

Systemic Patterns in Bullying and Victimization

JOHN H.F. CHAN

Toronto Catholic District School Board, Ontario, Canada

ABSTRACT Using a new non-anonymous questionnaire and a nomination method by which victims were asked to name their aggressors, Chan (2002) collated the responses from individual victims to produce name-clusters that were studied for systemic patterns of bullying and victimization within the whole-school community. Three such patterns emerged: serial bullying, multiple victimization and the familial pattern in bullying. Serial bullying is the situation where one perpetrator preys on two or more victims, often traversing a broad range of classes and grades to target his/her victims. Although relatively fewer in number, this group of serial bullies was found to be responsible for a sizeable percentage of the bullying problems in the schools sampled. The data obtained support the notion that concentrating intervention efforts on this group will reap tremendous payoffs, by effectively eliminating the origin of much of the school's various forms of violence. The converse of serial bullying is multiple victimization, that is, more than one perpetrator can converge on one victim. The reasons why some children are chronically victimized and attract attack from multiple sources was discussed in the context of personality dispositions, peer-relational and family-relational factors, as well as its developmental links with workplace victim status in adulthood. The third pattern studied by Chan (2002) involved cases where children in the same family (i.e. siblings) turned up being named as bullies by their peers. Family influences (e.g. rearing practices, parental modelling) on aggressive behaviour in children have long been known. But transmission of influences between siblings, through acting as 'key pathogens' and/or 'partners in crime' is also responsible for the aggregation of delinquent behaviour. The familial pattern in bullying found in Chan's (2002) study is consistent with such transmission pathways. The ability to reveal the hidden patterns of interaction and links amongst bullies and victims in the context of the whole-school community attests to the significance and practical use of the *SLS* peer nomination method of asking victims to name the perpetrators of bullying. It makes possible the tracking of bullies and victims beyond class boundaries, thereby

Please address correspondence to: Dr John Chan, Psychological Services, Toronto Catholic District School Board, 80 Sheppard Avenue East, North York, Ontario M2N 6E8, Canada. Email: john.chan@tcdsb.org

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providing information that goes beyond individual data and incidence rates. What is more important, intervention and treatment can be more effectively implemented in a systems-wide approach, when there is integrated information from various key sources.

KEY WORDS: familial pattern in bullying; multiple victimization; non-anonymous School Life Survey; serial bullying; SLS peer nomination method; systemic patterns in bullying and victimization

Introduction

In his doctoral research, Chan (2002) designed a new instrument, the *School Life Survey (SLS)*, to measure school bullying and victimization. Apart from its demonstrated efficacy as a non-anonymous measure of bullying and victimization (Chan et al., 2005),¹ the *SLS* incorporated in its design a peer nomination method, which requires the respondents to name the perpetrator(s) for each of the scale items they endorsed, thereby disclosing the identity of the bullies. The names of the perpetrators could then be collated and examined across class lists and grades to reveal patterns of bullying and victimization that prevail at the systemic level of the whole school. The focal point of the analysis centered on students whose names repeatedly appeared under peer nominations as perpetrators, as well as those whose responses indicated they were being repeatedly victimized.

Three such systemic patterns of bullying and victimization were identified in Chan's (2002) study. The following discussion will address them under the headings of serial bullying, multiple victimization and the familial pattern in bullying.

Serial bullying

The *SLS* allows the respondents to name the perpetrator(s) of the bullying acts they have endured. Chan's (2002) results showed that in the majority of cases, victims were willing and able to provide the names of their perpetrators. More often, the acts committed against one individual victim can be traced to one single bully. However, there are also a good percentage of cases where different victims named the same bully as their attacker. This phenomenon can be termed serial bullying, and can be considered a more serious form of bullying not only in terms of the frequency of the acts committed against the victim, but also in terms of the large number of targets the bully preys on, thereby forming a clearly discernible pattern of persistent and deliberate attacks. This would match very well the common perception of the bully as one who tyrannizes and terrorizes everyone else in school, and could prove to be an important component in more accurately defining the nature of bullying and in distinguishing it from generalized aggression.

