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Stability of Marital and Cohabiting Unions

Following a First Birth

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STABILITY OF MARITAL AND COHABITING UNIONS FOLLOWING A FIRST BIRTH

ABSTRACT

In a recent paper, Manning, Smock, and Majumdar (2004) examine the stability of marital and cohabiting unions from the perspective of children and find that children born to cohabiting parents are more likely to experience a parental separation than children born to married parents. They find, further, that subsequent marriage among cohabiting parents is associated with increases in the stability of these families, particularly among whites. We rely on the same data, the 1995 National Survey of Family Growth, to extend their findings. Our empirical results complement Manning et al.'s by modeling four distinct trajectories of cohabitation and marriage around the time of the first birth and by comparing the dissolution risks associated with each. We focus particular attention on the stability of cohabiting couples who marry before a first birth and those who marry after a first birth. For these couples, we find that the ordering of cohabitation, marriage, and childbirth is not associated with union stability, and we interpret this to suggest that many cohabiting couples jointly plan marriage and childbirth.

Key words: cohabitation, childbearing, marriage, union dissolution, union stability

While dramatic increases in cohabitation in the United States have been well documented (see, e.g., Casper & Bianchi 2002; Bumpass & Lu 2000), their implications remain hotly debated. For example, many social scientists have argued that cohabitation often serves as a trial marriage for couples (Elwert 2005; Lillard, Brien, & Waite 1995), but the increasing presence of children in cohabiting unions suggests that many experience it as a family form in its own right. About 40% of cohabiting couples live with children (Casper & Bianchi 2002), and 11% of all children are born to cohabiting parents (Bumpass & Lu 2000). Indeed, nearly all recent increases in nonmarital childbearing, especially among whites, have been due to births to cohabiting two-parent families (Raley 2001; Wu, Bumpass, & Musick 2001).

When a cohabiting couple has a child, what might that signify about their union? And in particular, what might it imply about the likely stability of their union? Policy-makers and researchers have long held family stability to be a key aspect of child well-being. Family instability has been linked to disadvantages for children, adolescents, and young adults (Wu 1996; Wu & Martinson 1993; Capaldi & Patterson 1991; Fomby & Cherlin 2007). In this paper, we argue that patterns of stability by union type and trajectory can help shed light on the meanings of marriage and childbearing among cohabitators. We extend work by Manning, Smock, and Majumdar (2004), who find that children born to cohabiting parents are more likely to experience a parental separation than children born to married parents, and that marriage following a cohabiting birth is associated with greater union stability, particularly among whites. We complement their results by focusing on cohabiting couples who marry, either before or after a first birth, and find that the ordering of cohabitation, marriage, and childbearing does not affect the stability of these unions. We interpret this finding as suggesting that many of these

cohabiting couples jointly plan marriage and childbirth, and conclude that these phenomena should be regarded as jointly endogenous behaviors.

BACKGROUND

A growing proportion of children in the United States are born to cohabiting parents. In many respects, these families resemble married families. In both cases, two biological parents are present, income and other resources are presumably shared, and housework and childcare can be divided between two adults. Yet despite these similarities, cohabiting families are less stable than married families, a finding that holds in the United States (Carlson, McLanahan, & England 2004; Manning et al. 2004; Wu, Bumpass, & Musick 2001), Canada (Le Bourdais & Vachon 2000), and Europe (Heuveline, Timberlake, & Furstenberg 2003; Kiernan 2002). The greater relative stability of marital unions may stem in part from their greater social recognition and institutionalized nature (Cherlin 2004), but also reflects systematic differences in the observed and unobserved characteristics of individuals who marry and cohabit. For example, cohabitators tend to be younger and less educated than married individuals (Bumpass & Lu 2000), and they tend to hold less traditional family and gender role orientations, factors which are in turn associated with marital instability (Clarkberg, Stolzenberg, & Waite 1995; Axinn & Thornton 1992; Thomson & Colella 1992).

For married and cohabiting couples with children, differences in the circumstances around the time of their first birth may also affect union stability. Despite weakening norms concerning many aspects of the family (Thornton 1989), there remain strong expectations that married couples will have children. Indeed, childbearing tends to follow quickly after marriage (Manning 1995). Cohabitation is much more heterogeneous in this respect. On the one hand, half of all births to cohabiting couples

are planned, which may suggest that some couples see their cohabiting union as a suitable context for having children. On the other hand, cohabitators are less likely than married couples to report their pregnancies as planned (Musick 2002), which may suggest that they did not intend to have children together or did not intend to begin childbearing so soon. In either case, an unplanned pregnancy may pose challenges to a relationship and may account to some degree for the greater likelihood of separation among cohabiting compared to married families.

