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## Marital and Cohabitation Dissolution and Parental Depressive Symptoms in Fragile Families

**Claire M. Kamp Dush**

Department of Human Development and Family Science, The Ohio State University, 171A Campbell Hall, 1787 Neil Avenue, Columbus, OH 43210

Claire M. Kamp Dush: kamp-dush.1@osu.edu

### Abstract

The consequences of divorce are pronounced for parents of young children, and cohabitation dissolution is increasing in this population and has important implications. The mental health consequences of union dissolution were examined, by union type and parental gender, using the Fragile Families and Child Wellbeing Study ( $n = 1,998$  for mothers and 1,764 for fathers). Overall, cohabitation and marital dissolution were both associated with increased maternal and paternal depressive symptoms, though for married mothers, depressive symptoms returned to predissolution levels with time. Difference-in-difference estimates indicated no differences in the magnitude of the increase in depressive symptoms by type of dissolution, though pooled difference models suggested that married fathers increased in depressive symptoms more than cohabiting fathers. Potential time-variant mediators did not account for these associations, though greater family chaos was associated with increased maternal depressive symptoms, and decreased social support and father – child contact were associated with increased paternal depressive symptoms.

### Keywords

cohabitation; dissolution; divorce; fixed effects models; Fragile Families and Child Wellbeing; mental health

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The negative effects of marital dissolution (including informal or legal separation and divorce) for adults and children are well known in the United States (Amato, 2000) and the fear of divorce impels some low-income couples not to marry at all (Gibson-Davis, Edin, & McLanahan, 2005). Cohabitation has grown dramatically (Fields & Casper, 2001), yet little research has compared the consequences of cohabitation dissolution to divorce (Amato, 2010; for exceptions see Avellar & Smock, 2005; Blekesaune, 2008). Mental health may be negatively impacted by cohabitation dissolution (Blekesaune; Meadows, McLanahan, & Brooks-Gunn, 2008; Rhoades, Kamp Dush, Atkins, Stanley, & Markman, 2011).

Understanding the consequences of union dissolution among cohabiting parents is critical; 41% of children in the United States in 2011 were born to unmarried mothers (Hamilton, Martin, & Ventura, 2011). Of these mothers, nearly 60% were estimated to be cohabiting (Lichter, 2012); 64% of cohabiting parents' unions dissolved within 5 years of the birth of their child (Kamp Dush, 2011). Early childhood is a critical phase of the life course (Shonkoff et al., 2012) in which parental mental health problems were associated with poor child outcomes (Feng, Shaw, Skuban, & Lane, 2007). The mental health consequences of marital dissolution were most pronounced for parents of young children (Williams & Dunne-Bryant, 2006); thus, examining the consequences of union dissolution among parents of young children is of particular importance. Further, although mental health across the

transition to divorce has been rigorously examined (Blekesaune, 2008; Johnson & Wu, 2002; Wade & Pevalin, 2004), potential mechanisms that would explain this decline have yet to be determined. Declines in social support and increases in family chaos associated with union dissolution may underlie declines in psychological functioning among parents experiencing union dissolution. Using the Fragile Families and Child Wellbeing Study, a sample of primarily low-income, urban, racially diverse parents of young children was studied to compare the mental health consequences of cohabitation dissolution to marital dissolution using methods that carefully account for selection and time-variant sources of heterogeneity.

This study examines four research questions. First, are cohabitation dissolution and marital dissolution associated with similar increases in depressive symptoms among parents of young children? Second, is the negative association between union dissolution and depressive symptoms exacerbated when mental health is measured earlier in time before the dissolution? Third, does the negative association between union dissolution and depressive symptoms lessen with time? Fourth, do time-variant relationship, family, and socioeconomic status variables mediate associations between union dissolution and depressive symptoms?

## The Mental Health Consequences of Union Dissolution

Social selection theory (Avison, 1999) argued that individuals with increased mental health problems are more likely to dissolve their unions. Tests of this theory with married (Johnson & Wu, 2002; Wade & Pevalin, 2004) and cohabiting individuals (Pevalin & Ermisch, 2004) have found evidence of social selection, in that distressed individuals are more likely to dissolve their unions. But distress may be elevated in these relationships because union dissolution is not a discrete event; it is a process that begins well before the actual dissolution occurs, according to the divorce-stress-adjustment perspective (Amato, 2000). This perspective argues that distress from a dissolution begins when the couple is still in the union because the stressors associated with living in an unhappy union cause elevated distress (Hawkins & Booth, 2005; Kamp Dush, Taylor, & Kroeger, 2008). Psychological distress prior to the actual separation may be pronounced among low-income couples. In a qualitative study of a subsample of low-income, unmarried new parents from the Fragile Families and Child Wellbeing study, Reed (2007) found that many couples whose unions dissolved reported problems prior to the dissolution, most often mistrust or abuse, and a crisis was usually the tipping point at which the couple broke up, often in response to infidelity. Marriages marked by marital problems and dissatisfaction are associated with increased depressive symptoms (Beach, Katz, Kim, & Brody, 2003; Whisman, 2007).

Even so, there are two theories on the consequences of union dissolution. First, the chronic strain theory (Amato, 2000) posited that the experience of the additional stressors associated with union dissolution—such as a decline in economic resources (Avellar & Smock, 2005), sole parenting (Dunifon, 2009), or the loss of contact with children (Tach, Mincy, & Edin, 2010)—increased psychological distress across the transition to union dissolution. The decline in well-being among those whose unions dissolved was posited to endure for years, or indefinitely. In contrast, crisis theory posited that union dissolution was a crisis; that is, the transition to union dissolution was stressful, and this stress led to an increase in distress (Booth & Amato, 1991). Importantly, crisis theory argued that distress would abate over time, as some of the temporary stressors associated with union dissolution decrease, for instance, as individuals establish new residences and new routines, particularly those related to shared children, stress may decrease. Blekesaune (2008), Wade and Pevalin (2004), and Johnson and Wu (2002) each used panel data with difference models to account for selection; both the Blekesaune study and the Wade and Pevalin study found distress declined over time after divorce, whereas Johnson and Wu found distress remained elevated for years

after divorce. Blekesaune also found that individual distress decreased over time after cohabitation dissolution.

Given these theories, I hypothesized that parents whose unions dissolved, whether they were cohabiting or married, would decline further in depressive symptoms over time compared to those who remained in their unions. Given the divorce-stress-adjustment perspective, I further hypothesized that the change in depressive symptoms across the transition to union dissolution would be greater when the initial measurement of depressive symptoms was further in time from the actual dissolution. I also hypothesized that as time passed, the negative effects of the union dissolution would attenuate; if they attenuated to predivorce levels, crisis theory would be supported; if they did not, chronic strain theory would be supported. Given social selection theory, I used methods that attempted to account for selection.

