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Parental Depression and Cooperative Coparenting: A Longitudinal and Dyadic Approach

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Abstract

Objective—To examine the relationship between parental depression and cooperative coparenting among couples over the first 5 years after a birth.

Background—Previous research has considered how depression affects coparenting but has not focused on the association as a longitudinal and dyadic process. Understanding coparenting is important as it is linked to parents' and children's well-being.

Method—Data from the Fragile Families and Child Wellbeing (FFCW) study were analyzed using actor–partner interdependence models. The FFCW follows families and their children as part of a birth cohort of children who were born in large urban cities of the United States in the late 1990s.

Results—The actor–partner interdependence models indicated that (a) parents' depression is associated with decreased coparenting perceptions for both mothers and fathers, and the effects endure over time; (b) fathers' depression was also associated with mothers' perceptions of cooperative coparenting over the later years; and (c) differences between mothers and fathers emerged only during the early years, with the effect of depression on coparenting being larger for fathers than mothers.

Conclusion—The results not only highlight the importance of both parents' mental health on coparenting but also the added role that fathers' depression plays in shaping their own and their partners' perceptions of coparenting.

Implications—Policy makers and family practitioners who are invested in building healthy families may find it valuable to screen for and treat mental illness in the context of creating programs to increase cooperative coparenting.

Cooperative coparenting, the extent to which parents respect and support each other's parenting efforts (Feinberg, 2003), is an important family process that simultaneously links mother–father dyads and parent–child dyads (Hohmann-Marriott, 2011). Maintaining a supportive coparenting relationship is essential for many families. For example, prior research shows that the quality of coparenting is related to positive parenting behavior (Feinberg, Kan, & Hetherington, 2007), children's well-being (Baril, Crouter, & McHale, 2007; McHale, 2007; Palkovitz, Fagan, & Hull, 2013), and intimate partners' relationship quality (Schoppe-Sullivan & Mangelsdorf, 2013). The coparenting relationship begins after the birth of a child, as mothers and fathers begin to take on the joint enterprise of sharing parental responsibilities and duties and learn to work together as a team to ensure the optimal well-being for their child and family. Even as parents develop effective ways to

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coparent, the child-rearing experience can produce stressors and demands that can be challenging for many parents, leading to an increase in parental psychological distress (Nomaguchi, 2012; Umberson, Pudrovska, & Reczek, 2010). Parental mental health, in turn, may interfere with the ways couples effectively coparent or work together as mutual caretakers (Feinberg, 2003).

Although prior studies have examined parental depression and coparenting in two-parent intact families, many of these studies have been limited in a number of ways. First, previous research has focused on coparenting from only one parent's perspective (Bronte-Tinkew, Moore, Matthews, & Carrano, 2007; Bronte-Tinkew, Scott, Horowitz, & Lilja, 2009). This is surprising given that coparenting is fundamentally a dyadic process, which suggests that both parents' view of the coparenting relationship should be considered (Hohmann-Marriott, 2011). Further, previous research demonstrates that mothers are more likely to be depressed than fathers (Rosenfield & Mouzon, 2013), and there is some indication that parents may also differ in coparenting perceptions (e.g., Mangelsdorf, Laxman, & Jessee, 2011). Thus, using only one partner's view of the coparenting relationship hinders the ability to examine potential differences between parents and whether cross-partner associations exist—that is, whether one partner's depression may influence the other partner's view of the coparenting relationship. Addressing this association is in line with the notion that family members are interdependent (Cox & Paley, 1997). Second, prior research using data from both mothers and fathers has relied on predominately White, nonrepresentative samples (Elliston, McHale, Talbot, Parmley, & Kuersten-Hogan, 2008), which limits the generalizability of results. Lastly, some scholars suggest that parental depression and the coparenting relationship between parents changes as children age (Mangelsdorf et al., 2011; Nomaguchi, 2012); however, only one study has addressed the longitudinal association between early depression and later coparenting using two time points (Bronte-Tinkew et al., 2007).

To address these limitations and extend prior research, the present study was designed to examine a theoretical model that takes into account the interplay among parental mental health, parents' gender, and children's developmental age (i.e., time) to understand how these factors affect the coparenting relationship among couples. The results from this study can be generalized to couples living together (either married or cohabiting) in urban areas over the first 5 years after the birth of their child. Data are leveraged from both mothers' and fathers' reports of depression and coparenting perceptions. Given that intimate partners do not always view their relationship in the same way (e.g., Carr & Springer, 2010), accounting for both parents' perceptions of the coparenting relationship can shine light on the complexity of family life and further elucidate how, and in what ways, mental health affects coparenting. Addressing these family processes may give valuable insight for coparenting intervention (Huntington & Vetere, 2015; McHale & Lindahl, 2011) given that family scholars have highlighted the importance of coparenting as a target of social policy to help families more holistically (Feinberg, 2002; McHale, Waller, & Pearson, 2012).

Conceptual Model and Literature Review

In this section, the conceptual model and prior empirical research are described in regard to the following research questions: (a) Is there an association between a parent's depression

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and perception of coparenting? (b) Does one parent's depression influence the other parent's perception of coparenting? (c) Do the associations vary between mothers and fathers over time? Figure 1 illustrates the conceptual model depicting parental depression and cooperative coparenting as a longitudinal and dyadic process. More specifically, the present research incorporates the ecological model of coparenting, stress crossover, gender perspective, and child development to address how mental health affects parents' own view of coparenting (Feinberg, 2003; denoted with solid arrows), how one partner's mental health affects the other partner's view of the relationship (Hatfield, Cacioppo, & Rapson, 1993; denoted with dashed arrows), the divergent patterns between mothers and fathers in mental health and child-rearing (Ridgeway, 2011; Rosenfield & Mouzon, 2013), and the changing developmental needs of children (Elder, 1998; represented by the arrows forming the clockwise circle). Examining these perspectives into a single study highlights the distinct ways in which mental health affects important family processes for both parents as their child grows and develops.

