Published in final edited form as:

Psychol Violence. 2019 May ; 9(3): 278–287. doi:10.1037/vio0000118.

Investigating Intimate Partner Violence Victimization and Reproductive Coercion Victimization among Young Pregnant and Parenting Couples: a longitudinal study

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Abstract

Objective—Intimate partner violence (IPV) victimization and reproductive coercion place young women at risk for poor health. However, very few studies have examined the associations between IPV victimization and reproductive coercion among young couples nor investigated these associations longitudinally.

Method—Data were collected during 2007–2011 from 296 pregnant adolescent and young couples enrolled in a prospective study. Couples were recruited at obstetrics and gynecology, and ultrasound clinics.

Results—Using the Actor-Partner Interdependence Model, results indicate significant actor and partner effects for IPV victimization and reproductive coercion victimization. Actor's prebirth IPV victimization, and actor's and partner's reproductive coercion victimization in a past relationship related to reproductive coercion victimization in the current pregnancy. Partner's reproductive coercion victimization in the current pregnancy related to psychological IPV victimization at the six-month follow-up, but this relationship dissipated at the twelve-month follow-up.

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CONFLICTS OF INTEREST: The authors declare no conflicts of interest

Conclusions—A complex, co-occurring relationship exists between IPV victimization and reproductive coercion among young pregnant and parenting couples. Young couples transitioning from pregnancy to parenthood who experience reproductive coercion may be at risk for IPV. Pregnancy and parenting programs targeting young couples should be sensitive to the relationship between IPV and reproductive coercion victimization.

Keywords

Adolescents; Domestic Violence; Intimate Partner Violence Victimization; Reproductive Coercion; Actor-Partner Interdependence Model

Intimate partner violence (IPV) is a public health concern for adolescents and young adults. IPV victimization can be defined as experiencing physical, sexual, and/or psychological harm by a current or former romantic or dating partner (Black et al., 2011). The estimated prevalence of IPV victimization is high among adolescents and young adults and ranges between 10% and 53% in the United States (Carroll, Raj, Noel, & Bauchner, 2011; Miller & McCauley, 2013). Adolescents and young adults who experience IPV victimization are at heightened risk for adverse health, however, some studies suggest that pregnant and parenting couples may be vulnerable to IPV victimization. For example, young mothers are at an elevated risk of IPV victimization compared to nonexpectant women (Leadbeater, Banister, Ellis, & Yeung, 2008; Leaman & Gee, 2008; Rennison, 2001). The transition from pregnancy to parenthood can be a stressful time for adolescents (Kershaw, Arnold, Gordon, Magriples, & Niccolai, 2012) and previous research suggest this transition is vulnerable to IPV victimization. In particular, adolescents who experience IPV victimization are four to six times more likely to become pregnant compared to unabused adolescents (Born, 2012; Saewyc, Magee, & Pettingell, 2004) and young mothers who experience prebirth IPV victimization are more likely to report IPV victimization during the postpartum period (Gielen, O'Campo, Faden, Kass, & Xue, 1994; Harrykisson, Rickert, & Wiemann, 2002). Therefore, the current study will examine correlates of IPV victimization among young couples transitioning from pregnancy to postpartum.

The Intersections of Reproductive Coercion and Intimate Partner Violence

An emerging body of research has centered on reproductive coercion and its potentially co-occurring relationship to IPV victimization. Reproductive coercion is the attempt to dictate and control an intimate partner's reproductive choices against their will (Miller & Silverman, 2010; American College of Obstetricians & Gynecologists, 2013). Reproductive coercion includes three types of controlling behaviors: pregnancy coercion and pressure (e.g., using physical and psychological threats to promote pregnancy), birth control sabotage (e.g., intentionally tampering the condoms), and control of pregnancy outcomes (e.g., threats related to continuing or terminating pregnancy) (Miller & Silverman, 2010; American College of Obstetricians & Gynecologists, 2013). For this paper, we use the terms reproductive coercion victimization and reproductive coercion perpetration to distinguish one's role in this experience. Reproductive coercion victimization refers to individuals who were a victim of reproductive coercion; while reproductive coercion perpetration refers to individuals who used coercive strategies against a partner. Some studies have demonstrated

an important and complex relationship between IPV victimization and reproductive coercion victimization among women seeking obstetrics and gynecological care (Clark, Allen, Goyal, Raker, & Gottlieb, 2014; Thaller & Messing, 2015) and women in college (Katz, Poleshuck, Beach, & Olin, 2015; Sutherland, Fantasia, & Fontenot, 2015). While reproductive coercion victimization can occur without concomitant violence (Grace & Anderson, 2016), these studies found that women who experience IPV victimization were also more likely to report experiencing reproductive coercion victimization (Clark et al., 2014; Katz et al., 2015; Sutherland et al., 2015). Abusive male partners can make it difficult for a female partner to express control over her reproductive health (Clark et al., 2014; Miller & Silverman, 2010). Examining the potential co-occurring relationship between IPV victimization and reproductive coercion is important as some research suggest an increased risk of unintended pregnancies among women who report IPV and reproductive coercion victimization (Miller et al., 2010; Miller et al., 2014).

Young Pregnant and Parenting Couples Matter

The relationship between IPV victimization and reproductive coercion may be particularly relevant for young pregnant and parenting couples. In the context of pregnancy, reproductive coercion victimization is a probable mechanism linking IPV victimization and adolescent pregnancy (Miller et al., 2007; Miller & McCauley, 2013; Park, Nordstrom, Weber, & Irwin, 2016). Adolescent and young people are significantly affected by IPV victimization (Carroll et al., 2011; Miller & McCauley, 2013; Roberts, Auinger, & Klein, 2005), reproductive coercion victimization (Alexander, Volpe, Abboud, & Campbell, 2016; Clark et al., 2014; Grace & Anderson, 2016; Kazmerski et al., 2015; McCauley et al., 2015; Miller et al., 2007; Sutherland et al., 2015), and unintended pregnancies (Finer & Zolna, 2016), and some young couples are pregnant as a result of the interplay of IPV victimization and reproductive coercion victimization.

