Early Childhood Victimization and Physical Intimate Partner Violence During Pregnancy: A Developmental and Person-Oriented Approach

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Abstract

Intimate partner violence (IPV) victimization during pregnancy is a major public health concern, yet little is known about how risk factors for IPV during pregnancy may depend on whether women have histories of victimization dating back to early childhood (ages 0-5 years). This study examined whether risk factors for physical IPV victimization during pregnancy (a pregnancy that was not planned and prenatal substance use) differed for women with versus without early childhood victimization.

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Participants were 236 ethnically diverse, low-income biological mothers (M = 30.94 years; 50.0% Latina, 16.9% Caucasian, 13.1% African American, and 16.9% multiracial) of children aged 0 to 6 years. Mothers were classified into four groups based on whether they had experienced early childhood victimization and physical IPV victimization during pregnancy with the target child. Multinomial logistic regressions, controlling for demographic characteristics, examined whether a pregnancy not planned and prenatal substance use predicted group membership. Compared to mothers with early victimization only, mothers with both early childhood victimization and physical IPV during pregnancy were more than 3 times as likely to report that their pregnancy with the target child was not planned. In follow-up analyses, mothers with early victimization and physical IPV during pregnancy also reported higher lifetime parity than mothers with physical IPV during pregnancy but no early victimization. Early childhood victimization may place women on a risk pathway to physical IPV during pregnancy, particularly if the pregnancy is not planned. Prevention and policy efforts should screen women for early childhood victimization to understand risks for physical IPV during pregnancy.

Intimate partner violence (IPV) victimization during pregnancy is a widespread international concern, as it is associated with maternal physical and mental health risks and morbidity, fetal trauma, and perinatal and long-term complications in offspring (Jasinski, 2004; Pallitto, Campbell, & O'Campo, 2005; Taillieu & Brownridge, 2010; World Health Organization [WHO], 2011). Rates of prenatal victimization vary globally, from 1% to more than 30%, depending on the region, definition of violence (e.g., physical vs. sexual or psychological), setting of screening (public or private clinic, hospital), and socioeconomic status (SES) of reporters (Campbell, García-Moreno, & Sharps, 2004; Center for Disease Control and Prevention [CDC], 1999; Gazmararian et al., 1996; Shumway et al., 1999; WHO, 2011).

Recognizing the wide range of risks for IPV during pregnancy is critical for treating, screening, and preventing victimization in pregnant women. A recent meta-analysis of 92 studies that focused on physical IPV (defined as being hit, bit, slapped, pushed, or restrained) found that the strongest risk factor for IPV victimization during pregnancy was IPV victimization prior to pregnancy (James, Brody, & Hamilton, 2013). However, women with

previous victimization do not invariably experience physical IPV during pregnancy (Castro, Peek-Asa, García, Ruiz, & Kraus, 2003; Jasinski, 2004; Martin, English, Clark, Cilenti, & Kupper, 1996; Pallitto et al., 2005), and some women experience IPV for the first time during pregnancy (Taillieu & Brownridge, 2010). Thus, there is need for further differentiation of the risks for physical IPV victimization during pregnancy among women with or without previous victimization.

Over the past two decades, research has specifically emphasized the effects of victimization and adversity during childhood on long-term functioning, in part due to the adverse childhood experiences studies (Felitti et al., 1998). Studies have found that victimization in childhood significantly increases the odds of IPV victimization during pregnancy (Castro et al., 2003; Huth-Bocks, Krause, Ahlfs-Dunn, Gallagher, & Scott, 2013). Recent research has underscored that victimization (e.g., violence exposure and maltreatment) during early childhood (ages 0-5 years), in particular, has enduring consequences for adulthood IPV revictimization (Narayan, Englund, & Egeland, 2013). However, less is know about whether victimization in early childhood affects IPV victimization during pregnancy specifically.

The present study focused on *physical* IPV victimization during pregnancy, including physical bodily contact intending to contain, restrain, or inflict harm (e.g., being hit anywhere, choked, pushed, slapped, kicked, or thrown to the ground), or the use or threat to use a weapon such as a knife or gun. The rationale for a physical IPV scope was to build on the recent meta-analytic findings of James and colleagues (2013) and to clarify pathways to victimization involving a single type of violence—physical—that has a more established definition than other types of violence (Black et al., 2011; James et al., 2013).

A Developmental Psychopathology (DP) Perspective

The guiding framework of the present study is the DP perspective, which describes the course of maladaptive behavior and relationships as a progression from early adverse experiences to cumulative and transactional interactions between individuals and their environments (Cicchetti & Toth, 2009; Masten, 2006). According to the DP perspective, experiences during early childhood, particularly those involving interpersonal relationships, exert a particularly strong and enduring influence into adulthood (Cicchetti & Toth, 2009; Sroufe, Egeland, Carlson, & Collins, 2005; Waters & Cummings, 2000). Early interpersonal victimization, including direct physical or sexual maltreatment of children, or indirect victimization, such as children's

exposure to interparental violence (EIPV), communicate that violence, power, and aggression are acceptable interpersonal tactics, which undermines the ability to feel safe and protected (Davies & Woitach, 2008; Lieberman & Van Horn, 2008). In turn, children may internalize violence and victimization as expected characteristics of intimate relationships, and they may reenact or subject themselves to these experiences in adult relationships (Cappell & Heiner, 1990; Waters & Cummings, 2000).