As noted above, Manning et al. examine differences in union stability from the perspective of children depending on whether: (1) parents are married at the child's birth, (2) parents are cohabiting at the child's birth, or (3) parents who were cohabiting at the time of birth marry after the birth. They find that children born in marriage face the lowest dissolution risks, followed by those born to cohabitators who subsequently marry. We extend their work by modeling one union-fertility trajectory not considered explicitly by Manning et al.: (4) parents who cohabited prior to marriage, married, and then had a marital birth. A long line of research links premarital cohabitation to increased risks of divorce in the United States and other Western countries (Dush, Cohan, & Amato 2003; Berrington & Diamond 1999; Bruderl, Diekmann, & Engelhardt 1999; Hall & Zhao 1995; DeMaris & Rao 1992; Teachman, Thomas, & Paasch 1991; Bumpass & Sweet 1989; Bennett, Blanc, & Bloom 1988; Bakrishnan et al. 1987). Much work has gone into understanding the nature of the association between cohabitation and subsequent marital stability, with the most sophisticated treatments concluding that selection into cohabitation on characteristics associated with divorce account for much, and perhaps all, of the link between premarital cohabitation and subsequent divorce (Elwert 2005; Teachman 2003; Lillard, Brien, & Waite 1995). Given this literature, we choose not to

focus on issues of causation and selection, but instead to model differences in the dissolution risks across various union-fertility trajectories so as to better describe and understand cohabiting and married families.

Manning et al.'s descriptive findings, as well as those in the large literature on premarital cohabitation and divorce, lead us to expect that couples who cohabit before marriage and childbirth will have higher risks of separating than couples who marry directly, but lower risks than cohabiting couples who never legalize their union via formal marriage. Past studies, however, provide little empirical guidance concerning the relative stability of two groups of premarital cohabitators: those who cohabit, marry, and then have a birth, and those who cohabit but have a birth prior to marriage. For these couples, how might the ordering of cohabitation, marriage, and childbirth be associated with union stability? Theory suggests two possible hypotheses that depend critically on how cohabitators select into marriage and childbirth and that yield contrasting predictions about the relative stability of cohabitators who marry prior to versus after a first birth.

A first hypothesis holds that ordering matters for stability and draws on the observation that premarital cohabitation appears to represent a new normative pattern, but that nonmarital childbearing does not. Cohabitation has diffused widely across nearly all socioeconomic groups, with most couples now living together before marriage and differences by socioeconomic status having narrowed substantially over time (Bumpass & Lu 2000). By contrast, there remain stark differences in nonmarital childbearing by socioeconomic status (Wu & Martin 2005; Musick 2002; Wu, Bumpass, & Musick 2001). Cohabitators who have a birth prior to marrying thus may be selected on less traditional attitudes about the family, which in turn may be associated with union instability. They may also be selected on lower levels of commitment. For example, to

the extent that cohabitation serves as a trial marriage (Elwert 2005) and is normatively childless, pregnancies may be largely unplanned. If so, an unplanned pregnancy will shorten the period that couples can use to evaluate their relationship, and may hasten or result in a marriage that otherwise might not have occurred. Given the unplanned nature of both the birth and the marriage, we would expect these couples to experience greater instability. Thus under this hypothesis, couples who have a cohabiting birth, even one followed by marriage, may represent a group selected on higher dissolution risks relative to those couples who cohabit and marry prior to their first birth.

A second hypothesis holds that the ordering of cohabitation, marriage, and childbirth is irrelevant to union stability, and draws on the observation that many cohabitators plan their births. Planning a child together signals commitment on the part of the couple—and thus a selection on commitment of cohabiting couples into childbearing. For cohabiting couples who marry following the birth of their first child, marriage may be less a response to pregnancy than a decision made jointly with childbearing in the context of a stable and committed relationship (Musick forthcoming). The joint planning of childbirth and marriage may be especially relevant if having children is a primary motivation in the formalization of cohabiting unions. In this case, cohabiting couples contemplating childbearing will necessarily jointly plan their marriage and childbearing. Moreover, among these more committed unions, the relative timing of childbearing and marriage may involve little more than the coincidental scheduling of planning a wedding versus conceiving a child, with the latter less predictable than the former. Thus under this hypothesis, there will be little or no difference in the risk of separation for cohabiting couples who marry before or after their first birth.

DATA AND METHODS

We use data from the 1995 National Survey of Family Growth (NSFG). This is the fifth cycle of the NSFG, a periodic, nationally representative fertility survey fielded by the National Center for Health Statistics (Mosher & Bachrach 1996). The 1995 NSFG is a sample of 10,847 women ages 15-44 at interview. It includes oversamples of Hispanic and black women and was conducted by computer aided personal interview. Full marital, cohabitation, and fertility histories were collected, as well as an array of sociodemographic characteristics.

