Stability and Change in Family Structure and Maternal Health Trajectories

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Abstract

Recent increases in births to unmarried parents, and the instability surrounding these relationships, have raised concerns about the possible health effects associated with changes in family structure. Using data from the Fragile Families and Child Well-Being Study (N = 2,448), this article examines trajectories of maternal mental and physical health. We specifically focus on mothers' transitions into and out of residential relationships with a child's biological father during the first five years after birth. We find that continuously married mothers are in better mental and physical health than unmarried mothers one year after birth, but the disparity does not increase over time. This finding provides little support for the resource model. Consistent with the crisis model, exiting a marital or cohabiting union increases mental health problems and decreases self-rated health. These effects appear to be relatively short-lived, though, and they are stronger for mental health than for self-rated health. The results also suggest that union dissolution may be selective of less healthy mothers, whereas union formation does not appear to be selective of healthier mothers.

A large body of research shows that marriage and marital stability are positively associated with health and well-being (House, Landis, and Umberson 1988; Waite 1995; Waite and Gallagher 2000). Married individuals have higher levels of physical (Kiecolt-Glaser and Newton 2001) and mental health (Simon and Marcussen 1999) than do unmarried adults, and those who divorce have worse health than those who remain stably married. Although some of these differences likely result from selection, theory provides good reason to believe that marriage has a causal impact on health. Marriage promotes social integration, encourages reciprocal caretaking, and provides emotional support (Gove, Hughes, and Style 1983; Peters and Liefbroer 1997; Umberson 1987), whereas divorce results in the loss of these benefits and often leads to chronic stress (Gove and Shin 1989).

Despite the plethora of empirical research on marriage and health, the literature does have important limitations. First, theories of why marriage is salubrious and divorce is costly for health are complex and require longitudinal data. Existing studies, however, primarily rely on cross-sectional data or use two points in time to compare individuals pre- and postmarital transition. For example, the (marital) resource model argues that the benefits of a stable marriage or, alternatively, the costs of being single, accumulate, suggesting that the gap in well-being between married and unmarried adults increases over time. Similarly, the crisis

model, often used in research on divorce, argues that changes in status, including transitions into and out of coresidential relationships, may have negative effects in the short term that fade over time in the absence of additional stressors.

Second, existing research has not kept pace with recent changes in family formation, including declines in marriage and increases in cohabitation and non-marital childbearing. These trends are especially pronounced among minorities and less educated women (Ellwood and Jencks 2004; Teachman, Tedrow, and Crowder 2000), suggesting that changes in family formation may have contributed to growing racial and class disparities in health. Yet very little research examines the health trajectories of cohabiting adults or parents who have children outside of marriage. Although some unmarried parents are in stable cohabiting unions, it is unclear whether these unions provide the same benefits as marriage. Moreover, women who give birth outside of marriage are more likely to experience partnership instability, which negatively affects health (Fomby and Cherlin 2007; Osborne and McLanahan 2007). Finally, the recently reauthorized 1996 welfare reform legislation allocates funds for initiatives that seek to increase marriage among unmarried parents (Haskins 2006). These new policies and programs rest on the assumption that parents and children would be better off if unmarried parents marry and remain married. The empirical evidence for this assumption, however, is limited (Huston and Melz 2004).

This article uses data from the *Fragile Families and Child Wellbeing Study* (FFCWS) to compare health trajectories of groups of mothers based on family structure during the first five years after birth. Using latent growth models, we address two questions: First, do mothers with different family structure histories have different health trajectories? Second, do the effects of family change on health fade out or accumulate over time? Bierman, Fazio, and Milkie (2006) convincingly argue that exploring the health advantage of the married necessitates using a multifaceted approach, in terms of measuring both health and marital status. Furthermore, the resource model and the crisis model require more than two points in time to examine the association between family structure change and health. With this in mind, our analysis extends previous research in several ways: the sample includes a large number of unmarried mothers, which allows a comparison of the effects of family structure stability and change between traditional and nontraditional families; the measure of mental health incorporates both internalizing and externalizing disorders; and the data contain multiple observation points, which allows for examination of both time-specific and cumulative effects associated with family structure change.

THE BENEFITS OF MARRIAGE

Classic sociological theory argues that marriage is an important social institution with well understood norms and obligations that serve to increase social integration, reduce alienation, and enhance overall well-being (Durkheim [1897] 1966). Recent theoretical work has identified several mechanisms through which marriage promotes well-being, including reciprocal caretaking (Gove et al. 1983), monitoring of health behaviors (Umberson 1987), and emotional support (Peters and Liefbroer 1997). The extent to which the benefits of marriage extend to cohabiting unions is not entirely clear, though, and likely depends on the nature of the union (Manning and Smock 2002). Insofar as cohabitation is an "incomplete institution" (Nock 1995; Rindfuss and VandenHeuvel 1990), social integration may be less complete (Marcussen 2005). Furthermore, because cohabiting unions are characterized by higher rates of mental illness (DeKlyen et al. 2006), substance use, and violence (Kenney and McLanahan 2006), caretaking and health monitoring benefits may also be weaker.

Empirical Evidence

The literature extensively documents the health benefits associated with marriage (without regard to parenthood), including higher self-rated health (Williams and Umberson 2004), reduced mortality rates (Rogers 1995), lower rates of chronic illness and physical disability (Pienta, Hayward, and Jenkins 2000), and better mental health (Marks and Lambert 1998). The few studies that investigate whether similar benefits exist for cohabitation suggest that cohabiting couples fall somewhere between married couples and single individuals in terms of well-being, especially concerning mental health (Ross 1995). Cohabiting individuals frequently report higher levels of depression (Brown 2000) and more alcohol problems (Horwitz and White 1998) than do their married counterparts. Furthermore, existing literature suggests that transitions into marriage are more protective for health than are transitions into cohabitation (Brown 2000; Horwitz and White 1998; Kim and McKenry 2002; Willitts, Benzeval, and Stansfeld 2004; but see Wu et al. 2003 for conflicting results). At least one study suggests that the transition to marriage is less protective of mental health if cohabitation precedes it (Lamb, Lee, and DeMaris 2003). Together, these studies suggest that cohabitation, although similar in many ways to marriage, is not as salubrious, perhaps reflecting the instability typically characteristic of cohabiting relationships (Brown 2000).