### **Cohabitation Versus Marital Dissolution**

The process of union dissolution may be different in marital and cohabiting unions. Becker, Landes, and Michael's (1977) economic theory of investment in relationship capital and Rusbult's (1980) investment model both argued that individuals who are less committed and expect a relationship to end make fewer relationship-specific investments, including decreased financial and emotional investment in the relationship. The lower levels of commitment (Nock, 1995; Stanley, Whitton, & Markman, 2004), pooled income (Kenney, 2004), and relationship satisfaction (Brown & Booth, 1996) in cohabiting as compared to married couples suggest that individuals in cohabiting relationships may invest less. This decreased investment in the union may lead cohabiting parents to experience a smaller decline in mental health compared to married parents who invest more, and hence have more to lose when their union dissolves.

Further, among low-income couples, a common barrier to marriage is the fear of divorce (Gibson-Davis et al., 2005). Low-income, racially diverse couples very much respect the institution of marriage (Edin & Reed, 2005) and want to avoid divorce. Hence, negative consequences of divorce may be particularly pronounced among these couples in that their high expectations for their unions are not fulfilled.

Previous research has yielded mixed results. Blekesaune (2008) found that marital dissolution was associated with a greater increase in psychological distress compared to cohabitation dissolution in Britain. Williams, Sassler, and Nicholson (2008) found that single women in the first wave of the National Survey of Families and Households who entered and then exited a marriage experienced a significant increase in depressive symptoms 4 years later, whereas those who entered then exited a cohabiting union experienced only a marginally significant increase in depressive symptoms. In further analyses, among single mothers, only entering and exiting a marriage was associated with increased depressive symptoms. Wu and Hart (2002) found similar declines in mental health across the transition to marital dissolution and cohabitation dissolution among Canadian men and women. Meadows and colleagues (Meadows et al., 2008; Meadows, 2009) used the Fragile Families and Child Wellbeing data and found that trajectories of mental health, as measured by the sum of the incidence of illicit drug use, heavy episodic drinking, and a major depressive episode, were more negative for mothers and fathers who dissolved either a cohabiting or marital union as compared to mothers and fathers who remained married or cohabiting. Direct tests of whether cohabitation and marital dissolution were equally negative in terms of their mental health consequences were not reported. Overall, previous research predicts a negative effect of both cohabitation and marital dissolution on mental health, but cohabitation dissolution may have less serious consequences.

## Potential Mechanisms Underlying Declines in Mental Health After Union Dissolution

Very little research has examined potential mechanisms underlying declines in mental health across the transition to union dissolution. The health benefits of marriage have been attributed to the benefits of social support from a spouse (Waite, 1995); thus, change in social support across the transition to union dissolution could account for mental health declines. Similarly, a new partner may be a source of social support, and could be beneficial for parental mental health, particularly when the new partner is involved with the children (Bzostek, 2008). Religious attendance can enhance social support (Ellison & George, 1994); thus, a decline in religious attendance across the transition to union dissolution could exacerbate problems. Both divorce and cohabitation dissolution were associated with a loss of income, particularly for women and minorities (Avellar & Smock, 2005), and financial stress was associated with poorer mental health (Vinokur, Price, & Caplan, 1996); hence, changes in finances could also account for an increased risk of depressive symptoms across the transition to union dissolution. Further, father involvement may promote psychological health among fathers (Schindler, 2010), and some low-income, unmarried fathers reported that they stayed with the mother of their child because of the child (Edin, Nelson, & Reed, 2011). Thus, a decline in father – child contact could account for negative associations between union dissolution and fathers' mental health.

In one of few studies to identify a pathway through which mental health and divorce may be linked, Lorenz, Wickrama, Conger, and Elder (2006) found that increased stressful life events mediated the association between divorce and psychological distress among mothers. Psychologists have examined stressful life events as a component of chaos in relation to child development (Evans, 2003), and a variety of studies have found that chaos is associated with negative child outcomes (Asbury, Wachs, & Plomin, 2005) and couple outcomes (Fiese, Hooker, Kotary, & Schwagler, 1993). Recently, Kamp Dush (2011) found that family chaos, as measured by residential mobility; nonstandard and shifting work schedules; inflexible, stressful, and family-hostile work environments; and unreliable and changing child-care settings, was associated with a greater risk of cohabitation dissolution. Chaos is linked to feelings that life is out of control and frantic (Fiese & Winter, 2010); union dissolution may increase these feelings, and subsequently increase mental health problems, making chaos a potential mediator.

**Gender differences**—Previous research has found few gender differences in the mental health consequences of divorce (Blekesaune, 2008; Johnson & Wu, 2002). Given differences between cohabitation and marriage, however, there may be gender differences in cohabitation dissolution. First, if cohabiting mothers contributed child care or her own wages to her children when at the same time her partner invested wages into his own human capital or a sole account, she will be disadvantaged when the union ends with no legal option to recoup her investments (Bowman, 2004). Further, men were less committed than women in cohabiting unions and were more likely to enter cohabitation to “test” the relationship (Rhoades, Stanley, & Markman, 2009; Stanley et al., 2004). Sassler and Miller (2011) argued that women were “waiting to be asked” to get married and have much less power than men to increase the commitment in their relationship. Because women have no legal protections and less power, cohabitation dissolution may be particularly difficult for women.

Some unmarried mothers blocked visitation after union dissolution (Claessens, 2007), however, which may be particularly harmful to low-income, unmarried fathers who also lack legal protections. The father – child relationship was viewed as central in low-income, unmarried families, and this relationship bound fathers to the family and to the mother (Edin et al., 2011). Edin and colleagues suggested that a shared child kept some low-income

fathers in relationships they would have dissolved were it not for the child, a worldview they called “Daddy, baby; momma maybe.” Given the potential for gender differences, mothers and fathers were examined separately.

**The role of selection**—The observable (and unobservable) characteristics of parents who cohabit differ from those who marry. Cohabitors, on average, are younger, less educated, more often Black or Hispanic, and for men, somewhat less likely to be employed (Seltzer, 2000). Cohabiting mothers also had more multipartner fertility than married mothers (Carlson & Furstenberg, 2006). Characteristics that distinguish cohabiting couples from married couples are also associated with union dissolution and with divorce in particular. Younger age at marriage, minority racial status, and less education each predicted divorce (Teachman, 2002). Economic stress has been found to increase marital conflict and subsequent marital distress and divorce (Conger, Rueter, & Elder, 1999). Further, economic factors, particularly men’s economic status, were associated with union transitions for cohabitators (Brown, 2000; Sassler & McNally, 2003). Each of these characteristics that distinguish cohabitators from marrieds and those who remain in a union from those whose unions dissolve has been associated with mental health (Mirowsky & Ross, 2003).

