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Coparenting Relationship Trajectories: Marital Violence Linked to Change and Variability After Separation

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Abstract

Associations between marital intimate partner violence (IPV) and postseparation coparenting relationship trajectories were examined among 135 mothers who participated in five interviews at 3-month intervals in the year following their divorce filing. Growth curve analysis was conducted to assess change and variability in coparenting dimensions (i.e., conflict, support, communication about childrearing, and harassment) in the overall sample and by type of IPV. In the overall sample, coparenting conflict, communication about childrearing, and harassment decreased across the year following separation. However, coparenting relationships differed considerably based on marital IPV experiences. At Time 1, mothers in relationships with coercive controlling violence (CCV) reported higher levels of harassment and conflict, and lower levels of support and communication about coparenting, than mothers with situational couple violence (SCV) or no violence (NV). Furthermore, coparenting relationship trajectories differed significantly by IPV group, with mothers who experienced CCV showing more variability in conflict and harassment, and more marked changes in conflict, support, and harassment. Despite many similarities, mothers

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with SCV showed higher initial levels of harassment compared to mothers with NV. Findings can support family court and social service professionals' efforts to individualize interventions with divorcing parents based on IPV experiences. In cases of coercive control, for example, attention to heightened control dynamics in the immediate separation remain critical but the persistent volatility across the first year suggests the potential for chronic stress. With situational couple violence, practitioners may be able to capitalize on parents' reasonable levels of communication and steady coparental support.

Keywords

coparenting; divorce; domestic violence; intimate partner violence; quantitative; separation

Divorce is a complex process that begins before couples separate and continues after it is legally finalized. The process is particularly challenging for couples with children who must transition from parenting while married to coparenting while remaining physically and emotionally apart (Pruett & Donsky, 2011). Many studies document the potential negative effects of divorce for adults and children, especially when parents do not set aside their differences for the sake of coparenting (Kelly, 2012). Effective coparenting relationships are those in which parents minimize conflict, support each other as parents, and communicate about their children. Research suggests that negative dynamics often characterize the immediate postseparation period, but these difficulties tend to diminish over time. Nonetheless, some longitudinal studies (Kelly & Hetherington, 2002; Maccoby & Mnookin, 1992) have documented considerable variation in postseparation coparenting relationships.

One understudied topic is the impact of intimate partner violence (IPV) in marriage on postseparation coparenting relationships. Most studies have focused on physical injury and lethality risks for women after separation, noting peaks in the first few months (Wilson & Daly, 1993); nonphysical risks (e.g., harassment) in coparenting relationships, however, have not been thoroughly examined (Logan & Walker, 2004). Coparenting studies rarely focus on marital IPV as distinct from conflict, or, when they do, they ignore different types of IPV. Further, longitudinal coparenting studies have not considered how marital IPV may relate to variations in coparenting trajectories (Hardesty, Raffaelli, Khaw, Mitchell, Haselschwerdt, & Crossman, 2012). The current study fills these gaps by examining how marital IPV predicts change and variability in coparenting relationships in the first year after a divorce filing.

Coparenting Relationships After Separation

Coparenting after separation refers to the ways in which former partners relate to each other as parents, including their involvement in childrearing and decision making about their children and support of each other as parents (Lamela, Figueiredo, Bastos, & Feinberg, 2106). According to family systems theory, although divorce marks the end of a marital relationship, parents do not necessarily exit the family's boundaries. Instead, boundaries shift to accommodate the new need to coparent across separate households (Madden-Derdich & Leonard, 1999; Smart, 1999). As a system, families adapt to challenges and changing needs while also striving for equilibrium. Thus, coparenting relationships are assumed to be dynamic as boundaries and roles are renegotiated over time (Hardesty et al.,

2012). Early in the separation process, coparenting effectively while renegotiating family boundaries can be a major challenge. Postseparation dynamics may take the form of steady increases or decreases in coparenting relationship quality (i.e., change) or variability in patterns of interaction over time.

Although coparenting is widely recognized as multidimensional, there is no agreement over what dimensions constitute the construct (Palkovitz, Fagan, & Hull, 2013; Teubert & Pinquart, 2010). According to Palkovitz et al. (2013), most conceptualizations of coparenting during marriage have included dimensions of support/undermining, communication, division of labor, joint family management/coparenting alliance, and triangulation (e.g., Cohen & Weissman, 1984; Feinberg, 2003; Margolin, Gordis, & John, 2001). In studies of coparenting after separation or divorce, common dimensions include coparental conflict, support, and communication (e.g., Ahrons, 1981; Dush, Kotila, & Schoppe-Sullivan, 2011; Maccoby, Depner, & Mnookin, 1990). For example, an early study by Maccoby and Mnookin (1992) assessed 664 coparents at 18 months after separation and found that coparents had different patterns of relating: one fourth were cooperative and supportive, a third were conflicted, another third were disengaged, and the rest had a mix of high cooperation and high conflict. Studies of postseparation coparenting have focused primarily on how these dimensions are associated with child and adult outcomes (e.g., Amato, 2010; Fabricius & Luecken, 2007). Identifying predictors of early coparenting relationships is important because they can set the stage for parents to work together in positive ways (Ahrons & Miller, 1993), with long-term benefits for children and adults (Carlson, McLanahan, & Brooks-Gunn, 2008).

A few longitudinal studies have examined change in coparenting relationship dimensions after separation or divorce. For example, data from 72 divorced parents at 2 months and at 1, 2, 6, 11, and 20 years after divorce showed that initial high levels of negative emotions (e.g., anger) often subsided after the first year; support also declined over time as parents became disengaged (Hetherington, 1999; see also Maccoby and Mnookin, 1992). About a quarter of the coparents in Hetherington's study reported chronic conflict six years after divorce (Kelly & Hetherington, 2002). Other studies reported similar coparenting dynamics (e.g., supportive or conflictual) before and after separation (e.g., Maccoby et al., 1990). The current study builds on this prior work by examining changes in multiple aspects of coparenting early in the divorce process.

