

Effective methods to reduce school bullying

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Structure of Presentation

- Need for Bullying Prevention and Aims of our Review
- Criteria for Inclusion of Studies
- Results
- Policy Implications
- What next?

PART A

Need for Bullying
Prevention and Aims of
our Review

Bullying: Part of a Developmental Process?



Importance of bullying prevention

Affects 1 in 5 school-aged children worldwide (Glew et al, 2000)

- Short-term effects:

=>depressive symptomatology (Bosworth et al, 1999; Van der Wal et al, 2003)

=>increased risk for suicidal ideation and self-injurious behavior (Kaltiala-Heino et al, 1999)

=>eating disorders (Kaltiala-Heino et al, 2000)

- Long-term effects:

=>later offending (Farrington, 1993; Sourander et al, 2006; Losel, 2008)

=> bullied children: difficulties in trust/intimacy in opposite-sex and friendly relationships in adulthood (Gilmartin, 1987; Dietz, 1994)

Aims of the Campbell Review

- Complete a *systematic literature review* of the effectiveness of programs constructed to prevent bullying in schools [= > minimizes bias in the conclusions]
- Make recommendations about the most effective components of programs to prevent bullying
- Make recommendations about what works best, with whom, and in what circumstances

PART B

Criteria for Inclusion of Studies

Criteria for Inclusion of Studies

- Evaluation of a program designed to reduce school (kindergarten to high school) bullying, not aggression or violence
- Clearly stated definition of bullying
- Measurement: self-report questionnaires, peer ratings, teacher ratings, observational data, or school records
- Experimental vs control conditions => changes in bullying attributable to the effects of the program [not extraneous factors]

Criteria for Inclusion of Studies [... continued]

- Include studies where children are matched on age (e.g. Olweus age-cohort design)
- Published and unpublished reports of research conducted in developed countries between 1983 and 2009
- Studies that present data that allows us to calculate the effect size [e.g. 9 evaluations would have been includable in the meta-analysis if enough data had been provided]

The Olweus Program: Key features

- Try to increase awareness and knowledge about bullying and dispel myths
- 30-page booklet about bullying to schools
- 25-minute video about bullying to schools
- 4-page folder about bullying to parents
- Children complete self-report questionnaires
- Schools receive feedback in conference day
- Teachers develop explicit rules about bullying
- Bullying discussed in class using role-playing
- Supervision in playground improved

Example of another program: KiVa

- Large variety of concrete materials for students, teachers and parents
- Utilization of Internet and Virtual Learning Environments/Computer games with an anti-bullying content, embedded in lessons.
- Web-based questionnaire: personal user ID and password for each student
- Web-based discussion forum for teachers & teacher training
- Increased playground supervision; distinctive vests for teachers during recess time; reorganization of school space
- Peer-support group for victims of bullying
- Information for parents during school meetings and parents' guides/materials sent home

PART C

Results

Results of Searches

- Hand-searched 35 journals from 1983 to 2009; same searches in 18 databases

- 622 reports that include at least one of our key words (i.e. mentions anti-bullying program) in the title or in the abstract
- Types of reports: published/unpublished articles, books and book chapters, conference presentations, PhD or Masters Theses, Government Reports

Relevance Scale for Categorization of Reports

1: minor relevance; recommendations for integration of survey results into anti-bullying policies; and/or talk generally about the necessity for bullying interventions.

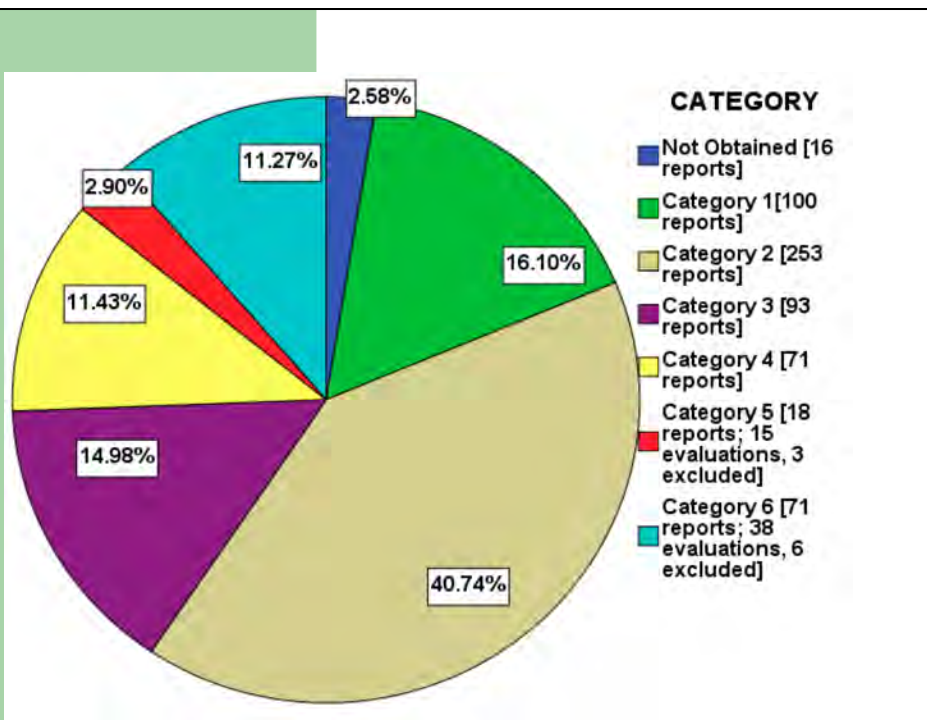
2: weak relevance; talking more specifically about anti-bullying programs [brief descriptions of several anti-bullying programs]; reviews of anti-bullying programs; and/or placing emphasis on suggestions/recommendations for reducing bullying.