Similarly, some violence-related theories and models postulate the potential relationship between reproductive coercion and IPV victimization in the postpartum period. From a power theory perspective, reproductive coercion signifies a power imbalance within a romantic relationship (Park et al., 2016) which can result in tension and heighten the risk of IPV (Bell & Naugle, 2008; Sagrestano, Heavey, & Christensen, 1999; Straus, 1977). Reproductive coercion victimization relates to higher stress (Alexander et al., 2016; McCauley, Falb, Streich-Tilles, Kpebo, & Gupta, 2014), which may increase the likelihood of IPV. Moreover, feminist theory suggests that men use violence as a tactic to exert dominance over women (Bell & Naugle, 2008; Dobash & Dobash, 1978). A male partner who perpetrated reproductive coercion may continue to use abuse to exert dominance. Lastly, the Background-Situational model suggests that both background (e.g., history of abuse) and situational (e.g., relationship satisfaction) factors contribute to the development and maintenance of courtship aggression and IPV (Bell & Naugle, 2008). Background and situational factors such as a history of reproductive coercion victimization or perpetration and communication styles may interact to influence the onset of an IPV occurrence during the postpartum period. Research is needed to examine the longitudinal associations between IPV victimization and reproductive coercion among young couples in order to better inform pregnancy and parenting programs.

Examining the influence of reproductive coercion victimization in past relationships may also be informative among young pregnant and parenting couples. Reproductive coercion victimization in past relationships can impact contraception use (Katz et al., 2015; Kazmerski et al., 2015) and extensive violence literature indicates that past experiences of victimization can increase one's vulnerabilities, which may place them at a higher risk of subsequent victimization (Koenig & Clark, 2004). Thus, reproductive coercion victimization in a past relationship may place young pregnant and parenting couples at a greater risk of reproductive coercion victimization in the *current* relationship. This is critically important as adolescents may not perceive reproductive coercion strategies as abusive or unhealthy (Miller & Silverman, 2010) and may bring previous relationship behaviors into current relationships.

Current Research Gaps and Limitations

A strong relationship may exist between IPV victimization and reproductive coercion, but there are some important gaps in current literature. First, the nature and chronology of reproductive coercion and IPV victimization remains unclear because cross-sectional designs make it difficult to assess causality (Grace & Anderson, 2016). Examining reproductive coercion victimization over time can elucidate its potential long-term effects on health and behaviors. Second, very few studies examine on men's experiences (Black et al., 2011; Grace & Anderson, 2016; Park et al., 2016) and to date, no study has examined reproductive coercion victimization among couples. Lastly, research examining correlates of IPV victimization among young pregnant and parenting couples is very limited despite the evidence suggesting adverse health during pregnancy and the postpartum period among young couples who experience IPV victimization (Scribano, Stevens, & Kaizar, 2013; Willie, Powell, & Kershaw, 2016).

The Current Study

The current study sought to: 1) describe the prevalence of seven reproductive coercion experiences among young pregnant and parenting couples; and 2) examine associations between IPV victimization and reproductive coercion as couple's transition from pregnancy to the postpartum period. The current study used the Actor-Partner Interdependence Model (APIM) in order to conduct dyadic analyses with actor and partner effects. Actor effects refer to the effect of a person's attribute on their own outcome (e.g., female's experience of prebirth IPV victimization relates to her experience of current reproductive coercion). Partner effects refer to the effect of partner's attribute on a person's outcome (e.g., female's experience of prebirth IPV victimization relates to male's experience of current reproductive coercion). The study investigated the following hypotheses:

1. Actor IPV victimization before the birth of a baby will be associated with a higher likelihood of actor reproductive coercion in the current pregnancy (actor effect).
2. Partner IPV victimization before the birth of a baby will be associated with a lower likelihood of actor reproductive coercion in the current pregnancy (partner effect).

3. Actor reproductive coercion as a victim in a past relationship will be associated with a higher likelihood of actor reproductive coercion in the current pregnancy (actor effect).
4. Partner reproductive coercion victimization in a past relationship will be associated with a lower likelihood of actor reproductive coercion in the current pregnancy (partner effect).
5. Actor reproductive coercion victimization in the current pregnancy will be associated with a higher likelihood of actor psychological and physical IPV victimization six- and twelve-month follow-up period (actor effect).
6. Partner reproductive coercion victimization in the current pregnancy will be associated with a lower likelihood of actor psychological and physical IPV victimization six- and twelve-month follow-up period (partner effect).

Examining gender as an effect modifier on the associations between IPV victimization and reproductive coercion was exploratory, and as a result, we had no specific hypothesis.

Methods

The current study uses data collected from a longitudinal study designed to assess relationship changes (e.g., relationship functioning, satisfaction) from pregnancy to postpartum; and the effects of relationship changes on the sexual, reproductive, and mental health of pregnant adolescents and their male partners (Kershaw et al., 2012; Kershaw et al., 2013).

Participants and Recruitment

Participants were 296 pregnant adolescent females and their male partners (N=592 participants) recruited between July 2007 and February 2011 from obstetrics and gynecology clinics and an ultrasound clinic in four university-affiliated hospitals. Potential participants were screened and, if eligible, research staff provided detailed information about IPV in the study and answered any questions. If one of the biological parents were not present at the time of screening, research staff asked for permission to contact their partner to explain the study. If willing, the present partner was provided informational materials by the research staff. Participants were eligible if: (a) the woman was in the second or third trimester of pregnancy at baseline, (b) both male and female partners reported being in a romantic relationship with each other; (c) the woman was 14–21 years old at baseline; the men was at least 14 years at baseline; (d) both reported being the biological parents of the unborn baby; (e) both agreed to participate, and (f) both were able to speak English or Spanish. Due to the longitudinal study design, an initial run-in period was implemented as part of the eligibility criteria—participants were determined to be ineligible if they could not be re-contacted after screening and before their estimated due date. The participation rate for the longitudinal study was 72%. Of the 592 participants, 196 men (66%) and 225 women (76%) completed their 6-month follow-up. Similarly, 226 men (76%) and 261 women (88%) completed their 12-month follow-up. Participants were asked why they declined to participate in the study, including whether they felt unsafe to reach out to their partners due

to IPV. No participants endorsed feeling unsafe. If a participant had revealed they felt unsafe, protocols were in place to provide support for those participants. The only difference between those who enrolled in the study versus those who did not was that those who declined to participate were on average 2 weeks further along in their pregnancy ($p < 0.05$). At the baseline appointment, research staff obtained written informed consent from each participant. Given that the participants were receiving prenatal care and could make medical decisions for themselves and their babies without parental consent, the need for parental consent for the research was waived, and participants directly consented for participation in the study. The host institution's and study clinics' Institutional Review Boards approved all procedures.