Most previous studies share two key limitations. First, they examine average (group-level) patterns of change and do not explain dynamics that are unique to different types of divorcing parents. Second, they do not consider variability in coparenting trajectories over time (i.e., the ups and downs in a coparenting relationship). Demo and Fine (2010) called for studies that generate a deeper understanding of factors associated with variations in postseparation trajectories. Of note, two recent longitudinal studies of coparenting after separation from low-income nonmarital or mixed (marital and nonmarital) unions reported differences in coparenting trajectories based on pre-dissolution experiences. For example, Dush and colleagues (2011) found that supportive coparenting (assessed at different times with separation occurring at any wave from child age 1 to 5) was initially higher for mothers with higher quality preseparation relationships and increased over time for mothers who had

been married. Similarly, parents who had higher quality relationships before separation reported more supportive coparenting 2 years after separation (Goldberg & Carlson, 2015). The current study explores marital IPV as a potential factor contributing to differences in coparenting trajectories after separation.

Marital Violence and Postseparation Dynamics

IPV is common among divorcing couples, with estimates ranging from 40 – 80% (Beck, Anderson, O'Hara, & Benjamin, 2013). Based on Johnson's (2008) typology of IPV, scholars (e.g., Beck et al., 2013; Hardesty, Crossman, Haselschwerdt, Raffaelli, Ogolsky, & Johnson, 2015; Kelly & Johnson, 2008) have identified two main types of IPV among separating couples: coercive controlling violence (CCV) and situational couple violence (SCV). According to feminist perspectives (e.g., Dobash & Dobash, 1992), CCV is rooted in patriarchal beliefs of men's dominance and control over women; thus, the violence occurs in conjunction with high coercive control, including tactics to monitor, isolate, or incite fear in their partners (Johnson, 2008). Women who divorce CCV abusers face increased risk of harm because separation is considered a threat to an abuser's control over his partner and children (Ellis, Stuckless, & Smith, 2015). In contrast, SCV refers to violence that occurs in specific situations (e.g., when arguments escalate) but without a relationship-wide motive to coercively control a partner (Johnson, 2008). Given these IPV dynamics, divorcing couples with a history of SCV may be better able than those with a history of CCV to negotiate healthy boundaries over time and develop more effective coparenting relationships.

There is evidence of a connection between type of IPV and postseparation coparenting dynamics. In several qualitative studies, mothers who experienced CCV in marriage reported boundary intrusion by former partners to reassert their control at least 2 years after separation (e.g., Hardesty, Khaw, Chung, & Martin, 2008; Wuest, Ford-Gilboe, Merritt-Gray, & Berman, 2003). Because abusers have less physical access to women after separation, nonphysical abusive acts may increase (Ellis et al., 2015; Myhill, 2015). As revealed in Hardesty et al.'s (2008) study of mothers separated for at least two years, those who experienced CCV reported persistent harassment after divorce, the stress of which gradually diminished their desire to maintain a coparenting relationship. In contrast, mothers who reported SCV in marriage seemed better able to work through initial conflicts and develop cooperative relationships over time.

The current study builds on descriptive analyses of short-term longitudinal data from two samples of divorcing mothers (Hardesty, Crossman, Khaw, & Raffaelli, 2016). The prior study examined associations between marital IPV, a broad set of postseparation dynamics shortly after separation, and global coparenting quality three months later. Most relevant to the current study, coparenting quality was lowest for mothers with CCV compared to SCV or no violence (NV). Mothers with SCV reported postseparation dynamics (e.g., anger) that were more similar to mothers with NV than CCV. For CCV, hostility at separation was highest and control dynamics persisted after separation in the form of harassment and fear, consistent with other qualitative (Hardesty et al., 2008; Markham & Coleman, 2012) and cross-sectional quantitative studies (Myhill, 2015; Ornstein & Rickne, 2013). The findings underscore linkages between marital IPV and postseparation coparenting; however, the study

was limited by the short timeframe and a global measure of coparenting quality. The current study addresses these limitations by examining multiple aspects of coparenting at five time points across a full year after separation.

The Current Study

This study considers how marital IPV relates to known dimensions of effective coparenting (i.e., conflict, support, and communication about childrearing) across the first year after filing for divorce. We chose one year as our study period because prior work has shown that risk to women who leave abusive partners is greater the more recent the separation (Hardesty et al., 2012). Five measurement periods reflect our goal of obtaining a nuanced picture of relationship dynamics (including short-term variability) early in the divorce process. Two types of IPV identified by Johnson (2008) are examined (CCV and SCV). Furthermore, harassment is considered as a dimension of the coparenting relationship that may be specifically relevant to ongoing relationships when there is CCV (Hardesty et al., 2016). The sample consisted of women with and without IPV in marriage. The focus on women reflects two considerations. First, although both women and men experience IPV, women are more likely to experience severe violence in the context of coercive control, and separation is associated with risks for women especially when continuing contact is necessary because of children (Johnson, 2008; Logan & Walker, 2004). Second, women are more likely to have physical custody of children (U.S. Census Bureau, 2011) and generally are expected to take on the role of facilitating father-child contact and negotiating coparenting relationships after divorce (Smart, 1999). Three hypotheses regarding coparenting relationship trajectories were addressed:

1. In the overall sample, coparenting dimensions will change over time such that conflict, support, communication about childrearing, and harassment will be highest early in the divorce process and decrease over time.
2. Overall patterns in initial level and change over time will be moderated by IPV type. Specifically: (a) women with CCV will report higher initial levels of conflict and harassment and lower initial levels of support and communication compared to women with SCV and NV; likewise, women with SCV will report higher initial levels of conflict and harassment and lower initial levels of support and communication compared to women with NV; and (b) patterns of change in coparenting dynamics will differ across IPV groups such that women with CCV will show more change on all dimensions over time than the other two groups, and women with SCV will show more change than women with NV.
3. Women who report CCV will have more within person variability in coparenting dimensions than women who report SCV and NV.

Hypotheses 1 and 2 are based on theory and existing work. Because previous studies have not examined variability based on type of IPV, Hypothesis 3 is theoretically-driven. In accordance with family systems theory, it is expected that all divorcing parents will be working toward a new equilibrium. Based on feminist theory and prior IPV research, however, we expect women who report CCV to have more within person variability given what is known about the volatility of coercive control dynamics in these intimate

relationships and the likelihood of continuing control (in the form of harassment) after separation.

Method

Participants

Women named in a divorce filing within the past 12 weeks were identified using public court records in a large Midwest county and sent recruitment letters (by U.S. mail or via the attorney of record). Follow-up phone calls were made to those with known phone numbers. Inclusion criteria were that divorcing mothers (a) had at least one child under age 18 with their former partner; (b) had custody of their child(ren) at least 25% of the time; (c) had been physically separated for less than three years; and (d) could understand and speak English. Letters were sent to 577 women named in a divorce filing between August 2010 and November 2012, and 23.4% (N = 135) completed the first interview. Of the 442 non-participants, 39 were eligible and interested but did not show up for interviews or respond to follow-up efforts; 20 declined to participate; 15 did not meet the criteria; and 368 never responded (whether the latter group received the recruitment letter or met the inclusion criteria cannot be determined).

At Time 1, mothers were between ages 20.83 and 53.92 years (M = 35.22, SD = 7.02). The sample was predominantly White (n = 103, 76.3%); 18 mothers (13.3%) identified as Black/African American, 6 (4.4%) as Asian/Asian American, 5 (3.7%) as biracial, and 3 (2.2%) as Latino/Hispanic. Mothers had one to four (M = 1.79, SD = 0.80) biological or adopted children with their former partner. On average, mothers had been married nearly 10 years (SD = 6.01; range = 0.42 – 27.92 years) and had been separated 8 months (SD = 6.37; range < 1 – 27 months). One fifth (n = 27; 20%) reported that their divorce was finalized at Time 1. At baseline, 45% of mothers had formal custody agreements (23.6% joint physical, 73.6% mother sole physical). Most mothers (84.5%) had formal custody agreements one year later (23.4% joint physical, 73.8% mother sole physical). Of those with sole physical custody, 85.7% and 80.0% of fathers had formal visitation agreements at baseline and one year later, respectively. The majority of mothers were employed full time (59.3%) and about half were college graduates (31.9% bachelor's degree and 17.8% at least some graduate education); the remainder had some college (including an associate's degree, 38.5%) or a high school education or less (11.1%).

Procedures

Five in-person interviews were conducted at three-month intervals. Interviews consisted of both structured and open-ended measures administered orally by trained interviewers and lasted 60–90 minutes. IRB approval and a Federal Certificate of Confidentiality were obtained. Numerous precautions were taken to ensure women's safety and privacy. Recruitment letters indicated the study's focus on mothers' experiences with divorce but did not mention IPV. Participants' rights and potential risks were discussed in the informed consent process, including limits of confidentiality (e.g., mandatory child abuse reporting laws). Most interviews took place in public locations (e.g., private room in library) but some were conducted at women's homes. Interviewers were trained to be alert to the emotional

and psychological responses of participants and to report potential problems to the principal investigator. Mothers received $35 for the first interview, $40 at Times 2 and 3, and $45 at Times 4 and 5. Those who completed all five interviews were entered into a drawing for an additional $100. This incentive structure resulted in high retention rates. Baseline (Time 1) interviews were conducted with 135 mothers; retention rates ranged from 84 – 90% at Times 2 – 5 (119, 119, 114, and 121 mothers completed follow-up interviews after 3, 6, 9, and 12 months respectively).

Measures

Marital IPV category (Time 1)—To assess physical violence, mothers completed two subscales of the Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996) – the physical assault scale (11 items; e.g., hit, choked, slammed against wall) and a modified version of the sexual coercion subscale (2 items involving direct force; e.g., used force to have sex; Goodman, Dutton, Weinfurt, and Cook, 2003). Mothers indicated whether each of the 13 acts occurred in marriage (and if so, how often). A dichotomous indicator of *presence vs. absence* of marital IPV was created reflecting whether mothers had experienced at least one act of physical violence in marriage. The Dominance-Isolation Subscale of the Psychological Maltreatment of Women Inventory – Short Form (PMWI; Tolman, 1992) was used to assess coercive control in marriage. Respondents rated how often they experienced 7 acts (e.g., "he monitored my time and made me account for my whereabouts," "he interfered in my relationships with other family members") during the year before separation, using a scale from 1 (*never*) to 5 (*always*). Responses were summed, with higher scores indicating higher frequency of coercive controlling behaviors ($\alpha = 0.85$). Following established guidelines (Hardesty et al., 2015) that are in accordance with Johnson's (2008) conceptualization of IPV types, mothers were categorized into three mutually exclusive IPV groups.[1] Coercive controlling violence was indicated if mothers reported at least one act of violence and had a PMWI score of 19 or higher (CCV; $n = 35$), indicating violence in the context of high coercive control (PMWI cutoff established by Hardesty et al., 2015). Situational couple violence was indicated if mothers reported at least one act of violence and had a PMWI score of 18 or less (SCV; $n = 44$), indicating violence in the context of low coercive control. The rest were classified as no violence (NV; $n = 56$). An additional marital IPV indicator was computed from the CTS2 to index *frequency of severe violence* (sum of 9 acts with greater potential to cause injury, e.g., "he beat me up," "he used a knife or gun on me"; maximum score 90) and used as a control.

Coparenting conflict (Times 1–5)—Using the Quality of Coparental Communication scale (Ahrons, 1981), mothers rated frequency of conflict during coparenting interactions (4 items; e.g., "How often is the conversation stressful or tense?") on a scale from 1 (*never*) to 5 (*always*). At Time 1, mothers reported on coparenting conflict since separation; at subsequent time points they reported on interactions since the previous interview

[1]Our approach to measuring and categorizing IPV types is consistent with prior theoretical and empirical work. Specifically, Johnson (2008) distinguishes between IPV types based on the context (high or low coercive control) within which violent act(s) occur rather than any characteristics of the violence itself (e.g., frequency). Further, Hardesty et al. (2015) showed the greater utility of measuring coercive control based on frequency, rather than number, of control tactics and suggested a cutoff of 19 to distinguish high versus low coercive control.

(approximately 3 months). At each time point, responses were averaged; higher scores indicate higher levels of conflict. Across the five measurement points, alphas ranged from .80 to .86.

Coparenting support (Times 1–5)—Frequency of *coparenting support* also was assessed using the Quality of Coparental Communication scale (Ahrons, 1981). Mothers rated 6 items (e.g., "How often would you say your former partner is a resource to you in raising the children?") on a scale from 1 (*never*) to 5 (*always*). At Time 1, mothers reported on coparenting support since separation; at subsequent time points they reported on interactions since the previous interview. Responses were averaged; higher scores indicate higher levels of support. Across the five measurement points, scale alphas ranged from .74 to .82.

Communication about childrearing (Times 1–5)—The Content of Coparental Interaction scale (Ahrons, 1981) was used to assess *communication about childrearing* between former partners. The parental subscale explores communication related to childrearing obligations and responsibilities (10 items; e.g., discussing child-related finances). Mothers reported the frequency (1 = *never* to 5 = *always*) with which they communicated about childrearing with former partners. At Time 1, mothers reported on communication since separation; at later time points they reported on interactions since the previous interview. Overall scores were computed by averaging; higher scores indicate higher levels of communication (α = .89 – .93).

Harassment (Times 1–5)—The Harassment in Abusive Relationships: A Self-Report Scale (HARASS; Sheridan, 2001) was used to assess behaviors such as stalking, threatening, and controlling commodities (e.g., children, property). Unlike the PMWI, which was used to measure coercive control within marriage, the HARASS assessed behaviors occurring postseparation, as a potential indicator of ongoing control dynamics. Mothers indicated how often their former partner engaged in 23 behaviors (e.g., "leaves threatening messages," "keeps showing up wherever I am") on a scale of 1 (*never*) to 5 (*very frequently*). Responses were summed (maximum possible score = 115); higher scores indicate more frequent harassment. At Time 1, mothers reported on harassment since separation; at subsequent time points they reported on interactions since the previous interview. Alphas ranged from .71 to .81.

Demographic variables (Time 1)—Mothers reported their age (in years), number of children with their former partner, children's ages, length of marriage (in years), time since separation (in months), and whether their divorce had been finalized (0 = *not finalized*; 1 = *finalized*). Mothers also reported their race (coded for analysis as 0 = *White*; 1 = *not White*), employment status (coded as 0 = *employed full time*; 1 = *not employed full time*), and level of education (1 = *less than high school*; 9 = *doctoral degree*). Each of the continuous demographic control variables was mean centered prior to analysis.

Plan of Analysis

Preliminary Analyses

Three sets of preliminary analyses were conducted to evaluate potential problems in the data and identify possible control variables. Attrition analyses indicated that most participants completed four (n = 22; 16.3%) or five (n = 100; 74.1%) interviews. The bulk of attrition occurred between Times 1 and 2. Comparisons of participants who dropped out after Time 1 (n = 7) or remained in the study (n = 128) revealed no differences by type of IPV. One demographic difference was found: those who dropped out had less education (M = 4.41, SD = 1.22) than the rest of the sample (M = 5.27, SD = 1.91), t (133) = 2.49, p < .05. Mothers who dropped out reported lower levels of coparenting conflict (M = 1.71, SD = 0.49 vs. M = 2.65, SD = 1.08), t (132) = 4.51, p < .001, and less harassment (M = 22.43, SD = 0.98 vs. M = 26.18, SD = 6.27) than mothers who remained in the study (t [133] = 5.64, p < .001). Missing data analysis indicated that about 11% of the data were missing. Comparisons of participants with and without missing data indicated that those with missing data had been married fewer years (M = 7.61, SD = 5.16 vs. M = 11.10, SD = 6.09), t (131) = 3.45, p < .01, and had lower levels of education (M = 4.30, SD = 1.72 vs. M = 5.40, SD = 1.89), t (133) = 3.37, p < .01. Finally, several demographic variables were significantly correlated with or have been shown to be correlated with coparenting relationship outcomes (Bonach, 2005; Maccoby et al., 1990) or marital IPV group; thus, length of marriage, education, whether the divorce was finalized, and age were controlled throughout analyses. Frequency of severe violence was also included as a control variable to ensure that differences between IPV groups were due to the coercive control context rather than differences in violence (Hardesty et al., 2015). Race, employment status, number of children, children's ages, and time since separation were not associated with any of the variables of interest, including IPV type, and thus were not included as covariates. For all analyses, missing data were handled using the restricted maximum likelihood algorithm, which provides unbiased estimates of complete data given the incomplete data (Bryk & Raudenbush, 1992).

Primary Analyses

Growth curve analysis was conducted with the hierarchical linear modeling software (HLM; Raudenbush, Bryk, Cheong, Fai, Congdon, & du Toit, 2011). HLM accounts for the nested structure of the data by handling the correlated error that is inherent in multiple waves of data (Level 1) collected from the same individuals (Level 2).

The first step of the analysis involved a test of unconditional models for each of the four outcomes (i.e., coparental conflict, coparental support, communication about childrearing, and harassment) in order to determine the suitability of multilevel modeling. In the second step, Hypothesis 1 was addressed by performing four unconditional growth models, one for each outcome. To determine the appropriate growth function for each outcome we used a model building approach. We tested a linear model followed by a quadratic model and compared model fit across the two models. A linear function was optimal for models of coparental conflict [χ^2 (3) = 2.22, n.s.] and support [χ^2 (3) = 4.44, n.s.] whereas a quadratic model provided a better fit to the models of communication about childrearing [χ^2 (3) = 12.02, p < .01] and harassment [χ^2 (3) = 22.47, p < .001]. Thus, in each model Time (0 =

Time 1) was entered as a Level 1 predictor, and in models of communication about childrearing and harassment Time^2 was also included. To address Hypothesis 2, conditional growth models were tested that included two dummy coded variables for type of marital violence as Level 2 predictors. To test for differences between all groups each model was computed three times, each with a different group (i.e., NV, CCV, or SCV) serving as the reference category. All models controlled for mother's age, length of marriage, mother's education, and Time 1 severity of violence (each of which was grand mean centered) as well as the dichotomous indicator of whether the divorce was finalized.

The final step addressed Hypothesis 3, which involved an examination of the association between marital IPV type and variability in coparenting outcomes. To measure variability in coparenting outcomes, the transformed residual scores were extracted from the unconditional growth models from Step 2. The natural logarithm of each individual's residual standard deviation from the final fixed effects model was regressed on two dummy coded variables that indicated whether the mother's marriage was classified as NV, SCV, or CCV. Each model was again run three times with different reference categories, and controlled for the same set of covariates as in the previous models. Higher residual scores indicate more variability in coparenting outcomes whereas lower scores indicate more constant or stable patterns over time.

Results

Means and standard deviations for the study variables are displayed in Table 1. Bivariate correlations (see Table 2) indicated low to moderate correlations among study variables with the exception of communication and support, which were highly correlated but tap into different dimensions of coparenting as evidenced by their different patterns of change by IPV group. The intraclass correlations (Table 2) indicated that the majority of variance in coparenting conflict, support, and communication about childrearing occurred at the between-persons level, whereas the majority of variance in harassment occurred at the within-persons level.

Change in Coparenting Over Time

Results of the unconditional growth models are shown in Table 3. Although the central purpose of the unconditional models was to extract residual variability estimates, several notable fixed effects emerged. On average, coparental conflict, communication about childrearing, and harassment decreased significantly over time but coparental support did not change. Communication about childrearing and harassment also showed a significant quadratic effect, indicating a deceleration in change over the course of the study. Table 4 shows the results of the models testing change in coparenting outcomes with NV as the reference group; Table S1 and S2 show results with CCV and SCV as the reference groups respectively (see supplemental online materials). Information about significant control variables is available from the first author.

Coparenting conflict—The model testing coparental conflict showed that mothers in the CCV group reported higher levels of conflict than mothers in the NV group at Time 1 (t [131] = 5.14, $p < .001$). Mothers who reported SCV did not differ from mothers with NV at

Time 1 (t [131] = 1.29, *n.s.*). Mothers in the SCV group also reported significantly lower conflict than the CCV group at Time 1 (t [131] = −3.71, p < .01). Overall, coparental conflict decreased significantly over time regardless of IPV category; however, this decrease was larger for mothers in the CCV group compared to those in the SCV or NV groups (see Figure 1a).

Coparental support—Mothers in the CCV group reported lower levels of support than mothers with NV at Time 1 (t [131] = −4.06, p < .001). Mothers with SCV did not differ from mothers with NV at Time 1 (t [131] = −0.16, *n.s.*) but reported significantly more coparental support than those who reported CCV at Time 1 (t [131] = 3.58, p < .01). Overall coparental support did not change significantly over time (i.e., Table 3); however, mothers in the NV group showed a decrease in support whereas mothers who reported CCV showed an increase (see Figure 1b). Women in the SCV group did not show significant change in support across the study.

Communication about childrearing—Level of communication about childrearing was lower for mothers with CCV than with NV at Time 1 (t [131] = −2.42, p < .05). Mothers in the SCV group did not differ significantly from mothers with NV at Time 1 (t [131] = −0.04, *n.s.*), but reported significantly higher levels of communication about childrearing than those with CCV at Time 1 (t [131] = 2.12, p < .01). Across the study, there was a significant decrease in communication about childrearing that was consistent for mothers in all three groups and decelerated over time (see Figure 1c).

Harassment—Mothers with CCV reported higher levels of harassment at Time 1 (t [131] = 5.26, p < .001) than mothers with NV. Mothers with SCV reported higher levels of harassment than mothers with NV at Time 1 (t [131] = 2.68, p < .01) and had significantly lower harassment than those with CCV at Time 1 (t [131] = −3.04, p < .01). All three groups showed a significant decrease in harassment across the study that decelerated over time (see Figure 1d). Mothers with CCV, however, showed a significantly steeper drop in harassment over time than those with NV.

Variability in Coparenting Over Time

The results of the final models examining associations between IPV type and variability in coparenting over time are shown in Table 5 and supplemental Tables S3 and S4. Mothers in the CCV group experienced significantly more variability in coparental conflict than mothers who reported NV or SCV; mothers who reported SCV and NV did not differ from each other. There were no significant differences between violence groups in the model examining variability in coparental support. Across all groups, mothers showed significant variability in communication about childrearing over time, but there were no significant differences between the three groups. In the model for harassment, mothers who reported NV showed significant variability over time; however, mothers in both the CCV and SCV groups showed higher levels of variability in harassment than mothers with NV. Mothers who reported CCV also showed significantly higher levels of variability in harassment than mothers who reported SCV.

