
Naturalistic Observations of Peer Interventions in Bullying

D. Lynn Hawkins, Debra J. Pepler, *York University* and
Wendy M. Craig, *Queen's University*

Abstract

This study examined peer intervention in bullying using naturalistic observations on school playgrounds. The sample comprised 58 children (37 boys and 21 girls) in Grades 1 to 6 who were observed to intervene in bullying. Peers were present during 88% of bullying episodes and intervened in 19%. In 47% of the episodes, peers intervened aggressively. Interventions directed toward the bully were more likely to be aggressive, whereas interventions directed toward the victim or the bully-victim dyad were more likely to be nonaggressive. The majority (57%) of interventions were effective in stopping bullying. Boys were more likely to intervene when the bully and victim were male and girls when the bully and victim were female. The implications for anti-bullying interventions are discussed.

Keywords: Bullying; Peer Intervention; Gender Differences

In the present study, we examined peer interventions in bullying using naturalistic observations on the school playground. Bullying is a form of aggressive behaviour in which the child who is bullying has more power than the victim and repeatedly uses this power aggressively to cause distress to the victim through physical and/or verbal behaviours (Besag, 1989; Olweus, 1991, Pepler, Craig, & O'Connell, 1999). Research from various parts of the world suggests that between 10% to 23% of school children are involved in bullying as either victims and/or bullies (Besag, 1989; Charach, Pepler, & Ziegler, 1995; Olweus, 1991, 1993; Pepler et al., 1993; Roland, 1989; Yates & Smith, 1989). Therefore, bullying has been recognized as a widespread, persistent, and serious problem occurring in our schools (Olweus, 1991, 1993; Pepler, Craig, Ziegler, & Charach, 1993; Tattum & Lane, 1989).

Despite descriptions of bullying as a group phenomenon (Craig & Pepler, 1995; Pepler, 1995; Olweus, 1993; O'Connell, Pepler, & Craig, 1999; Salmivalli, Lagerspetz, Bjorkqvist, Osterman, & Kaukiainen, 1996), much of the research has focused on the characteristics of and the interactions between individual bullies and victims (Craig & Pepler, 1995; Pepler, 1995; Salmivalli et al., 1996). Consequently, little is known about the peer processes involved in bullying, particularly the process of peer intervention. Given that peers are present in the vast majority of bullying episodes (Craig & Pepler, 1997), they have the potential to counteract bullying by intervening. Despite the positive influence that peers may have in addressing problems of bullying, there is limited understanding of the nature and extent of peer intervention. Using naturalistic observations, we sought to describe interventions by peers in bullying. The

three primary objectives of the present study were to describe: 1) the frequency and duration of peer interventions; 2) the nature of peer interventions; and 3) the effectiveness of peer interventions in stopping bullying. Our observational coding was informed by research on children's attitudes and behaviors related to interventions in bullying.

Researchers have assessed children's attitudes toward bullying using self-report methodologies. Most children report that they do not support the practice of bullying (Charach et al., 1995; Menesini et al., 1997; Rigby & Slee, 1993). In a recent Australian study of 6- to 16-year-old students, Rigby and Slee (1993) found that 80 to 85% of the students did not approve of bullying; although, boys indicated slightly more approval for bullying than did girls. In a Canadian study, 86% of the children reported that they found it somewhat or very unpleasant to watch bullying (Charach et al., 1995). When asked about intervening in bullying, 43% of children reported that they would typically 'try to help' a child who is being victimized, while 33% of the children said that they 'felt they should help, but did not'. The remaining 24% responded that 'bullying was none of their business' (Charach et al., 1995). In Rigby and Slee's (1993) study, 80% of the students expressed admiration for peers who intervened during bullying interactions, but this did not necessarily translate to an acceptance of the victim. Although these findings offer some insight into children's attitudes toward bullying and intervention, they may not reflect children's actual behaviour (e.g., Pepler, Craig, Ziegler, & Charach, 1993; Salmivalli, Lagerspetz, Bjorkqvist, Osterman, & Kaukiainen, 1996).

Observations on the playground and in the classroom indicate that peers are present during 85% of bullying episodes, in various roles ranging from active participants to passive onlookers (Atlas & Pepler, 1998; Craig & Pepler, 1995). Although present, peers rarely intervened: they were observed to intervene in 10% of bullying episodes in the classroom (Atlas & Pepler, 1998) and 11% of bullying episodes on the school playground (Craig & Pepler, 1995). These observational data correspond to self and peer reports on peer intervention. Salmivalli et al. (1996) found that 87% of students reported participating at some level in bullying; however, only 17% of the children reported assuming the role of 'defender of the victim.' Defenders were children who tended to take the victim's side, supported or consoled the victim, and/or intervened in bullying on behalf of the victim. There appears to be a discrepancy between what children think and what they do when it comes to intervening to stop bullying. Although most children find bullying unpleasant to watch and they admire those who intervene, few children actually intervene. Observations of children's naturalistic interactions on the school playground may clarify the factors related to the nature and likelihood of peer interventions in bullying.

