximately 20-30 minutes to complete. This study received ethics approval from the Research Ethics Board at Queen's University.

Participants

The original sample consisted of 621 students in Grades 9 – 12. Of these students, 143 (23%) were missing Time 1 data on witnessing at least one type of bullying incident and were excluded from subsequent analyses, resulting in a Time 1 sample of 478 students. Attrition analyses indicated that the students who did not have complete data did not differ from those who did on gender or grade, but the groups did differ on levels of bullying and victimization. Completers scored lower on both bullying ($t = 5.09, p < .001$) and victimization ($t = 4.65, p < .001$). Slightly over half of the sample ($N = 266$;

56%) were girls and the distribution by grade was as follows: 33% were in Grade 9, 37% were in Grade 10, 22% were in Grade 11, and 8% were in Grade 12. The majority of students (69%) reported living with both parents, 12% with one biological parent and a step-parent, 9% in a single-parent household, and 10% in another arrangement. Ninety percent of students identified their ethnicity as “White/Caucasian”, 3% as Black/African Canadian”, 1.5% “Asian”, 1% as “South Asian”, 1% as Native Canadian”, and 3.5% as “Other”. The Time 2 sample included those students identified as witnesses at Time 1, as described below (N = 382; 80%). Of those students, 31 (8%) had either dropped out or did not have complete data, resulting in a Time 2 sample of 351 students. Attrition analyses revealed no gender or grade differences, nor did the groups differ on the amount of bullying or victimization reported.

Measures

Demographics. Information regarding gender, grade, ethnicity, and family composition were collected using the Focus On You questionnaire (Connolly & Konarski, 1994).

Bullying Behaviour. Olweus’ Bully/Victim Questionnaire (1986; 1996) is a widely used measure of bullying and victimization. Students rated how often they had been bullied, bullied others, or seen another student being bullied in the past four weeks on a 5-point Likert scale (i.e., 0 = “I have not been bullied in the past 4 weeks”, to 4 = “Several times a week”). These questions were then repeated for each of five types of bullying: physical, verbal, social, electronic, and racial/ethnic/religious bullying. Responses were dummy coded for each type of behaviour indicating whether students had been involved in each behaviour at least twice (i.e., 0 = Less than twice, 1 = More

than twice), as suggested by Solberg and Olweus (2003). Students were classified as witnesses if they received a score of 1 on at least one of these dummy variables.

The dummy coded variables were summed across the five types of bullying and resulted in three “Involved” variables with a range of 0 – 5, where a higher score indicated being involved in more types of each behaviour. For example, a score of 2 on the “Involved” witness variable indicated witnessing two types of bullying, two or more times in the past four weeks.

Attitudes Toward Bullying. Students’ attitudes toward children who are the victims of bullying were assessed using a shortened version of Rigby and Slee’s (1991) Provictim Scale. Students rated ten statements about bullying (e.g., “Kids who get picked on a lot usually deserve it”) on a 5-point Likert scale indicating their agreement with each statement, ranging from 1 = “Strongly disagree” to 5 = “Strongly agree”. Several items were reverse coded and higher scores indicated more supportive attitudes toward victims of bullying (Cronbach’s alpha = .65).

Empathy. Empathy was measured using two subscales of the Interpersonal Reactivity Index (IRI; Davis, 1980). The first subscale consisted of seven items reflecting expression of empathic concern for others (e.g., “When I see someone being taken advantage of, I feel kind of protective towards them”) and the second subscale consisted of seven items that measured an individual’s perspective taking ability (e.g., “I believe that there are two sides to every question and try to look at them both”). Each item was rated on a 5-point Likert scale indicating how well each item describes the rater, ranging from 0 = “Does not describe me well” to 4 = “Describes me very well”. Several items

were reverse coded and higher ratings indicated greater empathy and perspective-taking ability. Cronbach's alphas for these scales were .77 and .71, respectively.

Social Competence. Two subscales of The Interpersonal Competence Questionnaire (Buhrmester et al., 1988) assessed two domains of interpersonal competence: providing emotional support and advice to peers (8 items; Cronbach's alpha = .90) and managing interpersonal conflict (8 items; Cronbach's alpha = .82). Items were rated on a 5-point Likert scale indicating how capable the rater feels he or she is or would be in particular social situations (e.g., "Being a good and sensitive listener for a companion who is upset"). Ratings ranged from 1 = "I'm poor at this; I'd feel so uncomfortable and unable to handle this situation, I'd avoid it if possible" to 5 = "I'm EXTREMELY good at this; I'd feel very comfortable and could handle this situation very well".

Results

Several types of analyses were conducted to assess the objectives of the present study. First, descriptive statistics explored the degree to which bullying incidents were being reported by witnesses and the types of incidents that they were observing. Second, using logistic regression analysis, we investigated the individual characteristics that were associated with the likelihood of continued involvement as a witness over time. Finally, we conducted a multiple regression to examine the individual and socioemotional factors that predicted change in reported levels of witness behaviour.

Table 1 summarizes the means and standard deviations of all behavioural and socioemotional variables at both time points for students who reported involvement as a bystander and those who did not.

Table 1

Means and Standard Deviations for All Behavioural and Socioemotional Predictors

		Time 1		Time 2	
		Witnesses (N = 382)	Non- Witnesses (N = 96)	Witnesses (N = 246)	Non- Witnesses (N = 105)
Behavioural Variables	Witnessing				
	Males	3.03 (1.34)	-	3.29 (1.29)	-
	Females	2.84 (1.25)	-	2.88 (1.27)	-
	Bullying				
	Males	0.77 (1.13)	0.14 (0.44)	1.13 (1.42)	0.14 (0.35)
	Females	0.75 (1.07)	0.24 (0.43)	0.91 (1.24)	0.19 (0.74)
	Victimization				
	Males	0.76 (1.01)	0.19 (0.48)	1.24 (1.61)	0.41 (0.99)
	Females	1.03 (1.12)	0.50 (0.85)	1.26 (1.27)	0.43 (0.99)
Socioemotional Variables	Attitudes				
	Males	3.84 (0.51)	3.92 (0.59)	3.80 (0.54)	3.85 (0.51)
	Females	4.13 (0.41)	4.04 (0.60)	4.01 (0.55)	4.02 (0.63)
	Empathy				
	Males	3.35 (0.58)	3.23 (0.71)	3.30 (0.53)	3.28 (0.64)
	Females	3.77 (0.64)	3.46 (0.53)	3.70 (0.66)	3.72 (0.66)
	Perspective Taking				
	Males	3.17 (0.57)	3.22 (0.69)	3.19 (0.52)	3.24 (0.61)
	Females	3.38 (0.63)	3.12 (0.48)	3.42 (0.66)	3.48 (0.68)
	Emotional Support				
	Males	3.49 (0.63)	3.44 (0.79)	3.40 (0.62)	3.45 (0.71)
	Females	4.04 (0.61)	3.69 (0.68)	3.92 (0.64)	3.76 (0.73)
	Conflict Management				
	Males	3.20 (0.59)	3.18 (0.72)	3.23 (0.51)	3.30 (0.73)
	Females	3.40 (0.63)	3.24 (0.55)	3.37 (0.58)	3.41 (0.74)

Mean levels of bystander behaviour were notably higher than levels of bullying and victimization and the means of all socioemotional variables indicated positive pro-victim attitudes, empathy and social competence, on average.

Witnessing Experiences

At Time 1, 382 (79.9%) students reported witnessing at least one type of bullying. Of the students who were classified as witnesses at Time 1 who had complete data at Time 2 ($N = 351$), 246 (70.0%) continued to be witnesses. In order to investigate patterns in the types of bullying incidents witnessed, the proportion of students who witnessed each type of bullying were calculated and z tests of proportions were conducted. Due to the large number of tests conducted, we used a more conservative alpha value of .01 to protect against the increased possibility of Type I error. The comparisons were conducted separately for gender and grade.

Gender Differences. A greater proportion of females were witnesses compared to males ($N = 227$, $z = 3.31$, $p < 0.001$), however this was true only at Time 1. In order to further explore gender differences in witness experiences, Table 2 displays the proportion of males and females who reported witnessing each type of bullying.

Table 2

Proportion of Students Who Reported Witnessing Each Type of Bullying

Type of Incident	Time 1		Time 2	
	Males ($N = 155$)	Females ($N = 227$)	Males ($N = 100$)	Females ($N = 146$)
Physical	69.7	53.7	76.0	54.0
Verbal	92.3	86.8	95.0	84.9
Social	68.4	74.4	71.0	76.0
Electronic	38.1	38.8	42.0	38.4
Racial/Ethnic	34.2	30.0	45.0	34.9

A greater proportion of boys reported witnessing physical bullying compared to girls, both at Time 1 ($z = 3.12$, $p = .002$) and Time 2 ($z = 3.49$, $p < .001$). For both boys and girls, and at both time points, the most frequently observed type of bullying was

verbal bullying. Electronic and racial/ethnic/religious bullying were reported least often, each by less than half of the sample of boys and girls.

Grade Differences. At Time 1, a larger proportion of Grade 9 students reported witnessing bullying compared to students in Grade 10 ($z = -3.31, p < .001$) and Grade 11 ($z = -2.86, p = .004$). A larger proportion of Grade 9 students were also witnesses at Time 2, compared to students in Grade 11 ($z = -3.11, p = .002$). Table 3 displays the percentage of students who reported observing each type of bullying. For all grades the most common type of bullying observed was verbal bullying, and racial/ethnic bullying was the least common. The proportions were fairly equal for each type of bullying across each grade and time point, with the exception of social bullying, which was reported by a larger proportion of Grade 9 students compared to Grade 12 students ($z = 2.79, p = .005$).

Overlap in Types of Bullying Witnessed

We were also interested in the overlap between the various types of bullying being observed. For all students who reported witnessing a particular type of bullying (e.g., physical bullying), we calculated the percentage of those students who also reported witnessing each of the other four types (e.g., verbal, social, electronic, and racial/ethnic). These percentages are displayed in Figures 1 and 2.