Parental Depression and Coparenting

Research suggests that parenting a young child can be especially demanding and challenging, which is associated with parental stress and depression (Matthey, Barnett, Ungerer, & Waters, 2000; Perren, Von Wyl, Bürgin, Simoni, & Von Klitzing, 2005). In fact, roughly 15 million children (about one in five) in the United States live in households with parents who have major or severe depression, and about 5% of parents in the United States who live in two-parent families with their children report two or more symptoms related to depression (Child Trends, 2014). Given that individuals within families are interdependent (Cox & Paley, 1997; O'Brien, 2005), and families are often structured in ways for parents to be responsible for nurturing children (e.g., the executive subsystem; McHale & Lindahl, 2011), a depressed parent may compromise the functioning of the entire family system, resulting in an unfavorable familial outcome.

To understand the extent to which depression affects the coparenting relationship, Feinberg (2003) proposed the *ecological model of coparenting*, which suggests that individual, family, and extrafamilial factors affect the coparenting relationship between parents. The present study focuses on individual characteristics (e.g., parental depression, although family and extrafamilial factors are considered as statistical controls). The ecological model posits that parents may manifest depression by withdrawing from family members, displaying anger, persistent complaining, and other forms of negative behaviors, which ultimately leads to the couple's inability to reconcile child-rearing differences (Feinberg, 2003), increases in conflict and distress between partners (Conger, Conger, & Martin, 2010; Feinberg, 2003; Williams & Cheadle, 2015), and declines in marital quality (Du Rocher Schudlich, Papp, & Cummings, 2011).

Although the ecological model suggests that depression may adversely affect coparenting among couple dyads, only a few studies have explicitly explored the empirical association, particularly among heterosexual, two-parent families. For example, in three studies using different samples of resident fathers, paternal depression was statistically associated with lower levels of fathers' report of coparenting support (Bronte-Tinkew et al., 2007; Bronte-

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Tinkew, Horowitz, & Scott, 2009; Isacco, Garfield, & Rogers, 2010). Additional studies, using samples of two-parent heterosexual families, found that fathers' depressive symptoms were statistically related to higher levels of coparenting conflict (Cabrera, Scott, Fagan, Steward-Streng, & Chien, 2012), and Elliston et al. (2008) found that fathers' depressive symptoms were associated with their own report of withdrawal in coparenting; however, the association between maternal depression and coparenting did not yield statistical relationships on these measures in either study.

Collectively, these prior studies reveal that the association between depression and coparenting is primarily among fathers. The findings, however, must be interpreted with caution. For example, Bronte-Tinkew and colleagues only examined coparenting from the fathers' perspective (Bronte-Tinkew, Horowitz, et al., 2007; Bronte-Tinkew, Scott, et al., 2009). Moreover, the high correlations between these variables in Isacco et al.'s (2010) path model study of fathers may have been due to high collinearity among the variables of interest. Studies using samples with couples have also been limited in that mothers' and fathers' coparenting have been examined separately while employing either bivariate correlations (Elliston et al., 2008) or ordinary least squares regression (Cabrera, Shannon, & La Taillade, 2009), neither of which takes into account the nonindependence of dyadic data.

Although coparenting represents a dyadic process, limited attention has been given to the empirical association between parental depression and coparenting perceptions from both parents using a dyadic framework—theoretically and analytically. In couple dyads, not only can a parent's depression affect his or her own perception of coparenting, as the ecological model posits (Feinberg, 2003), but a parent's mental illness may also affect their partner's coparenting perceptions and behaviors. More specifically, emotional crossover—or, crossover effects—as a theoretical framework suggests that individuals in close relationships can influence the affect, cognition, and behavior of the other partner (Hatfield et al., 1994; Song, Foo, & Uy, 2008). As such, parents' depression may influence the extent to which their partner perceives the coparenting relationship. Depression tends to incapacitate parents in ways that negatively affect their parenting and coparenting efforts by being emotionally unavailable (lack of parental warmth, sensitivity, etc.) toward their child (Hoffman, Crnic, & Baker, 2006). Consequently, this may lead to less favorable views from the other partner with regard to the coparenting relationship. Although prior studies have not explicitly examined parental depression and coparenting in a cross-partner context, many studies have shown that one parent's mental health "crosses over" to affect the partner's view of the relationship (e.g., Du Rocher Schudlich et al., 2011; Williams & Cheadle, 2015). Thus, based on previous research, the following hypotheses are offered:

> H1: Parents who are depressed subsequently perceive worse cooperative coparenting quality than parents who are not depressed (actor effect).
>
> H2: Coparenting partners of parents who are depressed subsequently perceive worse cooperative coparenting quality than coparenting partners of parents who are not depressed (partner effect).

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Gender Roles and Parenting

Families are dynamic systems characterized by roles, expectations, and behaviors that tend to undergo changes over time (Cox & Paley, 1997). Gender roles often shape how parental roles are differentiated; notions of what being a "mother" and "father" entails are often organized around the social construction of gender (Ridgeway, 2011), which leads to gender-specific behaviors and roles such as mothers as caretakers and fathers as economic providers. Adhering to traditional gender roles often creates an imbalance in the family system in which women are responsible for the majority of unpaid housework, even when they are also contributing to the family economically by participating in the paid workforce (e.g., Craig & Mullan, 2011). As such, gender role differences tend to create a differential exposure to stress, leading to a higher prevalence of depression among women than men (Rosenfield & Mouzon, 2013).

The disparity between mothers and fathers in childcare tends to be more apparent when children are younger, especially during the transition to parenthood. As children age and develop, their needs also change (Elder, 1998). Specifically, child-rearing during the early years tends to be daunting because the child is completely dependent on the parents for his or her survival. During this time, many parents—mostly mothers—figure out strategies to accommodate their new child's needs (Feinberg & Kan, 2008; Le, McDaniel, Leavitt, & Feinberg, 2016). However, as children develop more independence, parents tend to become more coordinated with their coparenting efforts (Mangelsdorf et al., 2011). Taken together, the following hypothesis is offered:

> H3: Parental depression is more strongly associated with low coparenting perceptions among mothers than fathers over time, and this distinction is stronger in early years than later years.

