

Intimate Partner Violence, Power, and Equity Among Adolescent Parents: Relation to Child Outcomes and Parenting

Crystal Gibson · Tamora A. Callands ·
Urania Magriples · Anna Divney · Trace Kershaw

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Abstract Intimate partner violence (IPV) victimization and perpetration and power imbalances in parenting partners may result in poor outcomes for parents and children. Previous work in this area has focused on the maternal experiences, neglecting to examine paternal effects. The present study aimed to elucidate the role of IPV, power, and equity in parenting and child outcomes in an urban sample of adolescent parents. 159 male and 182 female parents in a relationship were recruited through university-affiliated hospitals. Power, equity, and IPV were measured at 6 months post-partum and were used as predictors for parenting and child outcomes 12 months post-partum using general estimating equations. Gender interactions and mediation effects of depression were also assessed. Higher perceived relationship equity was related to better infant temperament ($B = 0.052$, $SE = 0.023$, $p = 0.02$) whereas higher partner power was related to poorer social

development ($B = -0.201$, $SE = 0.088$, $p = 0.02$) and fine motor development ($B = -0.195$, $SE = 0.078$, $p = 0.01$). IPV victimization was associated with poor infant temperament ($B = -2.925$, $SE = 1.083$, $p = 0.007$) and lower parenting competence ($B = -3.508$, $SE = 1.142$, $p = 0.002$). Depression mediated the relationship between IPV and parenting and IPV and infant temperament. No gender effects were found. IPV, inequities, and power imbalances were disadvantageous for parenting and child outcomes. Our results suggest that these dynamics may negatively affect both males and females. Interventions to reduce violence in both partners and promote equity in relationships could benefit couples and their children.

Keywords Relationship power · Intimate partner violence · Child development · Temperament · Depression

C. Gibson (✉) · T. Kershaw
Yale School of Public Health, 135 College St., Suite 358,
New Haven, CT 06510, USA
e-mail: crystal.gibson@yale.edu

T. A. Callands
Department of Psychiatry, Yale School of Medicine,
New Haven, CT, USA

U. Magriples
Department of Obstetrics and Gynecology, Yale School of
Medicine, New Haven, CT, USA

A. Divney
Department of Public Health, City University of New York,
New York, NY, USA

T. Kershaw
Yale Center for Interdisciplinary Research on AIDS,
New Haven, CT, USA

Introduction

A large body of literature supports that intimate partner violence (IPV)—physical, sexual, psychological, or emotional abuse by a partner—is detrimental for women's health. In particular, women who have experienced IPV are at elevated risk for poor physical (e.g., broken bones, severe headaches), mental (e.g., depression, substance abuse, and post-traumatic stress disorder), and sexual health outcomes (e.g., STIs and unintended pregnancy) [1–3]. Globally, 1 in 3 women report having been victims of IPV [4, 5] making it a significant public health concern.

By definition, IPV is a form of violence that occurs in the context of an intimate relationship. A number of factors influence how IPV manifests within relationships, including relationship dynamics such as equity and

decision-making power [6–8]. In relationships with imbalances in power and equity, both men and women report elevated rates of IPV and its associated consequences [9–15].

Despite the relationship context of IPV, prior work on IPV and child outcomes has focused primarily on maternal IPV victimization. For example, maternal IPV has been associated with a host of negative outcomes for children including difficult temperament, low birth weight, stunting, and child mortality [16, 17]. Evidence for the role of fathers' experiences with IPV perpetration and victimization in these outcomes is scarce. Adverse child outcomes may also be partly explained by poor outcomes associated with paternal IPV experiences; however, those links have not been well documented or fully explored.

