Adult mental health consequences of peer bullying and maltreatment in childhood: two cohorts in two countries

Suzet Tanya Lereya, William E Copeland, E Jane Costello, Dieter Wolke

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Department of Psychology, University of Warwick, Coventry, UK (S T Lereya PhD, Prof D Wolke PhD); **and Department of Psychiatry and Behavioural Sciences, Duke Medical Center, Sheffield, UK** (W E Copeland PhD, Prof E J Costello PhD)

Correspondence to: Prof Dieter Wolke, Department of Psychology, University of Warwick, Coventry CV4 7AL, UK **d.wolke@warwick.ac.uk**

Summary

Background The adult mental health consequences of childhood maltreatment are well documented. Maltreatment by peers (ie, bullying) has also been shown to have long-term adverse effects. We aimed to determine whether these effects are just due to being exposed to both maltreatment and bullying or whether bullying has a unique effect.

Methods We used data from the Avon Longitudinal Study of Parents and Children in the UK (ALSPAC) and the Great Smoky Mountains Study in the USA (GSMS) longitudinal studies. In ALSPAC, maltreatment was assessed as physical, emotional, or sexual abuse, or severe maladaptive parenting (or both) between ages 8 weeks and 8·6 years, as reported by the mother in questionnaires, and being bullied was assessed with child reports at 8, 10, and 13 years using the previously validated Bullying and Friendship Interview Schedule. In GSMS, both maltreatment and bullying were repeatedly assessed with annual parent and child interviews between ages 9 and 16 years. To identify the association between maltreatment, being bullied, and mental health problems, binary logistic regression analyses were run. The primary outcome variable was overall mental health problem (any anxiety, depression, or self-harm or suicidality).

Findings 4026 children from the ALSPAC cohort and 1420 children from the GSMS cohort provided information about bullying victimisation, maltreatment, and overall mental health problems. The ALSPAC study started in 1991 and the GSMS cohort enrolled participants from 1993. Compared with children who were not maltreated or bullied, children who were only maltreated were at increased risk for depression in young adulthood in models adjusted for sex and family hardships according to the GSMS cohort (odds ratio [OR] 4·1, 95% CI 1·5–11·7). According to the ALSPAC cohort, those who were only being maltreated were not at increased risk for any mental health problem compared with children who were not maltreated or bullied. By contrast, those who were both maltreated and bullied were at increased risk for overall mental health problems, anxiety, and depression according to both cohorts and self-harm according to the ALSPAC cohort compared with neutral children. Children who were bullied by peers only were more likely than children who were maltreated only to have mental health problems in both cohorts (ALSPAC OR 1·6, 95% CI 1·1–2·2; p=0·005; GSMS 3·8, 1·8–7·9, p<0·0001), with differences in anxiety (GSMS OR 4·9; 95% CI 2·0–12·0), depression (ALSPAC 1·7, 1·1–2·7), and self-harm (ALSPAC 1·7, 1·1–2·6) between the two cohorts.

Interpretation Being bullied by peers in childhood had generally worse long-term adverse effects on young adults' mental health. These effects were not explained by poly-victimisation. The findings have important implications for public health planning and service development for dealing with peer bullying.

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Introduction

Child maltreatment is a global issue and has been a matter of intense public concern in high-income countries for more than a century.[1] It has been defined as any physical or emotional ill-treatment, sexual abuse, neglect, or negligent treatment resulting in actual or potential harm to the child's health, survival, development, or dignity.[1] Official estimates of confirmed cases range from 5·9% of children younger than 11 years in the UK[1] to 12·5% children in the USA maltreated by 18 years of age.[2] The risk for maltreatment is highest in the first few years of life.[2,3] Exposure to maltreatment has been documented to have substantial physical health consequences[4] and adversely affects mental health resulting in depression and anxiety disorders.[5] It increases the risk for substance misuse[5] and suicide attempts[6] and has long-term effects on academic achievement and employment.[7] Maltreatment alters biological stress systems, brain morphology, and networks that affect behaviour and control.[8] Most governments in high-income countries have public policies to ensure that children are protected from violence and that all reasonable steps are taken to help them overcome adverse consequences.[9]

As children grow they spend more time with peers, and peer interactions take on increased importance.[10] Peers are important for socialisation but can also be a substantial source of stress. Verbal and physical abuse and systematic social exclusion might be seen as peer

Research in context

Evidence before this study

We have run a systematic review in PsycINFO and Medline to identify potential literature published before Jan 5, 2015, using the search string "(bulli* or bully* or peer victimisation) and (abuse* or maltreat*) and (depress* or anx* or suic* or self-harm or mental health)". We identified 172 peer reviewed articles in PsycINFO and 91 in Medline, none of which directly compared maltreatment and bullying.