For the current study, we included participants with valid data for each time point. This resulted in a sample of 296 men and 296 women for the initial model; 196 men and 225 women were included for the 6 months postpartum models; and 226 men and 261 women were included for the 12 months postpartum models. Participants included in the subsequent analyses ($N=421$; $N=486$) did not differ from the participants excluded because of missing data ($N=171$; $N=106$) on any of the main study variables. The sample was African-American (48%, men; 40% women), Hispanic (36% men; 40% women), and White (15% men; 20% women). The average age for women was 18.7 years ($SD = 1.63$) and for men 21.3 years ($SD = 4.06$). The average relationship length for women was 26.60 months ($SD=19.52$) and for men 27.24 months ($SD=20.01$).

Measures

IPV Victimization—IPV victimization and perpetration was assessed at the baseline, 6-month, and 12-month follow-up. Two physical (e.g., shoved, punched, hit, slapped) and one psychological IPV items (i.e., swear at you, call you names, or insult you) were derived from the revised Conflict Tactics Scale-2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) and five sexual IPV items (e.g., ever used force to make them have sex) were derived from the Sexual Experiences Survey (Koss & Oros, 1982). Participants were asked if their partner ever used the behavior towards them (i.e., own victimization) and if the participant ever used the behavior towards their partner (i.e., own perpetration). Participants responded to each item as yes (1) or no (0). At the baseline interview, the questions were anchored to the current partner (e.g., has the mother/father of your baby ever). At the 6- and 12-month follow-up, IPV victimization questions were expressed as in the last six months. The actor and partner reports of IPV victimization and perpetration were used to create an upper-bound estimate (i.e., an IPV occurrence happened as long as one partner reported it) resulting in five summary, dichotomous variables for IPV victimization: *Prebirth IPV Victimization*; *Psychological 6-month IPV Victimization*; *Physical 6-month IPV Victimization*; *Psychological 12-month IPV Victimization*; and *Physical 12-month IPV Victimization*. For example, Prebirth IPV Victimization-Actor (yes to any reported victimization by the actor or yes to any reported perpetration by the partner at the baseline interview); and Prebirth IPV Victimization-Partner (yes to any reported victimization by the partner or yes to any reported perpetration by the actor). Significant correlations between female's and male's IPV victimization provides evidence for congruent validity ($r=0.55$, $p < 0.01$ for prebirth IPV victimization; $r=0.38$, $p < 0.01$ for 6-month physical IPV

victimization; $r=0.73$, $p<0.01$ for 6-month psychological IPV victimization; $r=0.37$, $p<0.01$ for 12-month physical IPV victimization; $r=0.71$, $p<0.01$ for 12-month psychological IPV victimization).

Reproductive Coercion Victimization—Reproductive coercion was assessed at baseline. Reproductive coercion items developed by Miller et al. (2010) were modified and adapted by experts in men's health to reflect the experiences of men as well as women. After the items were adapted, three men and three women were cognitively interviewed to assess the relevance of these reproductive coercion items, and whether any items should be added to be more relevant for men. Through both the expert review and cognitive interviewing, all items were deemed relevant and no additional items were added. When assessing reproductive coercion, participants were asked if the mother/father of their baby, ever tried to get them pregnant (or get pregnant) when they did not want to. Participants who answered in the affirmative, were asked to identify which of the seven reproductive coercion behaviors they experienced: (1) stop taking birth control or tell him you would stop taking it/tell her not to or prevent her from taking them, (2) tell him/her you wanted (her) to get pregnant, (3) threaten to leave him/her, (4) put holes in the condom/take condom off during sex, (5) hurt him/her or tell him/her you would hurt him/her physically, (6) insist that you have sex without a condom, and (7) tell him/her you would have a baby with someone else. When assessing past reproductive coercion, participants were asked if a previous partner ever tried to get them pregnant (or get pregnant) when they did not want to. Participants who answered in the affirmative, were asked to identify which of the seven reproductive coercion behaviors they experienced (above). The actor and partner reports of current reproductive coercion victimization and perpetration were used to create an upper-bound estimate (i.e., a reproductive coercion occurrence happened as long as one partner reported it) resulting in a summary, dichotomous variable for reproductive coercion victimization: *Current Reproductive Coercion Victimization*. Thus, Current Reproductive Coercion Victimization-Actor (yes to any reported victimization by the actor or yes to any reported perpetration by the partner); and Current Reproductive Coercion Victimization-Partner (yes to any reported victimization by the partner or yes to any reported perpetration by the actor). *Prior Reproductive Coercion Victimization* summary dichotomous variable was based only on the actor's reports: Prior Reproductive Coercion Victimization-Actor (yes to any previous partner tried to get them pregnant when they did not want by the actor). A significant correlation between female's and male's current reproductive coercion victimization provides evidence for congruent validity ($r=0.20$, $p<0.01$).

Sociodemographics—Participants provided data on their age, household income, race, years of education, employment status (i.e., not working, working part-time, working full-time), relationship with MOB/FOB at 6 months postpartum (i.e., still in a relationship with father or mother of the baby, or not in the relationship with father or mother of the baby), length of their current relationship at baseline (in months), and number of previous children.

Procedure

Data for the study were collected at 3 time points: baseline assessed during second or third trimester of pregnancy (Time 1), 6 months postpartum (Time 2), 12 months postpartum

(Time 3). Each individual within the couple completed structured audio computer-assisted self-interviews in a setting private from their partner. At the end of the interview, participants were provided with a list of community resources including those for employment, mental health treatment, and violence-related services. If participants disclosed IPV to the research staff, they were referred to clinical health professionals at the participating clinics. Participants were remunerated \$25 each for time and effort.

Data Analytic Plan

Descriptive statistics were generated for all variables and gender comparisons were conducted using McNemar chi-square tests and paired t-tests.

The Actor-Partner Interdependence Model was used to assess the impact of actor and partner effects among dyads (Kenny, Kashy, & Cook, 2006). Testing of empirical distinguishability by gender revealed that females and males were distinguishable. Generalized Estimating Equations, a method similar to multilevel modeling, was used over other dyadic data approaches because it: 1) is more flexible than multilevel modeling in the handling of missing data when within cluster numbers are small (Zorn, 2001), 2) better handles non-normally distributed and dichotomous outcomes, and 3) corrects for clustered and correlated data.

