Reducing Bullying in High Schools: An evaluation of school-based initiatives for the prevention and management of bullying

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Abstract

Whole-school anti-bullying programs are widely recognised as the best, evidence-based approaches to reducing school bullying. Despite this, few published studies have been conducted within high schools to systematically evaluate anti-bullying interventions using a control group design. To this end, a quasi-experimental study of anti-bullying interventions was conducted in four international secondary schools in Hong Kong. The four secondary schools were randomly assigned to: (a) a whole school curriculum intervention, (b) a combined Year 7 curriculum and shared concern intervention, (c) a shared concern only intervention and (d) a control school. The sample consisted of 549, year 7 students who anonymously completed a pre-test / post-test questionnaire. Results were analysed using several ANOVA procedures. When post-test composite bullying scores were adjusted for pre-test school differences, a highly significant main effect for schools was found (F = 7.70 p < .001). In further comparisons, a repeated-measures ANOVA showed the most significant reduction in bullying composite scores occurred when a whole school intervention was used (F = 10.73 p < .001). Bullying levels increased from pre-test to post-test over the school year for both the control school and the school that adopted a shared concern only approach. These results provide strong support for the need for high schools to adopt a whole-school preventative and management approach if they are to be effective in reducing student bullying.

School bullying continues to represent one of the most insidious and widespread manifestations of childhood aggression. It forms part of a complex pattern of social behaviour and extensive evidence now shows that there are significant developmental consequences for both bullies and victims. Aggression has remained the single most important factor in accounting for rejection and acceptance by peers and other sociometric statuses (Coie, 2004; Newcomb et al., 1993). Other consequences of bullying include poor school adjustment (Slee, 2001) and widely documented health and emotional problems (Olweus, 1991; Reid, Patterson & Snyder, 2002; Rigby, 2001).

Research definitions of bullying generally include three criteria. It is widely accepted that bullying behaviour causes harm (verbal, psychological or physical), that it occurs in the context of a power imbalance and that it involves repetition of the actions (Rigby, 2002a). In an early study of how secondary students define bullying, Arora and Thompson (1987) found considerable overlap between student definitions and researcher definitions. Smith and Sharp (1994, p. 2) in a widely utilised definition, describe bullying as the “systematic abuse of power”. These researchers go on to acknowledge “the exact definition of what constitutes abuse will depend on the social and cultural context”. To complicate descriptions of bullying the phenomena is generally recognized as a covert activity. Rarely are there direct adult witnesses to school bullying. Even
more recent definitions of cyber-bullying are now moving to recognise the three elements identified in earlier definitions (e.g. Hinduja and Patchin, 2009).

The impetus for widespread interest in school bullying was the publication of Olweus’ (1993) classic study on reducing school bullying in Norway. Using a quasi-experimental design, a large sample (n<2500) and a two year follow-up, Olweus obtained a 50 percent reduction in student-reported bullying. The intervention involved students completing a pre-test / post-test bullying questionnaire, all teachers receiving a training package and the use of a video to raise student awareness about bullying issues. Olweus’ reports of such a significant reduction in childhood aggression led to unprecedented levels of international interest in the area. A range of replicated interventions quickly followed. These included the Sheffield project in England (Smith, 1999) and Rigby’s (1996) work on school bullying in Australia.

In the United Kingdom, Smith and his colleagues undertook an ambitious replication of the Olweus intervention and analysed data from 6,500 student responses to the Olweus bullying questionnaire (Smith and Sharpe, 1994). A total of 16 primary schools and 7 high schools took part in the study. A range of interventions was evaluated in the Sheffield project with most interventions incorporating a “whole-school” approach. Optional components were also included in the intervention package. Smith (1999) reported a 17 percent mean decline in bullying following the intervention in primary schools and a 5 percent mean decline in high schools. The outcomes for anti-bullying interventions in high schools were less convincing and comparisons between the high schools were complicated by variations in how thoroughly the interventions were implemented.

In Australia Rigby (1997) undertook a large scale empirical investigation of school bullying and over 24,000 students have now completed the Rigby self-report bullying questionnaire. Rigby found that 1 child in 6 is bullied every week in Australian schools. Boys report being bullied more often by physical means and threats while girls are more often bullied by indirect means, such as exclusion. The most common form of bullying reported was verbal harassment and only slightly more than half the victims tell another person about the bullying. Despite these levels of bullying, the majority of students do support victims and want to see bullying stopped. Rigby noted clear developmental trends when informing about bullying. Informing declines with age. When students do inform they are most likely to tell a friend, their mother, their father and lastly their teacher.