THE COST OF UNION DISSOLUTION

Just as marriage and cohabitation appear to provide adults with many physical and mental health benefits, exiting such unions appears to have negative consequences (Aseltine and Kessler 1993; Hemström 1996). Studies link divorce to a higher risk of mortality (in men only, Lillard and Waite 1995; Zick and Smith 1991), poor health behaviors (Lee et al. 2005), increased mental health problems (Barrett 2000; Simon and Marcussen 1999), and increased poverty (Holden and Smock 1991). Additionally, material and emotional changes, which increase parental stress levels, typically accompany divorce and separation (Gove and Shin 1989; Lillard and Waite 1995).

Somewhat surprisingly, little research investigates the health consequences of union dissolution among cohabiting couples. One of the few existing studies reports that exits from marriage and cohabitation result in similar decreases in functional and self-rated health but not in mental health (Wu and Hart 2002). The cost of exiting a cohabiting union, compared to ending a marriage, may be lower because stability is less common and less expected (Rindfuss and VandenHeuvel 1990). Insofar as cohabiting couples have lower socioeconomic status, earnings, and levels of education than married couples (Manning and Lichter 1996), ending these relationships may have more severe consequences for financial well-being than would ending a marriage, especially for women (Avellar and Smock 2005). Similarly, because individuals in cohabiting relationships frequently have worse mental health than their married counterparts (DeKlyen et al. 2006), the exit of a partner may signify the loss of a key piece of social support, resulting in an even greater negative impact on mental health.

UNMARRIED PARENTS AND HEALTH: RESOURCE ACCUMULATION

Much of the existing research on marriage and health does not distinguish between adults with and without children, although the divorce literature is a notable exception (Amato 2006). Single mothers have received the greatest attention in the literature, with most studies reporting worse mental and physical health outcomes for this group, compared to married mothers (Angel and Angel 1993; Davies, Avison, and McAlpine 1997; Wickrama et al. 2006). Role theory argues that certain roles are associated with chronic strain, consistent with an accumulation perspective (Pearlin 1999). These chronic strains are a common feature of life for single mothers, who often lack the resources necessary to navigate the roles of work and parenthood (Avison 1999; McLanahan 1985; McLanahan and Teitler 1999). Because single

mothers do not accumulate the same resources as married mothers, the health gap between them will continue to grow the longer a single mother remains single (Ross and Wu 1996).

More importantly, very little is known about the costs and benefits associated with family structure changes for parents who experience childbirth outside of marriage. Unmarried parents are a diverse group (Sigle-Rushton and McLanahan 2002), including many cohabiting couples as well as romantic, non-coresident parents who eventually marry. Exactly what happens to these couples if and when they marry is unclear. According to the resource model, health should improve with marriage, as it does for childless adults, because resources accumulate (King et al. 1998; Simon and Marcussen 1999). It is possible, though, that individuals' health will decline after marriage because these partnerships are frequently fraught with distrust and conflict (Edin 2000).

UNION DISSOLUTION: SHORT-TERM CRISIS

Although often overlooked, it is important to distinguish between the benefits associated with occupying a particular marital status and the effects associated with a change in status. Whereas the resource model emphasizes the gains and losses associated with a particular marital status following the event of marriage or divorce, the crisis model suggests that a change in family status itself has a negative impact on health. This impact is most pronounced around the time of an event and, in the absence of additional stressors, fades over time (Acock and Demo 1994; Booth and Amato 1991). Theoretically, a transition such as divorce may be viewed as an acute stressor delimited by a beginning and an end of the crisis event (Avison and Turner 1988; Hetherington, Cox, and Cox 1985; Wheaton 1999). This idea is consistent with adaptation theory, which argues that individuals have a set level of subjective well-being and that, although a stressful event may decrease well-being, the decline is temporary (Diener, Lucas, and Scollon 2006). According to crisis theory, the negative impact of a change in family structure is not limited to union dissolutions. Forming a new partnership may also be stressful, especially during the initial adjustment period. For example, in Holmes and Rahe's (1967) classic work on stressful life events, out of 50 events, marriage ranked as the seventh most stressful.

RESEARCH AIMS

Williams and Umberson (2004) note that the literature lacks simultaneous tests of the crisis and resource models, especially as they pertain to physical health (but see Johnson and Wu 2002; Lorenz et al. 2006; Strohschein et al. 2005 for exceptions). Reliance on cross-sectional data and failure to differentiate between marital status and marital transitions are cited as reasons for the absence. The dearth of simultaneous tests is all the more striking given that the stress and resource models are compatible. For example, Wheaton (1999) argues that stressful life events often lead to chronic strain, which is clearly the case with union dissolution. It is thus entirely possible that union dissolution, an acute stressor, is associated with both an immediate crisis for health and a long-lasting harmful impact on well-being, given a subsequent change in social roles. Although the crisis and resource models are theoretically distinct, it is much more difficult to differentiate them empirically. In the case of union dissolution, where both models predict effects in the same direction, long-term declines in health could be evidence of an ongoing crisis event or cumulative resource deficits. In terms of union formation, however, the crisis model predicts an initial decline in health, associated with the stress of making a transition, but the resource model suggests that marriage and cohabitation result in improvements in health over time.

This study examines both the resource and crisis models by following the health trajectories of different groups of mothers based on stability and changes in family structure over the first five years after childbirth. If the resource model is correct, we should find evidence of growing

disparities between mothers who are stably married and other mothers, especially those who are stably single. It is also possible to test whether the resource model applies to stably cohabiting mothers. We then examine time-specific effects associated with union transitions to examine short- and long-term consequences of such experiences. If a transition results in a time-specific negative effect that fades over time, our findings would provide support for the crisis model. If the negative effect associated with an exit from a coresidential union grows larger over time, or the negative effect associated with entering a coresidential union dissipates over time, then our findings would again provide support for the resource model.

Selection

Most discussions of the link between family structure and health assume that the protective effect of marriage and the deleterious effect of divorce are causal (Booth and Amato 1991; Johnson 1991). An alternate view posits that the association between health and marriage results from selection (Aseltine and Kessler 1993; Mastekaasa 1992; Wade and Pevalin 2004). According to the selection argument, healthier individuals are more likely to marry and less likely to divorce (Goldman 1993), leading to a spurious correlation between marital status and health.

In the analyses that follow, we use a number of approaches to minimize selection bias. First, we include a rich set of control variables measured at the time of a birth that are likely to affect relationship status as well as relationship stability (see Horwitz, White, and Howell-White 1996). These include measures of parents' capabilities, family backgrounds, and previous relationship transitions. Second, we use a two-step procedure developed by Heckman (1979) to create a variable to correct for selection, and we include this variable in our growth models. Finally, growth models that estimate the effect of relationship stability and transitions on mothers' initial health status one year after childbirth, as well as health trajectories between one and five years after childbirth, give us some purchase on the selection problem. While selection may affect a mother's initial health status, it is less likely to affect her health trajectory. The latter is thus a better indicator of the true causal effect. (Note that it is possible that some unobserved variable is causing mothers to have different trajectories, as well as different initial conditions.) Finally, evidence of short-term effects that fade over time (i.e., the crisis model) would be inconsistent with the selection argument.