All models controlled for covariates (i.e., age, income, education, relationship length, race, employment, number of previous children). These covariates were chosen if: significant at the $p < 0.05$ level (Table 1) or are important based on previous research (Kershaw et al., 2013). The models predicting 6- and 12-month IPV also controlled if the participant was in a relationship with mother or father of the baby. Also, the prevalence of 6- and 12-month sexual IPV victimization was low ($< 2\%$), thus we did not include sexual IPV victimization in the 6- and 12-month IPV victimization models. Possible gender moderation was also assessed by adding product terms between predictors and gender to the models one at a time. Significant interactions were included in final models. All analyses were performed using SPSS 24.0 (Statistics, 2012).

Results

There were significant gender differences in the prevalence of IPV and reproductive coercion (Table 1). Men were more likely to experience prebirth IPV victimization (70% men vs. 54% women, $p < 0.001$); 6-month psychological IPV (70% men vs. 54% women, $p < 0.001$) and 6-month physical IPV victimization (21% men vs. 10% women, $p < 0.001$); 12-month psychological IPV (35% men vs. 29% women, $p = 0.01$) and 12-month physical IPV victimization (19% men vs. 13% women, $p < 0.01$); and reproductive coercion with a prior partner (16% men vs. 10% women, $p = 0.04$) than women. There were no significant gender differences in the endorsement of specific current and prior reproductive coercion victimization strategies.

Results from APIM are shown in Table 2. For current reproductive coercion victimization, there were significant actor and partner effects. Consistent with Hypothesis 1, experiencing IPV victimization before the baby's birth (i.e., actor prebirth IPV victimization) was

associated with reproductive coercion victimization in the current partnership (OR [95%CI] = 2.16 [1.01, 4.59]). Consistent with Hypothesis 3, experiencing reproductive coercion victimization in a past relationship (i.e., actor prior reproductive coercion) (OR [95%CI] = 3.06[1.54, 6.07]) was associated with reproductive coercion victimization in the current partnership. Contrary to Hypothesis 4, experiencing reproductive coercion victimization in the current partnership was associated with having a *partner* who experienced reproductive coercion victimization in a past relationship (i.e., partner prior reproductive coercion) (OR [95%CI] = 3.33[1.79, 6.62]).

For 6-month and 12-month IPV victimization, there were significant actor and partner effects. Men were more likely to experience 6-month psychological IPV (OR [95%CI] = 0.69[0.48, 0.98]), and physical IPV at the 6-month (OR [95%CI] = 0.35[0.20, 0.60]) and 12-month follow-up (OR [95%CI] = 0.58[0.34, 0.99]) than women. Contrary to Hypothesis 6, having a *partner* who experienced reproductive coercion in the current pregnancy (i.e., partner current reproductive coercion) was associated with 6-month psychological IPV victimization (OR [95%CI] = 2.42[1.16, 5.02]). Experiencing IPV victimization before the baby's birth (i.e., actor prebirth IPV victimization) was associated with physical IPV victimization at the 6-month (OR [95%CI] = 4.39[1.97, 9.77]) and 12-month follow-up (OR [95%CI] = 4.03[1.64, 9.88]), and psychological IPV victimization at the 6-month (OR [95%CI] = 5.89[3.48, 9.99]) and 12-month follow-up (OR [95%CI] = 3.02[2.00, 4.57]). Having a *partner* who experienced IPV before the baby's birth (i.e., partner prebirth IPV victimization) was associated with psychological IPV victimization at the 6-month (OR [95%CI] = 2.73[1.60, 4.67]) and 12-month follow-up (OR [95%CI] = 2.71[1.77, 4.17]). Gender did not moderate any of the associations in the baseline, 6-month, or 12-month models (all product terms had a $p > 0.05$). There was no evidence to support or disclaim Hypothesis 2 and 5.

Discussion

Young couples transitioning from pregnancy to parenthood experience a complex, co-occurring relationship between IPV victimization and reproductive coercion. Building upon previous research (Clark et al., 2014; Katz et al., 2015; Miller et al., 2010; Sutherland et al., 2015; Thaller & Messing, 2015), our study findings indicate key associations between IPV victimization and reproductive coercion victimization among young pregnant and parenting couples, an understudied population. Our findings also build upon this research by demonstrating that men experience reproductive coercion victimization. A previous qualitative study found that abusive male partners desiring pregnancy would sabotage birth control methods for their adolescent female partners (Miller et al., 2007); and, it is possible that women desiring pregnancy may also use similar approaches to promote pregnancy. To date, there is very limited research exploring the underlying motivations behind reproductive coercion perpetration (Grace & Anderson, 2016; Nikolajski et al., 2015), and it may be useful for future research to explore men's and women's motivations for perpetrating reproductive coercion strategies towards their partner. Further, our findings indicate that young pregnant and parenting couples transitioning into parenthood who used reproductive coercion could also be at risk for IPV victimization at the six-month follow-up. To our knowledge, this is one of the first studies to explore the relationship between IPV

victimization and reproductive coercion victimization among couples, longitudinally. Further, these results provide some validity that reproductive coercion victimization is relevant for both women and men. The association of reproductive coercion victimization with IPV victimization were similar between men and women, demonstrating similar relevance of reproductive coercion for both genders. As the number of interventions focused on IPV victimization and reproductive coercion continues to grow and healthcare providers are becoming trained in these issues (Burton & Carlyle, 2015), it is important for interventions to be sensitive to the needs of young pregnant and parenting couples as they can be at risk for IPV if they experienced reproductive coercion victimization.

Few studies have assessed the prevalence of 6- and 12-month IPV victimization and reproductive coercion victimization among young fathers, however, our findings are consistent with Charles and Perreira (2007) who found that men were more likely to experience physical IPV victimization compared to young women. Our findings suggest that young men may also be more likely to experience psychological IPV victimization at the six-month follow-up and this effect dissipates at twelve months. Further, our study found that 11% of men experienced reproductive coercion with the mother of the baby and 16% in a past relationship. This prevalence is consistent with the only other study, which reported the prevalence of reproductive coercion victimization to be 10% among adult men in a national sample (Black et al., 2011).

Actor Effects

Consistent with Hypothesis 1, young women and men who experienced IPV victimization before the birth of the baby were more likely to feel coerced to have a baby by their current partner. This finding is consistent with previous research (Clark et al., 2014; Katz et al., 2015; Sutherland et al., 2015; Thaller & Messing, 2015), and also illustrates that this power imbalance is also important for young pregnant and parenting couples.