Theoretically, early childhood victimization and the associated lack of protection from caregivers may undermine an individual's expectation that she is worthy of protection and destabilize her ability to appropriately assess the risk for violence revictimization in adult relationships (Cappell & Heiner, 1990; Davies & Woitach, 2008; Pratchett & Yehuda, 2011). This issue becomes salient during pregnancy when women must evaluate conditions of safety in regard to their unborn child (Lieberman, Díaz, & Van Horn, 2009). Pregnancy is a particularly important time to assess the risk for physical IPV because women are reorganizing and reprocessing their relationships, behaviors, and early experiences to prepare for motherhood (Huth-Bocks et al., 2013; Lieberman et al., 2009; Slade, Cohen, Sadler, & Miller, 2009).

The DP perspective emphasizes that cumulative and contextual experiences also influence development, interplaying with early experiences to shape adaption and maladaption (Cicchetti & Toth, 2009; Sameroff, 2000; Sroufe et al., 2005). Numerous factors during the prenatal period likely affect the risk for physical IPV, including behavioral factors (e.g., substance use), social-contextual factors (e.g., a pregnancy that is not planned or intended), and sociodemographic factors (e.g., economic stress, low educational attainment; Jasinski, 2004; Martin et al., 1996; Pallitto et al., 2005; Taillieu & Brownridge, 2010). For instance, maternal prenatal substance use has been associated with prenatal physical IPV victimization, both because the presence of alcohol and drugs may precipitate and escalate violent interactions between partners and because substance use is often a coping mechanism following victimization (Chambliss, 2008; Lipsky, Holt, Easterling, & Critchlow, 2005). A pregnancy being unplanned or unintended has also been associated with physical IPV during pregnancy (Campbell et al., 2004; Finer & Zolna, 2011). An unintended pregnancy may precipitate IPV if the perpetrator does not want the pregnancy or questions the paternity (Chambliss, 2008). Indeed, women whose pregnancy was unintended were 2.5 to 4.1 times more likely to experience physical IPV during pregnancy than women whose pregnancy was intended (Gazmararian et al., 1995; Goodwin et al., 2000).

Sociodemographic factors, such as low SES and educational attainment, are also significantly associated with increased risk of physical IPV during pregnancy (James et al., 2013; Jasinski, 2004). Women who experience

physical IPV during pregnancy in the context of ongoing poverty not only face the aforementioned risks to maternal and fetal development associated with IPV, but they are also less likely to receive prenatal care and to have access to screening for IPV and health services (Chambliss, 2008; WHO, 2011). These compounding risks may be particularly impactful for low-income and ethnic-minority women (Rodríguez, Valentine, Son, & Muhammad, 2009), the focal population of this study, thus presenting a key opportunity to identify women at substantial risk for physical IPV and in great need of services.

A DP Perspective With a Person-Oriented Approach

Understanding how early experiences and cumulative and contextual factors interplay to predict physical IPV during pregnancy could potentially improve screening and identification of at-risk women. Potentially, early childhood victimization may further amplify the increased risk for physical IPV during pregnancy in women with prenatal substance use or whose pregnancies are not planned. Given that developmental pathways are probabilistic rather than deterministic (Cicchetti & Toth, 2009; Sameroff, 2000), and not all victims of physical IPV during pregnancy experience prior victimization (Jasinski, 2004; Pallitto et al., 2005; Taillieu & Brownridge, 2010), the current investigation focused on four mutually exclusive groups of women and the risk factors that differentiate them (i.e., prenatal substance use, pregnancy not planned, sociodemographic characteristics): women who (a) did not experience early childhood victimization or physical IPV during pregnancy ("Neither"), (b) experienced early childhood victimization but not physical IPV during pregnancy ("Early Victimization Only"), (c) did not experience early childhood victimization but experienced physical IPV during pregnancy ("IPV During Pregnancy Only"), and (d) experienced early childhood victimization and physical IPV during pregnancy ("Early+Pregnancy").

Person-Oriented Approach

The present study used a person-oriented approach to address within-sample, between-group variation. A person-oriented approach, which has been called for in recent studies of violent behavior, is a strategy to identify person-specific characteristics by examining whether people or subgroups within samples can be differentiated from other subgroups based on common behaviors or experiences. As opposed to variable-oriented approaches, which examine patterns that characterize entire samples without regard to individual or subgroup variation,

person-oriented approaches examine how within-sample variation differentiates groups of people to make sense of more individualized experiences (Bogat, Levendosky, & von Eye, 2005; Levendosky, 2013; Nurius & Macy 2008). Presently, a person-oriented approach was used to examine variation in the four groups to test whether substantiated prenatal risk factors for physical IPV victimization during pregnancy (prenatal substance use and a pregnancy that was not planned) significantly predicted group membership.