METHODS

Data

Data come from the *Fragile Families and Child Wellbeing Study* (FFCWS), a national longitudinal survey of parents and their children (Reichman et al. 2001). The FFCWS consists of 4,898 children born in large U.S. cities, including 3,712 whose parents were unmarried at birth. Maternal baseline interviews were conducted in-person, within 48-hours of the focal child's birth. Follow-up interviews were conducted via telephone when the focal child was 1, 3, and 5 years old. We use data from all four waves and restrict the analysis to mothers with valid information on the health measures, relationship transitions, and control variables. Listwise deletion results in a final sample of 2,448 women, including 1,554 who were living with the father at the time of the birth.[1]

Measures

Mental health problems—We created a composite score for mental health problems by summing three dichotomously coded items—heavy episodic drinking (i.e., binge drinking), illicit drug use, and diagnosis of a major depressive episode—all of which are available at the one-, three-, and five-year interviews. Heavy episodic drinking is defined as consumption of 5 or more drinks in one sitting at least once in the previous month at the one-year interview,

and 4 or more drinks at the three- and five-year interviews. Roughly 6 percent of mothers at one-year, 12 percent at three-years, and 13 percent at five-years report a recent episode of binge drinking. Illicit drug use is defined as use of at least one illicit drug (sedatives, tranquilizers, amphetamines, analgesics, inhalants, marijuana, cocaine, LSD/hallucinogens, or heroin) without a prescription, in larger amounts than prescribed, or for longer than prescribed in the past month. Two percent of mothers at one-year and 5 percent at three- and five-years report recent illicit drug use. We measure depression using the Composite International Diagnostic Interview Short Form (CIDI-SF) Version 1.0 November 1998 (see Kessler et al. 1998). Scoring followed procedures outlined by the developers of the CIDI-SF to yield 12-month DSM-IV diagnoses of Major Depressive Episode (MDE) (American Psychiatric Association 1994; Walters et al. 2002). Thirteen percent of mothers at one-year, 18 percent at three-years, and 16 percent at five-years meet the diagnostic criteria for MDE. The mean mental health problem score across all mothers is .2 at one-year, .4 at three-years, and .3 at five-years. Note that the CIDI depression measure is not obtained at the baseline interview because of potential overlap with postpartum depressive symptoms.

Independently, each of the three items has been cited in existing studies as an indicator of poor mental health. Moreover, Aneshensel (2002) argues that disorder specific models provide a biased estimate of the impact of social factors and stress on mental health when these factors may influence more than one health outcome. Indeed, recent literature on the study of mental health now includes both internalizing (e.g., depression) and externalizing (e.g., alcohol use/abuse, violence) behaviors as indicators of mental health problems (Umberson, Williams, and Anderson 2002). We opt to combine depression, binge drinking, and drug use into one measure of mental health problems to maximize the variability of this construct within our sample and to capture the breadth of emotional distress that may result from changes in family structure.

Self-rated health—At the one-, three-, and five-year interviews, mothers were asked to rate their physical health ("In general, how is your health? Would you say it is …").[2] Responses range from excellent to poor on a five-point scale where higher values indicate better health. Mothers report a mean self-rated health score of 3.8 at one-year, 3.8 at three-years, and 3.7 at five-years.

Family Structure Variables—We construct two sets of variables using mothers' reports of marital status and family structure. First, a set of time-invariant variables summarizes a mother's *family structure history* during the first five years after childbirth (see Table 1a). This measure includes nine categories: mothers who are (1) continuously married, (2) continuously cohabiting, or (3) continuously single, as well as mothers who (4) exit a marriage, (5) exit a cohabitating relationship, (6) move from cohabitation to marriage, (7) move from non-residence to coresidence with the biological father, (8) move from non-residence into a coresidential relationship with a new partner (i.e., social father), or (9) experience more than one transition.[3]

[1]One mother does not report a baseline marital status, 1,234 do not have health measures across all waves, and 1,215 are missing on the controls. Sample sizes may vary across models given the changing definition of the relationship history variables that we use. Additional analyses indicate that mothers excluded from the final sample have less education, are more likely to be African American and less likely to be white, more likely not to be in a relationship with the father and less likely to be married to him at baseline, more likely to have a mother with a history of mental health problems, less likely to have lived with both parents at age 15, more likely to have used drugs, smoked, and considered an abortion during their pregnancies, and report slightly more mental health problems at one-year and slightly lower levels of self-rated health at one-, three-, and five-years than mothers in our analytic sample. A similar pattern is evident for unmarried versus married mothers at baseline. These patterns indicate that the mothers in our sample are somewhat more advantaged than the target population.
[2]Because the depression measure is not available at the birth of the child, we opted to keep the analyses parallel by excluding the self-rated health measure at the baseline interview from the growth curve itself.
[3]Note that sample size issues restrict us from separating movement into marriage from movement into a cohabiting relationship. For our purposes, social fathers are non-familial, romantic partners.

The second set of measures represents *time-varying family structure change* (see Table 1b). For each two successive waves—baseline and one-year, one-year and three-years, and three-years and five-years—we create a series of dummy variables that describe possible relationship transitions with either the biological or social father, depending on the residential status of the mother at birth. Coresidential parents at baseline may exit a marriage or cohabiting relationship, transition from cohabitation to marriage, experience a second transition (i.e., multiple transitions), or remain stably married or cohabiting. Non-coresident mothers may enter into a residential relationship with the biological or social father, experience a second transition (i.e., multiple transitions), or remain stably single with no coresident partner. In addition, we include a time-varying indicator for stability after a change to capture mothers who may make an earlier transition but remain stable after that experience (e.g., divorced mothers who remain single). All transitions are mutually exclusive and refer to the *first* transition a mother experiences. We code any subsequent transition as "multiple" and mothers who do not experience a subsequent transition are coded as "stable after one transition."[4]