Table 3

Proportion of Students In Each Grade Who Reported Witnessing Each Type of Bullying

Type of Incident	Time 1				Time 2			
	Grade				Grade			
	9 (N =132)	10 (N =118)	11 (N = 70)	12 (N = 31)	9 (N = 103)	10 (N = 83)	11 (N = 40)	12 (N = 20)
Physical	64.4	56.8	58.6	58.1	59.2	67.5	62.5	65.0
Verbal	92.4	89.0	85.7	83.9	88.3	88.0	92.5	90.0
Social	72.0	69.5	72.9	58.1	79.6	72.3	75.0	50.0
Electronic	41.7	32.2	40.0	32.3	38.8	42.2	37.5	40.0
Racial/Ethnic	34.1	28.0	27.1	29.0	38.8	39.8	37.5	40.0

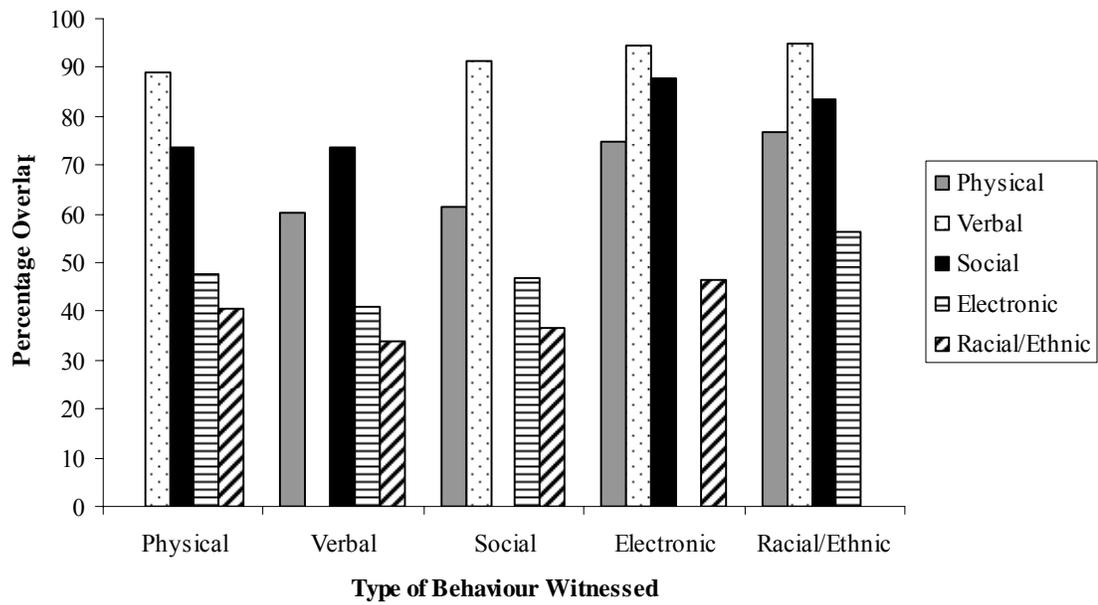


Figure 1. Overlap among the types of bullying incidents witnessed at Time 1.

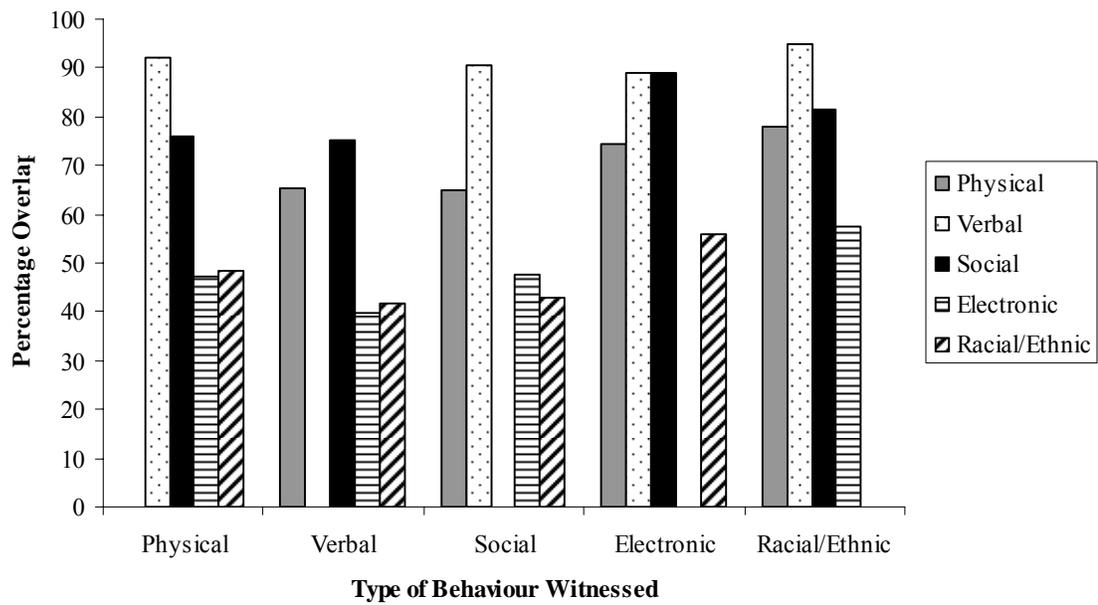


Figure 2. Overlap among the types of bullying incidents witnessed at Time 2.

There was a great deal of overlap between different types of bullying behaviour witnessed and the pattern of overlap was similar at both time points. Verbal bullying overlapped most frequently with all other types and racial/ethnic/religious and electronic bullying were least likely to be witnessed in the context of other types of bullying.

Change in Witnessing Bullying

Logistic regression analyses were conducted to determine whether specific demographic characteristics or previous experience with bullying or victimization predicted continued involvement as a witness during bullying incidents. The dependent variable was classification as a witness at Time 2, where 0 = Not Involved and 1 = Involved. Grade, ethnicity, and family composition were each entered as categorical variables. The reference category for grade was Grade 9, so that students in each grade were compared to students in Grade 9. The reference categories for ethnicity and family composition were White/Caucasian and living with both parents, respectively. Bullying, victimization, and witnessing at Time 1 were entered as continuous variables using the “Involved” variables described previously. Thus, an increase in one unit of each of these variables represents an additional type of bullying being perpetrated, experiences, or observed. Gender interactions were also entered into the model but were removed, as none were significant.

The only significant predictors of continued witness status at Time 2 were grade, previous experience as a witness to bullying, and previous engagement in bullying behaviour (Table 4). Investigation of the individual grade contrasts revealed that the only significant contrast was with Grade 11, such that students in Grade 11 were approximately one third as likely to continue to be witnesses compared students in Grade

9. With regard to behaviour, for each additional type of bullying they witnessed at Time 1, students were nearly one and a half times more likely to continue to be classified as witnesses at Time 2. Additionally, for each additional type of bullying a student engaged in at Time 1, they were also nearly one and a half times more likely to continue to be classified as a witness at Time 2.

Table 4

Logistic Regression Model Predicting Witness Status at Time 2

Variable	<i>B</i>	<i>SE</i>	Wald	Exp (<i>B</i>)
Gender			ns	
Grade			8.06*	
Grade(1)	-0.24	0.33	0.53	0.79
Grade(2)	-0.98	0.36	7.64**	0.38
Grade(3)	-0.35	0.49	0.51	0.48
Ethnicity			ns	
Family Composition			ns	
Witness T1	0.37	0.12	10.04**	1.44
Bullying T1	0.34	0.17	3.86*	1.41
Victimization T1			ns	

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

To investigate the factors that predicted change in witnessing bullying, a multiple linear regression was conducted in which change scores of witnessing were regressed on gender, grade, provictim attitudes, empathy, social competence, and experience with bullying or victimization at Time 1. Intercorrelations are presented in Table 5. Bullying was positively correlated with victimization and negatively correlated with provictim attitudes. All of the socioemotional variables were positively correlated with one another, but not with either bullying or victimization, with the exception of provictim attitudes.

Table 5

Intercorrelations Among Behavioural and Socioemotional Predictors

Variable	1.	2.	3.	4.	5.	6.	7.
1. Bullying	-						
2. Victimization	.43**	-					
3. Provicim attitudes	-.13**	-.03	-				
4. Empathy	-.04	.00	.46**	-			
5. Perspective taking	-.06	.02	.25**	.53**	-		
6. Emotional supportiveness	.00	.07	.28**	.43**	.37**	-	
7. Conflict management	-.05	.05	.17**	.30**	.43**	.53**	-

** Correlation is significant at the .01 level (2-tailed).

All predictors and gender interactions were entered into the regression in one step (Table 6) and resulted in a significant model $F(16, 282) = 2.27, p = .004$. There was a significant effect of provictim attitudes on change in witness score, such that higher scores on provictim attitudes at Time 1 were associated with a decrease in reported levels of witnessing bullying. Furthermore, there were significant interactions between gender and provictim attitudes, as well as between gender and emotional supportiveness.

Table 6

Multiple Regression Predicting Change in Witnessing Bullying

	<i>B</i>	<i>SE B</i>	<i>B</i>	<i>t</i>
(Constant)	-.03	.12		-.27
Grade	-.08	.06	-.08	-1.30
Gender	-.15	.14	-.07	-1.07
Bullying T1	.13	.11	.12	1.16
Victimization T1	-.03	.13	-.03	-.21
Provicim Attitudes	-.28	.11	-.28	-2.63**
Empathy	.14	.15	.14	.95
Perspective Taking	-.15	.13	-.16	-1.21
Emotional Supportiveness	-.14	.13	-.14	-1.06
Conflict Management	.08	.12	.08	.66
Gender by Bullying	-.19	.14	-.14	-1.38

Gender by Victimization	.02	.15	.012	.10
Gender by Provictim Attitudes	.29	.14	.21	2.13*
Gender by Empathy	-.32	.17	-.26	-1.90
Gender by Perspective Taking	.19	.15	.16	1.26
Gender by Emotional Supportiveness	.43	.17	.30	2.60*
Gender by Conflict Management	-.27	.15	-.22	-1.80

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

Simple slopes analyses (Figures 3 and 4) were conducted to clarify the nature of the relationship between gender and change in witnessing bullying at high and low levels of provictim attitudes and emotional supportiveness (i.e., $\pm 1 SD$ from the mean). All predictors were standardized and regressed on the change score in reports of witnessing bullying, which was also standardized (Aiken & West, 1991). Thus, all variables had a mean of zero and standard deviation of one with the exception of the binary variable of gender, which was coded as 0 (i.e., boys) and 1 (i.e., girls).

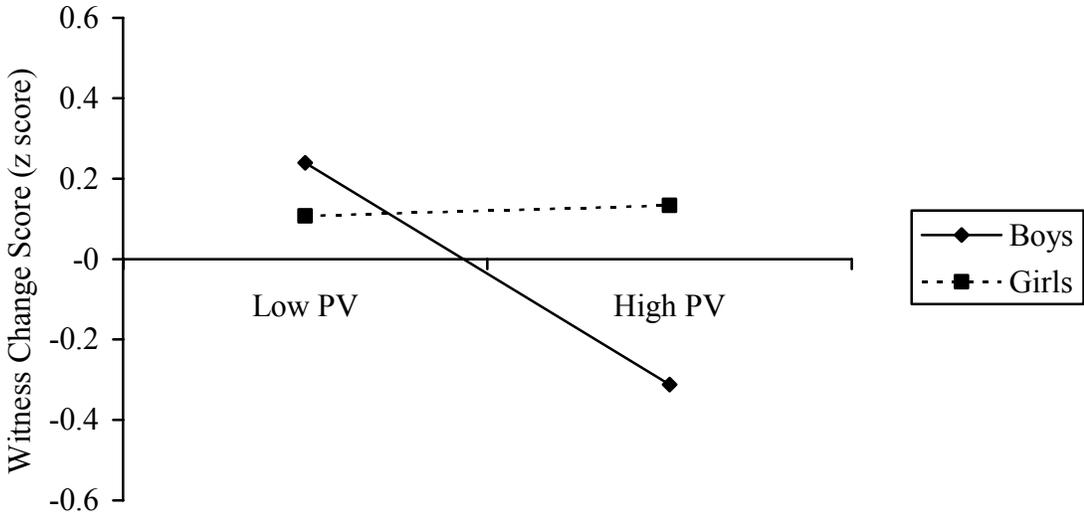


Figure 3. Interaction between gender and provictim attitudes. Note: High/low = $\pm 1 SD$.