Given the risks of physical IPV to maternal and child health and well-being (CDC, 1999; Jasinski, 2004; Pallitto et al., 2005; Taillieu & Brownridge, 2010; WHO, 2011), a person-oriented approach was also used to examine how membership in each of the four groups was associated with variation in maternal reproductive functioning, such as lifetime parity (i.e., total number of pregnancies) and adverse child outcomes after birth (e.g., offspring trauma exposure). Research suggests that physical IPV during pregnancy may be linked to higher lifetime parity (Gee, Mitra, Wan, Chavkin, & Long, 2009; Pallitto et al., 2005; Taillieu & Brownridge, 2010), which is concerning if additional pregnancies also contain physical IPV, thereby further amplifying victimization of mothers and, potentially, traumatic exposure of their offspring. Moreover, given high rates of intergenerational adversity in individuals with childhood victimization (Narayan et al., in press), it is likely that offspring of mothers who were victimized in early childhood or during pregnancy would be at heightened risk for trauma exposure (Pratchett & Yehuda, 2011; Sroufe et al., 2005). Understanding how rates of lifetime parity and offspring trauma exposure differ across the four groups would clarify strategies to deter intergenerational cycles of victimization.

Hypotheses

It was hypothesized that mothers who reported prenatal substance use and a pregnancy with the target child that was not planned would have significantly greater likelihood of being in a group characterized by victimization in early childhood and/or during pregnancy compared with mothers with neither period of victimization. It was also hypothesized that, compared with mothers with neither period of victimization, mothers with one or both periods of victimization would have higher lifetime parity and offspring with greater trauma exposure.

Method

Participants

Participants were 236 biological mothers (M = 30.94, SD = 6.83; 50.0% Latina, 16.9% Caucasian, 13.1% African American, 16.9% multiracial or

other) referred for clinical services at a university-affiliated clinical research program following their child's exposure to a traumatic event (e.g., maltreatment, family or community violence, death of someone close, and so on). Families were primarily recruited through referrals from mental health service providers or case managers, flyers posted in the county hospital where the program was located, or self-referrals following a family's experience of trauma. Target children (i.e., those for whom the mother was seeking services; 51.3% male) ranged from 0 to 6 years old ($M = 3.65$, $SD = 1.30$). The majority of children were first-born (60.2%), yet many mothers (55.1%) had more than one child ($M = 1.77$, $SD = 0.87$, range = 1-6 children).

The institutional review board at the University of California, San Francisco approved all procedures. In-person informed consent was obtained before a maternal baseline interview, which assessed maternal early childhood and IPV victimization, whether the pregnancy with the target child had been planned, psychological functioning, offspring traumatic event exposure, and demographics. The assessments were conducted in the mothers' preferred language (Spanish or English) by trained masters- and doctoral-level clinicians.

Due to the nature of ongoing stress and trauma affecting many of these families, 37 additional biological mothers were enrolled but dropped out of the study before the assessment period was completed. As such, these women did not provide information about early childhood or IPV victimization. Attrition analyses indicated that these 37 families did not differ from the 236 included families on any of the key independent or dependent variables in this study.

Measures

Mothers' early childhood victimization. Mothers completed the Life Stressors Checklist–Revised (LSC-R; Wolfe, Kimerling, Brown, Chrestman, & Levin, 1996), comprised of 30 adverse lifetime experiences, including childhood maltreatment (e.g., physical abuse [PA] or sexual abuse [SA]) and EIPV. Mothers endorsed whether they had experienced each event and, if so, the age or range of ages that the event occurred. The present study focused on three types of early childhood (ages 0 to 5 years) victimization that are established precursors to violence victimization in adulthood: EIPV, PA, and SA (Fite et al., 2008; Narayan, Englund, Carlson, & Egeland, 2014; Narayan et al., 2013; Sroufe et al., 2005). Given that reports of victimization were retrospective and regarding early childhood, an inclusive approach was used: Mothers were considered to have a history of early childhood victimization if they endorsed EIPV, PA, or SA at or before age 5. Of these women, 37.7%

endorsed any victimization ($n = 89$), 26.3% endorsed EIPV ($n = 62$), 11.0% endorsed PA ($n = 26$), and 13.9% endorsed SA ($n = 33$) between ages 0 to 5 years.

IPV during pregnancy. During the baseline interview, mothers were asked whether they had experienced any of 10 types of physical violence during their pregnancy with the target child: being hit in the head, stomach, or elsewhere; choked; pushed; slapped; kicked; thrown to the ground; knifed; or threatened/shot with a gun ($\alpha = .73$). A dichotomous variable of any physical violence victimization ($n = 83$, 35.2%) was computed. Of these mothers, 92.8% ($n = 77$) reported that the children's fathers had been the perpetrators of the IPV during pregnancy.

IPV during pregnancy was retrospectively reported, so the victimization was not necessarily ongoing. (Given the target child's age, the pregnancy had taken place anywhere from 2 to 72 months prior to the baseline assessment.) Nevertheless, all mothers and children were involved in ongoing treatment and case management specifically designed to address any ongoing violence that was disclosed as part of the clinical services following the baseline interview. This clinical program had also obtained a Certificate of Confidentiality, which limited disclosure of identifying information about the participants during any court or legislative proceedings.