Based on victim nominations, when the list of bully names was collated and grouped, certain clusters of names began to appear and a pattern of serial bullying emerged. The term serial bullying is coined to describe the pattern of bullying within the whole-school context whereby more than one victim named the same individual as their attacker. In order to be counted, each attacker must meet the frequency cut-off criterion, which is four or more bullying acts against the victim within the time-frame of the past four weeks. A total of 435 names of bullies were acquired from 266 identified victims in Chan's (2002) study.

Table 1 below summarizes the distribution of the serial bullies by grade, as well as the frequency of the acts. Data entry in the row cells for Serial Cases denotes the case frequency as well as the number of victims involved. For example, 'Sb2' denotes a single case of serial bullying where two victims were involved. 'Sb4 × 2' denotes two cases of serial bullying where in each case four victims were involved. The numbers in bracket denote the total number of serial bullies for that particular cell.

Table 1 *Distribution of serial bullies by grade*

<i>Grade</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>Total</i>	
<i>Boys</i>										
Non-serial cases	5	9	14	8	13	10	13	6	78	
Serial cases	Sb2 Sb7	Sb2×2 Sb4	Sb2×3 Sb3 Sb4 Sb5	Sb2×3 Sb4×2 Sb7×2	Sb2×7 Sb4×2 Sb5 Sb6	Sb2×5 Sb3×4 Sb4 Sb10 Sb11	Sb2×6 Sb3×4 Sb4 Sb6	Sb2×5 Sb3×3 Sb6 Sb7 Sb15		
Number of serial bullies	(2)	(3)	(6)	(7)	(11)	(12)	(12)	(11)	64	
Number of victims involved	9	8	18	28	33	47	34	47	224	
Total number of bullies	7	12	20	15	24	22	25	17	142	
<i>Girls</i>										
Non-serial cases	2	3	8	14	6	12	4	7	56	
Serial cases	Sb3	Sb2	Sb2×5	Sb2×4 Sb3×2 Sb4×4	Sb2 Sb3 Sb4	Sb2×4 Sb4	Sb2×4 Sb3	0		
Number of serial bullies	(1)	(1)	(5)	(10)	(3)	(5)	(5)	(0)	30	
Number of victims involved	3	2	10	30	9	12	11	0	77	
Total number of bullies	3	4	13	24	9	17	9	7	86	

Ninety-four groupings of names, hence 94 serial bullies in total (boys + girls) can be identified in Table 1. The remaining 134 bully names in Table 1 were those of non-serial cases. That is to say, 228 bullies (serial + non-serial cases) in total were nominated, of which 41.2 percent (i.e. 94/228) were serial bullies and the other 58.8 percent (i.e. 134/228) were non-serial bullies, as identified through nominations by the 266 victims.

Table 2 provides a more detailed breakdown of these numbers by gender and grade division. Not surprisingly, more serial bullies turned out to be boys. Chi-square analysis was statistically significant for analysis of gender difference ($\chi^2 = 4.4, df = 2, p < 0.05$).

Table 2 *Distribution of non-serial bullies and serial bullies by grade division and gender*

	<i>Number of non-serial bullies</i>			<i>Number of serial bullies</i>		
	<i>Boys</i>	<i>Girls</i>	<i>B+G</i>	<i>Boys</i>	<i>Girls</i>	<i>B+G</i>
Primary division	14	5	19	5	2	7
Junior division	35	28	63	24	18	42
Intermediate division	29	23	52	35	10	45
Total	78	56	134	64	30	94

In both genders, there is a general age trend for the older students to engage more in serial bullying. In boys, but not in girls, this age trend is progressively incremental, with more serial bullies in the intermediate grades than in the junior grades, which in turn have more serial bullies than the primary grades.

The seriousness of serial bullying

Although relatively fewer in number than the non-serial cases, this group of 94 serial bullies who comprised only 12.4 percent of the total school population of grades 1–8 in the two schools (94/757) was responsible for a sizeable percentage of the bullying in the two schools studied. Together this group of 94 serial bullies accounted for 301 victim-names, which out of a total of 435 victim-names contributed to a significant 69.2 percent of the problem of victimization within a school.

Additional descriptive statistics for serial bullying in boys and girls are summarized in Tables 3a and 3b.

