

Parental Intimate Partner Violence, Parenting Practices, and Adolescent Peer Bullying: A Prospective Study

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Abstract Intimate partner violence (IPV) has been recognized as a major public health concern, with millions of children exposed to parental violence each year. Childhood exposure to parental violence has been linked to both maladaptive parenting practices and a host of adjustment difficulties in the exposed children. The Children in the Community Study followed a representative sample of youth, their parents, and their own offspring for over 25 years, in seven separate assessments. The current study examined the association between reports of IPV and parenting practices among original study members (Generation 2; $N = 396$) and their adolescent offspring's (Generation 3; $N = 129$, M age = 12.8 (2.4), range = 10–18) reports of overt and relational bullying and victimization behaviors on average 6–7 years later. Results indicate that parental reports of *any* IPV predicted higher offspring overt peer victimization, while *severe* IPV predicted higher offspring relational peer bullying and overt peer victimization. For female offspring, *any* IPV predicted higher relational peer victimization and for male offspring, *severe* IPV predicted higher overt peer bullying. Parenting practices did not significantly mediate the association

between IPV and peer bullying or victimization. Implications for prevention and directions for future research are discussed.

Keywords Bullying · Victimization · Intimate partner violence · Exposure · Parenting

Introduction

National estimates of intimate partner violence (IPV) exposure indicate that 7–14 million children in the United States witness IPV (Carlson 2000; Edleson et al. 2007). It is difficult to determine the true prevalence of child IPV exposure due to lack of consensus on the definition of IPV, what constitutes exposure, methods of assessment, and the confounding influence of concurrent child abuse (Edleson et al. 2007; Jouriles et al. 2001; Wolfe et al. 2003). However, studies suggest that a large majority of children in partner-violent homes are likely to hear the violence and/or to experience its aftermath, even if the parents believed their children were not exposed (Edleson 1999; Edleson et al. 2007; Jaffe et al. 1990).

A number of meta-analyses consistently report that IPV exposure is correlated with poorer developmental outcomes including aggression (Edleson 1999; Fantuzzo and Mohr 1999; Kitzmann et al. 2003), internalizing symptoms (Edleson 1999; Fantuzzo and Mohr 1999), low self-esteem, impaired concentration, low social competence, impaired problem-solving skills, social rejection (Fantuzzo and Mohr 1999), antisocial behavior, and temperament problems (Edleson 1999). Studies report that between 35 and 65% of IPV-exposed children fared more poorly than their non-exposed counterparts (Kitzmann et al. 2003; Wolfe et al. 2003). The physical and psychological risks

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associated with IPV exposure are also documented for both acute and chronic forms of violence (Bogat et al. 2004; Edleson et al. 2007).

Children who are exposed to parental IPV may learn, via a process of repeated modeling and reinforcement, that violence is an effective way to deal with conflict (Dodge et al. 1990). Specifically, exposed children may develop a hostile approach to their social environment resulting in coercive behavior such as overt (e.g., physical violence, threats of violence) and relational (e.g., spreading rumors, calling someone names) bullying of peers (Dodge 1991). Parental conflict increases the risk for poor emotional regulation in children (Kim et al. 2009), and thus for physical and psychological victimization from peers (Dodge 1991; Dodge et al. 1990; Hubbard and Coie 1994; Schwartz et al. 2000).

Theoretical models have suggested that parental conflict may also affect one's parenting practices (Erel and Burman 1995; Fauber et al. 1990). According to the 'spillover' theory, emotions, affect, and mood associated with marital conflict generalize to the parent-child relationship, resulting in verbally critical and physical forms of punishment such as yelling, threatening, spanking, hitting, and shoving (Buehler and Gerard 2002; Krishnakumar and Buehler 2000). Similarly, parents in abusive relationships may reduce involvement in their child's life, creating an uncertain social environment and reducing social and emotional support for their children (Erel and Burman 1995; Krishnakumar and Buehler 2000). A meta-analysis of 39 studies indicated parental conflict was most associated with lower parental acceptance and higher harsh discipline (Krishnakumar and Buehler 2000).

Recently, studies have examined the effects of childhood IPV exposure on peer bullying and/or victimization specifically, finding evidence of an association. However, these studies are limited in either their single sex sample (8–9 year old boys; Schwartz et al. 1997) or cross-sectional design (Baldry 2003). To our knowledge, only one study has prospectively assessed the relationship between parental IPV and offspring peer bullying and victimization for boys and girls (Bauer et al. 2006; $n = 112$, ages 6–13). Parental IPV was measured at two time points [three items: (a) pushed, grabbed, slapped, or shoved; (b) threatened to hit; and (c) insulted, swore, cursed, or yelled], with 50.5% of the sample reporting IPV, a rate higher than that found in other community samples (e.g., Baldry 2003; Ehrensaft et al. 2003). Additionally, rates of relational bullying and victimization were somewhat high at 34 and 74%, respectively. Parental reports of IPV significantly predicted relational bullying and victimization; however, after controlling for parental risk factors such as race, education, and substance use, IPV was no longer a significant predictor. However, IPV exposure did predict an increased risk for externalizing and internalizing symptoms.

