Journal of Child and Family Studies (2021) 30:1675–1684
https://doi.org/10.1007/s10826-021-01971-x

ORIGINAL PAPER

Intimate Partner Violence, Parenting, and Toddler Behavior among Low-Income Latinx Families

Brenda Jones Harden[1,2] · Tiffany L. Martoccio[2] · Lisa J. Berlin[1] · Laura Jimenez Parra[2]

Accepted: 20 April 2021 / Published online: 13 May 2021

Abstract

Intimate partner violence (IPV) adversely impacts child and adult well-being, as well as affects parenting processes. However, there is a need to understand the mechanisms by which IPV affects parenting and child outcomes. The current study examined the associations among maternal experiences of IPV (i.e., physical and verbal aggression), parenting processes, and toddler behavior in an understudied group: low-income Latinx families with very young children. Central American immigrant mothers ($N = 169$) were interviewed in their homes in Spanish or English, based on their preference. Mother–toddler interaction was video-recorded and coded for sensitive-engaged parenting and harsh-intrusive parenting. IPV exposure did not relate directly to parenting or to toddlers' (ages 12–28 months) behavior. Rather, parenting stress significantly moderated the relation between IPV exposure and observed parenting behavior: for mothers with lower levels of parenting stress, IPV was positively associated with sensitive-engaged parenting, whereas for mothers with higher levels of parenting stress, IPV was positively associated with harsh-intrusive parenting. Moreover, for mothers with higher parenting stress, IPV exposure was associated with harsh-intrusive parenting behavior, which in turn was related to toddler behavior problems. In sum, parenting stress influenced the impact of IPV exposure on parenting behaviors, and on toddler behavior problems. The implications of these results for the design of parenting interventions for families affected by IPV are explored.

Keywords Intimate partner violence · Latinx families · Parenting · Parenting stress · Toddler behavior problems

Highlights

- Intimate Partner Violence was positively associated with sensitive-engaged parenting for mothers with lower levels of parenting stress.
- Intimate Partner Violence was positively associated with harsh-intrusive parenting for mothers with higher levels of parenting stress.
- For mothers with higher levels of parenting stress, Intimate Partner Violence was associated with harsh-intrusive parenting behavior, which in turn was related to toddler behavior problems.

Intimate partner violence (IPV) entails behaviors ranging from verbal and emotional abuse to physical or sexual violence against intimate partners (Langhinrichsen-Rohling, 2005). Although IPV perpetrators and victims may be both male and female and found in all types of relationships, most victims are heterosexual women with male partners (Breiding, 2014). Recent research has documented that IPV affects more than a quarter of U.S. women (Smith et al., 2017), that 25% of children are exposed to IPV across childhood (Finkelhor et al., 2015), and that many children experience IPV for the first time when they are infants and toddlers (Stover et al., 2017). There is clear evidence that IPV results in physical health and mental health problems for victims and their children, such as injuries, maternal depression, and child behavior problems (e.g., Beydoun et al., 2012; Holmes, 2013). However, less empirical

✉ Brenda Jones Harden
Brenda.Jones-Harden@ssw.umaryland.edu

[1] University of Maryland School of Social Work, Baltimore, MD, USA

[2] University of Maryland College Park, Baltimore, MD, USA

attention has been devoted to the mechanisms through which IPV affects parenting and child development. To fill this gap, the goal of the current study was to examine IPV-exposure, parenting processes, and child outcomes in an understudied group: low-income Latinx immigrants with toddlers.

In their framework on the impacts of IPV, Levendosky and Graham-Bermann (2001) postulate that IPV's influence on parenting has to be considered in the context of its impact on maternal psychological functioning. Burgeoning research has documented the adverse effects of IPV on parenting, specifically maternal warmth, sensitivity, and engagement (Chiesa et al., 2018; Graham et al., 2012; Levendosky et al., 2006). In contrast, other studies suggest that mothers exposed to IPV may compensate for the IPV to which their young children are exposed by displaying more nurturing, sensitive, and consistent parenting (Letourneau et al., 2013; Manning et al., 2014). Although women exposed to IPV have higher levels of mental health problems (Beydoun et al., 2012), lower levels of maternal mental health problems may attenuate the adverse effects of IPV on maternal parenting (Carpenter & Stacks, 2009). Additionally, IPV-exposed mothers are more likely to have higher levels of parenting stress, which may affect their parenting (Taylor et al., 2009). This empirical ambiguity on parenting in the context of IPV argues for further research in this area, particularly regarding the role of parenting stress.

Extending their framework, Levendosky and Graham-Bermann (2001) also emphasized that child outcomes are affected by maternal IPV exposure and its context, including maternal psychological functioning and parenting. Substantial research has documented that mothers' IPV exposure affects their children's development (Carpenter & Stacks, 2009; Holmes, 2013; Levendosky et al., 2003), such as higher levels of externalizing difficulties (Levendosky et al., 2006). A few studies have examined the consequences of IPV for toddlers, documenting higher levels of externalizing problems (DeJonghe et al., 2011; Easterbrooks et al., 2018). However, a study with a large number of Latinx families found no differences in behavior problem levels between IPV-exposed and non-exposed children aged 1.5–5 years (McFarlane et al., 2003).

Further, studies of IPV-affected families with preschool- and school-age children have documented direct relations between parent functioning (i.e., parenting stress) and child emotional and behavioral problems (Huth-Bocks & Hughes, 2008). Research has also documented the mediating role of parenting stress between IPV exposure and child emotional and behavioral problems (Owen et al., 2006; Renner & Boel-Studt, 2013) and the moderating role of parenting stress on the relation between IPV exposure and child behavior problems (Levendosky & Graham-Bermann,1998). Given these findings, it is important to examine whether parenting stress may affect the relation between IPV and toddler behavior outcomes.

Regarding parenting, research with preschool and school-aged children has documented that supportive parenting is related to fewer behavior problems in IPV-affected families (Fogarty et al., 2019; Grasso et al., 2016; Holmes, 2013; Howell et al., 2010). In a study with 12-month old children, Levendosky et al. (2006) found that negative parenting behaviors mediated the relation between IPV and children's externalizing behaviors. With respect to toddlers, a few studies have documented that positive parenting (i.e., maternal responsiveness and engagement; Sturge-Apple et al., 2010; maternal attunement; Johnson & Lieberman, 2007) mediated the relation between IPV and toddler externalizing behavior problems. An extension of this line of inquiry is to consider the impact of positive and negative parenting, in the context of maternal functioning (i.e., parenting stress), on the behavior of toddlers potentially exposed to IPV.