Consistent with other gender trends in aggression, serial bullying in boys is much more serious and ominous than in girls. With girl serial bullies, the number of their victims ranged from 2–4, and two victims was typical (both the mode and median is 2). With boy serial bullies,

Table 3a *Statistics for boy serial bullies*

<i>Number of victims involved</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative percent</i>
2	32	50.0	50.0
3	12	18.8	68.8
4	8	12.5	81.3
5	2	3.1	84.4
6	3	4.7	89.1
7	4	6.3	95.3
10	1	1.6	96.9
11	1	1.6	98.4
15	1	1.6	100.0
Total	64	100.0	
Mean	3.50		
Median	2.50		
Mode	2		
SD	2.46		
Minimum	2		
Maximum	15		

Table 3b *Statistics for girl serial bullies*

<i>Number of victims involved</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative percent</i>
2	19	63.3	63.3
3	5	16.7	80.0
4	6	20.0	100.0
Total	30	100.0	
Mean	2.57		
Median	2.00		
Mode	2		
SD	0.82		
Minimum	2		
Maximum	4		

the spread is much greater, with a range of 2–15. Each boy serial bully targeted an average of 3.5 victims, while each girl bully targeted an average of 2.57 victims.

Evidence from this study points to serial bullying as being much more serious than non-serial bullying, not only because of the number of victims it generates, but also in terms of the type of bullying that took place. Some serial bullies engaged only in the indirect types of bullying (i.e. verbal and relational), but they were in the minority. From an analysis of which *SLS* items were endorsed by the victims,

serial bullies emerged as more typically involved in physical victimization of their victims. Furthermore, serial bullies who engaged in the physical type of bullying almost invariably mixed in varying degrees of the indirect types as well. In accordance with the victims' reports, when the serial bullying cases were compared with the non-serial bullying cases, it was apparent that serial bullying was associated with a much higher occurrence of bullying that included a physical component, as shown in Table 4 below.

Table 4 *Type of bullying in serial versus non-serial bullying*

<i>Type of bullying</i>	<i>Serial bullies (N = 94)</i>	<i>Non-serial bullies (N = 134)</i>
Without physical involvement	26/94 (27.7%)	71/134 (53%)
With physical involvement	68/94 (72.3%)	63/134 (47%)
Physical involvement with bodily attacks	49/94 (52.1%)	19/134 (14.2%)

Victims of serial bullying suffered more of the physical type of victimization than their counterpart in non-serial bullying. Chi-square analysis indicated that the difference was highly significant statistically ($\chi^2 = 14.5$, $df = 1$, $p < 0.001$). For the kind of physical bullying that involves bodily attack or even injury (i.e. Item #1 on the *SLS Victimization Scale*) along with the possibility of other concurrent physical acts, chi square results were even more highly significant ($\chi^2 = 33.05$, $df = 1$, $p < 0.001$), indicating that many more serial bullies than non-serial bullies subjected their victims to this serious form of aggression, which would constitute particular concern about personal safety in school.

Case illustration of a serial bully

Figure 1 below charts the aggression targets of one serial bully. This may be an extreme example, but it serves to highlight the serious nature of the phenomenon of serial bullying, which deservedly is an important topic for more in-depth research.

In Figure 1, the serial bully's total frequency of aggression towards each of his victims during the past four weeks was coded in accordance with the differentiated types. P stands for Physical victimization, and if it involved hurting others through hitting or beating up someone (at least once or more), then P was italicized (i.e. Victim #4, #5, #6 and #10). V stands for Verbal victimization and R stands for Relational victimization.

To illustrate, Victim #6 reported receiving 31 acts of physical victimization (some of which involved being hit or beaten up), 35 acts of