The first objective of the present study was to describe the frequency of peer interventions in bullying episodes for girls and boys. Although there is no clear evidence to suggest any overall gender differences in helping behaviour, boys and girls may intervene under different circumstances. Social role theory suggests that males are more likely than females to be reinforced for responding in situations that are risky or comprise helping the opposite sex (Eagly, 1987; Eisenberg & Mussen, 1989). Although gender-role norms and expectations are particularly salient by adulthood (Eagly, 1987), they may also operate during childhood, and may partly account for the higher frequency of intervention among boys. Eisenberg and Mussen (1989) suggest that females may be more likely than males to help '... in situations involving psychological assistance and helping friends and acquaintances' (p. 58). Menesini

and her colleagues (1997) found that although girls were more empathic toward victims, their reports of intervention were not more frequent than those of boys. Thus, girls may be more likely to express empathy and to support a victim, whereas boys may be more likely to take the risk of directly intervening consistent with gender-role expectations.

To date, there is limited observational research examining gender differences in the frequency of peer intervention in bullying. Self-report and observational data from the school playground indicate that boys are more actively involved in bullying interactions than girls (Craig & Pepler, 1995; Salmivalli et al., 1996); however, boys and girls were observed bullying at equal rates in the classroom (Atlas & Pepler, 1998). If boys are more active in playground bullying and more likely to observe bullying than girls, their proximity to bullying may, in part, account for their higher frequency of intervention compared to girls (Atlas & Pepler, 1998; Craig & Pepler, 1995). In contrast to observational findings, peers identified girls more frequently than boys as defenders of the victim (Salmivalli et al., 1996). Different methodologies, however, make it difficult to compare these results. For instance, many behaviours that Salmivalli and her colleagues (1996) included on the defender scale, such as consoling and supporting the victim, are nurturing behaviours that are more characteristic of the female gender role (Eagly, 1987). Furthermore, the 'defender' may or may not intervene during the bullying episode, as some behaviours described on this scale could occur before or after victimization. In the present study, we examined the frequency of boys' and girls' interventions as a function of their relative presence during bullying episodes and in relation to the gender of the bully and the victim.

The second objective of the present study was to describe the nature of peer intervention. To this end, we assessed whether peers used aggressive or prosocial strategies when intervening in bullying. Classroom observations indicate that when peers intervene, they do so in a socially appropriate manner (i.e., prosocial, without aggression; Atlas & Pepler, 1998). Playground observations provide a somewhat different picture. Craig and Pepler (1995) found that 68% of peers interventions were socially appropriate, and 32% were socially inappropriate or aggressive. The strategies that boys and girls rely on to stop bullying may also reflect social roles and expectations for their gender. Compared to girls, boys expect less disapproval of aggression, particularly if it is directed at another boy (Perry, Perry, & Weiss, 1989). In the present study we coded the interventions as assertive and/or aggressive and noted whether these interventions were directed toward the bully, the victim, or the bully-victim dyad.

To date, no research has assessed the gender composition of the group during peer interventions to stop bullying, even though there are differences in boys' and girls' involvement in group activities and bullying. Boys tend to play together in large groups, whereas girls tend to play together in dyads or very small groups (Maccoby & Jacklin, 1974; Pepler, Craig, & Roberts, 1995). Boys are more likely to be bullies than girls (Craig & Pepler, 1995; Olweus, 1993). Furthermore, bullying by boys, which tends to be direct and physical, may be more visible than that of girls, which tends to be subtle and indirect (e.g., social exclusion, nasty gossip) (Bjorkqvist, Lagerspetz, & Kaukianinen, 1992; Olweus, 1991, 1993; Whitney & Smith, 1993). Given these gender patterns, we expected that boys would be more likely to intervene when both the bully and the victim are boys, due to the greater visibility of the bullying, the greater number of such episodes, and the greater likelihood that boys would be present during such episodes. Conversely, we expected fewer children to be in close proxim-

ity to the subtle or indirect forms of bullying characteristic of girls, thus, decreasing the likelihood of an intervention in girls' bullying by both boys and girls. When interventions occur in girls' bullying, however, we expected that girls would be more likely to intervene than boys, because they are more likely to be present during episodes involving girls.

We were also interested in examining whether children directed their interventions toward the bully, the victim, or the bully-victim dyad. Research by DeRosier, Cillessen, Coie, and Dodge (1994) suggests that the focus of the intervention may determine the events that follow. With experimental play groups of 7- and 9-year-old boys, they observed that when members of the group sided with the aggressor, the level of aversive behaviour within the group declined; however when they sided with the victim, the level of aversive behaviour increased.

Our third objective was to assess the effectiveness of peer interventions. There is very little research on whether peer interventions are effective in stopping bullying. Although bullying programs emphasize the importance of interventions by peers (e.g., Garrity, Jens, Porter, Sager, & Short-Camilli, 1995), DeRosier and her colleagues (1994) found that siding with the victim resulted in an increase in aversive behavior. These laboratory observations are not consistent with naturalistic classroom observations in which peer interventions were found to be effective in stopping bullying (Atlas & Pepler, 1998). In the present study, we assessed the effectiveness of intervention and its relation to: 1) gender of the intervener and 2) the nature of the intervention (i.e. aggressive and/or nonaggressive, and duration of the intervention).

Method

This research was part of a longitudinal naturalistic study of bullying and victimization in two Toronto elementary schools involved in an anti-bullying intervention (Pepler, Craig, O'Connell, & Atlas, 1999). The observations of bullying and victimization were conducted over a period of three years at the two schools, with children aged 6 to 12. The sample comprised 616 children in the first year, 762 children in the second year, and 535 children in the third year. A letter describing the study and a consent form were sent home to all parents.