Consistent with Hypothesis 3, young women and men who experienced reproductive coercion victimization in a previous relationship were more likely to experience reproductive coercion victimization with the current partner. Also, individuals who experience prebirth IPV victimization were more likely to experience psychological IPV victimization at the twelvemonth follow-up and physical IPV victimization at the six-month follow-up. Young women and men who experienced victimization such as reproductive coercion or IPV may have a heightened awareness of these abusive and controlling behaviors compared to their nonvictimized counterparts, and thus are able to recognize similar patterns of control in their current relationship. Another possible explanation builds upon previous work exploring mediators between past and current victimization. Specifically, some research suggests that individuals impacted by victimization and abuse are more likely to report victimization due to increased vulnerabilities such as poor psychological health (Classen, Palesh, & Aggarwal, 2005; Himelein, 1995). Though beyond the scope of this study, young women and men who experienced reproductive coercion victimization in a past relationship and IPV victimization before the baby's birth may have endured psychological consequences and other vulnerabilities that can place them at a higher risk for this type of victimization in another relationship.

Partner Effects

Contrary to Hypothesis 6, young women and men who coerced their partner to have the baby were more likely to experience psychological IPV victimization. This partner effect indicates that IPV victimization may be an outcome for the partner who perpetrated the reproductive coercion but this effect may dissipate after a year. From a power theory perspective, it is possible that tension develops between a young parent who experienced reproductive coercion victimization and the partner who perpetrated reproductive coercion. This tension may manifest as stress, and potentially act as a precursor to psychological IPV such as swearing and insulting against the partner who perpetrated reproductive coercion. Similarly, a Background-Situational model may suggest that experiencing reproductive coercion victimization in addition to low relational factors (e.g., relationship satisfaction) could result in the use of psychological IPV. Although substantiating these theories are beyond the study's scope, these findings expand our understanding of the short- and long-terms effects of reproductive coercion on IPV victimization and highlight that the roles of the victim and the perpetrator among young couples may not be static.

Contrary to Hypothesis 4, women and men were more likely to be coerced into the current pregnancy if their partner experienced reproductive coercion victimization in a past relationship. Further, young women and men were more likely to experience IPV victimization at the six- and twelve-month follow-up if they perpetrated IPV towards their partner before the baby's birth. These findings shed light on the complexity of being dually involved in victimization and perpetration. There are some potential explanations from previous theoretical and empirical research to support these findings. First, some previous research suggests that young couples experience bidirectional IPV and this prevalence ranges from 13% to 54% (Gray & Foshee, 1997; Melander, Noel, & Tyler, 2010; Renner & Whitney, 2010, 2012). While a proportion of our sample of young pregnant and parenting couples may be experiencing bidirectional IPV, it is important to note that bidirectional IPV may not be symmetrical (Langhinrichsen-Rohling, McCullars, & Misra, 2012) and we are unable to decipher motivations for IPV (e.g., self-defense) and the specific subtype of bidirectionally violent couples (Langhinrichsen-Rohling, 2010). However, the social learning theory suggests that being involved in violence may increase one's risk of being involved in a subsequent violent occurrence (Bandura & McClelland, 1977; Koenig & Clark, 2004), especially if internal working models are created from these experiences (McClellan & Killeen, 2000). Therefore, young women and men who experienced reproductive coercion victimization in a past relationship may have created internal working models based on these experiences, and thus are using these models to guide their interactions. These internal working models may increase the risk of dictating one's current partner into reproductive choices against their will.

Limitations

Though these findings are novel, they should be interpreted in light of study limitations. Recruitment occurred in urban clinical settings among pregnant women and their partners; thus, the findings may not be generalizable to other non-pregnant couples. Future studies may want to compare the relationship between IPV and reproductive coercion among pregnant and nonpregnant adolescent couples in both urban and rural settings. This study

focused on IPV and reproductive coercion exposure; thus, we are unable to describe the severity of IPV and reproductive coercion among couples. Future studies should build upon our findings and examine whether a dose-response relationship exists between IPV and reproductive coercion among young pregnant and parenting couples. Prebirth IPV was anchored to the total length of the relationship with the mother or father of the baby, thus we are unable to state the specific point during the relationship in which the IPV occurred. We assessed whether a participant experienced reproductive coercion using a global question before assessing the specific method of coercion. The prevalence of prior and current reproductive coercion may be higher than reported, as adolescents may not perceive these methods as unhealthy or abusive (Miller & Silverman, 2010). The reproductive coercion assessment used was adapted from items specific to adolescent females, yet they were vetted and modified by experts in men's health and male participants. Further, reproductive coercion items focused on pregnancy promotion against a partner's will and not the promotion of pregnancy termination. Controlling the pregnancy outcome is a component of reproductive coercion that can include dictating pregnancy continuation or termination (American College of Obstetricians & Gynecologists, 2013); and it will be useful for future research to expand our work by exploring coercion of pregnancy termination among young pregnant and parenting couples. Despite these limitations, the associations between reproductive coercion and IPV for males provide preliminary evidence of validity for the use of reproductive coercion for males. Further, the current study used an upper-bound estimate of IPV prevalence as opposed to a lower-bound estimate in order to reduce the effect of social desirability bias and the low agreement of IPV among couples (Chan, 2011; Cunradi, Bersamin, & Ames, 2009; Schafer, Caetano, & Clark, 2002) since young adolescents may be less likely to report abuse (Lavoie, Robitaille, & Hebert, 2000). While, no study to date has measured IPV agreement among young pregnant and parenting couples, our reported IPV prevalence is similar to previous studies (Carroll et al., 2011; Roberts et al., 2005).

Research Implications

This is one of the first prospective assessments of IPV victimization and reproductive coercion among young pregnant and parenting couples. One important direction for future research is to examine how dyadic-level factors such as relationship satisfaction and relationship equity influences changes in the trajectory of IPV victimization among young couples with and without experiences of reproductive coercion victimization. Some research suggests that young women with high levels of relationship power are less likely to report physical and psychological IPV victimization from pregnancy to postpartum (Groves, McNaughton-Reyes, Foshee, Moodley, & Maman, 2014). Given the significant relationship between IPV victimization and reproductive coercion, it is possible that the influence of relational factors on the trajectory of IPV victimization is different for young couples who experienced reproductive coercion.