Added value of this study

This is, to our knowledge, the first study to compare the long-term mental health outcomes of child maltreatment (by adults) with being bullied by peers. The results are consistent across the two cohorts (ALSPAC and GSMS) showing that children who were bullied by peers only were more likely to have overall mental health problems, anxiety, depression, and self-harm or suicidality than those who were neither bullied nor maltreated. Children who were both maltreated and bullied were also at increased risk for mental health problems, but the effects were not higher than those of being bullied alone. By contrast, our results did not show any increased risk of mental health problems for children that were maltreated (but not bullied) in the UK but showed an increased risk of depression according to the US cohort. Being bullied by peers had worse long-term adverse effects on young adults' mental health than being maltreated by adults.

Implications of all the available evidence

Both current results and previous literature show the negative effect of school bullying. The insufficiency of resources for bullying compared with those for family maltreatment requires attention. It is important for schools, health services, and other agencies to coordinate their responses to bullying, and research is needed to assess such interagency policies and processes. Future studies of maltreatment should take into account the effects of peer bullying.

maltreatment and are often described as bullying or peer victimisation. Bullying is characterised by repetitive aggressive behaviour engaged in by an individual or peer group with more power than the victim.[11] It is a global issue; across 38 countries or regions, one in three children report being bullied.[12] Like maltreatment, being bullied is reported to have adverse effects, including physical[13] or mental health problems such as anxiety,[14,15] depression,[16] an increased risk of self-harm, and attempt or completion of suicide.[17,18] Results from recent studies also show that being bullied can modify stress responses or lead to long-term increases in inflammatory processes.[19] The effects on health and employment can last into early adulthood[20,21] and even midlife.[20]

In view of the similarity in long-term outcomes for bullying and maltreatment, it is reasonable to ask if the observed effects on bullied children are a result of experiencing both maltreatment and bullying, are attributable to previous maltreatment, or are independent of such maltreatment. Although previous studies have investigated the causes and outcomes of poly-victimisation,[22,23] they did not directly compare the effects of maltreatment and peer bullying on mental health outcomes in young adults. The specific aim of the study was to compare the effects of maltreatment and peer bullying on mental health outcomes (ie, anxiety, depression, and self-harm or suicidality) in young adults in two large longitudinal samples.

Methods

Participants

We used data from the Avon Longitudinal Study of Parents and Children in the UK (ALSPAC) and the Great Smoky Mountains Study in the USA (GSMS) longitudinal studies. Table 1 shows similarities and differences between the ALSPAC and GSMS cohorts.

ALSPAC

ALSPAC is a birth cohort study set in western UK, examining the determinants of development, health, and disease during childhood and beyond.[26] Briefly, women who were residents in Avon, UK, while pregnant and with an expected delivery date between April 1, 1991, and Dec 31, 1992, were approached to participate in the study. Of 14 775 livebirths, 14 701 (99%) were alive at 1 year of age. From the first trimester of pregnancy parents repeatedly completed postal questionnaires about themselves and the study child's health and development. Children were invited to attend annual assessment clinics, including face-to face interviews, and psychological and physical tests from age 7 years onward. The study website contains more details. We obtained ethics approval for the study from the ALSPAC Ethics and Law Committee and the Local Research Ethics Committees.

For the **ALSPAC study website** see http://www.bris.ac.uk/alspac/researchers/data-access/data-dictionary/

GSMS

The GSMS is a population-based sample of three cohorts of children, aged 9, 11, and 13 years at intake, recruited from 11 counties in western North Carolina, USA, in 1993, using a multi-stage household equal probability, accelerated cohort design.[27] The first stage consisted of screening parents (n=3896) for child behaviour problems. All non-American Indian children scoring in the top 25% on a behavioural problems screener, plus a 1-in-10 random sample of the rest, were recruited for detailed interviews. All participants were given a weight inversely proportional to their probability of selection, so that the results are representative of the population from which the sample was drawn. This method meant that screen-high participants were weighted down and randomly selected participants were weighted up so that over-sampling did not bias prevalence estimates. American