Prenatal substance use. During the baseline interview, mothers were asked, "Was there substance use during pregnancy [with the target child]?" Given the low frequency of any substance use (16.1%, $n = 38$), a binary variable of "any prenatal substance use," which included any alcohol or drug use during pregnancy, was created.

Pregnancy not planned. Mothers were asked, "Was the pregnancy planned?" In the current study, responses were reverse-coded for a binary variable of "pregnancy not planned" (62.3%, $n = 147$). This terminology is used subsequently because pregnancy research emphasizes the clear and specific usage and meaning of terminology such as "planned" versus "unplanned" and "intended" versus "unintended" (Barrett & Wellings, 2002). According to a survey study of pregnant women, "planned" may include several specific criteria besides intention of having a child, including cessation of contraception, partner agreement, and lifestyle/life stage compatibility. Alternatively, labeling a pregnancy as "unplanned" may more generally pertain to circumstances involving lack of foresight or preparation for a wanted pregnancy, as well as mistakes, accidents, and contraception failures resulting in unwanted pregnancies. Thus, "planned" versus "unplanned" pregnancies are not

necessarily directly opposing circumstances (although "intended" was often interchangeable with "planned"; Barrett & Wellings, 2002). Given these findings and the wording of the original question asked of mothers, we use "pregnancy not planned" rather than "unplanned" to describe the present variable.

Lifetime maternal parity. During the baseline assessment, mothers indicated their total number of lifetime pregnancies, "How many pregnancies have you had (including the target child)?"

Child exposure to traumatic events. During baseline, mothers also completed the Traumatic Events Screening Inventory—Parent Form, Revised (TESI; Ghosh Ippen et al., 2002), which assessed the target child's exposure to 23 adverse experiences, including maltreatment, exposure to family or community violence, accidental injury, loss or separation from caregivers, and other stressful events. This study used a sum of the total number of children's traumatic life events and a sum of just the three events that paralleled maternal early childhood victimization (i.e., EIPV, PA, and SA) from children's birth to present.

Covariates

Covariates included maternal and child demographic characteristics, maternal victimization during middle childhood and adolescence, and recent/ongoing maternal mental state—operationalized as depressive symptoms and parenting distress—given that mothers were the primary informants on all measures.

Child demographic characteristics included age and sex. Maternal demographic characteristics included mothers' age at the target child's birth, time since pregnancy, SES (comprised of standardized educational attainment and average monthly income), and maternal ethnic–minority status of Latina or non-Latina. While prevalence and incidence rates of IPV in Latina women are comparable with non-Latina women (Ahrens, Rios-Mandel, Isas, & del Carmen Lopez, 2010; Klevens, 2007), impoverished Latina women may be less likely to disclose IPV or other family adversities and to seek necessary treatment. For instance, cultural norms (e.g., male-dominated relationships), family values (e.g., not disclosing personal information), and factors related to immigration status (e.g., fear of deportation) and acculturation (e.g., language barriers, lack of familiarity with service systems) may contribute to Latina women underreporting IPV or offspring trauma exposure (Ahrens et al., 2010; Klevens, 2007; Rodríguez et al., 2009). For these reasons, Latina ethnicity was added as a covariate in all analyses.

Maternal victimization in middle childhood and adolescence was controlled to account for victimization occurring beyond early childhood. These variables were comprised of maternal reports from the LSC-R of the same three types of victimization (EIPV, PA, SA) from early childhood but pertaining to experiences in middle childhood (ages 6-12 years) and adolescence (ages 13-17 years). Victimization scores ranged from 0 to 3 types of exposure for each age period.

Regarding maternal mental state, depressive symptomatology was assessed with the Beck Depression Inventory, Second Edition (BDI-2; Beck, Steer, & Brown, 1996), a 21-item checklist of depressive symptoms on a 0- to 3-point scale of symptoms over a 2-week period. Total scores ranged from 0 to 63 ($M = 18.52$, $SD = 11.83$; $\alpha = .92$). In the last year of data collection, the BDI-2 was replaced with the Center for Epidemiological Studies Depression Scale, Revised (CESD-R; Eaton, Smith, Ybarra, Muntaner, & Tien, 2004) because it offered more accessible language for both Spanish-speaking and disadvantaged populations. As a result, 11 participants were assessed using the CESD-R, which also uses a 0- to 3-point scale of depressive symptoms ($M = 20.91$, $SD = 12.41$). (Mean levels of depressive symptoms did not differ for participants who were administered the BDI-2 or the CESD-R, $t(2, 225) = .15$, $p = ns$.) Parental distress was assessed with the Parenting Stress Index, Short Form, Version 3 (PSI-SF; Abidin, 1990), a 36-item checklist of items on a 0- to 5-point scale from *strongly agree* to *strongly disagree*. This study used the Parent Distress subscale, which assesses parental stress in the parenting role ($M = 31.56$, $SD = 9.82$; $\alpha = .89$). Raw scores at or above the 85th percentile indicate atypical stress ($n = 106$; 44.9%). Z scores of depression and parenting distress were averaged for parental mental state.