Our analytic sample is restricted to women who had a first birth in a marital or cohabiting union. To maximize our sample, we imposed only a few sample restrictions, deleting respondents with missing data on number of siblings ($n=2$), religious attendance ($n=3$), marital status of the respondent's parents at the respondent's birth ($n=14$), and planning status of first birth ($n=8$), leaving a sample of 4,857 women. While many analyses examine the risk of union disruption from the start of coresidence, we begin the risk of union disruption at the time of the woman's first marital or cohabiting birth. This modeling strategy reflects our interest in the stability of family life for children, which is an issue of direct concern to both social scientists and policy makers. We model four trajectories:

1: $M \rightarrow B$

2: $C \rightarrow M \rightarrow B$

3: $C \rightarrow B \rightarrow M$

4: $C \rightarrow B$

where M denotes marriage, C cohabitation, and B a first birth. Women in the first two trajectories have their first (union) birth within marriage, while women in trajectories 3

and 4 have their first (union) birth in cohabitation. To assess how these trajectories are associated with union stability, let t denote duration since first birth and consider the following dummy variables:

$$x_1 = \begin{cases} 1 & \text{if cohabiting at first birth} \\ 0 & \text{if married at first birth} \end{cases}$$

$$x_2 = \begin{cases} 1 & \text{if cohabiting at start of union} \\ 0 & \text{if married at start of union} \end{cases}$$

$$x_3(t) = \begin{cases} 1 & \text{if married at duration } t \\ 0 & \text{if cohabiting at duration } t \end{cases}$$

with x_1 and x_2 invariant with duration and $x_3(t)$ varying with duration. We employ a proportional hazard model in which the logarithm of the risk of union disruption is a function of a duration-specific baseline hazard, $q(t)$, union status at birth, union status at the start of the union, marital status at duration t and control variables:

$$\log r(t) = q(t) + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3(t) + \text{control variables}$$

Net of controls, this model yields the following parameters for the four trajectories of interest and selected contrasts between them:

Trajectory	Parameters	Selected contrast
1: M → B	β_3	2 vs 1: β_2
2: C → M → B	$\beta_2 + \beta_3$	3 vs 2: β_1
3: C → B → M	$\beta_1 + \beta_2 + \beta_3$	3 vs 4: β_3
4: C → B	$\beta_1 + \beta_2$	

RESULTS

Table 1 reports weighted means of all variables included in our analysis, for our full sample and separately for women married and cohabiting at the start of their union and at the time of their first birth. Our control variables account for a range of factors

that are likely to be associated with both union dissolution and entry into marriage and cohabitation: race and ethnicity, family background characteristics, completed education, and union and fertility histories. We include the respondent's retrospective report of her feelings at the time she became pregnant with her first union birth, with "unplanned" indicating that she did not want a(nother) baby or did not want one so soon.

Unfortunately, these data lack information on the precise economic conditions within the household, although respondent's education may be regarded as providing a rough proxy for the respondent's permanent income. These data are also one-sided in providing information only from the perspective of women within a cohabiting union. Thus, the control variables in Table 1 provide an important, albeit incomplete, set of factors influencing the selection of women into marriage and cohabitation. Consistent with previous studies, Table 1 shows relatively small sociodemographic gradients in cohabitation at first union, but sizable gradients in cohabitation at first birth. Compared to women married at first birth, those cohabiting at first birth are from families with lower socioeconomic status, have lower levels of education, are younger at start of first union and at time of first birth, and are more likely (by a factor of 2) to report their first birth as unplanned.

[Table 1 about here.]

Table 2 presents estimates from our hazard regression models pooled across race and ethnicity. (Our key results are similar for models estimated separately by race and ethnicity; see below). We show coefficient estimates from three nested models that successively add controls. In Model 1, we include our key indicators of cohabitation status at first birth, cohabitation status at start of union, and marital status at duration t . Model 2 adds period, respondent's race and ethnicity, and family background. Our final

model adds respondent's education, union history, age and planning status of first birth, and subsequent fertility. Only one of our three key union status indicators—whether the couple was cohabiting at first birth—changes noticeably across models, dropping from a statistically significant coefficient of .39 in Model 1 to a statistically insignificant coefficient of -.11 in Model 3. Note that our basic sociodemographic controls account for much of the association between this variable and union dissolution, with the coefficient reduced by half and losing statistical significance between Models 1 and 2. Estimates of cohabitation status at start of union and marriage at duration t are robust to sociodemographic controls.

[Table 2 about here.]

Table 3 shows the relative risks of union disruption for our four trajectories of interest estimated from coefficients presented in Table 2. For each of our three models, coefficients are combined (as shown for selected contrasts in the methods section) and exponentiated to represent the relative risks. We shift the contrast category down the rows of the table to show comparisons across all four trajectories of interest. To obtain significance tests for these contrasts, we estimated a model in which the contrast of interest varied freely and another in which the contrast of interest was constrained to equal zero. Because these models are nested, we then used the standard likelihood ratio test, which follows a χ^2 distribution, with the number of degrees of freedom equal to the number of parameters in the contrast of interest minus one. This procedure is asymptotically equivalent to tests employing the standard errors and covariance matrix of estimated coefficients to obtain the standard error of sums of estimated coefficients, but has slightly superior small sample properties.

[Table 3 about here.]