## Method

Data came from the Fragile Families and Child Wellbeing Study, a study of 4,898 mothers and 3,830 fathers who had children (3,711 nonmarital and 1,187 marital) in the United States between 1998 and 2000. Both mothers and fathers were interviewed in the hospital shortly after their child’s birth (Wave 1) with follow-up interviews conducted when the child was age 1 (Wave 2), 3 (Wave 3), and 5 (Wave 4). The sample for this paper was limited to those parents who were married or cohabiting with their child’s other parent at Wave 2 ( $n = 2,465$  for mothers;  $2,330$  for fathers). At Wave 2, parents were asked, “What is your relationship with [the other parent of the focal child] now? Married, romantically involved, separated/divorced, just friends, or not in any kind of relationship?” Then parents were asked “Are you and [the other parent of the focal child] currently living together all or most of the time, some of the time, rarely, or never?” Marriage was defined as reporting a relationship of “married” with the child’s other parent and living together all or most of the time; cohabitation was defined as reporting a romantic involvement with the child’s other parent and living together all or most of the time.

On average, mothers and fathers were 26 and 29 years old, respectively. In terms of race and ethnicity, 31% of both mothers and fathers were non-Hispanic White, 34% of mothers and 39% of fathers were Black, and 29% of mothers and 26% of fathers were Hispanic; the remainder reported a different race. A majority of both mothers and fathers had a high school education or less. Parents had between one and two children on average (1.8), and 28% of mothers and 19% of fathers had a child with another partner or multipartner fertility. Consistent with previous research, cohabiting mothers and fathers were younger, more likely to be in a racial minority, had less education, and had more multipartner fertility as compared to married mothers and fathers.

Of those eligible at Wave 2, 8% ( $n = 194$ ) of mothers and 13% ( $n = 306$ ) of fathers were not interviewed at Wave 3. Further, respondents were only retained at Wave 3 if they maintained their Wave 2 relationship status or dissolved their union. Thus, cohabiting couples who married between Waves 2 and 3 and married couples who dissolved their legal marriage but were cohabiting at Wave 3 were dropped ( $n = 171$  mothers and  $179$  fathers). Those eligible who stopped living together “all or most of the time” but remained romantically involved at Wave 3 were also dropped ( $n = 100$  mothers and  $77$  fathers). Those eligible who either reported at Wave 3 that they did not know their relationship status with

their child's other parent or refused to answer ( $n = 1$  mother and 3 fathers) or reported that their child's other parent had died ( $n = 8$  mothers and 0 fathers) were dropped. Finally, those eligible who failed to report depressive symptoms were dropped ( $n = 3$  mothers and 1 father). The final sample size comprised 1,988 mothers and 1,764 fathers. In the larger maternal sample, 29% of cohabiting unions and 7% of marriages dissolved between Waves 2 and 3; between Waves 3 and 4, 35% of cohabiting unions and 12% of marriages dissolved.

### Attrition

Attrition analyses (logistic regressions) were conducted of mothers and fathers who were eligible at one wave (i.e., were married or cohabiting full time) but were lost before the next wave. Between Waves 1 and 2, 11% of mothers and 17% of fathers were lost. Between Waves 2 and 3, 8% of mothers and 13% of fathers in the study were lost to attrition. Overall, older, less educated, minority mothers were significantly more likely to be lost to attrition. For fathers, less educated, non-White fathers were significantly more likely to be lost to attrition. Following Allison (2008), listwise deletion was used to deal with missing data, as Allison suggested this strategy if the percentage of missing data is about or less than 15%. Johnson and Young (2011) found that modern methods for handling missing data (illustrated with data with 50% missing) yielded similar estimates to listwise deletion. Standard errors were higher, however, when samples were small; thus, statistical significance was underestimated (Johnson & Young). With the relatively small amount of missing data, type II errors should be minimal.

### Variables

**Independent variables**—The main independent variable in these analyses was an indicator of whether the union dissolved between waves. Parents were asked “What is your relationship with [the other parent of the focal child] now? Married, romantically involved, separated/divorced, just friends, or not in any kind of relationship?” Then parents were asked “Are you and [the other parent of the focal child] currently living together all or most of the time, some of the time, rarely, or never?” Marital dissolution was coded if parents who were married reported they were divorced or separated, just friends, or had no relationship with the child's other parent or were married but “never” lived together. Cohabitation dissolution was coded if parents reported they were separated, just friends, or had no relationship with their child's other parent.

**Dependent variable**—Depressive symptoms were assessed using diagnostic criteria from the Composite International Diagnostic Interview – Short Form (CIDI – SF; Kessler, Andrews, Mroczek, Ustun, & Wittchen, 1998). Scoring of the CIDI – SF follows DSM-IV-TR diagnostic criteria for major depressive episode and generalized anxiety disorder (American Psychiatric Association, 1994). For depressive symptoms, respondents were first asked whether they had (a) feelings of depression or (b) an inability to enjoy things that gave them pleasure in the past year for at least 2 weeks. If they endorsed either, they were asked more specific questions about whether they had other symptoms during that time, including feeling tired, change in weight, trouble sleeping, trouble concentrating, feeling worthless, and thinking about death. Participants received 1 point if they had the feeling of depression for 2 weeks, 2 points if they lost interest for 2 weeks, and 3 points for each of the other six symptoms experienced during those two weeks that the respondent endorsed. The sum of these eight items constituted the depressive symptoms score. The scale had an alpha ( $\alpha$ ) at Waves 2, 3, and 4, for fathers of .94, .93, and .94, respectively, and for mothers of .93, .94, and .95, respectively. The mean and standard deviation of depressive symptoms at Wave 2 are reported in Table 1. The means (with standard deviations in parentheses) at Waves 3 and 4 for fathers were 0.70 (1.87) and 0.59 (1.77), respectively, and for mothers were 1.01 (2.23), and 0.93 (2.17), respectively. The range at each wave was 0 to 8. Maternal

correlations were .38, .28, and .35 between Waves 2 and 3, 2 and 4, and 3 and 4, respectively. Paternal correlations were .30, .29, and .33 between Waves 2 and 3, 2 and 4, and 3 and 4, respectively.