Recent reports indicate that female perpetration of violence—mutual violence—is common within heterosexual relationships, especially within adolescent relationships [18, 19]. Previous findings demonstrate that mutual violence among adolescents places both males and females at increased risk for poor outcomes such as substance use, depression, and post-traumatic stress disorder [1]. First time adolescent parents who are already dealing with increased relationship stress may be more vulnerable to these outcomes [20]. Parents who experience such poor outcomes are less engaged with their children and have poorer coping skills, all of which affect parent–child interactions [21]. For example, depressed mothers are often preoccupied with their own relationship stress and mental health [22]. As such, they report less maternal involvement and ineffective parenting which may contribute to difficult infant temperament [21, 23]. These outcomes are likely exacerbated for children born to adolescent couples who are less equipped to deal with the challenges of becoming a new parent.

Despite substantial literature examining the association between IPV, relationship dynamics, and child outcomes, this area of study is limited in several ways. First, most research explaining the association between relationship dynamics and IPV is derived from studies of adult relationships [8]. Literature exploring relationship dynamics among adolescent couples is scarce, yet IPV and mutual violence are prevalent within these couples [24]. Second, reports often come from one partner, more often the female, within the relationship as opposed to both partners [25]. Finally, when exploring the impact of IPV on child outcomes, most studies have focused on the impact of the women's victimization, not considering women's perpetration of violence [26].

Accordingly, we aim to examine the association between IPV, relationship dynamics, and child and parental outcomes among young adolescent couples. Specifically, we aim to: (1) examine the role of IPV, relationship power, and relationship equity in child development, infant

temperament, and parenting competence in children of urban, adolescent parents; and (2) assess gender as a moderator and depression as a mediator in the relationship between our primary predictor variables and child and parenting outcomes. We hypothesize that IPV and imbalances in equity and power will be associated with poor parenting and child outcomes, likely mediated by depression.

Methods

Procedure

The study uses a subset of participants from a longitudinal study of pregnant and postpartum adolescent females and their partners. 592 Participants were recruited between July 2007 and February 2011 from obstetrics and gynecology clinics and an ultrasound clinic in four university-affiliated hospitals in Connecticut. We achieved a participation rate of 72 % and individuals that enrolled in the study did not differ from individuals that refused except that participants were more likely to be 2 weeks further along in their pregnancy than non-participants ($p < 0.05$). Interested participants were screened and eligibility criteria were assessed. If eligible, research staff provided participants with study details and procedures.

Inclusion criteria included: (a) women in the second or third trimester of pregnancy at baseline; (b) women: age 14–21 years; men: age at least 14 years at baseline; (c) both partners report being in a romantic relationship with each other; (d) both report being the biological parents of the unborn baby; (e) both agree to participate and (f) both are able to speak English or Spanish. Because the study was longitudinal, an initial run-in period was used as part of eligibility criteria where participants were deemed ineligible if they could not be re-contacted after screening and before their estimated due date.

Data were collected at 3 Time points: baseline (Time 1), 6 months postpartum (Time 2), 12 months postpartum (Time 3). During the baseline appointment, research staff obtained written informed consent. Each member of the couple individually completed structured interviews via audio computer-assisted self-interviews. Of the 592 participants, 207 men (70 %) and 228 women (77 %) completed their 6-month postpartum follow-up assessment, and 239 men (81 %) and 261 women (88 %) completed their 12-month postpartum follow-up assessment. Participants were included if they had valid data at both Time 2 and Time 3, resulting in a final sample of 159 men and 182 women. Participants included in the final analysis ($N = 341$) did not differ from the participants excluded because of missing data ($N = 251$) on any of the main

study variables, with the exception of race/ethnicity. Participants included in the final analyses had a greater proportion of Hispanic and a lower proportion of White participants than participants not included in the analysis ($p < 0.05$). All procedures were approved by the Yale University Human Investigation Committee and by Institutional Review Boards at study clinics. Participants were remunerated \$25 each for time and effort.

All demographic variables and predictors were examined during pregnancy (Time 1) or 6 months postpartum (Time 2). All outcomes were examined at 12 month postpartum (Time 3). Depression, which served as a potential mediator, was examined at Time 2. Cronbach's alpha was computed for all scales used as predictors, mediators, and outcomes to assess reliability of scales in the sample.

Measures

Predictors

Experiencing and perpetrating IPV were assessed by the modified Conflict Tactics Scale [27]. To determine IPV victimization participants indicated whether their partner ever forced them to have sex, ever swore at them, called them names, or insulted them, or ever shoved, punched, hit, slapped, or physically hurt them. To determine perpetration participants were asked whether they ever perpetrated any of these behaviors. If participants reported experiencing any of these forms of violence they were recorded experiencing IPV and if participants reported perpetrating any of these forms of violence they were recorded as perpetrating IPV. Responses were dichotomized into "yes" versus "no."

Relationship power or decision-making power within the relationship was assessed by the 8-item Decision Making Dominance Subscale of the Sexual Relationship Power Scale (SRPS) [28]. Participants reported who contributed more to decisions within various aspects of the relationship (e.g., "who usually has more say about whose friends to go out with?"). The response choices were: 1 = "Your partner", 2 = "Both of you equally", and 3 = "You". We used two scales: partner power which was a count of each item that participants noted their partner had more power; and personal power which was a count of each item that participants noted they had more power. The reliabilities for partner power for males and females were 0.63 and 0.59, respectively; for personal power reliabilities for males and females were 0.49 and 0.65, respectively.

Relationship equity was assessed by the 21-item adapted Traupmann's Equity scale, which is comprised of three subscales: over-benefited, equitably treated, and under-benefited [29]. Conceptually, equity has a non-linear relationship with distress such that both over-benefited and under-benefitted relationships cause psychological and

relationship distress. Only equitable relationships are conceptually related to good relationship functioning [29]. Participants reported who contributed more to the relationship across a variety of dimensions (e.g. paying for things, intelligence, showing affection). Response choices were: 1 = "My partner contributes much more than I do," 2 = "My partner contributes somewhat more than I do," 3 = "My partner and I contribute equally," 4 = "I contribute somewhat more than my partner does," and 5 = "I contribute much more than my partner does." Items from the equitably treated items were used for the equity score which was a count of all items answered as "My partner and I contribute equally." The reliabilities were good at 0.73 for males and 0.79 for females.

Outcomes

Infant temperament was assessed by the 10-item Revised Infant Temperament Questionnaire [30]. Participants described infant behavior by indicating how often the descriptors were true of their infant. The response choices were on a six-point scale ranging from 1 "almost never" to 6 "almost always." Five items were used to describe negative emotionality and five items described positive emotionality. A total infant temperament score was computed by using the sum the positive emotionality items and reverse scored negative emotionality items. Scores ranged from 6 to 60, with higher scores indicating more positive infant temperament. The reliabilities were 0.70 for males and 0.69 for females.

Child development was assessed by the 30-item Child Development Chart [31]. Participants reported whether their child had performed any of 30 behaviors common by 12 months postpartum. Five developmental domains were assessed: social, self-help, gross motor, fine motor, and language skills. Participants were asked to check all behaviors that were exhibited by their infant using a "yes" or "no" response set. Subscale scores, which ranged from 0 to 6, were created by summing scores based on responses for each item within the subscale. The reliabilities for each subscale for males were 0.70 for social skills, 0.64 for self-help skills, 0.53 for gross motor skills, 0.66 for fine motor skills, and 0.71 for language skills. The reliabilities for each subscale for females were 0.65 for social skills, 0.56 for self-help skills, 0.48 for gross motor skills, 0.66 for fine motor skills, and 0.63 for language skills. While low reliability was observed, the subscales were index measures which may be comprised of independent items that are not necessarily strongly correlated. Thus, we were not concerned about low reliability for these scales [32].

Parenting sense of competence was assessed by the adapted Gibuad-Wallston's and Wanderman's Parenting Sense of Competence Scale [33]. This version utilizes a two factor structure, which has been previously reported as

parsimonious for both fathers and mothers [34]. It assesses whether parents feel capable, confident, and in control as a parent. The response choices were on a five-point scale ranging from 1 “strongly disagree” to 5 “strongly agree.” A total score, which ranged from 17 to 85, was computed by reverse scoring the necessary items and summing all items together. Higher scores indicated greater parenting sense of competence. The reliabilities were good at 0.75 for males and 0.79 for females.

Mediators

Depression was measured at Time 2 using 15 of the 20 items in the Center of Epidemiological Studies-Depression Scale (CES-D) [35]. Five somatic items that may be observed during pregnancy were removed to prevent artificially high depression scores [36]. For each symptom of depression, participants indicated how often they felt or behaved in the specified way in the week prior to assessment, with responses ranging from 0 = “<1 day a week” to 3 = “Most of the time (5–7 days a week).” Scores ranged from 0 to 45, with higher values indicating more depression. The reliabilities were good at 0.83 for males and 0.88 for females.

Data Analysis

Descriptive statistics were generated for demographic, mediator, and predictor variables (Table 1). Generalized Estimating Equations (GEE) is a method similar to multi-level modeling in that it corrects for clustered and correlated data and is appropriate for dyadic data [37, 38]. GEE has been used in partner-level analyses [39], social network analyses of dyads [40, 41], and romantic partner dyadic analyses [37, 42]. We chose GEE over other approaches to dyadic data due to missing data on our core predictors and outcomes. GEE is more flexible than multilevel modeling in handling missing data when within cluster numbers are small [37]. Finally, given the nature of the outcomes and predictors and the complexity of our models, we opted for the simpler and more straightforward analysis strategy while still controlling for the correlated nature of the data. The use of GEE allows us to directly test for possible gender moderations by including interaction terms in the model which is not possible if we stratified our models by gender, providing more rich comparisons. Statistically significant predictor variables ($p < 0.05$) were included in final multivariable models. The model controlled for covariates, which included sociodemographic factors (age, income, education), parity, and birth outcomes that may affect development (preterm status and birth weight). These variables were chosen based on literature suggesting their potential role in our outcomes [43]. To determine

Table 1 Demographics and characteristics of the sample

	Males (N = 159)	Females (N = 182)	<i>p</i>
<i>Demographics</i>			
Age	21.3 (3.8)	18.8 (1.6)	<0.001**
Race ^a			0.34
White	11 (17)	15 (27)	
African American	46 (73)	38 (69)	
Hispanic	41 (65)	43 (78)	
Other race	3 (4)	4 (8)	
Education	11.9 (1.9)	11.9 (1.9)	0.96
Income (\$) ^b	17,145 (20,916)	12,403 (12,589)	0.01*
<i>Predictors</i>			
Equity	64.51 (24.64)	59.13 (25.71)	0.02*
Partner power	1.12 (1.53)	0.90 (1.09)	0.13
Personal power	0.84 (1.24)	1.01 (1.34)	0.21
IPV victim	27 (43)	19 (34)	0.07
IPV perpetrator	5 (8)	12 (22)	0.03*
<i>Mediator</i>			
Depression	8.77 (6.52)	8.52 (7.21)	0.73

Data are mean (SD) unless indicated

* $p < 0.05$, ** $p < 0.01$

^a Data are % (N)

^b One missing observation for females

whether gender moderated the effect of the predictors on child outcomes, a gender by predictor term was added to the model one at a time. To test for mediation, we followed the steps from Baron and Kenny [44]. First we assessed the relationship between the predictors and the mediator depression. Next we added depression to the final model between the primary predictor variables and outcomes and assessed changes in the magnitude and significance of the relationship of the predictors and outcomes [44]. In addition, the program PRODCLIN, which calculates confidence intervals to test the indirect effects of variables and is appropriate for GEE models [45], was used to verify the mediation by depression in the model. All analyses were performed using SPSS 19.0.

