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Adolescent Conflict as a Developmental Process in the Prospective Pathway from Exposure to Interparental Violence to Dating Violence

Angela J. Narayan, M.A.,

210 Child Development, 51 East River Road, University of Minnesota, Minneapolis, MN 55455

Michelle M. Englund, Ph.D.,

220B Child Development, 51 East River Road, University of Minnesota, Minneapolis, MN 55455

Elizabeth A. Carlson, Ph.D., and

111 Child Development, 51 East River Road, University of Minnesota, Minneapolis, MN 55455

Byron Egeland, Ph.D.

230 Child Development, 51 East River Road, University of Minnesota, Minneapolis, MN 55455

Angela J. Narayan: naray076@umn.edu; Michelle M. Englund: englu008@umn.edu; Elizabeth A. Carlson: carls032@umn.edu; Byron Egeland: egela001@umn.edu

Abstract

Within a developmental psychopathology framework, the current study examined adolescent conflict (age 16) with families, best friends, and dating partners as mediators in the prospective pathway from exposure to interparental violence (EIPV) in early childhood (0–64 months) to dating violence perpetration and victimization in early adulthood (age 23). Adolescent conflict was predicted to partially mediate EIPV and dating violence with significant direct paths from EIPV to dating violence, given the extant literature on the salience of early childhood EIPV for later maladjustment. Participants ($N = 182$; 99 males, 83 females; 67% Caucasian, 11% African-American, 18% other, 4% unreported) were drawn from a larger prospective study of high-risk mothers (aged 12–34 years) that followed their children from birth through adulthood. EIPV and adolescent conflict were rated from interviews with mothers and participants, and dating violence (physical perpetration and victimization) was assessed with the Conflict Tactics Scale. Path analyses showed that EIPV in early childhood (a) directly predicted dating violence perpetration in early adulthood and (b) predicted conflict with best friends, which in turn predicted dating violence perpetration. Although mediation of best friend conflict was not evident, indirect effects of EIPV to dating violence were found through externalizing behaviors in adolescence and life stress in early adulthood. Findings highlight that conflict with best friends is affected by EIPV and predicts dating violence, suggesting that it may be a promising target for relationship-based interventions for youth with EIPV histories. Furthermore, deleterious early experiences and contemporaneous risk factors are salient predictors of dating violence.

Keywords

exposure to interparental violence; dating violence; adolescent conflict; best friends; prospective developmental pathways

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Children with a history of exposure to interparental violence (EIPV), particularly in early childhood, are significantly more likely to be both perpetrators and victims of dating violence in early adulthood (Cappell & Heiner, 1990; Stith et al., 2000; Whitfield, Anda, Dube, & Felitti, 2003). These associations have been supported not only with retrospective reports, but also with prospective data (Ehrensaft et al., 2003; Narayan, Englund, & Egeland, 2013). Little is known, however, about the developmental processes that may account for the prospective relations between EIPV and dating violence, including relational conflict within these intergenerational pathways. For example, adolescence is a normative developmental period in which various relationships are characterized by heightened emotional intensity and conflict (Collins, 2003; Hall, 1904; Olsen, Parra, & Bennett, 2010). Nonetheless, there is a lack of research on how adolescent conflict in relationships with families, best friends, or romantic partners may mediate the pathways between EIPV in early childhood and dating violence in early adulthood.

An understanding of how adolescent relational conflict emerges from a history of EIPV and predicts dating violence would inform research on sensitive periods of adolescent relationship development and maladaptation. Furthermore, identifying which conflictive relationships mediate EIPV and dating violence could illuminate key social interactions to deescalate conflict and deter intergenerational cycles of violence. Using a developmental psychopathology perspective, this study examined conflict in various relationships as partial mediators of the pathway between EIPV and dating violence perpetration and victimization.

Developmental Psychopathology Pathways from EIPV to Dating Violence

According to the developmental psychopathology (DP) perspective, children's early relational experiences, such as forming attachments, seeking comfort when distressed, and navigating conflict within families provide a foundation to promote child competence and adaptation within subsequent interpersonal relationships (Ainsworth, Bell, & Stayton, 1991; Bowlby, 1969; Collins, Welsh & Furman, 2009; Sroufe, Egeland, Carlson, & Collins, 2005). However, negative early experiences, such as EIPV, may threaten children's capacity to internalize nurturing relationships between loved ones and disrupt the chain of positive relationship development (Davies & Cummings, 1994; Holt, Buckley, & Whelan, 2008; Maughan & Cicchetti, 2002). Consistent with the DP perspective on the salience of early experiences, EIPV in early childhood, as opposed to middle childhood, prospectively predicted dating violence perpetration and victimization in early adulthood (Narayan et al., 2013).