**Time-varying covariates**—The time-varying covariates were measured at Waves 2, 3, and 4. Employment status was coded if the parent did regular work for pay the previous week. When the mother and father were not living together all, most, or some of the time, parents were asked, “Are you currently involved in a romantic relationship with someone (other than the [parent] of your child)?” Responses were coded 0 = *no response or respondent currently in a union* [with the focal child’s parent] and 1 = *yes*. Religious attendance was a continuous variable coded in response to “How often do you go to religious services?” as 5 = *more than once a week*, 4 = *about once a week*, 3 = *a few times a month*, 2 = *a few times a year*, 1 = *less often than that*, and 0 = *never*. The income-to-poverty ratio was the ratio of the household income divided by the income at the U.S. poverty threshold for the given household size in the relevant year. The income-to-poverty ratio at Waves 2, 3, and 4 for fathers ranged from 0 to 57.5, 0 to 62.2, and 0 to 52.2, respectively, and for mothers from 0 to 30.5, 0 to 69.1, and 0 to 35.5, respectively.

The perception of available social support was a count variable that was the sum of six indicators. Respondents were asked, “If you needed help during the next year, could you count on someone to: (a) loan you \$200, (b) loan you \$1,000, (c) provide you with a place to live, (d) help you with emergency child care, (e) cosign for a bank loan with you for \$1,000, and (f) cosign for a bank loan with you for \$5,000?”

Family chaos was a count variable that was the sum of eight indicators of chaos. Moving since the previous wave was recorded if the mother reported any moves since the previous wave. Work stress was recorded by answering “always” or “often” to “My shift and work schedule (cause/caused) extra stress for me and my child always, often, sometimes, or never.” Child-care problems were recorded if “always” or “often” responses were given for “Where I (work/worked) it (is/was) difficult to deal with child care problems during working hours always, often, sometimes, or never.” Inflexible work schedule was recorded for a “sometimes” or “never” response to “In my work schedule I (have/had) enough flexibility to handle family needs always, often, sometimes, or never.” Nonstandard work schedule was recorded if the mother answered “yes” to “At your primary job, (do/did) you regularly work different times each week?” Multiple jobs were coded as an affirmative answer by the mother to “Some people work more than one regular job. Was there ever a time in the last 12 months that you worked more than one regular job at the same time?” Change in child care was recorded as answering nonzero to “How many times have you changed your child care arrangements since (the previous wave)? By changes I mean, for example, that your child got a new babysitter, or started going to a new family child care program or day care center.” “Child care fell through” was recorded as answering nonzero to “Approximately how many times in the past month did you have to make special arrangements because your usual child care arrangement fell through? Please include times when your child care provider(s) (was/were) sick or unavailable due to a holiday or vacation.” Family chaos indicators at Waves 2, 3, and 4 for fathers ranged from 0 to 6, 0 to 8, and 0 to 6, respectively, and for mothers from 0 to 7, 0 to 8, and 0 to 7 for mothers, respectively.

“Days with child” (measured only for fathers) was a count of how many days the father saw the child in the past month. Fathers who reported living with the child all or half of the time were not asked to report the number of days and were given a value of 30 days if living all the time with the child and a value of 15 if living half of the time with the child.

## Statistical Model

The statistical model used for this paper was a difference model (Allison, 1990), also known as a change score model (Johnson, 2005) or fixed effects model. To illustrate, take the null hypothesis that cohabitation dissolution causes no increase in depressive symptoms for those who dissolved their union between Waves 2 and 3 as compared to those who did not dissolve their cohabiting union. To examine change over time, separate cross-sectional models predicting depressive symptoms predissolution (Wave 2) and postdissolution (Wave 3) can be written

$$Depress_{i1} = \alpha_1 + \beta_2 M_{i1} + \beta_3 U_i + \varepsilon_{i1} \quad (1)$$

$$Depress_{i3} = \alpha_3 + \beta_1 Dissolve_{i3} + \beta_2 M_{i3} + \beta_3 U_i + \varepsilon_{i3} \quad (2)$$

where  $\alpha$  is the constant,  $\beta$ s are regression parameters, and  $\varepsilon$  is the error term at each measurement point. Note that *Dissolve* is only entered postdissolution because no one predissolution has yet experienced the event of cohabitation dissolution. *M* represents a vector of measured time-invariant potential causal variables and *U* represents a vector of unmeasured time-invariant potential causal variables. To derive the difference model, the predissolution cross-sectional equation is subtracted from the postdissolution cross-sectional equation:

$$(Depress_{i3} - Depress_{i1}) = (\alpha_3 - \alpha_1) + \beta_1 Dissolve_{i3} + (\beta_2 M_{i3} - \beta_2 M_{i1}) + (\beta_3 U_i - \beta_3 U_i) + (\varepsilon_{i3} - \varepsilon_{i1}) \quad (3)$$

which reduces to

$$(Depress_{i3} - Depress_{i1}) = (\alpha_3 - \alpha_1) + \beta_1 Dissolve_{i3} + (\varepsilon_{i3} - \varepsilon_{i1}). \quad (4)$$

Here, *M* and *U* are differenced out of the equation because  $M_{i2}$  equals  $M_{i1}$  and  $U_{i2}$  equal  $U_{i1}$  because the variables in each are time invariant. In difference models, time-varying control variables can be entered into the equation as well. For nonexperimental studies, Allison (1994) argued that, given the potential of unmeasured third-variable bias, difference models are “nearly always preferable for estimating the effects of events” (p. 181); Johnson (2005) illustrated that regression models that predict an outcome at Time 2 with a control for the outcome at Time 1 produced biased estimates as compared to difference models. In the Results section, estimates are first presented as difference-indifference models often used in econometrics. To obtain these estimates, the difference model described above was conducted (the first difference), and then *F* tests were conducted to test whether the obtained  $\beta$ s—that is, the difference in depressive symptoms over time—were significantly different between groups (the second difference). Specifically, I compare the obtained  $\beta$ s of (a) cohabitators who dissolved and those who did not, (b) married spouses who dissolved and those who did not, and (c) those who dissolved cohabiting unions and those who dissolved marriages. Further, I compare change between Waves 2 and 3, Waves 2 and 4, and Waves 3 and 4. By distinguishing those who dissolved between Waves 2 and 3 from those who dissolved between Waves 3 and 4, I was able to manipulate the timing of the predissolution and postdissolution measurement of depressive symptoms.

## RESULTS

### Descriptive Results

More fathers than mothers were employed and married fathers were more often employed compared to cohabiting fathers. About half of the mothers were employed overall, but 64%



of mothers who dissolved their marriages were employed. The income-to-poverty ratio was higher for marrieds than for cohabitators. Married mothers whose unions dissolved reported less religiosity, whereas cohabiting mothers whose unions dissolved reported more religiosity compared to mothers in continuous unions. There were fewer differences in religiosity among fathers; continuously married fathers were more religious than continuously cohabiting fathers. For the most part, parents whose unions dissolved reported less social support and more family chaos than parents whose unions remained intact; cohabiting parents reported less social support and family chaos than did married mothers. Between 31% and 38% of parents whose unions dissolved had a new partner by Wave 3. Fathers saw the focal children, on average, about 16 days per month.