Additional Factors

Several variables are likely associated with both depression and coparenting. For example, prior research has documented marital status differences (married vs. cohabitors) in both depression (Brown, 2000) and coparenting (Hohmann-Marriott, 2011). Parental age is negatively associated with risk for depression (Mirowsky & Ross, 2002) and positively associated with cooperative coparenting (Bronte-Tinkew et al., 2007). Parents' levels of education are negatively associated with depressive symptoms (Lorant et al., 2003) and positively associated with cooperative coparenting (Stright & Bales, 2003). Physical health among parents is positively linked to mental health (Webb et al., 2008) and cooperative coparenting (Carlson, McLanahan, & Brooks-Gunn, 2008). Poverty and unemployment are associated with higher risk for depression (Dooley, Prause, & Ham-Rowbottom, 2000) and a lower likelihood of cooperative coparenting (Lindsey, Caldera, & Colwell, 2005).

Race and ethnicity are also important to consider given that minority parents (Blacks and Latinos) are more likely to be depressed than White parents (Child Trends, 2014); however, race and ethnic variations in coparenting are less clear (Feinberg, 2003). Social support is associated with higher levels of cooperative coparenting (Lindsey et al., 2005) and lower risk of depression (Thoits, 2010). Parental impulsivity is related to lower levels of cooperative coparenting (Talbot & McHale, 2004) and higher risk of experiencing depressive symptoms

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(Carlson et al., 2008). Multipartnered fertility (Bronte-Tinkew, Horowitz, et al., 2009; Turney & Carlson, 2011) and the number of children parents have together are both associated with higher risk for depression (McLanahan & Adams, 1987; Turney & Carlson, 2011) and lower levels of coparenting (Lindsey et al., 2005). Relatedly, the birth order (i.e., first birth vs. higher order birth) affects parents' mental health (Mirowsky & Ross, 2002), as well as effective coparenting (McHale, 2007). Child characteristics are also related to cooperative coparenting. For example, parents with children who have a difficult temperament or poor health tend to have less cooperative coparenting (Davis, Schoppe-Sullivan, Mangelsdorf, & Brown, 2009) and higher risk of parental depression (Hanington, Ramchandani, & Stein, 2010) than their counterparts who have children with easier temperaments or better health, respectively. There is mixed evidence that cooperative coparenting may vary according to the interplay between child's sex and parent's sex, whereby coparenting for mothers is higher with daughters, and fathers with sons (e.g., Mangelsdorf et al., 2011). Accordingly, these factors are adjusted for in the statistical analyses.

Method

Data

Data for this study are from the Fragile Families and Child Wellbeing study, a nationally representative, longitudinal study that follows an urban birth cohort of 4,898 children and their parents (3,712 unmarried and 1,186 married births) in 20 U.S. cities with populations of 200,000 or more. The study is based on a stratified, multistage probability sample with an oversample of births to unmarried parents in urban cities. Data collection began in 1998–2000 and contains 4,898 mothers and 3,830 fathers. At baseline, mothers were interviewed in person while in the hospital within 48 hours of childbirth, and each father was interviewed in person or by phone once he was located (Reichman, Teitler, Garfinkel, & McLanahan, 2001). Parents were interviewed again when the child was 1, 3, and 5 years of age. Although information from all survey years were used, the analyses are focused on Years 1, 3, and 5, when measures were available for both depression and coparenting.

For the current study, the sample only included couples (biological mothers and fathers of the focal child) who were living together all or most of the time (either cohabiting or married) and were consistently in a romantic relationship over time. The initial sample was restricted to 2,437 couples who were in a romantic relationship at the 1-year follow-up interview and participated in two or more of the follow-up surveys. To maintain couples who were romantically involved consistently over all surveys, 17% (425 cases) were dropped at the Year 3 follow-up because they were no longer in a romantic relationship, and another 4% (104 cases) were dropped due to missing data. At the Year 5 follow-up, 16% (306 cases) were dropped because they were no longer in a romantic relationship, and another 7% (143 cases) were dropped due to missing data. Thus, the final analytic sample consisted of 1,459 couples. In the analyses of attrition, excluded cases were slightly younger, had less educational attainment, and were more likely to be Black or Hispanic than the parents who remained in the sample. Implications of attrition are provided in the Discussion section.

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As a result of the selection criteria, the number of complete cases varied across key factors (depression and coparenting) over the survey years for mothers and fathers (see Tables 2 and 3). Thus, to maximize sample size and preserve as much information as possible, we employed hybrid multiple imputation (for covariates) and full information maximum likelihood (for depression and coparenting) to estimate the model parameters (Acock, 2005; Allison, 2002; Enders & Bandalos, 2001). In this way, only couples who remained together contributed to the estimation of parameters, while preserving information on exogenous variables. This procedure yields more reliable inferences compared with traditional missing data techniques, such as listwise deletion (Enders, 2001). Ten multiple imputation data sets were constructed using imputation by chained equations in STATA 14, then the analyses were conducted and combined using Rubin's rules (Little & Rubin, 2002) in M*plus* 6.11.

Measures

Depression—Depression at each wave was assessed using the Composite International Diagnostic Interview—Short Form for Major Depression (CIDI–SF; American Psychiatric Association, 1994), which is a comprehensive, standardized instrument used to assess the presence of mental disorders as specified by the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; American Psychiatric Association, 1994). The instrument has been shown to have satisfactory reliability and validity (Gigantesco & Morosini, 2008; Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998). Both parents were asked stem questions about whether, at some time during the past year, they had feelings of dysphoria or anhedonia. Parents who experienced dysphoria or anhedonia for a 2-week period most of the day or every day were asked additional questions regarding the following symptoms: (a) "losing interest," (b) "feeling tired," (c) "changes in weight," (d) "trouble sleeping," (e) "trouble concentrating," (f) "feeling down," and (g) "thoughts about death." Mothers and fathers who affirmed at least one stem question and at least three of the other seven questions were considered *depressed* (coded as 1); all others were considered *not depressed* (0). Given that he CIDI–SF is a binary diagnostic measure and not a scalar symptoms measures (as with the Center for Epidemiologic Studies Depression Scale, depression severity cannot be assessed.

