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Childhood Bullying Involvement and Exposure to Intimate Partner Violence

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Abstract

OBJECTIVE—Our objectives with this study were to describe the prevalence of bullying involvement (ie, bullying and victimization) among children from a multigenerational study and to examine the relationship of these childhood behaviors and exposure to intimate partner violence.

METHODS—A community-based cohort of 112 children (aged 6 to 13 years) was asked to selfreport on physical, verbal, and relational types of bullying and victimization experienced in the past year. Parents reported on their child's externalizing and internalizing behaviors during the previous 6 months using items from Achenbach's Child Behavior Checklist. The frequency of parental experiences of intimate partner violence perpetration and victimization at 2 time points during the preceding 5 years was measured using Conflict Tactics Scale items. The association of intimate partner violence and parent-reported child behavioral problems was examined, followed by exposure to intimate partner violence and child-reported bullying or victimization. Parental risk factors (eg, race/ethnicity, education, problem drinking) that predispose to intimate partner violence were controlled for using propensity score statistical modeling.

RESULTS—Eighty-two (73.2%) children reported being victimized by peers, and 38 (33.9%) children reported bullying behaviors in the past year. More reports came from girls than from boys (55% for victimization and 61% for bullying). Almost all (97%) child bullies were also victims themselves. Intimate partner violence was reported by parent respondents in 53 (50.5%) households at any or both of the 2 time points. Exposure to intimate partner violence was not associated with child-reported relational bullying behaviors or victimization by peers, However, intimate partner violence–exposed children were at increased risk for problematic levels of externalizing behavior/ physical aggression and internalizing behaviors.

CONCLUSIONS—In our sample, children who were 6 to 13 years of age reported a substantial amount of bullying and victimization; a large majority were bully-victims and female. Regression analyses did not show that children who were exposed to intimate partner violence were more likely to engage in relational bullying. However, children who are exposed to intimate partner violence have a higher likelihood of internalizing behaviors and physical aggression.

Keywords

bullying; intimate partner violence; behavior disorders/problems

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Childhood bullying and victimization are serious problems that can threaten a child's socioemotional development. Bullying is defined as conscious, repeated acts of physical, verbal (eg, name-calling), or relational (eg, social exclusion, spreading rumors) aggression that causes injury or discomfort to the target¹ between children of differing physical size and strength.² Bullies, victims, and bully-victims are at risk for a variety of psychological, peer, and school problems.^{1,3,4} Victims also are at increased risk for suicide⁵ and school violence. 6

Bullying behaviors can emerge as early as elementary school age and usually peak during middle school. A large US study found that 11% of children in grades 6 to 10 bullied others "sometimes," with an additional 9% bullying more frequently.³ Former victims were more likely to have poorer self-esteem and experience depression at age 23; likewise, 70% of bullies who were identified in seventh and ninth grades were involved in criminal activity by age 24,⁷ yet little is known about risk factors that may predispose a child toward frequent bullying or victimization. Bullies tend to experience inconsistent authoritarian parenting styles and exhibit impulsive tendencies.⁸ Identification of predisposing factors in the home and environment (eg, school climate) can lead to timely identification of at-risk children and provide the basis for targeted interventions.

One possible risk factor for bullying is exposure to intimate partner violence (IPV). It is estimated that between 3.3 and 10 million children in the United States witness IPV in their homes annually.⁹ On the basis of theories of social learning¹⁰ and emotional dysregulation, ¹¹ children who are exposed to IPV in their homes can be at particular risk for learning negative relationship patterns. Through their early experiences with primary caregivers and siblings, children learn rules of relationships and begin to construct their views of the world. IPV is defined as physical, emotional, or sexual acts of aggression (actual or perceived) between 2 partners (eg, marital or nonmarital, current or past) that occur repetitively with the intent to harm.¹² Exposure to IPV can influence a child's perception of violence as an acceptable method of resolving conflict.

Children who are exposed to IPV exhibit both internalizing and externalizing behavior problems in the borderline to clinical range, ^{13–15} yet little is known about the influence that witnessing IPV, either directly or indirectly, has on children's peer relationships. Specifically, little is known about the impact of IPV on a child's likelihood of becoming a bully or bully-victim. Given the paucity of research in this area, we examined the prevalence of bullying and victimization among children who were drawn from a longitudinal, multi-generational, community-based sample. In addition, we examined the relationship between exposure to IPV and subsequent bullying and victimization. Here, we differentiated between physical forms of bullying (eg, externalizing behavior/physical aggression) and those that are more relational in nature. We also examined the association between IPV and internalizing behaviors in children.