While the DP perspective underscores the importance of early experiences, it also emphasizes that children actively affect relationships (Masten, 2006; Reis, Collins, & Berscheid, 2000; Sroufe et al., 2005), and development is marked by transactions between experiences and relationships (Cicchetti & Toth, 2009; Sameroff, 2010; Sroufe, 1997). Children with negative interpersonal models from EIPV may alter their social context by being aggressive with peers and affiliating with deviant groups (Holt et al., 2008; Kitzmann, Gaylord, Holt, & Kenny, 2003; Margolin, 2005), both of which increase the risk for dating violence (Capaldi & Crosby, 1997; Quinton, Pickles, Maughan, & Rutter, 1993). As children with histories of EIPV progress toward adolescence, these aggressive tendencies may become patterns of socialization (Dishion & Patterson, 2006).

Empirical research has already highlighted various mediators of EIPV and dating violence, such as heightened externalizing behavior in adolescence (Ehrensaft et al., 2003; Fergusson,

Boden, & Horwood, 2008) and concurrent life stress in early adulthood (Cano & Vivian, 2003; Langer, Lawrence, & Barry, 2008; Roberts, McLaughlin, Conron, & Koenen, 2011). Using the same dataset as the current study, Narayan et al. 2013 found indirect pathways from EIPV in early childhood to dating violence in early adulthood through externalizing behaviors in adolescence and life stress in early adulthood. Potentially, additional risks stemming from EIPV may also include elevated life stressors associated with a history of poorer behavioral and relational development.

More research, however, is needed on relational mediators of EIPV and dating violence. For example, reciprocal adolescent aggression within close relationships may lead to reciprocal dating violence in early adulthood, as dating violence perpetration and victimization often co-occur (Langer et al., 2008; Lawrence & Bradbury, 2007; Moffitt & Caspi, 1999). Potentially, conflict in adolescence may play an integral role within the pathway from EIPV to dating violence. Given the normative increase in emotional intensity and conflict of adolescent relationships (Collins, 2003), this developmental stage is an optimal period to examine the translation of EIPV to dating violence via conflict in adolescents' close relationships.

Adolescent Conflict as a Mechanism in the Pathway of Violence

Adolescent conflict is often a normative extension of conflict in early childhood relationships and a precursor to conflict in early adulthood intimate relationships. From toddlerhood to adolescence, parent-child conflict enhances differentiation and individuation (Adams & Laursen, 2001; Bowlby, 1977; Collins, 2003; Erikson, 1963). Children's conflict management with parents relates to conflict resolution and intimacy with peers and romantic partners (Elicker, Englund, & Sroufe, 1992; Hazan & Shaver, 1987). In this way, relationships with parents, peers, and partners encompass a unifying, interrelated social world, whereby patterns of socialization and conflict management within each relationship are linked (Furman, Simon, Shaffer, & Bouchee, 2002; Sroufe, Egeland, & Carlson, 1999).

Adaptive conflict management skills (e.g., positive and effective communication) versus maladaptive skills (e.g., heightened arguments or interpersonal verbal or physical aggression) in youth with histories of EIPV can be measured by examining adolescence as a key period of relational development (Laursen, 1995; Masten, Burt, & Coatsworth, 2006; Selman, 1980; Sroufe, 1990). EIPV in early childhood may compromise adolescents' models of how to manage conflict by increasing tolerance of family violence (Graham-Bermann & Brescoll, 2000; Markowitz, 2001), lowering thresholds for aggression with peers (Margolin, 2005; Osofsky, 2003), and reactivating violence in romantic relationships (Cappell & Heiner, 1990; Gelles & Cavanaugh, 2005; Whitfield et al., 2003). Elevated conflict with families, best friends, or romantic partners in adolescence could signal risk for dating violence, especially in individuals with EIPV and internalized templates of interpersonal aggression (Davies & Cummings, 1994).

According to past research, adolescent relational conflict has been more extensively examined as a risk for dating violence (e.g., Fergusson, Boden, & Horwood, 2008; Magdol, Moffitt, Caspi, & Silva, 1998) than EIPV has been examined as a risk factor for adolescent relational conflict, aside from growing research on EIPV and peer bullying/victimization (Voisin & Hong, 2012). Furthermore, most of this research has focused on adolescent conflict with peers. For example, adolescents' "assortative mating" patterns, whereby intimate relationships form within aggressive peer groups, predicted subsequent dating violence (Capaldi & Crosby, 1997; Olsen et al., 2010; Quinton et al., 1993). Pressure from best friends also influenced adolescents' relational aggression in romantic relationships (Schad, Szwedlo, Antonishak, Hare, & Allen, 2008), and friends' dating violence behaviors exacerbated dating violence in youth with heightened alcohol use (Reyes, Foshee, Bauer, &

Ennett, 2012). Moreover, pre-adolescent males' direct aggression with peers and parents, rather than observed marital conflict, predicted elevations in future dating violence (Brendgen, Vitaro, Tremblay, & Wanner, 2002).