Control variables—The FFCWS includes a rich set of variables that allow us to control for many observable characteristics that may affect both family formation and health. We use measures of mothers' health status prior to birth: whether a mother received medical care, used alcohol several times a month or more, used drugs once a month or more, smoked one pack of cigarettes a day or more, or considered an abortion during her pregnancy. In addition, mothers were asked for their self-rated health at baseline, and whether her parents suffered from mental health problems, including alcohol or drug abuse, depression, and anxiety.[5] We also control for mothers' attitudes toward marriage measured at baseline: higher values indicate more favorable marriage attitudes. Individuals with less positive attitudes toward marriage are less likely to marry and more likely to see divorce as a viable option for ending an unsatisfactory marriage (Carlson, McLanahan, and England 2004). We include a dummy variable indicating whether a mother lived with both biological parents at age 15. Teachman (2002) finds that time spent away from both biological parents, regardless of the reason, is related to an increased risk of divorce. This variable may also capture a mother's commitment to marriage and to establishing a long-term, stable relationship. Studies have found that adults raised in families with a history of instability hold more negative views of marriage (Amato and DeBoer 2001), have more difficulties with interpersonal relationships (Ross and Mirowsky 1999), and have higher odds of experiencing divorce and relationship dissolution (Amato and Cheadle 2005;Wolfinger 1999). Finally, we use maternal reports of the number of prior relationships to control for mothers' previous relationship experiences and stability. This variable is especially useful in dealing with potential selection bias insofar as it should control for mothers' propensity to form unstable unions.

All models control for the following variables: mother's age at baseline (in years), education (a four category variable ranging from less than high school to college degree and above), and race/ethnicity (black, white, Hispanic, and other, with white being the omitted category). Table 1a presents means and standard deviations for all control variables.

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[4]Mutual exclusivity does not apply to these two categories.

[5]Although these variables are not medical diagnoses and are subject to recall error, they provide some indication of a family history of mental health problems, as well as exposure to such illnesses. A limitation of these measures is that a mother's own mental health status may affect her assessment of her parents' mental health, a phenomenon known as "shared method variance." Shared method variance refers to the possible inflation of the association between two self-reported variables (i.e., the variables share the same method of derivation) (see Bank et al. 1990). In this case, if shared variance exists, controlling for maternal reports of parents' mental health problems should lead us to underestimate the effect of the relationship history and family structure variables on health trajectories.

Analyses

Because we are interested in capturing the dynamic aspect of family structure changes on health, we use latent growth curve modeling. This strategy assumes that mothers differ in initial ratings of health based on family structure and that variance in subsequent growth (or decay) of health trajectories also varies by family structure. A unique intercept (α), linear, time-dependent slope (β), and some measurement error (ε) characterize each individual's trajectory. Thus, the level one equation is as follows:

$$y_{it} = \alpha_i + \beta_i t + \varepsilon_{it} \tag{1}$$

This equation represents within-individual (i) change over time (t). To incorporate the time-varying covariates representing changes in family structure into the model, we modify Equation 1 as follows:

$$y_{it} = \alpha_i + \beta_i t + \gamma_t w_{it} + \varepsilon_{it} \tag{2}$$

The addition of $\gamma_t w_{it}$ represents the effect of each time (t) family structure variable on health at time (t) for each ith individual. In other words, each γ represents a perturbation from the latent health trajectory caused by a change in family structure at a specific point in time (see Curran and Willoughby 2003). By regressing each $\gamma_t w_i$ on subsequent measures of health (i.e., $y_{it}+1$) we can assess the effect of time-specific transitions at multiple time-points.

The second level of the growth model allows the random intercepts ($[\alpha]_i$) and slopes (β_i) to be a function of variables that differ across individuals (i) but do not change across time (t). This level represents between-individual change over time. The level two equations are as follows:

$$\alpha_i = \alpha_0 + \alpha_1 x_{i1} + \alpha_2 x_{i2} + \ldots \alpha_k x_{ik} + u_i \tag{3}$$

$$\beta_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots \beta_k x_{ik} + v_i \tag{4}$$

For our purposes, the x's are the controls and the time-invariant family structure variables that summarize family structure histories during the first five years after birth. The intercept and slope for each health outcome are directly regressed on these characteristics to assess for potential group differences in the means of the growth factors.

We estimate models using Mplus, Version 4.1 (Muthén and Muthén 2006). We evaluate model fit using the maximum likelihood ratio test statistic (χ^2), which, if significant, indicates poor fit. Because models with sample sizes over 200 are frequently significant, we use three supplemental measures of model fit: the root mean square error of approximation (RMSEA), the Tucker Lewis Index (TLI), and the Comparative Fit Index (CFI). Convention dictates that RMSEA be below .05 and TLI and CFI close to 1.0 (Bollen and Curran 2006). All statistical tests referenced in the text are two-tailed.

RESULTS

Family Structure Histories: Group Differences

Our first research question asks whether differences in mothers' family structure histories after childbirth are associated with differences in health trajectories. According to the resource model, mothers who are stably married, and possibly stably cohabiting, will have better health

trajectories than mothers who are stably single or mothers who experience unstable relationships. Table 2 presents results for both self-rated health and mental health problems based on Equations 3 and 4 of our growth model. Columns 1 and 2 show that mothers who are stably cohabiting and stably single, who move from cohabitation to marriage, who begin a coresidential relationship with a new, social father, or who experience multiple transitions report lower self-rated health at the one-year interview than do stably married mothers. More importantly, all mothers experience roughly the same decline in self-rated health over time. Only mothers who exit from cohabiting relationships have a marginally significantly different slope than stably married mothers, with mothers who make the transition experiencing a steeper decline in health (−.05 plus −.04; β = −.04, $p < .10$).

Turning to mental health, with the exception of mothers who make a transition from cohabitation to marriage, who remain stably cohabiting, or who enter a coresidential relationship with the child's biological father, all groups have significantly more mental health problems at the one-year interview than do stably married mothers (see Table 2, columns 3 and 4). Moreover, only mothers who move from cohabitation to marriage with the child's father have a significantly different (i.e., steeper) slope than stably married mothers. Although not statistically significant, the results are suggestive of a growing gap between stably married mothers and mothers who experience a transition as predicted by the marital resource model. That is, mothers who exit both marriages and cohabiting relationships, as well as those who have multiple relationship transitions, have positive coefficients indicating an even steeper increase in mental health problems than that of stably married mothers. Also note that mothers who move into coresidential relationships have negative coefficients indicative of a decline in mental health problems and consistent with the resource model.[6] Finally, it is curious that mothers who move from cohabitation to marriage experience a significant increase in problems over time, as this finding is contrary to the predictions made by the resource model. Recall that the mothers in this group remain married after the transition, which suggests that these post-childbirth marriages may not be of high quality.[7]