The first panel of Table 3 presents relative risks using the parameter estimates from Model 1 of Table 2, in which the only covariates are the three dummy variables capturing whether the couple was cohabiting at first birth, cohabiting at the start of union, and married at duration t . Under this model, as shown in the first row of panel 1, we observe the lowest dissolution risks for couples who marry without cohabiting and then have a child ($M \rightarrow B$); somewhat higher dissolution risks for those who cohabit, marry, and then have a birth ($C \rightarrow M \rightarrow B$); yet higher risks for those who cohabit, have a birth, and then marry ($C \rightarrow B \rightarrow M$); and the highest dissolution risks for those who have a cohabiting birth without subsequently marrying ($C \rightarrow B$). The following rows confirm that all contrasts differ significantly from each other. In particular, contrasts in the second row show that cohabitators who have a child and then marry have dissolution risks that are 50% higher than cohabitators who marry and then have a child.

Estimates from Model 1, a model with no controls, are consistent with the hypothesis that the ordering of marriage and childbirth among cohabitators matters for stability, but the next two panels of Table 3, which present relative risks based on parameter estimates from Models 2 and 3, provide evidence against this hypothesis. Adding basic sociodemographic controls reduces relative risks in Model 2 compared to Model 1, with the key contrast between $C \rightarrow M \rightarrow B$ and $C \rightarrow B \rightarrow M$ falling from 1.48 to 1.23 and losing statistical significance. Hence in Model 2, accounting for basic sociodemographic characteristics, it appears that the ordering of marriage and childbirth among cohabitators is not associated with union stability. This finding suggests that these events may be jointly determined.

Estimates from Model 3, in the final panel of Table 3, show elevated risks for all trajectories compared to direct marriage (but note that the estimated dissolution risk of C

→ B → M relative to M → B is not statistically significant). Relative to direct marriage, the risks of disruption associated with a marital birth preceded by cohabitation change little across models, whereas the risks associated with a cohabiting birth (whether or not followed by marriage) drop substantially across models. Nonetheless, in the full model, the estimated risk of dissolution among cohabitators who have a birth without marrying remains sizeable at 2.47. The second row gives our key contrast between cohabitators who marry prior to their birth and those who marry after. Recall that this contrast dropped to statistical insignificance in Model 2; here, the relative risk becomes smaller in magnitude and remains statistically insignificant. While having an unplanned birth (included as a control in Model 3) increases the risk of union instability, differences in birth planning status do not account for observed differences in stability between cohabitators marrying before and after their first birth, net of background characteristics.¹

Models estimated separately for whites, blacks, and Hispanics yield similar results. Appendix Table A1 shows estimates from Model 3 by race and ethnicity, and Appendix Table A2 reports the corresponding relative risks of dissolution associated with our union-fertility trajectories. As in the pooled models, the first row of Table A2 shows that all other trajectories have higher dissolution risks relative to the M → B trajectory (although some of these contrasts are not statistically significant). For all race/ethnic groups, cohabitation without subsequent marriage (C → B) is associated with the highest dissolution risks, with the contrast between this trajectory and all other union-fertility trajectories statistically significant. Likewise, for all groups, differences in the dissolution risks of cohabitators who marry before versus after their first birth (C → M → B versus C → B → M) are not statistically significant. That is, our key finding—that there is no association between union dissolution and the ordering of cohabitation and

marriage for those cohabitators who have a first birth—holds in models estimated separately for whites, blacks, and Hispanics.

Overall, our results can be summarized simply. First, among couples who cohabited prior to marriage, we find no statistically significant difference in dissolution risks for those who had a cohabiting first birth versus those who had a marital first birth. Thus for these couples, the timing of a first birth relative to marriage does not appear to be significantly associated with their risk of dissolution. Second, among these same couples, compositional differences in our control variables account for all of the increased risk observed in Model 1; hence, our control variables are sufficient to account for all of the observed difference in dissolution risks between couples who follow these two trajectories. Finally, our results are largely consistent with past findings in which couples who cohabited prior to marriage have higher dissolution risks relative to married couples who did not cohabit prior to marriage. Some work suggests that these differences are a likely result of selection (Lillard, Brien, & Waite 1995), an issue that our models do not address. These empirical findings focus attention on the union stability of two groups of cohabiting couples: those who marry before a first birth and those who marry after a first birth. For these two groups, we find that the timing of a first birth relative to marriage is not significantly associated with union stability, a result consistent with the view that, for many cohabitators, the birth of a child signals commitment in their relationship. And for those who subsequently marry, many may be simultaneously planning marriage and childbirth with little regard to the precise timing of the two events. If so, the domains of childbearing and marriage may often be jointly determined, with the ordering of marriage and childbearing having little impact on the subsequent stability of their union.