Discussion

Informed by family systems and feminist perspectives, this study examined change and variability in coparenting relationships after separation and considered the influence of different types of IPV in marriage on coparenting trajectories. Findings from longitudinal analyses involving the overall sample complement prior research on postseparation coparenting in general samples and provide further evidence of the dynamic nature of these relationships. As hypothesized, levels of conflict and harassment decreased across the year-long study for all divorcing mothers (regardless of marital IPV), which is consistent with the notion that negative emotions subside over time (Hetherington, 1999). The frequency of communication about childrearing also declined over time, which may reflect the development of formal agreements and informal arrangements regarding child-related issues – or increasing disengagement. Counter to Hypothesis 1, levels of coparental support (a measure that reflects coparenting quality) did not change in the overall sample across the one-year study period, which may indicate some degree of consistency in the underlying coparenting relationship.

These overall averages largely replicate past studies of coparenting; however, averages mask important differences among mothers based on IPV experiences. Generally, patterns found for the NV group reflect the normative pattern in the divorce literature (e.g., Maccoby et al., 1990) and are consistent with family systems perspectives on family adaptation to transitions such as divorce. Consistent with Hypothesis 2, however, coparenting patterns differed by type of IPV. In marked contrast to the overall finding of no change in coparental support over time, levels of support decreased in one group (NV) yet increased in another (CCV). Moreover, mothers with SCV and NV differed only in initial levels of harassment. In contrast, mothers with CCV differed considerably from the other two groups both in initial levels of coparenting outcomes and in patterns of change over time in three of the coparenting dimensions.

For mothers separating from marriages with CCV, the initial period after filing for divorce is rife with negative coparental dynamics. Compared to mothers with SCV and NV, they experienced the most conflict and harassment and least support and communication about childrearing at initial separation. The first few months after separation are known to be a time of heightened safety risks to mothers (Wilson & Daly, 1993). Consistent with feminist perspectives, elevated conflict and harassment may reflect abusers' efforts to reassert control (Toews & Bermea, 2015). The stress of divorce for all parents is well documented but this transition is particularly difficult for mothers when coupled with heightened intrusion, fear, and negative emotions (Logan & Walker, 2004). These risks are important because they coincide with negotiating custody and visitation and where, in contested cases, their parental fitness is under scrutiny in family court settings (Hardesty, Hans, Haselschwerdt, Khaw, & Crossman, 2015).

Consistent with general trends, conflict and harassment declined over the first year for these mothers, with harassment showing a steep decline that decelerated after the initial separation period. Despite declines, mothers who experienced CCV in marriage continued to experience elevated conflict and harassment across the year compared to mothers with NV

and SCV. Furthermore, both conflict and harassment showed significantly more variability over time among mothers with CCV compared to other mothers in the sample. This variability suggests that mothers who leave relationships with CCV encounter a degree of volatility as they negotiate new boundaries and roles as coparents. Prolonged conflict and harassment could create a hostile or dangerous situation through the separation process. This pattern is consistent with the chronic nature of CCV prior to separation (Johnson, 2008). Establishing a new equilibrium is likely quite difficult and potentially unsafe in this context of unpredictability. Mothers report declines in communication about childrearing that slow over time, although coparental support increased. For CCV, this may mean mothers are developing stricter boundaries that limit communication with former partners (Zeoli, Rivera, Sullivan, & Kubiak, 2013). Another possibility is that, in the context of custody and visitation decisions, abusers are demonstrating more supportive behaviors as their parental fitness is also being evaluated (Dalton, Carbon, & Olesen, 2003).

Mothers who experienced SCV in marriage were similar to those who experienced NV on initial levels and change in coparenting conflict, coparental support and communication about childrearing. The two groups differed, however, on postseparation harassment. For mothers whose marriages were characterized by SCV, the process of negotiating coparenting relationships after separation occurs in a context of heightened harassment. Harassment also showed significantly more variability over time among mothers in the SCV group than in the NV group. Thus, the implications of SCV for mothers' and children's postseparation adjustment should not be dismissed (Nielsen, Hardesty, & Raffaelli, 2016). Coparenting for mothers who experience SCV may not be characterized by the same degree of negativity as with CCV, but the exposure to heightened harassment during the stressful transition of divorce has the potential to negatively impact the health and adjustment of these mothers and their children (Amato, 2010; Fabricius & Luecken, 2007). At the same time, the reasonable levels of communication about childrearing and coparental support among these divorcing parents may indicate their ability to separate their roles as parents and former partners (Hardesty et al., 2008); thus, they may have more potential for working through the challenges of coparenting.

Limitations and Implications

The current study had several limitations. First, results cannot be generalized to the larger U.S. population. Although we obtained a nonclinical sample of divorcing mothers with diverse IPV experiences, participants were from a single Midwest county. Moreover, increasing numbers of births are to unmarried women (McHale, Waller, & Pearson, 2012) who are not represented in the sample. Second, data were collected only from mothers. Thus, findings do not reflect fathers' perspectives. Relying on data from a single reporter also raises concerns about shared method variance; however, the longitudinal design, validated measures, and in-person data collection bolster confidence in the validity of findings. Finally, our measure of communication about childrearing tapped into quantity rather than quality. Quantity may be influenced by other important variables, such as mothers' felt sense of obligation to coparent, and not necessarily reflect the quality or style of communication. Nonetheless, assessing communication together with the dimensions of conflict, support, and harassment provides useful information about both quality and

quantity and addresses limitations of assessing coparenting as a unidimensional construct (Lemela et al., 2015). Also, because the women in our study were in the process of divorce, the majority did not have formal custody agreements and we were not able to include custody type as a variable. Thus, assessing the amount of communication provides useful information about the extent of coparental contact or involvement.