Coparenting—The cooperative coparenting quality between parents was gauged at the 1-, 3-, and 5-year follow-up surveys by asking each parent five items that reflect interparental cooperation, communication, and the extent to which parents respected and valued each other's parental roles (Cohen & Weissman, 1984). The same items have been used in prior studies using these data (e.g., Dush, Kotila, & Schoppe-Sullivan, 2011). The items are as follows: (a) "When (father/mother) is with (child), he/she acts like the father/mother you want for your child," (b) "You can trust (father/mother) to take good care of (child)," (c) "He/She respects the schedules and rules you make for (child)," (d) "He/She supports you in the way you want to raise (child)," and (e) "You and (father/mother) talk about problems that come up with raising (child)." Response options are for each item are *rarely true, sometimes true*, and *always true*. Because only a few parents reported "rarely true," this response category was combined with "sometimes true" and thus further recoded as a dichotomous variable to reflect low cooperative coparenting (0) and "always true" was considered high cooperative coparenting (1). Each dichotomous item is used in the confirmatory factor

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analysis and structural model and thus are modeled using probit equations with weighted least square mean variance estimator (see Analytic Strategy herein).

Additional factors—All statistical models included control variables that are expected to be associated with depression and coparenting. Each control variable is represented for both mothers and fathers at the baseline survey (unless otherwise specified). Marital status at baseline was classified as either married (0; reference group) and or cohabiting (1). Mothers' and fathers' age was measured (in years) as continuous variables. Mothers' and fathers' education level was measured using four categories: (a) less than high school (reference group), (b) high school or equivalent, (c) some college or tech training, and (d) college graduate or more. Each parent's race or ethnicity was classified as non-Hispanic White (reference group), non-Hispanic Black, Hispanic, or other. Physical health (measured at the 1-year follow-up for parents and child) was measured by asking both parents the following question: "In general, how is your health?" Response options were *poor, fair, good, very good*, and *excellent*. Employment status was classified dichotomously to indicate whether each parent "did any regular work for pay last week." Responses were *no* (0) and *yes* (1). Poverty status (at the baseline survey) was measured using the household income-to-needs ratio based on the official U.S. poverty thresholds from the Census Bureau (adjusted for household composition and year). The variable was dichotomized to indicate that a ratio of 1 or less signified that the family lived in poverty, and a ratio above 1 signified that the family lived above the poverty line; the ratios were then classified as either *no poverty* (0) or *poverty* (1).

Social support was measured by combining responses to three dichotomous—*no* (0), *yes* (1)—items that correspond to the following question: "During the next year, if you needed help, could you count on someone to (a) loan you $200? (b) provide a place to live? (c) help with babysitting or child care?" Items were summed, creating a possible range from 0 to 3; higher scores corresponded with more social support. Parent's impulsivity was gauged using Dickman's (1990) impulsivity scale (six items) to capture the ability to have self-control; responses range from *strongly disagree* (1) to *strongly agree* (4), with higher scores reflecting higher impulsivity. Mothers reported the number of children in the household at the 1-year follow-up. Parents' fertility history was gauged with two separated measures. First, a measure was created to indicate whether the focal child was a first birth (0) or higher order birth (1). Second, a measure was created to indicate multipartnered fertility status—that is, whether mothers and fathers reported having a child with another partner—at the 1-year follow-up: (a) neither parent had a child by another partner (reference group), (b) only the father had a child by another partner, (c) only the mother had a child by another partner, and (d) both parents had a child by another partner. The study also takes into account additional child characteristics such as child's sex (*female* [0] or *male* [1]) and temperament, which is measured by six items that gauge the difficulty of a child's temperament, with higher scores indicating a more difficult temperament. Mothers reported child's health with responses ranging from *poor* (1) to *excellent* (5).

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Analytic Strategy

Descriptive statistics—Descriptive statistics controls are depicted in Table 1. City sampling weights were used for the bivariate statistics (shown in Table 1) to adjust for the oversample of nonmarital births in the Fragile Families Study. Using the weights enabled us to generalize to all couples living together across the 20 urban cities after their child's birth. However, this was not the case for other analyses because the models include controls for key characteristics associated with the weights (e.g., marital status at the birth of the child, age, race, and education; see Winship & Radbill, 1994).

Differences between mothers and fathers—To test differences between mothers and fathers regarding the key variables (i.e., depression and coparenting), two different statistical procedures were employed. For depression, differences between parents were evaluated using chi-square difference tests. For cooperative coparenting, differences between mothers' and fathers' levels of coparenting were examined by evaluating the latent means invariant test between mothers and fathers using confirmatory factor analysis (CFA) within each year in M*plus* 6.11. Following South, Krueger, and Iacono's (2009) study that outlines the ways to compare CFA models between women and men using dyadic data, we did the following: (1) To account for the interdependence of the data, the CFA models were modeled at the couple level (e.g., both mothers and fathers were on the same line of data). (2) Given that the observed variables for coparenting are categorical, the weighted least square mean variance estimator (WLSMV) was used. (3) The latent means between mothers and fathers were estimated by comparing a model in which the means were freely estimated and a model in which the means were constrained to be equal. As a result of using WLSMV, the difference in chi-square values cannot be used because the model is not distributed as chi-square; rather, the DIFFTEST option of the SAVEDATA command in M*plus* must be used to calculate difference in chi-square. If the chi-square difference value ($\Delta\chi^2$) is statistically significant when comparing the two models, it suggests that the two means are not equivalent between groups (i.e., mothers and fathers). Latent mean invariance test is preferred over other approaches (e.g., paired *t* test) to take into account the non-independence of dyadic data.

Actor–partner interdependence models—Structural equation modeling (SEM; Bollen, 1989) was employed using M*plus* 6.11 (Muthen & Muthen, 2010). SEM is a useful statistical technique for handling dyadic data within the context of actor–partner interdependence models (APIMs) with distinguishable dyads (Kenny, Kashy, & Cook, 2006). Using an APIM allows for the estimation of each parent's own depression (actor effect) and the partner's depression (partner effect) on cooperative coparenting. This approach accounts for the nonindependence of mother and father reports of cooperative coparenting. The APIMs in the present study were estimated across two separate models: (a) parents' depression at the 1-year follow-up on coparenting at the 3-year follow-up; and (b) parents' depression at the 3-year follow-up on coparenting at the 5-year follow-up. For the analyses, parental depression entered the models as a manifest variable and coparenting as a latent variable, which includes the five items reported above for the coparenting measure.