Bullies, victims, bully-victims and comparison children were selected for the focal sample for videotaping by nominations on two of three reports (self, peer, and teacher nominations). The number of children in the videotaped sub-sample for each of the three years was as follows: *First year*, 21 bullies, 30 victims, 20 bully/victims, and 48 comparison children; *Second year*, 31 bullies, 30 victims, 32 bully/victims, and 64 comparison children, and; *Third year*, 23 bullies, 30 victims, 22 bully/victims, and 60 comparison children. Focal children were filmed in the school yard during recess and lunch for a ten-minute period in the fall and the spring of each school year for a total of 125 hours of playground observations. Focal children wore a remote microphone and a waist pouch containing a wireless transmitter, which provided a visual and audio record of the interactions between the focal children and their peers (see Pepler & Craig, 1995 for a detailed description of this observational methodology).

Identifying Bullying Episodes

There were three steps to identify bullying episodes for the present study. First, as part of the larger study, all 125 hours of playground tape were screened to identify any

episodes that included aggressive behaviours. Aggression was defined as the intent to inflict injury, pain, or harm on another person through physical, verbal, or covert means. In this initial screening, aggressive episodes were differentiated from rough-and-tumble play and rule negotiations. Interrater reliability for this step of coding was .84. The second step involved identifying and coding episodes that contained bullying. Bullying was defined as any episode of aggression in which the aggressor, or aggressors were more powerful than the victim or victims. Power was rated on a 5-point scale, based on the relative physical, age, or social advantage of the bully over the victim. Social advantage was determined by judging the extent to which the bully was being supported by the peer group. The interrater reliability for identifying bullying from other forms of aggression and conflict was .82. The episodes identified in the first two steps comprised: aggression (28%), rough-and-tumble play (25%), bullying (43%), and rule negotiation (4%). The third step was to identify those bullying episodes in which there was peer intervention.

Participants

For the present analyses, participants comprised all children from the original study who were observed intervening during a bullying episode on the playground. Eighty-four children (57 boys and 27 girls) were observed intervening in 65 of the 306 bullying episodes on the playground. In 11 of the episodes, more than one child intervened. Six episodes had two peer interveners, four episodes had three peer interveners, and one episode had six peer interveners. Due to the interdependence of intervention by multiple peers in 11 of the episodes, we randomly chose one child's response to represent these episodes (i.e., $n = 65$). Although these children were not necessarily from the focal sample of the original study, 91% of these peer interveners were identified. The four episodes in which the peer intervener could not be identified (due to lack of clarity in the videotape) were removed from the analyses. In a subsequent step, we screened the tapes to identify children who intervened in more than one episode ($n = 3$) and randomly selected one of these episodes to avoid the problem of interdependence. With these steps, we were able to use the peer intervener as the unit of analysis.

Observation Schema & Procedures

Bullying episodes with peer interventions were coded by two female research assistants. The intervener's behaviour was coded within the following categories: 1) verbal behaviours (i.e., verbal assertion, verbal aggression, or a combination of verbal assertion and aggression); 2) physical behaviours (i.e., physical assertion, physical aggression, or a combination of physical assertion and aggression); and 3) social behaviours (i.e., social aggression, social assertion, or a combination of social assertion and aggression). Observers also coded each episode for: 4) the number of peer interveners; 5) the gender of the bully; 6) the gender of the victim; 7) the gender of the peer intervener; 8) the target of the intervention; 9) the effectiveness of the intervention; 10) the duration of the intervention; and finally, 11) for whether the victim requested help. The definitions for the observational codes are included in the Appendix. Twenty-five percent of the episodes were coded independently for reliability. Kappa values for the observed variables ranged from .78 to 1.00 and are presented in Table 1.

Table 1. Reliabilities for Observation Categories

Category	Kappa
Bully's sex	1.00
Victim's sex	1.00
Number of peer interveners	1.00
Sex of peer intervener	1.00
Verbal behaviour ^a	.78
Physical behaviour ^a	.94
Social behaviour ^a	.87
Effectiveness of intervention	.82
Victim request for help	.78
The Target of the intervention	.97

^aFor each of these behavioural categories, agreement between coders occurred when both coders gave identical ratings of the intervener's response on the three sub-categories of assertion, aggression, or both assertion and aggression (for more details see Appendix).

Results

The Frequency of Peer Intervention

Peers were observed to intervene in 19% of all the bullying episodes. The probability of interventions by boys compared to girls was assessed in relation to their relative representation in the peer group present during bullying episodes. On average, boys were present more frequently than girls during bullying episodes on the playground: 61% of the peers observed in bullying episodes were boys and 39% were girls. The observed proportion of boys as interveners was .64 (boys were the interveners in 37 of the 58 episodes) and of girls was .36 (girls were the interveners in 21 of the 58 episodes). The binomial tests for both boys and girls were not significant indicating that interventions by boys and girls were not higher than that expected given their representation in the peer group during bullying episodes. Therefore, although the absolute frequency of observed intervention for boys and girls differed, there were no differences in the likelihood of intervention for boys and girls present during bullying.

Finally, the duration of peer interventions was assessed. Peer interventions lasted from 1 second to 1 minute and 58 seconds. The average duration for boys' and girls' interventions was 17.0 seconds ($SD = 25.58$) and 11.1 seconds ($SD = 12.6$), respectively. There were no gender differences in the mean duration of interventions.

