

© American Psychological Association, 2021. This paper is not the copy of record and may not exactly replicate the authoritative document published in the APA journal. The final article is available, upon publication, at: <https://doi.org/10.1037/fam0000821>.

Finances, Depressive Symptoms, Destructive Conflict, and Coparenting Among Lower-Income, Unmarried Couples: A Two-Wave, Cross-Lagged Analysis

Melissa A. Curran¹, Xiaomin Li¹, Melissa Barnett¹, Olena Kopystynska², Alexa B. Chandler¹,
and Ashley B. LeBaron¹

¹University of Arizona

²Utah State University

Author Note:

Melissa A. Curran and Xiaomin Li contributed equally to the preparation of the manuscript.

Specific to the ideas of this manuscript: There was no prior dissemination of the ideas from this manuscript appearing in other places such as a conference or meeting posted on a listserv.

Abstract

Following from an adapted family stress model, we used two-wave data, secondary data from the Building Strong Families project, focusing on 4,424 primarily lower-income, unmarried couples expecting their first child together. We used cross-lagged analyses to test the directionality of financial difficulties, depressive symptoms, destructive conflict, and coparenting alliance for both fathers and mothers when children were 15 and 36 months old. Two of the three hypotheses provided support for the family stress model. First, destructive conflict predicted coparenting alliance (but not the reverse). Specifically, higher destructive conflict at 15 months for both fathers and mothers predicted lower coparenting alliance at 36 months for both fathers and mothers. Second, depressive symptoms predicted destructive conflict (but not the reverse). Specifically, fathers' (but not mothers') higher depressive symptoms at 15 months predicted both their own and mothers' higher destructive conflict at 36 months. Contrary to predictions, financial difficulties did not predict depressive symptoms; instead, we found support for the reverse: For mothers only, higher depressive symptoms at 15 months predicted higher financial difficulties at 36 months. Collectively, the results support the use of the family stress model to understand the directionality of associations among key risk factors, especially depressive symptoms and destructive conflict, for primarily lower-income, unmarried couples expecting their first child together.

Keywords: couples, cross-lagged, coparenting, destructive conflict, depressive symptoms, financial difficulties

Finances, Depressive Symptoms, Destructive Conflict, and Coparenting Among Lower-Income, Unmarried Couples: A Two-Wave, Cross-Lagged Analysis

Identifying the ways in which parental psychological characteristics and family processes are related over time among primarily lower-income, unmarried couples expecting their first child together provides critical information to guide research and family strengthening intervention efforts. Drawing from the family stress model (FSM; Conger et al., 2010; Masarik & Conger, 2017), economic pressure, psychological distress, couple hostility and conflict, and nonoptimal parenting are important constructs that explain contextual and family influences on children's wellbeing.

Researchers have sounded calls for tests of the FSM to include greater diversity in families (e.g., family structures outside of two-parent married households), to include families with younger children, and for longitudinal research so that directionality of paths can be tested (Barnett, 2008; Conger et al., 2010). In recent years, researchers have begun to address these aforementioned concerns, especially as specific to the use of longitudinal data among racially and geographically diverse samples (for a review, see Masarik & Conger, 2017). While the general pathways of the FSM have been supported across different longitudinal samples, there remain key questions relevant to the FSM to test and explore, including the directionality of associations (e.g., which pathways are unidirectional vs. bidirectional; Masarik & Conger, 2017).

Here, we used longitudinal secondary data from the Building Strong Families (BSF) federally funded intervention project, which focused on relationship skills education for primarily lower-income, unmarried couples who started the study expecting their first child together. Assessments occurred at three timepoints across the transition to parenthood (Hershey et al., 2013). Considering the rise of complex family structures in recent years and decades (e.g., unmarried parents; Berger & Carlson, 2020), application of this longitudinal dataset that includes

data from both fathers and mothers allows us to test the directionality of pathways proposed by the FSM, which is an important contribution to the literature. Using an adapted version of the FSM (versus the original version of FSM that focuses on a mediational model), we examined cross-lagged paths to test the directionality of some key constructs described in the FSM. The constructs that we tested included financial difficulties, depressive symptoms, destructive conflict, and coparenting alliance when children were 15 and 36 months old.

Conceptual Framework and Choice of Study Constructs

The family stress model, or FSM, is a commonly used framework to understand how economic stressors influence relational functioning or child outcomes via a series of family-specific pathways (Conger et al., 2010; Masarik & Conger, 2017). According to the FSM, economic hardships such as low income or economic pressure (e.g., difficulty paying bills) lead to parental psychological distress (e.g., depressive symptoms), that in turn contribute to couple hostility and conflict (e.g., destructive conflict) and undermine effective parenting, ultimately leading to child behavior problems (Masarik & Conger, 2017). In the current study, we adapted the FSM by substituting coparenting alliance, or the extent to which parents work together to parent their child, for parenting behaviors. Coparenting quality, including coparenting alliance, may be particularly relevant to family functioning and child wellbeing among primarily lower-income, unmarried couples with young children (Holmes, Egginton, et al., in press).

Financial Difficulties to Depressive Symptoms

In their review of the FSM, Masarik and Conger (2017) summarized the findings of several studies in which support for associations between higher financial difficulties and higher depressive symptoms has been found. They noted that while the number of studies was still limited, the majority of these were longitudinal with temporal ordering that followed the FSM (Masarik & Conger, 2017), suggesting the ordering of Financial Difficulties → Depressive

Symptoms (vs. the ordering of Depressive Symptoms → Financial Difficulties). As one example, across four time points (infancy through toddlerhood), early financial difficulties (i.e., not being able to make ends meet and not enough money) were predictive of later depression in a sample of White and African American mothers experiencing poverty in rural communities (Newland et al., 2013). Beyond this review, similar associations from financial difficulties to depression have also been found. For example, using data from the Fragile Families and Child Wellbeing Study, Shelleby (2018) found that maternal economic hardship when children were one year old was associated with elevated depressive symptoms when children were five years old. As seen here, these studies were longitudinal, but they only included mothers. Thus, studies that consider bidirectionality of these links, as well as simultaneous examination among diverse mothers and fathers during early childhood, are still needed.

Depressive Symptoms to Destructive Conflict

Across multiple studies, depressive symptoms are related to higher levels of couple conflict (see Masarik & Conger, 2017). In these studies, couple conflict has been characterized as caregiver conflict and withdrawal measured by observer and participant ratings of low warmth and high hostility (Landers-Potts et al., 2015), as well as marital negativity as measured by three items from a conflict scale (e.g., how often do you and your spouse argue?; Helms et al., 2014).

Rather than couple conflict more generally, here we focus on hostile *destructive conflict*, characterized by physical and verbal aggression, hostility, and threats (Cummings & Davies, 2002). Mounting evidence points to the negative consequences of destructive conflict, including poor marital functioning (Birditt et al., 2010), compromised parenting (Kopystynska et al, 2020), and negative developmental outcomes for children (Kopystynska & Beck, 2018).

For depressive symptoms and destructive conflict, in one longitudinal study with a sample of primarily White, married couples with a child in kindergarten, researchers

found that fathers' (but not mothers') depressive symptoms predicted mothers' greater observed destructive conflict behaviors (e.g., insult, threat, defensiveness) one year later (Keller et al., 2009). Similar patterns have emerged in cross-sectional research: Fathers' (but not mothers') higher depressive symptoms were associated with greater self-reported destructive conflict in a sample of primarily White, married couples with an infant between 6 to 14 months of age (Du Rocher Schudlich et al., 2019). Specific to the BSF data, mothers' and fathers' depressive symptoms were positively correlated with their reports of destructive conflict when children were 36 months old (Kopystynska et al., 2020). What is unknown, however, is the directionality of these associations; thus, we add to the literature in using a cross-lagged approach, allowing us to test whether depressive symptoms predict conflict or if conflict predicts depressive symptoms.