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In addition, whether the parameter estimates differed between parents was also examined. Thus, the analyses are further leveraged to assess whether the association between depression and coparenting differed between mothers and fathers using *t* tests of coefficient constraints to assess parameter-specific hypothesis tests. For example, mothers' actor effect parameter estimates ($\beta_{mothers}$) were compared with fathers' actor effect parameter ($\beta_{fathers}$), and mothers' partner effect parameter estimates were compared with fathers' partner effect parameter estimates.

Results

Descriptive Statistics

Table 1 presents demographic characteristics of the coresiding (i.e., married and cohabiting) mothers and fathers in the sample (weighted using the city sampling weights). When their child was born, mothers and fathers were a mean of 28 and 30 years of age, respectively. The majority of the respondents were married (72%) and college graduates (32%). The sample was diverse in terms of race and ethnicity; 41% were non-Hispanic White (41%), 30% were Hispanic, and 19% were Black. Mothers and fathers tended to be in generally good health, and 74% did not have a child by another partner. The focal child was a boy for more than 60% of couples.

Table 2 shows descriptive characteristics (unweighted) for parental depression and cooperative coparenting, and the significant differences between mothers and fathers were evaluated using chi-square tests and mean invariance tests. On the basis of the chi-square difference test, there was a statistically significant association between depression and parents' gender, with roughly 11% to 15% of mothers experiencing depression at any given time, which was about 1.6 to 2.0 times the prevalence of depression among fathers.

To test latent factor mean differences between mothers and fathers, mean invariance tests were employed using confirmatory factor analysis comparing a constrained and an unconstrained model (see Table 3). To estimate the latent mean differences between mothers and fathers, the means for mothers were set to zero (to indicate the reference group and for identification purposes; Chiorri, Day, & Malmberg, 2014; South et al., 2009), and the means for fathers were allowed to be freely estimated. The results of the overall model revealed that the unconstrained model fit the data better than the constrained model, as indicated by the $\Delta\chi^2$ ($p < .001$) and the fit indices (comparative fit index and root mean square error of approximation) across models, which suggest the latent means are not equivalent between parents. More explicitly, the standardized (measured in *SD* units) results show that latent means for cooperative coparenting among fathers were statistically higher than among mothers at Year 1 ($SD_{fathers} = 0.21$; $p = .03$), Year 3 ($SD_{fathers} = 0.55$; $p < .001$), and Year 5 ($SD_{fathers} = 0.50$; $p < .001$). Fit indices show that the model fit the data well (see Table 3). Although the coparenting reports are relatively lower at Year 1, which may reflect the early adjustment period for parents, the reports are moderately stable at the Year 3 and Year 5 follow-up years.

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Actor–Partner Interdependence Models

The first goal of this study was to examine the association between parental depression and cooperative coparenting as a longitudinal and dyadic process using a large, diverse sample of urban couples during their child's early years (i.e., infant, toddler, and preschooler). To address this goal, the analyses were executed using APIMs. The results are presented in Table 4. With respect to actor effects in Model 1, being depressed (compared to not depressed) at Year 1 was associated with lower a level of perceived cooperative coparenting at Year 3 among both mothers ($SD = 0.33$, p = 001 and fathers ($SD = 0.66$, $p < .001$). Similar actor effects were found in Model 2, where being depressed (compared to not depressed) at Year 3 was associated with a lower level of perceived cooperative coparenting at Year 5 among both mothers ($SD = 0.35$, $p < .001$) and fathers $SD = 0.24$, $p = .034$ These consistent findings support the research hypothesis associated with the ecological model of coparenting. That is, parents' individual-level characteristics, such as depression, are associated with were adverse perceptions of the coparenting relationship for both mothers and fathers.

The second goal of the study was to examine partner effects. No statistical partner effects emerged in Years 1 to 3 (see Model 1 in Table 4). In Years 3 to 5 (Model 2), the results show that when fathers were depressed at Year 3 (compared with nondepressed fathers), mothers reported a lower level of cooperative coparenting at Year 5 (SD = −0.24, $p = .034$). The association between mothers' depression and fathers' report of cooperative coparenting, however, did not reach statistical significance. Taken together, the findings give partial support for the cross-partner hypothesis. That is, only fathers' depression was associated with mothers' perceptions of the quality of the coparenting relationship, and this was the case only over the later years (e.g., Year 3 to Year 5).

The third goal of this study was to test whether the association between parental depression and cooperative coparenting varied between mothers and fathers over time. To do this, the analyses were executed using *t* tests of coefficient constraints to assess whether mothers' actor effects differed from fathers' actor effects and whether mothers' partner effects differed from fathers' partner effects. The results (see Table 4) revealed that differences emerged in Year 1 to Year 3 between mothers and fathers in the actor effects ($t_{\text{difference}} = 2.05$, $p = .04$ denoted with superscript *a*). The effects were not statistically different between parents in the partner effects. Moreover, no differences emerged between mothers and fathers on the association between parental depression at Year 3 and coparenting at Year 5. Thus, the effects of depression on coparenting were stronger for fathers than mothers only over the early years (Year 1 to Year 3).

Discussion

The purpose of the present study was to assess the interrelated ways that parental mental health, parents' gender, and children's developmental stage (i.e., age) affect the coparenting relationship among couples with a young child. The interrelatedness was addressed by (a) examining the intraindividual effects of each parent's own depression on his or her own coparenting perceptions, (b) examining the intradyadic effects of each parent's own depression on his or her partner's coparenting perceptions, and (c) assessing whether the

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effects vary between parents (mothers and fathers) over time. Using data from a large and diverse nationally representative sample of births to parents in urban cities, the present study reveals how maternal and paternal depression affects cooperative coparenting and the dynamic ways parents' gender affects the association as children develop over time.

Consistent with previous research, the results support Feinberg's (2003) ecological model of coparenting and additional empirical studies that suggest parents' individual characteristics such as depression can influence the overall coparenting relationship (Bronte-Tinkew et al., 2007; Cabrera et al., 2009). Prior research contends that parents' depression has deleterious consequences on the coparenting relationship in couple dyads, although few studies have empirically examined the association, and no prior study uses a dyadic framework. The present study elaborates on these prior findings by revealing the intraindividual effects of parental depression and coparenting for both parents over time. The results not only reflect the potentially deleterious effects mothers' and fathers' mental health may have on the ways intimate partners coparent but the effects also have a longitudinal and persistent link whereby being depressed at earlier times is consistently associated with a relatively low level of cooperative coparenting later. These findings are especially important during a child's early development. For instance, parents' depression and unfavorable coparenting are associated with adverse outcomes for children and the overall relationship quality among couples (Child Trends, 2014; Feinberg, 2003; Le et al., 2016).