Further, very few studies have examined the effects of reproductive coercion on parenting behaviors and infant and child health. Parenting in the context of an abusive household can be challenging, and violence can negatively impact parental relationships and child's mental health (Holt, Buckley, & Whelan, 2008), and place children at risk for abuse (Appel & Holden, 1998). Reproductive coercion may also negatively impact parenting and child health

and examining its impact on parenting may be informative for adolescent parenting programs.

Clinical and Policy Implications

These findings have important clinical and research implications. Early identification of IPV and reproductive coercion among young women and men through screening tools in clinics may prevent postpartum IPV and adverse health outcomes (American College of Obstetricians & Gynecologists, 2013). Clinicians are in a unique position to prevent adverse IPV-related health outcomes (American College of Obstetricians & Gynecologists, 2013), since they come in frequent contact with patients experiencing IPV during the course of providing care. Assessing and identifying past reproductive coercion among adolescents during clinical examinations may prevent subsequent coercion. There is a need to develop a clinically relevant screening tool for reproductive coercion that targets women and men and can be implemented in clinics. Moreover, pregnancy and parenting interventions should be sensitive to the bidirectional relationship between IPV and reproductive coercion. Parenting research and interventions should target modifiable behaviors that explicate the association between reproductive coercion and psychological postpartum IPV.

Acknowledgments

Supported by grants from the National Institutes of Mental Health (R01MH75685; PI Kershaw), Yale's HIV Training Grant (T32MH020031; PI Kershaw).

References

- Alexander KA, Volpe EM, Abboud S, Campbell JC. 2016 Reproductive coercion, sexual risk behaviours and mental health symptoms among young low-income behaviourally bisexual women: implications for nursing practice. *Journal of Clinical Nursing*.
- Appel AE, Holden GW. 1998; The co-occurrence of spouse and physical child abuse: A review and appraisal. *Journal of Family Psychology*. 12(4):578.
- Bandura, A, McClelland, DC. Social learning theory. 1977.
- Bell KM, Naugle AE. 2008; Intimate partner violence theoretical considerations: Moving towards a contextual framework. *Clinical Psychology Review*. 28(7):1096–1107. [PubMed: 18430501]
- Black, MC, Basile, KC, Breiding, MJ, Smith, SG, Walters, ML, Merrick, MT, Stevens, M. National intimate partner and sexual violence survey. Atlanta, GA: Centers for Disease Control and Prevention; 2011.
- Born A. 2012; Relationship Violence and Teenage Parents. *Journal of Infant, Child, and Adolescent Psychotherapy*. 11(4):368–375.
- Burton CW, Carlyle KE. 2015; Screening and intervening: evaluating a training program on intimate partner violence and reproductive coercion for family planning and home visiting providers. *Family and Community Health*. 38(3):227–239. [PubMed: 26017001]
- Carroll BC, Raj A, Noel SE, Bauchner H. 2011; Dating violence among adolescents presenting to a pediatric emergency department. *Archives of Pediatrics and Adolescent Medicine*. 165(12):1101–1106. [PubMed: 22147777]
- Chan KL. 2011; Gender differences in self-reports of intimate partner violence: A review. *Aggression and Violent Behavior*. 16(2):167–175.
- Charles P, Perreira KM. 2007; Intimate partner violence during pregnancy and 1-year post-partum. *Journal of Family Violence*. 22(7):609–619.

- Clark LE, Allen RH, Goyal V, Raker C, Gottlieb AS. 2014; Reproductive coercion and co-occurring intimate partner violence in obstetrics and gynecology patients. *American Journal of Obstetrics and Gynecology*. 210(1):42. e41–42. e48. [PubMed: 24055583]
- Classen CC, Palesh OG, Aggarwal R. 2005; Sexual revictimization a review of the empirical literature. *Trauma, Violence, & Abuse*. 6(2):103–129.
- Cunradi CB, Bersamin M, Ames G. 2009; Agreement on intimate partner violence among a sample of blue-collar couples. *J Interpers Violence*. 24(4):551–568. [PubMed: 18430971]
- Dobash RE, Dobash RP. 1978 Wives: The appropriate victims of marital violence. *Victimology*.
- Finer LB, Zolna MR. 2016; Declines in unintended pregnancy in the United States, 2008–2011. *New England Journal of Medicine*. 374(9):843–852. [PubMed: 26962904]
- Gielen AC, O'Campo PJ, Faden RR, Kass NE, Xue X. 1994; Interpersonal conflict and physical violence during the childbearing year. *Social Science and Medicine*. 39(6):781–787. [PubMed: 7802853]
- Grace KT, Anderson JC. 2016 Reproductive coercion a systematic review. *Trauma, Violence, & Abuse*.
- Gray HM, Foshee V. 1997; Adolescent dating violence differences between one-sided and mutually violent profiles. *J Interpers Violence*. 12(1):126–141.
- Groves AK, McNaughton-Reyes HL, Foshee VA, Moodley D, Maman S. 2014; Relationship factors and trajectories of intimate partner violence among South African women during pregnancy and the postpartum period. *PloS One*. 9(9):e106829. [PubMed: 25268363]
- Harrykisson SD, Rickert VI, Wiemann CM. 2002; Prevalence and patterns of intimate partner violence among adolescent mothers during the postpartum period. *Archives of Pediatrics and Adolescent Medicine*. 156(4):325–330. [PubMed: 11929364]
- Himelein MJ. 1995; Risk factors for sexual victimization in dating: A longitudinal study of college women. *Psychology of Women Quarterly*. 19(1):31–48.
- Holt S, Buckley H, Whelan S. 2008; The impact of exposure to domestic violence on children and young people: A review of the literature. *Child Abuse and Neglect*. 32(8):797–810. [PubMed: 18752848]
- Katz J, Poleshuck EL, Beach B, Olin R. 2015 Reproductive Coercion by Male Sexual Partners Associations With Partner Violence and College Women's Sexual Health. *J Interpers Violence*.
- Kazmerski T, McCauley HL, Jones K, Borrero S, Silverman JG, Decker MR, ... Miller E. 2015; Use of reproductive and sexual health services among female family planning clinic clients exposed to partner violence and reproductive coercion. *Maternal and child health journal*. 19(7):1490–1496. [PubMed: 25416386]
- Kenny, DA, Kashy, DA, Cook, WL. *Dyadic data analysis*. Guilford Press; 2006.
- Kershaw T, Arnold A, Gordon D, Magriples U, Niccolai L. 2012; In the heart or in the head: relationship and cognitive influences on sexual risk among young couples. *AIDS and Behavior*. 16(6):1522–1531. [PubMed: 21983692]
- Kershaw T, Murphy A, Divney A, Magriples U, Niccolai L, Gordon D. 2013; What's Love Got to Do with It: Relationship Functioning and Mental and Physical Quality of Life Among Pregnant Adolescent Couples. *American Journal of Community Psychology*. 52(3–4):288–301. [PubMed: 24091562]
- Koenig, LJ, Clark, H. Sexual abuse of girls and HIV infection among women: Are they related?. In: Koenig, LJD, Lynda, S, Ann, O'Leary; Willo, Pequegnat, editors. *From child sexual abuse to adult sexual risk: Trauma, revictimization, and intervention*. Washington, DC, US: American Psychological Association; 2004. 69–92.
- Koss MP, Oros CJ. 1982; Sexual Experiences Survey: a research instrument investigating sexual aggression and victimization. *Journal of Consulting and Clinical Psychology*. 50(3):455. [PubMed: 7096751]
- Langhinrichsen-Rohling J. 2010; Controversies involving gender and intimate partner violence in the United States. *Sex Roles*. 62(3–4):179–193.
- Langhinrichsen-Rohling J, McCullars A, Misra TA. 2012; Motivations for men and women's intimate partner violence perpetration: A comprehensive review. *Partner Abuse*. 3(4):429–468.
- Lavoie F, Robitaille L, Hebert M. 2000; Teen dating relationships and aggression an exploratory study. *Violence Against Women*. 6(1):6–36.