Despite noted limitations, we believe the strengths of our study, including the longitudinal design, offset the limitations and that findings offer clear and important implications for support and intervention programs as well as future research. Family court and social service professionals must be sufficiently trained in IPV dynamics and types and their associations with unique postseparation patterns (Kelly & Johnson, 2008). Mothers with NV and most with SCV do not encounter the same degree of harassment, conflict, and variability as mothers with CCV across the first year after separation. Exploring how abusers continue to harass and control former partners is key to implementing effective safeguards and interventions. Another important aspect to consider for postseparation adjustment is the type and amount of support mothers and children receive. Recovery from divorce-related stress is often attributed to higher levels of resources (e.g., income, education, social support; Amato, 2000). Exploring the impact of formal and informal supports received for both divorce and IPV may provide additional insight into the varying nature of coparenting relationships and postseparation adjustment.

Finally, research that directly tests associations between marital IPV, postseparation coparenting dynamics, and child outcomes over time is needed. Whether coparenting relationships can be effective and beneficial may depend on both the type of marital IPV and how patterns of control persist after separation. According to Beckmeyer, Coleman, and Ganong (2014), direct effects of coparenting relationships on child outcomes may not be as robust as thought but instead may be mediated by effects on parenting. IPV studies have demonstrated that violence and control impact children through their impact on mothering; thus, testing how this plays out postseparation (e.g., redirecting parenting energies toward managing ongoing control; Wuest et al., 2003) is an important direction for future longitudinal studies.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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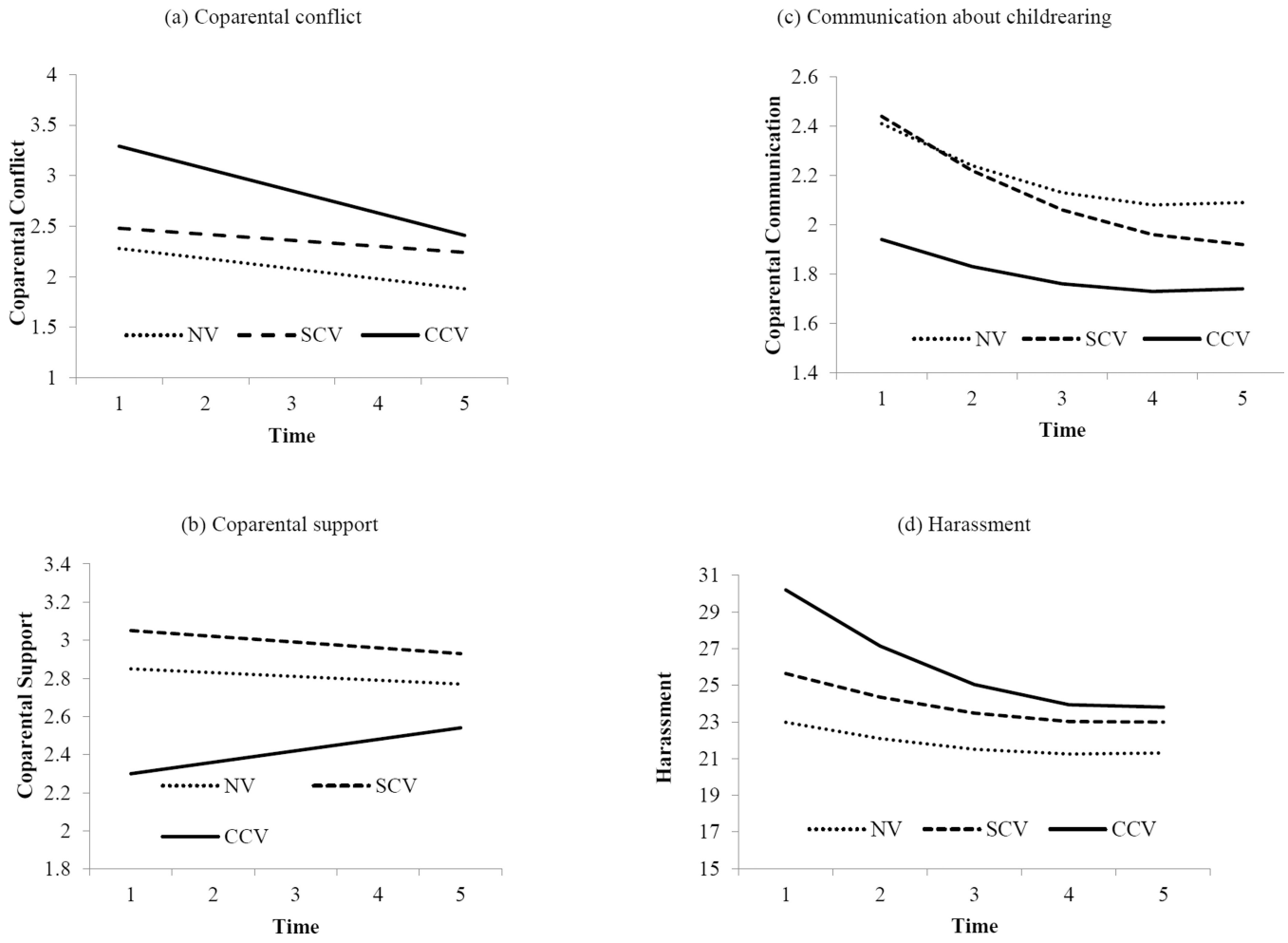

Figure 1.

a-d. Longitudinal associations between violence groups and coparenting relationship characteristics (i.e., conflict, support, communication, harassment).

Table 1

Means and Standard Deviations for all Study Variables

	Time 1		Time 2		Time 3		Time 4		Time 5	
Variables	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
Frequency of severe violence	6.50	7.41								
Coparenting conflict	2.60	1.08	2.38	0.98	2.35	1.03	2.21	1.01	2.07	0.93
Coparenting support	2.83	0.90	2.79	0.93	2.75	0.95	2.80	1.05	2.89	1.04
Communication about childrearing	2.43	1.00	2.20	0.87	2.13	0.86	2.05	0.83	2.07	0.92
Harassment	25.99	6.16	24.18	4.83	23.45	4.20	22.90	3.30	22.71	3.70

Note. *M* = Mean. *SD* = Standard Deviation.