Our study was organized in 2 parts. First, we examined the relationship of IPV and externalizing and internalizing behaviors in children. We hypothesized that children who were exposed to IPV would exhibit problematic behaviors at the upper quartile. We then examined whether IPV exposure increases the risk for relational bullying as a stand-alone outcome.

METHODS

Our study used data from 2 closely related longitudinal studies with first- (G1), second- (G2), and third-generation (G3) participants. We used a cohort of children (G3) who were between the ages of 6 and 13 years and living in Seattle, Washington. Parents (G2) of the selected children originally were enrolled in the Seattle Social Development Project (SSDP) in 1985 on entering the fifth grade. There were 808 participants from 18 Seattle public elementary

schools that served diverse neighborhoods, including households (G1) within high-crime areas that consisted of lower socioeconomic status and mixed ethnicity/race, ¹⁶ representing 77% of all fifth graders from these 18 schools. As G2 participants began having their own families, eligible parents (G2) who agreed to participate (N = 208) and their eldest biological child (G3) were enrolled in another longitudinal study (SSDP Intergenerational Study) in 2002. Recruited G2 parents (N = 208) did not differ from those who were eligible but not recruited (N = 73) in terms of gender; childhood neighborhood disorganization; childhood poverty; adolescent problem behavior; cigarette use or marijuana use in adolescence; binge drinking, cigarette use, or marijuana use at ages 21 to 24; educational attainment at age 24; marital status at age 27; or G1 binge drinking, cigarette use, or marijuana use.¹⁷ Of the 208 parents and children, 89 children were younger than 6 years and were unable to participate in the child survey. Seven children did not have complete data. Our data were derived from this sample of 112 G2 participants and their 6- to 13-year-old children. Study procedures were approved by the University of Washington Human Subjects Protection Committee.

Dependent Variables

Part 1: Parental Reports of Child's Externalizing and Internalizing Behaviors-We created 4 scales to measure more generalized acts of aggression, as well as other schoolrelated and peer-related behaviors, using selected items from Achenbach's Child Behavior Checklist (CBCL/6–18).¹⁸ A subset of CBCL items that have been shown to be reliable and valid indicators of Diagnostic and Statistical Manual of Mental Disorders diagnostic categories were used in the intergenerational study. Items that were used in these scales correspond with those that were used in various other studies¹⁹ based on original CBCL constructs, although we modified our scales to reduce overlap in the items and to capture the most salient characteristics of each behavior.²⁰ Primary parent respondents were asked to rate how true each statement was for their child in the previous 6 months on a 3-point scale: not true, somewhat or sometimes true, or very or often true. In total, we used 13 items (Cronbach's α = .812) to capture childhood externalizing behaviors; 3 items were used to capture internalizing behaviors (Cronbach's $\alpha = .623$). Other behavioral problems, such as attention (4 items; Cronbach's $\alpha = .988$) and social problems (3 items; Cronbach's $\alpha = .603$), were also included. Ratings for each child on each of the 4 subscales were computed. To isolate those who were at highest risk on each behavior, we separated cases in the highest 25% of each score distribution from those in the remaining 75%. This procedure was used in other studies from SSDP and elsewhere as an alternative to modeling highly skewed variables as continuous indicators.21-23

Part 2: Child Bullying and Victimization—Bullying and relational aggression were measured with items from the revised Olweus Bully/Victim Questionnaire.^{1,24} Children were asked to report incidents of bullying and victimization that occurred in the past year. Children of age 6 to 9 years responded "yes" or "no" to a global indicator of bullying ("have you bullied others?") and 4 specific indicators of relational bullying ("started rumors or told lies," "teased others," "did not let someone in their group of friends," and "told someone they were not liked unless they did something I wanted"). Victimization experiences were assessed with similar measures (1 global indicator: "others have bullied me"; and 4 specific behaviors: "others started rumors or told lies about me," "others teased me," "someone told me I was not in their group of friends," and "someone told me they wouldn't like me unless I did something they wanted"). When a child responded "yes" to 1 or more of the indicators, he or she was classified as a bully or a victim, respectively. This method sought to capture children who perpetrate or experience bullying in any or multiple forms.

In addition to the above indicators, children who were 10 years and older responded to an additional question from the Olweus Bully/Victim Questionnaire on the experience of racism

("called someone names that made fun of his or her race" and "I was called names that made fun of my race"). The coding of the item was done similarly to other indicators of bullying. Response categories for children who were 10 years and older were based on frequency of incidents in the past 12 months: none, once or twice, sometimes, fairly often or almost always.

