



## Does interparental conflict decrease following changes in observed parenting from a preventive intervention program?

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### ABSTRACT

Interparental conflict, which is common among families where a parent has a history of Major Depressive Disorder, is associated with deficits in parenting. Models of family functioning propose that interparental conflict and parenting behaviors are transactional in nature. Given the interdependent nature of family systems, increases in positive parenting practices may lead to subsequent decreases in interparental conflict. The current study was a secondary analysis of data from a preventive intervention to improve parenting, child coping skills, and child behavior in families with a history of parental depression. We hypothesized that increases in positive parenting strategies would be associated with decreases in interparental conflict 12 months later. Results supported the study hypothesis. Findings underscored the interdependent nature of parent-child and parent-parent subsystems.

### 1. Introduction

Family-based cognitive-behavioral therapy is an effective prevention and treatment approach for child and adolescent externalizing (e.g., aggression and noncompliance) and internalizing problems (e.g., depression and anxiety; see Weisz et al., 2017). For children who are nine years and older, these interventions often include both a parenting component (e.g., parents are taught to use positive reinforcement for appropriate behaviors and disciplinary skills for inappropriate behaviors) and a child component (e.g., children are instructed in social skills and coping skills) (Compas et al., 2015; Kazdin, 2010; Lochman, Boxmeyer, Powell, Barry, & Pardini, 2010). Although these interventions are effective in changing parenting and child behavior, the changes into other areas of family functioning, such as interparental conflict, have received far less attention. The current paper aims to examine the effects of changes in parenting practices due to an intervention on changes in interparental conflict.

Cox and Paley (1997) proposed that families can be conceptualized from a dynamic systems perspective. Specifically, the family system is constituted by *interdependent* subsystems that exert “a continuous and reciprocal influence on one another” (p. 246). Of particular relevance, the parent-child and the parent-parent subsystem can influence each other. One hypothesis for how this process occurs is the spillover hypothesis (Erel & Burman, 1995).

This hypothesis proposes that affecting interactions within one subsystem (e.g., the parent-child dyad) spills over into a second subsystem (e.g., the parent-parent dyad). Thus, stress and conflict between the parent and child may lead to stress and conflict between parents. Building on this hypothesis, altering parenting through an intervention may influence the relationship between adults who co-parent a child. In the non-intervention literature, there is substantial evidence that parenting and interparental conflict are related (e.g., Kaczynski, Lindahl, Malik, & Laurenceau, 2006; for a review, see; Krishnakumar & Buehler, 2000). Most theoretical perspectives (e.g., family systems theory, social learning, and role strain theory) are based on the assumption that interparental conflict leads to disruptions in parenting (Krishnakumar & Buehler, 2000). However, the direction of effect is not clear as the majority of studies have been cross-sectional, leading Krishnakumar and Buehler (2000) to call for longitudinal research.

Although interparental conflict can disrupt parenting (Kaczynski et al., 2006; Krishnakumar & Buehler, 2000), it also is possible that increases in positive parenting practices can lead to decreases in interparental conflict (Brody & Forehand, 1985; Zemp, Milek, Davies, & Bodenmann, 2016). For example, learning, using, and modeling positive interaction behaviors may generalize from the parent-child to the parent-parent dyad. The intervention literature offers the opportunity to examine if improvements in parenting can lead to decreases in interparental conflict.

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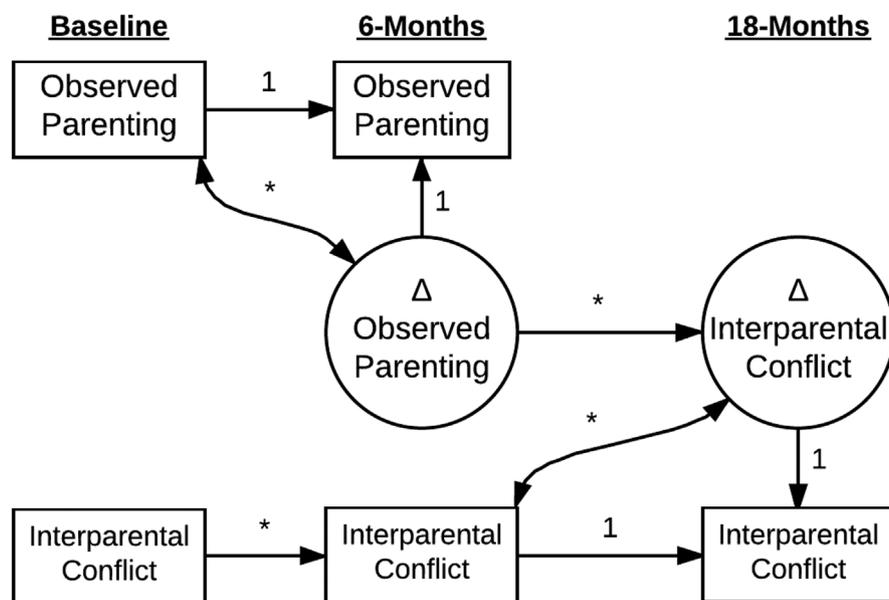