In addition, the findings provide partial support for the crossover perspective. Specifically, only fathers' depression was associated with lower coparenting perceptions among mothers; however, the association only emerged during the later years (father depression at Year 3 to mother coparenting perspective at Year 5). Given that the cross-partner effects during the early years were not statistically significant, and the only statistical effects during the later years were for fathers, the findings may be best understood in the context of children's development. For instance, given that fathers tend to become more involved with child-rearing when children are older (e.g., Jones & Mosher, 2013), mothers may become more evaluative of fathers coparenting contributions. This is in line with the idea of maternal gatekeeping in which mothers oversee the work of fathers to maintain day-to-day functions of family life (Allen & Hawkins, 1999). Gatekeeping may become especially important for mothers when fathers are depressed because men tend display externalizing behaviors (e.g., substance abuse, violence). The absence of a statistically significant cross-partner association from mothers' depression to fathers' coparenting may be aligned with the notion of the nurturant-role hypothesis, in which mothers may continue to provide emotion work for family members, even during periods of their own illness (Gove, 1984). As such, mothers' depression may not affect fathers' perception of coparenting. Taken together, the results not only underscore the importance of taking an intradyadic approach to couples' research but also highlights the role fathers' mental health may have on mothers' perception of the coparenting relationship.

With regard to differences between parents, the results also reveal partial evidence that the association between parental depression and coparenting varied between mothers and fathers in couple dyads. Specifically, the association between fathers' depression and their own coparenting perceptions was stronger than the association between mothers' depression and

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their own coparenting perceptions during the early years (i.e., depression at Year 1 to coparenting at Year 3). Moreover, no statistical relationship emerged between mothers' depression and fathers' coparenting perceptions during the later years (e.g., depression at Year 3 to coparenting at Year 5). Given that mothers are more involved with child-rearing than fathers (e.g., Bianchi & Milkie, 2010) and relationship quality declines between parents after the birth of a child (Lawrence, Rothman, Cobb, Rothman, & Bradbury, 2008), the association between depression and coparenting may be stronger for fathers than mothers. Depressed fathers may withdraw not only from the coparenting role but also from their intimate partner (Mangelsdorf et al., 2011). Also plausible, given that men and women manifest mental health problems differently (e.g., women display internalizing disorders whereas men exhibit externalizing disorders; Rosenfield & Mouzon, 2013), the stronger association for fathers than mothers may reflect fathers being unpleasant partners, especially during the early years.

The results highlight family systems theory in general (Cox & Paley, 1997), and stress-crossover association of psychological distress and family functioning among couple dyads in particular (Neff & Karney, 2007). The findings also point to the importance of examining both parents over time. That is, the association between parental mental health and the coparenting relationship between parents appears to be contingent on the parent's gender and the developmental stage of the child. Future research can move this line of inquiry forward by examining how depression affects coparenting as children get older (e.g., adolescents, college age). Moreover, other factors such as marital status, birth order, multipartnered fertility, and socioeconomic status may moderate the relationship between parental depression and supportive coparenting.

Although the covariates were not central to the current study, some attention to the few control variables that emerged as statistically associated with coparenting is warranted. For instance, both parents' impulsivity was associated with lower levels of coparenting across both analytical models. These consistent associations demonstrate that when parents give little or inadequate forethought to their behaviors, it adversely affects the coparenting relationship. In addition, both parents' physical health was associated with higher levels coparenting (see Model 1). This finding may suggest that being in excellent physical health, at least during the child's infant years when they require more attention, facilitates an environment where parents can be supportive partners in the child-rearing process. In Model 2, cohabiting mothers reported lower levels of cooperative coparenting than married mothers, and mothers with boys reported higher levels of coparenting than mothers with girls. Given that the coparenting measures reflect one parent's perceptions of how the other parent is engaged in parenting role, these findings may reflect similar processes—that is, as children age, fathers are more likely to engage in parenting (e.g., Cabrera, Tamis-LeMonda, Bradley, Hofferth, & Lamb, 2000), and this engagement is higher for married fathers and fathers with boys. Also, Hispanic fathers reported higher coparenting perceptions than White fathers. Although the there is less research on race and ethnic variations in coparenting, there is some research on the importance of familism among Hispanic populations (e.g., Orengo-Aguay, 2015). Overall, these findings suggest that more research on the factors that affect coparenting is needed.

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Implications

The results may have important implications for policy and intervention. For example, in light of policies that focus on strengthening couples' relationship among low-income couples to promote father involvement and favorable outcomes for children, the notion of coparenting has been somewhat ignored (McHale, 2010). Yet studies show that cooperative coparenting is beneficial to children's well-being (Palkovitz et al., 2013) and paternal involvement (e.g., Schoppe-Sullivan et al., 2008). As the results in the present study revealed, parental poor mental health (in the form of depression) is associated with low perceptions of cooperative coparenting between mothers and fathers. Thus, public policy efforts may also find it valuable to include ways to screen for and treat mental illness and create programs to increase cooperative coparenting to help parents work together to mutually care for their child (Huntington & Vetere, 2015). Indeed, emerging evidence from Family Foundations shows favorable results in reducing depression, particularly for mothers (Feinberg & Kan, 2008). The results from the present study suggest that addressing parental depression as a longitudinal and dyadic process may be an important new wrinkle for prevention scientist to consider, especially in the context of fathers' mental health.

Limitations and Future Directions

Although the present study provides valuable insight on the association between depression and coparenting, there are notable limitations. First, the sample was restricted to couples living together consistently across survey years and thus may represent only parents with stable relationships. As such, these couples may experience coparenting much differently (e.g., compared with unmarried or otherwise less committed couples) and may also account for the relatively high levels of coparenting these parents tended to report. Second, as with many studies, there is potential for missing variable bias. To help reduce this threat, control variables were added to the statistical models that were theoretically linked to the endogenous variable in the study. Third, coparenting is a multidimensional construct (Feinberg, 2003; Van Egeren & Hawkins, 2004), and the present study only used cooperative coparenting perceptions. Future studies may benefit using additional measures of the coparenting relationship that tap into negative aspects of coparenting such as parental undermining. This line of research may also benefit from observational studies tapping into behavioral measures of coparenting. Last, a unidirectional link between depression and coparenting was examined in the present study; future research would benefit from a bi-directional approach to explore whether the coparenting relationship may have psychological benefits for parents.