Data Analytic Plan and Missing Data

The analyses proceeded in two parts and were conducted in SPSS Version 22. First, using multinomial logistic regression, we tested whether prenatal risk factors (pregnancy not planned and prenatal substance use) and covariates (maternal age, time since birth, SES, Latina ethnicity, middle childhood, and adolescent victimization) significantly predicted group membership. Adjusted odds ratios (OR) and confidence intervals (95% CI) were used to reflect the strength of each coefficient after accounting for all the other variables in the model. This approach has been used in previous developmental research on intergenerational patterns of risk (Jaffee et al., 2013).

Next, three ANCOVA tests examined whether group membership was associated with mothers' lifetime parity, with offspring exposure to total traumatic events, and with traumatic events specifically reflecting victimization.

Covariates were maternal demographic factors and mental state, and child age and sex. Significant ANCOVAs were examined for differences in adjusted marginal means, and *p* values were corrected with the Bonferroni method ($\alpha = .05/6 = .008$).

Missing Data

The rate of missing data was approximately 2.4% across the entire dataset, ranging from 0% (child sex, maternal ethnic–minority status) to 11.0% (SES) on individual variables. All non-covariate variables had less than 3% missing data. Data were assumed to be missing at random and were imputed using fully conditional specification in SPSS Version 22 (Rubin, 1987; Schafer & Graham, 2002). Twenty datasets were imputed, and pooled imputed results were compared with non-imputed results. The pattern of findings did not differ between the raw and imputed results, with the exception of prenatal substance use (see below), which was not significant according to the pooled results. All results presented below reflect the raw data.

Results

Table 1 presents descriptive statistics for all variables by group and for the total sample.

Results of the multinomial logistic regression analyses are presented in Table 2. As outlined earlier, it was hypothesized that prenatal substance use and a pregnancy not planned would correspond to greater odds of membership in the Early Victimization Only, IPV During Pregnancy Only, and Early+Pregnancy groups compared with the Neither group. As shown in Table 2, mothers who reported prenatal substance use had greater odds of being in the Early Victimization Only group than in the Neither group (OR = 3.76, 95% CI = [1.08, 13.02], *p* < .01). However, this finding was not significant in the imputed results, potentially due to low endorsement of prenatal substance use across the whole sample. A pregnancy not planned did not significantly predict membership in any of the victimization groups compared with membership in the Neither Group. However, mothers who reported a pregnancy not planned were significantly more likely to be in the Early+Pregnancy group than the Early Victimization Only group (see column G4 vs. G2 in Table 2; OR = 3.90, 95% CI = [1.19, 12.75], *p* < .05).

In terms of covariates, middle childhood victimization was the only covariate that differentiated group membership. Mothers with middle childhood victimization had significantly higher odds of being in the Early Victimization Only group compared with the Neither group (see column G2

Table 1. Means and Standard Deviations by Group and for the Total Sample.

	G1—Neither	G2—Early Vict. Only	G3—IPV Preg. Only	G4—Early+Preg.	Total Sample	Sample Range
	(n = 95)	(n = 58)	(n = 52)	(n = 31)	(n = 236)	
Prenatal risk factors						
Substance use pregnancy	11.8%	19.6%	19.6%	19.4%	16.1%	0/1
Pregnancy not planned	63.8%	56.1%	61.5%	76.7%	62.3%	0/1
Correlates/outcomes						
Total lifetime parity	2.93 (1.77)	3.40 (2.92)	2.75 (1.31)	3.97 (3.30)	3.14 (2.29)	0-19
Offsp. trauma events: Total	5.27 (2.83)	5.02 (2.50)	6.40 (2.67)	6.32 (2.74)	5.59 (2.75)	0-15
Offsp. trauma events: Vict.	1.13 (0.70)	1.05 (0.70)	1.41 (0.64)	1.26 (0.50)	1.19 (0.67)	0-3
Covariates						
Mother age at birth	27.66 (7.04)	28.27 (6.55)	28.21 (6.43)	27.38 (5.75)	27.89 (6.60)	15.38-46.09
Time since birth (months)	43.28 (15.61)	43.64 (16.55)	45.67 (15.46)	42.13 (14.77)	43.75 (15.65)	2-72
Mother Latina	55.8%	46.6%	50.0%	54.8%	50.0%	NA
Mother education level	12.36 (3.77)	11.78 (3.74)	12.22 (3.24)	11.50 (3.47)	11.35 (2.68)	1-13
Average monthly income	2,077 (2,394)	1,966 (1,186)	1,652 (2,257)	1,694 (1,222)	1,904 (2,099)	0-16,000
Mother mental state[a]	-0.05 (0.86)	-0.04 (0.91)	0.11 (0.87)	0.02 (0.78)	0.00 (0.86)	-1.67-2.24
Mother middle child vict.	0.62 (0.84)	1.74 (0.79)	0.90 (0.99)	1.73 (0.91)	1.10 (1.00)	0-3
Mother adolescent vict.	0.74 (0.85)	1.40 (0.99)	1.00 (1.01)	1.40 (0.81)	1.04 (0.96)	0-3
Offspring age	3.61 (1.30)	3.64 (1.38)	3.81 (1.29)	3.51 (1.23)	3.65 (1.30)	0.02-6.00
Offspring male	52.6%	56.9%	51.9%	35.4%	51.3%	NA

Note. G = group; Vict. = Victimization; IPV = intimate partner violence; Preg. = Pregnancy; Offsp. = Offspring; Child. = Childhood.
[a] z scores.