- Leadbeater BJ, Banister EM, Ellis WE, Yeung R. 2008; Victimization and relational aggression in adolescent romantic relationships: The influence of parental and peer behaviors, and individual adjustment. *Journal of Youth and Adolescence*. 37(3):359–372. [PubMed: 27307651]
- Leaman SC, Gee CB. 2008; Intimate partner violence among adolescent and young adult mothers. *Journal of Family Violence*. 23(6):519–528.
- McCauley HL, Falb KL, Streich-Tilles T, Kpebo D, Gupta J. 2014; Mental health impacts of reproductive coercion among women in Côte d'Ivoire. *International Journal of Gynecology & Obstetrics*. 127(1):55–59. [PubMed: 24952817]
- McCauley HL, Silverman JG, Decker MR, Agénor M, Borrero S, Tancredi DJ, ... Miller E. 2015; Sexual and reproductive health indicators and intimate partner violence victimization among female family planning clinic patients who have sex with women and men. *Journal of Women's Health*. 24(8):621–628.
- McClellan AC, Killeen MR. 2000; Attachment theory and violence toward women by male intimate partners. *Journal of Nursing Scholarship*. 32(4):353–360. [PubMed: 11140199]
- Melander LA, Noel H, Tyler KA. 2010; Bidirectional, unidirectional, and nonviolence: A comparison of the predictors among partnered young adults. *Violence and Victims*. 25(5):617–630. [PubMed: 21061868]
- Miller E, Decker MR, McCauley HL, Tancredi DJ, Levenson RR, Waldman J, ... Silverman JG. 2010; Pregnancy coercion, intimate partner violence and unintended pregnancy. *Contraception*. 81(4):316–322. [PubMed: 20227548]
- Miller E, Decker MR, Reed E, Raj A, Hathaway JE, Silverman JG. 2007; Male partner pregnancy-promoting behaviors and adolescent partner violence: findings from a qualitative study with adolescent females. *Ambulatory Pediatrics*. 7(5):360–366. [PubMed: 17870644]
- Miller E, McCauley HL. 2013; Adolescent relationship abuse and reproductive and sexual coercion among teens. *Current Opinion in Obstetrics and Gynecology*. 25(5):364–369. [PubMed: 24018873]
- Miller E, McCauley HL, Tancredi DJ, Decker MR, Anderson H, Silverman JG. 2014; Recent reproductive coercion and unintended pregnancy among female family planning clients. *Contraception*. 89(2):122–128. [PubMed: 24331859]
- Miller E, Silverman JG. 2010; Reproductive coercion and partner violence: implications for clinical assessment of unintended pregnancy. :511–515.
- Nikolajski C, Miller E, McCauley HL, Akers A, Schwarz EB, Freedman L, ... Borrero S. 2015; Race and reproductive coercion: A qualitative assessment. *Women's Health Issues*. 25(3):216–223. [PubMed: 25748823]
- Obstetricians ACo and Gynecologists. 2013; ACOG Committee opinion no. 554: reproductive and sexual coercion. *Obstetrics and Gynecology*. 121(2 Pt 1):411. [PubMed: 23344307]
- Park J, Nordstrom SK, Weber KM, Irwin T. 2016; Reproductive coercion: uncloaking an imbalance of social power. *American Journal of Obstetrics and Gynecology*. 214(1):74–78. [PubMed: 26314520]
- Renner LM, Whitney SD. 2010; Examining symmetry in intimate partner violence among young adults using socio-demographic characteristics. *Journal of Family Violence*. 25(2):91–106.
- Renner LM, Whitney SD. 2012; Risk factors for unidirectional and bidirectional intimate partner violence among young adults. *Child Abuse and Neglect*. 36(1):40–52. [PubMed: 22269774]
- Rennison, CM. Intimate partner violence and age of victim, 1993–99. US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics; 2001.
- Roberts TA, Auinger P, Klein JD. 2005; Intimate partner abuse and the reproductive health of sexually active female adolescents. *Journal of Adolescent Health*. 36(5):380–385. [PubMed: 15837341]
- Saewyc EM, Magee LL, Pettingell SE. 2004; Teenage pregnancy and associated risk behaviors among sexually abused adolescents. *Perspectives on sexual and reproductive health*. 36(3):98–105. [PubMed: 15306268]
- Sagrestano LM, Heavey CL, Christensen A. 1999; Perceived power and physical violence in marital conflict. *Journal of Social Issues*. 55(1):65–79.
- Schafer J, Caetano R, Clark CL. 2002; Agreement about violence in US couples. *J Interpers Violence*. 17(4):457–470.