Independent Variable: IPV

Parental history of IPV perpetration or victimization was measured using 3 items from the Conflict Tactics Scale²⁵ that measured verbal/relational aggression and physical violence tactics that were used between partners to resolve conflict ("pushed/grabbed/slapped/shoved," "threatened to hit," and "insulted/swore/cursed/yelled"). Parent respondents were asked to rate the frequency of incidents in the past year that occurred between themselves and their partner at 2 discrete time points (parent age 24 and parent age 27). Modified response scale categories were: never, rarely, sometimes, often, and very often. The cutoff of "sometimes" or greater was used to denote a positive response of IPV because we believed that it captured the recurrent nature of aggression often characteristic of violent intimate adult relationships. When a positive response was found for any of the 3 indicators for either perpetration or victimization, the respondent was classified as such.

Covariates

Variables that are known to be highly correlated with IPV were examined and used in the statistical analysis^{26–28}: maternal age at child birth (age 27), highest educational level completed (age 21), race/ethnicity (age 27), participation in Aid to Families with Dependent Children/Temporary Assistance to Needy Families/food stamps welfare programs (age 27), parental childhood history of home violence (age 21), alcohol use (age 24 and 27), and overall drug use (age 24). Alcohol use was assessed using 2 indicators: average quantity/frequency of drinking per week and binge drinking. The cutoff chosen was based on the World Health Organization standards for medium levels of regular drinking (average \geq 4 glasses a day in a 1-week period for men and \geq 2 glasses a day in a 1-week period for women). A composite variable denoting problem drinkers was defined as a positive response at either time point for either of the 2 indicators.

Data Analysis

Part 1—We examined the effects of IPV on children's externalizing and internalizing behaviors to consider how our sample compared with previous studies.^{13–15,29} Bivariate analyses were conducted using each of the 4 constructs for measuring problem behaviors and IPV at each time point and combined.

For examination of the association between IPV and child problem behaviors, a composite variable for each time point (ages 24 and 27) was needed to denote a positive report of IPV perpetration and/or victimization. The 2 composite variables then were used to create a final composite variable to represent any report of IPV at either or both time points. The selected covariates were placed into the first part of the statistical model with IPV as the outcome. Predicted values were saved and used in the second step to represent a propensity for IPV. In the second step, the model was fitted with both the propensity score and the composite IPV variable with 1 of the parent-reported problem behavior constructs. Logistic regression then was performed using the fitted model. Using a propensity score for regression adjustment³⁰ allowed us to control parsimoniously for parental risk factors that are known to be correlated with IPV. We repeated this procedure for each of the 4 behavior constructs and IPV.

Part 2—We performed bivariate analyses of child-reported bullying involvement and IPV at each time point and combined time points. Frequencies of bullying and victimization were examined for the overall sample, as well as by age (ages 6–9 and 10–13) and gender.

For examination of the relationship between parental reports of IPV and child bullying and victimization, a separate, 2-step propensity score model was fit for each child outcome. Logistic regression was then performed using the fitted models for bullying and victimization.

RESULTS

The parent respondents in the current study predominantly were female (78.6%), with a median age of 27 years (Table 1). Half were single and never married, 56% reported incomes less than \$31 000 a year, and almost one third (31.6%) were enrolled in programs such as Temporary Assistance to Needy Families or Aid to Families with Dependent Children in the past 12 months. One quarter of parents were younger than 18 years at childbirth. Slightly more than half (52.7%) of children in the final cohort were female.

IPV

A total of 42 (42.9%) of 98 households reported any form of IPV at parent age 24. This rate was similar at parent age 27: 41 (48.8%) of 84. Missing data required exclusion of 14 participants at age 24 and 28 participants at age 27 time points. Overlap of parental violence perpetrators and victims was high, 54.8% and 73.2% at parent age 24 and age 27 time points, respectively. IPV was reported in 53 (50.5%) households for at least 1 of the 2 time points with 7 excluded for missing data.

Child Bullying and Victimization

Overall, one third (33.9%) of children in our sample reported bullying others in the past year (Table 2). Prevalence of bullying was 34.6% for children who were 6 to 9 years of age and 32.4% for those who were 10 to 13 years of age. Only 5 (4.5%) children in our sample responded positively to "I bullied others," yet positive responses to queries about specific acts of bullying led to a much higher overall prevalence of bullying. Girls had a higher prevalence of bullying for each indicator than did boys.