The studies reviewed above provide evidence of a link between parental IPV, parenting, and offspring peer bullying and victimization, but leave several critical gaps. First, although Bauer et al. (2006) did employ a multi-generational prospective design and a wide age range, the sample was located in primarily low-income, high-crime neighborhoods (Bauer et al. 2006) with extremely high rates of parental IPV and offspring bullying and victimization. In such a high risk sample, it is likely that IPV only represents one of many adversities that may place a child at risk for peer difficulties and asocial behaviors (Wolfe et al. 2003). Therefore, the present study extends prior research by using a community sample and a prospective, longitudinal study design to test the relationships among parental reports of IPV and their offspring's self-reported involvement in bullying and victimization. Second, Bauer et al. (2006) focused solely on relational bullying and victimization, and did not include overt measures, which represent distinct forms of bullying and victimization behaviors (Baldry 2003; Crick and Grotpeter 1995; Nansel et al. 2001). The current study addresses this limitation by including both relational and overt forms of bullying and victimization. Third, the studies reviewed above (Baldry 2003; Bauer et al. 2006; Schwartz et al. 1997) included measures of minor physical IPV (e.g., hitting, shoving) and psychological violence, rather than more severe forms of IPV (e.g., violence resulting in injury) typically seen by clinicians (Ehrensaft et al. 2003, 2006). This may reflect a more chronic and thus more damaging pattern of violence. Bauer et al. (2006) found that IPV no longer predicted bullying and/or victimization after controlling for other risk factors, but this may be due either to the fact that only minor forms of violence were considered, or to the higher risk nature of their sample. Thus, the current study sought to test the influence of both *any* and *severe* IPV on bullying and victimization. Lastly, studies examining the association among parental IPV and offspring bullying and victimization have not considered the potential mediating influence of parenting practices, which are associated with both marital conflict and offspring maladjustment (Buehler and Gerard 2002; Erel and Burman 1995; Johnson et al. 2001, 2006; Krishnakumar and Buehler 2000). We tested whether parenting mediated this association, in an effort to identify the explanatory mechanism linking parental IPV with offspring peer bullying and victimization. In our analyses, we controlled for parental adversities which may increase the risk for parental IPV and child maladjustment (Bauer et al. 2006; Veenstra et al. 2005; Wolfe et al. 2003), as well as child externalizing and internalizing symptoms, which are associated with peer bullying and victimization (Bauer et al. 2006).

We hypothesized that IPV would predict higher overt and relational peer bullying and victimization in offspring,

net the effects of demographics, parental adversities, and concurrent externalizing and internalizing symptoms. Furthermore, we expected IPV to predict higher mean levels of maladaptive parenting (e.g., physical punishment) and lower mean levels of positive parenting (e.g., satisfaction), and that these parenting practices would partially explain (i.e., mediate) the association between parental IPV and offspring bullying and victimization. For each hypothesis, we considered both mild and severe forms of IPV, as the literature was inconclusive regarding their association with bullying, victimization, and parenting practices, and we thought it theoretically meaningful to consider both types of IPV.

Method

Children in the Community Study

The Children in the Community (CIC) cohort derives from a randomly selected sample residing in two upstate New York counties in 1975 (Kogan et al. 1977). The area sampled for the study was selected to be generally representative of the Northeastern United States on socioeconomic status (SES) and the majority of demographic variables (e.g., race, age, sex), but reflected the sampled region with regard to high proportions of Catholic (54%) and Caucasian (91%) participants. From 1975 to 1983, 54 new families were recruited from urban poverty areas to replace families lost to urban renewal. At first follow-up (1983), 821 parents (Generation 1, G1) and their offspring (Generation 2, G2) were interviewed on a range of health, behavioral, and environmental factors. The youths and their mothers were assessed in three additional follow-up interviews (1985–1986, 1991–1993, and 2001–2004). This sample was demographically representative of the sampled Northeast regions, with retention rates of 95% until 1991–1993, and 84% by the 2001–2004 assessments. Interviews were conducted in the home by intensively trained and supervised lay personnel. Youths and mothers were interviewed separately, and each interviewer was blind to the other informant's responses.

In 1999, a questionnaire on recent life changes, work history, aggressive behavior, and intimate partner history (including past year IPV) was mailed to 815 G2 participants who were known to the study at that time. Of these individuals, 582 (71%) returned the questionnaire, 61 (7%) refused to participate, 9 (1.1%) were deceased, 62 (8%) could not be located, and 101 (12%) did not return the questionnaire (nor did they refuse to participate). Of the 582 participants who returned the questionnaire, 543 (93%) indicated they had had an intimate partner during the past 12 months and completed measures of IPV (more detail in *Measures*).

At the Wave 2 interviews in 1983, the mean age of G2 was 13.8 years (SD = 2.6, range = 9–19). In 1985–1986 (wave 3), the mean age was 16.2 (SD = 2.8, range = 11–22), in 1991–1993 (wave 4), the mean age was 22.1 (SD = 2.7, range = 17–28), in 1999–2000 (wave 5) the mean age was 31.0 (SD = 2.7, range = 26–35), in 2001–2004 (wave 6), the mean age was 33.48 (SD = 2.73, range = 27–38), and in 2006–2008 (wave 7), the mean age was 37.88 (SD = 2.58, range = 33–44). At the 2001–2004 assessment, 396 participants had children and completed measures of offspring (G3) behavior and their own parenting practices. Women were about 5% more likely to participate in each adult follow-up, but differential sample attrition was unrelated to age, race, SES, nor with adolescent or adult psychiatric disorders. Detailed descriptions of the sample characteristics, procedures, and follow up are available in earlier reports (Cohen and Cohen 1996; Ehrensaft et al. 2003, 2006).