Scholars have called for research on the processes related to IPV among Latinx families, including the role of immigration (Alvarez & Fedock, 2018; Gonzalez et al., 2020). The literature points to several cultural factors related to Latinx immigrant women's experience of IPV, such as acculturation, language barriers, and immigration status (Alvarez et al., 2020; González-Guarda et al., 2009; Raj & Silverman, 2002). The limited literature on IPV's effects on Latinx women suggests high rates of depression and PTSD (Rodriguez et al., 2008), but is notably sparse with respect to parenting processes. In a rare study of Latinx foreign-born women, Taylor et al. (2009) documented that IPV and parenting stress were additive risk factors for mothers' reports of aggression toward, neglect of, and spanking of their 3-year-old children. Although they focused on Puerto Rican substance-using mothers of school-aged children, Mogro-Wilson et al.'s (2013) findings are also relevant: parenting stress was correlated with IPV and predictive of children's behavior problems, but there was no direct relation between IPV and child behavior. The findings from these studies underscore the importance of understanding the role of parenting stress in parenting and child outcomes for Latinx immigrant families affected by IPV.

Building on Levendosky and Graham-Bermann's (2001) framework, the primary goal of this study was to explore the mechanisms potentially underlying the impact of IPV on toddler (ages 12–28 months) behavior outcomes in low-income Latinx immigrant families. First, given some evidence of IPV's adverse impact on parenting in this population, it is important to examine the relation between IPV exposure (i.e., physical and verbal aggression) and maternal parenting. Second, the role of parenting stress demonstrated by studies of IPV-affected families argues for examination of how parenting stress affects parenting quality and child

outcomes. Third, the evidence that parenting predicts toddler behavior problems in IPV-affected families suggests that parenting may mediate the impact of IPV on child outcomes. Our secondary goal was to address these questions with an underresearched population. Although there is substantial research on the impact of IPV on adults and children, there is a dearth of literature on IPV and its consequences among Latinx immigrant families. Further, most studies to date have focused on older children, leaving open questions concerning the impacts of IPV on toddler development.

Thus, we utilize the Levendosky and Graham-Bermann (2001) framework to explore the relations among IPV, observed parenting, parenting stress, and toddler behavior in low-income Latinx immigrant families. We explored whether parenting stress would moderate (i.e., affect the direction and strength of) the relation between IPV and parenting, particularly whether parenting stress would increase the association between IPV and harsh-intrusive parenting and decrease its association with sensitive-engaged parenting. We also explored whether harsh-intrusive parenting behavior would mediate (i.e., be an underlying mechanism for) the relation between IPV and toddler behavior, and the moderating role of parenting stress in these relations.

Method

Participants

This sample ($n = 169$) was drawn from a larger sample of mothers enrolled in Early Head Start (EHS), which serves low-income families of infants and toddlers. For the larger sample ($N = 208$), mothers were over 18 years old, children were between 6 and 18 months of age at baseline, and parents spoke English or Spanish. The larger study was a randomized control trial of an evidence-based parenting intervention, examining post-test observed parenting and parent-reported toddler outcomes. There was minimal attrition (i.e., 3%) from baseline to posttest.

In this study, we included mothers who self-identified as Latinx ($n = 192$; 86% of larger sample) and were born outside of the US, in order to address Latinx immigrant family processes. Because our focus was IPV-exposure for this study, mothers had to report having a husband, partner or boyfriend. The majority of mothers lived with their partners (42% married and together; 47.9% living with partner). Mothers were identified for this sample whether or not they reported IPV. This yielded the final analytic sample of 169 families. The majority of mothers had not graduated high school (56.2%), were unemployed (62.7%), and were monolingual Spanish speakers (69.2%). At baseline, mothers' mean age was 30.97 years ($SD = 6.21$). Children's mean age was 12.87 months ($SD = 4.18$) at baseline and 16.82 months ($SD = 4.53$) at posttest. All the children were Latinx, and a slight majority (53.8%) was male.

Procedures

Mothers were recruited into a randomized trial, testing an evidence-based parenting intervention as a supplement to home-based EHS. Mothers in the control condition received home-based EHS plus 10 infant-toddler books sent to parents (i.e., one a week for 10 weeks). (Intervention was not a variable of interest in the current study and was treated as a control variable; see data analysis section.) Two trained bilingual research assistants collected data from participants in their homes in their preferred language (i.e., Spanish or English) at baseline (pre-intervention) and follow-up (post-intervention, on average 3.44 months later [$SD = 1.44$]). At baseline, each mother participated in a demographic and psychosocial interview, and a 15-minute, video-recorded, semi-structured parent–child play assessment with the target child (see measures section). At follow-up, mothers participated in a truncated demographic and psychosocial interview that included questions regarding toddler behavior. Mothers were paid $100 after completing the baseline procedures and another $100 after completing the follow-up procedures. The University of Maryland at Baltimore's IRB approved all research procedures.

Measures

All measures in this study have been widely used with families from low-income and minority groups including Latinx immigrants. We used standard Spanish versions of procedures and measures, or standard English versions translated into Spanish by a professional translation service with experience with social science research and familiarity with the target population.

Intimate Partner Violence (IPV) exposure was documented through the Hits, Insults, Threatens, and Screams screener (HITS; Sherin et al., 1998), a 4-item questionnaire that asks respondents how often their partners physically hurt, insulted, threatened with harm, or screamed at them in the past year. Each item is scored from 1 (never) to 5 (frequently), with total scores ranging from 4–20. The HITS is highly correlated with the well-validated Conflict Tactics Scale ($r = 0.85$; Sherin et al., 1998). Chen et al. (2005) documented an internal reliability of 0.71 for the Spanish version of HITS used with Latinx women. In the current study, we used a continuous variable based on 3 HITS items to increase the internal consistency [$\alpha = 0.73$]. Scores on this 3-item HITS ranged from 3 to 15, with a mean of 3.52 ($SD = 1.27$). Items in this continuous variable were

physically hurt ($M = 1.03$, $SD = 0.20$), *insult* ($M = 1.28$, $SD = 0.68$), and *scream/curse* ($M = 1.21$, $SD = 0.58$). Thirteen percent ($n = 22$) of participants reached the clinical level (i.e., score >5; Chen et al., 2005), the level on this measure that classified women as victims of IPV.