DISCUSSION

Cohabitation is often viewed as a poor substitute for marriage, especially for children in such circumstances, a view articulated by policy-commentators and social scientists alike (see, e.g., Horn 2004; Waite 1995). This concern has seeming plausibility in that children born to cohabiting parents lack the legal protections that accrue by default to children born within formal marriage—it is easier for a parent to exit from a cohabiting union than from a marriage, and there are fewer normative and legal responsibilities of the noncustodial parent to the custodial parent if a cohabiting union dissolves. Moreover, children born to cohabiting parents are typically more disadvantaged socioeconomically than are their counterparts born within marriage. Recent attention to estimates showing that less than half of all U.S. women now live without a spouse magnify concerns that the decline in marriage and the rise in cohabitation may be potentially harmful for the welfare of children and mothers.

Our empirical findings provide evidence that some of these fears may be misplaced. Note, for example, that an implicit assumption in much of the above is that women and children in cohabiting unions are more likely to be abandoned by men (Cherlin 2004). Yet this ignores two important behavioral cues—that the cohabiting couple has both chosen to coreside *and* to have a child—which provide insight into the commitment of the couple to one another, as well as to their future expectations for themselves and their children. Although we have made no attempt to model selection, we are nonetheless able to account for substantial variation in dissolution risks across union-fertility trajectories. We find that much, indeed most, of the higher instability observed for cohabiting couples who have a birth and then marry relative to those who marry directly and have a birth can be accounted for by sociodemographic differentials that

influence both union stability and behaviors concerning cohabitation and childbearing. These sociodemographic differentials also account for the higher instability observed for cohabitating couples who marry after the birth of their first child, relative to those who marry before the birth of their first child. However, these socioeconomic differentials do not account for the greater instability of premarital cohabitation followed by a marital birth relative to marrying directly (but see Elwert 2005), and they only partially account for the higher dissolution risks of couples who cohabit without subsequently marrying.

We interpret our finding that the ordering of cohabitation, marriage, and childbirth is not associated with union stability as suggesting that many cohabiting couples jointly plan marriage and childbirth. The possibility that the marital and childbearing behaviors of cohabiting couples are jointly determined carries important policy implications. For example, an explicit goal of U.S. marriage promotion initiatives is to foster stable family environments for children in which two married, biological parents are present (Horn 2004). Our findings provide suggestive, although not conclusive, support that targeting resources to unmarried cohabiting parents may improve the stability of family life for children—to the extent that cohabiting parents are already planning to marry. But these same marriage promotion policies carry the risk of *increasing* union instability among cohabiting parents who were not otherwise planning to marry. Finally, it is important to emphasize that our focus on whether the child is born to cohabiting and married parents and whether these parents remain together is but a crude proxy for what is typically far more difficult to observe—the commitment of parents to the child, the ways in which they parent, and the emotional and financial resources they bring, both short- and long-term, to the child—all of which may influence child well-being in far more important ways than the union status of a child's parents.

NOTE

1. We further examined whether the association between cohabitation status at birth and union stability depended on planning status at birth, i.e., we tested the interaction between cohabitation status at birth and birth planning status. This interaction was not statistically significant. Having an unplanned birth appears to increase union instability, but it does so to the same degree regardless of union status at birth.

APPENDIX

Table A1: Estimated coefficients from Model 3 for union instability, by race and ethnicity.

	Whites	Blacks	Hispanics
<i>Union and fertility statuses</i>			
1 if cohabiting at first birth	-.13 (.19)	-.44 (.28)	.06 (.29)
1 if cohabiting at start of union	.35*** (.08)	.25 (.17)	.29 (.18)
1 at marriage (time-varying)	-.79*** (.22)	-1.07*** (.26)	-.54 (.28)
<i>Family background</i>			
<i>Father's education</i>			
less than HS	-.02 (.08)	-.02 (.15)	-.19 (.19)
more than HS	.13 (.09)	-.19 (.21)	.10 (.22)
missing	-.20 (.18)	.17 (.22)	-.27 (.30)
<i>Mother's education</i>			
less than HS	.09 (.08)	-.28 (.15)	-.01 (.19)
more than HS	.03 (.10)	-.17 (.18)	.04 (.25)
missing	-.29 (.46)	-.73 (.78)	1.03 (1.08)

Table A1: (continued)

	Whites	Blacks	Hispanics
<i>Religion</i>			
Attended church weekly or more	-.12 (.08)	-.05 (.13)	.30 (.15)
<i>Family Structure</i>			
1 if single-parent family while growing up	.27* (.10)	-.09 (.18)	.27 (.19)
1 if parents married at R's birth	.02 (.15)	.15 (.16)	-.01 (.17)
number of family transitions	.00 (.04)	.02 (.08)	.02 (.06)
<i>Mother's childbearing</i>			
mother's number of births	-.01 (.02)	-.04 (.02)	-.07** (.02)
mother's age at first birth	.01 (.01)	.00 (.02)	.00 (.02)
1 if R unsure of mother's age at first birth	-.21 (.25)	.26 (.27)	-.17 (.28)
<i>Respondent's education</i>			
less than HS	.10 (.11)	-.09 (.20)	-.12 (.18)
more than HS	-.11 (.09)	.12 (.18)	.03 (.21)
1 if schooling completed after first birth	.06 (.09)	.07 (.17)	.13 (.20)
<i>Age at start of union and union history</i>			
age (in months) at start of union	.000 (.002)	-.006 (.003)	.004 (.005)