Teen and Pre-Teen Study

From 2002 to 2006, offspring of the G2 study participants (i.e., Generation 3, G3) who were between the ages of 10–18 were invited to participate in the 'Teen and Pre-Teen Study,' a telephone-based interview on opposite sex relationship development, peer relations, and self-regulation. Of the 396 parents, only 190 (48%, median age = 13.00, SD = 2.40) of their children were between the ages of 10–18 and therefore eligible. Most were interviewed within 1–3 years after the recruitment of their parents for the wave 6 (2001–2004) assessments (M = 29 months, SD = 13.7). Those who were recruited later were younger, and were invited to participate once they turned 10. We successfully recruited 129 (68%) of age-eligible (10–18 years old) G3 offspring. These G3 youths were on average 12.8 years old (SD = 2.40, range = 10–18), 56.7% were female, and 88.4% were Caucasian. Aside from age, offspring who participated in the 'Teen and Pre-Teen Study' did not differ significantly from the offspring who did not participate, on sex, SES, or ethnicity.

All procedures for the 'CIC Study' and 'Teen and Pre-Teen Study' were conducted in accordance with Institutional Review Board guidelines. Written informed consent and assent was obtained from all participants after the interview procedures were fully explained.

Materials and Measures

Telephone-Based Assessment (G3)

The 'Teen and Pre-Teen Study' interview was designed and administered using Dialogix, a computer software tool designed to support complex data entry of healthcare

information (Choi et al. 2005). The telephone-based format was selected because the original study participants and their families were living across multiple states, making in person interviews costly and time-consuming. Interviewers were laypersons extensively trained for the earlier ‘CIC Study’ protocols.

Parental Partner Violence (G2)

The questionnaire mailed in 1999 asked respondents whether they had had an intimate partner during the past 12 months, and if so, to answer a series of questions about violence to and from a partner, drawn from the Conflict Tactics Scale (CTS; Straus et al. 1996). Specifically, parents were asked how often in the past 12 months they had engaged in each act toward a partner: (a) physically threaten; (b) push, grab, or shove; (c) kick, bite, or hit with fist; (d) hit or try to hit with an object; and (e) force to have sex, and were then asked about receipt of these same acts from their partner. The scale had good internal consistency (Cronbach’s $\alpha = .89$). Parents were also asked whether this aggression had resulted in a list of various forms of injury to or from their partner including cuts, bruises, broken bones or sprains, and whether or not they required medical attention for these injuries. Any IPV was considered to be present if parents reported any act of aggression to or from a partner, while severe IPV was considered to be present if parents reported any type of injury as a result of aggression to or from a partner. In the current study, parental reports of IPV in the home were used as a proxy for offspring IPV exposure, as prior research suggests it is reasonable to conclude that a large majority of children in IPV-present homes have had some exposure either to the IPV incident itself or its aftermath (Edleson 1999; Edleson et al. 2007; Jaffe et al. 1990).

Parenting Practices (G2)

Parenting practices were assessed using two separate parenting measures. First, during the 2001–2004 G2 in-person assessment, parents completed portions of The Disorganizing Poverty Interview (DPI; Avgar et al. 1977; Kogan et al. 1977; Schaefer 1965) to measure parental child-rearing attitudes and behaviors. Questions were administered on a Likert scale from 1 (not at all like me or my child) to 5 (exactly like me or my child). In the current study, we used scaled scores of affection (Cronbach’s $\alpha = .72$), communication (Cronbach’s $\alpha = .77$), the child’s resistance to parental authority (i.e., parental inability to control their child, Cronbach’s $\alpha = .88$), and satisfaction with the child (Cronbach’s $\alpha = .75$). Affection item examples include ‘I frequently show love for my child,’ and ‘I often praise my child.’ Communication item examples include ‘I don’t mind if my child tells me his/her

ideas are better than mine’ and ‘I really try to understand how my child sees things.’ Child resistance item examples include ‘Does what he/she wants to’ and ‘Tries to see what he/she can get away with.’ Satisfaction was assessed by asking parents to rate their satisfaction with their child’s appearance, intelligence, emotional/social behavior, and achievement. These child-rearing behavior assessment items and subscales administered in the CICS are reliable and valid (Cohen and Cohen 1996; Johnson et al. 2001; Kogan et al. 1977), and predict offspring risk for psychiatric symptoms and disorders (Johnson et al. 2001, 2006).

Second, in concert with the 2001–2004 assessment, mothers (or female partners of male participants) were mailed a Parenting Questionnaire, with items drawn from parallel measures administered to parents of G2 participants (i.e., G1) in prior waves (a copy of this measure is available upon request). Parents were asked general questions concerning their relationship with their children using a Likert scale from 1 (false) to 4 (true). Parental monitoring (Cronbach’s $\alpha = .84$) was assessed via three questions: (a) My child is aware that I have strict standards for his/her behavior, (b) I know my child’s best friends and their parents, and (c) I always know where my child is and who s/he is spending time with. Parents were also asked which methods they used to correct their child’s misbehavior during the last month. Physical punishment (one item) assessed whether or not the parent reported they spanked or slapped their child as a means of correcting misbehavior. In the current study, parental monitoring was positively associated ($r = .28, P < .01$) with the variable “rules for the child” (Cronbach’s $\alpha = .54$), a measure from the DPI but not used in the current study. Physical punishment was associated with other parenting variables from the DPI including lower parental satisfaction and higher child resistance to parental authority (Table 1).