Conclusion

Overall, the present study suggests that parental mental health is associated with perceptions of the coparenting relationship between mothers and fathers in couple dyads, and the associations seem to endure over time. Even more, fathers' depression seems to have a detrimental impact on not only their own coparenting perceptions but also mothers' perceptions of the coparenting relationship. Given the importance of coparenting for children and family well-being (e.g., McHale & Lindahl, 2011), the extent to which parental depression has a detrimental impact on cooperative coparenting perceptions may have far-

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reaching consequences for the entire family unit. Thus, addressing parental mental health, especially post-childbirth, may be crucial for the quality of the coparenting relationship and the overall well-being of families and children.

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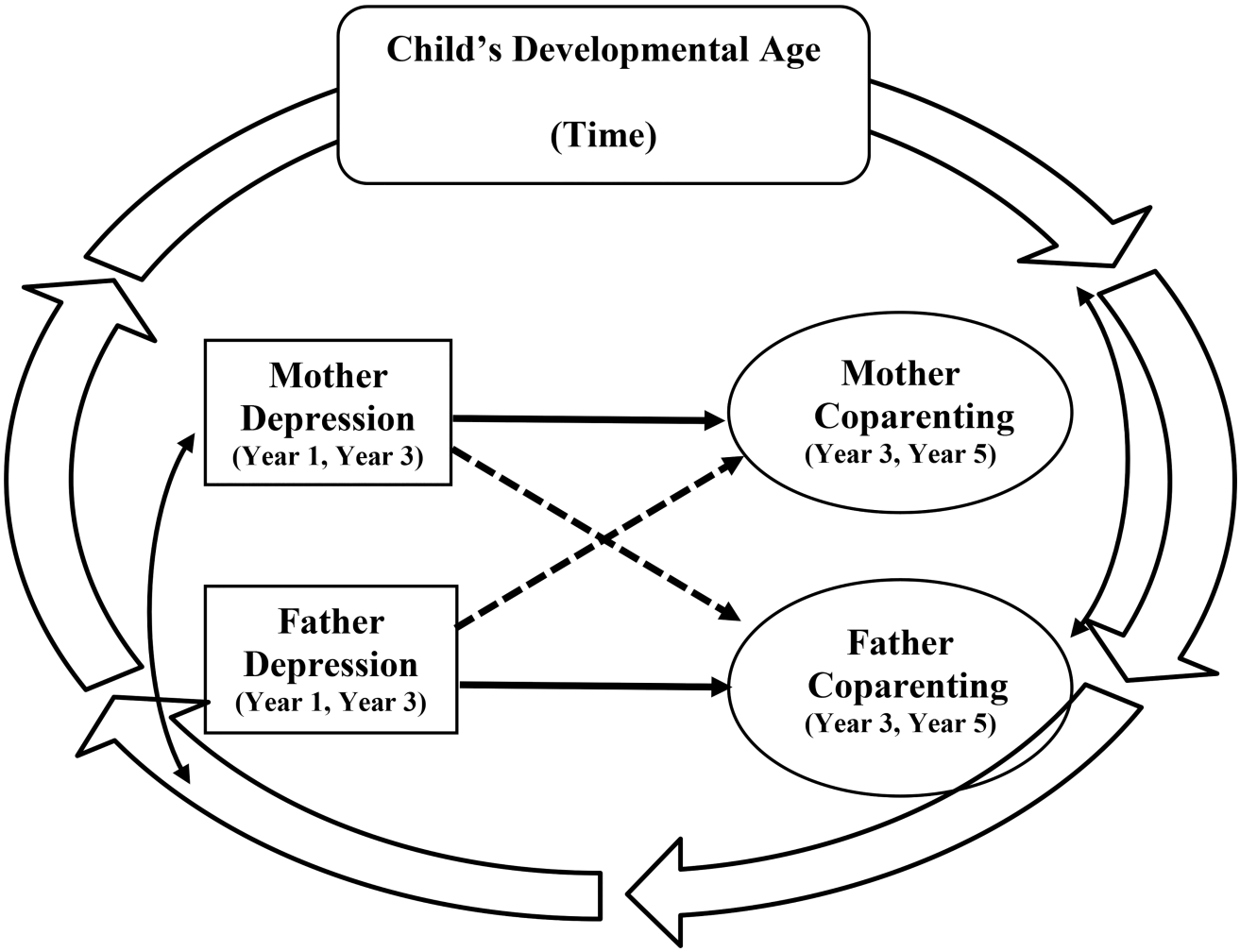

Figure 1.

Actor–partner interdependence model as a dyadic and longitudinal process. Solid arrows represent actor effects; dashed arrows represent partner effects. The model reflects a longitudinal association between depression and coparenting such that depression at Year 1 is linked to coparenting at Year 3, and depression at Year 3 to Coparenting at Year 5. Although not depicted in the figure, the model also takes into account parents' *individual characteristics* (marital status, age, education, race/ethnicity, health, social support, impulsivity, employment status), *couple characteristics* (higher order birth, multipartnered fertility, poverty status), and *child characteristics* (child's sex, health, temperament) as statistical controls.

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Table 1

Descriptive Statistics among Coresident Couples (Weighted)

	Mothers[a]		Fathers	
Variables	***n* or *M***	**% or *SD***	***n* or *M***	**% or *SD***
Individual characteristics				
Marital status				
Married	1,080			
Cohabiting	331			
Parental age	28.86	5.67	31.23	6.53
Education				
Less than high school	260	18.51	261	18.61
High school	384	27.27	270	19.25
Some college	283	20.15	360	25.65
College graduate	480	34.07	512	36.49
Race or ethnicity				
Non-Hispanic White	593	42.13	581	41.23
Non-Hispanic Black	250	17.80	256	18.19
Hispanic	417	29.61	458	32.51
Non-Hispanic other	147	10.46	113	8.07
Physical health	4.02	.87	4.08	.89
Social support	2.66	.72	2.50	.96
Impulsivity	1.89	.56	1.83	.60
Employed	752	53.27	1,197	89.62
Couples' characteristics				
Number of minor children in household	.99	1.21		
Higher order birth	714	53.33		
Multipartnered fertility				
Neither parent	1,063	76.10		
Mother only	120	8.59		
Father only	143	10.25		
Both parents	70.78	5.06		
In poverty	212	15.04		
Child characteristics				
Boy	837	59.30		
Physical health	4.55	.73		
Temperament	2.40	.66		
(Unweighted, N = 1,459)				

Note.