The model presented in Table 2 compares stably married mothers to each of the other groups. Given the uncertainty about whether the marital resource model applies to cohabitation as well as marriage, we test differences between stably cohabiting mothers and each of the other groups. Chi-square tests reveal no differences in self-rated health trajectories and only two significant differences in mental health problem trajectories (i.e., the slope for the stably cohabiting group is not as steep as the slope for the cohabitation-to-marriage and multiple transition groups). Most striking, we observe no slope difference between the stably cohabiting and the stably single on either health outcome, as predicted by the resource model. Although the stably married appear to have a health advantage at the one-year interview (i.e., the intercept), this advantage does not appear to extend to the stably cohabiting. We find some, albeit weak, support for the resource model for the stably cohabiting but only in terms of mental health (i.e., slope differences between stably cohabiting and multiple transition groups). Finally, Table 2 allows us to examine the relative influence of leaving a marriage versus leaving a cohabiting relationship. No significant difference in the intercept or the slope exists between these two groups in terms of either self-rated health or mental health problems.[8]

In sum, these results suggest that stability in marriage is related to better maternal health. The absence of a coresidential partner and instability in union status are associated with worse mental and physical health, especially in terms of where mothers begin their trajectories.

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[6]Note that in order for these interpretations to be valid one must assume that lack of significance is a matter of sample size and power to detect significant effects.

[7]An alternate explanation is that less healthy mothers are "selected" into the cohabitation-to-marriage group. This does not appear to be the case. The intercept term does not significantly differ between the continuously married, or the continuously cohabiting, and the cohabitation to marriage group.

Although the resource model predicts diverging trajectories between stably married or cohabiting mothers and stably single mothers, our findings do not support this hypothesis. We observe no differences in slopes among these groups of mothers. It is true, however, that these groups of women begin their trajectories at very different places, and this disparity is perpetuated across the first five years of a child's life. For both outcomes, results suggest that the gap may widen between stably married mothers, and in two instances stably cohabiting mothers, and those mothers who exit a marriage or cohabiting relationship and who experience multiple marital transitions.

Time-Varying Family Structure Changes: Individual Change

Our second research question addresses whether health effects associated with changes in family structure persist or diminish over time. To address this question, we introduce time-varying measures of family structure change into the latent growth models at Level 1 to determine whether transitions produce a "shock," shifting the overall health trajectory at a specific point in time. This allows us to test the crisis model, which predicts that any change in family structure will produce a short-term negative shock followed by a fading of the effect over time. In contrast, the resource model predicts that the effect of a family structure change will become increasingly negative or increasingly positive, depending on whether the new status represents a gain or loss in resources. These two hypotheses are not entirely incompatible and our models allow us to assess whether empirical support exists for either one (or both). If time-specific family structure changes have an immediate negative effect on health, such results would support the crisis model. If those same family structure variables continue to have a subsequent association with health (in the appropriate direction), then the results would provide evidence for the resource model.

Self-rated health—Table 3a presents the results from a growth model examining the timing of exits from and entrances into coresidential unions on self-rated health trajectories. It controls for stability in cohabiting relationships and single status, as well as multiple transitions and stability after a transition. The reference group is mothers who remain in a marriage with the biological father across the entire observation period. According to the estimates in Table 3a, exiting a marriage ($\alpha = -.65$, $p < .01$) between baseline and year-one results in an immediate negative shock to mothers' self-rated health trajectories compared to remaining stably married. Exiting a cohabiting relationship between baseline and year-one has a marginally significant negative shock on mothers' self-rated health at one-year ($[\alpha] = -.15$, $p < .10$). At year-three ($[\alpha] = -.23$, $p < .05$) and at year-five ($[\alpha] = -.45$, $p < .01$), an exit from a cohabiting relationship has a significant and immediate negative impact on self-rated health. Divorce has a similar association with self-rated health at year-five ($[\alpha] = -.41$, $p < .01$) but not year-three.[9]

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[8]We also estimate the model in Table 2 while adjusting for nonrandom selection into marriage at the baseline interview by using a hazard rate instrument based on the inverse Mills ratio (Heckman 1979) to correct for selection on unobserved variables. Known as lambda (λ), the instrument represents the likelihood of being unmarried at the time of the focal birth. First, we used a probit model to estimate the likelihood of non-marriage at baseline. The probit model includes the following: mother's age, education, race, immigrant status; whether she lived with both biological parents at age 15; the number of previous relationships; positive marriage attitude; whether she received medical care, smoked, used drugs, or used alcohol during the prenatal period; whether she considered an abortion; whether her biological parents had mental health problems; the sex of the focal child; the number of years she knew the biological father prior to the pregnancy; whether she attended religious services several times a month or more; whether the biological father had a physical or mental health problem that prevented him from working or affected social relationships; whether the mother's race differed from the father's; and whether the biological father had ever been in jail at the time of the one-year interview. From the likelihood, we constructed a lambda for each mother such that high values indicated a greater likelihood of being unmarried at childbirth. We then entered this variable into the growth models at Level 2. The results do not differ, thus we present the most parsimonious model here.
[9]Year-three coincides with what many parents suggest is the most tumultuous time in a child's early life, frequently referred to as the "terrible two's." In terms of significance and salience for maternal self-rated health, child temperament may trump changes in family structure. The effect of child behavior may be less salient for our more clinical measures of mental health.

To assess the resource model, we must examine the effect of experiencing an exit transition and no subsequent transitions (i.e., "stable after transition"). Doing so requires combining the lingering effect of an earlier transition with the contemporaneous effect of remaining unchanged in marital status after the dissolution. For example, a mother who divorced the biological father between baseline and year-one experiences three "hits" to her self-rated health over the course of her trajectory: −.65 at year-one, .06 at year-three (.26 + [−.32]), and −.42 at year-five (−.46 + .04). Similarly, a mother who exits a cohabiting union experiences three "hits": −.15 at year-one, −.10 at year-three (.22 + [−.32]), and −.01 at year-five (−.05 + .04). We repeated this exercise across all rows in Table 3a. The superscripts indicate significant differences over time in the effect of the transition in question on mothers' self-rated health. Although a visual interpretation of the combined coefficients suggest a decline in the negative association between family structure change and self-rated health, only one set of comparisons is significant. Mothers who divorce the biological father between baseline and year-one see significantly improved health by year-three. This finding is consistent with the crisis model and inconsistent with the resource model.

Somewhat unexpectedly, movement from cohabitation to marriage is also associated with a time-specific drop in self-rated health at all three waves, although it is marginally significant at year-three (one-year $[\alpha] = -.24$, $p < .01$; three-year $[\alpha] = -.17$, $p < .10$; five-year $[\alpha] = -.41$, $p < .01$). These results also suggest a prolonged negative relationship with physical health beyond the year in which an event occurs, but no significant widening of the gap with stably married mothers. Finally, movement into cores-idential relationships with either biological or social fathers shows a similar pattern, albeit with fewer significant time-specific declines in self-rated health. What we do not see here, though, is the predicted narrowing of the gap between newly married or cohabiting mothers and stably married mothers, as predicted by the resource model.