Table 2. All Pairwise Contrasts From the Multinomial Regressions.

	G2 vs. G1 OR (95% CI)	G3 vs. G1 OR (95% CI)	G4 vs. G1 OR (95% CI)	G3 vs. G2 OR (95% CI)	G4 vs. G2 OR (95% CI)	G4 vs. G3 OR (95% CI)
Prenatal risk factors						
Substance use in pregnancy	3.76** [1.08, 13.02]	2.58 [0.82, 8.13]	3.75 [0.92, 15.31]	1.45 [0.44, 4.85]	1.00 [0.26, 3.77]	0.69 [0.18, 2.71]
Pregnancy not planned	0.57 [0.23, 1.40]	0.84 [0.37, 1.95]	2.24 [0.68, 7.31]	2.07 [0.78, 5.51]	3.90* [1.19, 12.75]	1.88 [0.54, 6.58]
Covariates						
M. age at birth	1.00 [0.93, 1.07]	0.99 [0.93, 1.06]	0.98 [0.90, 1.06]	0.99 [0.92, 1.07]	0.98 [0.90, 1.06]	0.98 [0.90, 1.07]
Time since birth (months)	1.01 [0.98, 1.04]	1.01 [0.98, 1.03]	0.98 [0.95, 1.01]	1.00 [0.97, 1.03]	0.97 [0.94, 1.01]	0.97 [0.94, 1.01]
M. Latina	0.61 [0.22, 1.71]	0.82 [0.33, 2.07]	0.95 [0.29, 3.11]	1.34 [0.45, 4.01]	1.55 [0.47, 5.17]	1.16 [0.34, 3.98]
SES	0.86 [0.48, 1.55]	0.94 [0.55, 1.60]	0.77 [0.37, 1.59]	1.09 [0.58, 2.03]	0.88 [0.42, 1.88]	0.82 [0.38, 1.74]
M. Mental state	0.86 [0.51, 1.47]	0.95 [0.58, 1.56]	0.66 [0.35, 1.21]	1.10 [0.62, 1.96]	0.69 [0.36, 1.33]	0.70 [0.360, 1.35]
M. Middle child. Victimization	3.45** [2.02, 5.88]	1.35 [0.81, 2.25]	3.54** [1.90, 6.59]	0.39** [0.22, 0.68]	1.03 [0.56, 1.86]	2.63** [1.38, 5.01]
M. Adolescent victimization	1.23 [0.75, 2.02]	1.19 [0.74, 1.92]	1.32 [0.74, 2.37]	.97 [0.58, 1.64]	1.08 [0.61, 1.92]	1.11 [0.61, 2.03]

Note. Within each pairwise contrast, the second group that is listed is the reference group. G = group; OR = odds ratio; CI = confidence interval; M. = Mother; SES = socioeconomic status.

*p < .05. **p < .01.

Table 3. Estimated Marginal Means and Standard Errors From ANCOVA Tests.

	G1—Neither	G2—Early Vict. Only	G3—IPV Preg. Only	G4— Early+Preg.
	(*n* = 95)	(*n* = 58)	(*n* = 52)	(*n* = 31)
Cluster descriptives				
Number of pregnancies	2.96 (.27)	3.46 (.35)	**2.52 (.36)**	**4.16 (.45)**
Offsp. trauma events total	5.23 (.28)	5.15 (.37)	6.32 (.39)	6.42 (.48)
Offsp. trauma events vict.	1.11 (.07)	1.11 (.10)	1.39 (.10)	1.26 (.12)

Note. Bolded cells had a significantly different pairwise contrast (*p* < .008). G = group; Vict. = Victimization; IPV = intimate partner violence; Preg. = Pregnancy; Offsp. = Offspring.

vs. G1 in Table 2; OR = 3.45, 95% CI = [2.02, 5.88], *p* < .01) and compared with the IPV During Pregnancy Only group (see column G3 vs. G2, in Table 2; OR = .39, 95% CI = [0.22, 0.68], *p* < .01). In addition, mothers with middle childhood victimization also had significantly higher odds of being in the Early+Pregnancy group compared with the Neither group (see column G4 vs. G1 in Table 2; OR = 3.54, 95% CI = [1.90, 6.59], *p* < .01) and compared with the IPV During Pregnancy Only group (see column G4 vs. G3 in Table 2; OR = 2.63, 95% CI = [1.38, 5.01], *p* < .01).