Prior to dissolution, fathers who eventually dissolved their cohabiting unions were more depressed than fathers who continuously cohabited, but there were no significant differences prior to dissolution between fathers who remained married and those who divorced. Fathers who eventually dissolved a cohabiting union were more depressed at Wave 2 than fathers who eventually dissolved a marriage. Turning to mothers, prior to the dissolution, mothers who eventually dissolved their marriages were significantly more depressed than continuously married mothers. This did not hold for cohabiting mothers; there was no significant difference between cohabiting mothers who eventually dissolved their unions and those who remained in their unions. Further, there was no significant difference in depressive symptoms at Wave 2 between cohabiting and married mothers who eventually dissolved their unions.

**Difference models by timing of dissolution and parental gender**—The difference-in-difference estimates are reported in Table 2. There are two panels in the table, one for mothers and another for fathers. Within each panel, the first set of rows compares continuous and dissolved cohabiting unions, the second set compares continuous and dissolved marriages, and the third set, labeled “Dissolved,” includes those whose unions dissolved and compares marriage and cohabitation. I first discuss the first and third set of columns, as these columns include statistics comparing mental health immediately pre- to postdissolution. I discuss the second and fourth set of columns next, as I consider the role of the timing of the pre- and postdissolution measurement points.

Beginning with those who dissolved between Waves 2 and 3, both mothers and fathers who experienced cohabitation dissolution increased in depressive symptoms as compared to those mothers and fathers in continuous unions. Similarly, mothers whose unions dissolved between Waves 3 and 4 increased significantly more in depressive symptoms compared to mothers who remained in their cohabiting unions. Mothers who remained in their cohabiting unions between Waves 3 and 4 decreased in depressive symptoms. The difference in the change in depressive symptoms between fathers whose cohabiting unions dissolved between Waves 3 and 4 and those who remained cohabiting was not significant. Amato, Booth, Johnson, and Rogers (2007) outlined conventions that an effect size (Cohen’s  $d$ ) of less than one fifth of a standard deviation difference between groups is weak, between 0.20 and 0.39 of a standard deviation is moderate, between 0.40 and 0.59 is strong, and an effect size of 0.60 or greater is very strong. Following these conventions, the effect size of the difference in the change in depressive symptoms between parents whose cohabiting unions were continuous versus those whose unions dissolved was weak (and marginally significant) for mothers who dissolved between Waves 2 and 3 ( $d = 0.17$ ), moderate (and significant) for mothers who dissolved between Waves 3 and 4 ( $d = 0.26$ ), and strong (and significant) for fathers who dissolved between Waves 2 and 3 ( $d = 0.46$ ).

Turning to marital dissolution, both mothers and fathers whose marriages dissolved between Waves 2 and 3 increased significantly more in depressive symptoms compared to mothers

and fathers whose marriages were intact, and further, fathers who experienced marital dissolution between Waves 3 and 4 also increased significantly more in depressive symptoms as compared to fathers who remained married. Effect sizes were moderate for both mothers whose marriages dissolved between Waves 2 and 3 ( $d = 0.38$ ) and fathers whose marriages dissolved between Waves 3 and 4 ( $d = 0.36$ ), and very strong for fathers whose marriages dissolved between Waves 2 and 3 ( $d = 0.81$ ). No significant differences were found by type of union dissolved. Formerly married and cohabiting parents increased in depressive symptoms pre- to postdissolution, but there were no significant differences in the magnitude by type of union dissolved.

There are two drawbacks of the models presented thus far. The first drawback is that the change in depressive symptoms for those whose unions dissolved may have been underestimated if the predissolution measurement point occurred shortly before the dissolution, when relationship quality had likely already suffered, elevating depressive symptoms. To address this issue, difference-in-difference models were conducted for those who dissolved between Waves 3 and 4 using depressive symptoms at Wave 2 as the predissolution measurement point. Because the dissolution occurred between Waves 3 and 4, the Wave 2 measurement occurred at least two years prior to the dissolution. Only parents who were in a union at Waves 2 and 3 were included. Results (see Table 2) indicated the magnitude of the change in depressive symptoms was higher when examining change between at least two years prior to a cohabitation or marital dissolution to postdissolution for both mothers and fathers. Yet because the magnitude of the increase in depressive symptoms was larger for continuously married mothers and continuously cohabiting fathers across this same time period, there were not significant differences between married mothers and cohabiting fathers by union dissolution status. Cohabiting mothers and married fathers whose unions dissolved did experience significantly greater increases in depressive symptoms across this time ( $d = 0.61$  for cohabiting mothers and  $0.80$  for married fathers).

The second drawback of the previous models is that elevated depressive symptoms for those whose unions dissolved may lessen over time. For the models previously presented, the postdissolution measurement point occurred shortly after the dissolution, when the pain of the dissolution was freshest. Therefore, difference-in-difference models were conducted for those whose unions dissolved between Waves 2 and 3 using depressive symptoms at Wave 4 as the postdissolution measurement point, at least two years after the dissolution. Results (see Table 2) indicated that the negative impact of union dissolution declined over time for mothers and fathers. The magnitude of the change in depressive symptoms was smaller when the postdissolution time point was at least two years after the union dissolved. Yet among cohabiting mothers and married fathers, union dissolution was still associated with a significantly greater increase in depressive symptoms compared to those who remained in their unions ( $d = 0.32$  for cohabiting mothers and  $0.83$  for married fathers). Perhaps time did “heal all wounds” for some. Compared to predissolution, mothers whose marriages dissolved actually decreased in depressive symptoms after two years. Though cohabiting fathers whose unions dissolved increased in depressive symptoms pre- to two years postdissolution, the difference between these fathers and those who continued to cohabit did not reach significance. Overall, these results suggest that there was both an underestimation of the association between union dissolution and change in mental health when the predissolution time point was closer to the date of the dissolution, and that there was some evidence of recovery when the postdissolution time point was further in time from the dissolution date.