On the whole, the strongest negative effects of dissolution are limited to the year in which a transition occurs, consistent with the crisis model (i.e., coefficients on the diagonals in Table 3a). Although we find persistent negative effects associated with exit transitions, we do not find increasing negative effects as predicted by the resource model. If stably married mothers do hold a health advantage over unmarried mothers in terms of self-rated health, it appears to be very slim, and more importantly, this advantaging does not grow over time.

Mental health—Table 3b presents the results for mental health problems. Like self-rated health, mental health suffers an immediate "hit" when mothers exit coresidential unions. However, mothers appear to "bounce back" after these hits; superscripts in the table indicate that mothers who exit marriages or cohabiting relationships early in their children's lives (i.e., before the age of one) have significantly fewer mental health problems over time. These results are consistent with the crisis model but not with the resource model, which predicts an increase in the strength of the negative association between exit transitions and mental health problems.

We find few significant time-specific effects for movement from cohabitation to marriage or entrances into coresidential relationships with either biological or social fathers. For entrances into coresidential relationships, though, especially with social fathers, we do see the effect of the transition dissipate over time, consistent with both the crisis and resource models. Results also indicate that the gap between the stably single and the stably married is not growing but declining over time, which is inconsistent with the resource model. It is possible that over time these mothers adjust to their single status. In terms of mental health, the resource model may account for the narrowing of the gap between mothers who enter marriages or cohabiting unions, but it fails when applied to mothers who exit coresidential unions.

Finally, when the stably single, rather than the stably married, are treated as the comparison group, mothers who transition into residential relationships with biological but not social fathers actually experience a significant decrease in mental health problems (results not shown). This effect, however, is best characterized as time-specific rather than cumulative, and it is only significant if the transition occurs before a child's first birthday. These results are inconsistent with both the crisis and resource models.

DISCUSSION AND IMPLICATIONS

Existing literature on the association between marriage and health primarily focuses on entry into marriage and marital dissolution. As a consequence, we are only beginning to question how non-marital union formation and dissolution affect maternal health and well-being, especially in non-traditional families. Given the increase in non-marital childbearing and governmental interest in promoting marriage as a strategy for reducing poverty and improving child well-being, understanding the effects of union transitions among non-traditional families is an important objective. We fill this gap by examining the links between changes in family structure that extend beyond marriage and trajectories of mental and physical health among a diverse sample of new mothers.

Our time-invariant models provide limited, weak support for the resource model. They suggest that exit transitions are related to diverging trajectories in well-being between stable and unstable groups of mothers, but not between the stably married or cohabiting and the stably single. These results are qualified by the fact that our time-invariant models do not find support for the accumulation of negative consequences associated with prolonged exposure to single motherhood or experiencing relationship transitions. In terms of self-rated health, the negative effect of exit transitions does not increase over time nor does the negative effect of entrance transitions decrease over time. For mental health, the negative effect of exit transitions actually decreases over time, in direct opposition to the resource model. The negative effect of entrance transitions also decreases over time, but the findings are weak and provide only limited support for the resource model. Ultimately, the findings more strongly support the crisis model's hypothesis that family structure changes are associated with immediate consequences for health that do not lead to widening gaps between the married and unmarried. Our findings are consistent with those of Strohschein and colleagues (2005) and Lorenz and colleagues (2006) who also find support for short-term effects predicted by the crisis model. The Lorenz study reports, though, that a decade after divorce, middle-age women did report significantly worse physical health than their married counterparts. This finding should alert researchers to the need for explorations extending beyond the time-frame examined here.

Because we do not observe mothers before their relationships formed, we do not know how much of the difference in health one year after childbirth results from differential selection into marital statuses and how much results from benefits associated with marital status. The fact that mothers who eventually exit a coresidential relationship have lower initial levels of health than stably married mothers suggests that union dissolution is selective of less healthy people. However, union formation after childbirth may not be selective of healthier mothers. We find that cohabiting mothers who marry their children's fathers after birth are not significantly different from stably cohabiting mothers; and non-coresidential mothers who move in with the father after birth are no different from stably single mothers.

Our analysis of the time-specific associations between family structure changes and health also speaks to the issue of selection for trajectory slopes. The selection hypothesis suggests that any factors involved in selection into relationship statuses or transitions would persistently affect health as well. If selection effects are at work, then family structure changes should be associated with persistent negative effects on health (see Lucas et al. 2003). Our results are

most consistent with the crisis model: with few exceptions, the negative effect associated with ending a marriage or cohabiting union appears limited to the period immediately following the transition, with no widening of the health gap between stably married mothers and those who remain single after an exit transition. Although it is possible that the persistent gap in self-rated health results from selection, the evidence of declining importance of transitions for mental health is inconsistent with the selection hypothesis.

Although we do not find support for a cumulative impact of dissolution, our results still contribute to an understanding of long-term maternal and family well-being. "Recovery" periods may follow brief periods of decline associated with family structure change, during which time mothers can readjust, especially in the absence of subsequent transitions. Indeed, our findings are in line with those of Hetherington (1999), who finds that most divorced families reach a sort of equilibrium two to three years after a divorce, especially families with high levels of conflict prior to dissolution (see also Hetherington and Stanley-Hagan 1999). Sustaining this postdivorce adjustment, however, necessitates the absence of other family stressors and role strains (e.g., poverty, material hardship, conflict, or non-authoritative parenting).

Overall, these results speak directly to current government efforts to increase marriage. First, because union types are so diverse and instability so common, policymakers should focus their attention on the transitions most likely to influence maternal health. Second, all of the evidence indicates that exits from relationships and multiple transitions are harmful to maternal health. Similarly, relationship instability has been negatively associated with child outcomes (Brown 2006; Cavanagh and Huston 2006; Demo and Acock 1988). Encouraging unmarried parents to marry when their chances of maintaining stable unions are low could thus have unintended negative consequences for all family members. This possibility implies that marriage programs should target couples who are likely to have successful marriages. "Who marries whom" (Huston and Melz 2004), especially in terms of characteristics that are important for and predictive of healthy, long-term relationships, is a very important aspect of this debate (see Carlson et al. 2004; Waller and McLanahan 2005). Finally, the fact that mental health problems in particular are relatively common among unmarried mothers suggests that new marriage programs need to directly address these barriers by providing unmarried mothers with mental health services.