[a]Mothers' reports are provided for couple and child characteristics.

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Table 2

Prevalence of Depression in Mothers and Fathers, with Chi-Square Difference Tests

	Mothers			Fathers				
	Total *N*	**Depressed *n***	**%**	**Total *N***	**Depressed *n***	**%**	**$\chi^2(df)$**	***p***
Year 1	1,459	165	11.31	1,379	77	5.58	29.79(1)	<.001
Year 3	1,459	227	15.56	1,384	136	9.83	20.95(1)	<.001
Year 5	1,454	184	12.65	1,344	96	7.14	23.56(1)	<.001

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Table 3

Measurement Invariance Test of Factor Means Across Mothers and Fathers

	Total *N*		Unconstrained				Constrained				$\Delta\chi^2$	
	Mothers	**Fathers**	**CFI**	**RMSEA**	$\chi^2(df)$	***p***	**CFI**	**RMSEA**	$\chi^2(df)$	***p***	$\chi^2(df)$	***p***
Year 1	1,252	1,039	.999	.013	11.873(10)	.294	.962	.062	66.906(11)	<.001	38.728(1)	<.001
Year 3	1,458	1,372	.993	.036	28.631(10)	.001	.972	.070	87.699(11)	<.001	42.846(1)	<.001
Year 5	1,458	1,343	.993	.046	39.383(10)	<.001	.979	.077	102.316(11)	<.001	44.788(1)	<.001

Note. CFI = comparative fit index; RMSEA = root mean square error of approximation.

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Table 4

Standardized Parameter Estimates for Actor−Partner Interdependence Models

	Model 1[a] Coparenting (Year 3)						Model 2[b] Coparenting (Year 5)					
	Mothers			Fathers			Mothers			Fathers		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Depression (actor effect)	−0.33[a]	0.10	.001	−0.66[a]	0.12	<.001	−0.35	0.08	<.001	−0.24	0.11	.034
Depression (partner effect)	−0.19	0.11	.095	−0.00	0.09	.964	−0.24	0.11	.021	−0.16	0.09	.067
Control variables												
Marital status: cohabiting(married)	−0.11	0.10	.258	−0.21	0.11	.051	−0.24	0.09	.009	−0.18	0.11	.102
Parental age	0.01	0.01	.178	0.01	0.01	.180	0.01	0.01	.491	0.00	0.01	.747
Parental education(less than high school)												
High school	0.07	0.11	.550	−0.07	0.12	.558	−0.01	0.11	.912	−0.05	0.12	.698
Some college	−0.17	0.12	.174	−0.17	0.13	.198	−0.20	0.12	.101	−0.25	0.13	.062
College	−0.18	0.16	.256	−0.05	0.17	.778	−0.28	0.16	.088	−0.28	0.21	.131
Parent's race or ethnicity(non-Hispanic White)												
Non-Hispanic Black	0.13	0.18	.452	−0.08	0.21	.689	0.26	0.19	.165	−0.28	0.21	.177
Hispanic	0.18	0.15	.205	0.32	0.17	.066	0.25	0.16	.109	0.38	0.17	.022
Non-Hispanic other	0.01	0.19	.960	0.07	0.25	.782	0.01	0.21	.951	0.05	0.25	.833
Parent's physical health	0.12	0.04	.007	0.12	0.05	.011	0.03	0.04	.536	0.06	0.05	.242
Parent's impulsivity	−0.30	0.07	<.001	−0.25	0.08	.004	−0.28	0.07	<.001	−0.30	0.08	<.001
Social support	0.01	0.05	.793	−0.08	0.05	.137	−0.02	0.05	.772	−0.05	0.05	.327
Employed = 1	−0.02	0.08	.838	0.03	0.13	.819	−0.02	0.08	.780	−0.04	0.13	.769
Number of children in household <18 years	−0.07	0.04	.099	0.01	0.04	.854	−0.07	0.04	.057	−0.02	0.04	.635
Higher order birth (Yes = 1)	−0.04	0.09	.629	−0.04	0.10	.712	0.15	0.09	.094	0.20ł	0.10	.053
Multipartner fertility(neither parent)												
Fathers only	−0.17	0.12	.155	−0.07	0.13	.582	−0.09	0.12	.431	0.08	0.14	.565
Mothers only	−0.01	0.12	.911	−0.04	0.13	.787	0.12	0.11	.296	−0.07	0.13	.574
Both parents	0.00	0.13	.981	0.15	0.16	.326	0.08	0.14	.573	0.01	0.15	.923
In poverty = 1	0.13	0.10	.194	0.11	0.11	.315	0.15	0.10	.149	0.16	0.11	.133
Child is boy	0.06	0.07	.387	0.10	0.08	.219	0.15	0.07	.034	−0.10	0.08	.234

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	Model 1[a] Coparenting (Year 3)						Model 2[b] Coparenting (Year 5)					
	Mothers			Fathers			Mothers			Fathers		
	B	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*	*B*	*SE*	*p*
Child's physical health	0.02	0.05	.672	0.04	0.06	.555	0.07	0.05	.131	0.02	0.06	.687
Child's temperament	−0.13	0.05	.007	−0.10ł	0.05	.064	−0.10	0.05	.050	−0.08	0.06	.178

Note. Parameter estimates with identical superscripts indicates statistical difference.

[a]Depression at Year 1 on coparenting at Year 3 (comparative fit index [CFI] = .968; Tucker–Lewis index [TLI] =.964; root mean square error of approximation [RMSEA] = .012).

[b]Depression at Year 3 on coparenting at Year 5 (CFI =.972; TLI =.968; RMSEA =.014).

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