**Pooled difference models with time-varying covariates**—As a final step, data were pooled into panel data sets, and difference models or fixed effects regressions were conducted with time-varying covariates. One advantage of these models was that the sample

size increased, particularly the number of marital dissolutions, allowing more power to detect significant differences. Another advantage was that time-varying potential sources of third-variable bias and time-varying potential mediators were included. Time-varying covariates included maternal and paternal employment status, postdissolution relationship status, religiosity, perceived social support, family chaos, the income-to-poverty ratio, the number of years since the dissolution, and for fathers, days he saw the child. The pooled difference models with time-varying covariates were run separately by type of union (see Table 3). Even with time-varying covariates in the model, cohabitation dissolution was associated with increased depressive symptoms for both mothers and fathers, though only marginally significantly so for fathers ( $d = 0.26$  for mothers and  $0.22$  for fathers). Further, marital dissolution continued to be associated with increased depressive symptoms ( $d = 0.61$  for mothers and  $0.47$  for fathers).

Pooled difference models with the full sample were run to compare cohabitation to marital dissolution. For both mothers and fathers, compared to those who had no union dissolution, those experiencing either cohabitation or marital dissolution increased significantly more in depressive symptoms (mothers'  $d = 0.37$  for cohabitation dissolution and  $0.36$  for marital dissolution; fathers'  $d = 0.26$  for cohabitation dissolution and  $0.57$  for marriage dissolution). After the model was run, an  $F$  test was run to test the equality of the magnitude of the coefficient for cohabitation and marriage dissolution. There was no difference in the magnitude of the association by type of dissolution for mothers,  $F(1, 3961) = 0.04, p = 0.85$ . Results for fathers, however,  $F(1, 3347) = 7.52, p < 0.01$ , indicated the magnitude of the increase in depressive symptoms for married fathers whose unions dissolved as compared to those whose unions did not dissolve was greater than the magnitude of the increase in depressive symptoms for cohabiting fathers whose unions dissolved as compared to those whose unions did not dissolve. That is, divorced fathers increased more in depressive symptoms compared to formerly cohabiting fathers.

Overall, none of the mediators identified in this study accounted for the increase in depressive symptoms across the transition to union dissolution. For both mothers and fathers, the addition of the time-varying covariates did not decrease the magnitude of the coefficients associated with cohabitation dissolution and marital dissolution in each model. Turning to the time-varying covariates, for mothers in the cohabiting sample, employment and having a new partner were associated with fewer depressive symptoms, whereas increased family chaos was associated with more depressive symptoms. As time from the dissolution increased, mothers in the married sample significantly decreased in depressive symptoms. In the full sample of mothers, increased family chaos was associated with increased depressive symptoms. Among cohabiting fathers, higher available social support was associated with lower depressive symptoms. Married fathers had fewer depressive symptoms when they were employed or had a new partner. Married fathers who saw their child more days in a month also had marginally significantly fewer depressive symptoms. Among all fathers, higher social support and more father – child contact were associated with fewer depressive symptoms.

## DISCUSSION

Overall, parents whose unions dissolved, regardless of whether it was a cohabiting union or a marriage, increased more in depressive symptoms over time compared to parents whose unions did not dissolve. In the pooled difference models, cohabitation and marital dissolution, despite the inclusion of time-varying control and mediating variables in the model, were consistently significantly associated with decreased mental health for both mothers and fathers. These results support the chronic strain (Amato, 2000) and crisis

theories (Booth & Amato, 1991); both suggested the stress of union dissolution is associated with declines in psychological functioning.

The divorce-stress-adjustment perspective posited that union dissolution is a process that begins well before the actual dissolution; mental health suffered even before unions dissolved (Johnson & Wu, 2002; Wade & Pevalin, 2004) and unhappy marriages were associated with poor mental health (Hawkins & Booth, 2005; Kamp Dush et al., 2008). In support of this theory, when the predissolution measurement of depressive symptoms was at least 2 years prior to the actual dissolution, the magnitude of the change in depressive symptoms pre- to postdissolution was greater. Yet because mothers who remained in marriages and fathers who remained in cohabiting unions also increased in depressive symptoms across this time period, the differences between those who remained in a union compared to those whose union dissolved were not always statistically significant. Wu and Hart (2002) found that remaining in a marriage or cohabiting union was associated with increased mental health problems and Blekesaune (2008) found that entering a union was associated with increases in mental distress that continued to increase as time passed, although several other studies have suggested that unions benefit mental health (see sources cited in Proulx, Helms, & Buehler, 2007).

In this low-income, diverse sample, the mental health advantages associated with being in a union may be diminished. In particular, if the father – child relationship is more central than the father – mother relationship in low-income couples to the point that some cohabiting fathers stay with their child’s mother because of the child, not the mother (Edin et al., 2011), it is not surprising that cohabiting fathers had elevated depressive symptoms. Further, because low-income mothers hold marriage to a very high standard (Gibson-Davis et al., 2005), they may expect too much from it. As suggested by Lichter, Graefe, and Brown (2003), marriage is not a panacea, and married couples had lower quality marriages when faced with stressors (Murry et al., 2008), financial strain (Cutrona et al., 2003), and racism (Kelly & Floyd, 2006).

Crisis theory posited that union dissolution is a temporary stressor and that the negative effects of union dissolution would diminish with time (Booth & Amato, 1991). In support of this theory, when the postdissolution measurement of depressive symptoms was at least two years postdissolution, the magnitude of the increase in depressive symptoms was smaller for both mothers and fathers dissolving unions. Among cohabiting mothers and married fathers, however, the magnitude of the increase in depressive symptoms remained significantly higher for those dissolving unions compared to those remaining in their union. Only divorced mothers appeared to recover from union dissolution with time, in support of crisis theory.

Previous research comparing the mental health consequences of marital and cohabitation dissolution was mixed; some found marital dissolution was associated with a greater increase in mental health problems compared to cohabitation dissolution (Blekesaune, 2008; Williams et al., 2008) whereas others found there was no difference in the magnitude of the increase (Wu & Hart, 2002). In the difference-in-difference models, no significant differences in the magnitude of the increase in depressive symptoms by type of union dissolved were found. In the panel models, the magnitude of the increase in depressive symptoms for divorced fathers was greater than the magnitude of the increase for fathers formerly in cohabiting unions. Overall, some support for the investment model (Becker et al., 1977; Rusbult, 1980) was found for fathers; married fathers may invest more in their marriages than in their cohabiting unions, and this may translate into greater declines in mental health following union dissolution. No support for the investment model was found for mothers; overall, union dissolution was associated with decreased maternal mental

health. Because single motherhood has its own stressors (Dunifon, 2009), future research should replicate these results among childless women.