Results of the ANCOVA analyses are presented in Table 3. It was hypothesized that each of the three victimization groups would have higher lifetime parity compared with the Neither group. Indeed, group membership was significantly associated with higher lifetime parity, $F(3, 184) = 3.11$, $p < .05$, $\eta^2 = .04$. Post hoc contrasts indicated a significant pairwise comparison in adjusted marginal means between the Early+Pregnancy group (*M* = 4.16, *SE* = .45) and the Pregnancy Only group (*M* = 2.52, *SE* = .36; *p* = .005; Table 3). Of the covariates included, only maternal age predicted higher lifetime parity, $F(1, 184) = 5.01$, $p < .05$, $\eta^2 = .03$.

It was also hypothesized that offspring of mothers in each of the three victimization groups would have higher exposure to total traumatic events and to victimization-type events in particular. Group membership was significantly associated with greater offspring exposure to total traumatic events, $F(3, 184) = 3.24$, $p < .05$, $\eta^2 = .05$. However, while the Early+Pregnancy and IPV During Pregnancy Only groups had offspring with greater trauma exposure at α = .05, Bonferroni-corrected pairwise contrasts indicated that no contrasts were significantly different. Of the covariates, maternal Latina ethnicity, $F(1, 184) = 11.78$, $p < .01$, $\eta^2 = .06$; parental mental state, $F(1, 184) = 12.84$, $p < .01$, $\eta^2 = .07$; and child age, $F(1, 184) = 6.62$, $p < .05$, $\eta^2 = .04$, also significantly predicted greater total traumatic events. Finally, group membership

was not associated with greater exposure to offspring victimization, $F(3, 182)$ = 2.06, $p = ns$. However, maternal Latina ethnicity, $F(1, 182) = 4.98$, $p < .05$, $\eta^2 = .03$, and parental mental state, $F(1, 182) = 6.10$, $p < .05$, $\eta^2 = .03$, predicted greater offspring victimization exposure.

Discussion

Using a DP perspective, which emphasizes the roles of early, cumulative, and contextual experiences in shaping development and adaptation, as well as a person-oriented approach to understand within-sample variation in groups who share characteristic behavior and experiences, the hypotheses were two-fold. First, it was predicted that prenatal risk factors for physical IPV victimization during pregnancy, including substance use and pregnancy not planned, would predict women's membership in groups characterized by early childhood victimization, physical IPV during pregnancy, or both, compared with neither form of victimization. Results pertaining to prenatal substance use were only weakly supported. A higher percentage of women in all three of the victimization groups reported prenatal substance use (approximately 19% across all three groups) compared with women with neither form of victimization (approximately 11%); however, these results did not hold in the imputed data. The low endorsement of prenatal substance use across the whole sample potentially precluded detection of significant group differences. Furthermore, this low endorsement could have been due to women's general unease in disclosing any alcohol or drug use during pregnancy. Moreover, given that women only reported whether they had ever used any alcohol or drugs at any time during pregnancy, quantity or frequency of use was not captured, yet these characteristics of use may have been important undetected factors in predicting group differences. Group differences also might have been evident had we assessed fathers' substance use patterns, given established risks for physical IPV victimization during pregnancy when the partner is using alcohol or drugs (Chambliss, 2008; Lipsky et al., 2005).

Having a pregnancy that was not planned also did not predict membership in any of the victimization groups compared with the group without victimization. However, women who reported a pregnancy with the target child that was not planned were almost 4 times more likely to be a member of the Early+Pregnancy group than to be a member of the Early Victimization Only group. This finding suggests that a pregnancy that is not planned coupled with previous victimization in early childhood may be a more potent risk for physical IPV during pregnancy than early victimization on its own. In other words, women who have experienced early childhood victimization and then

have a pregnancy that is not planned may be at particularly high risk for being physically victimized during pregnancy. This finding aligns with previous literature showing that an unintended pregnancy contributes to risk for physical IPV during pregnancy (CDC, 1999; Chambliss, 2008; Jasinski, 2004; Taillieu & Brownridge, 2010) and extends past research to suggest that for women who also experienced EIPV, PA, or SA before age 5, a pregnancy not planned may further increase the risk for physical IPV during pregnancy.

Although not hypothesized, victimization in middle childhood (ages 6-12 years) also differentiated group membership. Women who reported middle childhood victimization were significantly more likely to be in a group with early childhood victimization (the Early Victimization Only and Early+Pregnancy groups) than in a group without early childhood victimization (the IPV During Pregnancy Only and Neither groups). However, differences in adolescent victimization were not evident across groups. These findings suggest that the period spanning early and middle childhood may be a cumulative pathway associated with elevated risk for physical IPV victimization during pregnancy, particularly if the pregnancy is not planned.

The second set of hypotheses predicted that women with either or both periods of victimization would have higher lifetime parity, total offspring trauma exposure, and offspring exposure to victimization than women with neither period of victimization. Differences in lifetime parity were evident across the four groups, albeit in an unexpected way. Women in the Early+Pregnancy group had significantly higher lifetime parity than women in the IPV During Pregnancy Only group. These findings suggest that early victimization may affect patterns of reproductive functioning, beyond physical IPV victimization circumscribed to pregnancy (Gee et al., 2009; Taillieu & Brownridge, 2010). When physical IPV during pregnancy follows previous victimization in early childhood, it may be associated with higher rates of lifetime parity.