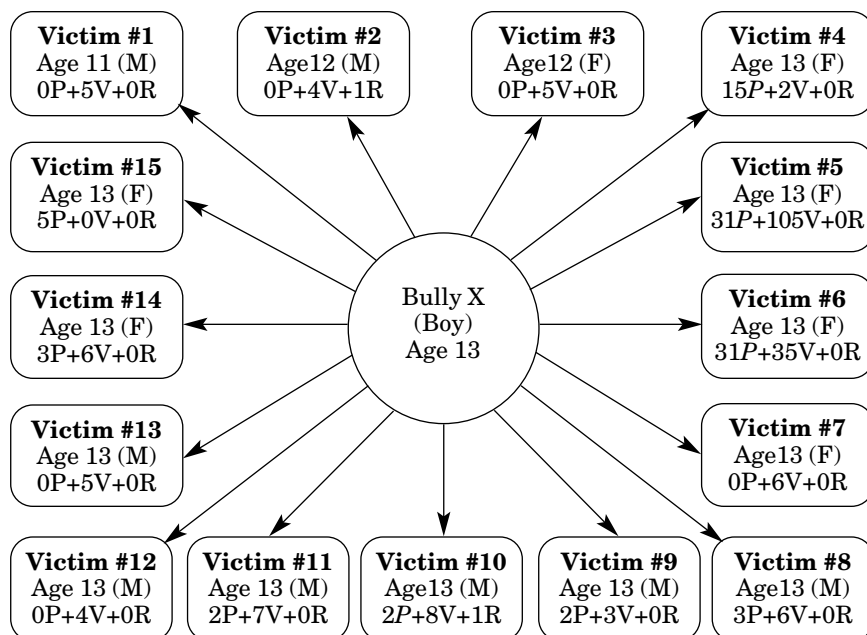


Figure 1 *Serial bullying: the aggression targets of one serial bully*

verbal victimization, and 0 act of relational victimization from this serial bully in her class. The total frequency of bullying acts can be obtained by adding the frequencies of each of the victims in accordance with the differentiated types. This particular student was already known to the school authority, and at the time of the survey intervention in the case was well on its way through the special education services of the school board.

Of the 15 victims, eight of them (Victims #8–#15) were from the serial bully's own class. Four others (Victims #4–#7) were from another grade 8 class. He also bullied three younger students, two of whom were from grade 7 (Victims #2 and #3). Victim #1 was from another split 6/7 class.

As is the case with the other serial bullies identified in this study, the majority directed their aggression at others in their own class or grade, or those who were one grade lower. Bullying others two or more grades younger is an infrequent occurrence.

Sociometric data for this serial bully indicated that he was unpopular among his classmates. He received nominations from 38.1 percent of the participants from his own class as being the least-liked person in class. No one nominated him for being a good friend. He was also nominated

by 52.4 percent of the participants as being the person who picked on others the most. These percentages were particularly significant as the participants were allowed only one choice in their nominations. It should be noted that this serial bully did not sign up to participate in the study, as was the case for a number of other bullies known to the school. The information collected on him would have been unavailable through the conventional questionnaires. The serial, cross-class patterns of his acts would also have gone undetected. Such revelations were made possible by the peer nomination method, which requires victims to name their perpetrators, thereby effectively utilizing other informants to provide the needed information, in lieu of his cooperation.

Implications of serial bullying

The findings regarding serial bullying carry a number of important implications for prevention and intervention of school violence. One direct application for anti-bullying work is that with the identification of the serial bullies the origin of most of the victimization problems in a school can now be traced, as well as a good part of the physical violence associated with it. Physical bullying, which often involves bodily harm and injury, is of the greatest concern to schools because it impacts directly on the personal safety of students. The other indirect types of bullying are much harder to prove, and are not always recognizable as bullying by either children or adults (Arora, 1996). However, as the data show, serial bullies do not merely restrict their aggression to the physical domain, but more typically mingle their acts with verbal and relational bullying. Therefore, detecting the serial bullies and putting an end to their reign of terror will in effect rid the school of much of the bullying problems in its midst.

The data from this study showed that serial bullies could be found at every grade level. A total of three students as young as grade 1 were named by schoolmates as serial bullies. This finding should not come as a surprise as the history and developmental pathways of bullying behaviour can be traced back to a very young age, in some instances even in the kindergarten years (Kochenderfer and Ladd, 1996; Ladd and Burgess, 1999). Perry et al. (1990) offered an explanation of how this process of target selection comes about. They proposed that in the early stages of group formation (e.g. such as entering kindergarten), aggressive children 'try out' aggressive behaviours towards a variety of targets. By 'sampling' a wide range of potential targets, aggressors may learn about the reactions of potential victims and cognitively represent those reactions in the form of outcome expectancies and values. Once these aggressive children understand the victims' likely reactions, they may focus their attacks on an increasingly narrow range of peers,

i.e. those who reinforce their aggressive behaviour. If that is the case, serial bullying in younger and older students may actually reflect different levels and stages in the formation of the delinquent behaviour. In younger children, serial bullying could signal the diffused beginning of a bullying career, marked by an indiscriminate sampling of targets. In older students, serial bullying is no longer about experimentation. The behavioural pattern has now crystallized into a series of systematic and planned attacks on a selected range of targets.