While conflict with peers seems to be a salient predictor of dating violence, conflict with families and romantic partners also may be predictive. Disruptions in parent-child boundaries at age 13 predicted dating violence at age 23 (Linder & Collins, 2005), and conflict with families exacerbated the effects of alcohol use on dating violence (Reyes et al., 2012). In another study the extent of parent-adolescent conflict predicted the amount of negativity with romantic partners in adulthood (Kim, Conger, Lorenz, & Elder, 2001). However, findings on whether conflict with romantic partners in adolescence predicts dating violence in early adulthood are mixed (Levendosky, Huth-Bocks, & Semel, 2002; Wekerle & Wolfe, 1999). Romantic relationships during these two periods may be qualitatively different, as aggression within these relationships may serve different functions in adolescence (e.g., to manipulate) versus adulthood (e.g., to batter or use power assertion) (Moffitt & Caspi, 1999; Wekerle & Wolfe, 1999).

Less research has focused on whether EIPV, especially in early childhood, predicts adolescent conflict. However, across many samples, EIPV in middle childhood relates to relational aggression and victimization with peers (Camacho, Ehrensaft, & Cohen, 2012; Knous-Westfall, Ehrensaft, MacDonell, & Cohen, 2012; Voisin & Hong, 2012). Generally prospective research on the effects of early childhood EIPV on adolescent and early adulthood development is rare (Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan 2008; Kitzmann et al., 2003), as is prospective research linking parent, peer, and romantic relationships (Furman et al., 2002; Reyes et al., 2012). A prospective longitudinal study is needed to determine whether adolescent conflict mediates the pathway between early childhood EIPV and early adulthood dating violence.

A study that examines conflict within multiple adolescent relationships as proposed mediators would also clarify whether mediating pathways from EIPV to dating violence are characterized by general relationship continuity, or continuity within specific adolescent relationships (Bowlby, 1977; Furman et al., 2002; Olsen et al., 2010). For example, continuity may exist in dysfunctional family relationships if heightened conflict between parents and adolescents stems from models of interparental violence. Alternatively, there may be continuity in romantic relationship dysfunction if internalized models of early EIPV are enacted in adolescents' romantic relationships. Conversely, given that adolescents' best friendships can have comparable intimacy to romantic partnerships, a history of EIPV could translate to heightened conflict with best friends. Conflict in any of these adolescent relationships is a plausible mediator of EIPV and dating violence (e.g., Capaldi, Knoble, Shortt & Kim, 2012; Furman et al., 2002; Laursen & Collins, 1994; Olsen et al., 2010). Gender differences also could affect the extent of adolescent conflict in these relationships, although findings are mixed on gender differences in pathways from EIPV to dating violence (Ehrensaft, Moffitt, & Caspi, 2004; Narayan et al., 2013). The current study examined these mediators and gender differences.

The Current Study

This study addressed the broad need for more prospective research on the developmental trajectories of EIPV to dating violence through adolescent relational conflict and the specific research gaps on the mediating roles of conflict in different adolescent relationships (Furman et al., 2002; Holt et al., 2008; Kitzmann et al., 2003). To address these gaps, the severity of EIPV in early childhood on the extent of dating violence perpetration and victimization were examined, with the severity of conflict with family, best friends, or romantic partners as proposed mediators. The relative strength of each mediator was not

specified, as each relationship may serve unique functions (Collins, Laursen, Mortensen, Luebker, & Ferreira, 1997; Laursen, 1995).

All adolescent conflict was measured at age 16 years, when peaks in rates and intensity of adolescents' family and social conflict are high in normative samples (Laursen, Coy, & Collins, 1998). Given past research on externalizing behavior and life stress as behavioral and contextual mediators of EIPV and dating violence (Narayan et al., 2013), these variables were covariates. Child maltreatment, which frequently co-occurs with EIPV, also was controlled (Herrenkohl et al., 2008; Maughan & Cicchetti, 2002), as were child sex, maternal age at birth, and family socioeconomic status (SES). Given previous research on the direct role of EIPV in early childhood on dating violence in early adulthood, we hypothesized that adolescent relationship conflict would partially mediate EIPV and dating violence perpetration and victimization with significant direct effects of EIPV in early childhood to dating violence in early adulthood.

Method

The 182 participants (99 males, 83 females, 67% Caucasian, 11% African-American, 18% other, 4% unreported) in this study were drawn from an ongoing prospective study, the Minnesota Longitudinal Study of Risk and Adaptation (Egeland, Breitenbucher, & Rosenberg, 1981; Sroufe et al., 2005). All mothers ($M = 20.54$ years, $SD = 3.57$, range = 12–34) from the original study were deemed to be high-risk due to living in poverty (100%). Many had less than a high-school education at their child's birth (59%) and were unmarried (61%), and half were teen mothers (50%). Participants were enrolled at birth. After in-person informed consent, participants and parents completed home and lab visits and interviews nearly every year across childhood. The institutional review board at the University of Minnesota approved all research procedures. Of the original participants, the 182 participants in the current study were individuals who continued to be enrolled after early childhood (68.2%) and who had any data during the periods under investigation (ages 16 and 23 years). According to t-tests for dimensional variables and chi-square tests for categorical variables, included participants did not differ from those not included on demographic characteristics (e.g., SES, maternal age, and marital status at birth).