3: medium relevance; detailed description of a specific anti-bullying program.

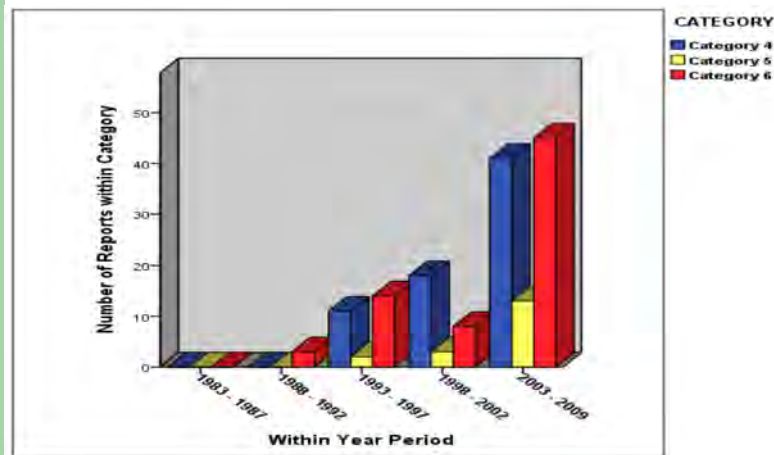
4: strong relevance; evaluation of an anti-bullying program, but not included because it has no experimental versus control comparison, or no outcome data on bullying.

5: included in the Campbell review; evaluation of an anti-bullying program that has an experimental and control condition [N may be < 200; teacher and peer nominations may also be included as outcome measures].

6: included in the Swedish review; evaluation of an anti-bullying program that has an experimental and control condition [N > 200, self-reported bullying as outcome measure].



Increasing Scientific Interest in Bullying Prevention



89 reports of 53 different evaluations

Duplicate publications => OBPP: evaluated 8 times/22 publications; ViSC: evaluated twice/2 publications Vs Flemish Anti-bullying Program: 1 evaluation/4 publications]

 In the meta-analysis: 62 Reports containing 32 evaluations with N > 200

In the meta-analysis: 15 Reports containing 12 evaluations with N < 200

 12 reports of 9 evaluations did not provide enough data to allow calculation of OR

Of the 44 evaluations included in our meta-analysis:

Randomized Experiments:

- 14 evaluations

Before-After, Experimental-Control Comparisons:

- 17 evaluations

Other Experimental-Control Comparisons:

- 4 evaluations

Age-Cohort Designs:

- 9 evaluations

Effect Size Measures

Where a, b, c and d are numbers of children:

$$OR = (a*d) / (b*c)$$

	Non-bullies	Bullies
Experimental	a	b
Control	c	d

- OR: preferred measure (has standard error); chance = 1
- standardized mean difference d [which can be converted into OR]

Example of Odds Ratio

	Non-Bullies	Bullies	Total	Percent Bullies
Experimental	80	20	100	20%
Control	74	26	100	26%

- $OR = (26/74)/(20/80) = (80*26) / (74*20) = 1.4$
- Measure of effect size = $\ln(OR) = LOR$
- Where there are before and after measures:
- $LOR = LOR(\text{after}) - LOR(\text{before})$
- This takes account of any prior non-equivalence of E and C

Effect Sizes for Bullying and Victimization

<u>Methodological Design</u>	BULLYING		VICTIMIZATION	
	OR	P	OR	P
Randomized Experiments				
Weighted mean	1.10	ns	1.17	.050
Before-After, Experimental-Control				
Weighted mean	1.60	.0001	1.22	.007
Other Experimental-control				
Weighted mean	1.20	.010	1.43	.006
Age-Cohort Designs				
Weighted mean	1.51	.0001	1.44	.0001
Weighted mean	1.36	.0001	1.29	.0001

Methodological Issues with Designs

Randomized Experiment:

+ the most controlled design

- vulnerable to attrition

- many units must be allocated to gain the benefits of randomization

Age-Cohort Design:

+ control for age etc.