Parenting stress was measured at baseline with the Parenting Stress Index/Short Form (PSI/SF; Abidin, 1995). The PSI/SF is composed of three subscales: parental distress; parent–child dysfunctional interaction; and difficult child. A total stress score is derived from summing these subscale scores. This measure has been widely used with low-income mothers and found to be reliable and valid with such samples. For the current study, PSI scores ranged from 37–105, with a mean of 65.62 ($SD = 15.38$); internal consistency (α) was 0.89.

Parenting behavior was rated from baseline videotaped parent–child interactions during the 15-minute "Three-Bag" assessment. The dyad was given three numbered cloth bags, each containing standard, age-graded toys or books, which have proven to be reliable and valid in multiple large-scale studies that included Latinx families (e.g., Keels, 2009). The research assistant requested that the dyad spend some time with each, and informed the mother that she could play or help however she wanted. The assessments were coded at the University of North Carolina CDS Observes Center using a series of established scales (Three-Bag Assessment Coding System; Mills-Koonce & Cox, 2013). To ensure the cultural validity of these scales for Spanish-speaking mothers, a native Spanish speaker with expertise in assessing parents and children from diverse cultural groups provided consultation, and reviewed multiple tapes.

A master coder with extensive experience reliably rating parent–child interactions oversaw coder training and inter-rater reliability. Native Spanish speakers transcribed the Spanish assessments. Coders were trained until reliability was met and maintained on each scale, using a criterion intra-class correlation of >0.70. A minimum of 20% of the assessments were double-coded for reliability checks, with discrepancies resolved by conferencing. Ongoing checks of the transcriptions and of the cultural relevance of the coding scales were conducted with 10% of the Spanish assessments by native Spanish speakers trained in the coding system.

The current study focused on seven aspects of parenting behavior, each rated on a 5-point scale, from not at all to highly characteristic. *Sensitivity/responsiveness* referred to mothers' display of responsive, attuned, emotionally supportive behaviors. *Intrusiveness* referred to mothers' failure to recognize children's effort to gain autonomy and self-awareness. *Positive regard* referred to mothers' verbal and physical expressions of warmth, affection, enthusiasm and praise. *Stimulation of cognitive development* reflected mothers' effortful teaching to expand children's cognitive abilities. *Detachment* reflected mothers' lack of awareness, attention, and engagement toward the child. *Animation* reflected mothers' facial and vocal animation. *Negative regard* reflected mothers' expressions of discontent, anger, and rejection toward the child.

Two composite parenting scores were used in the current study, created by the UNC CDS Observes Center based on factor analyses of multiple data sets of coded parent–child videotapes. Sensitive-engaged parenting was a composite of sensitivity, detachment (reversed), cognitive stimulation, positive regard, and animation ($\alpha = 0.90$; $M = 2.93$, $SD = 0.85$, range = 1–4.8). Harsh-intrusive parenting was a composite of negative regard and intrusiveness ($\alpha = 0.77$; $M = 2.33$, $SD = 0.78$, range = 1–5). Evidence of these scores' validity has come from numerous studies linking them to theoretically predictable maternal characteristics and to child socioemotional, cognitive, and language outcomes, above sociodemographic factors (e.g., Keels, 2009).

Behavior Problems were assessed at follow-up via the Brief Infant Toddler Social Emotional Assessment (BITSEA; Briggs-Gowan et al., 2004), a 42-item screening tool in which parents report on the behavior problems of children between 12 and 36 months. Item examples are "seems very unhappy, sad, depressed or withdrawn" and "often gets very upset". The BITSEA has demonstrated strong psychometrics with population-based samples (Briggs-Gowan et al., 2004), and low-income Latinx samples ($\alpha = 0.85$; Hungerford et al., 2015). Because of the measure's age criterion, in this study, only mothers of toddlers between 12–28 months ($n = 130$) responded to the BITSEA. Scores at the 75th percentile or above are in the clinical range; 25% of children in this sample were in that range. Toddler problem behavior scores ranged from 2–33 ($M = 15.12$; $SD = 6.61$; $\alpha = 0.76$). Although these data were obtained at follow-up, our prior analyses (Berlin et al., 2018) found no direct effects of the intervention on toddler behavior problems.

Data Analyses

We first examined associations among all key variables, including IPV, parenting stress, parenting behaviors (i.e., sensitive-engaged and harsh-intrusive parenting), and toddler behavior. To correct for skewness, the IPV variable was log-transformed prior to conducting analyses. Primary analyses were then conducted in Mplus v.8 (Muthén & Muthén, 1998–2017). In all our analyses, child and maternal age, maternal education, and intervention group were included as covariates. The maternal depressive symptoms covariate showed no effects on the estimated parameters, thus was excluded from final analyses for parsimony. To examine our moderation question, whether parenting stress

Table 1 Descriptive statistics and correlations for study variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. Intervention group	–	–	–								
2. Child age (in months)	12.87	4.18	−0.06	–							
3. Maternal age (in years)	30.97	6.21	0.01	0.10	–						
4. Maternal education[a]	5.73	3.32	0.03	0.12	−0.07	–					
5. IPV	3.52	1.27	−0.01	−0.19**	−0.08	0.16**	–				
6. Parenting stress	65.62	15.38	−0.04	−0.12	0.04	−0.16**	0.04	–			
7. Sensitive-engaged parenting	2.93	0.85	0.05	0.09	0.13*	0.38****	0.07	−0.09	–		
8. Harsh-intrusive parenting	2.33	0.78	−0.13	0.22***	0.11	−0.09	0.04	−0.02	−0.17**	–	
9. Toddler behavior problems	15.12	6.61	−0.05	−0.13	−0.24***	−0.27***	0.13	0.35****	−0.12	0.13	–

*$p < 0.10$; **$p < 0.05$; ***$p < 0.01$; ****$p < 0.001$

[a]Maternal education was rated on a scale of 1 (5th grade or below) to 7 (college degree or more).

moderated the associations between IPV and parenting behaviors, the sensitive-engaged and harsh-intrusive parenting behaviors were regressed on the interaction between IPV and parenting stress. Simple slopes tests were used to examine whether the associations between IPV and parenting behaviors differed for mothers who reported higher versus lower levels of parenting stress. A power analysis revealed that our sample was sufficient to detect small-medium effects for the moderation analyses.