The Nature of Peer Intervention

For the second objective, the nature of peer intervention was examined with respect to gender. The analyses were conducted in four steps. The first step was to assess the types of peer intervention strategies (i.e., physical, verbal, and social) and the style of intervention (i.e., assertive and/or aggressive). Secondly, these codes were collapsed

Table 2. Type of Peer Intervention across all Episodes and by Gender

Type of Intervention	Frequency and % Across all Episodes	Frequency and % by Gender	
		Boys	Girls
Verbal Assertion	17 (29.3%)	7 (18.9%)	10 (47.6%)
Physical Aggression	12 (20.7%)	8 (21.6%)	4 (19.0%)
Verbal & Physical Assertion	9 (15.5%)	7 (18.9%)	2 (9.5%)
Verbal & Physical Aggression	4 (6.9%)	2 (5.4%)	2 (9.5%)
Verbal Assertion & Physical Aggression	5 (8.6%)	5 (13.5%)	0 (0.0%)
Verbal Aggression	3 (5.2%)	1 (2.7%)	2 (9.5%)
Physical Assertion	3 (5.2%)	2 (5.4%)	1 (4.8%)
Verbal & Social Assertion	2 (3.4%)	2 (5.4%)	0 (0.0%)
Verbal Aggression & Physical Assertion	2 (3.4%)	2 (5.4%)	0 (0.0%)
Verbal & Social Aggression	1 (1.7%)	1 (2.7%)	0 (0.0%)
Total # of Episodes	58	37	21

to assess the frequency of aggressive or nonaggressive intervention strategies. This was followed by an examination of other factors such as the target of interventions, the relationship between the target and nature of the intervention, and how often the victims requested help.

In the first step, the *type* of intervention by boys and girls was assessed. The type of intervention was coded as: 1) verbal behaviours, 2) physical behaviours, and 3) social behaviours. For each of these types, the style of intervention was coded as: 1) assertion or 2) aggression. Any intervention in which there was a combination of assertion and aggression was coded as aggressive. Table 2 displays frequencies of the *type* of intervention across all episodes and separately for boys and girls. Across all episodes, the most frequently observed type of intervention was verbal assertion (29%), followed by physical aggression (21%).

As assessment of gender differences in intervention strategies revealed that the two most frequent types of interventions used by girls were verbal assertion (47.6%) and physical aggression (19%). In contrast, the most frequent types of interventions used by boys were physical aggression (22%), verbal assertion (19%), and a combination of verbal and physical assertion (19%).

In the second step of analyses, we wanted to determine whether peers intervene more frequently in an aggressive or nonaggressive manner. All interventions containing some aspect of aggression were collapsed into an aggressive intervention category including: 1) physical aggression; 2) verbal and physical aggression; 3) verbal aggression; 4) verbal assertion and physical aggression; 5) verbal aggression and physical assertion; and 6) verbal and social aggression. All other interventions that were assertive and contained no aggressive behaviour were categorized as nonaggressive including: 1) verbal assertion; 2) verbal & physical assertion; 3) physical assertion; and 4) verbal and social assertion were classified as nonaggressive (see Table 2). In 47% of the episodes interveners were aggressive and in 53% of the episodes inter-

veners were nonaggressive. A binomial test indicated no significant difference in the proportion of aggressive and nonaggressive interventions.

A chi-square indicated no significant association between the nature of interventions in bullying (i.e., aggressive or nonaggressive) and gender. Fifty-one percent of boys' interventions were aggressive and 49% were nonaggressive. In comparison, 38% of girls' interventions were aggressive and 62% were nonaggressive.

Next, we examined whether peers directed their interventions toward the bully, the victim, or the bully-victim dyad. Children were significantly more likely to target the bully than the victim or the bully-victim dyad when intervening in a bullying episode, $\chi^2(2, N = 58) = 27.14, p < .001$. Sixty-six percent of the interventions were directed to the bully; 15% were directed to the victim, and 19% were directed to both the bully and the victim.

A chi-square test revealed no significant association between the target of the intervention and the gender of the intervener. Sixty-two percent of boys and 71% of girls directed their interventions to the bully; 16% of boys and 14.5% of girls directed interventions to the victim; and 22% boys and 14.5% of girls intervened with both the bully and the victim.

There was a significant association between the target of the intervention and the nature of the intervention, $\chi^2(2, N = 58) = 8.68, p < .01$. Of the 38 interventions directed to the bully, 60.5% were aggressive, and 39.5% were nonaggressive. Conversely, of the 9 interventions directed to the victim, 22% were aggressive, and 78% were nonaggressive. Finally, of the 11 interventions directed toward both the bully and the victim, 18% were aggressive and 82% were nonaggressive.

There was a significant association between the gender of the intervener and the gender of the bully, $\chi^2(1, N = 58) = 10.96, p < .01$. Of the 38 episodes with male bullies, 81% of the boys and 38% of the girls intervened. In contrast, of the 20 episodes with female bullies, 62% of the girls and 19% of the boys intervened. A similar pattern was revealed by an analysis of the association between the gender of the victim and the gender of the intervener. Boys were significantly more likely to intervene when the victim was male, whereas girls were more likely to intervene when the victim was female, $\chi^2(1, N = 58) = 14.40, p < .001$. Of the 42 episodes with male victims, 89% of boys and 43% of girls intervened. Conversely, of the 16 episodes with female victims, 11% of boys and 57% of girls intervened.