Main Variables in the Models: Predictors, Mediators, and Outcomes

Exposure to interparental violence—Ratings of children's exposure to interparental violence were derived from maternal reports during interviews and questionnaires (e.g., the Life Events Scales; see below) at 12, 18, 24, 30, 42, 48, 54, and 64 months about male-to-female perpetration of violence towards the mother. At each time period responses were coded for one overall score using a 0–7-point scale for evidence of interparental violence [i.e., *no evidence of violence*; slight evidence; rare-to-mild evidence, mild evidence; more severe, unreported form of violence on one occasion; more severe form on more than one occasion; severe, chronic violence resulting in injury; and *most severe form* (that may warrant police intervention or shelter placement)]. Trained raters coded all responses, and pairs of raters coded 50 cases for reliability at each time period (intraclass correlation coefficients, $ICCs = .93–.99$). The highest rating at any of the above time periods was used for the current EIPV variable.

Conflict within the family—The Self-Report Inventory (SFI; Beavers, Hampson, & Hulgus, 1985) was administered to families when participants were 16 years as part of a comprehensive adolescent interview protocol. As part of the SFI, participants and their mothers responded to 12 items of family conflict ($\alpha = .85$ for adolescent-report, $.83$ for maternal-report), such as fighting, blaming, and arguing, and the degree to which problem

solving and accepting responsibility occurred. Higher scores on the 1–5-point scale indicated higher levels of conflict and less effective conflict resolution. Raw scores of the average of adolescents' and mothers' responses, which were modestly associated ($r = .23$, $p < .01$), were used.

Conflict with best friends—As part of the interview at age 16 years, participants answered semi-structured questions about presence of conflict with their best friend including items such as “Do you argue often?” “Does your friend ever do things that annoy you, and what do you do?” and “Are there times when you do not feel close?” Presence of conflict was rated for one overall score from a 1–7-point scale. Two trained raters coded all interviews for the extent, frequency, and severity to which conflict, tension, or verbal or physical fighting characterized the relationship ($ICC = .66$). Raters conferenced scores to resolve disagreements.

Conflict with romantic partner—Adolescents also completed questions about conflict within current or past romantic relationships over the past year, which were rated for one overall score by two trained coders using the same scale as conflict with their best friend ($ICC = .70$). All disagreements were conferenced. Higher scores (six or seven) were similarly assigned if arguing, bickering, or verbal or physical abuse was a dominant theme in the relationship.

Dating violence perpetration and victimization—In 2001 at age 23 years, participants reported on eight items of physical behavior (threw something, pushed, slapped, kicked, hit, beat up, threatened with a gun or knife, and used a gun or knife) from the Conflict Tactics Scales (CTS; Straus, 1979; $\alpha = .99$). Participants reported how many of these behaviors they had used (dating violence perpetration) or experienced (dating violence victimization) with a current partner or a previous partner over the past two years for a total possible score out of eight.

Covariates

Child sex and maternal age at participants' birth were obtained from hospital records.

Child maltreatment—Child maltreatment status, defined as physical abuse (i.e., physical injury, such as bruises, cuts or burns), neglect (i.e., inadequate, unsafe, or uncleanly care that deprived the child of basic needs or supervision), or sexual abuse (i.e., unwanted touching, molesting, or penetration) was coded based on three sources of information: (a) maternal reports from early childhood interviews at all time periods during which EIPV was collected, (b) home observations by project staff, and (c) Child Protection Services (CPS) records. Status of child maltreatment for all participants was checked with CPS regardless of other information reported. All maltreatment was addressed by CPS or public health nurses who provided care to the families. At ages 24 and 64 months, the project investigators reviewed all sources of information to determine whether any form of maltreatment was present, and they conferenced their ratings of maltreatment. The maltreatment variable in the current study was coded as present if the participant had experienced any form of maltreatment from birth through age 64 months.

Socioeconomic status (SES)—Family SES was gathered from mothers' prenatal interviews of their (or the head of households') occupational status from the revised Duncan Socioeconomic Index (SEI; Duncan, 1961; Stevens & Featherman, 1981), annual income, and highest level of educational attainment. T-scores were derived from raw scores.

Externalizing behavior—At age 16 years, teachers provided ratings of adolescent behavior from the Achenbach Teacher Report Form (TRF; Achenbach & Edelbrock, 1986) and adolescents provided reports from the Youth Self-Report form (YSR; Achenbach, 1991). Both forms are behavior checklists of items on 0–2-point scales from *Not at all true* to *Often true* that assess aggressive and deviant behavior. T-scores of the average of teacher and adolescent reports, which were modestly associated, ($r = .27, p < .01$), were used.

Life stress—At age 23 years, participants completed the Life Events Scale (Egeland et al., 1981), a 41-item questionnaire about past-year life stressors (e.g., financial, occupational, relational, health, etc.). Endorsed stressors were further probed to determine the degree of disruption. Trained raters coded responses on 0–3-point scales of *No disruption* to *Highly disruptive* to generate scores from zero to three weighted by severity of disruption. A pair of raters scored 50 cases for interrater reliability ($ICC = .94; \alpha = .67$). A total life stress score reflected the sum of all weighted responses, minus one item about domestic violence.