Destructive Conflict to Coparenting

In their review, Masarik and Conger (2017) discussed four studies in which hostility in the caregiver relationship predicted hostile parenting behaviors toward the adolescent over time, noting that the reverse here may also be true (i.e., disruptions in parenting might have predicted the hostile behavior between parents in their marital or caregiving relationship; Masarik & Conger, 2017). Thus, they hypothesized bidirectional paths in their model to suggest further exploration of these particular associations.

In a study not reviewed by Masarik and Conger (2017), specific to children's early years (infancy, toddlerhood, preschool), and using cross-lagged models, Carlson et al. (2011) found that better partner relationship quality, including a component similar to destructive conflict, predicted greater parental engagement for both fathers and mothers. The reverse – parental engagement predicting future relationship quality -- was not supported. Together, these findings suggest that destructive conflict is related to less optimal parenting behaviors.

In almost all instances, our study constructs are closely aligned with the constructs from

the FSM (e.g., destructive conflict in the current study represents couple hostility and conflict from the FSM). Here we choose to focus on a different construct: *coparenting alliance* (to represent the reverse of the more commonly studied constructs of parenting: harsh, inconsistent, or uninvolved parenting). Coparenting is the extent to which relational partners work as a team to support vs. undermine each other's parental roles, parenting behavior, and relationships with children (Schoppe-Sullivan & Fagan, 2020). Forming a high-quality coparenting alliance is among the key tasks during the transition to parenthood and predicts child outcomes (Schoppe-Sullivan & Fagan, 2020).

Coparenting as a distinct construct from parenting and partner relationship quality (McHale et al., 2019) may be why improving the coparenting alliance is often the focus of family strengthening interventions, especially in lower-income families. In a meta-analysis of 24 experimental and quasi-experimental studies of fatherhood and coparenting programs targeted for lower-income, unmarried fathers, both parenting and coparenting were impacted by program participation, with the strongest effect size for coparenting (Holmes, Egginton, et al., in press). Further, in a study using BSF data, coparenting alliance, but not relational commitment, was linked consistently with mothers' and fathers' financial characteristics (LeBaron et al., 2020). In another study using BSF data, both fathers' and mothers' greater destructive conflict was associated with their reports of lower coparenting alliance (Kopystynska et al., 2020). In addition, poorer coparenting has been linked to elevated depressive symptoms among lower-income mothers and fathers (Choi & Becher, 2019), with some longitudinal research across the transition to parenthood demonstrating that depressive symptoms contributed to coparenting rather than coparenting contributing to depressive symptoms (Tissot et al., 2017). Again, what is unknown here is the directionality of these associations. Thus, we add to the literature by examining bidirectional associations between destructive conflict and coparenting alliance.

Directionality of Family Stress Pathways for Fathers and Mothers

As noted, a common question asked by researchers who use the FSM is the directionality of study variables (Masarik & Conger, 2017). For example, is it that hostility in the caregiver relationship (e.g., destructive conflict) predicts disrupted parenting (e.g., lower coparenting alliance) over time or is it the reverse? That is, are associations unidirectional or bidirectional?

Identifying the directionality of these associations is important as it provides critical information for intervention timing and focus. These are the kinds of questions best addressed by cross-lagged designs using longitudinal data (Schuurman et al., 2016), as such designs are useful in understanding which variables precede the other so that interventions can be most effective. A cross-lagged approach is also essential as the FSM constructs that we study here using BSF data are not typically ones that we could experimentally assign (Schuurman et al., 2016); for example, it would likely be unethical to assign couples to engage in higher vs. lower destructive conflict while they are expecting their first child together. As such, testing directionality between the study variables was our first research question.

A second question we addressed is whether mothers and fathers are equally influential on each other's outcomes. We were interested to know if the proposed paths were significant for fathers, mothers, or both. In statistical terms, we were able to assess actor effects (how one's behaviors impact their own outcomes) and partner effects (how one's behaviors impact partner's outcomes; Kenny et al., 2006). This specificity is important as it may provide critical information for intervention design given that cross-lagged models that test directionality allows examination of family stress pathways that may be more vulnerable for one parent and not the other.

In sum, major strengths of the current study include using longitudinal multi-informant data (i.e., mothers' and fathers' data) and employing cross-lagged models to test the directionality of study constructs derived from the FSM. Testing the proposed longitudinal

associations in a sample of young children (15 months and 36 months) is also a strength because identifying FSM pathways conveying family risk at earlier points in time may inform earlier prevention efforts (Masarik & Conger, 2017).

The Current Study

We address the following two research questions (RQs):

RQ1: What is the directionality of the associations among these FSM-informed constructs: financial difficulties, depressive symptoms, destructive conflict, and coparenting? We use a cross-lagged approach at 15 and 36 months to examine this question.

Specific to RQ1, and as informed by the FSM (Masarik & Conger, 2017), we predict:

H1: Financial difficulties should predict depressive symptoms (but not the reverse);

H2: Depressive symptoms should predict destructive conflict (but not the reverse);

H3: Destructive conflict should predict coparenting, and coparenting should predict destructive conflict (bidirectional associations).

RQ2: Considering both fathers and mothers in the same model (e.g., actors and partners), for whom are the cross-lagged associations significant? Here, we make no hypotheses given the exploratory nature of this question.

Method

Participants and Procedures

Under the approval of the institutional review board, we used data from the Building Strong Families (BSF) program (e.g., Hershey et al., 2013). Data collection for this project was facilitated by Mathematica Policy Research Inc. From 2005-2008, individuals in different-sex couples were recruited from a variety of sources (e.g., public health clinics, hospitals, prenatal programs) at eight sites in the U.S. To be eligible, couples were (a) romantically involved, (b) either expecting a baby together or had a baby younger than 3 months, (c) unmarried at the time

when their baby was conceived, (d) without a history of intimate partner violence, and (e) comprised of members who were 18 years and older and both willing to participate.

In total, 5,102 couples at Wave 0 (i.e., W0; initial recruitment) participated in the BSF program; 4,424 couples participated at Wave 1 (W1) when their child was ~15 months; 4,247 couples participated at Wave 2 (W2) when their child was ~36 months.

Our measures are primarily based on data at W1 and W2. This is because the same constructs are needed over time; a key assumption for cross-lagged panel models (Kearney, 2017). Coparenting, financial difficulties, and destructive conflict were assessed only at W1 and W2 (and not at W0). For depressive symptoms, the same measure was used at both W1 and W2, whereas psychological distress (a similar construct as depressive symptoms, but with a different measure than depressive symptoms) was assessed at W0.

Our sample consisted of 4,424 couples in which at least one partner participated in W1. All 4,424 couples had valid responses at W0 and W1, and 3,907 out of 4,424 couples (retention rate = 88.3%) were followed up at W2. To maximize efficiency in using longitudinal data, we used the recommended strategy of including all available information at each wave (Cumming & Goldstein, 2016). This yields an analytic sample of 4,424 couples at W1 and 3,907 couples at W2. For participants included in the analytic sample, we also included their responses at W0 as covariates (detailed in the Measurement section)

To test for attrition biases, we compared participants included in the final sample (i.e., couples in which at least one spouse participated in W1) with those not included in the present study. After conducting a multivariate analysis of variance on W0 covariates, we identified five statistically significant differences out of 19 comparisons. Yet, these statistically significant differences were minimal for sample size (partial η^2 s < .01) and should be regarded as not practically noteworthy (Richardson, 2011). Thus, we conclude that no substantial attrition effect

emerged and that missingness was random.