A moderated mediation model was specified to examine the direct and indirect effects of IPV, moderated by parenting stress, on toddler behavior problems via parenting behaviors. To examine our moderated mediation question, whether the mediated effects of parenting behaviors depended on levels of parenting stress, we simultaneously examined mediation and moderation following extant guidelines (Fairchild & MacKinnon, 2009; Preacher et al., 2007). Specifically, we examined whether parenting behaviors mediated the association between IPV and toddler behavior problems for mothers who report higher versus lower levels of parenting stress. Toddler behavior was regressed on parenting behaviors and the interaction between IPV and parenting stress. The indirect effects of the mediation pathways (i.e., IPV × parenting stress on toddler behavior problems via parenting behaviors) were estimated. The model was executed using Bayesian estimation with the Markov chain Monte Carlo (MCMC) algorithm, based on the Gibbs sampler. Recent evidence indicates that Bayesian methods yield unbiased estimates and more accurate inferences, as well as improve the power to detect mediation effects with smaller ($N \leq 200$) samples, (e.g., Miočević et al., 2017). Model fit was assessed with Bayesian posterior predictive checks using χ^2 statistics and the corresponding posterior predictive *p* values (*PPP*). A *p* value within 0.05—0.95 range is indicative of acceptable model fit (Gelman et al., 2004).

Results

Table 1 illustrates the bivariate correlations among key variables (i.e., IPV, parenting stress, parenting behaviors, and toddler behavior problems) and covariates. The significant association between parenting stress and toddler behavior problems indicated a medium effect size ($r = 0.35$, $p < 0.001$). Sensitive-engaged and harsh-intrusive parenting behaviors showed a small, yet significant negative intercorrelation ($r = -0.17$, $p = 0.03$). No other correlations between key study variables were significant, including insignificant relations between IPV and sensitive-engaged parenting ($r = 0.07$, *ns*) and harsh-intrusive parenting ($r = 0.04$, *ns*). However, there were significant correlations between covariates and key variables, including child age and IPV ($r = -0.19$, $p = 0.01$), child age and harsh-intrusive parenting ($r = 0.22$, $p = 0.001$), and maternal age and toddler behavior problems ($r = -0.24$, $p = 0.001$). Maternal education was related to several key study variables, including parenting stress ($r = -0.16$, $p = 0.04$), IPV ($r = 0.16$, $p = 0.04$), sensitive-engaged parenting ($r = 0.38$, $p < 0.001$), and toddler behavior problems ($r = -0.27$, $p = 0.002$).

Regarding the moderation analyses, we first examined the moderated effects of IPV on parenting behaviors by parenting stress (see Table 2). The model fit statistics demonstrated a good fit to the data ($PPP = 0.50$). Parenting stress significantly moderated the associations between IPV and sensitive-engaged ($\beta = -0.18$, 95% CI [−0.30, −0.04], $p = 0.01$) and harsh-intrusive ($\beta = 0.16$, 95% CI [0.01, 0.30], $p = 0.04$) parenting behaviors. Simple slopes analyses revealed that, among mothers who reported relatively low parenting stress, IPV was significantly associated with more sensitive-engaged parenting behaviors ($\beta = 0.21$, 95% CI [0.02, 0.40], $p = 0.03$; see Fig. 1). Relevant simple slopes statistics were: Low PSI: $b = 0.21$, 95% CI [0.02, 0.40]*; Mean PSI: $b = 0.04$, 95% CI [−0.09, 0.17]; High

Table 2 Standardized model-estimated parameters

	Model 1		Model 2	
Parameter	β	95% CI	β	95% CI
Sensitive-Engaged Parenting				
Child age	0.05	[−0.10, 0.19]	0.11	[−0.05, 0.27]
Maternal age	0.15*	[0.01, 0.29]	0.17*	[0.01, 0.32]
Maternal education	0.36*	[0.22, 0.49]	0.34*	[0.18, 0.49]
IPV	0.05	[−0.10, 0.20]	0.12	[−0.04, 0.27]
Parenting stress	−0.02	[−0.16, 0.12]	0.02	[−0.14, 0.18]
IPV × Parenting stress	−0.18*	[−0.30, −0.04]	−0.25*	[−0.38, −0.10]
Harsh-Intrusive Parenting				
Child age	0.21*	[0.06, 0.35]	0.10	[−0.09, 0.28]
Maternal age	0.07	[−0.08, 0.21]	0.14	[−0.03, 0.31]
Maternal education	−0.14	[−0.29, 0.01]	−0.17	[−0.33, 0.01]
IPV	0.10	[−0.06, 0.25]	0.10	[−0.08, 0.27]
Parenting stress	−0.01	[−0.16, 0.14]	0.04	[−0.13, 0.20]
IPV × Parenting Stress	0.16*	[0.01, 0.30]	0.20*	[0.03, 0.35]
Toddler Behavior Problems				
Intervention group			−0.01	[−0.16, 0.14]
Child age			0.03	[−0.12, 0.19]
Maternal age			−0.31*	[−0.45, −0.15]
Maternal education			−0.29*	[−0.45, −0.12]
IPV			0.08	[−0.07, 0.23]
Parenting stress			0.27*	[0.13, 0.42]
IPV × Parenting Stress			0.03	[−0.12, 0.18]
Sensitive-engaged parenting			0.10	[−0.08, 0.27]
Harsh-intrusive parenting			0.17*	[0.01, 0.32]

*$p < 0.05$

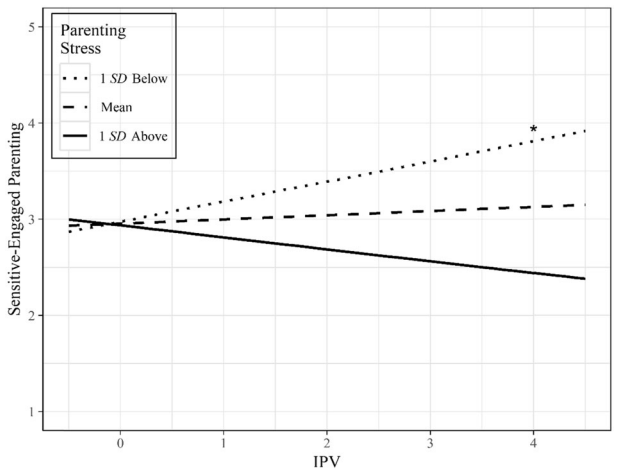

Fig. 1 Associations between IPV and Sensitive-Engaged Parenting, by Parenting Stress. *$p < 0.05$