- Scribano PV, Stevens J, Kaizar E. 2013; The effects of intimate partner violence before, during, and after pregnancy in nurse visited first time mothers. *Maternal and child health journal*. 17(2):307–318. [PubMed: 22426619]
- Statistics, I. S. IBM SPSS Statistics 21.0 for Windows. Chicago: IBM; 2012.
- Straus MA. 1977Wife beating: How common and why? *Victimology*.
- Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB. 1996; The revised conflict tactics scales (CTS2) development and preliminary psychometric data. *Journal of Family Issues*. 17(3):283–316.
- Sutherland MA, Fantasia HC, Fontenot H. 2015; Reproductive coercion and partner violence among college women. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*. 44(2):218–227.
- Thaller J, Messing JT. 2015Reproductive Coercion by an Intimate Partner: Occurrence, Associations, and Interference with Sexual Health Decision Making. *Health and Social Work*. :hlv083.
- Willie TC, Powell A, Kershaw T. 2016; Stress in the City: Influence of Urban Social Stress and Violence on Pregnancy and Postpartum Quality of Life among Adolescent and Young Mothers. *Journal of Urban Health*. 93(1):19–35. [PubMed: 26791234]
- Zorn CJ. 2001Generalized estimating equation models for correlated data: A review with applications. *American Journal of Political Science*. :470–490.

Table 1

Sample Characteristics and Associations with Gender

	Men	Women	<i>p</i>
Age, mean (SD), y	21.33 (4.06)	18.71 (1.63)	<0.001
Household Income, mean (SD)	17,439 (21,504)	13,497 (15,530)	0.005
Race			0.05
Black	48 (144)	40 (117)	
White	11 (31)	20 (50)	
Hispanic	36 (108)	40 (117)	
Other	4 (13)	4 (12)	
Employment			0.19
Unemployed	40 (116)	72 (212)	
Part-Time	29 (86)	21 (61)	
Full-Time	31 (92)	7 (23)	
Education			0.78
Less than High School	43 (125)	44 (129)	
Finished High School or GED	37 (108)	34 (101)	
Some or Finished College	21 (61)	22 (66)	
Relationship Length	27.24 (20.01)	26.60 (19.52)	0.07
Relationship with MOB/FOB ^a	86 (175)	89 (175)	0.27
Had Previous Children	25 (75)	21 (63)	<0.001
Prebirth IPV ^a	70 (207)	54 (161)	<0.001
6-Month Psychological IPV ^a	32 (95)	25 (74)	<0.001
6-Month Physical IPV ^a	21 (61)	10 (30)	<0.001
12-Month Psychological IPV ^a	35 (102)	29 (86)	0.01
12-Month Physical IPV ^a	19 (57)	13 (37)	<0.01
Current Reproductive Coercion ^a	11 (31)	9 (27)	0.64
Birth Control Sabotage	23 (8)	17 (5)	1.00
Pregnancy Pressure	57 (20)	57 (17)	1.00
Condom Sabotage	9 (3)	13 (4)	0.50
Insistence of Condomless Sex	29 (10)	20 (6)	0.68
Actual and Threats of Physical Violence ^e	0 (0)	3 (1)	--
Relationship Dissolution Threats ^e	0 (0)	7 (2)	--
Threats to Impregnate/Get Pregnant By Another Person	3 (1)	7 (2)	1.00
Prior Reproductive Coercion ^a	16 (48)	10 (31)	0.04
Birth Control Sabotage	23 (11)	13 (4)	0.62
Pregnancy Pressure	52 (25)	68 (21)	0.68
Condom Sabotage	42 (20)	16 (5)	0.62
Insistence of Condomless Sex	54 (26)	35 (11)	0.06
Actual and Threats of Physical Violence ^e	0 (0)	3 (1)	--

	Men	Women	<i>p</i>
Relationship Dissolution Threats ^e	4 (2)	0 (0)	--
Threats to Impregnate/Get Pregnant By Another Person	2 (1)	10 (3)	0.50

^aVariable is Victimization.

^bData are % (N) unless otherwise indicated.

^cAll variables were measured at baseline (Time 1) unless otherwise indicated.

^dAbbreviations: IPV = Intimate partner violence; SD = standard deviation; y = years; MOB = mother of baby; FOB = father of baby.

^eUnable to produce *p*-value due to low prevalence in the comparison group.

Table 2

Associations between IPV and Reproductive Coercion Victimization from Baseline to 12-Month Follow-Up

	Baseline			
	Current Reproductive Coercion Victimization			
	OR	[95%CI]		
Female	0.63	[0.28, 1.55]		
Prebirth IPV Victimization- Actor	2.16 [*]	[1.01, 4.59]		
Prebirth IPV Victimization- Partner	1.34	[0.55, 2.35]		
Prior Reproductive Coercion Victimization- Actor	3.06 ^{***}	[1.54, 6.07]		
Prior Reproductive Coercion Victimization- Partner	3.33 ^{***}	[1.79, 6.62]		
	6-Month Follow-up			
	Psychological IPV Victimization		Physical IPV Victimization	
	OR	[95%CI]	OR	[95%CI]
Female	0.69 [*]	[0.48, 0.98]	0.35 ^{***}	[0.20, 0.60]
Current Reproductive Coercion Victimization - Actor	0.93	[0.33, 2.73]	0.98	[0.37, 2.61]
Current Reproductive Coercion Victimization -Partner	2.42 ^{**}	[1.16, 5.02]	1.48	[0.58, 3.75]
Prebirth IPV Victimization - Actor	5.89 ^{***}	[3.48, 9.99]	4.39 ^{***}	[1.97, 9.77]
Prebirth IPV Victimization - Partner	2.73 ^{***}	[1.60, 4.67]	1.83	[0.94, 3.55]
	12-Month Follow-up			
	Psychological IPV Victimization		Physical IPV Victimization	
	OR	[95% CI]	OR	[95% CI]
Female	0.91	[0.56, 1.48]	0.58 [*]	[0.34, 0.99]
Current Reproductive Coercion Victimization - Actor	0.40	[0.14, 1.16]	0.37	[0.12, 1.11]
Current Reproductive Coercion Victimization -Partner	1.04	[0.45, 2.42]	2.21	[0.96, 5.12]
Prebirth IPV Victimization - Actor	3.02 ^{***}	[2.00, 4.57]	4.03 ^{**}	[1.64, 9.88]
Prebirth IPV Victimization - Partner	2.71 ^{***}	[1.77, 4.17]	1.12	[0.55, 2.30]

Note. Adjusted for age, income, education, relationship length, race, employment, relationship status, and had previous children. All independent variables were measured at baseline. Abbreviation: OR = odds ratio; CI = confidence interval; IPV = intimate partner violence.

^{*} p<0.05;

^{**} p<0.01;

^{***} p<0.001.