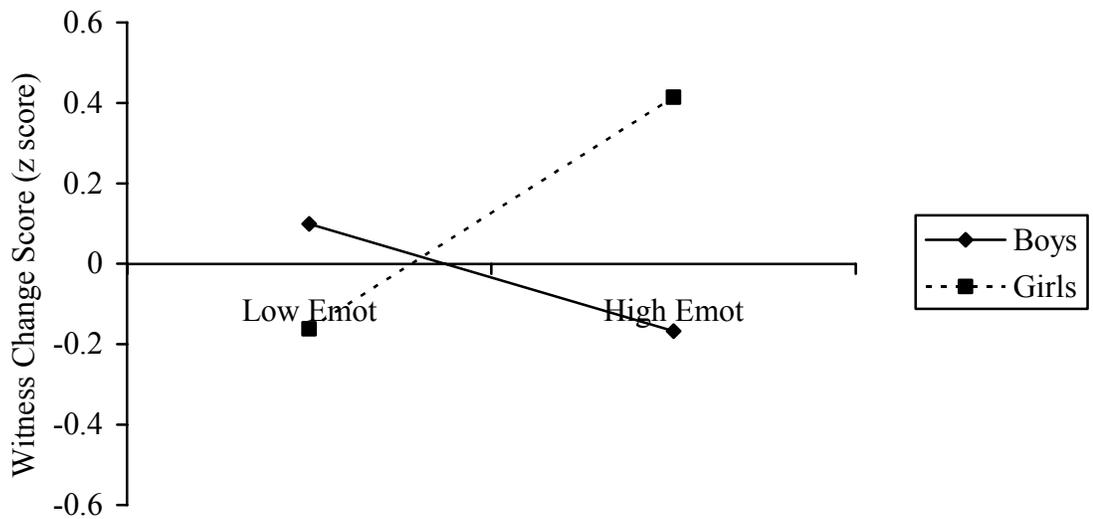


Figure 4. Interaction between gender and emotional supportiveness. Note: High/low = +/- 1 SD.

At high levels of Time 1 provictim attitudes (see Figure 3), boys reported a decrease in witnessing but girls did not. At low levels of provictim attitudes, however; boys reported witnessing more bullying over time, and to a greater extent than girls. At high levels of emotional supportiveness (see Figure 4), boys reported a decrease in witnessing bullying, while girls reported an increase. This pattern was reversed at low levels of emotional supportiveness.

Discussion

The present study had two main goals: 1) to assess the incidence and nature of witnessing bullying, and 2) to investigate change in the tendency to act as a witness. According to our results, witness experiences were very common, although the nature and development of this behaviour differed for boys and girls. A larger proportion of girls reported witnessing bullying at Time 1 compared to boys; however, more boys reported witnessing physical bullying at both time points. Additionally, more students in Grade 9

were witnesses compared to Grades 10 and 11; and more Grade 9 students observed social bullying compared to students in Grade 12 at Time 1. With regard to the development of witnessing over time, grade and previous experience witnessing bullying and engaging in bullying behaviour were associated with the likelihood of continuing to act as a witness. Students in Grade 11 were more likely than Grade 9 students to discontinue their involvement, and students who had been involved in more episodes of bullying, either as a witness or as a perpetrator were more likely to continue to be witnesses. Finally, change in acting as a witness was associated with both provictim attitudes and emotional supportiveness, although these relationships varied by gender. Boys who reported higher provictim attitudes were more likely to decrease their involvement as a witness, whereas there was no difference for girls. On the other hand, girls who reported high levels of aptitude with regard to emotional supportiveness were more likely to witness more bullying, while boys reported a decrease.

Witnessing bullying at school was very common. Nearly 80% of respondents reported observing some level of bullying behaviour. Moreover, the majority of these students reported continuing to act as witnesses two months later. The relative frequency of the different types of bullying witnessed matched the pattern reported in studies of bullying and victimization in that verbal bullying was most commonly observed, followed by social and then physical bullying (Wang et al., 2009). The gender differences that are often reported in the literature with respect to bullying and victimization were not reflected in our findings however, with the exception of the fact that more boys witnessed physical bullying. The lack of gender differences provides support for the view that bullying incidents are often witnessed by many other students, both boys and girls.

However, the fact that more boys reported witnessing physical bullying and are also more likely to be involved in physical bullying and victimization (Wang et al., 2009), suggests that there may be a different culture around these types of incidents. Perhaps verbal and social bullying are more likely to occur more visibly to a larger proportion of peers at school because they would be more likely to go unnoticed by teachers, whereas physical bullying may occur in smaller groups of boys. Another possibility is that girls may be choosing not to observe these incidents and may be walking away. The findings for electronic and racial/ethnic/religious bullying were less clear, although both were observed less frequently than the other three types of behaviour. Electronic bullying takes place on the computer and therefore large groups of students cannot stand and watch, as would be typically considered observing. However, the use of public social networking sites such as Facebook and Myspace may actually be observed by more students than would be present at in-person interactions. Students may not see this as “observing” in the typical sense and future studies should clarify this possible interpretation in order to ensure that we are obtaining a valid picture of this relatively new type of bullying.

Given the high prevalence of experiences witnessing bullying, it is not surprising that there was a high degree of overlap among the different types of bullying observed. This finding raises the question of how students are defining an incident of bullying and what might be occurring during these incidents. It is conceivable that one interaction could involve more than one type of behaviour. For example, if a student is victimized with regard to their ethnic status or religion, this abuse needs to be communicated. Given the high degree of overlap between verbal and racial/ethnic/religious bullying, it seems that this communication is frequently verbal; however, there is also a fairly high overlap

with electronic bullying as well, which suggests that cyberbullying may often be targeting an individual's race, ethnic status, or religion. Future research on the patterns of overlapping behaviours and the extent of the different types of bullying that are considered part of a single incident would provide useful information to clarify the types of interactions that are occurring in the schoolyard and on the computer. From an intervention perspective this would be important information to inform strategies that may need to be targeting multiple types of behaviours in the context of a single event.

A major goal of this study was to investigate the factors that were related to the discontinuation of acting as a witness. Given the detrimental consequences associated with having peers present in bullying situations, we wanted to determine whether there were factors that could be targeted in intervention efforts to reduce peer presence. Consistent with previous studies investigating bystander behaviour, witness status was quite stable over time (Salmivalli et al., 1998). The only demographic variable associated with discontinuing involvement was grade, and this was only evident between Grades 9 and 11, in that students in Grade 11 were more likely than Grade 9 students to stop observing bullying. Notably, Grade 9 students observed more bullying compared to Grades 10 and 11, however this did not extend to students in Grade 12 in our sample. Thus, our findings are somewhat consistent with previous studies that have suggested that older students may be more likely to walk away from bullying situations (Poyhonen & Salmivalli, 2008); however, this relationship was not clearly defined in our data. Investigation of the proportions and odds ratios indicated that there was not a large discrepancy, however, and the lack of statistical significance could be related to the smaller number of Grade 12 students represented in our sample. Future studies should be

designed to include equally distributed samples by grade in order to increase power. Thus, while our findings provide some indication of age- and time-related changes, study designs such as the extended cohort-longitudinal design described by Ertesvag and Vaaland (2007), would help to further clarify the change of witness behaviour over time.

Previous involvement in bullying or being a witness increased the likelihood of continuing to act as a witness. Furthermore, this tendency increased further with each additional type of bullying observed. Observing multiple types of bullying may suggest more pervasive involvement in peer groups where bullying is accepted, thereby making it more likely that students in these groups would observe bullying. Dishion and Dodge (2005) have described a peer-contagion effect whereby association with deviant peers is a major influence on the development of deviant behaviour. Furthermore, Espelage, Holt, and Henkel (2003) found that groups of students who scored high on bullying increased their behaviours over time, which would provide more opportunities for other members of the peer group to observe these incidents. Thus, while the tendency to witness bullying may decrease with time in general, the behaviour within particular deviant peer groups may actually be increasing. It is therefore imperative to intervene early to interrupt the pattern of participation, which can, in some cases, become more entrenched with time.

Finally, we investigated the possible role of socioemotional processes in predicting change in witnessing bullying. We hypothesized that the students who possessed high provictim attitudes, empathy, and social competence would potentially be less likely to watch bullying, perhaps because they may be more able to understand the detriment to the victims of having an audience. Our results provided some support for this hypothesis, although our findings varied somewhat by gender. Overall, students with

more positive attitudes toward the victims of bullying were less likely to report observing bullying over time; however, at high levels of provictim attitudes, boys were more likely than girls to report this decrease. Furthermore, boys who were more emotionally supportive reported a decrease in witnessing bullying, whereas more emotionally supportive girls actually increased their presence. These findings suggest that more socially competent boys and girls may respond differently to situations in which another individual is being harmed. Whereas more prosocial boys may remove themselves from negative situations, more prosocial girls may be staying during bullying incidents in order to provide support to the students who are victimized by bullying. Indeed, across studies, girls have been found to be more likely to engage in prosocial behaviour and try to stop the bullying and to support the student being victimized (Trach et al., 2010), which supports the speculation that they are not staying to enjoy participation in bullying.

Limitations and Future Directions

The extent of witnessing bullying in the current study is more consistent with observational studies (e.g., Craig & Pepler, 1997; Hawkins, Pepler & Craig, 2001), as opposed to previous self-report studies (e.g., Trach et al., 2010), which may be related to our methodology. For the purposes of the current study, we investigated the experience of witnessing bullying, without asking about individuals' responses. We did this in order to gather information about witnessing these incidents without introducing biases associated with self-report. While this was intentional and is consistent with our research goals, it is also a limitation for the interpretation of our findings, in that we do not know what participant role students may have been occupying in these situations. Perhaps the students who reported witnessing bullying acted prosocially in response to these

incidents, such as reporting the incident to a teacher or actively intervening on the behalf of the students being victimized. One way of addressing this issue would be to include peer report or observational components. Notably, attrition analyses revealed that the students who were excluded from our analyses because of incomplete data also tended to score higher on bullying and victimization. Thus, it is possible that our sample was less involved in bullying and victimization overall. Finally, our sample was very homogenous with regard to ethnic status and therefore, these findings may be less generalizable to schools with a more diverse demographic composition. This may be particularly relevant to racial/ethnic/religious bullying and victimization.