It is important to note, however, that higher lifetime parity in and of itself is not a negative outcome. Whether subsequent pregnancies may have contained IPV or may not have been planned was not assessed in the present study; thus, any risks or characteristics associated with other pregnancies are unknown. It is also unknown whether women's other pregnancies resulted in full-term births or not. Thus, the nature of the association between early victimization, physical IPV during pregnancy, and lifetime parity is a viable area for future research to clarify.

Contrary to hypotheses, group differences in offspring exposure to total traumatic events or to victimization events did not reach statistical significance. Of clinical significance, however, women who experienced physical IPV during pregnancy with or without early childhood victimization (IPV

During Pregnancy Only and Early+Pregnancy groups) had offspring who experienced approximately one more traumatic event than women without physical IPV during pregnancy (both the Early Victimization Only and Neither groups). Despite not being statistically significant, the presence of one additional traumatic event for offspring, depending on its nature, could substantially impact the course of functioning and well-being in children and families.

The present findings also illuminated cultural differences in offspring exposure to traumatic events. Latina mothers endorsed higher offspring exposure to total traumatic events and to victimization-type traumatic events than non-Latina mothers. While it is not known whether these ethnic differences are due to higher rates of actual trauma or to differences in disclosure rates between Latina and non-Latina women, this finding is contrary to past research that Latina women may be less likely to disclose family hardships to health providers (Ahrens et al., 2010; Klevens, 2007). One reason for this contradiction might be that all women in the current study were seeking treatment for their child, potentially increasing their willingness to disclose information about offspring trauma exposure. Relatedly, during baseline, women were speaking with interviewers whom they knew would be their therapists following the assessment period. Latina women were often paired with culturally informed, Spanish-speaking therapists, potentially facilitating disclosure. Future research should explore more nuanced understanding of ethnic and cultural differences, not only in rates of maternal physical IPV, offspring trauma exposure, and disclosure of both, but also regarding the intersection of substance use, IPV, and pregnancies that are not planned.

Strengths and Limitations

Notable strengths are that the present study addressed the need for more tailored, person-oriented approaches that emphasize within-sample variation (Bogat et al., 2005; Levendosky, 2013; Nurius & Macy, 2008) when understanding risks for physical IPV victimization in pregnant women. The sample also encompassed a range of ethnic diversity and SES, thereby illuminating the experiences and needs of underserved populations. More research is needed on how early victimization affects pathways to prenatal victimization, reproductive functioning, parenting, and child well-being in ethnic-minority families, and this study provides a step in that direction.

There were several limitations. In terms of design limitations, this study was cross-sectional and only measured physical IPV victimization, prenatal substance use, and status of pregnancy as planned for one child. This precluded identifying directional relations between these variables, the

associations with the presence of physical IPV victimization across all pregnancies, and the extent to which physical IPV victimization and substance use may have been situational and resolved over the course of the pregnancy. The associations between physical IPV victimization during pregnancy, prenatal substance use, and planned pregnancies are likely multidirectional circumstances rather than linear associations. Moreover, it would have been optimal to have obtained information on the fathers' behavior, such as their involvement in substance use and their role as physical IPV perpetrators or victims. Notably, in other samples, up to 30% of pregnant women reported engaging in physical IPV perpetration against the father (Lieberman et al., 2009), suggesting that physical IPV during pregnancy is often bidirectional.

In terms of measurement limitations, reports of early childhood victimization and physical IPV during pregnancy were obtained by retrospective maternal report. In an effort to minimize potential recall errors and reporting bias, this study used inclusive, dichotomous scores of physical IPV victimization during pregnancy and early childhood victimization, and it controlled for maternal mental state at the time of reports. In addition, some variables were drawn from limited and non-standardized instruments, such as physical IPV victimization during pregnancy, or from single-question items (e.g., whether the pregnancy was planned or alcohol/drug use occurred), in part because the larger study did not specifically focus on these constructs. It would have been preferable to know about different types of IPV (e.g., psychological and sexual victimization were not assessed) and to have more comprehensive, standardized assessments of substance use and family planning. In terms of ecologically valid findings, participating dyads were referred for treatment following offspring trauma exposure, so the results may not generalize to non-treatment-seeking populations. Furthermore, because the larger treatment program was for mothers with children, mothers who experienced physical IPV and lost the pregnancy were not included, nor were women victimized in early childhood who did not have children.

Implications and Conclusions

Victimization in early childhood may place women on a heightened risk pathway to physical IPV during pregnancy, specifically if their pregnancies are not planned. Women with dual experiences of early victimization and physical IPV during pregnancy also may, in turn, have higher lifetime parity and their children may be at incremental risk of experiencing more traumatic events. It is critical that future research, prevention, and policy efforts consider pregnant women's early childhood experiences and whether their pregnancies are planned when evaluating how to prevent physical IPV during

pregnancy and deter intergenerational cycles of trauma in families. Potentially, universal screening for early childhood victimization should be implemented at prenatal visits to assess the extent to which pregnant women have histories of early and cumulative experiences of victimization. Continued efforts to isolate and deter early childhood adversity would likely have lasting effects on well-being across generations.

Authors' Note

Declaration of Conflicting Interests

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