Data Analytic Plan

To test our hypotheses, two hierarchically nested models were compared, using path analyses in MPlus version 7.0 (Muthén & Muthén, 1998–2013) to determine whether adolescent relational conflict partially mediated EIPV and dating violence, with significant direct effects from EIPV to dating violence (Model 1, Figure 1), or whether adolescent relational conflict fully mediated EIPV and dating violence (Model 2, Figure 2). Model 1 included direct paths from (a) EIPV to adolescent relational conflict at age 16 years, (b) relational conflict to dating violence perpetration and victimization at age 23 years, and (c) EIPV to dating violence perpetration and victimization at age 23 years. Model 2 eliminated the direct paths from EIPV to dating violence at age 23 years. Both models included paths from EIPV to externalizing behavior at age 16 and externalizing behavior to life stress at age 23, intercorrelations between relational conflict and externalizing behavior at age 16, and paths from life stress to dating violence at age 23. All early childhood covariates (SES, maternal age, child sex, and child maltreatment) were included on every path in both models. Correlations of each adolescent conflict variable with EIPV and dating violence were examined before conducting the path analyses to inform whether the conflict variables met the correlational assumptions needed to test for mediation (i.e., significant correlations between the predictor, hypothesized mediator, and outcome variables).

Acceptable model fit was determined with the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root-Mean-Square Residual (SRMR). A CFI $\geq .90$ and a RMSEA (or SRMR) $\leq .08$ were considered to be an acceptable fit; and a CFI $\geq .95$ and an RMSEA (or SRMR) $\leq .05$ were considered to be a good fit (Hoyle, 1995; McDonald & Ho, 2002). Chi-square difference testing was used to hierarchically compare both models (Muthén & Muthén, 1998–2013). Bootstrapped standard errors in MPlus were used on all analyses, including indirect effects, to correct for non-normality in the positively skewed dependent variables (Preacher & Hayes, 2008).

Missing Data

The extent of missing data was acceptable, ranging from 0–1% on the early childhood variables, 1–9% on the adolescent variables, and 10–13% on the early adulthood variables. Only 5% of participants had missing data at more than one period. Fifty adolescents were not dating a romantic partner at age 16, so their scores on “conflict with a romantic partner” were examined both as missing values and as zeroes. To account for missingness, full information maximum likelihood (FIML) estimation was employed in MPlus (Muthén & Muthén, 1998–2013) to make use of all available data in the dataset for parameter estimation. This method generates unbiased parameter estimates for data missing at random

or missing completely at random (Graham, Cumsille, & Elek-Fisk, 2003; McDonald & Ho, 2002). Independent t-tests and chi-square tests showed no significant mean differences in predictors, covariates, or outcome variables between participants who had full data versus those who had missing data.

Results

Descriptive Statistics

Descriptive information and bivariate correlations are presented in Table 1. Fifty-one (28.0%) participants experienced severe EIPV, defined as a rating of at least five. Forty-nine (26.9%) of participants reported at least some (1 item) dating violence perpetration, and 64 (35.2%) reported at least some dating violence victimization. Only approximately 3% of the sample reported any involvement in severe violence (beating up or threatening or using guns or knives). Forty-two (23.1%) participants reported severe conflict with best friends, 48 (26.4%) reported severe conflict with dating partners (ratings of at least five out of seven), and 13 (7.1%) reported that experiences of conflict “fit our family some” (ratings of at least a three out of five). EIPV was significantly associated with elevations in dating violence perpetration ($r = .30, p < .01$) and victimization ($r = .22, p < .01$). Adolescent conflict with a best friend was the only form of conflict significantly associated with EIPV ($r = .21, p < .01$) and with dating violence perpetration ($r = .28, p < .01$) and victimization ($r = .25, p < .01$). Conflict within the family was not associated with EIPV or dating violence, nor was conflict with a romantic partner (regardless of whether non-partnered adolescents’ scores were examined as zero or missing values). Thus, conflict with best friends was the only mediator examined in the path models.

Path Analyses

Based on chi-square difference testing, Model 1 was a significantly better fit than Model 2. Model 1 was deemed the best-fitting model (Table 2). Model 1 displayed good fit to the data, $\chi^2/df = 1.80$, RMSEA = .07 (90% CI = .00–.18), CFI = .99, $p = .17$, and SRMR = .02. Figure 3 displays all standardized coefficients in Model 1, which explained 26.4% of the variance in dating violence perpetration and 36.7% of the variance in dating violence victimization.