School personnel should not have too much difficulty identifying a serial bully, even without the aid of a formal survey. As research has shown, there is a definite course, a pattern of development that these serial bullies follow, which should be clearly discernible from an early age. Its history will cover an extended time frame, pot-marked by a trail of victims. Perhaps this serial characteristic is the one essential component missing in the definitions of bullying. Existing definitions of bullying have all focused on one victim being the target of one or more bullies, but have not allowed for the possibility of one bully targeting several victims. Certainly this notion of serial bullying fits well into the everyday understanding of the bully as an individual who routinely tyrannizes the whole school, one who systematically persecutes and torments others. This serial characteristic of bullying has so far escaped detection and measurement by conventional tools due to the fact that they do not go beyond the individual respondent to look at global patterns of bullying and victimization within the school. It requires a method like the one pioneered in Chan's (2002) study which traverses class boundaries to track down such patterns.

The phenomenon of serial bullying has important practical implications for society's efforts to help its troubled youths. It has been shown that the frequency of juvenile antisocial behaviours is still the best predictor of adult anti-social behaviour. Aggression is often learned at an early age. In fact, according to the report by the APA Commission on Violence and Youth (1994), it is possible to predict from an eight-year-old's aggressive behaviour in school how aggressive that child will be in adolescence and adulthood – including whether he or she will exhibit criminal and antisocial behaviour. If serial bullying can be taken as one such significant predictor, then the fact that it is clearly detectable as early as grade 1 (age 6) would mean that we have a lot of pre-warnings about the impending troubles. In studies of anti-social youths, it has been found that if we intervene effectively and consistently at the point of, and following the point of school entry, the chances are relatively good that we can divert them from a destructive path leading to a host of negative developmental outcomes (Reid, 1993). The problem takes on much urgency; we are in fact racing against time because, as Kazdin (1987) pointed out in his studies of anti-social youths, if we have not

impacted the problem by grade 3 or 4 through comprehensive intervention, then we are unlikely to turn the child around.

Multiple victimization

The converse of serial bullying is multiple victimization, that is, more than one perpetrator can converge on one victim. Chan’s *School Life Survey* (2002) allows victims to nominate their perpetrators and there was no restriction on how many names each victim could put down. From self-reports on the *SLS Victimization Scale*, if two bullies or more set on a victim, and each of them met the cut-off criterion, the case was counted as one of multiple victimization. A total of 266 names of victims were thereby identified.

The grade and gender distribution for the 266 victims is given in Table 5.

Table 5 *Distribution of non-multiple victims and multiple victims by grade division and gender*

	<i>Number of non-multiple victims</i>			<i>Number of multiple victims</i>		
	<i>Boys</i>	<i>Girls</i>	<i>B+G</i>	<i>Boys</i>	<i>Girls</i>	<i>B+G</i>
Primary division	26	23	49	1	0	1
Junior division	21	36	57	23	26	49
Intermediate division	39	28	67	28	15	43
Total	86	87	173	52	41	93

Table 6 provides further information regarding the distribution of the multiple victims by grade as well as the range of the number of bullies that were involved. Data entry in the row cells for Multiple Cases denotes the case frequency as well as the number of attackers involved. For example, ‘Mv2’ denotes a single case of multiple victimization where two attackers were involved. ‘Mv4 × 2’ denotes two cases of multiple victimization where in each case four attackers were involved. The number in brackets denotes the total number of multiple victims for that particular cell.

The foregoing data indicated 65 percent (i.e. 173/266) of the cases of victimization were non-multiple in nature, while the remaining 35 percent (i.e. 93/266) were cases of multiple victimization. In other words, these 93 victims gave multiple nomination of bullies, indicating that the source of their victimization involved at least two perpetrators. As can be seen from further analysis in Tables 7a and 7b below, typically the number of bullies involved were two cases in each gender (both mode and median being 2 in both the boy statistics and girl statistics).

Table 6 *Distribution of multiple victims by grade*

<i>Grade</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>Total</i>
<i>Boys</i>									
Non-multiple cases	16	10	5	8	8	16	13	10	86
Multiple cases		Mv2	Mv2×5 Mv3 Mv5	Mv2×5 Mv3 Mv7	Mv2×5 Mv3×2 Mv4 Mv7	Mv2×6 Mv3 Mv4×2 Mv6	Mv2×7 Mv3×3 Mv4	Mv2×6 Mv4	
Number of multiple victims	(0)	(1)	(7)	(7)	(9)	(10)	(11)	(7)	52
<i>Girls</i>									
Non-multiple cases	13	10	13	11	12	13	5	10	87
Multiple cases			Mv2×3 Mv3×3 Mv5×2	Mv2×6 Mv3×2 Mv4 Mv5×3 Mv7	Mv2×5	Mv2×3 Mv3 Mv4 Mv5 Mv9	Mv2×5	Mv2×2 Mv3	
Number of multiple victims	(0)	(0)	(8)	(13)	(5)	(7)	(5)	(3)	41

Gender difference was not found in respect of susceptibility to multiple victimization. There were apparently fewer multiple victims in the primary division. But this could be an artefact because many grade 1 and grade 2 students were not able to write down the names of those who bullied them and hence their cases were not counted. There was no age difference between the junior and intermediate divisions.

Case illustration of a multiple victim

Figure 2 below charts the bullying sources for one multiple victim. Again, an extreme example is chosen to illustrate the extent of multiple victimization that can happen in the school setting.

In Figure 2, the frequency of bullying acts the victim received from each of her aggressors during the past four weeks was coded in accordance with the differentiated types. P stands for Physical victimization, and if it involved hurting others through hitting or beating up someone, then P was italicized. V stands for Verbal victimization and R stands for Relational victimization. To illustrate, Victim X reported that Bully #1 committed 13 acts of verbal victimization against her, but no physical or relational victimization. The total frequency of bullying acts

Table 7a *Statistics for boy multiple victims*

<i>Number of bullies involved</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative percent</i>
2	35	67.3	67.3
3	8	15.4	82.7
4	5	9.6	92.3
5	1	1.9	94.2
6	1	1.9	96.2
7	2	3.8	100.0
Total	52	100.0	
Mean	2.67		
Median	2.00		
Mode	2		
SD	1.25		
Minimum	2		
Maximum	7		

Table 7b *Statistics for girl multiple victims*

<i>Number of bullies involved</i>	<i>Frequency</i>	<i>Percent</i>	<i>Cumulative percent</i>
2	24	58.5	58.5
3	7	17.1	75.6
4	2	4.9	80.5
5	6	14.6	95.1
7	1	2.4	97.6
9	1	2.4	100.0
Total	41	100.0	
Mean	3.00		
Median	2.00		
Mode	2		
SD	1.60		
Minimum	2		
Maximum	9		

can be obtained by adding the frequencies of each of the victims in accordance with the differentiated types. Thus Victim X received a total of six acts of physical victimization (no direct hitting or being beaten up though), 54 acts of physical victimization and 37 acts of relational victimization.

Of the nine bullies, only two (Bully #2 and 3) were from another grade 6 class. All the other seven bullies were from the victim's own class, which happened to be a split-grade class. The source of victimization was therefore mainly from peers in her own class.

