BULLYING VICTIMIZATION AND ADULT DEPRESSION: TESTING LIFE COURSE TIMING HYPOTHESES USING THE AVON LONGITUDINAL STUDY OF PARENTS AND CHILDREN

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EXTENDED ABSTRACT

Background

Bullying and Later-life Mental Health

Bullying is a form of peer victimization in which there is a repeated occurrence of abuse, physical or verbal and indirect or direct, between individuals of the same age group (Olweus 2013). It poses a serious risk for the development of psychopathology and has profound, long lasting effects on physical and emotional health, notably in depression (Copeland et al., 2013; Bowes et al., 2015). The harmful effects of bullying can persist well into adulthood, with some evidence pointing as far as mid-life (Copeland et al., 2013; Takizawa et al., 2014). It is clear that experiencing bullying during childhood is linked to later life mental health outcomes, which may persist a lifetime, however, not much is known about how the specific timing of bullying influences later-life mental health.

Theoretical Framework

The long-term impact of bullying differs across individuals depending on multiple factors, notably the timing of when it occurs during childhood development. Life course epidemiology offers a valuable framework for understanding how the timing of experiences might influence later outcomes. In this framework, three hypotheses are central: (1) the accumulation of risk hypothesis posits that the effect of bullying victimization on depression is additive, with each additional exposure increasing the overall risk; (2) the recency hypothesis suggests that more proximal experiences (i.e., recent bullying events) have a stronger effect on adult depression than those occurring earlier in life; and (3) the sensitive periods hypothesis proposes that there are specific windows during which bullying may have a particularly profound impact on an individual's vulnerability to depression. These hypotheses have rarely been tested in relation to bullying and adult depression.

Study Objective

This study aims to test these three life course hypotheses—accumulation of risk, recency, and sensitive periods—by examining the relationship between bullying victimization during childhood and adolescence and depression in later adolescence and early adulthood. Understanding how the timing of bullying influences the development of adult depression can help inform targeted prevention strategies.

Method and Data

Dataset

Data for this study was drawn from the Avon Longitudinal Study of Parents and Children (ALSPAC), a large-scale birth cohort study based in the United Kingdom. Participants who completed at least one time point of the bullying victimization measure and one time point of the depression measure were included in our sample (N=6782). Multiple imputations by chain equation using the MICE package in R were conducted to address missing data.

Bullying Victimization Measure

Bullying victimization was assessed at ages 4, 7, 8, 9, 11, 13, and 16 and through mother-reported Strength and Difficulties Questionnaire (SDQ), an 18-item questionnaire about emotional, behavioural, and relational difficulties (Goodman et al., 1997). One item of the SDQ included whether their child had often been bullied or picked on by other children in the last six months. Responses included "not true", "somewhat true", and "always true."

Depression Measure

Adult depression symptoms were self-reported with the Short Moods and Feelings Questionnaire (SMFQ) completed by the cohort participant at ages 16, 17, 21, 22, and 23. The SMFQ is a 13-item questionnaire which measures the affective and cognitive symptoms of depression occurring in the past 2 weeks (Angold et al., 1995). Each item is scored on a 3-point Likert scale between "not true", "sometimes true", and "true," and a sum score is compiled ranging between 0, not depression, and 26, highly depressed. The MFQ is a widely used and validated measure of depressive symptoms in adolescents and young adults.

Developmental Timing

To test for sensitive periods of bullying victimization, the exposure was categorized into 4 age ranges: early childhood (0- 5 years), middle childhood (6-10 years), early adolescence (11-13 years) and late adolescence (14-18 years) to match what's been previously done in other studies. As such, the bullying measures were combined such that the 4-year-old time point represents early childhood, the 7,8, and 9-year-old timepoints represent middle childhood, the 11 and 13-year-old timepoints represent early adolescence and the 16-year-old time point represents late adolescence.

Covariates

To adjust for confounding, covariates were included in the models to account for maternal depression, anxiety, and suicidality pre- and post- partum, child's pre-existing behavioural difficulties, parental education and social class, family financial difficulties, and if the child was removed from the home and taken into care.

Analytical Approach

Regression models were created for each timepoint of the depression outcome (ages 16, 17, 21, 22, and 23) to test the three timing hypotheses using the structure life course modeling approach (SLCMA). SLCMA uses least angle regression variable selection, a type of least absolute shrinkage and selection operator, and covariate tests to identify the single model, or

combination of models, that has the highest parsimonious explanation for the variation in the observed outcome (Smith et al., 2016). By fitting with SLCMA, the accumulation, recency, and the different sensitive period theories can be compared to determine which theory best explains the outcome in this dataset.

Preliminary Results

Preliminary analyses provide little evidence to support the sensitive periods hypothesis for exposure to childhood bullying on adult depression. Specifically, there was limited indication that bullying at any particular age range explained the variation early adulthood on depression compared to bullying at other age ranges. The current results suggest some evidence for accumulation of risk and recency. We hypothesize that for depression at ages 16 and 17, there will be evidence for recency, however, for the depression at ages 21, 22, and 23, more evidence will point towards accumulation of risk. The final results will further elucidate the relationship between the timing of bullying victimization and adult depression and are expected to provide additional insight into the accumulation of risk and recency hypotheses. Final analyses and results will be available shortly.

Discussion

The findings from this study will contribute to a deeper understanding of how the timing of bullying impacts adult mental health. If the accumulation of risk hypothesis is supported, this would suggest the need for early intervention to limit additional exposure, and long-term strategies throughout childhood and adolescence to mitigate the cumulative effects of bullying. If the recency hypothesis is supported, interventions targeting bullying in late adolescence may be particularly effective in preventing the onset of depression in adulthood. Furthermore, the recency hypothesis suggests resiliency such that the impact of events fade out over time. Future research should involve additionally diverse populations to generalize these findings beyond the ALSPAC cohort. A replication study with a different longitudinal birth cohort should be conducted.

Conclusion

This study provides a unique test of life course timing hypotheses regarding the relationship between bullying victimization during childhood and adult depression. Preliminary findings suggest limited evidence for sensitive periods, and further results will shed light on the accumulation of risk and recency hypotheses. By identifying when bullying has the most significant impact on mental health, this research can help inform more targeted and effective intervention strategies.

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