Model 1 revealed that EIPV was a significant predictor of conflict with a best friend ($\beta = .16, p < .05$, 95% CI = .02–.31). In turn, conflict with a best friend was a significant predictor of dating violence perpetration ($\beta = .17, p < .05$, 95% CI = .00–.35) and a marginally significant predictor of dating violence victimization ($\beta = .15, p < .10$, 95% CI = .00–.29). Tests of indirect effects, which would support a mediating process, showed that the indirect paths from EIPV to dating violence perpetration and victimization through best friend conflict were not significant ($\beta = .02, p = n. s.$; $\beta = .03, p = n. s.$, respectively). However, EIPV was a significant direct predictor of dating violence perpetration ($\beta = .21, p < .05$, 95% CI = .04–.37) and a marginally significant direct predictor of dating violence victimization ($\beta = .14, p < .10$, 95% CI = –.02–.29). EIPV was also a significant direct predictor of externalizing behavior ($\beta = .28, p < .01$, 95% CI = .13–.42), and there were significant indirect effects from EIPV to dating violence perpetration ($\beta = .03, p < .05$, 95% CI = .00–.06) and victimization ($\beta = .05, p < .01$, 95% CI = .02–.09) through externalizing behavior at age 16 and life stress at age 23, replicating previous findings in this sample (Narayan et al., 2013).

Additional analyses: Covariates and gender differences—Life stress in early adulthood was a significant predictor of dating violence perpetration ($\beta = .31, p < .01$, 95% CI = .08–.49) and victimization ($\beta = .49, p < .05$, 95% CI = .34–.63). Younger maternal age

($\beta = -.14, p < .05, 95\% \text{ CI} = -.25-.03$) and female gender ($\beta = -.14, p < .05, 95\% \text{ CI} = -.25-.03$) also were significant predictors of dating violence victimization. In terms of descriptive gender differences, females reported greater mean levels of dating violence perpetration, $t(157) = 2.09, p < .05$, but not dating violence victimization, $t(157) = .35, p < n. s.$, compared to males. Approximately 24% of males versus 38% of females reported they had perpetrated at least one violent behavior, and approximately 45% of males versus 36% of females reported they had been victims of at least one violent behavior (Table 3). Gender differences were further explored by conducting multiple group analyses for gender invariance. Within the final model (Model 1) two comparison models were examined, one that constrained all paths by gender, and one that allowed all paths to be freely estimated. Comparison of these nested models showed no significant differences, $\Delta\chi^2(34) = 40.83, p = n. s.$, indicating that the paths in Model 1 did not significantly differ by gender.

Discussion

The primary hypothesis, that relational conflict would partially mediate EIPV in early childhood and dating violence perpetration and victimization in early adulthood with significant direct effects from EIPV to dating violence, was partially supported. Findings revealed that conflict with a best friend in adolescence was significantly predicted by EIPV and also significantly predicted dating violence perpetration. EIPV also directly predicted dating violence perpetration. Conversely, conflict within families or dating partners during adolescence were not significantly associated with EIPV or either aspect of dating violence.

This pattern of findings aligns with normative developmental perspectives that emphasize the salient role of peers in linking early childhood and early adulthood relationship experiences (Fraley, Roisman, Booth-LaForce, Owen, & Holland, 2013; Sroufe et al., 2005). Friendships in adolescence are an arena where intimacy deepens and skills for managing conflict are addressed within an egalitarian relational framework (Furman et al., 2002), whereas relationships with parents are typically more hierarchical (Adams & Laursen, 2001). Thus, the continuity of conflict from adolescent best friendships to early adulthood dating violence (Furman et al., 2002), may be strongest because both relationships are egalitarian especially if both partners are violent (Collins et al., 2009; Lawrence & Bradbury, 2007). Relationships with best friends in adolescence, rather than romantic partners, also may have more longevity and a lower chance of abrupt termination, such as breaking up (Laursen & Collins, 1994). Thus, adolescents may have more opportunities to engage in aggression as a socialized pattern with best friends that stems from models of earlier EIPV, and they may have fewer consequences for being aggressive.

A DP perspective also supports our findings by suggesting that aggressive, mutually coercive best friendships may originate from early experiences of violence within families. EIPV may increase children's tendencies to have heightened conflict with best friends (Davies & Cummings, 1994; Dishion & Patterson, 2006; Margolin, 2005). According to the 'assortative mating' hypothesis (Capaldi & Crosby, 1997; Olsen et al., 2010; Quinton et al., 1993), continuity of aggression may form as an entrenched relational pattern over time, originating from EIPV, and continuing to socialization with an aggressive best friend and selection of a violent partner.

Contrary to our hypotheses, conflict with best friends was not a partial mediator of EIPV and dating violence, as the indirect pathways between these variables were not significant. Thus, EIPV may predict dating violence through a different process than conflict with best friends. Conversely, there were significant indirect effects from EIPV to both dating violence perpetration and victimization through externalizing behaviors and life stress. EIPV may directly affect elevated externalizing behaviors, which may in turn affect life stress and

dating violence in early adulthood. The importance of behavioral and contextual mediators in the intergenerational pathway from EIPV in early childhood to dating violence in early adulthood is consistent with previous research (Cano & Vivian, 2003; Ehrensaft et al., 2003; Narayan et al., 2013).