Of the 396 parents during the 2001–2004 assessment, 330 (83.3%) returned the parenting questionnaire. Female partners of male participants were less likely than female participants to return the parenting questionnaire [$F(1,394) = 52.16, P < .01$], but responders did not differ from non-responders on SES or age.

Peer Bullying and Peer Victimization (G3)

As part of the ‘Teen and Pre-Teen Study’ telephone-based interview, G3 adolescents were questioned about their peer relations. The Peer Bullying and Peer Victimization Scales are based on work by Olweus (1978) and Pepler et al. (2002), and each consists of six items. The Peer Bullying Scale (Cronbach’s $\alpha = .71$), asks adolescents how often they do certain things to other people on a scale of 1 (never) to 5 (almost all the time). Overt forms of bullying include the following items: (a) Try to hurt others

physically, (b) Take or break others' things, and (c) Threaten to hurt others. Relational forms of bullying included the following items: (a) Make fun of others or say things to make them embarrassed, (b) Spread rumors about others, and (c) Try to make others stop liking them or stop hanging out with them. The Peer Victimization Scale (Cronbach's $\alpha = .77$) asked the adolescent the same questions as the Peer Bullying Scale, but asked how often others did these things to them.

Peer Bullying and Victimization Coding. The Peer Bullying and Victimization Scales were coded into four subscales: (a) Overt Bullying (Cronbach's $\alpha = .78$), (b) Overt Victimization (Cronbach's $\alpha = .75$), (c) Relational Bullying (Cronbach's $\alpha = .67$), and (d) Relational Victimization (Cronbach's $\alpha = .69$). The four subscales are not mutually exclusive and as such, the same participant may be included in more than one category.

To calculate the overall rate of bullying and victimization in the sample, a separate dichotomous variable was calculated (0 = not present, 1 = present) for each participant. Consistent with previous research (Bauer et al. 2006), bullying and victimization were only considered to be present when the participant responded sometimes, often, or almost all the time (3–5) on at least one of the items in the subscale. However, in linear regression analyses, the subscale means were used as the dependent variables.

Externalizing and Internalizing Symptoms (G3)

Generation 3 behavior problems were assessed by maternal report with the Child Behavior Checklist (CBCL, Achenbach 1991) externalizing and internalizing symptoms scales. The CBCL is a 118-item scale that assesses a wide range of behavioral and emotional problems in children. The Externalizing Scale is among the most widely used measures of behavioral problems, and specifically assesses delinquent and aggressive behavior such as physical violence, school performance, acting out, and stealing. The Internalizing Scale assesses anxiety, depression, and similar mood problems.

The CBCL forms were mailed twice to mothers (or female partners of male participants), once during Wave 6 (2001–2004) and again during Wave 7 (2006–2008). As the 'Teen and Pre-Teen Study' was conducted over a period of several years, for the current study, we chose the CBCL scores that were measured in closest proximity to their teen interview, in order to reflect concurrent behavioral and emotional problems. During the 2001–2004 assessment, 330 of the 396 (83.3%) parents returned the CBCL, and from 2006–2008, 209 of the 396 parents (52.8%) returned the CBCL. During the 2001–2004 assessment, female partners of male participants were less

likely than female participants to return the CBCL [$F(1,394) = 52.16, P < .01$], but responders did not differ from non-responders on SES or age. From 2006–2008, female partners of male participants were again less likely than female participants to return the CBCL [$F(1,394) = 9.63, P < .01$]. Additionally, responders were older [$F(1,394) = 5.35, P = .02$], and of higher SES than non-responders [$F(1,394) = 14.06, P < .01$].

Total Parental Adversities (G2)

The DPI (Avgar et al. 1977; Kogan et al. 1977; Schaefer 1965) was used to assess the following childhood adversities for G2 during the first three waves of follow-up: death of a parent, disabling parental accident or illness, living in an unsafe neighborhood, low level of parental education, parental separation or divorce, peer aggression, low family income, school violence, the presence of a crime victim in the household, and upbringing by a single parent (for a review see Cohen and Cohen 1996; Johnson et al. 2002). An adversity was considered present if it was reported during the Wave 2, 3, or 4 assessments. The total number of adversities present was summed and represents a culmination of parental adversities that may place the G2 parent at greater risk for IPV and the G3 children at greater risk for maladjustment (Wolfe et al. 2003), and therefore was controlled for in subsequent analyses.

Attrition and Missing Data Issues

A logistic regression analysis with 1999 questionnaire return (parental IPV data) as the dependent variable indicated that individuals who returned the questionnaire were of higher SES (odds ratio [OR] = 1.50, 95% confidence interval [CI] = 1.24–1.80) and more likely to be female (OR = .43, 95% CI = .31–.61) than those who did not return the questionnaire. They did not differ from refusers in terms of childhood abuse rates, exposure to violence between parents, parenting scores, or emerging adult substance abuse rates. They were, however, less likely than refusers to have a diagnosis of either Conduct Disorder or Oppositional Defiance Disorder in adolescence [5.0% vs. 11.0%, $\chi^2(1, N = 821) = 9.82, P < .01$] (Ehrensaft et al. 2003, 2006).