Victimization by bullies was a common experience among our sample, reported by 73.2% of children (Table 3). The prevalence of victimization was 78.2% for children who were younger than 10 years and 61.8% for those who were older. Similar to the indicators for bullying, a discrepancy existed between the reports of being bullied (32.1%) and specific questions about victimization. As with bullying, girls were more likely to report victimization than were boys.

Bullies who also are bullied have been previously defined and referred to as "bullyvictims."^{3,31} Of the 38 child bullies, 37 (97.4%) reported concomitant incidents of victimization by peers. Conversely, 45.1% of victims also reported being bullies.

IPV and Parent-Reported Child Externalizing and Internalizing Behaviors

Of the 112 parent respondents, 22 were not the child's primary caregiver and therefore were excluded. The unadjusted association of IPV at parent age 27 with externalizing (aggressive) behaviors revealed a relative risk (RR) of 5.2 (95% confidence interval [CI]: 1.6–16.1); with internalizing (withdrawn) behaviors, RR of 1.2 (95% CI: 0.5–2.6); with attention problems, RR of 1.6 (95% CI: 0.7–3.7); and with social problems, RR of 1.9 (95% CI: 1.0–3.7).

Logistic regression using propensity score modeling with each secondary dependent variable showed a statistically significant association between IPV and child's externalizing behaviors (odds ratio [OR]: 3.1; 95% CI: 1.0–9.5; Table 4). There were similar trends for IPV and internalizing behaviors (OR: 1.6; 95% CI: 0.5–4.6) and attention (OR: 2.2; 95% CI: 0.7–6.6). We did not find a statistically significant association with parent-reported social problems and

IPV (OR: 1.0; 95% CI: 0.4–2.6). Analyses using IPV reports at parent age 24 and combined time point revealed similar results.

IPV and Child-Reported Bullying Involvement

In unadjusted analysis, the risk for child bullying was increased in those who were exposed to IPV that was reported by the parent at age 27, although the CI included 1 (RR: 1.31; 95% CI: 0.7–2.5). Similarly, the risk for bullying victimization was higher in those whose parents reported IPV at age 27, although the CI included 1 (RR: 1.24; 95% CI: 0.9–1.6). Analysis with parent IPV reports at age 24 and combined reports at both time points yielded similar results. We did not find an association between parental IPV and child-reported bullying (OR: 0.7; 95% CI: 0.3–1.8) or victimization by peers (OR: 0.9; 95% CI: 0.4–2.3) after adjusting for our selected covariates using propensity score analysis (Table 5).

DISCUSSION

Bullying others and being victimized by peers were highly prevalent in this sample of children. Girls in our sample were more likely to report bullying others and engaged more frequently in relational aggressive acts when compared with boys. When parents were asked to report on their child's behaviors, children who were exposed to IPV displayed a higher rate of both physically aggressive and internalizing behaviors, when compared with children whose parents did not have any history of IPV. Exposed children were more likely to display problems with attention.

Involvement in bullying is a common phenomenon during school-age years.^{3,7,32,33} Our overall reported prevalence of bullying is higher than national estimates reported by Nansel et al³⁴ in 2002, most likely for 3 reasons. First, our study included children who were 6 to 13 years of age, whereas previous studies focused on middle school-aged students.^{29,31,35} Little is known about the incidence of bullying in children who are younger than 9 years. Schools across the country are of varying grade compositions and types (eg, alternative, K-8, K-12), making it harder to isolate the influence of student age on the effect on bullying involvement and overall school climate. In addition, the bullying indicators that were used in our study emphasized relational bullying behavior, whereas previous studies have used both relational and physical measures. A subset of relational type behaviors are covert (eg, spreading rumors, social exclusion) and were recently shown to be harder to detect by both teachers and parents. ^{36,37} Children are less likely to report incidents of relational aggression when compared with direct physical or direct verbal incidents.³⁵ Therefore, prevalence of bullying is highly dependent on the behaviors studied and how questions about bullying are posed. Thirdly, our cohort resided in diverse neighborhoods, with a large proportion of households of lower socioeconomic status, mixed ethnicity, and single teen parents. Other studies found that these types of environmental factors are associated with an increased prevalence of bullying behaviors.4,38

Our rates of IPV and female-to-male family violence are similar to other longitudinal community-based samples.³⁷ We recognize that these findings have been challenged because the Conflict Tactics Scale³⁹ does not elicit information about relationship context, motivation of the perpetrator, or potential of injury to the victim. However, others have confirmed female individuals can be aggressive, especially within the context of a relationship,^{40,41} using moderately severe forms of aggression as measured by Conflict Tactic Scale items.