Sociometric data for this multiple victim indicated that she was

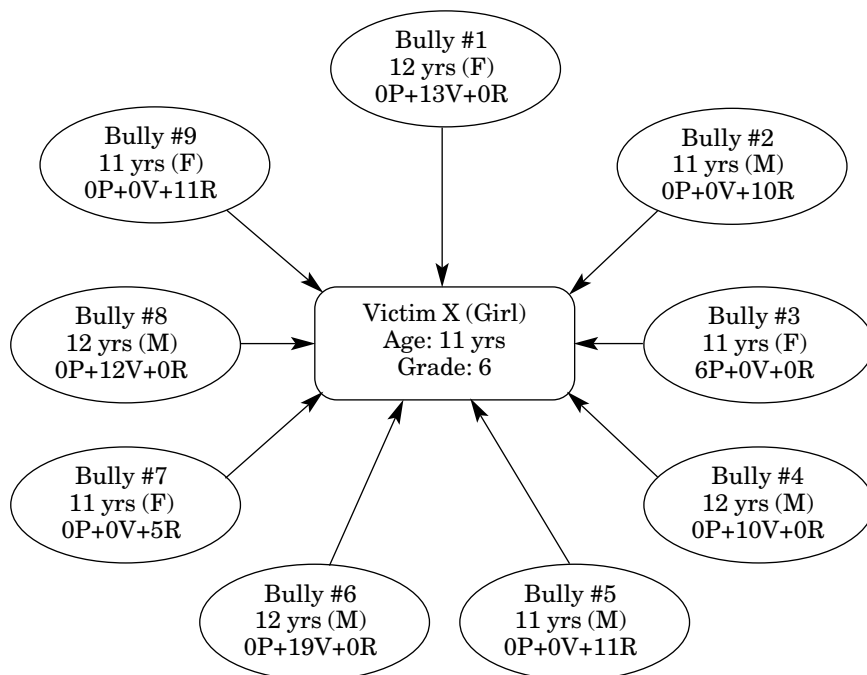


Figure 2 *Multiple victimization: the bullying sources for one multiple victim*

nominated by one student in her class as being a best friend. Two classmates named her as being the least-liked person in class. She also received the most nominations for being the person being picked on most in the class.

Implications of multiple victimization

Under the assurance of confidentiality to the respondents in Chan's (2002) original study, it was not possible to follow-up with the school to investigate whether the multiple victimization was carried out by unrelated aggressors or whether it was the work of a gang whose members assume different participant roles in the bullying act (Salmivalli et al., 1996).

The reasons why some children attract attack from multiple sources are worthy of investigation. The likelihood that a child is habitually abused by peers is known to be affected by personal, peer-relational and family-relational factors (Perry et al., 2001). According to these researchers, personal factors can include such aspects as physical

attributes (e.g. deviant external features), behavioural attributes (e.g. being attention-seeking, disruptive and restless) and social-cognitive factors (e.g. deficiencies in social information processing).

But personal factors should also include personality dispositions, which are increasingly shown to be an important determinant of chronic victimization. Some useful evidence in this direction has emerged from the pilot stage of this study. In the pilot survey students were asked an open question as to why a person was being bullied. The most frequently quoted reasons were: 'they do not stand up for themselves', or they 'annoy' others. In their own way, the students were telling us what current research is finding out about the personality variables relating to victimization.

In a recent study Coyne et al. (2000) identified the factors or personality traits that annoy or alienate others are those that lead to victimization. Using the framework of the 'Big Five' personality traits in the literature (extraversion, emotional stability, agreeableness, conscientiousness and culture), these investigators showed that one type of victims of bullying in the workplace tended to show the personality traits of being submissive, conscientious, reserved, anxious and having difficulty in coping effectively. These findings are consistent with previous research in the school setting (Bryne, 1994; Mynard and Joseph, 1997; Slee and Rigby, 1993). Coyne et al (2000) further argued that this personality profile is characteristic of 'vulnerable victims' who have 'weaknesses' in their personality and hence are subjected to the type of bullying which is predatory. This personality description matches the report given by students in the pilot study that children who are victimized are often those who 'do not stand up for themselves'.

On the other hand, the victims in the current study who were described by peers as 'annoying' may match what Coyne et al. categorized as 'provocative victims who induce dispute-related bullying' (p. 346). According to Coyne et al., this type of victims has another distinctive personality profile. They tended to score high on the conscientious scale and hence are generally rule-bound and moralistic, as well as organized. Coyne et al. hypothesized that perhaps this rigid, traditional, often perfectionistic style in the workplace may annoy fellow work colleagues and lead to bullying.

Whether workplace victimization has its antecedence in childhood, the extent to which school bullying and workplace bullying are affected by similar social and personality variables and processes are important questions whose answers will carry significant implications for practical intervention and early prevention. The findings of the current study and that of Coyne and his colleagues argue cogently for a more vigorous interface between research in school bullying and research in workplace bullying through longitudinal designs.

Familial pattern in bullying

In addition to the pattern of serial bullying, when the names of bullies provided by the victims were collated, another pattern came up which showed that there were about half a dozen cases in each school where children in the same family (i.e. siblings) turned up being named as bullies by their peers. There were also two cases where a sibling named the brother or sister as the bully. Whether sibling bullying should be examined within the framework of bullying, or more appropriately as intra-family dynamics or family dysfunction, is an open issue.