In the current study, the 1999 questionnaire was available for 108 of the 129 G2 participants with a child (G3) in the 'Teen and Pre-Teen Study.' Persons with missing questionnaire data reported higher total adversities than those without missing data [$F(1,126) = 3.77, P = .05$], but did not differ in terms of demographics, parenting, psychopathology, history of conduct disorder, or on G3 measures of peer bullying and victimization, or externalizing and internalizing symptoms. This subsample of G2 parents

was a mean age of 33.5 ($SD = 2.85$, range = 28–39) in the 2001–2004 assessment, was 68% female, 88% Caucasian, and had a mean SES of 9.70 ($SD = .94$, range = 6.94–12.36).

Missing IPV (perpetration and victimization) data was estimated using the SAS Multiple Imputation program for the entire G2 sample ($N = 821$) and to obtain complete IPV data for our subsample ($n = 129$). Multiple imputation (MI) involves imputing values for missing data m times based on the participant's observed data (current study $m = 5$) to produce m different complete data estimates of the parameters, which are then combined to obtain an estimate of the parameters and their standard errors. In simulation studies, MI performs better than listwise and pairwise deletion and stochastic regression imputation, and performs similarly to maximum likelihood procedures across all levels of missingness, missingness mechanisms, and parameters, and is recommended for estimating standard errors (Newman 2003). Furthermore, MI is recommended for use in studies where responders differ from non-responders, to adjust for potential biases resulting from non-response (Rubin 2004). On the basis of averaged scores from five imputed data sets, the following prevalence rates were obtained: partner violence perpetration, 24.2%; partner violence victimization, 20.3%; injury to a partner, 5.7%; and injury from a partner, 6.4%. There were no sex differences in IPV perpetration or victimization rates (Ehrensaft et al. 2003).

Further analysis indicated 1 participant was missing total adversity data, while 6 participants were missing the maternal report Parenting Questionnaire (parental monitoring and physical discipline). Participants with missing data ($n = 7.5\%$) did not differ significantly from those with complete data and as such, pairwise deletion was selected to handle missing data on these variables. Thus, analyses utilizing demographics, total adversities, IPV, peer bullying/victimization, internalizing and externalizing consisted of a complete sample of 128 participants, while analyses examining parenting practices consisted of a complete sample of 122 participants.

Data Analysis

Variables (and their residuals) were examined for distribution to ensure that there were no violations to normality. According to Tabachnick and Fidell (2001), variables are considered significantly skewed if the value is greater than an absolute value of 2, and if the kurtosis value is greater than an absolute value of 4. Following this criteria, variables that were significantly skewed and/or kurtotic were transformed using Box Cox transformations (Osborne 2010) until they approximated normality. Additionally, all scaled variables were standardized using a z-score function.

Partial correlations were conducted to examine the relationship among all study variables, controlling for offspring age, offspring sex, and total adversities. Hypothesis testing was conducted using a series of hierarchical linear regressions. First, the relationship between parental reports of IPV and peer bullying and victimization was examined controlling for offspring age, offspring sex, and total parental adversities. Second, externalizing and internalizing symptoms were added to the regression. Third, multivariate linear models were utilized to test whether IPV predicted parenting. Fourth, parenting variables were added as one block in the regression analyses to test for initial evidence of mediation. Lastly, we used the bootstrapping script by Preacher and Hayes (2008) to obtain 2,000 random samples to derive 95% bias-corrected and accelerated CI, estimates, and P values (Preacher and Hayes 2008) to examine the significance of potential mediators. According to Fritz and MacKinnon (2007), when using a bias corrected bootstrap method, a sample size of 71 is required to detect a medium indirect (i.e., mediating) effect, and a sample size of 34 is required to detect a large indirect effect. Separate analyses were conducted for any IPV and severe IPV and each subscale of peer bullying and victimization.

Results

IPV Prevalence

In the current subsample of 129 G2 parents with a 10–18 year old G3 offspring, 27.9% reported IPV perpetration, 27.9% reported partner violence victimization, 8.5% reported injury perpetration, and 10.1% reported injury victimization. These rates are higher than those reported for the entire G2 sample ($N = 821$), supporting prior research that suggests IPV-present homes are more likely to contain children (Fantuzzo et al. 1997). For example, the current subsample consists entirely of parents, while only 58% of participants were parents in the complete 2001–2004 assessment. Additionally, females were more likely to report severe IPV perpetration [$F(1,127) = 5.77$, $P = .02$] and severe IPV victimization [$F(1,127) = 3.93$, $P = .05$] than males.

Peer Bullying and Victimization Prevalence

Bullying and victimization prevalence was calculated as the percentage of participants who reported “sometimes” or higher on at least one item in the subscale. Using this criterion, reports were: 4.7% overt peer bullying; 19.4% overt peer victimization, 31.8% relational peer bullying, and 51.2% relational peer victimization. The overlap of peer bullying and victimization differed by type; 3.1%