Previous studies reported substantial consequences for children (witnesses and victims) who live in homes with IPV. Children experience a higher number of health problems, such as asthma, gastrointestinal complaints, headaches, and cold or flu,^{29,42} and are at risk for development of posttraumatic stress among children who are 6 to 12 years of age.⁴³ Child

victims of physical and sexual abuse are more likely to engage in bullying or be victimized by peers⁴⁴ and have more emotional problems over time when abuse is long term. Our results are consistent with previous work showing that children from violent homes exhibit high rates of externalizing behavior problems and total behavioral problems.^{13–15,45}

Our study is the first in the United States to examine the association of child witnesses to IPV and bullying involvement specifically. We attempted to capture the different facets of bullying and examine its association with IPV through our 2-part analysis. A previous Italian study found an association of IPV and bullying among Italian elementary and middle school students⁴⁶ but was cross-sectional and relied on children reporting bullying incidents in the previous 3 months and whether their parents ever engaged in domestic violence. Our sample was asked to report on bullying and domestic violence incidents in the past year. We did not find the hypothesized association between IPV exposure and relational bullying or bullying victimization. Rather, we found that children who were exposed to IPV engaged in higher levels of generalized aggression as measured by specific items that often are viewed and used to represent physical bullying from the aggression subscale of Achenbach's CBCL.⁴⁷ Our findings are important in light of the work of Veenstra et al³⁸ that used peer ratings to classify children as bullies, bully-victims, victims, or uninvolved in bullying. Teachers reported bullies and bully-victims as having higher levels of aggression when compared with other students who were thought of as victims or uninvolved in bullying. This highlights the correlation between peers' perception of bullies in the classroom and adult ratings of highly aggressive children who use physical means to overpower others. Our results, having the advantage of a longitudinal study design, indicate that IPV exposure is more related to physical, more aggressive, acts of bullying than to relational acts of bullying.

There are several limitations to the study. Our sample size was small compared with previous studies on bullying. The measurement of bullying is imprecise and not yet standardized, although there is general consensus of specific features that constitute bullying. There are very few instruments that measure bullying specifically.⁴⁸ The bullying measures that were available in our study represented examples of relational bullying and therefore may elicit greater reporting of relational bullying and victimization than of physical bullying and victimization. In addition, child respondents were not given a definition of what constitutes bullying as did previous researchers. 1,3,29,35,49 Another limitation is sole reliance on child self-reporting of bullying behavior. Children who are exposed to IPV may assimilate "acceptable" relationship patterns that are learned in the home and thereby do not recognize their own negative peer interaction style (eg, bullying involvement). Moreover, children involved in bullying exhibit differential types of aggression (eg, reactive versus proactive) depending on the situation and whether they are mainly bullies, victims, or bully-victims.⁵⁰ Our measures did not capture children's perceptions of peer intentions or ascertain specifics on the circumstances surrounding bullying incidents or whether there were any triggers. Given that we found an association between IPV and parent-reported externalizing and internalizing child behaviors similar to past studies, the systematic measurement of bullying may be problematic, especially in those who come from violent homes. Lastly, possible residual confounding by factors we did not examine, such as exposure to general community violence, child maltreatment, and harsh parenting styles, could bias the result toward the null.

Exposure to IPV in childhood can have both immediate and far-reaching effects on a child's development. The importance of identifying significant psychosocial factors, both acute and chronic, cannot be understated. Children rely on parents to model socially acceptable ways of behavior; therefore, households with IPV pose a significant risk to a child's socioemotional development. Children who are exposed to IPV have a higher risk for displaying physically aggressive acts of bullying (eg, pushing or shoving others, fighting) but are not more likely to engage in relational bullying. Traditional instruments that are used to capture bullying should

separate relational and physical acts of bullying because of gender trends. Large longitudinal studies are needed to evaluate the full extent of IPV on a child's socioemotional development and peer relations in those who witness violence but are themselves not victims.