Rigby also identified the reasons typically given by students to account for bullying. Often these reasons are not for tangible gains or other instrumental needs. Students in Australia reported they typically bully others because; “they annoy me”, “to get even” “it’s fun”, “others are doing it” and finally to “get things / money” (Rigby, 1997). Nevertheless, in high school there is a lack of confidence among many adolescents in teachers’ perceived capacity to intervene to successfully stop bullying (Rigby and Bagshaw, 2003). Between the ages of 10 years to 14 years the proportion of students in Australian schools who are actively against collaborating with teachers to try to stop
bullying or are unsure whether they want to collaborate with teachers doubles to approximately 40 percent. Rigby and Bagshaw (2003) suggest that when appropriate, high schools should adopt a non-punitive approach to managing bullying and make the protection of informants a priority in order to improve cooperation between students and teachers to reduce bullying.

Several decades of empirical research has failed to clearly identify robust psychological characteristics of bullies and victims. The distinction is complicated by the fact that in different contexts, it is not unusual for students to be both bullies and victims. A clear pattern that has emerged from the literature is that students who are new to schools and students who are “different” from the mainstream are most at risk of being bullied. It has been well documented that students who are perceived to have intellectual disabilities, emotional / behavioural disorders, who are gifted, from minority backgrounds and same sex attracted are more at risk of being bullied in high schools (Sullivan, Cleary and Sullivan, 2004). It is therefore no surprise that the worst levels of bullying have been found in year 7 cohorts.

Since these pioneering studies, the issue of school bullying has remained topical. Australian data from Kids Help Line showed that for callers, aged 15 years or younger, bullying was the second most common reason for seeking anonymous counselling help (Kids Help Line, 2006). This pattern held for all groups except for females in the 10 to 14 year age group. For this group it was the third most common problem after family relationships and relationships with friends or peers. Kids Help Line data also showed that students from indigenous and non-English speaking backgrounds reported high levels of harassment based on ethnicity. Further, significant concerns have recently emerged about new permutations of bullying such as cyber-bullying (Shariff, 2008).

Despite numerous publications advising high schools on the best approaches to reduce bullying very few studies have utilised a comparison control group and pre-test / post-test measures to evaluate the effectiveness of such interventions. Rigby (2002b) reviewed best-evidence international approaches to reducing bullying in schools. From an extensive review of the international literature he identified only six studies with a control group and pre-test / post-test measures. However, the majority of these studies were conducted in primary schools.

Smith, Pepler and Rigby (2004, p. 2) recommended that “countering bullying requires a whole school approach”. Whole school approaches are generally characterized by coordinated action at the levels of the individual student, the classroom and the school as part of a broader community. Elements of a whole school approach typically include the high school adopting a school anti-bullying policy; curriculum interventions to raise awareness of bullying and teach students specific preventative and management strategies; and programs for others to deal with known cases of bullying. Programs for managing bullying within schools vary, but generally include discipline interventions and/or the use of mediation sessions. In Australia, mediation sessions include the use of the shared concern approach (Pikas, 2002); the use of trained peer mediators and restorative justice approaches (Morrison, 2001).
Aim of the study

Given the need for more rigorous research into the effectiveness of high school anti-bullying programs, the aim of the study was to evaluate the effectiveness of high school interventions for bullying using a pre-test / post-test, control group design. School interventions which have broad empirical support, the whole school approach and Pikas’ common / shared concern method, were chosen for evaluation. The experimental hypothesis was that those schools receiving an intervention should reduce overall student reported levels of bullying. Given the relatively low number of instances of bullying being reported to teachers and the difficulty in reducing aggressive behavior using individual treatments, it was further hypothesized that intervention at the school level would be more effective in reducing overall rates of bullying than management interventions at the individual student level.

Method

Participants

A total of 549 year 7 students from four international schools in Hong Kong took part in the study. The sample of students was culturally diverse. Major ethnic groups represented within the schools included students from Chinese, Asian, European and Sub-continental backgrounds.

Students from each school were already allocated into year 7 classes or houses and completed the questionnaires and curriculum interventions within their classes. Twenty-one classes (located in the four schools) participated in the study. All students in year 7 who were present at school on the days of the surveys and interventions took part.