We also predicted that direct paths from EIPV to dating violence would be significant, which was confirmed. The final model showed that EIPV significantly predicted dating violence perpetration and marginally predicted dating violence victimization, which emphasizes the salience of witnessing violence in early childhood on perpetrating violence in early adulthood (Ehrensaft et al., 2003; Narayan et al., 2013). These findings suggest that while adolescent relational and behavioral problems and early adulthood contextual stress affect dating violence, negative early experiences also predict early adulthood maladaptation (Sroufe et al., 2005).

This study also highlighted important differences in developmental pathways to dating violence perpetration versus victimization. Conflict with best friends predicted dating violence perpetration, but only marginally predicted dating violence victimization, although the strength of both effects was modest. Potentially, conflict with best friends may more strongly predict dating violence perpetration if both counterparts in the best friendship are coercively aggressive, i.e., continually one-upping each other and perpetrating aggressive behavior (Dishion & Patterson, 2006). Alternatively, although the best friend conflict variable asked about reciprocal conflict, it was based only on participant report. Adolescents' perceptions of conflict with best friends may have been more strongly influenced by events when they had been aggressive towards best friends rather than victimized. Conversely, unique predictors of more dating violence victimization were life stress, having a younger mother at birth, and male gender. This was the only gender difference noted. Previous studies have also found minimal gender differences in dating violence as well as evidence that males may be at comparable risk for dating violence victimization, especially in community samples (Capaldi et al., 2012; Ehrensaft et al., 2004).

Strengths & Limitations

In terms of strengths, to our knowledge this is the first study to examine various types of adolescent conflict as important processes along the prospective developmental pathway from EIPV in early childhood to dating violence in early adulthood. The severity of EIPV was documented at the time it occurred, which is a valuable aspect of prospective data. Experiences of EIPV also were distinguished from experiences of maltreatment. Multi-informant ratings also were utilized decrease methodological issues associated with reporter bias.

In terms of limitations, typical of long-term prospective studies the sample size of this study was relatively small. Participants were predominantly Caucasian from a specific high-risk group of children of low-income mothers. Methodologically, reports of EIPV only reflected mothers' victimization as they were not asked about perpetration of interparental violence when data was originally collected. Nonetheless, rates of EIPV, adolescent conflict, and dating violence were consistent with other studies (Capaldi et al., 2012; Collins et al., 2009; Straus, 1979). Also, the EIPV variable reflected the maximum severity of violence exposure across any point in early childhood, which has been deemed a salient predictor of child maladjustment (Kitzmann et al., 2003); however, this variable did not capture chronicity or stability of EIPV over time. In addition, it did not confirm that children were actually present during the violence. However, studies have found that interparental violence is typically salient to children, who tend to be directly exposed to approximately 80% of incidents (Fantuzzo & Fusco, 2007; Kitzman et al., 2003). Finally, the CTS has limitations, such that it most likely reflects common, rather than serious partner violence (e.g., pushing

and hitting rather than severely injuring or battering; Ehrensaft et al., 2004) in a community sample, and it does not account for physical domination, power assertion, sexual coercion, or reciprocated violence.

Implications, Future Directions, and Conclusions

The current study has important implications for future research and clinical practice. While research has examined behavioral and contextual predictors of dating violence in individuals with EIPV (e.g., Ehrensaft et al., 2003; Roberts et al., 2011), studies on adolescent relational risk factors for dating violence are less prevalent. In addition to finding that elevated externalizing behaviors and life stress are important predictors of dating violence, this study found that conflict within adolescent best friendships, rather than other relationships, is important in the pathway from EIPV to dating violence, albeit not as a mediator. These findings emphasize that multiple forms of aggression, including interpersonal aggression with best friends and non-interpersonal aggression such as externalizing behaviors, are both involved in the pathways from EIPV to dating violence and are important constructs to consider in future research.

Treatment approaches that promote positive peer relations in children with histories of EIPV and deter externalizing behaviors would be promising strategies to deescalate dating violence. Psychotherapy that focuses not only on recovery from negative early experiences, such as EIPV, but that also address maladaptive relationships and scaffolds prosocial skills within the peer context might be a promising approach to reduce the negative effects of EIPV and diffuse conflict with best friends. One form of treatment, interpersonal psychotherapy for adolescents (IPT-A; Mufson, Dorta, Moreau, & Weissman, 2004) is effective in scaffolding skills for adolescents to negotiate conflict in close relationships as a means of reducing internalizing problems, also implicated in dating violence (Moffitt & Caspi, 1999).

In conclusion, this study highlights the salience of conflict within the best friendship as a relational process that contributes to the risk for dating violence. However, more research is needed to examine how the pathways from EIPV, conflict with best friends, and dating violence perpetration might unfold across development, in tandem with elevated externalizing behaviors and stressors. Future research could also sharpen understanding of the cognitive, emotional and behavioral features that are evident in adolescents' reciprocal conflict with best friends (e.g., coercive behavior, verbal and physical aggression) and clarify how these features specifically develop and inform relational functioning in youth with early childhood histories of EIPV.