Finally, observers coded whether victims requested help from peers prior to the intervention. Of the bullying episodes with interventions ($N = 58$), only 10% of the victims ($n = 6$) requested help from peers. Although the frequency of requests for help in bullying episodes was not coded for all the episodes in the larger study, the frequency of victims requesting help is likely to be higher in bullying episodes in which there is peer intervention compared to those in which there is no peer intervention.

The Effectiveness of Peer Intervention

For the third objective, the effectiveness of peer interventions was ascertained. Of the 58 bullying episodes in which peers intervened, 57% of the interventions were effective (i.e., the bullying stopped within 10 seconds); 26% were ineffective (i.e., bullying did not stop); and in 17% of the episodes the effectiveness could not be determined. A binomial test using only the 48 episodes in which the effectiveness could be determined indicated that significantly more peer interventions in bullying on the playground were effective than ineffective; $p = .01$. There was no significant association

between the effectiveness of the intervention and gender of the intervener. Twenty-two interventions by boys were effective and 8 were ineffective, compared to 11 effective and 7 ineffective interventions by girls.

Finally, there was no significant association between the effectiveness of the intervention and the nature of the intervention. Forty-four percent of the effective interventions were aggressive and 56% were nonaggressive. Conversely, 53% of the ineffective interventions were aggressive and 47% were nonaggressive. With respect to the duration of the intervention, a point-biserial correlational analysis indicated a significant association between the length of the intervention and its effectiveness, suggesting that interventions which are longer in duration are less likely to be effective; $r_{pb} = .28, p < .05$.

Discussion

The purpose of the present study was to examine the frequency, nature, and effectiveness of peer intervention in bullying on the school playground. Attention to the role that peers play in bullying is important because they are almost always present when bullying occurs. In these playground observations, peers were present during 88% of bullying interactions, which is consistent with our previous observational research (Atlas & Pepler, 1998; Craig & Pepler, 1995) and survey research (Salmivalli et al., 1996). Given that bullying typically occurs within the context of the peer group, it is important to determine the potential of peers to intervene to avert bullying.

The Frequency of Peer Intervention

Peers intervened in 19% of the 306 bullying episodes. This result is in line with the survey conducted by Salmivalli and her colleagues (1996) who found that 17% of children reported they played the role of 'defender of the victim'. The likelihood of interventions in these observations, however, is somewhat lower than those reported by children on a survey: 43% percent of school children indicated that they almost always tried to help a victim (Charach et al., 1995). In our previous naturalistic research, we found a somewhat lower frequency (11%) of intervention (Craig & Pepler, 1995). The frequency of peer intervention in the present study may be related to the anti-bullying program being implemented at both schools over the course of the study. Evaluation of the program, however, indicated that the frequency of peer intervention was stable from the time of program initiation through the two- to three-year intervention period (Pepler et al., 1999).

Consistent with previous observational research (Atlas & Pepler, 1998; Craig & Pepler, 1995), boys intervened more frequently than girls. When the relative presence of boys and girls during bullying was taken into account, however, boys did not intervene at a level higher than expected and girls did not intervene at a level lower than expected. Thus, the higher frequency of intervention by males, compared to girls, may be at least partially explained by their greater presence during bullying episodes (see Cunningham, 1998). These results diverge from those of Salmivalli et al. (1996), who found that children reported that girls played the role of 'defender' more often than did boys. It is difficult, however, to compare the results obtained by Salmivalli and her colleagues (1996) with the results obtained through observations, because it is unclear whether the 'defender scale' is measuring actual intervening behaviour.

The Nature of Peer Intervention

In the present study, observers rated 47% of the peer interventions in bullying on the playground as aggressive, and 53% as nonaggressive. This distribution differs from that of Craig and Pepler (1995), where significantly more children intervened in a socially appropriate manner (i.e., prosocial or nonaggressive) than in a socially inappropriate (i.e., aggressive) manner. It is important to note, however, that a number of children in the present study were observed to use a combination of aggressive and assertive strategies. Thus, these children typically began their intervention in a nonaggressive manner, and when this failed, they resorted to some form of aggression. Furthermore, in the present study, observers did not rate the severity of the interveners' aggressive behaviour, therefore, some aggressive interventions may have been of a low severity (e.g., calling the bully a jerk, lightly pushing the bully).

No gender differences were found in the nature of peer intervention in bullying, suggesting that on the playground girls and boys intervene in similar ways. A few points, however, should be noted. First, the results indicate that 51% of the interventions by boys were aggressive, and 49% were nonaggressive, compared to 38% aggressive and 62% nonaggressive for girls. It is possible that small gender differences in the nature of the interventions could not be detected due to the small sample size, particularly the small number of girls. Also, due to the low representation of girls, it was not possible to test the relation between the different types of intervention and gender. For instance, 47% of the female interveners used verbal assertion, compared to only 18% of the males. Thus, even if the interventions by boys and girls are relatively similar overall (i.e., aggressive vs. nonaggressive), patterns in the specific types of intervention strategies employed by boys and girls may differ.