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Abbreviations

IPV	
	intimate partner violence
Gn	
	generation <i>n</i>
SSDP	
	Social Development Research Project
CBCL	
	Child Behavior Checklist
RR	
	relative risk
CI	
01	confidence interval
OR	
	odds ratio

References

- Olweus D. Bullying at school: basic facts and effects of a school based intervention program. J Child Psychol Psychiatry 1994;35:1171–1190. [PubMed: 7806605]
- Peterson L, Rigby K. Countering bullying at an Australian secondary school with students as helpers. J Adolesc 1999;22:481–492. [PubMed: 10469512]
- Nansel TR, Overpeck M, Pilla RS, Ruan WJ, Simons-Morton B, Scheidt P. Bullying behaviors among US youth: prevalence and association with psychosocial adjustment. JAMA 2001;285:2094–2100. [PubMed: 11311098]
- Juvonen J, Graham S, Schuster MA. Bullying among young adolescents: the strong, the weak, and the troubled. Pediatrics 2003;112:1231–1237. [PubMed: 14654590]
- Kim YS, Koh YJ, Leventhal B. School bullying and suicidal risk in Korean middle school students. Pediatrics 2005;115:357–363. [PubMed: 15687445]
- 6. Vossekuil, B.; Fein, R.; Reddy, M.; Borum, R.; Modzeleski, W. The Final Report and Findings of the Safe School Initiative: Implications for the Prevention of School Attacks in the United States. Washington, DC: US Department of Education OoEaSE, Safe and Drug-Free Schools Program and US Secret Service, National Threat Assessment Center; 2002. p. 1-63.
- 7. Olweus D. Bully/victim problems in school: facts and intervention. Eur J Psychol Educ 1997;12:495– 510.
- Carney AG, Merrell KW. Bullying in schools: perspectives on understanding and preventing an international problem. School Psychol Int 2001;22:364–382.

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- 9. Office of Juvenile Justice and Deliquency Prevention. Safe From the Start: Taking Action on Children Exposed to Violence. Rockville, MD: National Criminal Justice; 2000. Report 182789
- 10. Bandura A. Social learning theory of aggression. J Commun 1978;28:12–29. [PubMed: 690254]
- 11. Dodge KA, Bates JE, Pettit GS. Mechanisms in the cycle of violence. Science 1990;250:1678–1683. [PubMed: 2270481]
- 12. Rennison, C. Intimate Partner Violence. Washington, DC: US Department of Justice; 2000. p. 1-11.
- 13. Kernic MA, Wolf ME, Holt VL, McKnight B, Huebner CE, Rivara FP. Behavioral problems among children whose mothers are abused by an intimate partner. Child Abuse Negl 2003;27:1231–1246. [PubMed: 14637299]
- 14. McFarlane, JM.; Groff, JY.; O'Brien, JA.; Watson, K. Behaviors of children who are exposed and not exposed to intimate partner violence: an analysis of 330 black, white, and Hispanic children. Pediatrics. 2003. Available at: www.pediatrics.org/cgi/content/full/112/3/e202
- 15. Johnson RM, Kotch JB, Catellier DJ, et al. Adverse behavioral and emotional outcomes from child abuse and witnessed violence. Child Maltreat 2002;7:179–186. [PubMed: 12139186]
- 16. Hawkins JD, Kosterman R, Catalano RF, Hill KG, Abbott RD. Promoting positive adult functioning through social development intervention in childhood: long-term effects from the Seattle Social Development Project. Arch Pediatr Adolesc Med 2005;159:25–31. [PubMed: 15630054]
- 17. Bailey JA, Hill KG, Oesterle S, Hawkins JD. Linking substance use and problem behavior across three generations. J Abnorm Child Psychol. 2006in press
- 18. Achenbach, TM.; Rescorla, LA. Manual for the ASEBA School-Age Forms and Profiles. Burlington, VT: University of Vermont Research Center for Children, Youth, and Families; 2001.
- 19. Lengua LJ, Sadowski CA, Friedrich WN, Fisher J. Rationally and empirically derived dimensions of children's symptomatology: expert ratings and confirmatory factor analyses of the CBCL. J Consult Clin Psychol 2001;69:683-698. [PubMed: 11550734]
- 20. Mason WA, Kosterman R, Hawkins JD, Herrenkohl TI, Lengua LJ, McCauley E. Predicting depression, social phobia, and violence in early adulthood from childhood behavior problems. J Am Acad Child Adolesc Psychiatry 2004;43:307–315. [PubMed: 15076264]
- 21. Herrenkohl TI, Hill KG, Chung IJ, Guo J, Abbott RD, Hawkins JD. Protective factors against serious violent behavior in adolescence: a prospective study of aggressive children. Soc Work Res 2003;27:179-191.
- 22. Herrenkohl TI, Maguin E, Hill KG, Hawkins JD, Abbott RD, Catalano RF. Developmental risk factors for youth violence. J Adolesc Health 2000;26:176-186. [PubMed: 10706165]
- 23. Farrington DP. Early predictors of adolescent aggression and adult violence. Violence Vict 1989;4:79-100. [PubMed: 2487131]
- 24. Solberg M, Olweus S. Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. Aggress Behav 2003;29:239-268.
- 25. Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB. The Revised Conflict Tactics Scales (CTS2): development and preliminary psychometric data. J Fam Issues 1996;17:283-316.
- 26. Walton-Moss BJ, Manganello J, Frye V, Campbell JC. Risk factors for intimate partner violence and associated injury among urban women. J Community Health 2005;30:377-389. [PubMed: 16175959]
- 27. Lipsky S, Caetano R, Field CA, Larkin GL. Is there a relationship between victim and partner alcohol use during an intimate partner violence event? Findings from an urban emergency department study of abused women. J Stud Alcohol 2005;66:407-412. [PubMed: 16047531]
- 28. Fergusson DM, Horwood LJ. Exposure to interparental violence in childhood and psychosocial adjustment in young adulthood. Child Abuse Negl 1998;22:339-357. [PubMed: 9631247]
- 29. Fekkes M, Pijpers FI, Verloove-Vanhorick SP. Bullying behavior and associations with psychosomatic complaints and depression in victims. J Pediatr 2004;144:17–22. [PubMed: 14722513]
- 30. D'Agostino RB Jr. Propensity score methods for bias reduction in the comparison of a treatment to a non-randomized control group. Stat Med 1998;17:2265-2281. [PubMed: 9802183]
- 31. Haynie DL, Nansel T, Eitel P, et al. Bullies, victims, and bully/victims: distinct groups of at-risk youth. J Early Adolesc 2001;21:29-49.