+ attrition not problem

- vulnerable to history and testing effects

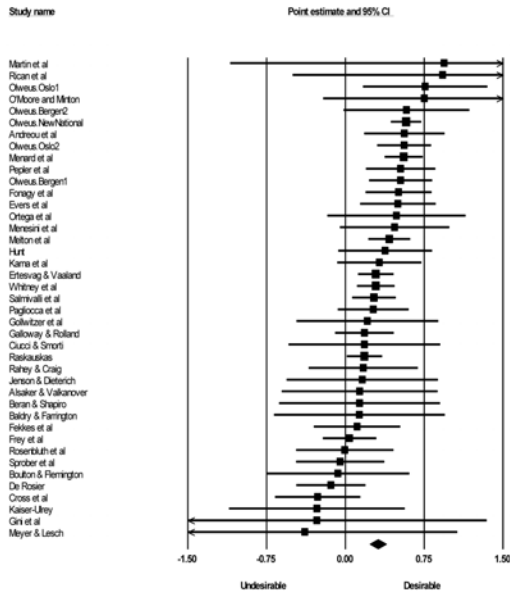
Main Results

In general, anti-bullying programs are effective

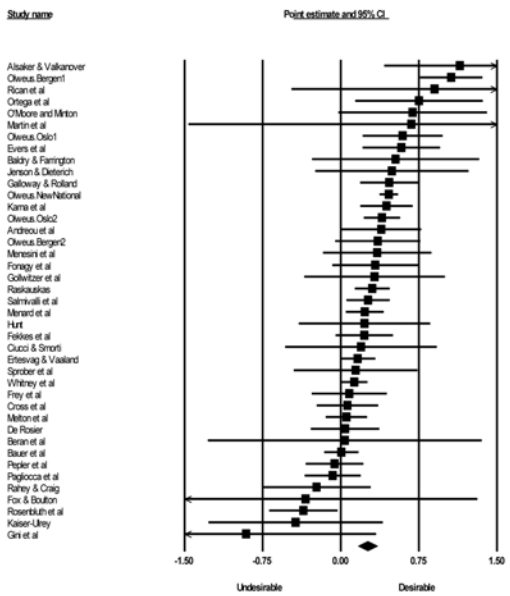
On average, bullying decreases by 20 – 23%

On average, victimization (being bullied) decreases by 17 – 20%

Effect Size for Bullying (LOR)



Effect Size for Victimization (LOR)



What works best with whom?

- Overall, anti-bullying programs are effective
- However, in what circumstances do they work best?
 - What features of the program?
 - For what age of children?
 - In what countries?
 - Based on what research designs?
 - Based on what implementation components?

Elements of Intervention Programs

- **Elements:** 1 = whole school anti-bullying policy; 2 = classroom rules; 3 = school conferences providing information about bullying to students; 4 = curriculum materials; 5 = classroom management; 6 = cooperative group work among experts [e.g. among teachers, counsellors and interns] 7 = work with bullies; 8 = work with victims; 9 = work with peers [e.g. peer mediation; peer mentoring; peer group pressure as bystanders] 10 = information for teachers;

Elements of Intervention Programs (continued)

- 11 = information for parents; 12 = increased playground supervision; 13 = disciplinary methods; 14 = non-punitive methods [e.g. 'Pikas' or 'No Blame Approach']; 15 = restorative justice approaches; 16 = school tribunals/school bully courts; 17 = teacher training; 18 = parent training/meetings; 19 = videos; 20 = virtual reality environments or computer games