With such a large proportion of students witnessing such a wide range of behaviours, it is imperative that students learn to understand the impact of their behaviour, whether or not they are directly involved in bullying interactions. In the majority of cases, the presence of peers has an iatrogenic effect on bullying behaviour and while students are often effective when they choose to intervene, if they choose not to, their presence can be damaging. By walking away and refusing to act as a witness or bystander, peers are actually taking away power from the student who is bullying others, thereby thwarting the goal of that behaviour.

Salmivalli (2010) has suggested that bystander behaviour should be a focus of bullying prevention programs. Based on the findings of this study, intervening in bystander behaviour is a complicated endeavour and this study highlights the need to carefully consider several aspects of this behaviour when designing interventions. The incidents that students observe can be quite complex and may involve multiple types of bullying behaviour. Furthermore, despite some shift with time, the majority of students

tend to continue to report witnessing bullying, particularly if they had been involved in numerous situations previously. Furthermore, while it appears as though provictim attitudes and emotional supportiveness may be particularly important processes in bringing about change in witness behaviour, these processes seem to operate differently for boys and girls. We agree wholeheartedly that reducing bystander behaviour is an important and potentially highly effective intervention strategy and the goal of this study was to begin to collect information to help to inform this type of intervention.

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Chapter 4:

An evaluation of a peer-mediated bullying prevention program

Abstract

This study evaluates the “Beyond the Hurt” bullying prevention program. Surveys measuring bullying and victimization, attitudes toward bullying, empathy, social competence, and school climate were administered to students in two schools: an intervention school and a control school. The sample consisted of 621 high school students: 285 in the intervention school and 336 in the control school. Surveys were completed two months apart. Our findings did not suggest a program effect on behaviour, attitudes, school climate, or social competence. Bullying and bystander behaviour, emotional supportiveness, provictim attitudes, and school climate decreased over time in both schools. Levels of empathy also decreased in the control school, but not the program school. Girls reported more positive provictim attitudes and higher capacity in socioemotional skills compared to boys at both time points. These results are discussed with respect to student engagement and program implementation and suggestions for program development are made.

AN EVALUATION OF A PEER-MEDIATED BULLYING PREVENION PROGRAM

Bullying is a pervasive problem among children and youth that has significant deleterious consequences for those involved, and occurs frequently at school. Bullying occurs when a more powerful individual purposely attacks a less powerful individual with the intent to harm them (Farrington, 1993). From a social learning perspective, peer processes are seen as central to the development of bullying and particularly important in efforts to intervene at school and on the playground (O’Connell, Pepler & Craig; 1999). Furthermore, Salmivalli (2010) has suggested that bullying is not just a pattern of interactions or a dyadic relationship, but rather a social role in a group that is associated with various expectations and social consequences. This perspective suggests that intervention efforts need to target the whole peer group and be geared toward changing the overall social ecology of a school in order to be successful in changing these established social roles. In the present study, we conducted an evaluation of “Beyond the Hurt,” a bullying prevention program designed by the Red Cross that is being administered in Canadian high schools. This program is designed to prevent bullying and promote healthy relationships and a positive school climate. We investigated the extent to which “Beyond the Hurt” was successful in effecting change in students’ behaviour, attitudes, socioemotional skills, and their feelings about school.

Bullying prevention programs have become a major initiative in schools around the world and many countries have begun to legally require that they be part of the curriculum (Ananiadou & Smith, 2002). In Ontario, the Ministry of Education requires that school boards must “have and implement policies on bullying prevention and intervention,” and that they “must monitor, review, and evaluate the effectiveness” of

these policies (Ontario Ministry of Education, 2009). However, there has been considerable disagreement in the research on the effectiveness of existing bullying prevention programs, and Ryan and Smith (2009) consider the evidence to be mixed at best. Vreeman and Carroll (2007) reviewed 26 studies and found that multidisciplinary programs directly targeting bullying were generally successful, although programs that relied primarily on classroom curriculum changes were not. Baldry and Farrington (2007) conducted a review of 16 major evaluations of bullying prevention programs and found that of the studies reviewed, eight produced desirable results, four produced small or negligible results, two produced undesirable results, and two produced mixed results. On the whole however, the authors declared that the overall implication is optimistic rather than pessimistic. In a recent meta-analysis and systematic review of 30 major bullying prevention programs, Ttofi and Farrington (2009) concluded that most of the programs were effective and that the average reduction in bullying and victimization was 20-23%, overall.

In each of these reviews however, it has been noted that much of the evaluation research that has been conducted to date may have methodological issues that may have impacted the degree to which their findings should be generalized. For example, Baldry and Farrington (2007) suggested that their review was hindered by the lack of key information about the evaluations themselves and declared the need for more stringent criteria in future evaluation studies. The authors suggested that stronger research designs and higher quality methods involving control groups, random assignment of program participants, multiple measures of bullying behaviour, and detailed reports of the reliability of the measures used to assess behaviour are necessary in order to draw valid

conclusions from program evaluations. They also assert that many of these aspects have been lacking in the extant research. Furthermore, they argue that evaluations are often conducted by the groups designing the program who have a vested interest in the program's success, whereas independent evaluators would be better able to draw objective conclusions (Baldry & Farrington, 2007). Thus, overall, there is some evidence to suggest that there are programs that have had at least some degree of success in reducing bullying in schools; however, this finding is limited to a few programs and there are many programs being administered that have not yet been evaluated. Furthermore, the evaluations that have been conducted may have been limited by their designs and methodologies.

Farrington and colleagues have noted that, in general, bullying prevention programs have been designed based on commonsense ideas of what should work, rather than being driven by theory (Baldry & Farrington, 2007; Farrington & Ttofi, 2009). Furthermore, Cunningham and colleagues (2009) found that educators were most likely to base their choice of prevention programs on anecdotal support provided to them by their colleagues, rather than on empirical evidence. The prevailing view that has developed over the past two decades is that in order to address bullying most effectively, intervention needs to occur at the level of the whole school and be targeted at bringing about widespread change in the overall social structure (Olweus, 1991; 1993). This perspective fits well with social learning theory and has received empirical support (e.g., Vreeman & Carroll, 2007); however, given the amount of resources that must be invested in large-scale programs, it is imperative that they each be evaluated and empirically validated so that schools may make informed choices. At present, there is very little clear

evidence to inform school personnel of which program would be the best use of their limited resources (Ryan & Smith, 2009).

A whole-school approach generally involves a number of components including providing information to staff, students and parents; establishing school policies regarding bullying; classroom-based activities aimed at changing attitudes toward bullying and conflict resolution; and providing support and recourse for those who are victimized (Ryan & Smith, 2009). The first and most widely used whole-school intervention is the Olweus Bullying Prevention Program, which has been extensively and repeatedly evaluated, often with positive results (Olweus, 1991; 1993; 1994a). In their meta-analysis, Ttofi and Farrington (2009) found that the programs that had the most success were based, at least in part, on the Olweus program. Given the inclusiveness and complexity of whole-school interventions, it has often been suggested that the next phase of evaluation research should begin to investigate the individual components of programs (Baldry & Farrington, 2007). This would allow us to determine the aspects that underlie the effectiveness of a given program so that resources would not be wasted on components that may not be contributing to the program as a whole.

Recently, Ttofi and Farrington (2009) took on the challenge of evaluating individual program components and found that the most important features for the reduction of bullying in successful programs were: implementation of specific disciplinary methods, parent meetings, playground supervision, providing information to parents, school conferences, classroom rules, and classroom management. With regard to victimization, the aspects that were the most effective were videos, disciplinary methods, work with peers, and cooperative group work. Thus, it is clear that a multifaceted

approach with a wide variety of components was most effective. Additionally, there were some important differences between bullying and victimization with regard to the process of change. Whereas organizational factors appeared to be most important when dealing with bullying, peer and group processes were more relevant for victimization.

In the present study, we evaluated a bullying prevention program that involves the whole school and emphasizes peers and group processes. This is the approach that would be suggested by social learning theory and by the findings reported by Ttofi and Farrington (2009). This program is geared toward preventing violence and fostering healthy relationships and a positive school climate.

The “Beyond the Hurt” Program

The Red Cross “Beyond the Hurt” program is a school-based intervention and prevention program that aims to address problems of bullying and victimization through a model emphasizing education, prevention, and intervention. The program is implemented at the high school level and has several components: 1) Education and training of student leaders (i.e., peer facilitators); 2) Class presentations led by peer facilitators; 3) In-service workshops for adults; and 4) On-line training for educators and community professionals.

The role of peers in the “Beyond the Hurt” program is unique in that students are chosen to be the facilitators of the program and, supported by a teacher mentor, they are responsible for designing and administering presentations to classes. Peer facilitators are nominated by school personnel to participate in training workshops based on a number of criteria including grade (i.e., preferably Grade 10 or above), demonstration of leadership skills in school, and experience with facilitating or delivering group presentations. These students attend a two-day workshop where they are provided with comprehensive

information about bullying and victimization, as well as training and materials for facilitating class presentations. These peer facilitation workshops are led by education professionals who have been trained by the Red Cross and act as mentors for the peer facilitators during their presentations at school. Following the workshop, the peer facilitators deliver presentations to classes in their school. While several programs include peers in the role of counsellors (Baldry & Farrington, 2007), in “Beyond the Hurt,” peer facilitators essentially become the experts and service providers in the school.

The primary goal of the “Beyond the Hurt” program is to reduce bullying and encourage pro-social behaviour. With the peer facilitation model, students with positive social power model pro-social behaviour and educate their peers to lead them in creating a climate where healthy relationships are supported and bullying and victimization are not. Salmivalli (1999; 2010) has emphasized that bullying interactions involve the entire peer group and extend beyond those who are engaging in bullying behaviour and being victimized. Peers who observe incidents of bullying are known as “bystanders” and could serve to support bullying behaviour by watching or failing to report the incident. Alternatively, these students could discourage bullying by refusing to watch or reporting the incident to a teacher. Researchers estimate that bullying occurs in the presence of other students as often as 85% of the time (Craig, Pepler, & Atlas; 2000). Thus, in the present study, we focused not only on bullying and victimization behaviour, but also on incidents where students reported witnessing bullying.

In order to bring about behavioural change, the program also strives to alter attitudes that support bullying behaviour and to guide students in developing empathy, social competence and conflict management skills by addressing these factors specifically

in the presentations. This is consistent with research such as that of Rigby and Johnson (2006), who found that students who reported having attitudes in support of victims of bullying were more likely to be willing to intervene on their behalf. In other research, Caravita, DiBlasio and Salmivalli (2010) have proposed that in order to encourage youth to defend their victimized peers, both peer relationships and emotional characteristics such as empathy should be the focus of intervention. Additionally, research on the relationship between empathy and bullying has found that affective empathy (i.e., the ability to recognize emotions in others) is negatively associated with aggressive behaviour and bullying and positively associated with pro-social behaviour and defending those who are victimized (Gini, Albiero, Benelli & Altoe; 2007). With regard to victimization, it has been hypothesized that children who are victimized by bullying may be less socially competent than other children (Ciucci & Fonzi, 1999), and that children who are more socially skilled and are well-liked may be motivated to defend the children who are victimized in order to maintain their social status (Caravita et al., 2010). Thus, in the present study, we investigated the extent to which “Beyond the Hurt” was successful in targeting each of these socioemotional factors.