- 32. Eslea M, Rees J. At what age are children most likely to be bullied at school? Aggress Behav 2001;27:419–429.
- Glew G, Rivara F, Feudtner C. Bullying: children hurting children. Pediatr Rev 2000;21:183–189. [PubMed: 10854313]quiz 190
- Nansel TR, Overpeck M, Pilla RS, et al. Bullying behaviors among US youth: prevalence and association with psychosocial adjustment. JAMA 2001;285:2094–2100. [PubMed: 11311098]
- 35. Seals D, Young J. Bullying and victimization: prevalence and relationship to gender, grade level, ethnicity, self-esteem, and depression. Adolescence 2003;38:735–747. [PubMed: 15053498]
- Rivers I, Smith PK. Types of bullying behaviour and their correlates. Aggress Behav 1994;20:359– 368.
- 37. Magdol L, Moffitt TE, Caspi A, Newman DL, Fagan J, Silva PA. Gender differences in partner violence in a birth cohort of 21-year-olds: bridging the gap between clinical and epidemiological approaches. J Consult Clin Psychol 1997;65:68–78. [PubMed: 9103736]
- Veenstra R, Lindenberg S, Oldehinkel AJ, De Winter AF, Verhulst FC, Ormel J. Bullying and victimization in elementary schools: a comparison of bullies, victims, bully/victims, and uninvolved preadolescents. Dev Psychol 2005;41:672–682. [PubMed: 16060813]
- Straus, MA.; Hamby, SL.; Boney-McCoy, S., et al. Conflict Tactic Scales Handbook and Revised Forms. Los Angeles, CA: Western Psychological Services; 2003.
- Lewis SF, Fremouw W. Dating violence: a critical review of the literature. Clin Psychol Rev 2001;21:105–127. [PubMed: 11148892]
- 41. Langhinrichsen-Rohling J. Top 10 greatest "hits": important findings and future directions for intimate partner violence research. J Interpers Violence 2005;20:108–118. [PubMed: 15618567]
- 42. Graham-Bermann SA, Seng J. Violence exposure and traumatic stress symptoms as additional predictors of health problems in high-risk children. J Pediatr 2005;146:349–354. [PubMed: 15756218]
- Kilpatrick KL, Williams LM. Post-traumatic stress disorder in child witnesses to domestic violence. Am J Orthopsychiatry 1997;67:639–644. [PubMed: 9361870]
- 44. Shields A, Cicchetti D. Parental maltreatment and emotion dysregulation as risk factors for bullying and victimization in middle childhood. J Clin Child Psychol 2001;30:349–363. [PubMed: 11501252]
- 45. Dubowitz H, Black MM, Kerr MA, et al. Type and timing of mothers' victimization: effects on mothers and children. Pediatrics 2001;107:728–735. [PubMed: 11335751]
- 46. Baldry AC. Bullying in schools and exposure to domestic violence. Child Abuse Negl 2003;27:713– 732. [PubMed: 14627075]
- 47. Achenbach, TM.; Edelbrock, C. Manual for the Child Behavior Checklist and Revised Child Behavior Profile. Burlington, VT: University of Vermont Press; 1983.
- Griffin RS, Gross AM. Childhood bullying: current empirical findings and future directions for research. Aggress Violent Behav 2004;9:379–400.
- Nansel TR, Craig W, Overpeck MD, et al. Cross-national consistency in the relationship between bullying behaviors and psychosocial adjustment. Arch Pediatr Adolesc Med 2004;158:730–736. [PubMed: 15289243]
- Camodeca M, Goossens FA. Aggression, social cognitions, anger and sadness in bullies and victims. J Child Psychol Psychiatry 2005;46:186–197. [PubMed: 15679527]