Results

Participants were predominantly African American (44 %) or Hispanic (38 %), while the remaining were White (14 %) and some other race (4 %). We compared men and women in all demographic, mediator, and predictor variables (Table 1). The average age for males was 21.3 (SD = 4.1) and 18.7 (SD = 1.6) for females. Males reported higher income as compared to females.

Table 2 Adjusted associations between relationship power, relationship equity, interpersonal violence, and parenting and child outcomes

	Infant temperament B (SE)	p	Parenting sense of self-competence B (SE)	p	Social child development B (SE)	p	Gross motor child development B (SE)	p	Fine motor child development B (SE)	p	Self-help child development B (SE)	p	Language child development B (SE)	p
Equity	0.052 (0.023)	0.02*	0.010 (0.021)	0.63	0.001 (0.005)	0.90	-0.002 (0.005)	0.70	-0.007 (0.005)	0.15	-0.002 (0.005)	0.70	0.004 (0.005)	0.50
Partner power	-0.300 (0.315)	0.34	-0.468 (0.369)	0.21	-0.201 (0.088)	0.02*	-0.144 (0.080)	0.07	-0.195 (0.078)	0.01**	-0.095 (0.082)	0.25	-0.039 (0.089)	0.67
Actor power	0.224 (0.366)	0.54	-0.535 (0.332)	0.11	0.062 (0.077)	0.42	0.025 (0.074)	0.74	0.010 (0.068)	0.89	0.060 (0.064)	0.35	0.008 (0.094)	0.93
Violence	-2.925 (1.083)	<0.01**	-3.508 (1.142)	<0.01**	-0.161 (0.267)	0.55	-0.348 (0.252)	0.17	-0.079 (0.236)	0.74	-0.055 (0.240)	0.82	-0.211 (0.260)	0.42

Covariates included age, education, income, parity, preterm status, and low birth weight status

Bold values are statistically significant coefficients

* $p < 0.05$, ** $p \leq 0.01$

Experiencing IPV by partner was reported in 27 % of males and 19 % of females, and perpetrating IPV was reported by 5 % of males and 12 % of females. Males and females did not differ in experiences of IPV victimization or personal power. Males reported higher relationship equity (M = 61.23, SD = 25.62) than females (M = 54.82, SD = 27.25).

Results of multivariable GEE controlling for age, gender, income, years of education, number of children, preterm delivery status, and birth weight are shown in Table 2. Perpetration of IPV was included in early models to examine potential effects of perpetration. Perpetration was not associated with any outcomes and was not included in final models. Higher relationship equity was related to better infant temperament (B = 0.052, $p = 0.02$). Higher perceived partner power was significantly associated with poorer infant social development (B = -0.201, $p = 0.02$) and fine motor development (B = -0.195, $p = 0.01$). Experiencing violence was associated with poorer infant temperament (B = -2.929, $p = 0.007$) and lower parenting sense of competence (B = -3.508, $p = 0.002$). Perceived personal power was not associated with any outcome measures.

Next, we examined moderation effects between gender and the predictor variables and mediating effects of depression. No moderation by gender was found. When added to the model, depression was significantly associated with partner power (B = 0.794, $p = 0.009$) and IPV (B = 2.063, $p = 0.022$). Next, we added depression to the final models, and results showed that depression related to social development (B = -0.040, $p = 0.010$), infant temperament (B = -2.130, $p < 0.001$), and parenting sense of competence (B = -0.377, $p < 0.001$). Then we examined possible mediation of depression by assessing indirect effects using PRODCLIN. Depression was found to mediate the relationship between IPV and infant temperament (95 % CI -0.942, -0.037), IPV and parenting sense of competence (95 % CI -1.510, -0.064), and perceived partner power and social development (95 % CI -0.70, -0.001).