Fig. 1. Primary latent change score model examined.

Note: \* = freely estimated paths; latent change score variables were regressed on dichotomized marital status (0 = single and 1 = married or cohabiting).

To date, to the best of our knowledge, only five studies have examined changes in the interparental relationship after an intervention that included a parenting component (Brody & Forehand, 1985; Henggeler et al., 1986; Pisterman et al., 1992; Sanders, Markie-Dadds, Tully, & Bor, 2000; Zemp et al., 2016).<sup>1</sup> Notably, four of these studies used clinical samples (i.e., parents of noncompliant children; Brody & Forehand, 1985; parents of juvenile offenders; Henggeler et al., 1986; parents of children with early onset conduct problems; Sanders et al., 2000; parents of children with ADHD, Pisterman et al., 1992), whereas one of the studies used a community sample (e.g., Zemp et al., 2016). Only four of these studies included an assessment of parenting (Brody & Forehand, 1985; Henggeler et al., 1986; Sanders et al., 2000; Zemp et al., 2016) and, of these four studies, only two (Sanders et al., 2000; Zemp et al., 2016) included longitudinal data. Brody and Forehand (1985) found that, when parenting improved, there was more of an increase in marital satisfaction for a group endorsing high levels of marital distress than for a group endorsing low levels of distress at post-intervention. Zemp et al. (2016) found partial support for changes in self-report parenting leading to longitudinal changes in self-report interparental relationship quality. Among fathers, but not mothers, improvements in self-reported parenting predicted improvements in relationship quality. No other support has been found for a change in the parent-parent subsystem following change in parenting within the parent-child dyad through an intervention. However, with the exception of Henggeler et al. (1986), none of the studies specifically assessed interparental conflict; instead, a more general measure of relationship satisfaction was utilized. The former has been found to be a more potent predictor of child outcomes than the latter (e.g., David, Steele, Forehand, & Armistead, 1996; Davies & Cummings, 1994). Utilizing conflict, particularly that occurring in front of the child, would provide a more relevant and, perhaps, sensitive measure of the adult subsystem.

The selection of a sample for studying associations between parenting and interparental conflict is important, as baseline levels of negative parenting and conflict may be low in non-clinical samples or among parents without a history of psychiatric diagnosis. An intervention study with a clinical sample or a preventive study where there

is a history of psychiatric diagnosis becomes critical in evaluating such a question. One such sample that fits the latter category includes families where a parent has a history of depression, a highly prevalent diagnosis among parents (England & Sim, 2009). Research has long indicated that conflict between parents is higher in such samples than in non-depressed samples (see Downey & Coyne, 1990; Hammen & Brennan, 2002), suggesting that a history of parental depression may provide adequate baseline levels of interparental conflict for study.

The current study involves secondary analyses of a preventive intervention to improve parenting and child coping skills with the goal of preventing youth psychopathology when a parent has a history of depression (Compas et al., 2015). Families were randomly assigned to either a family group cognitive-behavioral (FGCB) intervention or a written information (WI) condition (i.e., families were given reading materials). The current analyses examined if rate of within-family change in observed positive parenting throughout the course of the intervention (baseline to a 6-month assessment after all booster sessions were completed) was associated with the distal rate of within-family change in interparental conflict one year later. We hypothesized that for the intervention group, but not the WI group, increases in observed positive parenting behaviors following the intervention would be associated with subsequent decreases in interparental conflict. Fundamental to our hypothesis was examining whether within-family changes in parenting produces subsequent within-family changes in interparental conflict and that this positive spillover change process would occur in only the FGCB intervention group. As such, we tested a multiple-group latent change score model in order to directly model between-family differences in within-family changes separately by experimental group (see Fig. 1).

