

Do the victims of school bullies tend to become depressed later in life?

A systematic review and meta-analysis of longitudinal studies

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Abstract

Purpose – *The purpose of this paper is to investigate the extent to which bullying victimization in school predicts depression in later life and whether this relation holds after controlling for other major childhood risk factors.*

Design/methodology/approach – *As no previous systematic review has been conducted on this topic, effect sizes are based on both published and unpublished studies: longitudinal investigators of 28 studies have conducted specific analyses for the authors' review.*

Findings – *The probability of being depressed up to 36 years later (mean follow-up period of 6.9 years) was much higher for children who were bullied at school than for non-involved students (odds ratio (OR) = 1.99; 95 per cent CI: 1.71-2.32). Bullying victimization was a significant risk factor for later depression even after controlling for up to 20 (mean number of six covariates) major childhood risk factors (OR = 1.74; 95 per cent CI: 1.54-1.97). Effect sizes were smaller when the follow-up period was longer and larger the younger the child was when exposed to bullying. Finally, the summary effect size was not significantly related to the number of risk factors controlled for.*

Originality/value – *Although causal inferences are tentative, the overall results presented in this paper indicate that bullying victimization is a major childhood risk factor that uniquely contributes to later depression. High quality effective anti-bullying programmes could be viewed as an early form of public health promotion.*

Keywords *Bullying, Schools, Adults, Depression*

Paper type *Research paper*

Introduction

Scientific interest in the problem of childhood bullying and its negative short- and long-term effects emerged after the well-publicized suicides of three Norwegian boys in 1982, which were attributed to severe peer bullying (Olweus, 1993). Later research has shown that the prognosis of children who bully and are bullied is not encouraging. When these types of childhood behaviour are not dealt with, they may spiral out of control in adolescence and adulthood, affecting not only the persons themselves but also their future social relations (Ttofi and Farrington, 2008, 2010). An effort to stamp out bullying in childhood can allow individuals at risk to lead normal well-adjusted lives rather than exhibit behavioural and emotional problems in later life.

Children who bully generally do not grow up to be well-adjusted individuals contributing positively to society, as shown in a recent systematic review on the association of school bullying perpetration with later criminal offending based on longitudinal studies (Ttofi *et al.*, 2011). For children who are the targets of bullying, outcomes also seem to be undesirable according to a recent narrative review (Arseneault *et al.*, 2010). However, the authors rightly

This study was supported by the British Academy and the Swedish National Council for Crime Prevention. The authors would like to thank all 28 longitudinal researchers who have conducted special analyses for the aims of the review and are most appreciative of the academic support of Jan Andersson and of the methodological feedback provided by David B. Wilson. Mr Nikos Theodorakis has worked as a research assistant on the project.

state that the majority of studies on this topic are cross-sectional or have a retrospective longitudinal design. Well-controlled prospective research is required to address the long-term impact of bullying victimization on health measures and also to address the unique contribution of this risk factor across time.

To date, there has been no systematic review or quantitative synthesis of the results of existing longitudinal research on bullying victimization versus later health problems. The current manuscript addresses this gap in the research literature by:

- conducting a systematic review and meta-analysis based on longitudinal studies relating victimization to later depression; and
- including unpublished research on the topic.

We have contacted the principal investigators of a large number of longitudinal studies across the world and initiated new data analyses on this topic.

Objectives of the review

Our objective was to conduct a systematic review of the link between bullying victimization and later depression and calculate standardized effect sizes with the final aim of:

- Establishing the extent to which there is a significant association between bullying victimization and depression later in life.
- Analyzing the unique contribution of school bullying victimization as a risk factor for later depression (i.e. the predictive efficacy across time after controlling for other childhood risk factors).
- Establishing what covariates (e.g. length of follow-up period; number of risk factors controlled for; ages of assessment of bullying victimization and depression) are significantly related to and might explain variability in effect sizes.

Searches

Extensive searches were conducted in 63 journals and 19 electronic databases. In addition, we contacted numerous longitudinal researchers on school bullying and developmental criminology. Further details (e.g. names of journals, key words used in databases, etc.) can be found in a report which is being prepared for the Swedish National Council for Crime Prevention (Tofsi *et al.*, in preparation).

Eligibility criteria for inclusion or exclusion of a study

The criteria for inclusion of reports in this review were as follows:

- The report clearly indicates that it is concerned with school bullying victimization and not with other more general forms of peer victimization.
- A clear measure of depression as an outcome measure is presented.
- The report presents longitudinal data. Subsequently, some papers based on longitudinal studies were excluded because analyses were based on data within one wave, making them essentially cross-sectional in character (Barbarin, 1999; Grills, 2003)*[1].
- We also included follow-up/intervention studies since various bullying prevention programmes targeted both bullying and health-related problems such as depression and anxiety. In this case, we sent e-mails to evaluators of each programme, asking for specific data analyses for the control group which did not receive the intervention. We did not ask for data analyses based on the experimental children because we were concerned that, in the case of efficacious interventions, a reduction in bullying might subsequently be followed by a reduction in health outcomes. Specifically, we asked the evaluators of the programmes to examine whether bullying victimization at the baseline (i.e. before the implementation of the programme) predicted depression at the follow-up