Potential mechanisms underlying declines in mental health after union dissolution were tested, including several suggested as stressors during the union dissolution process by the divorce-stress-adjustment perspective (Amato, 2000). Overall, change in the income-to-poverty ratio, social support, religiosity, family chaos, and father involvement, as well as current romantic relationship status, did not account for the declines in mental health associated with union dissolution. In the full sample, increased family chaos was associated with increased maternal depressive symptoms, and time since the union dissolution was associated with decreased symptoms. For fathers, higher social support and more father – child contact were associated with decreased depressive symptoms. Although changes in these variables were associated with changes in depressive symptoms, they did not mediate declines in mental health across the transition to union dissolution for parents. Perhaps a cumulative-risk model (Rutter, 1993) that examines change in the accumulation of stressors across the transition to union dissolution, rather than the individual stressors examined here, would identify cumulative risk as a mediator of the association between mental health and union dissolution among parents.

The parents in the Fragile Families and Child Wellbeing data set were predominantly low-income and minority, and this raises special concerns for this study. Race and socioeconomic status (SES) are associated with mental health. Hispanics and non-Hispanic Blacks, compared to non-Hispanic Whites, had a lower lifetime prevalence of depression (Breslau et al., 2006). Yet, lower SES individuals reported more mental health problems (Kessler et al., 1994). Thus, the sample used for this project was at particular risk for mental health problems, and these problems could have serious implications for their children. Because this sample comprised parents, the consequences of cohabitation or marital dissolution take on special meaning. Parents likely consider not only their own wants and needs when considering whether to dissolve their unions, but also their child's interests. For the nonresidential parent, there is much to be lost through the dissolution, including access to the child, and for the residential parent, the financial and other burdens of solo parenting can weigh heavily. Further, continued contact with an ex-partner could exacerbate emotional problems (Sbarra & Emery, 2005), and these parents' shared child likely increases that contact. These issues need to be considered when interpreting the generalizability of these results to the larger population of married and cohabiting individuals.

Other limitations of this study included only three waves of measurement of depressive symptoms; future research should replicate these findings with panel data sets that include several pre- and postdissolution measurement points. Further, this study lacked the exact date of dissolution due to missing data at Wave 4; an exact date of dissolution could allow for more precise measurement of the role of time since dissolution. In the mediational models, a limited set of mediators was examined; future research should explore other potential mechanisms that may underlie the association between union dissolution and mental health. Cohabiting mothers who were married were excluded; if marriage is associated with increased mental health (Proulx et al., 2007), the negative effects of cohabitation dissolution could have been underestimated. Alternate explanations for these results still exist; for instance, the role of the child and the child's adjustment in the parent's adjustment to union dissolution could be an important mediating factor that was not examined in this study.

The nonmarital birth rate is at a historic 41% in the United States (Hamilton et al., 2011) and 60% of unmarried couples were living together at the time of the birth (Lichter, 2012), a majority of whom saw their unions dissolve within 5 years (Kamp Dush, 2011). Both

mothers and fathers increased in psychological distress across the transition to union dissolution, regardless of the type of union. This is particularly important because early childhood is a critical phase of the life course with lifelong implications for well-being (Shonkoff et al., 2012), and the children in these families may have poorer outcomes because their parents' mental health influenced their development (Feng et al., 2007). Parents have been fearful of divorce (Gibson-Davis et al., 2005), but the mental-health impacts of cohabitation dissolution appear to be similar to those of divorce. Supporting families before, during, and after union dissolution may be critical not only for parents' wellbeing, but also for the well-being of young children in the United States today. Family therapists and practitioners should consider adapting intervention programs for divorced families (Lebow & Newcomb Rekart, 2007) to unmarried families experiencing similar transitions. But as a first step, family scholars should develop theories and collect data on the process of cohabitation dissolution to better understand how unmarried families experience this transition when children are involved (Reed, 2007).

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Table 1  
 Descriptive Statistics at Wave 2: Means, Standard Deviations, Percentages, and Significance Tests by Gender, Marital Status, and Dissolution Status

Variable	Married			Cohabiting			Married vs. Cohabiting Intact			Married vs. Dissolved		
	M	M	$\chi^2$	M	M	$\chi^2$	t	$\chi^2$	t	$\chi^2$	t	$\chi^2$
Mothers												
Depressive symptoms	0.57 (1.65)	1.14 (2.31)	2.97**	0.75 (1.93)	0.81 (2.00)	0.42	2.00*	1.25	3.06 <sup>+</sup>	1.17	14.52***	5.59***
% Employed	0.54	0.64	3.57 <sup>+</sup>	0.51	0.54	0.43	0.00	0.00	0.00	0.00	0.00	0.00
Income-to-poverty ratio	3.34 (3.02)	2.58 (2.85)	2.26*	1.45 (1.29)	1.36 (1.18)	0.98	11.93***	1.67 <sup>+</sup>	1.67 <sup>+</sup>	10.06***	10.79***	4.06***
Religious attendance	2.97 (1.47)	2.62 (1.55)	2.14*	2.07 (1.47)	2.30 (1.56)	1.99*	3.16**	0.61	0.61	3.16**	8.37***	2.85**
Social support	4.89 (1.62)	4.18 (1.86)	3.86**	4.03 (1.76)	3.81 (1.75)	1.60	0.00	0.00	0.00	0.00	0.00	0.00
Family chaos	1.52 (1.37)	1.99 (1.70)	2.99**	1.75 (1.48)	2.11 (1.52)	3.19**	0.00	0.00	0.00	0.00	0.00	0.00
New partner at Wave 3	0.38	0.38	0.00	0.37	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fathers												
Depressive symptoms	0.31 (1.27)	0.13 (0.72)	1.09	0.36 (1.35)	0.71 (1.90)	2.68**	0.70	2.30*	2.49	85.27***	10.79***	4.06***
% Employed	0.92	0.85	3.94*	0.75	0.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Income-to-poverty ratio	3.83 (4.56)	2.54 (1.94)	2.19*	1.66 (1.56)	1.64 (1.33)	0.22	10.79***	1.46	1.46	9.74***	10.79***	4.06***
Religious attendance	2.86 (1.45)	2.36 (1.40)	2.64	2.11 (1.46)	2.04 (1.48)	0.54	0.00	0.00	0.00	0.00	0.00	0.00
Social support	5.06 (1.49)	4.87 (1.53)	0.97	4.36 (1.72)	4.13 (1.81)	1.49	8.37***	2.85**	2.85**	8.37***	8.37***	2.85**

Variable	Married		Married Intact vs. Dissolved		Cohabiting		Cohabiting Intact vs. Dissolved		Married vs. Cohabiting Intact		Married vs. Cohabiting Dissolved	
	M	M	t	$\chi^2$	M	M	t	$\chi^2$	t	$\chi^2$	t	$\chi^2$
Family chaos	2.01 (1.45)	2.10 (1.45)	0.49		1.81 (1.37)	2.14 (1.52)			2.71**		2.63**	0.17
New partner at Wave 3		0.31				0.34						
Days with child at Wave 3		16.39 (10.65)				16.82 (11.09)					0.26	0.02
n	963	182			467	376						

Note. Statistics reported at Wave 2 except where noted. Standard deviations are in parentheses.