As mentioned previously, “Beyond the Hurt” is delivered in high schools. Historically, intervention in high schools has had some opponents; the mindset being that once children reach adolescence, it may be too late to intervene (Freeman & Mims, 2007). On the other hand, there is evidence to suggest that programs targeted at older children may be more likely to be effective (Ttofi & Farrington, 2009), although in this case older children were defined as 11 years of age and older. In fact, even programs that are conducted in secondary schools often do not include upper year students; for

example, only 2 of the 16 studies reviewed by Baldry and Farrington (2007) involved students over the age of 16. Given the increased importance of peer influence in adolescence, a peer-facilitated program at the high school level could have great potential to make a widespread change. Thus, the present study included students in Grades 9-12.

This study investigated the extent to which “Beyond the Hurt” was effective in bringing about change in behaviour, attitudes and socioemotional skills, and school climate. We did this by comparing students in two Ontario high schools, one of which received the “Beyond the Hurt” program and one which did not. We predicted that students who were the recipients of the program would report a decrease in bullying, victimization, and bystander behaviour after receiving the program. We also expected that there would be an increase in positive attitudes toward victims of bullying, empathy, and social competence observed among students in the intervention school, whereas no change was expected to occur among the control students. Furthermore, consistent with a whole-school approach, we expected that there would be a positive impact of the program on overall school climate and predicted that feelings of safety and positive feelings toward school would increase among students in the intervention school.

This study also addressed two questions regarding reactions to the program itself. First, we were interested in the impact that the experience of being a peer facilitator would have on students who were nominated for this role. We predicted that the opportunity to occupy a leadership role and model pro-social behaviour would foster a greater sense of confidence and efficacy in dealing with difficult peer situations. Thus, we expected that peer facilitators would report a greater increase in their sense of social competence than students who were not peer facilitators. Finally, we collected

information from participants about their impressions of the “Beyond the Hurt” program. Students were asked to rate their feelings on a number of aspects, including the relevance and quality of the presentations, their level of participation, the usefulness of the material and their intention to use it in the future.

Thus, the present study was conducted to provide an independent and objective evaluation of a school-based bullying prevention program. We expanded on previous studies by including a control school for the purposes of comparison and we assessed a range of behavioural, socioemotional, and school climate outcomes. We were particularly interested in the role of peers in “Beyond the Hurt” and the opportunities that it affords students to be strong social role models.

Method

Design

The present study was conducted in two Ontario high schools during the spring of the 2008-2009 school year. One of the schools participated in “Beyond the Hurt” (program school) and one did not (control school). Both schools intended to carry out the program, but the control school was planning to do so the following school year and so functioned as a wait list control school. We employed a pre/post controlled study design, although the assignment of schools by the School Board and the whole-school nature of the intervention did not allow for random assignment of students to control and experimental conditions. Data were collected in survey form. Surveys were administered twice at each school, once before the program school administered “Beyond the Hurt” (Time 1) and again approximately four weeks after the program was administered (Time

2). Surveys were collected from the control school at the same time as the program school.

Surveys were given to students in Grades 9-12 in their homeroom classes. They were provided with information about the purpose of the study and asked to provide their consent to participate. If a student chose not to participate, they did not fill out the survey; however, all students in the program school received the “Beyond the Hurt” program, regardless of whether they filled out the questionnaire. The survey took approximately 20-30 minutes to complete. This study received ethics approval from the Research Ethics Board at Queen’s University.

Participants

The sample consisted of 621 students, 285 in the intervention school and 336 in the control school. Forty-seven percent of respondents in the intervention school were male ($N = 133$). Of the students in the intervention school, 105 (37%) were in Grade 9, 86 (30%) were in Grade 10, 83 (29%) were in Grade 11 and 11(4%) were in Grade 12. The majority of students in the intervention school (68%) reported living with both parents, 11% with a step-parent, 11% in a single-parent household, and 10% in another arrangement. Ninety-three percent of intervention students identified their ethnicity as “White/Caucasian”, 2% as Black/African Canadian”, 1% “Asian”, 0.4% as “South Asian”, 0.7% as Native Canadian”, and 2% as “Other”. Of the students in the control school, 144 (43%) were male and the breakdown by grade was as follows: 105 (31%) in Grade 9, 141 (42%) in Grade 10, 50 (15%) in Grade 11, and 40 (12%) in Grade 12. The distribution of living arrangements was similar to the intervention school, with 69% of control students reporting living with both natural parents, 12% lived with a step-parent,

7% in a single-parent household and 12% lived in other arrangements. Eighty-six percent of control students identified their ethnicity as “White/Caucasian”, 4% as “Black/African Canadian”, 2% as “Asian”, 1.5% as “South Asian”, 1% as “Native Canadian”, and 5% as “Other”.

Measures

Demographics. Questions from the Focus On You questionnaire (Connolly & Konarski, 1994) were included in order to collect demographic information, such as grade, gender, and family composition.

Bullying Behaviour. Experiences of bullying and victimization or witnessing bullying or victimization as a bystander were assessed using items derived from the Olweus Bully/Victim Questionnaire (1986; 1996). This measure is a widely used measure of bullying and victimization. Students were asked to rate how often they have been bullied or have bullied others in the past four weeks on a 5-point Likert scale, ranging from 0 = “I have not been bullied in the past 4 weeks”, to 4 = “Several times a week”. These questions were then repeated for each of five types of bullying: physical, verbal, social, electronic, and racial/ethnic bullying.

Ttofi and Farrington (2009) suggest that using a dichotomous measure of two or more incidents of bullying or victimization is associated with larger effect sizes and is therefore, the most appropriate measure. Thus, responses were dummy coded for each type of behaviour indicating this level of involvement (i.e., 0 = Less than twice, 1 = More than twice) and summed across the five types of each behaviour. This resulted in three “Involved” variables with a range of 0 – 5, where a higher score indicated being involved in more types of each behaviour at least twice in the past 4 weeks. For example, a score

of 2 on the “Involved” variable for bullying indicated involvement in two types of bullying, two or more times in the past month.

Attitudes Toward Bullying. A shortened version of Rigby and Slee’s (1991) Provictim Scale assessed students’ attitudes toward children who are the victims of bullying. Ten statements about bullying (e.g., “Kids who get picked on a lot usually deserve it”) were rated on a 5-point Likert scale indicating how much the rater agrees with each statement, ranging from 1 = “Strongly disagree” to 5 = “Strongly agree”. Several items were reverse coded such that higher scores indicated greater support for victims of bullying (Cronbach’s alpha = .69).

Empathy. Two subscales of the Interpersonal Reactivity Index (IRI; Davis, 1980) were used to measure different aspects of empathy. The first subscale consisted of seven items asking about a student’s expression of empathic concern for others (e.g., “I often have tender, concerned feelings for people less fortunate than me”, “Sometimes I don’t feel very sorry for other people when they are having problems”). The second subscale consisted of seven items that measured an individual’s ability to take on another’s perspective (e.g., “I sometimes find it difficult to see things from the ‘other guy’s’ point of view”, “I sometimes try to understand my friends better by imagining how things look from their perspective”). Each item was rated on a 5-point Likert scale indicating how well each item describes the rater, ranging from 0 = “Does not describe me well” to 4 = “Describes me very well”. Several items were reverse coded such that higher ratings indicated higher levels of empathy and perspective-taking ability. Cronbach’s alphas for these scales were .78 and .72, respectively.

Social Competence. Sixteen items comprising two subscales of The

Interpersonal Competence Questionnaire (Buhrmester et al., 1988) were used to measure two domains of interpersonal competence: providing emotional support and advice to peers (Cronbach's alpha = .90) and managing interpersonal conflict (Cronbach's alpha = .83). Each subscale consisted of eight items rated on a 5-point Likert scale indicating how capable the rater feels he or she is or would be in particular social situations (e.g., "Helping a close companion get to the heart of a problem s/he is experiencing", "Being able to admit that you might be wrong when a disagreement with a close companion begins to build into a serious fight"). Responses ranged from 1 = "I'm poor at this; I'd feel so uncomfortable and unable to handle this situation, I'd avoid it if possible" to 5 = "I'm EXTREMELY good at this; I'd feel very comfortable and could handle this situation very well".

School Climate. Eight items comprising two subscales were used to measure school climate. These items were derived from the 2005-06 Health Behaviours of School-Aged Children (HBSC) survey conducted by the World Health Organization (WHO). A Principal Components Factor Analysis revealed that all items on each scale had factor loadings above .72. Each scale consisted of several statements that were each rated on a 5-point Likert scale ranging from 0 = "Strongly agree", to 4 = "Strongly disagree". The first subscale included four statements indicative of feeling that school is a positive and safe place (e.g., "Our school is a nice place to be", "I feel safe at this school"). The second subscale included four statements reflecting feelings of peer cohesion (e.g., "The students in my class enjoy being together", "Most of the students in my class are kind and helpful"). Reliability estimates for each of these subscales were .84 and .73, respectively.

Data Analyses

In order to address the first three objectives of this study, three separate 2 (Gender) by 2 (School) repeated measures MANOVAs were conducted with the within subjects factor of time, which had two levels (i.e., Time 1 and Time 2). The dependent variables for these analyses were bullying behaviour, attitudes and socioemotional skills, and school climate.

Our approach to data analysis consisted of several steps. First, the correlations between variables in each analysis were examined in order to determine the nature of the relationship between the variables and to establish whether some degree of linear relationship existed between the dependent variables, as this is required for MANOVA. Next, multivariate tests were conducted in order to determine whether the groups differed over time on each set of dependent variables. Subsequently, univariate follow up ANOVAs identified specifically which of the individual contrasts were significant. Finally, investigation of the means for each contrast revealed the nature of the relationship.

Results

Table 1 summarizes the means and standard deviations for all variables by school and gender. Independent samples t-tests were conducted in order to determine whether schools differed on each dependent variable at Time 1; all tests were nonsignificant.

Behavioural Analyses

The first objective of the present study addressed the question of whether there was an effect of “Beyond the Hurt” on bullying, victimization, or bystander behaviour.

Table 1

Means and Standard Deviations for All Dependent Variables

		Control School		Intervention School	
		Males	Females	Males	Females
Behavioural Variables	Bullying				
	Time 1	1.37 (1.18)	1.12 (1.17)	1.12 (0.98)	0.92 (1.00)
	Time 2	1.00 (1.30)	0.75 (1.15)	1.00 (1.36)	0.68 (1.00)
	Victimization				
	Time 1	0.93 (0.87)	1.29 (1.02)	1.21 (0.94)	1.54 (1.00)
	Time 2	1.48 (1.74)	1.17 (1.33)	1.21 (1.49)	1.06 (1.18)
	Bystander				
	Time 1	2.26 (1.53)	2.75 (1.44)	2.70 (1.58)	2.63 (1.27)
	Time 2	2.22 (1.87)	2.12 (1.65)	2.49 (1.74)	1.75 (1.58)
Socioemotional Variables	Attitudes				
	Time 1	3.89 (0.57)	4.13 (0.46)	3.82 (0.52)	4.10 (0.42)
	Time 2	3.76 (0.62)	3.94 (0.61)	3.72 (0.56)	4.03 (0.55)
	Empathy				
	Time 1	3.36 (0.64)	3.83 (0.65)	3.31 (0.66)	3.68 (0.66)
	Time 2	3.29 (0.60)	3.66 (0.70)	3.35 (0.67)	3.70 (0.64)
	Perspective Taking				
	Time 1	3.19 (0.65)	3.42 (0.61)	3.19 (0.61)	3.29 (0.71)
	Time 2	3.19 (0.57)	3.41 (0.64)	3.12 (0.63)	3.37 (0.71)
	Emotional Support				
	Time 1	3.66 (0.71)	4.00 (0.69)	3.49 (0.77)	4.07 (0.56)
	Time 2	3.40 (0.74)	3.80 (0.76)	3.44 (0.81)	3.89 (0.64)
	Conflict Management				
	Time 1	3.26 (0.65)	3.39 (0.65)	3.15 (0.69)	3.38 (0.64)
	Time 2	3.27 (0.62)	3.39 (0.69)	3.15 (0.79)	3.38 (0.64)
School Climate Variables	Safety				
	Time 1	3.52 (0.79)	3.54 (0.88)	3.55 (0.69)	3.49 (0.88)
	Time 2	3.49 (0.77)	3.44 (0.91)	3.48 (0.75)	3.41 (0.82)
	Peer Cohesion				
	Time 1	3.63 (0.65)	3.61 (0.69)	3.59 (0.62)	3.63 (0.68)
	Time 2	3.54 (0.66)	3.45 (0.85)	3.54 (0.76)	3.57 (0.78)

The dependent variables in this MANOVA were the “Involved” variables for each behaviour, as described in the methods section. The sample was restricted to students who reported at least some involvement in bullying or victimization at Time 1, as these are the students among whom it would be expected to see change. This subsample consisted of 106 students from the intervention school (59% female) and 102 control students (74% female). Attrition analyses showed that significantly more girls than boys were involved at this level ($\chi^2 = 10.85, p < .001$).

Table 2 summarizes the correlations among the dependent variables. The different types of bullying behaviour were all moderately correlated with each other and across time. Not surprisingly, each type of bullying at Time 1 was more highly correlated to its corresponding behaviour at Time 2 than to the other types. The highest correlations were among the three behaviours at Time 2, and between bullying at Time 1 and Time 2.

Table 2

Correlation Matrix for Bullying Behaviour

	Victimization T1	Bullying T1	Bystander T1	Victimization T2	Bullying T2	Bystander T2
Victimization T1	-					
Bullying T1	.19**	-				
Bystander T1	.28**	.33**	-			
Victimization T2	.29**	.28**	.17**	-		
Bullying T2	.14*	.45**	.18**	.51**	-	
Bystander T2	.18**	.28**	.37**	.42**	.49**	-

* $p < .05$; ** $p < .01$ (2-tailed).

A multivariate repeated measures MANOVA revealed a significant main effect of time (multivariate $F(3, 202) = 5.34, p = .001$). According to univariate tests, this effect occurred for bullying ($F(1, 204) = 9.49, p = .002$) and bystander behaviour ($F(1, 204) =$

10.72, $p = .001$). Both bullying and bystander behaviour decreased from Time 1 to Time 2 in both schools.

Socioemotional Analyses

The second objective of the study was to investigate whether “Beyond the Hurt” had an impact on the attitudes, empathy, and social competence of the students in the participating school. These analyses involved the entire sample of students, as effects on socioemotional characteristics could be expected regardless of reported levels of involvement in bullying behaviour. The dependent variables were: provictim attitudes, empathy, perspective taking ability, emotional supportiveness, and conflict management skills.

Table 3 displays the correlation matrix for all dependent variables. As expected, the highest correlations were observed for each scale across time. Additionally, the two social competence variables were highly correlated with each other, particularly at Time 2.

A multivariate repeated measures MANOVA indicated a significant time by group interaction (multivariate $F(5, 525) = 2.47, p = .032$). According to univariate tests, this interaction effect occurred only for levels of empathy (univariate $F(1, 529) = 9.34, p < .001$). Specifically, there was a decrease in empathy reported among control students ($F(1, 281) = 10.76, p < .001$), but no difference among intervention students. This interaction is illustrated in Figure 1.

Table 3

Correlation Matrix for Attitudes, Empathy, and Social Competence Scales

	1	2	3	4	5	6	7	8	9	10
1. Provictim Attitudes T1	-									
2. Empathy T1	.47**	-								
3. Perspective Taking T1	.30**	.55**	-							
4. Conflict Management T1	.24**	.38**	.50**	-						
5. Emotional Support T1	.34**	.53**	.41**	.60**	-					
6. Provictim Attitudes T2	.55**	.45**	.26**	.20**	.31**	-				
7. Empathy T2	.39**	.63**	.43**	.34**	.44**	.52**	-			
8. Perspective Taking T2	.26**	.43**	.62**	.49**	.39**	.30**	.56**	-		
9. Conflict Management T2	.23**	.41**	.48**	.59**	.45**	.28**	.41**	.57**	-	
10. Emotional Support T2	.34**	.49**	.40**	.45**	.68**	.42**	.54**	.47**	.72**	-

** $p < 0.01$ (2-tailed).

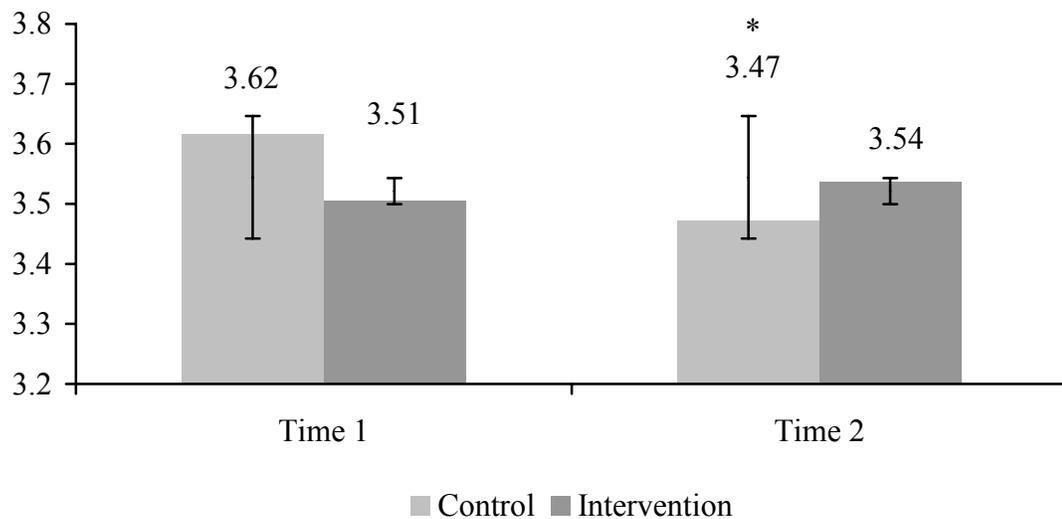


Figure 1. Time by group interaction for empathy.

Additionally, there was a significant main effect of time on provictim attitudes ($F(1, 529) = 26.16, p < .001$) and emotional supportiveness ($F(1, 529) = 32.24, p < .001$). Students in both schools endorsed less positive attitudes toward students who are victimized, and less skill in providing emotional support to others at Time 2 compared to Time 1.

There was also a significant main effect of gender on provictim attitudes (univariate $F(1, 529) = 38.01, p < .001$), empathy (univariate $F(1, 529) = 57.77, p < .001$), perspective taking ability (univariate $F(1, 529) = 15.84, p < .001$), conflict management (univariate $F(1, 529) = 11.48, p = .001$), and emotional supportiveness (univariate $F(1, 529) = 67.35, p < .001$). Girls had higher scores on all socioemotional measures than boys at Time 1 and Time 2.

School Climate Analyses

The third objective of this study was to examine the impact of “Beyond the Hurt” on the overall school climate. Once again, the entire sample of students was used for

these analyses, as a change in school climate would be expected to affect and be reported by all students in a school. The dependent variables were perceptions of school as a nice and safe place, and feeling connected to peers.

Table 4

Correlation Matrix for School Climate Variables

	Peer Cohesion T1	Nice and Safe T1	Peer Cohesion T2	Nice and Safe T2
Peer Cohesion T1	-			
Nice and Safe T1	.53**	-		
Peer Cohesion T2	.53**	.47**	-	
Nice and Safe T2	.43**	.65**	.60**	-

** $p < 0.01$ (2-tailed).

Table 4 displays the correlation matrix for the school climate variables, which were moderately correlated and appropriate for MANOVA.

There was a significant main effect of time on peer cohesion ($F(1, 547) = 9.27, p = .002$) and perceptions of school as a nice and safe place ($F(1, 547) = 5.39, p = .021$). Perceptions of school climate decreased over time.

Peer Facilitators

The fourth objective of this study was to assess whether being a peer facilitator was associated with changes in social competence to a greater degree than being a recipient of the program. There were eight peer facilitators, five of whom were female and all of whom were in Grade 9. We matched these eight individuals randomly on gender and grade and conducted a repeated measures MANOVA with group (i.e., peer facilitators vs. non-peer facilitators) as the between subjects factor and time as the within subjects factor. The dependent variables were emotional supportiveness and conflict

management. There were no significant differences between peer facilitators and non-peer facilitators.

Impressions of the Program

The final objective of the current study was to investigate students' impressions of the "Beyond the Hurt" program. Table 5 provides a summary of the percentage of students who endorsed negative, neutral, or positive impressions of the program. In general, impressions were fairly evenly distributed across the three categories of negative, neutral, and positive feelings, with roughly one third of students endorsing responses in each category. When asked specifically about the peer facilitators, approximately three quarters of students indicated feeling either neutral or positive. Investigation of the mean ratings showed that the aspect of the program that student felt most positive about was the peer facilitators.

Table 5

Students' Ratings of Their Impressions of the "Beyond the Hurt" Presentation (N = 240)

Question	Impressions			Mean rating (SD)
	Negative	Neutral	Positive	
	%	%	%	
1. I was interested in the material being presented in the class presentation.	33.1	39.3	27.6	3.76 (1.50)
2. I participated in the presentation by doing things like listening, asking, and answering questions and making suggestions.	35.8	31.7	32.5	3.86 (1.60)
3. The next time I am bullied, I plan on using the techniques and skills that I was taught in the presentation.	32.2	32.6	35.1	3.92 (1.61)

4. I thought the facilitator presented the material in an interesting way.	29.0	26.9	44.1	4.21 (1.63)
5. I thought the material that the facilitator used in the presentation was useful.	24.5	30.0	45.6	4.25 (1.51)
6. Overall, I felt I learned a lot from this presentation.	34.2	33.3	32.5	3.84 (1.57)
7. Overall, I was satisfied with this experience.	26.7	35.8	37.5	4.07 (1.48)

Note. Responses were on a 7-point rating scale with the anchors 1 (strongly disagree), 4 (neutral), and 7 (strongly agree). Ratings were summarized as Negative = 1 to 3; Neutral = 4; Positive = 5 to 7.

Discussion

In the present study we investigated the effectiveness of the Red Cross bullying prevention program, “Beyond the Hurt.” According to our results, we did not find evidence of a program effect on bullying behaviour, attitudes, school climate, or most socioemotional skills, with the exception of empathy. There was a main effect of time on some measures of behaviour, socioemotional skills and school climate. Specifically, bullying and bystander behaviour decreased over time in both schools, as did levels of emotional supportiveness, provictim attitudes, and positive feelings toward school and peers. Interestingly, students in the control school reported a decrease in empathy over time, however intervention students did not. Additionally, we found an effect of gender on socioemotional skills, as females endorsed higher provictim attitudes, empathy, perspective taking ability, conflict management skills, and emotional supportiveness at both time points. Contrary to our hypotheses, there were no differences between peer

facilitators and non-peer facilitators on measures of social competence. Finally, students' feelings about the program were fairly neutral overall.

According to the results of this study, there was no decrease in bullying behaviour associated with participation in the program. There could be several reasons for the lack of findings, some of which could be related to the design and implementation of the program and some which may be associated with the method and design of the evaluation itself. In "Beyond the Hurt," a small number of students are trained to be peer facilitators while the rest of the student body receives only one class presentation. It may be that this design is not of sufficient duration or intensity, which Farrington and Ttofi (2009) found were directly linked to the effectiveness of the programs that they reviewed. Furthermore, while "Beyond the Hurt" may be considered a whole-school program, there are relatively few components and the intervention school in the present study had implemented only the peer facilitation training and classroom presentations. Including components from programs that have shown effectiveness could help to supplement the "Beyond the Hurt" program. Vreeman and Carroll (2007) concluded that including bullying prevention aspects in classroom curricula in the absence of other interventions may not be sufficient to effect change. Furthermore, Olweus (2005) found a correlation between the number of components of a program and its effectiveness. Thus, "Beyond the Hurt" may become more effective with an increase in the breadth and intensity of the training and presentation components. Alternatively, it could be beneficial to add new components, such as working with the school to implement specific disciplinary practices, including parents in the intervention and focusing on group-based activities, which Ttofi and

Farrington (2009) found were important for the prevention of both bullying and victimization.

The choice of peer facilitators may also have had an impact on the effectiveness of the program in that all of these students were in Grade 9 and, as such, may not have been as powerful as older students might have been. The fact that the student body felt fairly neutral about the presentations could be a reflection of the relative lack of social power of these students. Choosing peer facilitators is left to the discretion of the teacher mentor(s) and there may have been a variety of reasons that these students were chosen. Choosing Grade 9 students would have the advantage of training the students who will be in the school the longest to become leaders, which in turn could potentially have long-term implications for the climate of the school. On the other hand, older students may have more social capital simply because they are older and therefore may be more powerful in delivering the message to students who already look up to them. Indeed, it is suggested in the manual for “Beyond the Hurt” that the students chosen to be peer facilitators should be in at least Grade 10. Departures from program design, while not necessarily damaging, are important to monitor in order to ensure that the program is being administered in the way it was designed.

It is important to note, however, that there are other factors that may explain the relative lack of program-related findings in the present study. For example, the prevalence of bullying and victimization was quite low in both schools to begin with, which would make it difficult to observe small changes. Furthermore, Smith, Schneider, Smith, and Ananiadou (2004) have suggested that the implementation of programs such as “Beyond the Hurt” may increase students’ awareness of bullying behaviour, which

may lead to an increase in reporting while behaviours actually decrease, thereby masking positive effects. Beyond these reporting issues, which are often questions in prevention research, the design of the evaluation itself may have impacted the likelihood of finding program effects.

In their review published shortly after the data for this study were collected, Ryan and Smith (2009) proposed a set of guidelines that they suggested should be followed in future program evaluations to ensure that evaluation practices are rigorous and consistent, and provide the most reliable assessment of the effectiveness of prevention programs. Some of the requirements set forth by Ryan and Smith (2009) were met in the present study, while others were not and should be considered in future studies. Consistent with the authors' suggestion, we used a controlled design, although random assignment to conditions was not possible. We collected baseline data and used self-report measures, which are the standard source of data in research on bullying (Vreeman & Carroll, 2007), however it has been suggested that multiple methods and informants, such as observation and teacher and peer report should also be incorporated (Ryan & Smith, 2009; Smith et al., 2004). Ryan and Smith (2009) also suggest that there should be a six month period between measurements, which was not possible given that the intervention school administered the program late in the year. Annual follow up for at least 2 years was also suggested and while not part of our design for the present study, a follow up phase will be an important addition in future studies.

While we did not find evidence of a program-related reduction in bullying behaviour, bullying and bystander behaviour did decrease over time in both schools. Somewhat perplexingly however, reports of victimization remained the same. It is

possible that social desirability or demand characteristics may have led students to downplay the extent to which they bully others, however the fact that incidents of bullying were also less likely to be witnessed by others suggests that there was likely a true decrease in bullying behaviour. This discrepancy could be indicative of a difference in perceptions of behaviour between those who bully others and those who are victimized. Alternatively however, this finding could be an indication of how detrimental these experiences are to those who are victimized. Salmivalli, Lappalainen, and Lagerspetz (1998) found that participant roles in bully/victim interactions remain fairly stable over time, and it is possible that students who have suffered significant levels of victimization may persistently see themselves as “victims” even though the actual frequency of incidents is lower.

Furthermore, regardless of the apparent positive behavioural changes, students in both schools reported less supportive attitudes toward students who are victimized, and lower levels of emotional supportiveness in general. Given that bullying and bystander experiences also decreased over time, one possibility is that perhaps the fact that students witnessed fewer incidents of bullying led them to be less likely to express feelings of support for victims of bullying. This trend was also evident with levels of empathy among control students, but not among intervention students. This finding suggests that participation in “Beyond the Hurt” may have had a protective effect on levels of empathy. This effect has important implications given that higher levels of empathy may predict lower levels of bullying and a greater likelihood of intervening on behalf of students being victimized (Gini et al., 2007). Over time perhaps, this fostering of empathy may lead to less bullying and bystander behaviour.

Interestingly, perceptions of overall school climate also became less positive over time, both with regard to feelings of safety and peer cohesiveness. Given that bullying decreased, one might expect that students would feel safer; however, this did not appear to be the case and suggests that feeling safe in one's school depends on more than the prevalence of bullying in that school. It is also notable that this study was conducted at the end of the school year and the shift in school climate may suggest that, as the school year was coming to a close, students were more involved in preparing for the end of the year, rather than focusing on social concerns.

It is important, however, to differentiate between attitudes becoming negative or simply less positive. Provictim attitudes, levels of emotional support, and ratings of school climate were already quite high to begin with and it is possible that the decrease observed may not reflect an actual change in attitude or perception, but rather a natural regression to the mean. A longer follow up period and measurements taken at different times in the school year would help to clarify this finding. Furthermore, schools with less positive climates should be included in future studies to provide more informative comparisons.

Finally, girls scored higher than boys on provictim attitudes, which is consistent with previous findings (Rigby & Slee, 1991). Girls also scored higher than boys on all measures of empathy and social competence. In their original article for the Interpersonal Competence Questionnaire, Buhrmester and colleagues (1988) found that female college students scored higher than their male counterparts on emotional supportiveness, although they did not find a parallel effect for conflict management skills. In a more recent study, Brackett, Rivers, Shiffman, Lerner, and Salovey (2006) found that women

scored higher than men on a measure of emotional intelligence which includes aspects of empathy and emotional supportiveness. Overall, gender differences in these domains have not been well-studied in the high school age group and our findings suggest that this would be an important area for further investigation.

In summary, “Beyond the Hurt” employs a unique method of peer facilitation to target bullying behaviour, attitudes, and socioemotional skills. This model has the potential to effect widespread change by using peer influence and modeling pro-social attitudes and behaviour to reduce bullying and improve school climate. The initial results of this study suggest that this program is effective in enhancing empathy, which can be an important factor in bullying and bystander behaviour. The lack of observed effects with regard to bullying behaviour, socioemotional skills, and social competence may indicate the need for a more inclusive, intensive approach with more consistent monitoring of program administration. Social development is a process that happens over time and involves complex interactions among multiple factors and multiple players. The impact of the enhancement of empathy may be an important step toward the goal of changing the overall social ecology, although these effects may take time to become evident. On the other hand, the relative lack of findings could also be associated with aspects of the design of the present study.

Limitations and Future Directions

This study highlights some of the important issues associated with implementing and evaluating whole-school bullying prevention programs in schools. While the research thus far has revealed mixed findings, Ryan and Smith (2009) have declared that program evaluation studies need to be more rigorous in their methodology before we accept that

programs are not effective. The pattern of findings in the present study suggests that there are aspects of the “Beyond the Hurt” program that may require some adjustment; however, there are also aspects of the evaluation itself that could be improved in future studies. Therefore, these findings should not be interpreted as definitive evidence that “Beyond the Hurt” is not effective. In particular, collecting data from a number of schools, using multiple informants and methods of measuring bullying, longer periods between data collection points, and a follow up phase should be incorporated into future evaluations. The inclusion of more schools with varying levels of school climate and bullying prevalence will allow multilevel analyses that could provide more information about the relevance of important contextual factors that may impact the effectiveness of the program.

A major point of discussion in many program evaluations and reviews has been the integrity of program administration, and research has suggested that programs that included systematic monitoring of implementation were more likely to be effective (Smith et al., 2004). While the training of peer facilitators in “Beyond the Hurt” is conducted in a standardized and controlled way, we did not collect information on the way in which peer facilitators presented the material to classes. In fact, peer facilitators were encouraged to present in their own way and be creative so there may have been important differences in the way the information was presented. Future evaluations of this program should include data pertaining to the method of administration used by peer facilitators. It may also be worth considering that peer facilitators be encouraged to adhere to a more standard presentation in order to reduce the possibility that any variability in effectiveness may be due to differences in program administration.

The findings of this study are consistent with the widely reported trend in the literature that we need to be closely investigating whole-school bullying prevention programs in order to ensure that schools are receiving high quality interventions. We collaborated with the Red Cross to provide them with an independent, objective evaluation of their program so that they would be able to use this information to improve their program and ensure that they are providing the most effective program to the schools using it. Evaluations such as this one are important in order to provide feedback to the organizations designing and administering the programs so that the findings may be taken into account and incorporated into the programs where possible. This information is also of great value to schools faced with the task of choosing programs that will be of the greatest benefit to the student body. It is through collaborative efforts such as these that we will be able to move toward providing efficient and effective programs to build safer, more positive environments for children and youth, climates which maximize social and intellectual engagement and success.