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TABLE 1

Parent-Reported Characteristics

Characteristic	n (%)	
Demographic		
Female gender	88 (78.6)	
Maternal age during first child birth 318 y	27 (24.1)	
Martial status		
Single, never married	56 (50)	
Married	37 (33)	
Ethnicity/race		
White	39 (34.8)	
Black	50 (44.6)	
Other	23 (20.5)	
Socioeconomic		
Highest education level completed		
Less than high school	17 (15.4)	
High school/GED	37 (33.7)	
Technical/vocational school	18 (16.3)	
College	38 (34.5)	
Reported yearly income less than \$31 000	63 (56.3)	
Participated in AFDC/TANF/food stamps	31 (31.6)	
Female child	59 (52.7)	
Violence and substance abuse		
History of exposure to family violence in childhood	22 (20)	
Problem drinker ^a	66 (58.9)	
Overall drug use	33 (29.5)	
Any IPV	53 (50.5)	

AFDC indicates Aid to Families With Dependent Children; TANF, Temporary Assistance to Needy Families.

^aProblem drinker is defined as positive report of binge drinking at either of the 2 measured time points or drinking >4 glasses per day for men or 2 glasses per day for women in an average week.

TABLE 2 Child-Reported Bullying "Sometimes" or Greater in the Past Year

Parameter		Female/Male Ratio		
	Age 6–9 (N = 78)	Age 10–13 (N = 34)	Combined (<i>N</i> = 112)	
Bullied others	4 (5.1)	1 (2.9)	5 (4.5)	4:1
Teased others/made fun	13 (16.7)	9 (26.5)	22 (19.6)	1.2:1
Told lies/started rumors	10 (12.8)	1 (2.9)	11 (9.8)	2.7:1
Social exclusion	10 (12.8)	3 (8.8)	13 (11.6)	1.2:1
Would not like person unless did what I want ^a	11 (14.1)	0	11 (9.8)	1.8:1
Made fun of race with names ^{b}		0	—	—
Overall bully	27 (34.6)	11 (32.4)	38 (33.9)	1.5:1

 a Reported among younger children only, because none of the older children endorsed this behavior.

^bAsked only of older children.

TABLE 3 Child-Reported Victimization by Peers "Sometimes" or Greater in the Past Year

Parameter	Frequency , <i>n</i> (%)			Female/
	Age 6–9 (N = 78)	Age 10–13 (N = 34)	Combined (<i>N</i> = 112)	Male Ratio
Bullied by others	28 (35.9)	8 (23.5)	36 (32.1)	1.6:1
Teased by others/made fun of me	43 (55.1)	20 (58.8)	63 (56.3)	1.3:1
Subject of lies/rumors	39 (50)	10 (29.4)	49 (43.8)	1.3:1
Experienced social exclusion	36 (46.2)	11 (32.4)	47 (42)	1.8:1
Told would not be liked unless I did something	34 (43.6)	7 (20.6)	41 (36.6)	1.4:1
My race was made fun of with names ^a	—	8 (23.5)	8 (7.1)	1:1
Overall victim	61 (78.2)	21 (61.8)	82 (73.2)	1.2:1

^aAsked only of older children.

TABLE 4

Parent-Reported Child Behavior in Past 6 Months

Outcome ^{<i>a</i>}	RR	95% CI
Externalizing	3.1	1.0–9.5
Internalizing	1.6	0.5-4.6
Social problems	1.0	0.4–2.6
Attention problems	2.2	0.7-6.6

^aPropensity score model adjusted with 7 covariates associated with parent's risk for IPV: race/ethnicity, highest level of education, welfare recipient, childhood exposure to violence, teen parent, problem drinker, and overall drug use.

TABLE 5

Multivariate Regression: Association of IPV and Child-Reported Bullying Involvement

Outcome ^a	OR	95% CI
Bullying	0.7	0.3–1.8
Victimization	0.9	0.4–2.3

^aPropensity score model adjusted.