The majority of interventions were directed to the bully. Moreover, when peers targeted the bully, they were more likely to use aggressive strategies than nonaggressive ones. Conversely, interventions directed to the victim and the bully-victim dyad were more likely to be nonaggressive than aggressive. It may be that many peers who target the bully chose to model his or her aggressive behaviour, or perhaps past experience has simply taught these children that aggression is the only effective strategy in putting a stop to the bullying. Regardless of the reasons for this finding, the majority of interveners choose to target the bully, and they were more likely to use aggressive than nonaggressive strategies. The implication is that children need to be taught how to use more prosocial or nonaggressive strategies, particularly when intervening toward the bully.

The results of this study suggest that boys are more likely to intervene when the bully or victim is male, whereas girls are more likely to intervene when the bully or victim is female. These results can be understood by referring to both the literature on the nature of children's play groups (Maccoby & Jacklin, 1974; Pepler et al., 1995) and previous findings on the frequency of bullying by boys and girls (Craig & Pepler, 1995). If boys typically play together in large groups, are more active in bullying, and are more likely to be in close proximity to bullying episodes, then it follows that they would be more likely to intervene when the bully and victim are male. Conversely, if girls tend to play in dyads or very small groups, are less active in bullying, and are less likely to be present during bullying episodes, it follows that they would intervene less frequently than boys, but would be more likely to intervene when the bully and victim are female.

The Effectiveness of Peer Intervention

Peer interventions in bullying were effective in stopping the bullying within ten seconds over two-thirds of the time. Boys and girls were equally effective in their interventions to stop bullying. The effectiveness of interventions was not related to the nature of interventions (i.e., whether they were aggressive or nonaggressive). Thus, interveners who used nonaggressive strategies were just as effective as those who used aggressive tactics. This is an important finding for school-based intervention programs. Although children may have learned that aggressive strategies are often effective in solving social problems, we must help them understand that aggressive behaviour may provide immediate gains (i.e., stopping the bullying), but it will not solve the problem of bullying in the long term. There are several concerns associated with aggressive interventions in bullying including: exacerbating the aggressive interactions, placing the intervener at risk, and reinforcing aggressive strategies as an appropriate means of conflict resolution. Finally, the results of our study indicate that interventions which are longer in duration are less likely to be effective. It is difficult to draw conclusions based on this finding because other factors such as the severity of the bullying and the nature of the bully-victim relationship may also play a role in determining both the duration of the episode and the effectiveness of the intervention. Nonetheless, taken together, the findings of this study suggests that children need to be taught how to intervene in both a prosocial and efficient manner to reducing bullying on school playgrounds.

Limitations

Several limitations to this preliminary study of peer intervention should be noted. First, the data were derived from a larger study of bullying and victimization and gathered as part of an evaluation of an anti-bullying program. In a previous observational study in schools with no specific program to address bullying, we found a lower rate of peer intervention (11%) (Craig & Pepler, 1997). Although the frequency of peer intervention was stable over the course of the intervention, the generalizability of the frequency and nature of the interventions in the present study may be limited to schools in which there is an effort to address bullying problems. We were not able to examine the influence of systemic factors, such as school-wide anti-bullying initiatives, nor individual factors, such as the intervener's age, social status, and aggressive status, which may also relate to the likelihood of intervention.

Secondly, the effectiveness of an intervention in the present study was assessed based on whether bullying stopped within 10 seconds. Due to the observational nature of the data, it was not possible to assess the long-term effectiveness of an intervention, nor was it possible to determine the long-term ramifications to those peers who dared to intervene. A third limitation was that the sample of children observed intervening in bullying was relatively small and comprised almost twice as many boys as girls. The relatively small number of girls may have reduced the power to detect gender differences, such as in the types of interventions employed. Finally, since we observed only brief episodes of bullying in children's lives, we cannot determine whether these interaction patterns were repeated over time.

Implications for Intervention Programs

Clearly, anti-bullying programs must be comprehensive, taking a 'whole-school,' and perhaps even a 'community level' approach. The focus here, however, is on implications for intervention practices aimed at the peer group. Salmivalli and her colleagues (1996) contend that peers can play one of four roles in bullying episodes. The children who are passive bystanders during aggressive interactions may hesitate to intervene because: 1) they may be unsure of what to do; 2) they may fear retaliation; and, 3) they may worry about causing greater problems by responding in the wrong way (Hazler, 1996). If these are the primary reasons for the infrequency of peer intervention in bullying, then it follows that we must provide children with appropriate strategies to intervene safely and effectively. To be effective, school-based intervention programs must encourage bystanders to intervene to support victims. For example, the anti-bullying program developed by Garrity and her colleagues recommends teaching children how to help victims through creative problem solving, seeking adult help, joining with the victim, and developing empathy for victims (Garrity, Jens, Porter, Sager, & Short-Camilli, 1995). Given that peers are present in 88% of bullying episodes, their potential to reduce problems of bullying is substantial. Taken together, the results of the present study suggest that peers can help; however, they need to be taught the appropriate conflict mediation skills, particularly for direct interventions with children who are bullying others.

Recommendations for Future Research

There is still much to learn with respect to peer interventions in bullying. It is important to consider the multiple factors that may influence the likelihood of peer intervention in bullying such as, peer group processes (e.g., social contagion, diffusion of responsibility) (O'Connell et al., 1999); contextual or situational factors (e.g., type and severity of bullying, the presence of peers, playground versus classroom contexts); group atmosphere (e.g., level of group arousal before during and after intervention in bullying); and the individual characteristics of interveners compared to non-interveners (e.g., age, sociometric status). Naturalistic observations provide a unique and effective way to gain insight into the nature and frequency of peer intervention in bullying. It would also be beneficial, however, to utilize self- and peer-reports of peer intervention, along with naturalistic observations to determine the degree of consistency between children's reported and actual intervening behaviour within the same school population. Any discrepancies could then be addressed in anti-bullying intervention programs. Finally, to assess the effectiveness of our anti-bullying intervention models aimed at peers, it is necessary to evaluate improvements in the nature and frequency of peer interventions across time. This assessment would require a longitudinal design, in which peer interventions were examined before, during, and after the implementation of the intervention program.

References

- Atlas, R. S. & Pepler, D. J. (1998). Observations of bullying in the classroom. *Journal of Educational Research*, 92, 86–99.
- Besag, V. E. (1989). *Bullies and victims in schools*. Philadelphia: Open University Press.
- Bjorkqvist, K., Lagerspetz, M. J., & Kaukianinen, A. (1992). Do girls manipulate and boys

- fight?: Developmental trends in regard to direct and indirect aggression. *Aggressive Behavior*, 18, 117–127.
- Charach, A., Pepler, D., & Ziegler, S. (1995). Bullying at school. *Education Canada*, 37, 12–18.
- Craig, W. M. & Pepler, D. J. (1995). Peer processes in bullying and victimization: An observational study. *Exceptionality Education Canada*, 5, 81–95.
- Craig, W. & Pepler, D. (1997). Observations of bullying and victimization on the playground. *Canadian Journal of School Psychology*, 2, 41–60.
- Craig, W., Pepler, D., O'Connell, P., & Atlas, R. (1993). Playground and classroom coding scheme bullying and victimization. Unpublished technical manuscript.
- Cunningham, C., Cunningham, L., Martorelli, V., Tran, A., Young, J., & Zacharias, R. (1998). The effects of primary division, student-mediated conflict resolution programs on playground aggression. *Journal of Child Psychology and Psychiatry*, 39, 653–662.
- DeRosier, M. E., Cillessen, A. H. N., Coie, J. D., & Dodge, K. A. (1994). Group social context and children's aggressive behavior. *Child Development*, 65, 1068–1079.
- Eagly, A. H. (1987). *Sex differences in social behavior: A social role interpretation*. Hillsdale, NJ: Erlbaum.
- Eisenberg, N. & Mussen, P. H. (1989). *The roots of prosocial behavior in children*. Cambridge: Cambridge University Press.
- Garrity, C., Jens, K., Porter, W., Sager, N., & Short-Camilli, C. (1995). *Bully proofing your school: A comprehensive approach for elementary schools*. Longmont Colorado: Sopris West.
- Ginsburg, H. J. & Miller, S. M. (1981). Altruism in children: A naturalistic study of reciprocity and an examination of the relationship between social dominance and aid-giving behavior. *Ethology and Sociobiology*, 2, 75–83.
- Hazler, R. J. (1996). Bystanders: An overlooked factor in peer on peer abuse. *The Journal for the Professional Counselor*, 11, 11–21.
- Maccoby, E. E. & Jacklin, C. N. (1974). *The psychology of sex differences*. Stanford: Stanford University Press.
- Menesini, E., Eslea, P. K., Genta, M. L., Giannetti, E., Fonzi, A., & Costabile, A. (1997). Cross-national comparison of children's attitudes towards bully/victim problems in school. *Aggressive Behavior*, 23, 245–257.
- O'Connell, P., Pepler, D., & Craig, W. (1999) Peer involvement in bullying: Issues and challenges for intervention. *Journal of Adolescence*, 22, 437–452.
- Olweus, D. (1991). Bully/victim problems among school children: Basic facts and effects of a school based intervention program. In D. Pepler & K. Rubin (Eds.), *The development and treatment of childhood aggression* (pp. 411–448). Hillsdale, N.J.: Erlbaum.
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. Oxford: Blackwell Publishers.
- Pepler, D. J. & Craig, W. (1995). A peek behind the fence: naturalistic observations of aggressive children with remote audiovisual recording. *Developmental Psychology*, 31, 548–553.
- Pepler, D. J., Craig, W., & O'Connell, P. (1999). Understanding bullying from a dynamic systems perspective. In A. Slater & D. Muir (Eds.), *Developmental Psychology: An Advanced Reader*. pp. 440–451, Malden, MA, USA: Blackwell Publishers.
- Pepler, D., Craig, W., O'Connell, P., & Atlas, R. Evaluation of a school-based anti-bullying program. Paper presented at the American Society of Criminology Conference, Toronto, November 1999.
- Pepler, D. J., Craig, W. M., & Roberts, W. R. (1995). Social skills training and aggression in the peer group. In J. McCord (Ed.), *Coercion and punishment in long-term perspectives* (213–228). New York: Cambridge University Press.
- Pepler, D. J., Craig, W., Ziegler, S., & Charach, A. (1993). A school-based anti-bullying intervention: preliminary evaluation. In D. Tattum (Ed.), *Understanding and managing bullying* (pp. 76–91). Heinemann Books.
- Rigby, K. & Slee, P. (1993). Children's attitudes toward victims. In D. Tattum (Ed.), *Understanding and managing bullying* (pp. 119–135). Oxford: Heinemann School Management.
- Roland, E. (1989). Bullying: The scandinavian research tradition. In D. Tattum & D. Lane (Eds.), *Bullying in schools* (pp. 21–32). London: Trentham Books.

- Salmivalli, C., Lagerspetz, K., Bjorkqvist, K., Osterman, K., & Kaukiainen, A. (1996). Bullying as a group process: Participant roles and their relations to social status within the group. *Aggressive Behavior, 22*, 1–15.
- Tattum, D. (1993). What is bullying? In D. Tattum (Ed.), *Understanding and managing bullying* (pp. 3–14). Oxford: Heinemann School Management.
- Whitney, I. & Smith, P. K. (1993). A survey of the nature and extent of bullying in junior/middle and secondary schools. *Educational Research, 35*, 3–25.
- Yates, C. & Smith, P. (1989). Bullying in two English comprehensive schools. In E. Roland & E. Munthe (Eds.) (pp. 22–34). *Bullying: An International Perspective*. London: David Fulton.

Acknowledgements

This research was supported by a grant from the Ontario Mental Health Foundation to the second and third authors. We are grateful to the teachers and children who participated in this research. Requests for reprints may be sent to Debra Pepler, LaMarsh Centre for Research on Violence and Conflict Resolution, York University, 4700 Keele Street, Toronto, Ontario, Canada M3J 1P3. E-Mail: pepler@yorku.ca.

Appendix: Coding Definitions

Code	Definition
Bullying	A person is being bullied when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more persons (Olweus, 1991, p. 411). Victims have difficulty defending themselves. The power imbalance between the bully and the victim may arise from: larger group victimizing a smaller group, a group victimizing a single individual; the bully's advantage in physical size, strength, age, or social dominance. Social dominance is evident from the apparent support for bully from peers observing or joining in episode.
Bully	The bully initiates the aggressive actions. Bullying interactions are not mutual: the aggressive behavior is not initiated by both the bully and victim.
Victim	The victim is the target of bully's negative actions. The victim is the person(s) who is subjected to the aggressive actions (physical, verbal, or social) of a more dominant individual (Craig et al., 1993).
Peer Intervener	Peer interveners attempt to help the victim by either verbally or physically terminating the bully/victim interaction (e.g., asking the bully to stop; identifying the inappropriateness of the bullying; noting the victim's distress; physically separating the bully and the victim, threatening to tell an adult).
Effectiveness of the Intervention	Effective interventions are ones that cause bullying to stop within 10 seconds after the intervention attempt terminates. Ineffective interventions do not stop the bullying. The effectiveness of the intervention is independent of the type of intervention (i.e., whether it is aggressive or assertive).

Code	Definition
Target of the Intervention	Interventions can be directed to the bully, the victim, or both the bully and the victim. Examples of interventions with the bully include requesting the bully to stop or physically attempting to stop the bully. Examples of interventions with the victim include telling the victim to leave or pulling the victim away. Examples of interventions with both the bully and the victim include reprimanding the dyad or standing in between them.
Duration of the Intervention	An intervention is initiated when a peer responds to the bully, the victim, or both parties in a way that suggests disapproval of the bullying or a request that the bullying stop. The intervention ends when the peer intervener no longer focuses attention on the bullying interaction for at least ten seconds.
Verbal Assertion	Intervener are verbally assertive when they verbally request that the bullying stop, without verbally attacking the bully or victim (e.g., 'stop it', 'break it up' or 'quit it').
Verbal Aggression	Peers' actions are verbally aggressive when they attack the victim or bully (e.g., name-calling, yelling, swearing, and gossip (Craig et al., 1993)).
Verbal Assertion and Aggression	Strategies with both verbal assertion and verbal aggression. For example, the intervener may say 'stop it' in a non-threatening way (verbal assertion), but resort to calling the bully names or swearing at the bully (verbal aggression).
Physical Assertion	Peer interveners are physically assertive when they try to separate or pull either the victim or the bully apart in a non-threatening way. This would include holding the bully or victim to prevent further aggression.
Physical Aggression	Physical aggression refers to physical attack which takes the form of hitting, kicking, spitting on, pushing or shoving, and rude and threatening gesturing.
Physical Assertion and Aggression	Interventions with both physical assertion and physical aggression. For example, the intervener might first use physical assertion (e.g., trying to separate the bully and victim), and if this does not stop the bullying interaction, the intervener might resort to physical aggression (e.g., hitting, kicking).
Social Assertion	Intervener relies on social codes and school rules regarding acceptable conduct and may refer to bully's behaviour as socially unacceptable (e.g., saying: 'it's not nice to do that to others,' 'that's not right,' 'why are you picking on little kids' or by threatening to tell an adult).

Code	Definition
Social Aggression	Social aggression is less visible and more subtle than direct aggression. It can be physical (e.g., moving to exclude a person from the group, eye rolling, obscene gestures, unflattering imitations, disapproving stares) or verbal (e.g., exclusionary comments, spreading nasty gossip, threatening to withdraw a friendship, getting others to gang up on a child). It also takes the form of social isolation, exclusion, and ostracism from a group (Craig et al., 1993).
Social Assertion and Aggression	Interveners use both types of social strategies. For example, the intervener might say to the bully or victim 'you can't play with us' (social aggression) and also may say that the bullying behaviour is inappropriate or might threaten to tell an adult (social assertion).