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Table A1: (continued)

	Whites	Blacks	Hispanics
number of prior unions	.10 (.15)	.26 (.37)	-.17 (.48)
number of prior marriages	.21 (.17)	.00 (.43)	.58 (.53)
<i>Situation at first birth and subsequent fertility</i>			
age (in months) at first birth	-.011*** (.002)	-.003 (.003)	-.009* (.004)
1 if first birth unplanned	.11 (.08)	.33* (.13)	.47*** (.14)
1 at second or later birth (time-varying)	-.20* (.08)	-.26 (.14)	-.12 (.15)
Notes: Regressions are unweighted. Model includes controls for time-varying period dummy variables.			
* $p < .05$ ** $p < .005$ *** $p < .0005$ (two-tailed test)			

Table A2: Estimated relative risks by race and ethnicity, four trajectories of union and fertility statuses, coefficients from Model 3, Table A1.

Whites

	M → B	C → M → B	C → B → M	C → B
M → B	1.00	1.42***	1.26	2.77***
C → M → B		1.00	.88	1.95***
C → B → M			1.00	2.21***
C → B				1.00

Blacks

	M → B	C → M → B	C → B → M	C → B
M → B	1.00	1.28	.83	2.42***
C → M → B		1.00	.64	1.89**
C → B → M			1.00	2.93***
C → B				1.00

Hispanics

	M → B	C → M → B	C → B → M	C → B
M → B	1.00	1.34	1.42	2.45***
C → M → B		1.00	1.06	1.83*
C → B → M			1.00	1.72*
C → B				1.00

* $p < .05$ ** $p < .005$ *** $p < .0005$ (two-tailed test)

REFERENCES

- Axinn, W.G. & Thornton, A. (1992). The relationship between cohabitation and divorce: Selectivity or causal influence? *Demography* 29, 357-74.
- Balakrishnan, T.R., Rao, K.V., Lapierre-Adamcyk, E. & Krotki, K.J. (1987). A hazard model analysis of the covariates of marriage dissolution in Canada. *Demography* 24, 395-405.
- Bennett, N.G., Blanc, A.K. & Bloom, D.E. (1988). Commitment and the modern union: Assessing the link between premarital cohabitation and subsequent marital stability. *American Sociological Review* 53, 1277-38.
- Berrington, A. & Diamond, I. (1999). Marital dissolution among the 1958 British birth cohort: The role of cohabitation. *Population Studies* 53, 19-38.
- Bruderl, J., Diekmann, A. & Engelhardt, H. (1998). Premarital cohabitation and marital stability in West Germany. Working paper, Max Planck Institute for Demographic Research, Rostock, Germany.
- Bumpass, L.L. & Lu, H.H. (2000). Trends in cohabitation and implications for children's family contexts. *Population Studies* 54, 29-41.
- Bumpass, L.L. & Sweet, J.A. (1989). Children's experience in single-parent families: Implications of cohabitation and marital transitions. *Family Planning Perspectives* 21, 256-61.
- Capaldi, D.M. & Patterson, G.R. (1991). Relation of parental transitions to boys' adjustment problems: I. A linear hypothesis. II. mothers at risk for transitions and unskilled parenting. *Developmental Psychology* 27, 489-504.
- Carlson, M., McLanahan, S.S. & England, P. (2001). Union formation in fragile families. *Demography* 41, 237-62.

- Casper, L. & Bianchi, S.M. (2002). *Continuity and change in the American family*. Thousand Oaks, CA: Sage Publications.
- Cherlin, A.J. (2004). The deinstitutionalization of american marriage. *Journal of Marriage and the Family* 66, 848-61.
- Clarkberg, M., Stolzenberg, R.M. & Waite, L.J. (1995). Attitudes, values, and entrance into cohabitational versus marital unions. *Social Forces* 74, 609-32.
- DeMaris, A. & Rao, K.V. (1992). Premarital cohabitation and subsequent marital stability in the United States: A reassessment. *Journal of Marriage and the Family* 54, 178-90.
- Dush, C.M.K., Cohan, C.L. & Amato, P.R. (2003). The relationship between cohabitation and marital quality and stability: Change across cohorts? *Journal of Marriage and the Family* 65, 539-49.
- Elwert, F. (2005). How cohabitation does—and does not—reduce the risk of divorce. Unpublished manuscript, Department of Sociology, Harvard University.
- Fomby, P., & Cherlin, A.J. (2007). Family instability and child well-being. *American Sociological Review* 72, 181-204.
- Hall, D.R. & Zhao, J.Z. (1995). Cohabitation and divorce in Canada: Testing the selectivity hypothesis. *Journal of Marriage and the Family* 57, 421-7.
- Heuveline, P., Timberlake, J.M. & Furstenberg, F.F. (2003). Shifting child rearing to single mothers: Results from 17 western nations. *Population and Development Review* 29, 47-71.
- Horn, W.F. (2004). Marriage, family, and the welfare of children: A call for action. (In D.P. Moynihan, T.M. Smeeding, and L. Rainwater (Eds.), *The future of the family* (pp. 181-97). New York: Russell Sage Foundation.)