Limitations

We should note that our sample is restricted to new mothers in large metropolitan areas. This may hinder the generalizability of our finding. Our results show strong associations between family structure and intercepts, but fewer significant associations between the family history variables and trajectory slopes, especially for self-rated health. Despite variance around group trajectories, changes in the absolute levels of physical health vary little. This is not surprising given the relatively young age of the mothers in the FFCWS. Furthermore, the unhealthiest and most disabled women are unlikely to marry or have children. Although we attempted to account for non-random selection into different marital status at birth, it is still possible that subsequent changes in both marital status and health result from unobserved factors.

Finally, if mothers who are the most negatively affected by exit transitions are also the most likely to have left our sample, then we may have limited our ability to detect long-term cumulative disadvantage effects. Obviously, we cannot observe the health of these mothers after they leave the survey. We can, however, observe their health statuses prior to attrition and compare them to mothers who experience similar transitions but remain in the sample over time. Results not presented here reveal that mean differences are not statistically signif icant. Nevertheless, it is still possible that the "hits" these mothers took after a union dissolution were more deleterious than those of mothers who remain in the analytic sample.

CONCLUSION

The health advantages of marriage and the disadvantages of divorce are well-documented, yet much of this literature overlooks movement into and out of other types of family structures. This analysis has described health trajectories of new mothers, focusing on these alternate relationship types. Marriage, and to a lesser degree, cohabitation, is beneficial for health, so long as the union remains stable. Mothers who do experience a transition, whether it involves ending an existing relationship or entering a new one, suffer short-term declines in well-being compared to the stably married. In the absence of a subsequent transition, however, recovery often follows these periods of decline, particularly for mental health. Unfortunately, a large percentage of unmarried mothers experience more than one transition during the first years of their children's lives (approximately 19 percent in our analytic sample). They thus do not have an opportunity to recover during a critical period of development. These findings are especially important in an era when government and social welfare policies are aimed at promoting and sustaining stable families in an attempt to help members of non-traditional families achieve the same degree of well-being as their traditional counterparts.

Acknowledgments

Biography

Sarah O. Meadows is a Postdoctoral Research Associate at the Center for Research on Child Wellbeing at Princeton University. Broadly, she is interested in health and well-being within the context of the family. Her current research projects include further investigation of the association between family structure change and trajectories of well-being among new parents, the role of social support for mental health, and social indicators of child and youth well-being in the United States. Her recent work on gender similarity in adolescent depression and delinquency has been published in Social Forces.

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Table 1a

Descriptive Statistics (Means or Percentages, with Standard Deviations in Parentheses) (N = 2,448)

Variables	Mean/Percent
Health Outcomes	
Self-Rated Health (Range: 1–5)	
One-Year	3.83 (1.02)
Three-Years	3.80 (1.02)
Five-Years	3.70 (1.00)
Mental Health Problems (Range: 0–3)	
One-Year	.22 (.46)
Three-Years	.35 (.62)
Five-Years	.34 (.60)
Family Structure Variables	
Baseline Relationship with Biological Father	
Married	28.31
Cohabiting	35.17
Romantic	30.88
None	5.63
Family Structure History[a]	
Stably Married	23.90
Stably Cohabiting	7.56
Stably Single	13.72
Unstable	54.82
Exit Marriage	3.02
Exit Cohabitation	10.54
Cohabitation to Marriage	9.56
Enter Residential–Biological	6.05
Enter Residential–Social	6.70
Multiple Transitions	18.95
Controls	
Baseline Self-Rated Health (Range: 1–5)	3.95 (.94)
Lived with Biological Parents at Age 15	52.04

Variables	Mean/Percent
Number of Previous Relationships (Range: 0–20)	2.18
Baseline Marriage Attitude[b] (Range: 7–22)	15.02 (2.24)
Prenatal Behaviors	
Received Medical Care	98.01
Alcohol Use	2.00
Drug Use	1.67
Smoking	17.40
Considered Abortion	25.61
Parents' Mental Health History	
Biological Mother	33.54
Biological Father	42.11
Age (Range: 14–50)	25.36 (6.07)
Education[c]	2.23 (1.02)
Race	
Black	44.65
White	24.88
Hispanic	26.23
Other	4.08

[a] Group-level variables characterizing a mother's family structure over the first five years after childbirth.

[b] Greater values mean more positive attitude.

[c] Four categories: less than high school, high school, some college, and college degree and above.

Table 1b

Percent of Mothers Experiencing Time-Varying Family Structure Changes (N = 2,448)

Time-Varying Family Structure Changes	Baseline to One-Year	One-Year to Three-Years	Three-Years to Five-Years
Coresident at Birth			
Exit Marriage	.94	2.04	1.76
Exit Cohabitation	8.33	4.17	2.00
Cohabitation to Marriage	5.43	3.84	2.37
Non-coresident at Birth			
Enter Residential with Biological Father	8.50	2.90	1.06
Enter Residential with Social Father	3.10	3.80	3.39
Multiple Transitions	1.23	12.21	40.60
Stable After One Transition	—	16.50	9.64
Stable Groups			
Continuously Married	27.17	25.20	23.20
Continuously Cohabiting	20.38	11.27	6.17
Continuously Single	24.92	18.06	9.80

Table 2

Results from Maternal Health Growth Models and Time-Invariant Family Structure History Variables

	Self-Rated Health		Mental Health Problems	
	Intercept (α)	Slope (β)	Intercept (α)	Slope (β)
Level 2				
Intercept	3.31**	−.05	.19	.06
Family Structure History[a]				
Exit Marriage	−.19	−.04	.17*	.03
Exit Cohabitation	−.10[c]	−.04[c]	.13**	.01
Cohabitation to Marriage	−.23**	.01	.04	.03*[ce]
Continuously Cohabiting	−.20*	−.02	.07	−.01[cd]
Enter Residential with Biological Father	−.16	−.01	.06	−.01
Enter Residential with Social Father	−.20*	.001	.13**	−.02
Continuously Single	−.27**[c]	.004[c]	.10**	−.01[ef]
Multiple Transitions	−.26**	−.004	.09**	.02[df]
Controls				
Age at Baseline	−.01**	−.002	−.003	.000
Education at Baseline	.04*	.01*	.01	−.002
Race[b]				
Black	−.004	.000	−.06*	−.03**
Hispanic	−.12*	.04*	−.01	−.04**
Other	.01	.001	−.06	−.01
Baseline Self-Rated Health	.41**	−.02**	−.02	.000
Lived with Bio-Parents at Age 15	.001	−.01	−.01	.01
N Previous Relationships	.003	−.002	.01**	.003
Marriage Attitude	−.02*	.01*	−.002	−.003*
Prenatal Behaviors				
Received Medical Care	−.22	.03	−.03	.04
Alcohol Use	−.27*	.09*	.28**	.05*