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Chapter 5

General Discussion

The general purpose of the present research was to explore, from an ecological perspective, the roles of school climate and peer processes in bullying and bullying prevention. Thus, three related studies were conducted. We investigated school climate and peer behaviour in two studies, and then assessed the effectiveness of a bullying prevention program designed to change school climate by emphasizing the role of peers. Overall, our findings demonstrated that relationships with peers and teachers, as well as the overall climate of relationships in a school, were closely linked to bullying and victimization. Furthermore, we found evidence suggesting that some aspects of social competence predicted change in the way students acted in bullying situations, at least in the case of serving as witnesses to bullying. Finally, the findings from our program evaluation study raised issues related to program content, implementation, and evaluation practices that should be addressed in future research. Thus, the results from our first two studies together support the assertion that bullying is a relationship problem that should be addressed from a relationship-building perspective (Craig & Pepler, 2007); however, our third study emphasizes the need to carefully examine the effectiveness of prevention programs, as well as our methods of evaluation.

Overview of Studies

Our first study utilized hierarchical linear modeling (HLM) to assess the relative importance of individual and school level characteristics in bullying among a large sample of Canadian adolescents. Researchers have only recently begun to use HLM to investigate bullying (e.g., Khoury-Khassabri et al., 2004). This type of analysis is

particularly useful because it allows us to assess the relative contributions of multiple variables at multiple levels, which is consistent with an ecological model of behaviour development (Bronfenbrenner, 1979). We found that the way that students felt about their school, and their perceptions of their relationships with peers and teachers, were directly associated with bullying and victimization. This finding highlights the importance of considering how students perceive their environment when assessing school climate, rather than focusing solely on organizational factors such as class size or disciplinary practices. Students who felt connected to their peers reported less victimization, and students who felt that their teachers were supportive and helpful reported engaging in less bullying. Furthermore, when the perceptions of all students in a school were aggregated to create an estimate of overall school climate, a general sense of peer connectedness was related to lower levels of bullying and victimization, over and above individual factors and perceptions. Thus, relationships among peers and teachers contribute to creating a positive school climate, and our findings clearly demonstrate the salience of these relationships in bullying and victimization.

In a second study, we considered the role of relationships in the broader peer group during bullying situations and, using longitudinal data from a sample of high school students, we explored the experiences of those students who were witnesses to bullying. We were particularly interested in the socioemotional correlates that might impact the likelihood that students would discontinue or decrease acting as a witness. It was speculated that these skills might be associated with the capacity to engage in healthier relationships and thus, represent potential paths for intervention. Salmivalli (2010) has suggested that intervention efforts that target bystanders may be a particularly

promising intervention strategy because this type of behaviour may be easier to change than bullying and would impact bullying by removing the power of the individual who is engaging in the bullying behaviour. We found that socioemotional skills, particularly emotional supportiveness, predicted change in witnessing bullying, although the process differed for boys and girls. Interestingly, the capacity to provide emotional support to others was also the domain that Burhmester and colleagues (1988) found to be the most relevant of the five domains of interpersonal competence to developing lasting, meaningful friendships. Thus, the capacity to develop significant connections with others appears to be important both for the development of a positive school climate and for changing behaviour, and increasing the capacity to provide emotional support to others may play an important role in bullying prevention.

Considering the importance of relationships in school climate, peer processes, and behaviour, we conducted a third study to investigate a program that was designed to prevent bullying by shifting school climate. We did not find evidence that participation in “Beyond the Hurt” was associated with a change in either behaviour or school climate, although there were some important methodological issues to be considered in our research. Notably, changing entrenched peer processes and established patterns of relationships is a process that would likely take far longer than the two month evaluation period in this study. The findings from the previous two studies suggest that students may need to be trained in specific socioemotional skills in order to build relationship capacity, which would then shift the overall climate of relationships. This is a complex process that would need to develop over time. Furthermore, our findings suggest that boys and girls may need different types of interventions and a one size fits all approach may not be the

most effective. Taken together, the findings from the three studies that comprise this research have important clinical and theoretical implications and introduce several avenues for future investigation.

Clinical and Theoretical Implications

The findings from this research suggest that, in order to successfully intervene to stop bullying, we need to connect students to one another and help them to build positive relationships to create safer, more caring schools. In order to create this type of climate, we need to ensure that all students have the capacity to build and engage in constructive, connected relationships, which may call for specific training in basic socioemotional skills.

Helping students to connect to one another requires involved adults who are able to structure situations to encourage positive interactions and discourage bullying. Pepler (2007) discusses the strategy of *social architecture*, whereby groups of students are continually organized and reorganized by teachers in order to balance the membership of students within the groups. This reorganization helps to avoid the social disintegration that may occur when students organize themselves into groups based on already established social roles. This method can be used in bullying prevention programs and other relationship building exercises and requires the presence of connected, sensitive adults who know the social structure of the peer group. The role of adults in these situations should not be underemphasized. In addition to acting as social architects, teachers and other adults can model engagement in prosocial, healthy relationships, and can facilitate student development of appropriate relational competencies and attitudes. Furthermore, by maintaining a strong presence with their students, teachers and other

adults can be better observers, which will allow them to intervene more readily in bullying incidents. Additionally, caring adults can be available to students who wish to report victimization.

Creating an environment that fosters peer connectedness is important; however, in order to benefit from this type of intervention, students need to possess the skills that enable them to build relationships. The findings from our second study suggest that a key aspect in helping students to build their relationship capacity may be to target skills associated with providing emotional support to other students who are in need of help. Students who are highly skilled in this domain may also benefit from being instructed more specifically how to use their skills in bullying interactions. Ideally, we want students to stand up against a student who is victimizing others, when it is safe to do so, because research indicates that students can be quite impactful when they choose to intervene (O'Connell, Pepler, & Craig, 1999). If it is not safe however, walking away and reporting the incident to a teacher or other adult would be preferable to staying to watch without intervening. Walking away would still send a message that bullying is unacceptable by removing a peer presence that could be interpreted as reinforcing by the student who is engaging in bullying. Thus, prevention programs may benefit from the inclusion of specific skills training components to teach students how to develop and maintain positive relationships with others that will help to create a safe and connected peer climate at school. According to our findings, however, these socioemotional processes may operate differently for boys and girls and programs may need to account for these differences by tailoring interventions to each gender. From the perspective of educational policy, our findings emphasize the need to provide teachers with specific

training in bullying and relationship-building skills so that they may feel better equipped to address these situations. Furthermore, schools and teachers need to be supported in their use of bullying prevention programs. Schools need to be informed of which programs have indeed been empirically validated, as well as provided with guidelines to evaluate the programs that they are using. Schools also need trained personnel to carry out the programs. The programs that have shown effectiveness thus far are large scale interventions that require a great deal of investment on the part of the teachers and schools. While this is clearly an important and worthwhile endeavour, issues of practicality limit the extent to which systemic implementation is feasible without support.

In addition to the clinical implications of our findings, this research also has theoretical implications that may contribute to the way in which bullying and bullying research is conceptualized. First, this research lends support to the perspective of bullying as a relationship problem, and builds on this perspective to encompass all relationships in a given context (i.e., school) and the climate that is created by those relationships. Not only does this have important clinical implications, as previously discussed, but it also builds on our capacity as researchers to understand the entrenchment of bullying in established social roles. Understanding bullying from the perspective of the relationships within which it develops has allowed researchers to gain a better understanding of this behaviour that can be so difficult to comprehend. The current research builds on this perspective and is further evidence for the relevance and utility of such a perspective.

Furthermore, the field of bullying research has undergone an evolution in the past decade that has shifted from conceptualizing bullying as a problem of individual deficits to considering the broader context of bullying and the many factors that may contribute to

our understanding of this behaviour. The application of an ecological framework to bullying has been strongly encouraged (e.g., Benbenishty & Astor, 2005), and the current research applied such a framework and expanded upon it by examining social learning and peer processes that were particularly relevant to adolescents. Thus, our findings support the use of a developmental systems approach to the investigation of bullying, wherein the relevant contexts and developmental agents may vary according to the age and contextual situation of the individual. Developmentally, peers and peer context are of great importance in adolescence and therefore, social learning processes have the potential to be particularly important and were therefore the focus of this research. A developmental systems model enables researchers to examine the relevant processes of change within various developmental stages, which would greatly enhance our understanding of prosocial and antisocial behaviour. Future research in this area will need to continue to apply ecological, systemic, and relational theoretical orientations to the investigation of the development of bullying, and a developmental systems model provides a useful and appropriate framework within which to integrate these approaches.

Limitations, Future Directions, and Summary

The current research has limitations that should be addressed in future studies. First, the data are self-report, which, while considered the gold standard in the assessment of bullying (Solberg & Olweus, 2003), also introduces confounds such as social desirability issues that may limit the validity of the data (Roeser & Eccles, 1998). Ryan and Smith (2009) suggest that the most comprehensive approach would be to include a combination of other-report and observational data. While these types of data may be

more difficult to collect, the addition of other sources would certainly contribute rich information and should be considered in future research, where possible.

Second, the present research utilized an ecological perspective (Bronfenbrenner, 1979) to explain the reciprocal and hierarchical influence of factors in different contexts on bullying behaviour. In these studies, we chose to investigate factors associated with bullying and bullying prevention at two levels: the individual level and the school level. We chose to investigate these levels because we felt that the school context is particularly relevant when considering the relationships associated with bullying interactions, which usually occur at school. However, ecological theory maintains that influences and relationships in all contexts are salient. Therefore, future research should consider the roles of relationships with important socializing agents at these other ecological levels, such as with parents or other important adults in the community who could serve as role models in children's lives.

Finally, this dissertation investigated bullying and victimization in adolescence and therefore, these findings may not be generalizable to other age groups. It is possible that peer processes may operate differently in adolescence and the results from this study should be interpreted cautiously when investigating the relationship climate associated with bullying among students at different developmental stages. Future research can shed some light on this question by providing similar investigations with younger students.

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Summary and Conclusions

In summary, this collection of studies contributes to the literature by providing an integrated investigation of the roles of individual characteristics, peer behaviour, peer processes, and school climate in bullying and bullying prevention. Our results contribute to a deeper understanding of bullying and victimization from an ecological perspective, and underscore the importance of students developing positive, healthy relationships at school with peers and adults. Bullying exists within a climate of destructive relationships, and our findings suggest that this climate can be shifted by changing the nature of the relationships that create it. We need to target these unhealthy and dangerous relationships by creating, building, and fostering healthy interactions and relationship capacity among peers and adults in our schools. It is hoped that this research can contribute to this endeavour by informing intervention strategies that strive toward the goal of creating school climates where students feel safe and connected to their peers and their teachers, and where they are no longer faced with bullying.