Table 1 Partial correlation matrix for all study variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. G2 any IPV		.45**	.10	.13	.19**	.10	-.14	-.00	-.06	-.24**	.23**	.04	.08	-.02
2. G2 severe IPV			.12	.28**	.31**	.03	.03	.12	-.26**	-.36**	.30**	.20*	.23*	.12
3. G3 peer bullying overt				.42**	.33**	.28**	.12	.08	-.10	-.08	.17**	.11	.10	.11
4. G3 peer bullying relational					.29**	.38**	-.02	.01	-.21**	-.05	.16**	.20*	.12	.11
5. G3 peer vict. overt						.57**	-.04	.04	-.18**	-.11	.26**	.13	.11	.15 ⁺
6. G3 peer vict. relational							-.11	-.11	-.19**	.07	.27**	.07	.25**	.27**
7. G2 affection towards G3								.52**	.18**	.02	-.14	.03	-.04	-.04
8. G2 communication with G3									.26**	-.01	-.13	-.01	-.11	-.09
9. G2 satisfaction with G3										.14	-.37**	-.20**	-.29**	-.27**
10. G2 monitoring of G3											-.09	-.03	.01	.08
11. G3 resistance to G2's authority												.34**	.46**	.33**
12. G2 physical punishment of G3													.37**	.22*
13. G3 externalizing														.68**
14. G3 internalizing														

Controlling for offspring age, offspring sex, and total parental adversities. *Note* All scaled variables are z-score standardized

+ $P \leq .10$

* $P \leq .05$

** $P \leq .01$

G2 parent, G3 offspring

reported both overt peer bullying and overt peer victimization, while 22.5% reported both relational peer bullying and relational peer victimization. Similarly, 3.9% reported both overt and relational bullying, while 16.3% reported both overt and relational victimization. Males reported significantly higher rates of overt peer bullying than females [$F(1,127) = 7.54, P = .01$]; females reported significantly higher rates of relational peer victimization than males [$F(1,127) = 8.87, P < .01$].

Correlations

The association among study variables was explored via partial correlations, controlling for offspring age, sex, and parental total adversities (see Table 1). Any IPV was significantly associated with lower parental monitoring, and higher child resistance to parental authority and overt peer victimization. Severe IPV was significantly associated with higher relational peer bullying, overt peer victimization, child resistance to parental authority, physical punishment, and externalizing symptoms, and lower satisfaction and monitoring. Overt peer bullying was significantly associated with higher child resistance to parental authority. Relational peer bullying was significantly associated with lower satisfaction and higher physical punishment and child resistance to parental authority. Overt peer victimization was significantly associated with lower satisfaction and higher child resistance to parental authority. Relational peer victimization was significantly associated with lower satisfaction, and higher child resistance to parental authority, externalizing and internalizing symptoms.

Does Parental IPV Predict Offspring Peer Bullying and Victimization?

Any IPV

After controlling for offspring age, sex, and total adversities, parental reports of any IPV predicted higher overt peer victimization in their offspring [$B = .40, SE(B) = .18, \beta = .19, t = 2.16, P = .03$]. After adding offspring externalizing and internalizing symptoms to the model, any IPV continued to predict higher overt peer victimization [$B = .40, SE(B) = .19, \beta = .19, t = 2.13, P = .04$], explaining 3.5% of the variance while externalizing and internalizing explained 1.9% of the variance.

Any IPV did not significantly predict overt peer bullying or relational peer victimization; however, offspring sex was a significant predictor and as such, these models were repeated separately by offspring sex. For females, any IPV predicted higher relational peer victimization [$B = .66, SE(B) = .26, \beta = .30, t = 2.48, P = .02$]; however, after controlling for externalizing and internalizing symptoms,

any IPV no longer predicted relational peer victimization [$B = .46, SE(B) = .27, \beta = .21, t = 1.68, P = .10$] (Table 2). Any IPV did not significantly predict any other peer bullying or peer victimization outcomes.

Severe IPV

Linear regression models controlling for offspring age, sex, and total adversities, showed that parental reports of severe IPV significantly predicted higher relational peer bullying [$B = .78, SE(B) = .25, \beta = .26, t = 3.06, P < .01$] and higher overt peer victimization [$B = .92, SE(B) = .25, \beta = .31, t = 3.62, P < .001$]. After adding externalizing and internalizing symptoms to the models, severe IPV continued to predict higher relational peer bullying [$B = .77, SE(B) = .26, \beta = .26, t = 2.91, P < .01$] and higher overt peer victimization [$B = .89, SE(B) = .26, \beta = .30, t = 3.40, P = .001$], explaining 7–9% of the variance, while externalizing and internalizing symptoms explained up to 1%.

Severe IPV did not significantly predict overt peer bullying or relational peer victimization; however, offspring sex was a significant predictor and as such, these models were repeated separately by offspring sex. For males, severe IPV significantly predicted higher overt peer bullying [$B = 1.13, SE(B) = .54, \beta = .26, t = 2.10, P = .04$] and this relationship remained significant after controlling for externalizing and internalizing symptoms [$B = 1.13, SE(B) = .56, \beta = .27, t = 2.03, P = .05$]. Severe IPV did not significantly predict any other peer bullying or peer victimization outcomes.

Does Parenting Mediate Associations among IPV and Bullying/Victimization?

Multivariate general linear models, controlling for offspring age, sex, and total parental adversities, indicated that any IPV significantly predicted parenting [Wilks $\lambda = .88, F(6,112) = 2.59, P = .02, \eta^2 = .122$], including higher child resistance [$F(1,117) = 6.38, P = .01$] and lower monitoring [$F(1,117) = 6.95, P = .01$]. Similarly, severe IPV significantly predicted parenting [Wilks $\lambda = .74, F(6,112) = 6.65, P < .001, \eta^2 = .263$], including higher child resistance [$F(1,117) = 11.70, P = .001$], higher physical punishment [$F(1,117) = 4.97, P = .03$], lower satisfaction [$F(1,117) = 8.80, P < .01$], and lower monitoring [$F(1,117) = 17.32, P < .001$]. Parenting variables were added to the significant regression models in previous steps to test for mediation.