The influence of the family on aggressive behaviour in children has of course long been known (e.g. Smith and Myron-Wilson, 1998). Coercion theory (Patterson, 1984; Patterson et al., 1992) suggests that irritable, inconsistent, coercive parenting interacts with noncompliance in children to produce escalating cycles of coercive exchanges between parents and children that lead to child aggression and antisocial behaviour. The adverse effects of inept parenting, characterized by coercive exchanges and a lack of parental monitoring, are exacerbated by a tolerance by parents for sibling conflict and are associated with high levels of negative interactions among siblings. Patterson et al. (1984) showed that inept parental discipline was related to negative exchanges with siblings, which in turn correlated with boys' physical aggression and externalizing behaviours. Recently, Garcia et al. (2000) found even more direct connections between destructive sibling conflicts and conduct problems. They reported that sibling conflict continued to contribute unique variance to the prediction of conduct problems in children even after SES, early externalizing problems and rejecting parenting had been controlled. Several studies had also reported that sibling effects on delinquency are independent of the influence of other salient factors, such as parental and peer influences (Farrington and West, 1993; Lauritsen, 1993; Rowe and Gulley, 1992).

However, it is not only negative sibling relationships, e.g. conflictual and coercive interactions that contributed to delinquency in children. Slomkowski and colleagues (2001) recently reported that high levels of warm-support relationships also predicted delinquency in brothers. The process of influence by which delinquency is transmitted between siblings is also better understood. There are two different theories that have been put forward to explain sibling aggregation for delinquent behaviour. The first is 'siblings as key pathogens' (Patterson, 1984), which suggests that siblings provide social learning or training models for developing antisocial tendencies. The second is the 'partners in crime' theory, which proposes that siblings may commit delinquent acts together as a variant of the well known mechanism of association with deviant peers (Rowe and Gulley, 1992; Rowe and Rodgers, 1989).

Slomkowski et al. (2001) provided new data that could reconcile the

differences between the two theories. They used age as a critical factor to explain how specific aspects of the sibling relationship that may condition sibling similarity are contingent on the developmental period under study (e.g. pre-adolescence versus adolescence). Of importance too, is their finding that sisters, like brothers, show notable similarity for delinquent behaviour.

The detection of a familial pattern of bullying is therefore consistent with existing data in the criminal literature. As a precursor of adult criminality, there is strong reason to believe that bullying similarity in siblings mirrors the developmental pathways and processes identified in Slomkowski and colleagues (2001) study. Sibling interactions and influences in bullying should prove to be an important focus for future research in relation to dysfunctional family systems, and the evidence argues for the importance of a family approach in the assessment and treatment of bullying problems in children.

Conclusion

The ability to reveal the hidden interpersonal patterns and links within the student community attests to the significance and usefulness of the peer nomination method employed by the *School Life Survey*, that of asking victims to provide names of their bullies. In a non-anonymous survey of the whole school, whereby all the respondents' names are available, the different systemic patterns of bullying and victimization can be readily detected and studied. Bullies and victims now have a name and a face (Chan and Rauenbusch, 2004). With the availability of this information intervention and treatment can be more effectively formulated and implemented, when decisions can be made on the basis of broad knowledge about the whole system and its various role players and not on isolated facts and scattered evidence, which is often the case with the data obtained from anonymous surveys.

With the *SLS*, the intricate web of inter-relationships amongst bullies and victims can be tracked across class boundaries, yielding information that goes beyond individual scores and incidence rates. Looking at bullying from this ecological level could open another window into the school's culture and climate. The *SLS* has recently been adapted to investigate dimensions of the school's ethos such as pro-social behaviour and generalized aggressiveness in the student culture. Recent research development has placed similar emphasis on the social context of bullying. Bullying is seen as a group process, with the key players assuming different participant roles in relation to their social status within a group (Salmivalli et al., 1996). The social dynamics, personality characteristics and familial factors underlying the systemic patterns of bullying and victimization described in this

paper would certainly deserve more exploration in future research, as a better understanding of how these patterns form and persist will contribute tremendously to the creation of better mental health and learning conditions for the millions of students who live in constant fear of their personal safety in our schools.

Notes

1. The interested reader is referred to this article for a more detailed description of the *School Life Survey*, its items, characteristics and scoring.

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