Table 2

Bivariate Correlations Among Study Variables at Time 1

	ICC	1	2	3	4
1. Severity of violence	-	-			
2. Coparenting conflict	.57	.29	-		
3. Coparenting support	.70	−.09	−.35***	-	
4. Communication about childrearing	.68	.03	−.39***	.65***	-
5. Harassment	.38	−.05	.30***	−.21*	−.06

Note. ICC = Intraclass correlation.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3

Unconditional Growth Models for Coparenting Relationship Characteristics

Model Variables	Coparental conflict		Coparental support		Communication about childrearing		Harassment	
	Coefficient (SE)	*r*	Coefficient (SE)	*r*	Coefficient (SE)	*r*	Coefficient (SE)	*r*
Fixed effects								
Intercept	2.58 *** (0.09)	0.93	2.80 *** (0.07)	0.96	2.41 *** (0.08)	0.93	25.91 *** (0.51)	0.98
Time slope	−0.13 * (0.06)	0.19	0.01 (0.01)	0.09	−0.20 *** (0.05)	0.33	−1.87 *** (0.38)	0.39
Quadratic time slope	-	-	-	-	0.03 ** (0.01)	0.25	0.27 ** (0.09)	0.25
Random Effects								
Intercept variance	0.72 *** (0.85)		0.56 *** (0.75)		0.79 *** (0.89)		27.21 *** (5.22)	
Time slope variance	0.14 * (0.38)		0.01 ** (0.10)		0.12 ** (0.35)		7.12 *** (2.67)	
Quadratic slope variance	-	-	-	-	0.00 (0.04)		0.32 *** (0.57)	
Residual variance	0.36 (0.60)		0.26 (0.51)		0.17 (0.42)		8.99 (3.00)	
Model Fit								
−2 log likelihood	1408.34		1264.22		1167.96		3324.85	

Note. Regression coefficients are unstandardized. SE = Standard Error. Effect size *r* was calculated with the formula $\sqrt{(t^2/(t^2+df))}$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 4

Multilevel Models for Longitudinal Effects of IPV Group on Coparenting Relationship Characteristics with No Violence as the Reference Group

	Coparental conflict		Coparental support		Communication about childrearing		Harassment	
Model Variables	**Coefficient (SE)**	***r***	**Coefficient (SE)**	***r***	**Coefficient (SE)**	***r***	**Coefficient (SE)**	***r***
Fixed effects								
Intercept	2.28***(0.10)	0.89	2.85***(0.12)	0.90	2.41***(0.12)	0.87	22.98***(0.50)	0.97
SCV	0.20 (0.16)	0.11	−0.02 (0.03)	0.06	0.03 (0.17)	0.02	2.65**(0.92)	0.24
CCV	1.01***(0.21)	0.39	−0.55***(0.16)	0.29	−0.47*(0.20)	0.20	7.22***(1.34)	0.42
Time slope	−0.10**(0.02)	0.40	−0.02*(0.01)	0.17	−0.20**(0.07)	0.24	−1.06**(0.35)	0.25
SCV	0.04 (0.04)	0.09	−0.01 (0.03)	0.03	−0.05 (0.12)	0.04	−0.44 (0.65)	0.06
CCV	−0.12*(0.05)	0.20	0.08*(0.04)	0.17	0.07 (0.12)	0.05	−2.50*(1.15)	0.19
Quadratic time slope	-	-	-	-	0.03*(0.01)	0.25	0.16*(0.07)	0.20
SCV	-	-	-	-	0.00 (0.02)	0.00	0.05 (0.14)	0.03
CCV	-	-	-	-	−0.01 (0.03)	0.03	0.33 (0.29)	0.10
Random Effects								
Intercept variance	0.50***(0.71)		0.47***(0.69)		0.68***(0.82)		19.48***(4.41)	
Time slope variance	0.01*(0.12)		0.01 (0.10)		0.12***(0.35)		6.39***(2.53)	
Quadratic slope variance	-		-		0.00 (0.04)		0.33***(0.57)	
Residual variance	0.38 (0.62)		0.26 (0.51)		0.17 (0.41)		8.94 (2.99)	
Model Fit								
−2 log likelihood	1402.92		1280.40		1200.80		3292.34	

Note. Regression coefficients are unstandardized. SE = Standard Error. Effect size *r* was calculated with the formula $\sqrt{(t^2/(t^2+df))}$. SCV = Situational Couple Violence. CCV = Coercive Controlling Violence. Models control for severity of violence, age, marital length, education, and whether divorce was finalized.

$^{*}p < .05$.

$^{**}p < .01$.

$^{***}p < .001$.

Table 5

Regression Models for Effects of IPV Group on Variability in Coparenting Relationship Characteristics with No Violence as the Reference Group

	Coparental conflict		Coparental support		Communication about childrearing		Harassment	
Model Variables	**Coefficient (SE)**	***r***	**Coefficient (SE)**	***r***	**Coefficient (SE)**	***r***	**Coefficient (SE)**	***r***
Intercept	0.17 (0.11)	0.13	−0.11 (0.13)	0.07	0.38*** (0.09)	0.34	0.85*** (0.21)	0.33
SCV	0.07 (0.04)	0.15	−0.05 (0.05)	0.09	−0.02 (0.03)	0.06	0.23** (0.08)	0.24
CCV	0.19*** (0.04)	0.38	−0.04 (0.05)	0.07	−0.05 (0.04)	0.11	0.41*** (0.08)	0.41
R^2	17		11		11		18	
F	3.91**		1.99		2.35*		4.67***	

Note. All coefficients are unstandardized. SE = Standard Error. Effect size *r* was calculated with the formula $\sqrt{(t^2/(t^2+df))}$.

Models control for severity of violence, age, marital length, education, and whether divorce was finalized.

SCV = Situational Couple Violence. CCV = Coercive Controlling Violence.

* $p < .05$.

** $p < .01$.

*** $p < .001$.