Any IPV

After adding parenting to the model, any IPV no longer predicted overt peer victimization [$B = .26, SE(B) = .20,$

Table 2 Hierarchical linear regression analyses—G2 any IPV predicting G3 bullying and victimization outcomes

Predictor	Bullying/victimization outcome			
	Overt peer victimization		Relational peer victimization (females only)	
	ΔR^2	β	ΔR^2	β
Step 1: IPV	.035*		.081*	
G2 any IPV		.12		.21
Step 2: Extern/intern	.019		.068	
G3 externalizing		−.08		.15
G3 internalizing		.11		.17
Step 3: Parenting	.060		Step 3 not tested as any IPV did not predict over and above effects of extern/intern	
G2 affection towards G3		−.07		
G2 communication with G3		.12		
G2 satisfaction with G3		−.10		
G2 monitoring of G3		−.05		
G3 resistance to G2's authority		.20		
G2 physical punishment of G3		.04		
Total R^2	.145		.191	

All analyses control for offspring age, offspring sex, and total parental adversities

Each consecutive step controls for all variables in prior steps

* $P < .05$

** $P < .01$

G2 parent, G3 offspring

$\beta = .12$, $t = 1.29$, $P = .20$], with parenting explaining 6.0% of the variance, compared to 3.5% for any IPV (Table 2). Indirect tests revealed that although parenting reduced the association of any IPV with overt peer victimization, it was not a significant mediator as all CI included zero (Preacher and Hayes 2008).

Severe IPV

After adding parenting to the model, severe IPV continued to predict higher relational peer bullying [$B = .67$, $SE(B) = .31$, $\beta = .23$, $t = 2.17$, $P = .03$] and higher overt peer victimization ($B = .70$, $SE(B) = .31$, $\beta = .24$, $t = 2.28$, $P = .02$). That is, there was no evidence that parenting mediated these associations (Table 3). For males, after adding parenting to the regression model, severe IPV no longer predicted overt peer bullying [$B = .82$, $SE(B) = .69$, $\beta = .19$, $t = 1.19$, $P = .24$]; parenting explained 9.9% of the variance, compared to 6.5% for severe IPV (Table 3). Indirect tests showed no evidence of mediation, as again, all CI included zero and were therefore not significant (Preacher and Hayes 2008).

Discussion

In this study, the relationship between parental reports of IPV and parenting practices, and offspring reports of peer

bullying and victimization was examined. It was hypothesized that: (1) parental reports of IPV would predict higher overt and relational peer bullying and victimization, net the effects of demographics, parental adversities, and concurrent externalizing and internalizing symptoms, and (2) parenting practices would mediate the association of parental IPV with peer bullying and victimization. We tested effects separately for *any* and *severe* IPV.

Results partially confirm our hypotheses. Specifically, parental reports of *any* IPV predicted overt peer victimization for both sexes; net the effects of demographics, parental adversities, and internalizing and externalizing symptoms. *Any* IPV also predicted relational peer victimization for females, but not after controlling for externalizing and internalizing symptoms. On the other hand, *severe* IPV predicted relational peer bullying for both sexes, overt peer bullying for males, and overt peer victimization for both sexes, controlling for demographics, parental adversities, and internalizing and externalizing symptoms. Our findings contrast with those of Bauer et al. (2006), who found that IPV exposure no longer predicted relational bullying or victimization after controlling for various risk factors. In such high-risk samples the effects of IPV may essentially be muted by exposure to other forms of community violence and environmental factors. Additionally, Bauer et al. (2006) did not include measures of overt bullying or victimization, but found that IPV exposure was associated with an increased risk for offspring externalizing symptoms. In the current

Table 3 Hierarchical linear regression analyses—G2 severe IPV predicting G3 bullying and victimization outcomes

Predictor	Bullying/victimization outcome					
	Overt peer victimization		Relational peer bullying		Overt peer bullying (males only)	
	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1: IPV	.093**		.067**		.065*	
G2 severe IPV		.24*		.23*		.19
Step 2: Extern/intern	.010		.001		.002	
G3 externalizing		-.10		-.08		.06
G3 internalizing		.10		.01		-.14
Step 3: Parenting	.038		.041		.099	
G2 affection towards G3		-.09		-.02		.09
G2 communication with G3		.08		.01		.24
G2 satisfaction with G3		-.06		-.14		-.20
G2 monitoring of G3		-.01		.05		-.10
G3 resistance to G2's authority		.19		.01		-.01
G2 physical punishment of G3		.03		.15		-.01
Total R^2	.171		.164		.314	

All analyses control for offspring age, offspring sex, and total parental adversities

Each consecutive step controls for all variables in prior steps

* $P < .05$

** $P < .01$

G2 parent, G3 offspring

study, the effects of IPV on bullying and victimization remained significant after controlling for externalizing symptoms, suggesting overt bullying/victimization is in fact a distinct form of aggressive behavior that is not captured by the CBCL externalizing scale alone.

Consistent with other findings on gender differences in peer aggression (Crick and Grotpeter 1995), our findings suggest that boys in severely violent homes use both overt and relational aggression, and are at risk for being the victims of physical victimization, whereas girls from severely violent homes may be physically victimized by peers, but tend to use elevated levels of relational aggression with their peers. Our findings cannot shed light on the time ordering of relational and overt bullying, nor do they indicate whether relational bullying is perpetrated towards the perpetrators of the overt bullying versus the entire peer group. These topics are ripe for further research.