From the initial pretest, 545 valid questionnaires were included in the analysis. Females (n = 285) outnumbered males (n = 252). At the 7 month follow-up 549 valid questionnaires were obtained. Again females (n = 297) outnumbered males (n = 252). A small number of questionnaires (n = 14 or 1 percent) were rejected from the final analysis due to missing data or highly inconsistent responses which could not be logically coded.

Measures

A small number of studies have investigated the reliability and validity of different measures of school bullying. Ahmad and Smith (1990) compared five methods of assessing bullying amongst school children. These researchers concluded that the best method for establishing the incidence of bullying from middle school years and upwards is the anonymous questionnaire. Olweus (1991) also concluded that anonymous questionnaires are a reliable method of measuring bullying within schools. Typically only around 1 percent of responses need to be rejected and significant correlations have been found between peer ratings and composite scores of self-reported bullying (Olweus, 1991).
The secondary school version of the Olweus (1991) self-report questionnaire was used to assess the incidence of bullying. In order to monitor the implementation of the program, a brief checklist was devised for teachers involved in the intervention and control schools. Teachers in the intervention schools were asked whether they had delivered the various components of the program, how they had managed reported incidents of bullying and for their personal reactions to the interventions.

**Procedure**

The four Hong Kong international secondary schools which participated in the study had equivalent governance, administrative and funding structures and used the core British national curriculum. To evaluate the effectiveness of the interventions a factorial, quasi-experimental design incorporating pre-test / post-test non-equivalent control groups was utilized (Campbell and Stanley, 1958). The design was selected as it offers the greatest control of extraneous variables when random assignment of subjects to conditions is not possible. An advantage of the design is that since existing class arrangements and teachers were used for the intervention, possible threats from reactive arrangements were minimized (Gay, 1987). In addition the design allowed students to complete questionnaires anonymously thereby providing an unobtrusive measure of bullying.

Major demographic studies of bullying have reported a negative correlation between being bullied and age. To control for this effect, only data for year 7 students was included in the analysis. Each school was randomly assigned to one of four experimental conditions as indicated in Figure 1:

<table>
<thead>
<tr>
<th>Individual Level (Shared Concern)</th>
<th>School Level Intervention (policy, assembly, curriculum intervention)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes: School 1</td>
</tr>
<tr>
<td></td>
<td>No: School 3</td>
</tr>
<tr>
<td>No</td>
<td>Yes: School 2 (Whole School)</td>
</tr>
<tr>
<td></td>
<td>No: School 4 (Control)</td>
</tr>
</tbody>
</table>

Figure 1

In delivering the interventions only year 7 students participated except in School Three where the school intervention was carried out for every class within the school. In this sense, the intervention in School Three reflected most clearly a “whole school approach” as described within the literature.
Results

Consistent with other research, the most common form of bullying that students reported was name calling. Verbal harassment represented 36% of all reported bullying. After name calling, being physically hurt (13%), having rumors spread about me (13%) and having my belongings taken away from me (12%) were the most frequent types of bullying encountered. The use of racist names occurred less frequently and accounted for 7% of all bullying.

The majority of students who were bullied were bullied in more than one way. Further, clear differences were evident in the types of bullying experienced by boys and girls. Boys were significantly more likely than girls to be physically hurt ($\chi^2 = 18.46, p < .00$, threatened ($\chi^2 = 14.37, p < .00$) and called racist names $\chi^2 = 6.53, p < .01$). Girls tended to be subjected to more indirect forms of bullying and were significantly more likely to be ignored by other students ($\chi^2 = 7.56, p < .01$).

When questioned about who perpetrated the bullying, the most likely perpetrator was “mainly one boy”. Bullying by single boys accounted for 40% of the total bullying. The second most likely source of bullying was by several boys and this was followed by bullying by both boys and girls. Groups of girls were the least likely to engage in bullying others. The data also revealed that girls tended to be bullied only marginally more often by males than females. Boys on the other hand were overwhelmingly bullied by other males. Students were equally likely to be bullied by someone in their own class as from someone in a higher year.

The majority of students who reported being bullied at school had not informed a teacher. Indeed only 19% of victims indicated that they had reported the bullying to school authorities. Half of the respondents answered that they would take no action if they saw a peer being bullied. A different picture emerged when students were asked whether they had told anyone at home about the bullying. Almost half of the students (47%) said that they had told someone at home. These differences in reporting bullying at home and at school were highly significant ($\chi^2 = 16.09, p < .00$). Students were far more likely to tell someone at home about school bullying than a teacher.

Students were asked if they thought they would join in bullying another young person whom they did not like. The majority of respondents (58%) indicated that they would not join in the bullying. Nevertheless, 15% reported that “yes” or “yes, maybe” they would join in the bullying. When asked what they thought of other students who bullied, 54% of students said they found it difficult to understand why others do it, or they were personally upset by the behavior.

In order to investigate the hypotheses that bullying would be reduced significantly following interventions and that school level interventions would be more successful than individual level interventions, the data was subjected to several ANOVA procedures. A one-way ANOVA performed on the pre-test bullying composite scores revealed significant differences between the schools at pre-test $F(3, 538) = 6.63 p < .0002$. In
order to statistically control for these initial school differences in bullying, a subsequent two-way, repeated measures ANOVA was performed.

As classes represented the basic sampling unit, with individual students nested within classes, which were nested within schools, pre-test and post-test class levels of bullying were examined. When post-test scores were adjusted for pre-test differences using the repeated measures procedure, a highly significant main effect for schools was found ($F = 7.70, p < .001$). The interaction between pre-test and post-test scores was also found to be highly significant ($F = 5.23, p < .009$) (Figure 2).

**Pre-test / Post-test composite bullying scores by school**

![Graph showing the pre-test and post-test composite bullying scores by school](#)

**Figure 2**

Both School One (year 7 curriculum intervention plus shared concern method) and School Two (curriculum intervention delivered to all year levels) reduced the amount of bullying at post-test. By contrast, within School Three (shared concern method only) and School Four (control) bullying increased during the period of the study.

Separate one way ANOVAs for each school confirmed the above findings. A highly significant reduction in bullying for School Two ($F(1, 162) = 10.73, p < .001$) was found when the bullying composite score was used as the dependent variable. When answers to the question, “How often have you been bullied at school this term?” was used as the bullying measure, a significant reduction in bullying was also found in School One ($F(1, 277) = 3.44, p < .05$).

**Discussion**

The results revealed a high incidence of bullying within the international schools that were surveyed. Almost one in five year 7 secondary students were bullied at school “sometimes” or more frequently. This is consistent with research showing that students who are new to schools are often the target of bullying (Sullivan et al., 2004). Schools with a more mobile student population would be expected to have higher levels of bullying. Males in this study experienced significantly more bullying than females with 23% of males and 16% of females reporting being bullied “sometimes” or more often.
Distinct patterns emerged when gender differences in bullying were examined. Boys were found to be significantly more likely than girls to be bullied and to be named by victims as the perpetrators of bullying. Boys and girls were equally likely to admit to bullying others. When asked, “How often have you taken part in bullying other young people at school this term?” no significant differences were found. The research confirmed earlier findings that the most common form of bullying at schools for both boys and girls is name calling. When other forms of bullying were examined boys were significantly more likely than girls to be victims of physical bullying, threats and racist name calling. Girls on the other hand were significantly more likely to use more indirect methods of bullying such as ignoring. These findings are in line with the extensive literature documenting gender differences in aggression between males and females.

Students were equally likely to be bullied by someone in their own class as from someone in a higher year. A worrying finding from the study was that only 19% of the victims of bullying reported that they had informed a teacher about the bullying. Victims of bullying were significantly more likely to report the bullying to someone at home than to a teacher or school personnel.

Conclusion

Results from the Hong Kong international secondary school study strongly support the hypothesis that high school bullying can be significantly reduced through interventions that incorporate a whole school approach. The findings were consistent with empirical research conducted over the past fifteen years and reinforces Olweus’ (1993) conclusion that high schools can be effective in reducing bullying.

Reliance upon a ‘school management only’ approach to the management of reported bullying was found to have little impact on overall bullying levels. As only 19% of students informed a teacher of the bullying, it is likely that teachers were unaware of the extent of individual problems with bullying. This limits the degree to which teacher management of reported bullying can be effective in solving the majority of bullying incidents. However, the success of ‘school wide preventative approaches to bullying delivered through the regular curriculum’ are well supported by the results and underscore the broader need for peer and parent involvement when addressing bullying. Particular attention needs to be given to “at risk” students who are “different”. This includes students who are new to the school, students with exceptional abilities and students from minority groups.

Components of a whole school approach should include: a clear anti-bullying policy; awareness initiatives such as an assembly; a curriculum intervention and a consistent approach to the management of reported bullying. Where curriculum interventions are delivered to the whole school rather than specific year levels they are likely to be more effective. The findings also suggest that without systematic school-level interventions the incidence of bullying is likely to remain high and even increase over the course of year 7.
References