- Kiernan, K. (2002). Cohabitation in Western Europe: Trends, issues, and implications. (In A. Booth and A.C. Crouter (Eds.), *Just living together: Implications of cohabitation on families, children and social policy* (pp. 3-31.) Mahwah, NJ: Lawrence Erlbaum Associates.)
- Le Bourdais, C., Neill, G. & Vachon, N. (2000). Family disruption in Canada: Impact of the changing patterns of family formation and of female employment. *Canadian Studies in Population* 27, 85-105.
- Lillard, L.A., Brien, M.J. & Waite, L.J. (1995). Premarital cohabitation and subsequent marital dissolution: A matter of self-selection? *Demography* 32, 437-57.
- Manning, W.D. (1995). Cohabitation, marriage, and entry into motherhood. *Journal of Marriage and the Family* 57, 191-200.
- Manning, W.D., Smock, P.J. & Majumdar, D. (2004). The relative stability of cohabiting and marital unions for children. *Population Research and Policy Review* 23, 135-159.
- Mosher, W.D. & Bachrach, C.A. (1996). Understanding U.S. fertility: Continuity and change in the National Survey of Family Growth, 1988-1995. *Family Planning Perspectives* 28, 4-12.
- Musick, K. (2002). Planned and unplanned childbearing among unmarried women. *Journal of Marriage and the Family* 64, 915-29.
- Musick, K. (Forthcoming). Cohabitation, nonmarital childbearing, and the marriage process. *Demographic Research*.
- Raley, R. (2001). Increasing fertility in cohabiting unions: Evidence for the second demographic transition in the United States? *Demography* 38, 59-66.

- Teachman, J.D. (2003). Premarital sex, premarital cohabitation, and the risk of subsequent marital dissolution among women. *Journal of Marriage and the Family* 65, 444-55.
- Teachman, J.D., Thomas, J. & Paasch, K. (1991). Legal status and the stability of coresidential unions. *Demography* 28, 571-85.
- Thomson, E. and Colella, U. (1992). Cohabitation and marital stability: Quality or commitment? *Journal of Marriage and the Family* 54, 259-67.
- Thornton, A. (1989). Changing attitudes toward family issues in the United States. *Journal of Marriage and the Family* 51, 873-93.
- Waite, L.J. (1995). Does marriage matter? *Demography* 32, 483-507.
- Wu, L.L. (1996). Effects of family instability, income, and income instability on the risk of a premarital birth. *American Sociological Review* 61, 386-406.
- Wu, L.L. & Martin, S.P. (2005). Engine or brake: Trajectories of nonmarital fertility for U.S. women. Unpublished manuscript, Department of Sociology, New York University.
- Wu, L.L. & Martinson, B.C. (1993). Family structure and the risk of a premarital birth. *American Sociological Review* 58, 210-32.
- Wu, L.L., Bumpass, L.L. & Musick, K. (2001). Historical and life course trajectories of nonmarital childbearing. (In L.L. Wu and B. Wolfe (Eds.), *Out of wedlock: Causes and consequences of nonmarital fertility* (pp. 1-48). New York: Russell Sage Foundation.)

Stability of Marital and Cohabiting Unions Following a First Birth, 24

Table 1. Characteristics of women at start of union and at first birth.

	At Start of Union		At First Birth		
	All	Married	Cohabiting	Married	Cohabiting
<i>Race and ethnicity</i>					
white	.76	.76	.77	.79	.55
black	.07	.06	.08	.06	.18
Hispanic	.13	.13	.12	.11	.24
other	.04	.05	.04	.04	.03
<i>Family background</i>					
<i>Father's education</i>					
less than HS	.35	.37	.31	.34	.44
HS diploma or GED	.36	.36	.37	.36	.33
more than HS	.25	.25	.27	.26	.17
missing	.04	.03	.05	.03	.07
<i>Mother's education</i>					
less than HS	.34	.35	.33	.33	.45
HS diploma or GED	.44	.44	.44	.45	.38
more than HS	.21	.20	.23	.22	.15
missing	.01	.00	.01	.00	.02
<i>Religion</i>					
attended church weekly or more	.21	.24	.15	.21	.15
<i>Family structure</i>					
1 if single-parent family while growing up	.32	.26	.42	.29	.58
1 if parents married at R's birth	.93	.95	.91	.94	.83
number of family transitions	1.59	1.44	1.83	1.53	2.10
	(1.20)	(1.02)	(1.42)	(1.14)	(1.60)
<i>Mother's childbearing</i>					
mother's number of births	4.38	4.48	4.21	4.35	4.66
	(2.62)	(2.66)	(2.56)	(2.57)	(3.08)
mother's age at first birth	21.19	21.33	20.95	21.34	19.74
	(4.20)	(4.23)	(4.12)	(4.18)	(4.07)
1 if R unsure of mother's age at first birth	.02	.03	.02	.02	.03