Inconsistent with prior research (Erel and Burman 1995; Krishnakumar and Buehler 2000), parenting did not mediate between parental IPV and offspring peer bullying and victimization, although parental reports of IPV were associated with their reported parenting practices. There are several mechanisms that may better explain the link between parental IPV and peer bullying/victimization including the modeling of aggression, hostile attribution biases, emotion regulation, social information processing and/or social competence, and traumatic stress responses and should be

addressed in future longitudinal studies. First, the finding that *severe* IPV predicted overt peer bullying for males supports the modeling of aggressive behavior as an appropriate means of dealing with conflict (Dodge et al. 1990). Second, *severe* IPV also predicted relational peer bullying, suggesting that boys and girls in severely aggressive homes may develop hostile appraisals of their environment, and use relational aggression in response to perceived threat (Dodge 1991). Third, both *any* and *severe* IPV predicted overt peer victimization, suggesting that even mild forms of IPV exposure place children at risk for aggressive victimization by peers, although the process by which this occurs is unclear. For instance, exposure to IPV may lead to impairments in emotional regulation and social information processing, which impact the development of prosocial skills and increase the risk for peer rejection and retaliation for social errors (Dodge 1991; Dodge et al. 1990; Hubbard and Coie 1994; Kim et al. 2009; Schwartz et al. 2000). Additionally, research has documented the physiological and traumatic stress responses to childhood IPV exposure (Stride et al. 2008). The role of impaired physiologic responses to stress (e.g., cortisol levels, hearts rates) and the development of PTSD may be especially important avenues for future research.

This study extends prior work by examining the association among parental violence, parenting practices, and peer bullying and victimization in a community sample of

teens and pre-teens. Our results suggest that parental IPV differentially predicts specific forms of bullying and victimization and provides important considerations for future studies. However, there are several limitations that need to be addressed. First is the relatively small sample of 10–18 year old offspring in our study ($N = 129$). With longitudinal studies such as this one, it is not uncommon to lose a portion of the sample to attrition or not to obtain all pertinent information in subsequent waves, particularly as the CIC Study spans some 30 years and 3 generations.

Second, the measure of offspring exposure to IPV was based on parental reports of partner violence, and did not include the offspring's report of the level or frequency of exposure. However, parental reports are likely a reliable proxy for IPV exposure, as prior research indicates that children are typically exposed in some way to their parents' violence (Edleson 1999; Edleson et al. 2007; Jaffe et al. 1990). Additionally, our measure of parental IPV did not include concurrent partner ratings. However, prior research has demonstrated that although partner agreement is relatively low ($\kappa = .45-.54$), agreement tends to be higher for more severe forms of IPV (Caetano et al. 2002) which were measured separately in the current study.

Third, we obtained the mother's (or female partner's) report of monitoring and physical punishment, but obtained mother and father reports (depending on the sex of G2) of affection, communication, satisfaction, and resistance to parental authority. Thus, the two parenting measures were not consistently reported by the G2 parent involved in the CIC Study. However, the majority of our G2 subsample was female, and therefore most reported on both parenting measures. Furthermore, given the greater proportion of females in the G2 parent sample, it is possible that the relationship between parental IPV and child bullying and victimization is more salient for female parents than male parents. The recruitment of fathers in studies of parenting is often challenging, and the inclusion of paternal parenting is a key avenue for future research on adolescent peer development.

Fourth, although sex differences were found for offspring overt peer bullying and relational peer victimization, additional analyses examined separately by sex were not significant. Specifically, for males ($n = 57$), parenting did not mediate between parental IPV and overt peer bullying, but did explain a large percentage of the variance (9.9%). Similarly, relational peer victimization for females ($n = 72$) was no longer significant after controlling for concurrent internalizing and externalizing; however, externalizing and internalizing explained 6.8% of the variance, compared to 8.1% for parental IPV. It is possible that these additional steps were not significant as a function of low power. Further research should be conducted with larger samples to disentangle the effects of parental IPV on

bullying and victimization for males and females, exploring additional potential mediating factors. Finally, the inclusion of ethnic minorities in this sample, while representative of the sampled region, is low, and the results may or may not generalize to more ethnically diverse samples.

Despite its limitations, the study has important strengths that warrant discussion. First and foremost, this study is prospective in nature, spanning three generations, and examines the relationship among parental IPV and offspring behavior on average 6–7 years later. The sample was representative of the sampled region, with a wide range of ages for parents and children, socioeconomic levels from very poor to very wealthy, and a mixture of urban, suburban, and rural populations. Lastly, to our knowledge, this is the only study to examine the association of *any* IPV and *severe* IPV with various forms of bullying and victimization behaviors; suggesting that *severe* IPV contributes independently to offspring relational peer bullying and overt peer victimization, net other risks.

In order to empirically inform the prevention of peer bullying, further research will need to uncover the explanatory mechanisms through which parental IPV contributes to bullying and/or victimization to and from peers. This study provides evidence that minor and severe parental violence increase the risk for physical victimization from peers, while severe parental violence increases the risk for offspring's relational aggression towards peers. Prevention programs should target family relations and peer interactions in early childhood and pre-adolescence, before bullying and victimization begin.

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