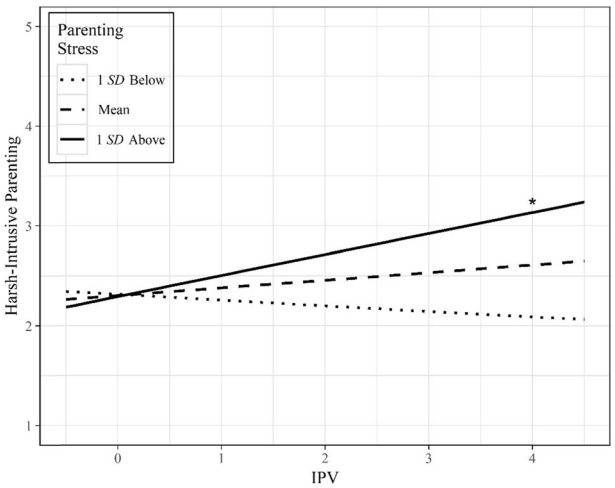

Fig. 2 Associations between IPV and Harsh-Intrusive Parenting, by Parenting Stress. *$p < 0.05$

PSI: $b = -0.12$, 95% CI [−0.30, 0.05]. This association between IPV and sensitive-engage parenting was not significant at high ($\beta = -0.12$, 95% CI [−0.30, 0.05], $p = 0.15$) and mean ($\beta = 0.04$, 95% CI [−0.09, 0.17], $p = 0.52$) levels of parenting stress. Conversely, among mothers with relatively high parenting stress, there was a significant association between IPV and harsh-intrusive parenting ($\beta = 0.21$, 95% CI [0.04, 0.38], $p = 0.01$; see Fig. 2). Simple slopes statistics for these follow-up tests were: Low PSI: b

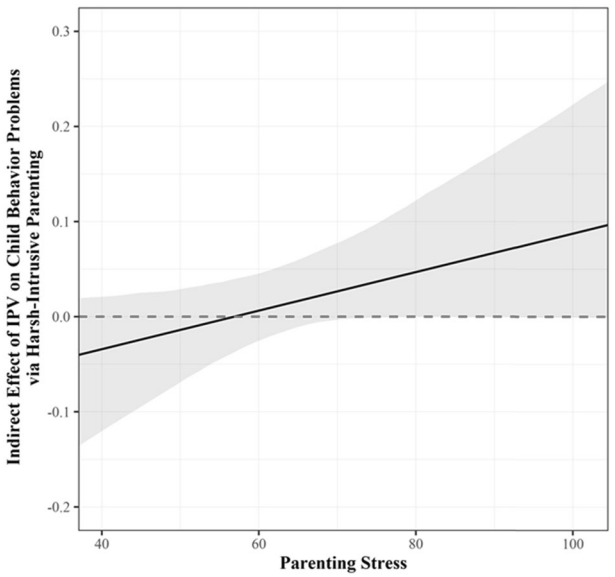

Fig. 3 Moderated Mediation Model of IPV and Parenting Stress Effects on Toddler Behavior Problems via Parenting Behavior. Standardized estimates (β) are presented; $p < 0.05$

$= -0.06$, 95% CI [−0.24, 0.12]; Mean PSI: $b = 0.076$, 95% CI [−0.05, 0.19]; High PSI: $b = 0.21$, 95% CI [0.04, 0.38]*. The association between IPV and harsh-intrusive parenting was not significant at low ($\beta = -0.06$, 95% CI [−0.24, 0.12], $p = 0.54$) and mean ($\beta = 0.08$, 95% CI [−0.05, 0.19], $p = 0.21$) levels of parenting stress.

Because there were no significant direct effects of IPV or parenting stress on parenting, mediation effects of IPV on toddler behavior via parenting were examined in the context of parenting stress (see Figure 3). Specific to our moderated mediation question, we examined the moderated mediation paths predicting toddlers' behavior problems, removing toddlers who were not age-eligible (<12 months) to participate in the BITSEA assessment, leaving a final analytic sample of 130 mother-toddler dyads. The model fit statistics using the reduced sample demonstrated a good fit to the data. The *PPP* value of 0.27 was well within the acceptable 0.05 to 0.95 range. The model explained 35% of the variance in toddler behavior problems. Similar to the previous full sample model, moderation paths from IPV to parenting behaviors were significant. Greater parenting stress ($\beta = 0.27$, 95% CI [0.13, 0.42], $p < 0.001$) and harsh-intrusive parenting ($\beta = 0.17$, 95% CI [0.01, 0.32], $p = 0.04$) predicted higher behavior problems in toddlers. The effects of IPV ($\beta = 0.08$, 95% CI [−0.07, 0.23], $p = 0.29$) and sensitive-engaged parenting ($\beta = 0.10$, 95% CI [−0.08, 0.27], $p = 0.26$) on toddler behavior problems were not significant. Harsh-intrusive parenting significantly mediated the moderation effect of IPV and parenting stress on toddler behavior problems. Specifically, for mothers with higher parenting stress, IPV related to harsh-intrusive parenting behavior, which in turn predicted toddler behavior problems ($\beta = 0.05$, 95% CI [0.00, 0.13], $p = 0.05$).

Discussion

This study extends the limited knowledge about IPV, parenting processes, and toddler behavior in low-income Latinx immigrant families, specifically the mechanisms that may lead to behavior problems for young children reared in IPV-affected families. We found no direct relations between IPV and parenting behaviors, IPV and parenting stress, nor IPV and toddler behavior. Consistent with extant literature, we did find that mothers endorsing higher levels of parenting stress (Neece et al., 2012) and mothers engaging in harsh-intrusive parenting (Scaramella et al., 2008) had toddlers with increased behavior problems. Our analyses demonstrated that parenting stress moderated the relation between IPV and parenting behaviors. For mothers with lower levels of parenting stress, IPV was significantly associated with increased sensitive-engaged parenting behaviors, whereas for mothers with higher levels of parenting stress, there was a significant association between IPV and increased harsh-intrusive parenting behaviors. Our analyses also revealed that IPV and parenting stress together related to toddler behavior problems such that for mothers with higher parenting stress, IPV was related to harsh-intrusive parenting behavior which in turn predicted toddler behavior problems.