+  $p < .10$ .

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

Table 2

Difference-in-Difference Estimates of Associations Between Dissolution Status and Type and Depressive Symptoms by Timing of Dissolution and Timing of Pre- and Postdissolution Measurement

Sample	Dissolved Between Waves 2 and 3				Dissolved Between Waves 3 and 4						
	Change Between Waves 2 and 3		Change Between Waves 2 and 4		Change Between Waves 3 and 4		Change Between Waves 2 and 4				
	Difference	SE	n	Difference	SE	n	Difference	SE	n		
<i>Mothers</i>											
Cohabiting											
Continuous	0.30	0.10		-0.23	0.14		-0.31	0.13		-0.23	0.14
Dissolved	0.61	0.15		0.43	0.17		0.19	0.18		0.85	0.22
Difference-in-difference estimate	0.31			0.66			0.49			1.09	
<i>F</i> ( <i>p</i> )	2.80 (.09)		843	8.85 (.003)		492	4.89 (.03)		577	16.97 (.000)	421
<i>Married</i>											
Continuous	0.23	0.06		0.18	0.07		-0.04	0.07		0.18	0.08
Dissolved	1.03	0.23		-0.03	0.26		0.23	0.19		0.41	0.23
Difference-in-difference estimate	0.80			-0.21			0.27			0.22	
<i>F</i> ( <i>p</i> )	11.06 (.001)		1,144	0.63 (.43)		920	1.76 (.19)		1,158	0.88 (.35)	950
<i>Dissolved</i>											
Married	1.03	0.31		-0.03	0.30		0.23	0.24		0.41	0.30
Cohabiting	0.61	0.18		0.43	0.17		0.19	0.19		0.85	0.26
Difference-in-difference estimate	-0.43			0.46			-0.05			0.45	
<i>F</i> ( <i>p</i> )	1.43 (.23)		339	1.80 (.18)		261	0.02 (.88)		341	1.27 (.26)	220
<i>Fathers</i>											
<i>Cohabiting</i>											
Continuous	0.18	0.09		0.16	0.13		-0.09	0.11		0.16	0.12
Dissolved	1.02	0.15		0.47	0.15		0.01	0.18		0.48	0.20
Difference-in-difference estimate	0.84			0.31			0.10			0.32	
<i>F</i> ( <i>p</i> )	23.68 (.000)		733	2.35 (.13)		456	0.23 (.63)		509	1.85 (.17)	363
<i>Married</i>											
Continuous	0.24	0.06		0.02	0.06		-0.17	0.06		0.02	0.06
Dissolved	1.49	0.24		1.24	0.25		0.37	0.18		1.03	0.21
Difference-in-difference estimate	1.25			1.22			0.54			1.01	

Sample	Dissolved Between Waves 2 and 3			Dissolved Between Waves 3 and 4		
	Difference	SE	n	Difference	SE	n
<i>F</i> ( <i>p</i> )	25.15 (.000)	1,031	813	8.08 (.005)	1,047	839
Dissolved						
Married	1.49	0.34	1.24	0.37	0.26	1.03
Cohabiting	1.02	0.20	0.54	0.01	0.22	0.48
Difference-in-difference estimate	-0.48		-0.70	-0.36		-0.55
<i>F</i> ( <i>p</i> )	1.41 (.24)	241	2.28 (.13)	1.06 (.30)	249	1.62 (.21)

**Table 3**

Fixed-Effects Regression Results From Difference Models Predicting Change in Depressive Symptoms From Dissolution Status and Time-Varying Covariates.

	Cohabiting Sample		Married Sample		Full Sample	
	$\beta$	SE	$\beta$	SE	$\beta$	SE
<b>Mothers</b>						
Cohabitation dissolution	0.58*	0.24			0.78***	0.20
Marital dissolution			1.23***	0.32	0.74***	0.21
Employed	-0.23*	0.11	0.04	0.09	-0.09	0.07
New partner	-0.42*	0.19	0.34	0.25	-0.18	0.15
Religiosity	-0.03	0.04	-0.04	0.04	-0.03	0.03
Social support	-0.02	0.04	-0.01	0.03	-0.02	0.03
Family chaos	0.11***	0.04	0.00	0.03	0.05*	0.02
Income-to-poverty ratio	-0.01	0.05	-0.03	0.02	-0.02	0.02
Years since dissolution	0.04	0.09	-0.45***	0.13	-0.13	0.07
Constant	0.83***	0.22	0.86***	0.21	0.88***	0.15
<i>F</i>	5.02***		4.28***		6.65***	
Between groups <i>df</i>	10		10		11	
Within groups <i>df</i>	1601		2351		3961	
<i>R</i> <sup>2</sup> within	0.03		0.02		0.02	
<i>R</i> <sup>2</sup> between	0.05		0.05		0.06	
<i>R</i> <sup>2</sup> overall	0.04		0.03		0.04	
<i>n</i> (person-year)	2,614		3,720		6,334	
Persons	1,003		1,359		2,362	
<b>Fathers</b>						
Cohabitation dissolution	0.41+	0.24			0.44*	0.20
Marital dissolution			0.73*	0.36	0.96***	0.22
Employed	0.17	0.13	-0.35***	0.12	-0.08	0.09
New partner	0.05	0.20	-0.69***	0.26	-0.17	0.15

	Cohabiting Sample		Married Sample		Full Sample	
	$\beta$	SE	$\beta$	SE	$\beta$	SE
Religiosity	-0.06	0.04	0.01	0.03	-0.02	0.03
Social support	-0.08*	0.04	-0.02	0.03	-0.05*	0.02
Family chaos	0.01	0.04	0.02	0.02	0.02	0.02
Income-to-poverty ratio	0.00	0.03	0.00	0.01	0.01	0.01
Days with child	-0.01	0.01	-0.02+	0.01	-0.01*	0.01
Years since dissolution	-0.05	0.09	0.05	0.14	-0.04	0.07
Constant	1.01**	0.32	1.22***	0.37	1.02***	0.23
<i>F</i>	3.90***		8.63***		10.15***	
Between groups <i>df</i>	11		11		12	
Within groups <i>df</i>	1312		2039		3347	
<i>R</i> <sup>2</sup> within	0.03		0.04		0.04	
<i>R</i> <sup>2</sup> between	0.08		0.04		0.07	
<i>R</i> <sup>2</sup> overall	0.05		0.05		0.05	
<i>n</i> (person-year)	2,218		3,286		5,476	
Persons	895		1,236		2,117	

Note.

+  $p < .10$ .

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .