

Observations of Bullying and Victimization in the School Yard

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The purpose of this research was to describe bullying on the playground. The subjects were children observed either bullying or being victimized on the playground. Bullying episodes were identified with 90% inter-rater agreement. Bullying occurred regularly on the playground, approximately once every seven minutes and was of short duration, 38 seconds. The majority of bullying episodes (68%) occurred within 120 feet of the school building. Adults were found to have intervened in 4% of the episodes, while peers intervened in 11% of the episodes. However, adults were more likely to intervene than peers if they were present. Peers were involved in some capacity in 85% of the episodes. Boys bullied more than girls and were more likely to bully victims of the same-sex and repeatedly target the same victim. There were no gender differences in the type of bullying and aggression. Children in the primary and junior grades were equally likely to be involved in bullying and tended to bully students from the same grade level. The results are discussed from an individual difference, social-interactional, and ecological perspective.

Le but de cet étude est de décrire l'intimidation chez les enfants sur le terrain de jeu. Les participants étaient des enfants qui intimidaient ou qui se faisaient intimider sur le terrain de jeu. Les épisodes d'intimidation ont été identifiés avec un accord de 90% entre les différents observateurs. Les épisodes d'intimidation ont eu lieu régulièrement, approximativement une fois à tous les sept minutes. Par contre, elles étaient de courte durée, 38 secondes. La majorité des épisodes d'intimidation ont eu lieu à une distance de 120 pieds de l'école ou moins. Les adultes sont intervenus à 4% des épisodes, tandis que les camarades sont intervenus à 11% des épisodes. Par contre, les adultes intervenaient plus fréquemment que les camarades lorsqu'ils étaient présents. Les camarades étaient impliqués à un certain niveau pour 85% des épisodes. Les garçons intimidaient plus que les filles. Il n'y avait pas de différence entre les garçons et les filles au niveau du type d'intimidation et d'agression. Les enfants du niveau primaire et junior avaient autant de chance d'être impliqués dans une épisode d'intimidation et ils intimidaient les enfants du même niveau scolaire qu'eux. Les résultats sont discutés selon une perspective de différence individuelle, une perspective d'interaction social et une perspective écologique.

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Bullying is a form of social interaction in which a more dominant individual (the bully) exhibits aggressive behaviour intended to cause distress to a less dominant individual (the victim) (Smith & Thompson, 1991). Research in Norway, Canada, Britain, and Ireland reveals that bullying is a frequent and normative behaviour in schools (Ekblab & Olweus, 1986; Olweus, 1987; Perry, Kusel, Perry, 1988; Pepler, Craig, Ziegler, & Charach, 1994; Whitney & Smith, 1993). In a nation-wide survey conducted in Norway, 9% of students reported being bullied twice a term or more frequently while 7% reported bullying others in the same time frame. Fewer children reported being bullied (3%) and bullying others on a weekly basis (2%) than twice a term. In Canada, 19% of students reported being bullied more than twice a term, while 8% being bullied at least once a week. Similarly, 15% of children reported bullying others more than twice a term; while 9% of children reported bullying others on a weekly basis (Charach, Pepler, & Ziegler, 1995). This rate in Canada is nearly four times as high as the rates from Norway (Olweus, 1991), but comparable to those from Ireland (O'Moore, 1991). To date, however, there are no published studies using systematic observation to assess bullying (Farrington, 1993). The unique contribution of the present study is the examination of bullying from naturalistic observations of children on the school playground.

The theoretical foundations for the present research derive from an integration of individual difference, social-interactional, and ecological perspectives. The individual difference or personality perspective relates involvement in bullying to characteristics such as the temperament, gender, and behavioural tendencies of bullies and victims. The seminal work of Olweus in Norway derives from this perspective. He identified bullies as having an antisocial personality combined with physical strength and victims as having an anxious personality pattern combined with physical weakness (Olweus, 1991). Although the individual difference perspective has provided a strong foundation for understanding bullying, it contributes a static (i.e., attributes bullying to individual characteristics) rather than a dynamic (e.g., understanding the importance of the social context and the role of others) understanding of bullying. We have, therefore, also incorporated a social-interactional perspective to understand bullying as a dynamic phenomenon which unfolds within a social context. The social-interactional model was proposed to explain the development of antisocial behaviour within the family context (Patterson, DeBaryshe, & Ramsey, 1989; Patterson, Reid, & Dishion, 1992; Reid & Patterson, 1989). Based on naturalistic observations, Patterson and his colleagues described the coercive process by which children develop

a negative and hostile interaction style when their parents or siblings react irritably and ineffectively to aggressive behaviours. This perspective identifies the bi-directional influence of aggressive children and their parents in the development of aggressive behaviour. Children are thought to transfer the aggressive interaction patterns learned in the home to the school context (Patterson et al., 1989). A similar analysis of the bi-directional effects of bullies' and victims' behaviours might clarify bullying interactions.

As recommended for studies concerning other aspects of aggression (e.g., Cairns & Cairns, 1991; Coie & Jacobs, 1993), a broad relational or ecological perspective must be imposed on the study of bullying. Hence, the theoretical perspective of bullying must extend beyond a juxtaposition of individual and social interactional frameworks. In other words, the interactions of bullies and victims cannot be fully explained by merely the convergence of two personality patterns, but must be considered within a complex of interactional influences, such as the peer group and the school social system.

Students report that the playground is the most likely location for bullying (Whitney & Smith, 1993; Olweus, 1991; Pepler et al., 1994). The combined influences of the peer group and the adult supervisors likely affect bullying interactions on the school playground. Huesmann and Eron (1984) identified three contextual processes that increase the likelihood of aggression: observing aggression, receiving aggression, and reinforcement for aggression. Peers likely play a role in all three of these processes. They may serve as instigators of bullying, models for aggression and/or may join in a bullying episode. The peer group may reinforce interactions by serving as an audience for the theatre of bullying. On the other hand, peers and adults can intervene to stop bullying and decrease its likelihood. For example, 75% of teachers report that they always intervene in bullying episodes on the playground (Charach et al., 1995); however, in contrast, children report that adults intervene in only a small proportion of bullying episodes (Pepler et al., 1993). Naturalistic observations of bullying may clarify this discrepancy between teacher and student reports.

To date, the vast majority of studies on bullying and victimization have employed questionnaire or interview methodologies. These methods provide assessments of the prevalence of bullying problems, characteristics of the bully and/or victim, characteristics of bullying episodes, and peer attitudes. Questionnaires and interview methods are limited, however, by their inability to identify the complex, multi-level processes underlying bully-victim interactions and by the children's ability to accurately report on the phenomenon of bullying. Naturalistic observations of children's aggression have several advantages over laboratory studies (e.g., Caprara, Passerini,

be recorded within the context in which they occur; hence, external validity is high. Secondly, bullying interactions can be studied in-vivo with the opportunity to observe not only the bullies and victims, but also the behaviours of others involved (i.e., peers, teachers). Finally, the remote audio-visual technology employed in the present research provides an opportunity to observe spontaneous incidents of bullying not normally witnessed by adults (Pepler & Craig, 1995). Because the remote technology in the present study obtains both audio and visual aspects, it will be possible to examine both direct and indirect aggression.

The present study has several objectives. The main objective is to describe the frequency, duration, and type of bullying. A second objective is to describe the individual factors of gender, age, race, and aggressive reputation of bullies and victims. A third objective is to describe the social interactions of the bully/victim dyad, while the final objective is to describe the social ecology of peer involvement and intervention by both peers and adults during bullying episodes.

Method

The present research is an extension of an ongoing research program examining the peer relations of aggressive and socially competent children (i.e., children socially skilled in their interactions) (Pepler, Craig, & Roberts, 1995). As part of this research, a sample of 41 aggressive and 41 socially competent children (matched for age, gender, and ethnicity) were videotaped on the playgrounds of two elementary schools during both the winter and spring semesters during unstructured play (at recess and lunch.). At each point in time, the videotaping took place over a three week period. The schools were in middle class neighbourhoods, had approximately 300 students in grades 1 through 6, and the students attending them represented a variety of ethnic groups.

Participants

The sample for the present study included all children targeted in the original study who were observed in a bullying episode during 48 hours of playground observations. In the original study, classroom teachers nominated aggressive and socially competent children. Group assignment was validated by comparing aggressive and socially competent children on both teacher and peer ratings. On the Child Behavior Checklist- Teacher Report Form (Achenbach & Edelbrock, 1986) mean teacher ratings of aggressive children's externalizing problems were in the clinical range ($M = 66.2$) and were significantly higher than those for the socially competent children ($M = 43.2$, $F(1,37) = 214.7$, $p < .0001$). On the Revised Class Play Peer

Nomination Form (Masten, Morrison, & Pellegrini, 1985) peers rated aggressive children ($M = 5.09$) as being significantly more aggressive than the socially competent children ($M = -1.28$, $F(1,37) = 35.4$, $p < .0001$).

Eighty-two percent of the original aggressive children and 76% of the original socially competent children were involved in bullying, either as a bully or a victim. Thus, from the original study, there were 34 teacher-nominated aggressive children (25 boys, 9 girls) and 31 teacher-nominated socially competent children (23 boys, 8 girls). The mean age of participants was 9.9 years ($s.d. = 1.1$ years). The children were from low to middle income families and varied with respect to ethnicity (43% Caucasian, 25% African descent, and 32% mixed or other ethnicity). The distribution of bullies, victims, and bully/victims (children who both bullied and were bullied) by gender is provided in Table 1. Bullies and victims were defined as children who participated in that role in at least 2 observed episodes. Bully/victims were children who were observed being bullies in at least two episodes and being victimized in at least 2 episodes. Two episodes were chosen as the criteria for group composition to reflect the repeated nature of bullying. The mean number of episodes children were involved in was 3.6, $s.d. = 1.4$, range: 11 episodes.

Children were filmed randomly at lunch or recess for approximately equal time sampling periods. Children in the study had an average of 53 minutes of observation time ($s.d. = 12.0$, range: 36-82 minutes).

Table 1

Distributions and Proportions of Bullies, Victims, and Bully/Victims by Gender

	Bullies		Victims		Bully/Victims	
	Males	Females	Males	Females	Males	Females
Aggressive	3 (4.6%)	3 (4.6%)	4 (6.1%)	2 (3.1%)	18 (27.7%)	4 (6.1%)
Nonaggressive	0 (1.5%)	6 (9.2%)	2 (3.1%)	0 (0%)	20 (30.8%)	3 (4.6%)

To observe children's interactions, the video camera was set up in a classroom overlooking the playground. During filming, each target child wore a small remote microphone and pocket-sized transmitter. The remote microphone picked up not only the target's speech, but also that of others around him/her. All children who wore the microphones were aware that they were being filmed. They were instructed to play as they normally would during lunch and recess.

Observers identified bullying episodes, coded contextual factors, and marked the location of bullying episodes on a detailed site plan of the school property. Inter-reliabilities for the identification of episodes, the contextual variables, and the playground locations were calculated through percent of agreement. Bullying episodes were identified by two female observers with 90% inter-rater reliability. An agreement was considered positive when both raters identified a bullying episode and concurred to a duration within 5 seconds at the beginning and the end of an identified episode. One male and two female observers coded the contextual variables. An agreement was counted if observers identified the same contextual variables for an episode. Three variables with a percent agreement less than 75 were discarded (height of the bully, weight of the bully, weight of the victim). The percent agreement for the remaining contextual variables ranged from 87%-100%. Inter-rater reliability was based on 33% of the episodes that were independently rated for all three observers.

Following each episode, observers also completed a Global Rating Measure adapted from Observer Impression Sheet developed by the Oregon Social Learning Center (Weinott, Reid, & Brumett, 1981). The measure comprised 23 questions rated on a 5-point scale, as well as 19 bi-polar adjectives rated on a 7-point scale. The questions assessed level of covertness of the episode, perceived attitude of the bully and the victim, presence of adults and their role, the role of the peer group, and reactivity to the camera. The overall agreement for the Global Rating Measure was 87%, ranging from, 76%-100%. (For more information on the Global Rating Measure, please contact the first author.)

Results

The results are divided into four sections: nature of bullying, individual characteristics of bullies and victims, social interactional factors, and social ecology. School and seasonal effects were assessed and where there were significant differences, they are reported. Otherwise the analyses are collapsed over these variables.

There were 314 bullying episodes observed during 48 hours of playground observations of aggressive and nonaggressive children. This amounts to 6.5 episodes of bullying per hour. Two percent of bullying interactions were uncodeable. The audio recording indicated that bullying was occurring (e.g., "Give me the skipping rope or I'll kill you"), but the children were not visible on the film (e.g., behind a school building). Each bullying episode was timed from onset to termination while the majority of bullying episodes were short-lived and there was substantial variability in duration. The mean duration of

Table 2
Mean Proportions and Standard Deviations of Global Ratings for Bullies and Victims

	Bullies		Victims		F-Values
	M	SD	M	SD	
Non-compliant- Compliant	2.1	1.0	4.0	2.0	258.2*
Cold- Warm	2.9	1.5	4.4	1.7	207.9*
Hostile- Calm	3.3	1.7	4.4	1.8	91.5*
Insensitive- Sensitive	2.2	1.2	4.3	1.6	368.9*
Dull- Spirited	5.1	1.3	4.7	1.6	13.8*
Depressed- Happy	4.9	1.1	4.5	1.6	17.6*
Physically Aggressive**	2.9	1.8	4.8	2.2	220.2*
Verbally Aggressive**	2.2	1.3	4.2	2.3	208.7*
Loud- Quiet	2.7	1.4	3.9	1.9	103.5*
Provocative	2.0	1.1	4.4	2.5	260.8*
Resistant- Resigned	2.4	1.1	4.0	2.4	218.6*
Sarcastic- Soothing	2.4	1.2	4.1	1.7	503.8*
Dominant- Passive	2.2	1.1	4.8	1.7	405.4*
Leader- Follower	2.4	1.3	4.8	1.7	344.2*

* Significant at $p < .001$

** Higher scores indicate more aggression.

bullying episodes was 38 seconds ($s.d.$ = 66.6 seconds), with a range from 2-466 seconds.

Taking into account the amount of time spent filming at each school (by using proportional variables), chi-square analyses indicated a significant association between school and season in the number of bullying episodes per hour $\chi^2(2,314) = 28.90, p < .001$). From the Winter to the Spring, the rate of bullying increased at School 1, whereas it decreased at School 2. There were no other school or seasonal differences, thus the remaining results are presented collapsing over these variables.

We were concerned that reactivity to the camera and microphones might affect the frequency of observed bullying. As a validity measure, for each episode, observers rated the reactivity to the camera for bully(ies), victim(s), and peers on a 5-point scale ranging from frequently playing to the camera to not attending to the camera. After combining the categories of overt and extremely overt, bullies, victims, and adults were judged as reacting to the camera in 2.7%, 2.2%, and .4% of the episodes, respectively. Thus, children's overall behaviour on the playgrounds during bullying episodes was relatively unaffected by the microphones and filming.

Verbal aggression was observed in 50% of the observations, while physical aggression was observed in 29% of the episodes. Both physical and verbal aggression were observed in 21% of the episodes. Observers noted the use of objects in physically aggressive bullying (e.g., knives, skipping ropes, sticks, and balls) with bullies using an object as a weapon to attack or threaten a victim in 4% of the episodes. There was only one episode in which a victim was observed to have a weapon.

The majority of the episodes (80%) comprised direct bullying, 18% comprised indirect bullying, and 2% comprised both direct and indirect bullying. Gossiping, coded as a unique form of indirect bullying, was observed in 7% of the episodes. Bullying with sexist content was not observed in any episode. Episodes were also coded for racial content (i.e., if the bully exaggerated or made fun of a stereotype of the victim's race). Bullying involving racial content occurred during 4% of the episodes.

We were interested in whether the nature of bullying varied as a function of the duration of the episode. Thus, episodes were categorized into three levels of duration: episodes of short duration (less than 12 seconds), medium duration episodes (between 12 and 39 seconds), and long episodes (greater than 40 seconds). There was a significant relationship between duration and type of aggression ($\chi^2(2,314) = 5.81, p < .05$). The episodes of short duration were relatively equally distributed between verbal aggression (22% of episodes) and physical aggression (17% of episodes). The medium and long episodes were more likely to be verbal (21% of the medium episodes and 21% of the long episodes) than physical (12% of the medium episodes and 7% of the long episodes). Similarly, there was a significant relationship between the duration of an episode and the type of bullying ($\chi^2(2,314) = 8.96, p < .01$). Episodes of short duration had more direct bullying (33%) compared to medium (25%) and long episodes (24%). Of the short duration episodes, 90% involved direct bullying. Four percent of the episodes of short duration had indirect bullying compared to 9% of the medium episodes and 6% of the long episodes.

There was also a significant relationship between the type of aggression and the type of bullying ($\chi^2(2, 314) = 7.50, p < .001$). Children were more likely to use direct rather than indirect bullying, regardless of whether they were being physically or verbally aggressive. In 44% of the episodes, there was direct verbal bullying (e.g., calling someone names) and in 19% of the episodes there was indirect verbal bullying (e.g., spreading a nasty rumour). Thirty-one percent of the episodes involved direct physical bullying (e.g., hitting), while 3% of the episodes comprised indirect physical bullying (e.g., shutting

someone out of a group). The remaining 3% of the episodes involved both types of aggression.

Individual Characteristics of Bullies and Victims

Number and Gender of Bullies, Victims, and Bully/Victims

The individual factors were also examined by classifying children as bullies, victims, and bully/victims if they were observed in more than two episodes. Twenty percent of children were observed bullying others, 12.1% of children were observed being victimized, and 67.9% of the sample bullied and victimized.

In 90% of the episodes, there was only one bully, in 9% of the episodes there were two bullies, and in fewer than 1% of the episodes there were three bullies. Ninety-two percent of the episodes involved only one victim, 6% of the episodes involved two victims, and fewer than 2% of the episodes involved three or more victims.

The representation of boys' and girls' involvement in bullying was examined by considering the rate of bullying per hour by gender. Seventy-two percent of the filming was conducted with a boy wearing the microphone and 28% with a girl wearing the microphone. To control for the discrepancy in the hours spent filming boys and girls, proportional variables were constructed to indicate rates of bullying per hour. A z-test of proportions indicated a significant difference in the proportional frequencies of boys and girls observed bullying, $z = 4.12, p < .001$. Boys were involved in bullying at a rate of 5.2 episodes per hour while girls bullied at a rate of 2.7 episodes per hour.

Grade Level

Children were divided into two grade levels: primary level (ages 6-8) or junior level (ages 9-11). In 2% of the episodes, the grade level of either the bully or the victim was uncodeable. A chi-square analysis indicated no grade level differences in the classification of children as bullies, victims or bully/victims.

Aggressive Reputation

There was relatively equivalent participation by the aggressive and socially competent children in bullying and victimization. Aggressive children bullied others at a rate of 2.54 episodes per hour, while socially competent children bullied others at a rate of 2.02 episodes per hour. Aggressive children were victimized by others at a rate of 2.08 episodes per hour, while socially competent children were victimized at a rate of 2.08 episodes per hour.

Social - Interactional Factors

The social interactional context of bullying interactions was assessed for the gender, grade, and race composition of the dyads and for the affective behavioural tone.

Bully/Victim Dyad

Z-tests for proportions assessed differences in the gender of victims targeted by boy and girl bullies. Boy bullies were more likely to target same-sex victims than girl bullies ($z = 6.31, p < .001$). In 86% of the episodes involving boy bullies, boys were the victims. In 48% of the episodes involving girl bullies, girls were the victims. Conversely, boys were less likely than girls to bully a victim of the opposite-sex ($z = -6.57, p < .001$). In 11% of the episodes involving boy bullies, the victims were girls. In 49% of the episodes involving girl bullies, the victims were boys. There was no significant difference between boys and girls in the number of episodes in which the victims were both boys and girls.

In 67% of the episodes, bullies victimized children in the same-age grouping (35% of the episodes involved primary students and 32% of the episodes involved junior students). Bullies from a junior grade victimized primary children in 5% of the episodes. In 2% of the episodes primary children were aggressive to junior children. Bullies did not discriminate their victims based on racial characteristics. In 59% of the episodes, the bully and the victim were of the same race and in 41% of the episodes the bully and the victim were of different races.

Global Ratings of Children's Behaviour in Bullying Interactions

For each episode, bullies and victims were coded on a 7-point scale for a number of bipolar affective and behavioural attributes (e.g., non-compliant-compliant, cold-warm, hostile-calm). The means and standard deviations by group are reported in Table 2. A MANOVA comparing bullies and victims indicated that bullies were rated as being more provocative, hostile, insensitive, active, physically and verbally aggressive, provocative, sarcastic, and dominant than victims. In addition, bullies were rated as being happier, colder, louder, and more of a leader than victims ($F(3,304)=995.21, p < .001$).

A z-test of proportions indicated that bullies were significantly more hostile than victims ($z = 14.82, p < .001$). Bullies were rated as being hostile to the victim in 85% of the episodes, whereas victims were rated as hostile to the bully in 41% of the episodes. Bullies were coded as enjoying the interaction in significantly more episodes than victims ($z = 15.49, p < .001$) (77% and 13%, for bullies and victims, respectively). In 79% of the episodes, victims were coded as being tormented, indicating the severity of the majority of

episodes. Bullies and victims were coded as being fearful prior to the bullying in 1% and 11% of the episodes, respectively.

Social Ecology

The ecology of bullying was described according to the location and covertness of the episodes, and the nature of peer and adult involvement.

Location and Covertness of Bullying

Sixty-eight percent of the bullying episodes were observed within 120 feet of the school building, 19% were within 120 and 240 feet of the school building, and 13% were further than 240 feet from the school building. The playgrounds were approximately 200 by 360 feet. There were no associations between the type of aggression or the type of bullying displayed in the bullying episode and the location of bullying. In addition, there was no relationship between the duration of an episode and the location of the episode. Finally, there was no relation between the frequency of teacher intervention and the location of bullying.

Observers rated the extent to which each bullying episode was hidden from peers or adults on a 5-point scale (ranging from extremely covert to extremely overt). Ratings of 4 or 5 on the scale were deemed to be overt. Significantly more episodes were rated as overt (84%) than covert (16%) ($z = -15.5, p < .001$).

Peers were involved in some capacity during 85% of the bullying episodes observed on the school playground. Four levels of involvement were coded, active participation in the episode, observing the interaction, involvement in an activity with the bully or victim, and intervening in the interaction. In 30% of the episodes, peers were actively participated in the bullying episode as an aggressor, and in 23% of the episodes peers just witnessed the bullying interaction. Peers were involved in a joint game with the bully or victim during 61% of the episodes. Peers intervened in 12% of the bullying episodes. Peers intervened significantly less often in a socially appropriate manner (3.5%) than in a socially inappropriate manner (7.4%) ($z = 2.48, p < .05$). Peers were observed to be present in 85% of episodes and they intervened in 13% of the episodes in which they were present. These percentages do not total to a hundred since peers could be involved in more than one role during an episode.

There was substantial variability in the number of peers involved in bullying episodes. This variability is not reflected in the above percentages because they indicate at least one peer but several peers may have participated in the identified manner. For example, in two-thirds of the episodes in which peers were actively involved there was only one peer; whereas, in 2% of the episodes there were six. In 58% of the onlooking episodes there was only one peer;

however, in 2% of the episodes there were six peers. The number of peers participating in a joint game with the bully ranged from one (35% of the episodes) to eighteen (1% of the episodes). These results suggest that a large number of children are in close proximity and participate in bullying episodes.

There was a significant association between the gender and the nature of peer involvement ($\chi^2(4, 301)=11.4, p < .001$). In 55% of the episodes where peers were actively involved, the peers were boys, in 37% they were girls, and in 8% of the episodes they were both genders. For peers in joint activity, 55% of the episodes involved boys, 23% of the episodes involved girls, and in 22% of the episodes there were both boys and girls. Boys were onlookers to bullying more than girls (62% versus 23% of the episodes, respectively). In 15% of the episodes, the onlookers were both genders. Finally, the majority of peers who intervened were boys. In 84% of the episodes with a socially appropriate peer intervention, the intervener was a boy. Similarly, in 65% of the episodes with an inappropriate peer intervention, the intervener was a boy. Due to the small number of episodes in which peers intervened, it was not possible to test for gender differences in the frequency of peer intervention in bullying.

Global Ratings of Peer Participation

Peers were coded as being significantly more respectful to bullies than victims ($z = -2.73, p < .05$). Peers were coded as being respectful to the bully in 74% of the episodes and to the victim in 23% of the episodes. Peers also were coded as being significantly more friendly to bullies than victims ($z = 6.43, p < .001$). The peers were coded as being friendly to the bully in 57% of the episodes, whereas they were friendly to the victim in 31% of the episodes. The peer group was coded as taking pleasure in the bullying in 30% of the episodes, as neutral in 46% of the episodes, and as uncomfortable in 24% of the episodes. In 81% of the episodes, the peers were coded as reinforcing the bullying episode.

School Staff Intervention in Bullying Episodes

School staff were found to have intervened in 4% of the observed bullying episodes. Staff were visible within the camera frame during an additional 13% of episodes, hence they intervened in approximately 25% of the episodes in which they were proximal. A z-test of proportions indicated that peers intervened more frequently than adults ($z = 3.96, p < .01$) (in 13% versus 4% of episodes, respectively). However, adults were almost twice as likely to intervene in bullying episodes when present (23% versus 13%). On the Global

Rating Scale, observers judged that school staff were unaware of bullying in about 80% of the episodes.

Discussion

The present study incorporates an observational methodology to examine bullying and victimization. The validity of observational technology is evident by the correspondence with the students' self reports. Bullying was observed frequently and the number of children involved in the present playground observations corresponds closely to self-report data on bullying. In a previous analysis of these observations, we calculated that based on the school populations 26-33% of students in the schools were observed bullying others more than once on the school playground (Craig, 1993). According to self-report data, 24% of students indicated they had bullied once or twice in the last school term (Charach et al., 1995). Both the observational and questionnaire studies raise concerns about the frequency with which children bully others during unstructured play periods at school.

Bullying was surprisingly normative on the school playground with children identified by teachers as nonaggressive being just as likely to bully as those identified as aggressive. Given the wide range of children observed bullying, it appears that children who bully on the playground do not simply represent the most deviant children in the school. This problem behaviour is significant involving both boys and girls and both older and younger children in elementary school. Although some of the episodes we observed involved mild forms of teasing or "roughing up", the vast majority of episodes were rated as tormenting the victims. Hence, the observations in the present study raise serious concerns for the psychological and physical well-being of children at school.

To understand bullying and victimization, we need to integrate the theoretical perspectives of individual, social-interactional, and ecological systems. The problem of bullying is too complex to be solely explained by individual personality traits. While some children may have a developed a behaviour style consistent with a bully or victim, the social interactions and the social ecology of the school playground likely shape the expression of bullying. The lack of differences on individual characteristics such as grade and aggressive reputation suggests that there may be subtypes of bullies and victims (Stephenson & Smith, 1987). In future research, these subtypes may be distinguished by the frequency, severity, pervasiveness of involvement in bullying episodes (Loeber, 1990; Stephenson & Smith, 1987). Children who are consistently observed in bullying episodes may be chronic bullies, victims, or bully/victims. For example, in the case of bullies, their aggressive behaviour

on the playground may reflect a stable antisocial personality pattern (Olweus, 1991). In contrast, children who engage in bullying less consistently may be individuals whose aggressive behaviours are more situationally determined.

A second inference of the widespread involvement of individuals in bullying is that the interactions of bullies and victims cannot be fully explained by the convergence of two personality patterns, but must be considered within an ecological framework of interactional influence, such as the peer group and the school social system. In keeping with the recommendations of Cairns and Cairns (1991) and by Coie and Jacobs (1993); these observations highlight the social context of bullying. The results of this study indicate that bullying is an interpersonal activity which arises most within the context of at least one other person (i.e., the peer group) and that the peer group likely plays a major role in providing the reinforcements and contingencies for these behaviour problems.

Research on aggression has recently begun to examine the dyadic contextual influences on aggression. Dodge, Coie, Pettit, and Price (1990) observed different types of dyads and found that the type of partner determined the quality of play. For example, they found that when two highly aggressive boys interacted, angry reactive aggression occurred. Given that males were present more often than females as peer participants, one of the factors that may be influencing the instigation of bullying is the presence of males. Boys are more attracted to aggressive interactions than girls (Serbin et al., 1993) and may find bullying episodes more stimulating and arousing than female peers. Boys may also use bullying as a display of dominance which, by definition, is most effectively communicated with an audience (Campbell, 1993). Consequently, male bullies may receive more reinforcement and encouragement from their peers for their bullying behaviour.

Boys may have bullied more than girls because they are more likely than females to engage in rough-and-tumble play (Smith & Boulton, 1990). Aggressive behaviour, such as bullying is more likely to occur when children are engaged in active rough-and-tumble play than when they engage in parallel or cooperative play (Dodge et al., 1990). Rough-and-tumble play may escalate into aggression due to the misinterpretation of another's action (Smith & Boulton, 1990). Since males engage more frequently in rough and tumble play than girls, the social context for boys may elicit or provoke bullying and aggression.

Finally, female bullying may be qualitatively different than male bullying. Girls may be more likely to bully when peers are not present. For girls, bullying may be a one-on-one relational experience rather than a group experience. This result parallels the research on girls' play patterns and friendships. Girls

are more likely than boys to spend time with one peer whereas, boys are more likely to spend time in a group (Pepler et al., 1994). Thus, female bullying may be more difficult to detect (Rivers & Smith, 1994). Peer processes such as the level of activity prior to the bullying episode, the affective quality of the group's atmosphere, and the type of group activity are important foci for future research.

Olweus (1991) identified social contagion as a potential peer mechanism which may serve to initiate, maintain and exacerbate bullying on the school ground. The two processes involved in the social contagion effect are reinforcement and modelling. In the majority of episodes in the present study, peers were found as reinforcing the bully. The reinforcement provided by peer attention and involvement may serve to maintain the power of the bully over the victim, as well as the dominance of the bully within the peer group. The dimensions of the peer group context may influence the way that the group responds to bullying among its members. DeRosier et al. (1994) suggest that social contagion may occur because the aggressive acts towards a victim are a safe focus of the group's negative feelings. If there is conflict within the group prior to the bullying episode, a cohesive bullying effort may serve to dissipate the group's negative feeling.

In addition, peers may model the negative behaviours of the bully toward the victim. The global ratings indicated that the peer group was less respectful and friendly to the victim than the bully. The peer group may be modelling the bullies' behaviours. The differential attention to bullies by the peer group may further reinforce them for their power assertion, as well as confirm for victims that they are deserving of the attack. In this way, the victim becomes scape-goated by the group. The peer group's disrespect for victims suggests that empathy from the peer group needs to be developed for victims.

Peers were involved in the vast majority of bullying episodes either as co-conspirators or as witnesses to the abuse, however, they intervened to stop bullying almost three times more often than adults. When intervention was examined as a function of time present, peers were less likely than adults to intervene. One explanation for the lack of intervention by peers may be that they are afraid of reprisals from bullies. Laboratory research indicates that when a peer group sides with the victim, the level of post-aggression conflict rises (DeRosier et al., 1994). Hence siding with the victim in a playground confrontation may escalate bullying. For boys and girls, there may be different aspects of the group context that influence the onset of bullying and the way it is responded to. DeRoiser et al. (1994) found that the dyadic interaction quality (e.g., cohesion) determined whether the group responded to aggression, but other group qualities (i.e., the level of the group's conflict, the playful

competitiveness prior to the episode) determined the nature of the response. Future research should examine the level of activity prior to the bullying episode, the affective quality of the group's atmosphere, and the type of group activity.

Similar social-interactional processes likely operate at the school level to maintain bullying interactions. Adults intervened in relatively few episodes and were judged to be unaware of the vast majority of episodes. A lack of consequences for aggressive behaviour provides prime opportunities to acquire aggressive patterns (Eron & Huesmann, 1984). Bullying generally occurred without adult witnesses. The average duration of bullying incidents was relatively brief (38 seconds). While we were able to observe these brief exchanges with the remote audio-visual technology, it is unlikely that teachers would detect such transitory bullying episodes on a large school playground. Indirect forms of bullying may be particularly difficult to detect, as they comprise an aggressor who manipulates others to attack the victim, or makes use of the social structure in order to harm the victim, without being personally involved in the attack (Lagerspetz, Bjorkqvist, & Peltonen, 1988).

An additional problem for the supervising adults is that bullying is difficult to distinguish from other forms of social interaction such as rough-and-tumble play and playful teasing (Pellegrini, 1988). Teachers may witness mild bullying behaviours, but not intervene because they perceive these as normative, nonaggressive, and not stressful for the victim. Teachers may intervene consistently in episodes with angry and hostile affect which they can clearly identify as bullying. As a result, the teachers may perceive they are intervening regularly to stop bullying when in fact our observations indicate that they are inconsistent and infrequent in their attempts to control bullying. Thus, the prevalence of bullying may be related to infrequent and inconsistent adult intervention and monitoring of students' activities on the playground. Research on antisocial behaviour within families indicates that poor parental supervision of children's activities contributes to the development of aggressive behaviours (Patterson, 1982). The combination of the brevity of bullying, the difficulty of recognizing bullying, and inconsistent intervention contributes to the prevalence of bullying.

The results of the present study lead to specific suggestions for clinicians and educators in their efforts to reduce violence at their schools. Interventions need to be systemic in nature focusing on not only the individual bullies and victims, but also on the child's other social systems, such as the peers, the school, and the classroom (American Psychological Association, 1993). Intervening at the school level may include the development of an anti-violence policy and ensuring equity among students (e.g., between genders, among

cultural groups). To complement the social policy changes in the school environment, an increase in supervision of the halls and playground and more structured activities and organized games on the playground are necessary. Intervention efforts aimed at teachers merit the following: regular school conference days on bullying and victimization are important to increase teachers' awareness and understanding of the problems; increased resources, such as a specific curriculum and strategies to facilitate their classroom discussions and interventions in bullying problems; development of an anti-bullying curriculum which would contain suggestions of topics to be discussed during class time, role playing, and activities.

The results suggest that peers play a central role in bullying episodes. Consequently, it is important to engage peers in an effort to decrease bullying on the playground. Programs such as peer mentoring and conflict management programs may serve to promote an attitude which disapproves of violence towards others and encourage peer intervention to stop aggressive interactions. Within an anti-bullying program, students must develop an awareness of the problem, a willingness to report bullying, and a sense of security in the knowledge that protection and support are available from teachers, administrators, and other peers. Finally, individual work with the bullies (i.e., anger management, social skills) and victims (i.e., self-esteem enhancement, assertiveness skills training) remain essential.

The present study extends our understanding of bullying with observations of naturally occurring episodes on the school playground. It is important, however, to consider these results in the context of the limitations of the study. This study evolved from an ongoing project on the peer relations of aggressive and nonaggressive children; therefore, caution must be taken in generalizing the results since the sample may not be representative. A second limitation of the present study was that the severity of bullying was not coded. Without a severity rating, we are unable to determine whether the aggressive children were primarily responsible for the extreme bullying and the nonaggressive children were instigating mild forms of peer abuse. Still further, the results of the present study stem from a rather limited sample of children drawn from two elementary schools. Thus, before generalizing the results, replication of the current findings is important. Finally, the study did not examine the effects of the school ethos on bullying. Factors such as the development of an Anti-Bullying policy have a significant impact on reducing bullying (Olweus, 1991).

Nevertheless, the observational methodology employed in the present study has proven to be an unobtrusive and effective strategy for studying bullying by providing a perspective into dimensions of children's interactions which are

school playgrounds and is a complex phenomenon which must be considered from an integration of individual difference, social interactional, and ecological perspectives. These observational data provide a foundation upon which we can start to build a theory of bullying and victimization which could prove invaluable for clinicians and educators.

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