Discussion

This study examined IPV, relationship power, and equity in young parents in relation to parenting and child outcomes. Our results support previous work on the consequences of inequities in intimate relationships [6, 8, 16, 17]. Experiencing IPV, power imbalances, and inequities were disadvantageous for parenting and child outcomes. We did not find a parental gender difference in the effect of these constructs on child outcomes, suggesting that experience of these dynamics in either male or female parents may have negative effects on child outcomes.

Our results showed that a relatively high proportion of young men and women experienced IPV. The presence of IPV in the household may create an adverse environment for the caregiver experiencing the violence and children in the household [46]. Children may be particularly vulnerable to the effects of IPV, as violence may compromise the ability and quality of parenting in the traumatized caregiver [22]. Importantly, our results suggest that experiencing IPV may extend beyond mothers, affecting fathers' mental health and experience of parenting as well. While women were more likely than men to report perpetration of IPV, perpetration was not associated with child or parenting outcomes. However, further exploration of mutual violence within parenting couples and its effects on families is needed in future studies.

Quality of the parent–child relationship may be affected by the psychological effects of IPV on the caregiver, particularly depression [2, 3, 47]. Our results showed that parental depression mediated the relationship between IPV and infant temperament and IPV and parenting sense of competence. This result may be explained by previous work describing parental response to IPV. Mothers who experience IPV have been shown to be less emotionally available to their children [21], a phenomenon that may extend to fathers as it did among parents in our sample. In addition, victims of IPV may feel less capable of effective parenting [22, 48], reducing their sense of competence as a parent.

Temperament and parenting may act together to influence the quality of the parent–child relationship [23] particularly in the context of stressors such as IPV [16]. Infants with traumatized parents may experience low quality parenting and thus exhibit more distress and crying [23]. Consequently, displays of higher distress may elicit less effective parenting strategies [23] which may be particularly problematic in young couples who experience the stress of parenting in the context of inexperience, transient relationships, and limited resources common to adolescent parents [20]. In contrast, greater relationship equity was related to better infant temperament. Higher equity may reflect better cooperation between partners in family activities and better quality relationships between parents. Consequently, parents in equitable relationships may be more engaged with their children.

Higher perceived partner power was associated with poorer fine motor and social development in infants. Sub-optimal development of motor skills in infants and children is commonly associated with biologic factors [46], yet our model suggests that power within couples may be associated with this area of development. Recent evidence suggests that maternal depression is related to poorer fine motor functioning in infants at 18 months of age [49], which may reflect a more complex model of motor development in children that includes both biologic and

psychosocial risk factors. Social development, similarly, may be affected by interactions with mothers and fathers [50], and may be compromised if interpersonal and environmental factors negatively affect the quality of the parent–child relationship.

Strengths of our study include the inclusion of both mothers and fathers and longitudinal design. To the authors' knowledge, no study of comparable design in the literature examines IPV, relationship inequities, and child outcomes in young men and women. Some limitations should be noted. An inclusive categorization of IPV was used, which limits inferences about different types of IPV. While we attempted to control for confounding by inclusion of covariates in our models, there may be additional variables important to child outcomes that were not included. Exclusion of other relevant variable and inclusion of parental-report measures for all predictors and outcomes introduces the possibility of unmeasured confounding by other variables [51]. Further, the associations we found may represent similar underlying biologic or cultural mechanisms, but our analyses cannot fully explain the likely complex mechanisms underlying the associations we found. Finally, our models did not include information regarding amount of time both mothers and fathers spend with their children. Inclusion of maternal and paternal information such as co-residence and level of contact with children is important to explore in future studies.

Children of adolescent parents are vulnerable to negative outcomes, and parental relationship quality may promote or hinder development of children. Our results suggest that the experiences of fathers may be important and should be explored in future work examining these associations. Interventions promoting better quality relationships in adolescents may help in prevention of violence and inequities that may lead to dissatisfaction and poor outcomes in male and female caregivers and their children [52].

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