Although the lack of a relation between IPV and parenting documented in this study is inconsistent with some literature (e.g., Levendosky et al. 2006), it supports other evidence that maternal IPV exposure does not always compromise parenting (Grogan-Kaylor et al., 2020; Jaffee et al., 2012). Our findings are also inconsistent with evidence on the relation between children's IPV exposure and behavioral outcomes (Levendosky et al., 2006). Negative parenting may exacerbate the impact of IPV on young children's behavior problems, as our findings suggest. The lack of a direct relation between IPV and toddler outcomes also underscores that maternal IPV-exposure is not tantamount to child exposure. Parents may attempt to shield very young children from inter-parental conflict and violence (Rhodes et al., 2010).

Studies of preschool- and school-aged children in IPV-affected families have found that parenting stress is a strong predictor of children's outcomes (Levendosky & Graham-Bermann, 1998; Owen et al., 2006; Renner & Boel-Studt, 2013). The finding that higher levels of IPV exposure and parenting stress were related to harsh-

intrusive parenting highlights the role of maternal functioning in the display of negative parenting behaviors in trauma-affected families (Levendosky et al., 2003). The stronger relation between IPV and sensitive-engaged parenting for mothers with lower levels of parenting stress suggests that mothers with less stress may attempt to compensate for their children's exposure to conflict and violence by providing more sensitive, responsive parenting (Letourneau et al., 2013). Finally, our findings suggest that the confluence of IPV, parenting stress, and harsh-intrusive parenting is particularly detrimental for toddler behavior. Similar to Owen et al.'s (2006) study of African American school-aged children, in the current study, parenting stress played an important role in the social-emotional outcomes of toddlers exposed to IPV. Further, Gewirtz and Edleson (2007) review evidence highlighting the complex interplay of contextual variables in the development of children exposed to adversity, which offers an explanation for the variable outcomes found in IPV-exposed children.

This within-group study contributes to the sparse literature on IPV, parenting, and toddler behavioral outcomes among Latinx immigrant families. Although some research has addressed IPV's impact on Latinx women and children (e.g., Capaldi et al., 2012; Rodriguez et al., 2008), a unique contribution of this study is its focus on parenting processes as a mechanism through which IPV affects toddler outcomes. The findings from the current study are consistent with the findings of Taylor et al. (2009) that parenting stress is a risk factor for negative parenting in Latinx foreign-born women. Finally, the lack of expected relations in this study (e.g., IPV with parenting and toddler behavior) suggest that the manifestation and outcomes of IPV may be distinct in this population. For example, characteristics of the immigrant Latinx cultural context may affect IPV's impact on families, such as the protective factor of *familismo* or the risk factor of *machismo* (Alvarez et al., 2020; Klevens et al., 2007; Sabina et al., 2015).

Several study limitations are important to acknowledge. First, the low levels of IPV in this sample may have obfuscated potential relations in this study. Our measure of IPV was based on maternal report, did not address maternal perpetration of IPV, did not ask which partner was the perpetrator, did not capture violence severity, and did not document whether children were explicitly exposed to IPV. Research should also address other risks for the presence of IPV and compromised parenting, the parenting behaviors demonstrated by the perpetrator of IPV, and other child social-emotional processes beyond behavior problems. Exploring the cultural aspects of trauma exposure, parenting, and child outcomes in Latinx families would have enhanced this study, such as a measure of culturally-appropriate parenting behaviors designed for Latinx families. Finally, we only assessed key constructs at one time point, derived the sample from a longitudinal study of an intervention, and did not examine IPV's effect over time.

This study addressed a gap in the literature on IPV, parenting processes, and toddler behavior among low-income Latinx immigrant families, and contributed to an understanding of mechanisms by which IPV affects young children. Consistent with other research (Fong et al., 2019; Gewirtz & Edelson, 2007), this study documented that specific parenting processes (i.e., sensitive-engaged parenting and reduced parenting stress) may be protective for some IPV-affected children. Similarly, harsh-intrusive parenting and increased parenting stress place children with IPV-affected mothers at higher risk for detrimental outcomes. Because mothers are not culpable for the outcomes of IPV-exposed children, it is critical to advocate for the prevention of IPV (Niolon & Centers for Disease Control and Prevention, 2017) and for perpetrator treatment (Hamel et al., 2020). Yet, the current evidence underscores the import of delivering parenting interventions to enhance IPV-affected mothers' capacity to cope with parenting stressors and to promote sensitive parenting, specifically those designed for Latinx families with young children, from low-income and high-risk backgrounds (e.g., Berlin et al., 2018; Waters et al., 2015).

Acknowledgements This research was supported by ACF 90-YR-0059, awarded to Lisa Berlin and Brenda Jones Harden, and reflects an Early Head Start-University Partnership with the following programs: Catholic Charities of Washington; CentroNia DC; CentroNia Maryland; Family Services, Inc.; The Reginald S. Lourie Center; Rosemount Center; and United Planning Organization. Aleta Meyer, project officer, and the members of the Buffering Toxic Stress research consortium provided valuable scientific input and instrumental support. Roger Mills-Koonce and Nissa Towe-Goodman led the video coding. This content is solely the responsibility of the authors and does not represent the official views of the Administration for Children and Families. We gratefully acknowledge the research participants for their many contributions.

Funding This research was supported by the Administration for Children and Families (ACF) Grant ACF-90-YR-0059, awarded to Lisa J. Berlin and Brenda Jones Harden. This content is solely the responsibility of the authors and does not represent the official views of ACF.

Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

Informed Consent The University of [blinded for review] IRB approved all research procedures (blinded for review). Mothers provided written acknowledgement of informed consent for their own and the target child's study participation.

References

Abidin, R. R (1995). *Parenting stress index: proffesional manual*. (3rd ed.) Lutz, FL: Psychological Assessment Resources.

Alvarez, C., & Fedock, G. (2018). Addressing intimate partner violence with Latina women: a call for research. *Trauma, Violence, & Abuse*, *19*(4), 488–493.

Alvarez, M. J., Ramirez, S. O., Frietze, G., Field, C., & Zárate, M. A. (2020). A meta-analysis of Latinx acculturation and intimate partner violence. *Trauma, Violence, & Abuse*, *21*(4), 844–854.

Berlin, L., Martoccio, T., & Jones Harden, B. (2018). Improving Early Head Start's impacts on parenting through attachment-based intervention: a randomized controlled trial. *Developmental Psychology*, *54*(12), 2316–2327.

Beydoun, H., Beydoun, M., Kaufman, J., Lo, B., & Zonderman, A. (2012). Intimate partner violence against adult women and its association with major depressive disorder, depressive symptoms and postpartum depression: a systematic review and meta-analysis. *Social Science and Medicine*, *75*(6), 959–975.

Breiding, M. J. (2014). Prevalence and characteristics of sexual violence, stalking, and intimate partner violence victimization—National Intimate Partner and Sexual Violence Survey, United States, 2011. *Morbidity and mortality weekly report. Surveillance summaries (Washington, DC: 2002)*, *63*(8), 1.

Briggs-Gowan, M. J., Carter, A. S., Irwin, J. R., Wachtel, K., & Cicchetti, D. V. (2004). The Brief Infant-Toddler Social and Emotional Assessment: screening for social-emotional problems and delays in competence. *Journal of Pediatric Psychology*, *29*, 143–155.

Capaldi, D., Knoble, N., Shortt, J., & Kim, H. (2012). A systematic review of risk factors for intimate partner violence. *Partner Abuse*, *3*(20), 231–280.

Carpenter, G., & Stacks, A. (2009). Developmental effects of exposure to intimate partner violence in early childhood: a review of the literature. *Children and Youth Services Review*, *31*, 831–839.

Chen, P. H., Rovi, S., Vega, M., Jacobs, A., & Johnson, M. S. (2005). Screening for domestic violence in a predominantly Hispanic clinical setting. *Family Practice*, *22*(6), 617–623.

Chiesa, A. E., Kallechey, L., Harlaar, N., Ford, C. R., Garrido, E. F., Betts, W. R., & Maguire, S. (2018). Intimate partner violence victimization and parenting: a systematic review. *Child Abuse & Neglect*, *80*, 285–300.

DeJonghe, E. S., von Eye, A., Bogat, G. A., & Levendosky, A. A. (2011). Does witnessing intimate partner violence contribute to toddlers' internalizing and externalizing behaviors? *Applied Developmental Science*, *15*(3), 129–139.

Easterbrooks, M. A., Katz, R. C., Kotake, C., Stelmach, N. P., & Chaudhuri, J. H. (2018). Intimate partner violence in the first 2 years of life: implications for toddlers' behavior regulation. *Journal of Interpersonal Violence*, *33*(7), 1192–1214.

Fairchild, A., & MacKinnon, D. (2009). A general model for testing mediation and moderation effects. *Prevention Science*, *10*(2), 87–99.

Finkelhor, D., Turner, H., Shattuck, A., & Hamby, S. L. (2015). Prevalence of childhood exposure to violence, crime, and abuse: results from the National Survey of Children's Exposure to Violence. *JAMA Pediatrics*, *169*, 746–754.

Fogarty, A., Wood, C. E., Giallo, R., Kaufman, J., & Hansen, M. (2019). Factors promoting emotional-behavioural resilience and adjustment in children exposed to intimate partner violence: a systematic review. *Australian Journal of Psychology*, *71*(4), 375–389.

Fong, V. C., Hawes, D., & Allen, J. L. (2019). A systematic review of risk and protective factors for externalizing problems in children exposed to intimate partner violence. *Trauma, Violence, & Abuse*, *20*(2), 149–167.

Gelman, A., Carlin, J., Stern, H., & Rubin, D. (2004). *Bayesian data analysis*. Boca Raton, FL: CRC.

Gewirtz, A., & Edleson, J. (2007). Young children's exposure to intimate partner violence: towards a developmental risk and resilience framework for research and intervention. *Family Violence*, *22*, 151–163.

Gonzalez, F. R., Benuto, L. T., & Casas, J. B. (2020). Prevalence of interpersonal violence among Latinas: a systematic review. *Trauma, Violence, & Abuse*, *21*(5), 977–990.

González-Guarda, R. M., Peragallo, N., Vasquez, E. P., Urrutia, M. T., & Mitrani, V. B. (2009). Intimate partner violence, depression, and resource availability among a community sample of Hispanic women. *Issues in Mental Health Nursing*, *30*(4), 227–236.

Graham, A. M., Kim, H. K., & Fisher, P. A. (2012). Partner aggression in high-risk families from birth to age 3 years: associations with harsh parenting and child maladjustment. *Journal of Family Psychology*, *26*(1), 105.

Grasso, D. J., Henry, D., Kestler, J., Nieto, R., Wakschlag, L. S., & Briggs-Gowan, M. J. (2016). Harsh parenting as a potential mediator of the association between intimate partner violence and child disruptive behavior in families with young children. *Journal of Interpersonal Violence*, *31*(11), 2102–2126.

Grogan-Kaylor, A., Galano, M. M., Stein, S. F., Clark, H. M., & Graham-Bermann, S. A. (2020). Latent profiles of parenting among women exposed to intimate partner violence. *Social Work Research*, *44*(1), 33–46.

Hamel, J., Cannon, C., Buttell, F., & Ferreira, R. (2020). A survey of IPV perpetrator treatment providers: ready for evidence-based practice? *Partner Abuse*, *11*(4), 387–414.

Holmes, M. R. (2013). Aggressive behavior of children exposed to intimate partner violence: an examination of maternal mental health, maternal warmth and child maltreatment. *Child Abuse and Neglect*, *37*(8), 520–530.

Howell, K. H., Graham-Bermann, S. A., Czyz, E., & Lilly, M. (2010). Assessing resilience in preschool children exposed to intimate partner violence. *Violence and victims*, *25*(2), 150.

Hungerford, G., Garcia, D., & Bagner, D. (2015). Psychometric evaluation of the Brief Infant-Toddler Social and Emotional Assessment (BITSEA) in a predominately Hispanic, low-income sample. *Journal of Psychopathology and Behavioral Assessment*, *37*(3), 493–503.

Huth-Bocks, A., & Hughes, H. (2008). Parenting stress, parenting behavior, and children's adjustment in families experiencing intimate partner violence. *Family Violence*, *23*(4), 243–251.

Jaffee, A., Cranston, C., & Shadlow, J. (2012). Parenting in females exposed to intimate partner violence and childhood sexual abuse. *Journal of Child Sexual Abuse*, *21*(6), 684–700.

Johnson, V. K., & Lieberman, A. F. (2007). Variations in behavior problems of preschoolers exposed to domestic violence: the role of mothers' attunement to children's emotional experiences. *Journal of Family Violence*, *22*(5), 297–308.

Keels, M. (2009). Ethnic group differences in Early Head Start parents' parenting beliefs and practices and links to children's early cognitive development. *Early Childhood Research Quarterly*, *24*(4), 381–397.