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Figure 1.

First Hierarchical Nested Model Tested in the Path Analyses

Note. The control variables [maternal age, family SES, child sex, and maltreatment] were included on every path in all models; however, for simplicity, the paths are not shown.

Figure 2.

Second Hierarchical Nested Model Tested in the Path Analyses

Note. The control variables [maternal age, family SES, child sex, and maltreatment] were included on every path in all models; however, for simplicity, the paths are not shown.

Figure 3.

Best-Fitting Model (Model 1) from the Path Analyses

Note. $^+ p < .10$, $^* p < .05$, $^{**} p < .01$. EIPV = Exposure to Interparental Violence; DV = Dating Violence; Significant paths are represented by solid lines. The control variables [maternal age, family SES, child sex, and maltreatment] were included on every path; however, for simplicity, paths from covariates to age 16- and 23-year variables are not shown. The only significant paths from covariates were from maternal age to dating violence victimization, $\beta = -.14$, $p < .05$ and from female sex to dating violence victimization, $\beta = -.14$, $p < .05$.

Table 1

Bivariate Correlations Between All Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. SES	-											
2. Maternal Age	.45**	-										
3. Child Sex - Female	-.012	.01	-									
4. Child Maltreatment	-.17*	-.21**	.01	-								
5. EIPV	-.14	-.22*	.17*	.20**	-							
6. Externalizing Behavior	-.20**	-.22**	.13	.13	.34**	-						
7. Conflict with Best Friend	-.20*	-.12	.17*	.06	.21**	.12	-					
8. Conflict within Family	-.18*	-.03	.03	.01	.09	.16*	.06	-				
9. Conflict with Partner	-.22**	-.11	.23**	-.12	.01	.19*	.13	.04	-			
10. Life Stress	-.08	-.14	.13	.15	.11	.39**	.18**	.02	.10	-		
11. DV Perpetration	-.06	-.12	.17**	.02	.30**	.30**	.28**	.02	.39**	-		
12. DV Victimization	-.13	-.25**	-.03	.04	.22**	.30**	.25**	-.06	.01	.53**	.56**	-
Means (or % if dichotomous)	50.47	20.54	45.4%	23.6%	1.97	56.81	4.26	2.14	3.08	9.56	.58	.97
Standard Deviations	9.89	3.57	-	-	2.69	7.67	1.14	.54	2.27	6.30	1.08	1.62

Note. SES = Socioeconomic Status; EIPV = Exposure to Interparental Violence; DV = Dating Violence.

*
 $p < .05$,

**
 $p < .01$

Table 2
Goodness of Fit Indices for Final Model (Model 1), Null Model, and Alternative Models

Model	df	χ^2	p-value	χ^2/df	$\Delta\chi^2 (\Delta df)$	Model Comparison	CFI	RMSEA	SRMR
Null (0)	35	234.64	.00	6.70					
1	2	3.59	.17	1.80	—	—	.99	.07	.02
2	4	11.32	.02	2.83	7.73 (2)*	2 vs. 1	.96	.10	.03

Note.
* $p < .05$;
Model 2 was a significantly worse fit than Model 1. Based on these observations, Model 1 was determined to be the best fitting model.

Table 3

Rates and Percentages of Dating Violence Perpetration and Victimization Items by Gender

Number of CTS Items	Dating Violence Perpetration		Dating Violence Victimization	
	Male n (%)	Female n (%)	Male n (%)	Female n (%)
0	63 (76%)	47 (62%)	46 (55%)	49 (64%)
1	13 (16%)	14 (18%)	17 (20%)	11 (14%)
2	3 (4%)	6 (8%)	9 (11%)	5 (7%)
3	1 (1%)	4 (5%)	3 (4%)	5 (7%)
4	3 (4%)	5 (7%)	2 (2%)	1 (1%)
5	0 (0%)	0 (0%)	4 (5%)	2 (3%)
6	0 (0%)	0 (0%)	2 (2%)	2 (3%)
7	0 (0%)	0 (0%)	0 (0%)	0 (0%)
8	0 (0%)	0 (0%)	0 (0%)	1 (1%)

Type of CTS Item				
Threw	11 (13%)	20 (26%)	23 (28%)	18 (24%)
Pushed	14 (17%)	12 (16%)	20 (24%)	20 (26%)
Slapped	3 (4%)	9 (12%)	16 (19%)	7 (9%)
Kicked	5 (6%)	9 (12%)	17 (20%)	11 (14%)
Hit	1 (1%)	5 (7%)	5 (6%)	6 (8%)
Beat up	0 (0%)	1 (1%)	2 (2%)	4 (5%)
Threatened gun/knife	0 (0%)	1 (1%)	1 (1%)	3 (4%)
Used a gun or knife	0 (0%)	1 (1%)	0 (0%)	1 (1%)

Note. Percentages reflect n = 83 males and n = 76 females, which includes participants not missing data.