## 2. Method

### 2.1. Participants

One hundred and eighty families, all of whom had at least one caregiver with a history of MDD and one child in the target age range of 9–15 ( $n = 242$ ; 49.4% females;  $M_{\text{age}} = 11.46$ ;  $SD = 2.00$ ), were recruited from the larger Burlington, Vermont, and Nashville, Tennessee areas. For families with more than one eligible child who participated in the study, the present analyses utilized one randomly selected child per family. The majority of the target parents (i.e., those identified as having a history of MDD) were female (88.9%), married or living with

<sup>1</sup> Zemp et al. (2016) did not directly address the question of association of changes in parenting with interparental conflict but rather included parenting as a control variable. Nevertheless, it is possible to examine the parenting-interparental relationship association in this study.

someone as if they were married (61.7% with an additional 38.3% single [i.e., 1.1% widowed; 21.7% divorced; 5% separated; 10.5% never married]), and were educated at or above the high school level with some college or technical school (30.6%; 5.6% with less than high school; 8.9% with high school; 31.7% with 4-year college degree; 23.3% with graduate education) at baseline. Participant ethnic composition was primarily Caucasian, with 25.6% of youth and 18% of parents identifying as racial/ethnic minorities (12.8% and 12% Black or African-American, 3.3% and 1% Asian, 1.7% and 2% Latino or Hispanic, 0.6% and 1% American Indian or Alaska Native, and 7.2% and 2% mixed race, for youth and parent ethnicity, respectively; see [Compas et al., 2015](#)). The ethnic makeup of participants was, according to [US Census data \(2000\)](#), representative of the regions from which they were drawn.

## 2.2. Procedure

Families were recruited via flyers, newspaper and radio advertisements, and referrals from physicians. Interested parents were initially screened over the telephone, followed by an in-person visit to determine eligibility. Inclusion criteria for parents consisted of a history of MDD during the lifetime of the target child(ren). Parental exclusion criteria based on the Structured Clinical Interview for DSM-IV ([First, Spitzer, Gibbon, & Williams, 1997](#)) consisted of a history of Bipolar I Disorder, Schizophrenia, or Schizoaffective Disorder (see [Compas et al., 2009](#) for additional detail). There were no criteria pertaining to marital status of parents; accordingly, some parents were married or cohabiting, and some were single.

Youth aged 9–15 years old were eligible based on the Schedule for Affective Disorders and Schizophrenia for School-Age Children–Present and Lifetime Version ([Kaufman et al., 1997](#)) if they were free of lifetime diagnoses of Autism Spectrum Disorders, Mental Retardation, Bipolar I Disorder, and Schizophrenia, and if they did not currently meet criteria for current MDD, Conduct Disorder or Alcohol/Substance Use Disorders (see [Compas et al., 2009](#), for interviewer training and reliability in the current project). When the youth met criteria for current MDD at screening, the family was deferred, provided appropriate referrals, and rescreened at 2-month intervals.

One-hundred and eighty eligible families were randomized to the Family Group Cognitive Behavioral (FGCB) intervention (50% of current sample) or to the WI (50% of current sample) comparison condition. The FGCB condition included eight weekly group meetings and four monthly follow-up group sessions. These sessions included psychoeducation about depression and its effect on the family, positive parenting skills training for the target parents and participating partner, and secondary control coping skills training for the youth (details of the prevention program are described more fully in [Compas et al., 2009, 2011](#), and the flow chart for participants is presented in [Compas et al., 2015](#)). The partner of the parent with a history of MDD could attend the session, but in over 80% of the families this did not occur.

Sessions were co-facilitated by one of three clinical social workers and one of nine doctoral-level clinical graduate students and were supervised by two clinical psychologists. Treatment participation was adequate for those families randomized to the FGCB condition as demonstrated by the following data. For those who attended at least 1 session, the mean number attended or made up after an absence was 10.41 ( $SD = 2.50$ ; range = 1–12) sessions.

Families in the WI condition were mailed three separate youth and parent packets of psychoeducational readings over an 8-week period with information about depression, signs of depression in youth, and effects of parental depression on families (for additional details, see [Compas et al., 2009](#)). Families in both the FGCB and the WI conditions completed questionnaires at the three time-points utilized in the current study (i.e., baseline, 6-month, and 18-month assessments).<sup>2</sup> Ninety-three percent of

families (92% and 93% in FGCB and WI, respectively) remained enrolled at 18 months (i.e., 7% of families withdrew from the study).

## 2.3. Measures

### 2.3.1. Demographic information

Target parents provided demographic information about themselves (e.g., parental age, education) and their families (e.g., household income). Youth also reported demographic information (e.g., sex, age).

### 2.3.2. Observed positive parenting

A global coding system, the Iowa Family Interaction Rating Scales (IFIRS; [Melby et al., 1998](#)), was used to code two videotaped 15-min interactions of the parent with a history of MDD and the child at baseline and 6-month follow-up. First, a discussion of a pleasant activity that the target parent and child enjoyed doing together in the past couple of months was video-recorded (e.g., going on family vacation; a child's birthday party). Second, a discussion of a stressful time when the target parent was depressed, down, or irritable, which made it difficult for the family was recorded (e.g., mother had a bad day at work and was upset and angry; the child often being late to school because mom has trouble getting everyone going in the morning).

The IFIRS measures behavioral and emotional characteristics at both the individual and dyadic level. Behaviors and emotions are coded on a 9-point scale, where a score of '1' indicates the behavior or affect was not present during the interaction and a '9' indicates the behavior or affect was very frequent and intense during the interaction. In determining the score for each code, the frequency and intensity of behavior, as well as the contextual and affective nature of the behavior, are considered. The validity of the IFIRS system has been established using correlational and confirmatory factor analyses ([Alderfer et al., 2008](#); [Melby & Conger, 2001](#)). Training for the IFIRS is described in [Compas et al. \(2010\)](#). All interactions were double-coded by two independent coders, who met to establish consensus on any discrepant codes (i.e., codes that differed by two points or more on the 9-point scales). The current study utilized a composite code to capture positive parenting (see below). Inter-rater reliability prior to consensus coding for the IFIRS composite codes, as indexed by an average ICC, was 0.73 across both tasks.

Following procedures used previously with the IFIRS codes (e.g., [Melby et al., 1998](#)), scores were averaged across the two 15-min interactions for each code, and then a composite code was created for positive parenting (possible range: 6–54) that reflected the positive parenting skills (i.e., balance of warmth and structure) that were taught in the FGCB intervention (see [Compas et al., 2009](#)). The positive parenting composite included the following codes: warmth (i.e., the degree to which the parent expresses liking, appreciation, praise, care, concern, or support for the child); child-centered behaviors (i.e., parent displays an awareness of the child's needs, moods, interests, and capabilities); positive reinforcement (i.e., the extent to which the parent responds positively to the child's appropriate behavior or behavior that meets specific parental standards); quality time (i.e., the extent to which the parent's involvement with the child promotes opportunities for conversation, companionship, and mutual enjoyment); listener responsiveness (i.e., parent behaviors that validate and indicate attentiveness to the child); and child monitoring (i.e., the extent of the parent's specific knowledge and information concerning the child's life and daily activities).

### 2.3.3. Interparental conflict

The O'Leary-Porter Scale (OPS; [Porter & O'Leary, 1980](#)) was used to assess parent reports of interparental conflict via parent report at baseline, 6-month, and 18-month assessments. The OPS consists of 10 items that primarily measure the frequency of verbal hostility between the parent and co-parent occurring in front of the child (e.g., How often do you and/or your spouse display verbal hostility in front of this

<sup>2</sup> Data were collected at additional time points, but the measure of interparental conflict was not included.

child?) using a 5-point Likert format (1 = *never* to 5 = *very often*). Internal consistency was 0.84 at baseline, 0.84 at 6-month follow-up, and 0.83 at 18-month follow-up.

#### 2.3.4. Parental depressive symptoms

To assess current depressive symptoms, parents completed the Beck Depression Inventory (BDI-II; Beck, Steer, & Brown, 1996b). The BDI-II is a 21-item, self-report measure with a 4-point scale ranging from 0 to 3. The BDI-II has demonstrated adequate internal consistency and validity in distinguishing the severity of current MDD (Beck, Steer, Ball, Ranieri, 1996a; Steer, Brown, Beck, & Sanderson, 2001;  $\alpha = 0.94$ ).

#### 2.4. Data analytic plan

Mplus 7.31 software (Muthén & Muthén, 2012) was used to conduct primary analyses. Missing data for core variables was a maximum of 6.7% at baseline, 37.2% at 6-months, and 36.1% at 18-months. The mechanism of missingness was random (missing completely at random, Little's MCAR test  $p > 0.15$ ) and full information maximum likelihood estimation techniques were used for inclusion of all available data and an intent-to-treat analysis. Of note, attriters and continuing participants did not differ on main study variables (all  $ps > 0.15$ ). The following fit statistics were employed to evaluate model fit: Chi-square ( $\chi^2$ :  $p > 0.05$  excellent), Comparative Fit Index (CFI;  $> 0.90$  acceptable,  $> 0.95$  excellent), Root Mean Square Error of Approximation (RMSEA;  $< 0.08$  acceptable,  $< 0.05$  excellent) and the Standardized Root Mean Square Residual (SRMR;  $< 0.08$  acceptable,  $< 0.05$  excellent) (Hu & Bentler, 1999).

To assess whether within-family changes in observed parenting led to within-family changes in interparental conflict, we utilized latent change score (LCS) models (McArdle, 2009). Of relevance to our main research questions, the flexibility of LCS allows for a simultaneous analysis of the predictors of individual differences in the initial level of and subsequent changes in family variables similar to a latent growth curve model (McArdle, 2009). As Bettis, Forehand, Sterba, Preacher, and Compas (2016) have noted, the LCS model used in the current study differs from and is not subject to the methodological limitations associated with models using observed or algebraic difference scores (see Laird & De Los Reyes, 2013). Specifically, LCS models retain the component variables separately and impose a theoretically-guided model relating these components to an outcome (McArdle, 2009).

For the current study, a multiple-group LCS (MG-LCS) model was tested in primary analyses such that key parameters were estimated separately for the FGCB and WI groups (see Fig. 1). First, an MG-LCS model was estimated to characterize unconditional change over time in observed parenting and IPC. Next, a sequential MG-LCS model was estimated with the path from proximal changes in positive parenting (baseline to 6-month assessment) to distal changes in interparental conflict (6-month to 18-month assessment) of primary importance. Specifically, we hypothesized that initial increases in positive parenting would lead to distal decreases in interparental conflict in the FGCB, but not WI, condition. Further, all primary models included target parent marital status as a covariate with baseline and latent change score variables regressed on dichotomized marital status (0 = single and 1 = married or cohabiting). Single parent families were included in the sample if they had contact with the other biological parent as interparental conflict can be high in divorced or separated families and interfere with child adjustment (Emery, Matthews, & Kitzmann, 1994; Kleinsorge & Covitz, 2012). Analyses were conducted with single parents both included and excluded. Furthermore, families where a transition in marital/cohabitation status occurred from baseline to the 12-month follow-up were excluded in sensitivity analyses. Additional sensitivity analyses were also conducted to ensure results were not confounded by the effects of parent gender differences and parent depressive symptom severity.

Lastly, given that the FGCB prevention program was delivered in

groups, we estimated intraclass correlations for all treatment outcomes using the ANOVA method (Kenny & la Voie, 1985; Kenny, Mannetti, Pierro, Livi, & Kashy, 2002), such that treatment group cohort was treated as the independent variable and either observed parenting at 6 months or interparental conflict at 18 months served as the dependent variable in a one-way, between-subjects ANOVA among only FGCB participants. The ICCs for positive parenting,  $ICC = 0.029$ ,  $p > 0.10$ , and interparental conflict,  $ICC = 0.093$ ,  $p > 0.10$ , did not significantly differ from zero, suggesting that participation in a specific treatment group was not associated with significant variation in these outcomes (see Burke & Loeber, 2016). Therefore, following procedures used by Burke and Loeber (2016), the present analyses do not include clustering of individuals at the group level within the FGCB treatment condition.

### 3. Results

First, unconditional MG-LCS models were estimated to characterize within-family change over time. The mean rate of within-family change for observed parenting significantly differed from zero for the FGCB,  $p = 0.001$ , but not WI,  $p = 0.896$ , condition, indicating that families assigned to the FGCB prevention program evidenced improvements in observed parenting (which has already been shown elsewhere, see Compas et al., 2015). For within-family changes in interparental conflict, the mean rate of within-family change from the 6-month to 18-month assessment did not differ from zero for either condition, both  $ps > 0.15$ , with the stability pathway from baseline to 6-month assessment being large and significant for both conditions, both  $ps < 0.01$  and no differences between groups being found in change scores from baseline to the 6-month assessment. However, despite non-significant average change in interparental conflict, the variances of change factors for both conditions significantly differed from zero,  $ps < .01$ , indicating potentially important within-family variability in distal IPC change over time.

The primary hypothesized model demonstrated good fit,  $\chi^2$  (14,  $N = 180$ ) = 15.88,  $p = .321$ , RMSEA = 0.039, 95% CI 0.000 - 0.011, CFI = 0.991, SRMR = 0.066 (see Fig. 1). For the FGCB intervention group, initial within-family increases in observed positive parenting (baseline to 6-month assessment) significantly predicted distal within-family decreases in interparental conflict in the year following the intervention,  $\beta = -0.20$ , 95% CI [-0.37, -0.04],  $p < 0.05$ . The association between initial changes in observed parenting and distal changes in interparental conflict was not significant for the WI condition,  $\beta = -0.11$ , 95% CI [-0.29, 0.06],  $p > 0.15$ . Marital status, as the primary theoretical covariate, was not related to baseline or changes in positive parenting nor baseline, 6-month, or 6-month to 18-month changes in interparental conflict, all  $ps > .05$ .

Next, four sets of sensitivity analyses were conducted. First, primary models were examined excluding single (i.e., widowed, divorced, separated, never married) parents at baseline. Second, models were examined excluding the seven families that had a transition in marital status/cohabitation status from baseline to the 12-month follow-up. The findings did not change from those reported above in either set of analyses.

Two additional sensitivity analyses were then conducted to ensure robustness of results by including parent gender and parent depressive symptom severity in the model. Parent gender was positively related to the rate of within-family change in parenting for the intervention,  $\beta = 0.32$ , 95% CI [0.09, 0.55],  $p < 0.05$ , but not WI group,  $\beta = -0.02$ , 95% CI [-0.23, 0.16],  $p > 0.10$ , such that mothers in the FGCB group evidenced larger increases in observed positive parenting relative to fathers in the intervention group. However, parent gender was unrelated to change in IPC for either group,  $ps > .10$ , and statistical significance and interpretations of the results were equivalent to those in the primary model without parent gender. Finally, regarding parent depressive symptoms, parent's scores on the Beck Depression Inventory (BDI) at baseline and the 6-month assessment were regressed

on initial change in observed positive parenting and distal change in IPC as well as accounting for baseline associations. Parent depressive symptom severity at baseline and at the 6-month follow-up were both unrelated to rate of within-family changes in parenting or IPC for the intervention or WI group. Further, statistical significance and interpretations of the results were equivalent to those in the primary model without parent depressive symptom severity. In sum, the effect of within-family increases in observed positive parenting on distal within-family decreases in interparental conflict were robust to the effects of parent marital status and gender as well as pre- and post-treatment parent depressive symptom severity.

#### 4. Discussion

The purpose of the current study was to investigate whether intervention driven increases in positive parenting skills lead to decreases in interparental conflict in a sample of parents with a history of MDD. Although an intervention for parents with a history of depression and their children was not directly associated with decreases in interparental conflict at the six-month assessment, rate of within-family increases in observed positive parenting during the active treatment phase (baseline to 6-month follow-up) predicted rate of distal within-family decreases in interparental conflict during the year following the intervention. This positive spill-over effect was observed for the intervention, but not WI, group. These findings supported our study hypothesis, indicating that intervention-implemented increases in positive parenting produces subsequent declines in interparental conflict.

The current findings are congruent with a family systems conceptualization in that subsystems within the family are interdependent (Cox & Paley, 1997). Specifically, an intervention that increased positive parenting led to a subsequent decrease in conflict in front of the child. In support of the spillover hypothesis (Cox & Paley, 1997), positive interactional styles of parenting may “spillover” into interactions with a partner, leading to less conflict. Specifically, parenting skills (e.g., praise and positive attention) may generalize to the parent-parent dyad, such that parents are more in tune with and appreciative of their spouse's positive behavior. Additionally, as children's behavior should improve as a consequence of the implementation of better parenting practices, parents may argue less about problematic child behavior. Interestingly, the results were similar in models that included and excluded single parents, suggesting the robustness of the findings.

Although parenting quality and interparental conflict have been linked in the literature, most of this work has been cross-sectional, prohibiting the identification of the direction of effects. Contrary to this study's findings, either no support or only partial support (i.e., only with parents who were maritally distressed) has been found in the adult subsystem in the five studies implementing an intervention focused on parenting. However, these previous null effects may be due to measurement: most studies used a general measurement of relationship satisfaction rather than overt conflict occurring in front of the child. Further, as we have noted, conflict occurring in front of a child, relative to general relationship satisfaction, is an important predictor of child outcomes (David et al., 1996; Davies & Cummings, 1994). However, future studies will need to incorporate measures of both interparental conflict and general relationship satisfaction to determine if measurement is an explanation for the inconsistent findings between the existing studies and the current one.

This study has several limitations. First, most of the participating families were White, and the vast majority of parents (i.e., 98.33%) had a coparent of a different gender. Future research should make efforts to recruit a more demographically heterogeneous sample. Second, whereas there are advantages to using a sample of parents with a history of MDD, findings cannot be generalized to families without such a history. Third, we were unable to control for whether or not the partner of the parent with a history of MDD was in session with the primary parent. As these data were not collected at the individual family level, it

is possible there are differences on study variables among these groups of participants that we are unable to identify. Future research should code for partner participation in intervention sessions. Fourth, as the interparental conflict measure was administered at only selected assessments, the intervals between assessments were not equal. Consistent with McArdle (2009), equal intervals were not viewed as necessary as we did not equate the means of the latent change factors in the current analyses. Fifth, despite the methodologically rigorous use of a longitudinal design, it is possible that unmeasured third variables may explain the association between improvements in positive parenting and reduced interparental conflict. Sixth, the models employed in the current study did not explicitly disaggregate between-family and within-family effects. Such models (e.g., multilevel growth models, see Curran & Bauer, 2011, for a review) are beginning to be applied in clinical research (e.g., Goeke-Morey, Papp, & Cummings, 2013; Knopp et al., 2017), and future research examining within-family changes across family subsystems would benefit from applying this emerging quantitative approach. Lastly, although participation in a specific FGCB group was not associated with significant variation (Burke & Loeber, 2016), families in the intervention were seen in groups, which may have influenced the findings. The relative benefits of delivering the FGCB in a group versus individual format should be explored in future studies. Although a group format offers the opportunity for peer support for both parents and children, targeting skills an individual family specifically lacks is often absent from the group format.

Future research should also include normative (i.e., community) samples in order to compare them to the parenting and interparental conflict of distressed families such as those participating in the current study. Inclusion of such samples will allow more meaningful conclusions to be reached about the clinical significance of the findings. Finally, although inclusion of fathers can be viewed as a strength in our study, the small number of fathers in the current study suggest that parental gender findings should be viewed with caution. Mothers in the intervention, but not WI, group demonstrated a larger increase in positive parenting than fathers, suggesting that gender should not be ignored in future prevention research. However, in contrast to prior research (e.g., Davies, Sturge-Apple, Weitach, & Cummings, 2009; Sturge-Apple, Davies, & Cummings, 2006) indicating that mothers and fathers are differentially sensitive to interparental conflict, differences did not emerge in the current study. Inclusion of larger samples of fathers in future research is needed to address the potential gender differences.

Despite these limitations, this study has several strengths. Due to the experimental design of the study (i.e., a randomized-control trial), we can potentially infer causality and direction of effects from these findings, addressing a gap in the existing largely non-experimental cross-sectional literature. Our results indicate that the rate of within-family increases in positive parenting is subsequently associated with the rate of within-family decreases in interparental conflict. This relationship suggests that interventions focused on parenting also may be beneficial to parents experiencing interparental conflict (even among non-cohabiting parents). In the context of high-conflict relationships, focusing only on the couple subsystem independently from the larger family system may not be the most beneficial therapeutic approach. Our results suggest that, at least for some parents, an initial focus on parenting, with an emphasis on both parents doing what is best for the child, could lead to decreases in interparental conflict.

Finally, in contrast to most of the literature (e.g., Zemp et al., 2016), this study used a multi-method format to address the questions posed, including parent reports of conflict and behavioral observations of parenting. Given the rigor of our methodology, the findings support the notion that increases in positive parenting are longitudinally associated with decreases in interparental conflict in families where a parent has a history of MDD. These findings underscore the interdependent nature of family systems, particularly within the parent-child and parent-parent subsystems, and offer further support for the spillover hypothesis.

## Compliance with ethical standards

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### Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

### Informed consent

Informed consent was obtained from all individual participants included in the study.

### Conflicts of interest

A. D. S., J. P., R. F., and B. C. have no conflicts of interest to report.

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