Klevens, J., Shelley, G., Clavel-Arcas, C., Barney, D. D., Tobar, C., Duran, E. S., & Esparza, J. (2007). Latinxs' perspectives and experiences with intimate partner violence. *Violence Against Women*, *13*(2), 141–158.

Langhinrichsen-Rohling, J. (2005). Top 10 greatest "hits": Important findings and future directions for intimate partner violence research. *Journal of Interpersonal Violence*, *20*(1), 108–118.

Letourneau, N., Morris, C. Y., Secco, L., Stewart, M., Hughes, J., & Critchley, K. (2013). Mothers and infants exposed to intimate partner violence compensate. *Violence and victims*, *28*(4), 571–586.

Levendosky, A., & Graham-Bermann, S. (1998). The moderating effects of parenting stress on children's adjustment in woman-abusing families. *Journal of Interpersonal Violence*, *13*(3), 383–397.

Levendosky, A., & Graham-Bermann, S. (2001). Parenting in battered women: the effects of domestic violence on women and their children. *Family Violence*, *16*(2), 171–192.

Levendosky, A., Huth-Bocks, A., Shapiro, D., & Semel, M. (2003). The impact of domestic violence on the maternal-child relationship and preschool-age children's functioning. *Journal of Family Psychology*, *17*(3), 275–287.

Levendosky, A. A., Leahy, K. L., Bogat, G. A., Davidson, W. S., & von Eye, A. (2006). Domestic violence, maternal parenting, maternal mental health, and infant externalizing behavior. *Journal of Family Psychology*, *20*(4), 544–552.

Manning, L. G., Davies, P. T., & Cicchetti, D. (2014). Interparental violence and childhood adjustment: How and why maternal sensitivity is a protective factor. *Child Development*, *85*(6), 2263–2278.

McFarlane, J., Groff, J., O'Brien, J., & Watson, K. (2003). Behaviors of children who are exposed and not exposed to intimate partner violence: an analysis of 330 black, white, and Hispanic children. *Pediatrics*, *112*(3 Pt. 1), e202–e207.

Mills-Koonce, W.R., & Cox. M. (2013). *Qualitative ratings for parent– child interaction at 3–48 months of age. Unpublished coding scales*, University of North Carolina at Greensboro.

Miočević, M., MacKinnon, D. P., & Levy, R. (2017). Power in Bayesian mediation analysis for small sample research. *Structural Equation Modeling*, *24*(5), 666–683.

Mogro-Wilson, C., Negroni, L. K., & Hesselbrock, M. N. (2013). Puerto Rican parenting and acculturation in families experiencing substance use and intimate partner violence. *Journal of Social Work Practice in the Addictions*, *13*(1), 50–69.

Muthén, L. K., & Muthén, B. O. (1998). *Mplus User's Guide*. (8th ed.) Los Angeles, CA: Muthén & Muthén. 2017.

Neece, C., Green, S., & Baker, B. (2012). Parenting stress and child behavior problems: a transactional relationship across time. *American Journal on Intellectual and Developmental Disabilities*, *117*(1), 48–66.

Niolon, P. H., & Centers for Disease Control and Prevention. (2017). *Preventing intimate partner violence across the lifespan: a technical package of programs, policies, and practices*. Government Printing Office.

Owen, A. E., Thompson, M. P., & Kaslow, N. J. (2006). The mediating role of parenting stress in the relation between intimate partner violence and child adjustment. *Journal of Family Psychology*, *20*(3), 505–513.

Preacher, K., Rucker, D., & Hayes, A. (2007). Addressing moderated mediation hypotheses: theory, methods, and prescriptions. *Multivariate Behavioral Research*, *42*(1), 185–227.

Raj, A., & Silverman, J. (2002). Violence against immigrant women: the roles of culture, context, and legal immigrant status on intimate partner violence. *Violence Against Women*, *8*(3), 367–398.

Renner, L. M., & Boel-Studt, S. (2013). The relation between intimate partner violence, parenting stress, & child behavior problems. *Journal of Family Violence*, *28*(2), 201–212.

Rhodes, K., Cerulli, C., Dichter, M., Kothari, C., & Barg, F. (2010). "I didn't want to put them through that": the influence of children on victim decision-making in intimate partner violence cases. *Journal of Family Violence*, *25*(5), 485–593.

Rodriguez, M. A., Heilemann, M. V., Fielder, E., Ang, A., Nevarez, F., & Mangione, C. M. (2008). Intimate partner violence, depression, and PTSD among pregnant Latinx women. *The Annals of Family Medicine*, *6*(1), 44–52.

Sabina, C., Cuevas, C. A., & Zadnik, E. (2015). Intimate partner violence among Latinx women: rates and cultural correlates. *Journal of Family Violence*, *30*(1), 35–47.

Scaramella, L. V., Neppl, T. K., Ontai, L. L., & Conger, R. D. (2008). Consequences of socioeconomic disadvantage across three generations: parenting behavior and child externalizing problems. *Journal of Family Psychology*, *22*(5), 725–733.

Sherin, K., Sinacore, J., Li, X., Ziller, R., & Shakil, A. (1998). HITS: a short domestic violence screening tool for use in a family practice setting. *Family Medicine*, *30*(7), 508–512.

Smith, S. G., Chen, J., Basile, K. C., Gilbert, L. K., Merrick, M. T., Patel, N., Walling, M., & Jain, A. (2017). *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010-2012 State Report*. Atlanta, GA: Centers for Disease Control and Prevention.

Stover, C. S., Ippen, C. G., Liang, L. J., Briggs, E. C., & Berkowitz, S. J. (2017). An examination of partner violence, polyexposure, and mental health functioning in a sample of clinically-referred youth. *Psychology of Violence*, *9*(3), 359.

Sturge-Apple, M. L., Davies, P. T., Cicchetti, D., & Manning, L. G. (2010). Mothers' parenting practices as explanatory mechanisms in associations between interparental violence and child adjustment. *Partner Abuse*, *1*(1), 45–60.

Taylor, C. A., Guterman, N. B., Lee, S. J., & Rathouz, P. J. (2009). Intimate partner violence, maternal stress, nativity, and risk for maternal maltreatment of young children. *American Journal of Public Health*, *99*(1), 175–183.

Waters, S., Hagan, M., Rivera, L., & Lieberman, A. (2015). Improvements in the child-rearing attitudes of Latinx mothers exposed to interpersonal trauma predict greater maternal sensitivity toward their 6-month-old infants. *Journal of Traumatic Stress*, *28*, 426–433.