Stability of Marital and Cohabiting Unions Following a First Birth, 25

Table 1. (continued)

	All	At Start of Union		At First Birth	
		Married	Cohabiting	Married	Cohabiting
<i>Respondent's education</i>					
less than HS	.13	.11	.16	.11	.34
HS diploma or GED	.58	.59	.57	.59	.51
more than HS	.29	.30	.27	.30	.15
1 if schooling completed after first birth	.25	.25	.25	.25	.23
<i>Union history</i>					
age at start of union	21.28 (3.85)	20.96 (3.52)	21.82 (4.29)	21.43 (3.82)	19.87 (3.76)
number of prior unions	.15 (.46)	.02 (.13)	.37 (.68)	.14 (.45)	.20 (.51)
number of prior marriages	.09 (.37)	.00 (.00)	.24 (.57)	.08 (.35)	.20 (.51)
cohabited at union entry	.37	.00	1.00	.31	1.00
ever married in this union	.95	1.00	.86	1.00	.46
<i>Fertility history</i>					
age at first birth	23.83 (4.75)	23.43 (4.48)	24.52 (5.12)	24.11 (4.76)	21.22 (3.87)
cohabiting at first birth	.09	.00	.25	.00	1.00
1 if first birth unplanned	.27	.26	.28	.24	.47
<i>Sample size</i>	4853	2996	1857	4327	526

Note: Means and standard deviations are weighted; N's are unweighted.

Stability of Marital and Cohabiting Unions Following a First Birth, 26

Table 2: Estimated coefficients from proportional hazard models for union instability.

	1	2	3
<i>Union and fertility statuses</i>			
1 if cohabiting at first birth	.39** (.12)	.21 (.13)	-.11 (.13)
1 if cohabiting at start of union	.27*** (.06)	.30*** (.06)	.34*** (.07)
1 at marriage (time-varying)	-.73*** (.13)	-.69*** (.13)	-.67*** (.14)
<i>Race and ethnicity</i>			
black		.47*** (.07)	.53*** (.07)
Hispanic		.11 (.08)	.05 (.08)
other		-.08 (.16)	-.02 (.16)
<i>Family background</i>			
<i>Father's education</i>			
less than HS		-.04 (.06)	-.03 (.06)
more than HS		.01 (.08)	.08 (.08)
missing		-.01 (.12)	-.10 (.12)
<i>Mother's education</i>			
less than HS		.04 (.06)	.00 (.07)
more than HS		.00 (.08)	-.01 (.08)
missing		-.20 (.36)	-.22 (.37)

Table 2: (continued)

	1	2	3
<i>Religion</i>			
attended church weekly or more		-.01 (.06)	-.03 (.06)
<i>Family Structure</i>			
1 if single-parent family while growing up		.23** (.08)	.21* (.08)
1 if parents married at R's birth		-.02 (.09)	.10 (.09)
number of family transitions		.05 (.03)	.02 (.03)
<i>Mother's childbearing</i>			
mother's number of births		-.04*** (.01)	-.04*** (.01)
mother's age at first birth		-.02* (.01)	.00 (.01)
1 if R unsure of mother's age at first birth		-.19 (.15)	-.15 (.15)
<i>Respondent's education</i>			
less than HS			.00 (.08)
more than HS			-.05 (.07)
1 if schooling completed after first birth			.07 (.07)
<i>Age at start of union and union history</i>			
age (in months) at start of union			.00 (.00)

Table 2: (continued)

	1	2	3
number of prior unions			.05 (.13)
number of prior marriages			.25 (.15)
<i>Situation at first birth and subsequent fertility</i>			
age (in months) at first birth			-.009*** (.001)
1 if first birth unplanned			.23*** (.06)
1 at second or later birth (time-varying)			-.20** (.06)
Notes: Regressions are unweighted. Models 2 and 3 include controls for time-varying period dummy variables.			
* $p < .05$ ** $p < .005$ *** $p < .0005$ (two-tailed test)			

Table 3: Estimated relative risks, four trajectories of union and fertility statuses, coefficients from Models 1—3, Table 2.

Model 1

	M → B	C → M → B	C → B → M	C → B
M → B	1.00	1.31***	1.94***	4.02***
C → M → B		1.00	1.48**	3.07***
C → B → M			1.00	2.07***
C → B				1.00

Model 2

	M → B	C → M → B	C → B → M	C → B
M → B	1.00	1.35***	1.66***	3.31***
C → M → B		1.00	1.23	2.46***
C → B → M			1.00	1.99***
C → B				1.00

Model 3

	M → B	C → M → B	C → B → M	C → B
M → B	1.00	1.40***	1.26	2.47***
C → M → B		1.00	.90	1.76***
C → B → M			1.00	1.96***
C → B				1.00

* $p < .05$ ** $p < .005$ *** $p < .0005$ (two-tailed test)