For the 4,424 couples in the present study, at W0 the mean ages were 25.81 years old ($SD = 6.21$) for fathers and 23.48 years old ($SD = 4.76$) for mothers. Approximately 66.6% of fathers and 67.7% of mothers obtained a high school (or equivalency) degree at W0. Also, at W0, about 25.8% of fathers and 66.9% of mothers were unemployed. The median levels of annual income were \$10,000-\$14,999 for fathers and \$1-\$4,999 for mothers. For race/ethnicity, 14.6% of fathers and 17.9% of mothers were non-Hispanic White, 22.6% of fathers and 22.8% of mothers were Latino/Hispanic, 60.0% of fathers and 56.1% of mothers were non-Hispanic Black, and 2.8% of fathers and 3.1% of mothers were of another race/ethnicity. Further, 49.9% of couples were in the control group whereas 50.1% of couples were in the treatment group (i.e., relationship skills, support from family coordinators, referrals to support services). Prior studies suggested no significant effects of the intervention on the variables of interest in the present study (Hershey et al., 2013).

Measurement

Financial Difficulties at W1 and W2

The BSF project researchers used three items to assess financial difficulties experienced by fathers and mothers during the past 12 months (Wood et al., 2010). The three items were: (1) participants cannot pay the full amount of the rent or mortgage, (2) water/gas/electric/oil was turned off because participants cannot afford the bill, and (3) participants were evicted from their home or apartment because participants could not pay the rent or mortgage. Participants responded 1 (*yes*) or 0 (*no*) to indicate whether each event has occurred. We used the total amount of events to reflect the extent of financial difficulties; higher scores indicated higher financial difficulties. Cronbach's α s were not calculated for this scale given its inclusion of only binary items (see Spiliotopoulou, 2009).

Depressive Symptoms at W1 and W2

The 12-item short version of the unidimensional Center for Epidemiologic Studies Depression Scale (CESD; Ross et al., 1983) was used to assess parents' depressive symptoms. On a 4-point Likert scale from 0 (*rarely or none of the time*) to 3 (*most of the time*), fathers and mothers indicated the frequency of their feeling described in each item statement (e.g., I was bothered by things that usually don't bother me). Average scores were calculated; higher scores indicated higher depressive symptoms. Cronbach's α s were .94/.92 for fathers at W1/W2 and .94/.89 for mothers at W1/W2.

Destructive Conflict at W1 and W2

To capture hostile conflict management approaches, a nine-item measure was developed specifically for this project, which has demonstrated reliability and validity (see Li et al., 2019; Wood et al., 2010). On a four-point Likert scale from 1 (*often*) to 4 (*never*), fathers and mothers indicated the frequency of each item statement (e.g., partner blames me for things that go wrong and little arguments turn into ugly fights with accusation/criticism) which gauged both the overall level of conflict in the relationship and the perception of the other parent's behavior. Scores for each item were reversed and averaged, and higher scores indicated higher levels of destructive conflict. Cronbach's α s were .87/.87 for fathers at W1/W2 and .88/.87 for mothers at W1/W2.

Coparenting Alliance at W1 and W2

The 10-item subset from the Parenting Alliance Inventory (PAI; Abidin & Brunner, 1995; see Hershey et al., 2013) was used to assess coparenting alliance. On a five-point Likert scale from 1 (*strongly agree*) to 5 (*strongly disagree*), fathers and mothers indicated their agreement with each statement (e.g., partner is committed to be there for child). Scores for each item were reversed and averaged; higher scores indicated higher quality coparenting. Cronbach's

α s were .94/.97 for fathers at W1/W2 and .96/.95 for mothers at W1/W2.

Covariates

At W0, fathers and mothers reported their ages in years. A series of binary variables were created to indicate *BSF intervention group* (0 = control group; 1 = treatment group), *employment status* (0 = employed; 1 = unemployed), and *education level* (0 = lower than high school degree; 1 = a high school certification or equivalency). For *race/ethnicity* at W0 (i.e., a four-category nominal variable; see the Participants and Procedure section), three dummy codes were created and used in the analyses, with non-Hispanic White as the reference group (i.e., Hispanic versus Non-Hispanic White, Non-Hispanic Black versus Non-Hispanic White, other race/ethnicity versus Non-Hispanic White). *Annual income at W0* for fathers and mothers was measured using an eight-category ordinal variable ranging from 0 (*no income*) to 7 (*\$35,000 or above*), with higher scores indicating higher levels of income.

Psychological distress at W0 was measured using the six-item short form of the Kessler Psychological Distress Scale (K-6; Kessler et al., 2002). On a five-point Likert scale ranging from 1 (*all of the time*) to 5 (*none of the time*), fathers and mothers were asked to indicate how often they experienced feelings such as hopeless, worthless, or nervous. Scores for each item were reversed and averaged to obtain the final score, with higher scores indicating higher psychological distress. Cronbach's α s were .70 for both fathers and mothers.

Relationship quality at W0 was measured using eight items reflecting different aspects of relationship quality (e.g., conflicts, doing ordinary things, trust). Fathers and mothers were asked to indicate the extent to which they agreed with each item statement on a four-point Likert scale from 1 (*strongly agree*) to 4 (*strongly disagree*). Scores for each item were reversed and averaged to obtain the final score, with higher scores indicating higher relationship quality. Cronbach's α s were .80 for fathers and .89 for mothers.

Further, lower-income, unmarried couples are likely to experience transitions in relationship status across time (Lundberg et al., 2016). Thus, we created two dummy codes for relationship status at W1 and W2 (0 = no longer romantically involved with the BSF partner, 1 = still romantically involved with the BSF partner).

Analytic Procedures

Analyses proceeded in *Mplus* 8.3, and missing values in the present study were handled via full information maximum likelihood (FIML; Dong & Peng, 2013). As depicted in Figure 1, we tested a two-wave, cross-lagged, and actor-partner interdependence model (Fallis et al., 2016). Such models can (a) effectively account for the potential interdependence between two partners in a couple and (b) simultaneously estimate both within-partner (i.e., actor effects) and cross-partner associations (i.e., partner effects). Also, we extended the cross-lagged model to include multiple variables so that we could examine paths among all key study constructs (i.e., fathers' and mothers' financial difficulties, depressive symptoms, destructive conflict, and coparenting) in a single model (Selig & Little, 2012).

For cross-lagged models, two parts are estimated: cross-lagged effects and stability effects (Schuurman et al., 2016). Cross-lagged effects represent the effect of one variable at an earlier occasion on another variable at a later occasion (e.g., from financial difficulties at W1 to depressive symptoms at W2). Results of cross-lagged effects allow the determination of whether longitudinal associations occur in one or both directions (i.e., unidirectional vs. bidirectional). If longitudinal associations occur in both directions, we assess the relative strength of the cross-lagged paths by constraining both paths to be equal and then comparing the constrained model with the basic one. A statistically significant chi-square difference shows the distinct strengths of the cross-lagged paths, with the stronger path suggesting the more salient driving forces in bidirectional longitudinal associations (Schuurman et al., 2016).

In comparison, the stability effects indicate the pathways of each variable from an earlier time point to the later one (e.g., financial difficulties at W1 to financial difficulties at W2). The inclusion of stability effects minimizes biases by ruling out the possibility that a significant cross-lagged effect is simply because the two variables were correlated at the preceding time point (Schuurman et al., 2016). In the examination of the two-wave, cross-lagged, and actor-partner interdependence model, we controlled for covariates included in the Measurement section. To evaluate model fit, several indices were included: comparative fit index ($CFI > .90$), the root-mean-square error of approximation ($RMSEA < .09$), and the standardized root-mean-square residual ($SRMR < .09$) (Kline 2015).

Results

Preliminary Analyses

We report descriptive analyses and correlations for key study constructs and covariates in the online supplementary document; significant correlations were in expected directions.

Pathway Analyses

Stability paths for each construct at two adjacent waves (e.g., coparenting at 15 months to coparenting at 36 months) were all significant ($ps < .05$). The model fit the data adequately: $\chi^2(26) = 612.231, p < .001$; $CFI = .981$; $RMSEA = .075$ with 90% CI [.070, .080]; $SRMR = .026$.

We briefly describe the patterns of the covariates here. First, maternal and paternal depressive symptoms at W0 were associated with higher levels of their own depressive symptoms, destructive conflict, and financial difficulties, as well as lower levels of their own coparenting alliance, at W1 and W2. Second, paternal and maternal relational quality at W0 was related to lower levels of their own depressive symptoms, destructive conflict, and financial difficulties, as well as higher levels of their own coparenting alliance, at W1 and W2. Third, being romantically involved at both W1 and W2 was associated with higher coparenting alliance

and lower destructive conflict at both W1 and W2; these associations were found for both parents.

Results for pathways are in Figure 2. After controlling for the variables in the Covariates section, significant pathways are noted below.

RQ1. Support for directionality between study variables at W1 and W2 was as follows:

H1. Contrary to our hypothesis, we found that higher depressive symptoms at W1 predicted higher financial difficulties at W2.

H2. Consistent with our hypothesis, we found that depressive symptoms at W1 predicted W2 destructive conflict.

H3. We found partial support here. Although we hypothesized that the relation between destructive conflict and coparenting alliance would be bidirectional, we found unidirectional associations from higher destructive conflict at W1 to lower coparenting alliance at W2.

For effect sizes, all significant pathways were small-sized (i.e., β s < .3, Cohen, 1988).

RQ2. For the cross-lagged association between fathers and mothers' financial difficulties and depressive symptoms, we found that only mothers' W1 depressive symptoms predicted their own reports of financial difficulties at W2.

For the two significant cross-lagged associations identified for H2 of RQ1, these were from fathers' depressive symptoms to fathers' own and mothers' destructive conflict.

For the four significant cross-lagged associations identified for H3 of RQ1, they were fathers' and mothers' destructive conflict to both parents' coparenting alliance.

Discussion

Guided by the adapted family stress model, or FSM (Masarik & Conger, 2017), we used two-wave data from the BSF project. While controlling for the potential confounding effects of covariates at the baseline assessment, we conducted cross-lagged analyses to test the

directionality (unidirectional vs. bidirectional) of financial difficulties, depressive symptoms, destructive conflict, and coparenting alliance for both fathers and mothers when children were 15 and 36 months of age. We extend the existing research in several ways.

First, the question of directionality is an important one because it allows us to gain an understanding of which variables precede the other so that interventions can be most effective. Second, given the large sample size of 4,424 couples, we provided a stringent test of links among focal variables by simultaneously considering pathways among the FSM-informed constructs for both fathers and mothers in the same model, gaining knowledge of which pathways were statistically significant and for whom. Third, our sample included couples with young children (15 and 36 months), allowing us to gain valuable knowledge about risk factors associated with family processes during the transition to parenthood, which is typically characterized by increased hostility among couples and which may inform intervention efforts focused on strengthening couples' relationships (Masarik & Conger, 2017).

Directionality of Family Stress Pathways for Fathers and Mothers

Following the FSM, we found support for the following two sets of hypotheses, which we discuss in turn. *First*, higher levels of mothers' and fathers' destructive conflict at 15 months predicted both their own and their partner's reports of lower coparenting alliance at 36 months. However, contrary to the hypothesized bidirectionality, coparenting alliance did not predict destructive conflict. *Second*, fathers' (but not mothers') higher depressive symptoms at 15 months predicted both their own and mothers' higher destructive conflict at 36 months. Thus, we found some similar risks for mothers and fathers; whereas fathers' depressive symptoms emerged as a risk factor for both mothers' and fathers' destructive conflict.

Following from the FSM, hostility in the caregiver relationship at 15 months prospectively predicted lower coparenting alliance when children were 36 months old. This

finding is also in line with research underscoring the value of addressing the quality of the couples' relationship as part of programs to improve parenting (Harold & Sellers, 2018).

It may be that once couples are engaged in higher levels of destructive conflict (e.g., aggression, threats), such couple relational patterns set the stage for spillover into coparenting relationships that are undermining of one another. If both fathers and mothers are experiencing higher levels of destructive conflict, then working together to communicate about and support one's child likely creates difficulty. Such associations may be especially relevant in complex families like the BSF (primarily lower-income, unmarried) given possible concerns romantic partners have about one another either relationally, as coparents, or both. Support for these associations comes from an intervention study by Adler-Baeder et al. (2013) in which the authors found that less negative couple interactions (conceptually similar to destructive conflict) from pre- to post-intervention predicted lower coparenting conflict pre- to post-intervention in a sample of parents, the majority of whom were low to middle income.

It is possible that the age of the child makes a difference. In their review, Masarik and Conger (2017) suggested bidirectional associations between conflict and parenting with studies of mostly adolescents. However, in the study by Carlson et al. (2011), specific to children's early years, these authors also found evidence that better relationship quality (including a question about insults and criticism) predicted greater parental engagement, but not the reverse.

These patterns underscore the usefulness of focusing on coparenting as a construct within an adapted FSM given the relevance of coparenting for lower-income couples as documented in other quantitative (Holmes, Egginton, et al., in press; Kopystynska et al., 2020; LeBaron et al., 2020) and qualitative (Holmes, Thomas, et al., in press) research. There is also substantial evidence linking coparenting quality to children's development (Teubert & Pinquart, 2010) and to father involvement following a preventive intervention (Rienks et al., 2011).

Also noteworthy about the findings linking destructive conflict to coparenting alliance is that the actor and partner paths were significant for both fathers and mothers (i.e., all possible paths were significant as connected to RQ2). These pathways demonstrate the usefulness of including both fathers and mothers in the same model (vs. separate models). Our study adds to the literature in documenting this unidirectional finding such that both fathers' and mothers' greater destructive conflict at 15 months is associated with both their own and their partner's lower coparenting at 36 months (but not the reverse).

Further, this pattern of findings suggests that interventions targeting destructive conflict among parents may also contribute to improvements in the coparenting alliance. For example, one intervention in which the individuals in the experimental groups were taught to replace destructive behaviors with constructive conflict behaviors (e.g., support such as compliments; problem solving or finding possible solution) led to positive changes in marital satisfaction and overall family functioning long-term vs. the control group (Cummings et al., 2008). Connecting the findings of this intervention to the current study: If fathers' and mothers' destructive conflict behaviors could be replaced with constructive conflict behaviors by the time their child was 15 months, there could be beneficial implications of the intervention on coparenting by 36 months. Further, as the nature of the romantic relationship can and often does change after children are born (Berger & Carlson, 2020), the potential ability to target destructive conflict in interventions for parents experiencing this transition seems promising.

Our next finding was that fathers' (but not mothers') higher depressive symptoms at 15 months predicted both their own and mothers' higher destructive conflict at 36 months, providing partial support for our hypothesis. Perhaps the ways in which women manifest depressive symptoms (e.g., rumination; Johnson & Whisman, 2013) may be less likely to lead to destructive hostile conflict management behaviors, such as yelling or calling names. It may be

that depressive symptoms in men are more related to engagement in hostile, aggressive conflict strategies, whereas depressive symptoms in women are more related to conflict disengagement and withdrawal (i.e., disengaged destructive conflict). In the current study, the measure of destructive conflict mostly captured hostility and verbal aggression in the interparental relationship, with this latter construct not adequately captured in the current study. This remains a question for future research.

Now considering the reverse -- destructive conflict predicting depressive symptoms -- as hypothesized, this association was not significant for either fathers or mothers.

Most existing research on depressive symptoms for new parents has focused on samples of mothers to the exclusion of fathers (Letourneau et al., 2012; Mitchell et al., 2019). That being said, increased attention has been paid to fathers in general as well as how parental depressive symptoms are associated with family processes such as interparental conflict and coparenting relationship quality. As an example, in their review of the evolution of fathering research in the 21st century, Schoppe-Sullivan and Fagan (2020) discuss how from 8% to 16% of men experience postpartum depression, while also noting that some men also experience increased depression after their partners' pregnancies. Understanding links between paternal psychological wellbeing or distress (e.g., depressive symptoms) and other family relationships over time will provide critical information for the development of effective family and father-focused intervention programs (Cowan & Cowan, 2019). Indeed, previous research has documented the negative impact of paternal depressive symptoms on father involvement and parenting behaviors (Shafer et al., 2019; Wilson & Durbin, 2010). Given this framing, we suggest that in addition to paying attention to fathers' destructive conflict (findings noted previously), attention should also be paid to fathers' depressive symptoms. This call for greater attention to paternal depressive symptoms may be especially needed as there are few community-based treatment options for

fathers who experience postpartum depression (Schoppe-Sullivan & Fagan, 2020).

Further, these findings specific to depressive symptoms and destructive conflict have public policy implications in highlighting how individual mental health and wellbeing may impact both fathers and mothers. Our findings suggest that programs focused on healthy marriages, relationship education, and responsible fatherhood (including the BSF) may further benefit the individuals and families that they were designed to serve by also incorporating elements relevant to mental health. Addressing mental health in these programs could be as simple as including psychoeducation about postpartum depression among fathers (and depressive symptoms in general) along with referrals to appropriate community-based resources. More focused strategies could include some specific, brief curriculum with evidenced-based strategies for reducing depressive symptoms. Either way, the results of the present study suggest that the benefit of addressing mental health should extend to both fathers and mothers. Importantly, the information about depressive symptoms and/or services provided for depressive symptoms could be offered to all program participants and not only those who express interest in such services or visibly demonstrate a need. Receiving the information about depressive symptoms could benefit those whose symptoms do not manifest outwardly, or those who do not currently endorse symptoms of depression but may later do so.

Finally, in comparison to the two sets of findings just described that supported the FSM and were in line with our hypotheses, our last finding was in contrast to the FSM and the reverse of what we had hypothesized. Specifically, we found that higher depressive symptoms for mothers at 15 months was associated with higher financial difficulty for mothers at 36 months (actor effect only for mothers). This was the only time that financial difficulties was a statistically significant predictor or outcome in the model. The directionality here is surprising and somewhat puzzling; we next offer some potential explanations for this unexpected result.

One set of authors also studied bidirectional associations between economic hardship and depressive symptoms over time in data from primarily lower-income unmarried individuals expecting a child together (Fragile Families and Child Wellbeing Study, or FFCWS; Williams & Cheadle, 2016). For mothers, the authors found evidence of bidirectional associations from year one to year three; for fathers, directionality was only one way (economic hardship to depressive symptoms; Williams & Cheadle, 2016). In explaining their findings, the authors suggested that mothers may experience additional burdens such as childcare that may contribute both to higher depressive symptoms and financial difficulties. If depressive symptoms are further coupled with absence from work or changes in performance at work, this may contribute to depressive symptoms predicting financial difficulties, as seen for mothers in the current study. These findings point to the importance of the availability of affordable and accessible comprehensive mental health care as individual mental health has the potential to impact interpersonal family relations (i.e., destructive conflict; see above) as well as family financial security.

Across all of the possible pathways, the family-stress-informed constructs that were most robust at 15 months -- for both fathers and mothers -- were *depressive symptoms* and *destructive conflict* in predicting various study constructs when children were 36 months old. Further, neither of the other family stress informed constructs of financial difficulty or coparenting at 15 months -- for either fathers or mothers -- was associated with any of the study constructs at 36 months. These findings are in line with a conclusion reached in a review of lessons learned and policy implications specific to supporting healthy relationships in lower-income couples, such that financially disadvantaged environments confront low-income couples with unique challenges in maintaining intimacy (Karney et al., 2018). Our findings suggest that destructive conflict may be a particularly important target for interventions with implications for individual wellbeing and family processes (i.e., coparenting alliance).

Further, we suggest that relationship researchers consider how relational constructs should be conceptualized. For example, following from the FSM (Conger et al., 2010; Masarik & Conger, 2017), we chose the couple/relational construct of destructive conflict given the focus of couple hostility and conflict in the FSM. We know about the negative associations and consequences of destructive conflict from our study as well as in other studies of couples and children (Birditt et al., 2010). Thus, in addition to already commonly studied constructs in transition to parenthood research (e.g., relationship satisfaction; Doss & Rhoades, 2017), it also seems relevant to recommend the inclusion of destructive conflict in transition to parenthood studies and especially for samples like the BSF (primarily lower-income, unmarried).

Finally, depressive symptoms have been discussed in other reviews focused on lower-income couples, albeit in minor instances (Cowan & Cowan, 2019; Schoppe-Sullivan & Fagan, 2020) or as control variables (Kopystynska et al., 2017, 2020). Following the FSM (Conger et al., 2010; Masarik & Conger, 2017), we chose depressive symptoms as a central construct (vs. a control variable) given the focus of couple emotional and behavioral problems in the FSM. Findings about depressive symptoms from the current study and other studies (Mitchell et al., 2019; Letourneau et al., 2012) indicate that depressive symptoms should be more systematically included in research and addressed in practice and intervention development. This may be particularly true for samples like the BSF in which individuals are considered at risk in multiple areas of family functioning and personal wellbeing.

Limitations and Strengths

Some limitations should be noted. First, the sample was specific to lower-income individuals and their partners who were expecting their first child together. Replication of these findings in other samples is warranted. Second, all data were self-reported survey data collected two times across early childhood, which is the time of transition to parenthood; other methods

(e.g., observations) or data collection over a shorter period of time (e.g., daily diary) may have yielded different results. The two-wave data collection required us to use a classic cross-lagged panel model, which has been critiqued for mixing between- and within-person effects together within the cross-lagged paths (Hamaker et al., 2015). To overcome these shortcomings, we suggest that future researchers collect at least three or more time points to be able to conduct a random-intercept cross-lagged panel model (Hamaker et al., 2015) that would distinguish between- and within-person effects and generate more accurate estimations of the nature of the examined paths (Mund & Nestler, 2019). Third, the destructive conflict measure included both perceptions of hostility in the relationship and the perception of the other parent's hostile behavior, which may not reflect behaviors of the other parent; observed measures of destructive conflict along with self-reported behaviors may be an option for future research. Further, only the hostile aspect of destructive conflict was assessed. In future studies, researchers could test if these relations hold true for disengaged (destructive) interparental conflict. Fourth, the measure of financial difficulties included three items, which focused on serious financial shortage, such as not being able to pay full rent or mortgage, and these items were rated using a binary response system (yes vs no). Because of this, some items had low frequency (e.g., eviction ranged from 4.9% to 5.7%). To collect future data on financial difficulties, it would be useful to add additional items using Likert scaling with items that are higher frequency and are broader in scope.

The study also has several strengths. First, our constructs were informed by the FSM. Second, given the large sample size of 4,424 couples, we included data from both fathers and mothers and these pathways were included in the same analysis. Third, using data collected when children were 15 and 36 months old, we tested the directionality of effects between multiple variables for both fathers and mothers. Fourth, our sample consisted of primarily lower-income,

unmarried couples with young children, a relatively understudied population in testing the FSM.

As both a source of limitations and strengths, we address the effect sizes from the study. Statistically, small-sized effects are common and expected in studies using cross-lagged models (e.g., Lavner et al., 2017, Li et al., 2018), given the inclusion of the stability coefficients between adjacent waves of data for the outcome variables and also because we controlled for several covariates at baseline. Practically, such small-sized effects may still have a substantial impact on family well-being, especially given that these effects unfold across time and reflect ongoing processes connected to family well-being (Cui et al., 2007).

Conclusion

Following from an adapted family stress model, or FSM, we used two-wave data from a large sample of primarily lower-income, unmarried couples expecting their first child together. Using cross-lagged analyses, we tested the directionality of financial difficulties, depressive symptoms, destructive conflict, and coparenting alliance for both fathers and mothers when children were 15 and 36 months old. Overall, the results support the application of the FSM in testing cross-lagged models to determine the directionality of these study constructs for these fathers and mothers. From our findings, we encourage researchers to continue to use adaptations of the FSM, and to especially focus on depressive symptoms and relationship constructs, such as destructive conflict, with the ultimate goal of gaining valuable knowledge to inform earlier prevention efforts to help couples during their transition to parenthood.

References

- Abidin, R., & Brunner, J. F. (1995). Development of a parenting alliance inventory. *Journal of Clinical Child Psychology*, 24(1), 31-40. https://doi.org/10.1207/s15374424jccp2401_4
- Adler-Baeder, F., Calligas, A., Skuban, E., Keiley, M., Ketrings, S., & Smith, T. (2013). Linking changes in couple functioning and parenting among couple relationship education participants. *Family Relations*, 62, 284–297. <https://doi.org/10.1111/fare.12006>
- Barnett, M. A. (2008). Economic disadvantage in complex family systems: Expansion of family stress models. *Clinical Child and Family Psychology Review*, 11(3), 145–161. <https://doi.org/10.1007/s10567-008-0034-z>
- Berger, L. & Carlson, M. (2020). Family policy and complex contemporary families: A decade in review and implications for the next decade of research and policy practice. *Journal of Marriage and Family*, 82(1), 478–507. <https://doi.org/10.1111/jomf.12650>
- Birditt, K., Brown, E., Orbuch, T., & McIlvane, J. (2010). Marital conflict behaviors and implications for divorce over 16 years. *Journal of Marriage and Family*, 72(5), 1188-1204. <https://doi.org/10.1111/j.1741-3737.2010.00758.x>
- Carlson, M. J., Pilkauskas, N. V., McLanahan, S. S., & Brooks-Gunn, J. (2011). Couples as partners and parents over children's early years. *Journal of Marriage and Family*, 73(2), 317–334. <https://doi.org/10.1111/j.1741-3737.2010.00809>
- Choi, J. K., & Becher, E. H. (2019). Supportive coparenting, parenting stress, harsh parenting, and child behavior problems in nonmarital families. *Family Process*, 58(2), 404-417. <https://doi.org/10.1111/famp.12373>
- Conger, R. D., Conger, K. J., & Martin, M. J. (2010). Socioeconomic status, family processes, and individual development. *Journal of Marriage and Family*, 72(3), 685–704. <https://doi.org/10.1111/j.1741-3737.2010.00725.x>

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Erlbaum.
- Cowan, C. P., & Cowan, P. A. (2019). Enhancing parenting effectiveness, fathers' involvement, couple relationship quality, and children's development: Breaking down silos in family policy making and service delivery. *Journal of Family Theory & Review*, 11(1), 92-111. <https://doi.org/10.1111/jftr.12301>
- Cui, M., Donnellan, M. B., & Conger, R. D. (2007). Reciprocal influences between parents' marital problems and adolescent internalizing and externalizing behavior. *Developmental Psychology*, 43, 1544-1552. doi:10.1037/0012-1649.43.6.1544
- Cumming, J. J., & Goldstein, H. (2016). Handling attrition and non-response in longitudinal data with an application to a study of Australian youth. *Longitudinal and Life Course Studies*, 7(1), 53-63. <https://doi.org/10.14301/llcs.v7i1.342>
- Cummings, E. M., & Davies, P. T. (2002). Effects of marital conflict on children: Recent advances and emerging themes in process-oriented research. *Journal of Child Psychology and Psychiatry*, 43(1), 31-63. <https://doi.org/10.1111/1469-7610.00003>
- Cummings, E. M., Faircloth, W. B., Mitchell, P. M., Cummings, J. S., & Schermerhorn, A. C. (2008). Evaluating a brief prevention program for improving marital conflict in community families. *Journal of Family Psychology*, 22(2), 193-202. <https://doi.org/10.1037/0893-3200.22.2.193>
- Dong, Y., & Peng, C. Y. J. (2013). Principled missing data methods for researchers. *SpringerPlus*, 2(1), 222-239. <https://doi.org/10.1186/2193-1801-2-222>
- Doss, B. D., & Rhoades, G. K. (2017). The transition to parenthood: Impact on couples' romantic relationships. *Current Opinion in Psychology*, 13, 25-28. <https://doi.org/10.1016/j.copsyc.2016.04.003>
- Du Rocher Schudlich, T. D., Wells, J. N., Erwin, S., & Rishor, A. (2019). Infants' emotional

- security: The confluence of parental depression, interparental conflict, and parenting. *Journal of Applied Developmental Psychology*, 63(1), 42-53.
<https://doi.org/10.1016/j.appdev.2019.05.006>
- Fallis, E. E., Rehman, U. S., Woody, E. Z., & Purdon, C. (2016). The longitudinal association of relationship satisfaction and sexual satisfaction in long-term relationships. *Journal of Family Psychology*, 30(7), 822-831. <https://doi.org/10.1037/fam0000205>
- Harold, G. T., & Sellers, R. (2018). Annual research review: Interparental conflict and youth psychopathology: An evidence review and practice focused update. *Journal of Child Psychology and Psychiatry*, 59(4), 374–402. <https://doi.org/10.1111/jcpp.12893>
- Hamaker, E. L., Kuiper, R. M., & Grasman, R. P. P. P. (2015). A critique of the cross-lagged panel model. *Psychological Methods*, 20, 102–116. <https://doi.org/10.1037/a0038889>
- Helms, H. M., Supple, A. J., Su, J., Rodriguez, Y., Cavanaugh, A. M., & Hengstebeck, N. D. (2014). Economic pressure, cultural adaptation stress, and marital quality among Mexican-origin couples. *Journal of Family Psychology*, 28(1), 77–87.
<https://doi.org/10.1037/a0035738>
- Hershey, A., Devaney, B., Wood, R. G., & McConnell, S. (2013). *Building Strong Families (BSF) Project data collection, 2005–2008*. ICPSR Data Holdings.
- Holmes, E. K., Egginton, B., Hawkins, A. J., Robbins, N., & Shafer, K. (in press). Do responsible fatherhood programs work? A comprehensive meta-analytic study. *Family Relations*. <https://doi.org/10.1111/fare.12435>
- Holmes, E. K., Thomas, C., Egginton, B., Leiter, V., & Hawkins, A. (in press). The effectiveness of responsible fatherhood programs targeting low-income and non-resident fathers: A qualitative meta-synthesis. In J. Fagan, and J. Pearson (Eds.), *New Research on Programs that Help Low-income Fathers Become Better Parents*. Routledge.

- Johnson, D. P., & Whisman, M. A. (2013). Gender differences in rumination: A meta-analysis. *Personality and Individual Differences*, 55(4), 367-374.
<https://doi.org/10.1016/j.paid.2013.03.019>
- Karney, B. R., Bradbury, T. N., & Lavner, J. A. (2018). Supporting healthy relationship in low-income couples: Lessons learned and policy implications. *Policy Insights from the Behavioral and Brain Sciences*, 5(1), 33-39. <https://doi.org/10.1177/2372732217747890>
- Kearney, M. W. (2017). Cross-lagged panel analysis. In M. Allen (Ed.), *The Sage encyclopedia of communication research methods* (pp. 313–314). Sage.
<https://doi.org/10.4135/9781483381411>.
- Keller, P. S., Cummings, E. M., & Peterson, K. M. (2009). Marital conflict in the context of parental depressive symptoms: Implications for the development of children's adjustment problems. *Social Development*, 18(3), 536–555. <https://doi.org/10.1111/j.1467-9507.2008.00509.x>
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. Guilford Press.
- Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L., Walters, E. E., & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, 32(6), 959-976. <https://doi.org/10.1017/S0033291702006074>
- Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed). Guilford.
- Kopystynska, O., Barnett, M., & Curran, M. (2020). Constructive and destructive interparental conflict, parenting, and coparenting alliance. *Journal of Family Psychology*, 34(4), 414-424. <https://doi.org/10.1037/fam0000606>
- Kopystynska, O., & Beck, C. J. (2018). Considering destructive interparental conflict and intimate partner abuse: Is there a difference? *Family Court Review*, 56(2), 209- 218.

<https://doi.org/10.1111/fcre.12335>

Kopystynska, O., Paschall, K., Barnett, M., & Curran, M. A. (2017). Patterns of interparental conflict, parenting, and children's emotional insecurity: A person-centered approach.

Journal of Family Psychology, 31(7), 922-932. <https://doi.org/10.1037/fam0000343>

Landers-Potts, M., Wickrama, K., Simons, L. G., Gibbons, F., & Conger, R. (2015). An extension and moderational analysis of the family stress model. *Family Relations, 64*(2),

233-248. <https://doi.org/10.1111/fare.12117>

Lavner, J. A., Karney, B. R., Williamson, H. C., & Bradbury, T. N. (2017). Bidirectional associations between newlyweds' marital satisfaction and marital problems over time.

Family Process, 56(4), 869-882. <https://doi.org/10.1111/famp.12264>

LeBaron, A. B., Curran, M. A., Li, X., Dew, J. P., Sharp, T. K., & Barnett, M. A. (2020).

Financial stressors as catalysts for relational growth: Bonadaptation among lower-income, unmarried couples. *Journal of Family and Economic Issues, 41*, 424-441.

<https://doi.org/10.1007/s10834-020-09666-z>

Letourneau, N., Dennis, C., Benzies, K., Duffett-Leger, L., Stewart, M., Tryphonopoulos, P., Este, D., & Watson, W. (2012). Postpartum depression is a family affair: Addressing the

impact on mothers, fathers, and children. *Issues in Mental Health Nursing, 33*(7), 445-457. <https://doi.org/10.3109/01612840.2012.673054>

Li, X., Cao, H., Zhou, N., Ju, X., Lan, J., Zhu, Q., & Fang, X. (2018). Daily communication, conflict resolution, and marital quality in Chinese marriage: A three-wave, cross-lagged

analysis. *Journal of Family Psychology, 32*, 733-742.

<https://doi.org/10.1037/fam0000430>

Li, X., Curran, M., Paschall, K., Barnett, M., & Kopystynska, O. (2019). Pregnancy intentions and family functioning among low-income, unmarried couples: Person-centered analyses.

- Journal of Family Psychology*, 33(7), 830-840. <https://doi.org/10.1037/fam0000547>
- Lundberg, S., Pollak, R. A., & Stearns, J. (2016). Family inequality: Diverging patterns in marriage, cohabitation, and childbearing. *Journal of Economic Perspectives*, 30(2), 79-102. <https://doi.org/10.1257/jep.30.2.79>
- Masarik, A. S., & Conger, R. D. (2017). Stress and child development: A review of the family stress model. *Current Opinion in Psychology*, 13(1), 85-90. <https://doi.org/10.1016/j.copsyc.2016.05.008>
- McHale, J. P., Negri, L., & Sirotkin, Y. (2019). Coparenting. In B. H. Fiese, M. Celano, K. Deater-Deckard, E. N. Jouriles, & M. A. Whisman (Eds.), *APA handbooks in psychology®. APA handbook of contemporary family psychology: Foundations, methods, and contemporary issues across the lifespan* (p. 483-502). American Psychological Association. <https://doi.org/10.1037/0000099-027>
- Mitchell, E., Nuttall, A., & Wittenborn, A. (2019). Maternal depressive symptoms and warm responsiveness across the transition to parenthood. *Journal of Child and Family Studies*, 28(6), 1604-1612. <https://doi.org/10.1007/s10826-019-01392-x>
- Mund, M., & Nestler, S. (2019). Beyond the cross-lagged panel model: Next-generation statistical tools for analyzing interdependencies across the life course. *Advances in Life Course Research*, 41, 100249. <https://doi.org/10.1016/j.alcr.2018.10.002>
- Newland, R. P., Crnic, K. A., Cox, M. J., & Mills-Koonce, W. R., & Family Life Project Key Investigators. (2013). The family model stress and maternal psychological symptoms: Mediated pathways from economic hardship to parenting. *Journal of Family Psychology*, 27(1), 96-105. <https://doi.org/10.1037/a0031112>
- Richardson, J. (2011). Eta squared and partial eta squared as measures of effect size in educational research. *Educational Research Review*, 6, 135-147.

<https://doi.org/10.1016/j.edurev.2010.12.001>

Rienks, S. L., Wadsworth, M. E., Markman, H. J., Einhorn, L., & Etter, E. M. (2011). Father involvement in urban low-income fathers: Baseline associations and changes resulting from preventive intervention. *Family Relations*, 60, 191–204. <https://doi.org/10.1111/j.1741-3729.2010.00642.x>

Ross, C. E., Mirowsky, J., & Huber, J. (1983). Dividing work, sharing work, and in-between: Marriage patterns and depression. *American Sociological Review*, 48(6), 809–823. <https://doi.org/10.2307/2095327>

Schoppe-Sullivan, S., & Fagan, J. (2020). The evolution of fathering research in the 21st century: Persistent challenges, new directions. *Journal of Marriage and Family*, 82(1), 175–197. <https://doi.org/10.1111/jomf.12645>

Schuurman, N. K., Ferrer, E., de Boer-Sonnenschein, M., & Hamaker, E. L. (2016). How to compare cross-lagged associations in a multilevel autoregressive model. *Psychological Methods*, 21(2), 206–221. <https://doi.org/10.1037/met0000062>

Shafer, K., Fielding, B., & Holmes, E. K. (2019). Depression, masculine norm adherence, and fathering behavior. *Journal of Family Issues*, 40(1), 48–84. <https://doi.org/10.1177/0192513X18800782>

Shelleby, E. C. (2018). Economic stress in fragile families: Pathways to parent and child maladjustment. *Journal of Child and Family Studies*, 27(12), 3877–3886. <https://doi.org/10.1007/s10826-018-1232-z>

Selig, J. P., & Little, T. D. (2012). Autoregressive and cross-lagged panel analysis for longitudinal data. In B. Laursen, T. D. Little, N. A. Card (Eds.), *Handbook of developmental research methods* (pp. 265–278). Guilford Press.

Spiliotopoulou, G. (2009). Reliability reconsidered: Cronbach's alpha and paediatric assessment

- in occupational therapy. *Australian Occupational Therapy Journal*, 56(3), 150-155.
<https://doi.org/10.1111/j.1440-1630.2009.00785.x>
- Teubert, D., & Pinquart, M. (2010). The association between coparenting and child adjustment: A meta-analysis. *Parenting: Science and Practice*, 10(4), 286-307.
<https://doi.org/10.1080/15295192.2010.492040>
- Tissot, H., Favez, N., Ghisletta, P., Frascarolo, F., & Despland, J. N. (2017). A longitudinal study of parental depressive symptoms and coparenting in the first 18 months. *Family Process*, 56(2), 445-458. <https://doi.org/10.1111/famp.12213>
- Williams, D. T. & Cheadle, J.E. (2016). Economic hardship, parents' depression, and relationship distress among couples with young children. *Society and Mental Health*, 6(2), 73-89. <https://doi.org/10.1177/2156869315616258>
- Wilson, S., & Durbin, C. E. (2010). Effects of paternal depression on fathers' parenting behaviors: A meta-analytic review. *Clinical Psychology Review*, 30(2), 167-180.
<https://doi.org/10.1016/j.cpr.2009.10.007>
- Wood, R., McConnell, S., Moore, Q., Clarkwest, A., & Hsueh, J. (2010). *Strengthening unmarried parents' relationships: The early impacts of Building Strong Families*. Mathematica Policy Research.

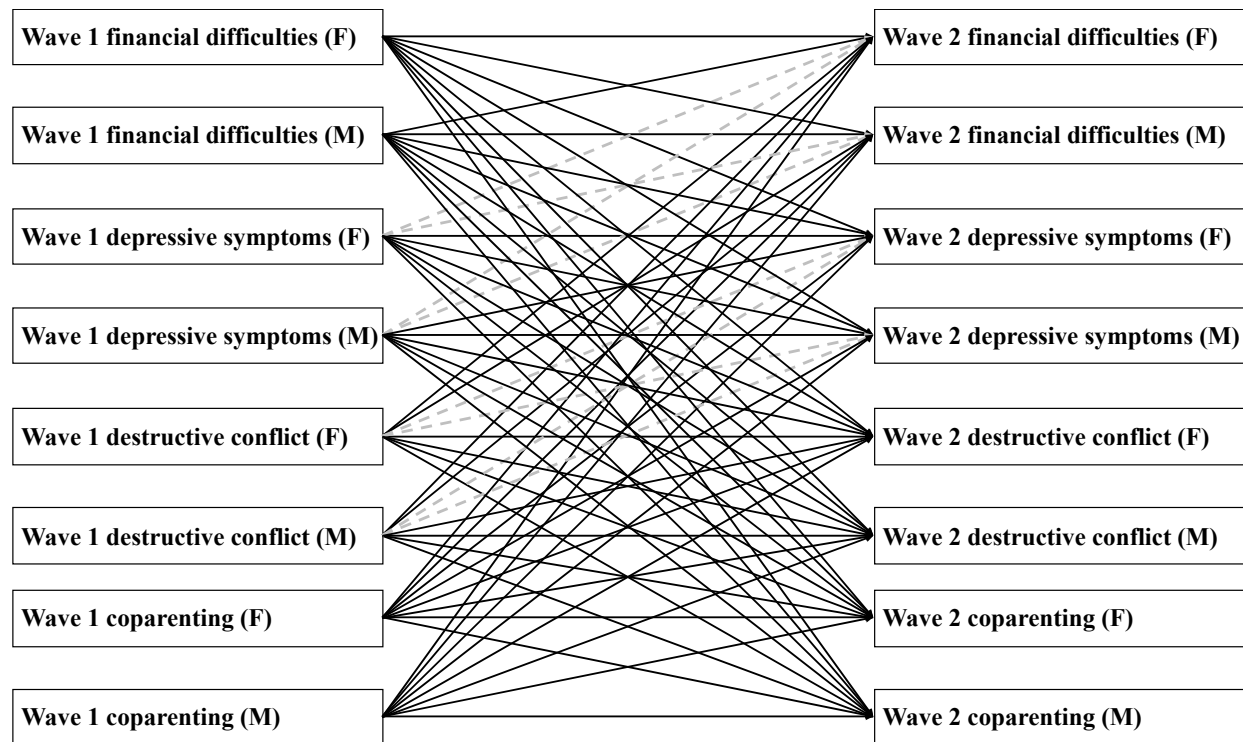


Figure 1 Conceptual model ($N = 4,424$ couples)

Note. F = fathers; M = mothers. Wave 1 = 15 months; Wave 2 = 36 months. In total, 8 stability effects and 56 cross-lagged effects need to be estimated in the two-wave, cross-lagged, actor-partner interdependence model. We controlled for the covariates listed in the Measurement section. The gray, dashed cross-lagged effects were hypothesized to be nonsignificant.

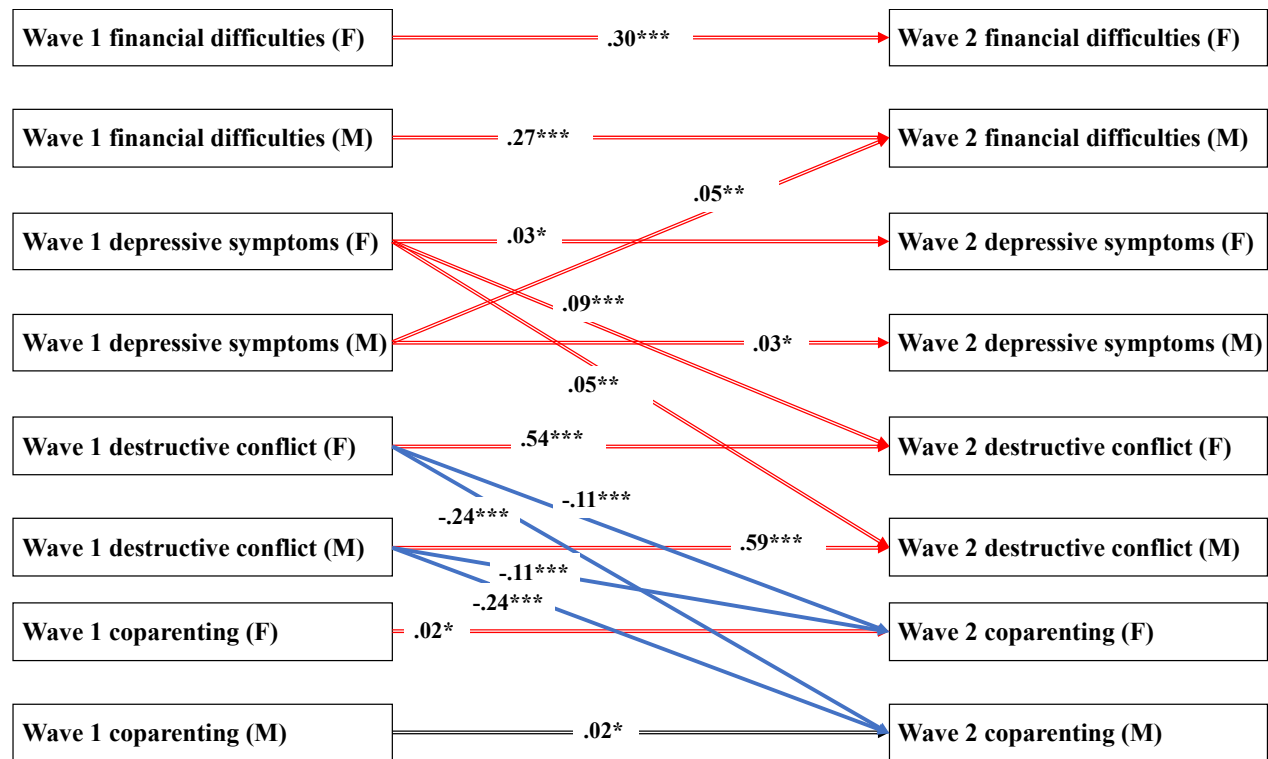



Figure 2 Pathway analyses ($N = 4,424$ couples)

Note. F = fathers; M = mothers. Wave 1 = 15 months; Wave 2 = 36 months.

Standardized coefficients are presented. For clarity: (a) all covariates listed in the Measurement section have been controlled for; (b) pathways for parameter estimates with $p > .05$ are not presented; (c) pathways for positive associations with $p < .05$ level are depicted as →; (d) pathways for negative associations with $p < .05$ are displayed as →.



[Click here to access/download](#)

Supplemental Material

[2c Supp Descriptive Analyses & Correlations fin.pdf](#)