	Self-Rated Health		Mental Health Problems	
	Intercept (α)	Slope (β)	Intercept (α)	Slope (β)
Drug Use	.21	.01	.004	.003
Smoking	−.08	.002	.08**	.01
Considered Abortion	−.05	−.01	.11**	−.01
Parents' Mental Health History				
Biological Mother	−.18**	−.01	.15**	.02**
Biological Father	−.12**	−.002	.10**	−.004
Model Fit				
χ^2 (df)	27.13 (25)		92.49* (25)	
RMSEA	.006		.033	
TLI	.997		.863	
CFI	.999		.954	
N	2,440		2,448	

Notes: α is the intercept of health at one-year. β is the growth (or slope) in health.

[a] Stably married is the referent category (i.e., intercept row).

[b] White is referent category.

[c] Indicates coefficients within the same column are different at $p < .05$.

[d] Indicates coefficients within the same column are different at $p < .05$.

[e] Indicates coefficients within the same column are different at $p < .05$.

[f] Indicates coefficients within the same column are different at $p < .05$.

* $p < .05$

** $p < .01$ (two-tailed tests).

Table 3a

Growth Model of Self-Rated Health and Time-Varying Family Structure Changes (N = 2,440)

	Intercept (α)	Slope (β)
Level 2		
Intercept	3.24**	−.03

	Self-Rated Health[a]		
Level 1	One-Year	Three-Years	Five-Years
Family Structure Changes[b]			
Exit Marriage			
Baseline to One-Year	−.65**[f]	.26[f]	−.46*
One-Year to Three-Years		−.05	−.09
Three-Years to Five-Years			−.41**
Exit Cohabitation			
Baseline to One-Year	−.15	.22	−.05
One-Year to Three-Years		−.23*	−.19
Three-Years to Five-Years			−.45**
Cohabitation to Marriage			
Baseline to One-Year	−.24**	.04	−.15
One-Year to Three-Years		−.17	.04
Three-Years to Five-Years			−.44**
Enter Relationship with Biological Father			
Baseline to One-Year	−.12	.18	−.02
One-Year to Three-Years		−.17	−.09
Three-Years to Five-Years			−.46**
Enter Relationship with Social Father			
Baseline to One-Year	−.05	.16	−.14
One-Year to Three-Years		−.20*	.03
Three-Years to Five-Years			−.22**
Multiple Transitions[c]			

	Intercept (α)	Slope (β)	Self-Rated Health[a]		
			One-Year	Three-Years	Five-Years
Level 2					
Intercept	**3.24**[**]	**-.03**			
Level 1					
Baseline to One-Year			-.25	.04	-.22
One-Year to Three-Years				-.36[**]	.01
Three-Years to Five-Years					-.17[*]
Stable After One Transition					
One-Year to Three-Years[d]				-.32[*]f	.04f
Three-Years to Five-Years[e]					-.11
Stable Groups					
Continuously Cohabiting			-.15[*]	-.13	-.27[**]
Continuously Single			-.21[**]	-.20[**]	-.25[**]

Model Fit	χ^2 (df)	RMSEA	TLI	CFI
	55.49 (50)	.007	.994	.997

Notes: α is the intercept of self-rated health at one-year. β is the growth (or slope) in self-rated health.

[a] Observed indicators of self-rated health. Model includes full set of controls at Level 2.

[b] Continuously married is the referent category (i.e., intercept row).

[c] Includes coresident and non-coresident at birth.

[d] Transition occurred between baseline and one-year.

[e] Transition occurred between one- and three-years.

[f] Indicates coefficients within the same row are different at $p < .05$ for mothers who remain stable after a transition.

[*] $p < .05$

[**] $p < .01$ (two-tailed tests).

Table 3b

Growth Model of Mental Health Problems and Time-Varying Family Structure Changes (N = 2,448)

	Intercept (α)		Slope (β)
Level 2			
Intercept	**.20**		**.06**
	Mental Health Problems[a]		
Level 1	**One-Year**	**Three-Years**	**Five-Years**
Family Structure Changes[b]			
Exit Marriage			
Baseline to One-Year	.19[*][f]	.09[g]	.004[fg]
One-Year to Three-Years		.33[**][f]	−.13[f]
Three-Years to Five-Years			.19[*]
Exit Cohabitation			
Baseline to One-Year	.19[**][f]	.08[g]	.12[fg]
One-Year to Three-Years		.17[**]	.03
Three-Years to Five-Years			.15
Cohabitation to Marriage			
Baseline to One-Year	.01	−.06	.18
One-Year to Three-Years		.17[**]	.12
Three-Years to Five-Years			−.02
Enter Relationship with Biological Father			
Baseline to One-Year	.01[f]	−.11[g]	.01[fg]
One-Year to Three-Years		.17[*]	.02
Three-Years to Five-Years			−.03
Enter Relationship with Social Father			
Baseline to One-Year	.14[**][f]	.03[g]	.11[fg]
One-Year to Three-Years		.09[f]	−.13[f]
Three-Years to Five-Years			.003
Multiple Transitions[c]			
Baseline to One-Year	.001	−.06	.16
One-Year to Three-Years		.16[*]	−.07
Three-Years to Five-Years			.14[**]
Stable After One Transition			
One-Year to Three-Years[d]		.18[*][f]	−.16[f]
Three-Years to Five-Years[e]			.06
Stable Groups			
Continuously Cohabiting	.01[f]	.10[*][fg]	−.08[g]
Continuously Single	.09[**][f]	.13[**][g]	−.02[fg]

Model Fit	χ^2 (df)	RMSEA	TLI	CFI
	106.88** (50)	.022	.905	.963

Notes: α is the intercept of mental health problems at one-year. β is the growth (or slope) in mental health problems.

[a] Observed indicators of mental health problems. Model includes full set of controls at Level 2.

[b] Continuously married is the referent category (i.e., intercept row).

[c] Includes coresident and non-coresident at birth.

[d] Transition occurred between baseline and one-year.

[e] Transition occurred between one- and three-years.

[f] Indicates coefficients within the same row are different at $p < .05$ for mothers who remain stable after a transition.

[g] Indicates coefficients within the same row are different at $p < .05$ for mothers who remain stable after a transition.

[*] $p < .05$

[**] $p < .01$ (two-tailed tests).