STUDY: ↓	ELEMENTS: →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Randomized Experiments																					
Baldry & Farrington, 2004		✗	✗	✓	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗
Cross et al., 2004		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
De Rosier, 2004		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Fekkes et al., 2006		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Frey et al., 2005		✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hunt, 2007		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Jenson & Dieterich, 2007		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rosenbluth et al., 2004		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	EP	✗
Salmivalli et al., 2007		✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IN	✓
Before-After Experimental-Control Comparisons																					
Andreou et al., 2007		✗	✓	✗	✓	✓	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗
Bauer et al., 2007		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ciucci & Smorti, 1998		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Melton et al., 1998		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Menard et al., 2008		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	CP	✗
OBPP; Bergen 2 [1997-1998]		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	MP	✓
Pepler et al., 2004		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IN	✗
Rahcy & Craig, 2002		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IN	✗
Rican et al., 1996		✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stevens et al., 2000		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	MP	✓
Whitney et al., 1994		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Other Experimental-Control Comparisons																					
Evers et al., 2007		✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Galloway & Roland, 2004		✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Ortega et al., 2004		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Raskauskas, 2007		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Age-Cohort Designs																					
Ertesvag & Vaaland, 2007		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	IN	✓
Bergen 1 [1983-1985]		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	MP	✓
Oslo 1 [1999-2000]		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	MP	✓
New National Initiative [2001-2007]		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	MP	✓
Oslo 2 [2001-2006]		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	MP	✓
Salmivalli et al., 2004		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Note: 1 = whole school anti-bullying policy; 2 = classroom rules; 3 = school conferences providing information about bullying to pupils; 4 = curriculum materials; 5 = classroom management; 6 = cooperative group work among experts [e.g. among teachers, counsellors and interns]; 7 = work with bullies; 8 = work with victims; 9 = work with peers [e.g. peer mediation; peer mentoring; peer group pressure as bystanders]; 10 = information for teacher; 11 = information for parents; 12 = increased playground supervision; 13 = disciplinary methods; 14 = non-punitive methods [e.g. 'Pikas' or 'No Blame Approach']; 15 = restorative justice approaches; 16 = school tribunals/school bully courts; 17 = teacher training; 18 = parent training; 19 = videos; 20 = virtual reality environments/computer games; EP = educational presentations to parents; MP = meetings with parents; CP = consultation for parents; IN = information nights

Significant Relationships with Bullying

	Cat (OR)	Cat (OR)	P
Program Elements			
Parent training/meetings	No (1.25)	Yes (1.57)	.0001
Playground supervision	No (1.29)	Yes (1.53)	.0001
Intensity for children	19- (1.25)	20+ (1.62)	.0001
Intensity for teachers	9- (1.19)	10+ (1.52)	.0001
Duration for children	240- 1.17	270+ (1.49)	.0001
Disciplinary methods	No (1.31)	Yes (1.59)	.0003
Duration for teachers	3- (1.22)	4+ (1.50)	.0004
Classroom management	No (1.15)	Yes (1.44)	.005
Teacher training	No (1.24)	Yes (1.46)	.006
Classroom rules	No (1.15)	Yes (1.44)	.006
Whole-school policy	No (1.19)	Yes (1.44)	.008
School conferences	No (1.30)	Yes (1.49)	.008
Total elements	10- (1.30)	11+ (1.48)	.009
Based on Olweus	No (1.31)	Yes (1.50)	.011
Information for parents	No (1.21)	Yes (1.44)	.013
Cooperative group work	No (1.31)	Yes (1.48)	.019
Design Features			
Age of children	10- (1.22)	11+ (1.50)	.0001
Outcome measure	Other (1.32)	2+ M (1.64)	.0002
Publication date	04+ (1.31)	03- (1.56)	.0009
In Norway	Rest (1.33)	Nor (1.58)	.001
In Europe	Rest (1.33)	EU (1.46)	.065
Sample size	899- (1.26)	900+ (1.43)	.070

Significant Relationships with Victimization

	Cat (OR)	Cat (OR)	P
Program Elements			
Work with peers	No (1.39)	Yes (1.13)	.0001
Disciplinary methods	No (1.21)	Yes (1.44)	.0001
Parent training/meetings	No (1.20)	Yes (1.41)	.0001
Duration for teachers	3- (1.18)	4+ (1.41)	.0003
Videos	No (1.17)	Yes (1.38)	.0004
Cooperative group work	No (1.20)	Yes (1.38)	.001
Duration for children	240- (1.15)	270+ (1.35)	.001
Intensity for children	19- (1.21)	20+ (1.42)	.002
Intensity for teachers	9- (1.22)	10+ (1.37)	.028
Design Features			
Outcome measure	Other (1.18)	2+ M (1.57)	.0001
In Norway	Rest (1.18)	Nor (1.55)	.0001
Not in US or Canada	US/Can (1.06)	Rest (1.42)	.0001
In Europe	Rest (1.11)	EU (1.44)	.0001
Design	12 (1.16)	34 (1.41)	.0001
Publication date	04+ (1.21)	03- (1.42)	.0001
Age of Children	10 - (1.22)	11+ (1.34)	.047

Main conclusions about effective program elements

- More intensive, longer lasting programs are better
- Improve disciplinary methods
- Include parent training/meetings
- Include co-operative group work
- Improve playground supervision
- Do not include work with peers

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