Historical and Life Course Trajectories of Nonmarital Childbearing

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OF NONMARITAL CHILDBEARING

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Cohabitation and nonmarital fertility are profoundly transforming the family experiences of both children and parents (Smith, Morgan, and Koropeckyj-Cox 1966; Bumpass and Raley 1995; Bumpass, Raley, and Sweet 1995). Approximately half of all children spend some time in a single-parent family while growing up, yet roughly two-fifths of such families are begun by an unmarried birth (Bumpass and Raley 1995; Bumpass and Sweet 1989). A substantial minority of single-parent families are thus begun by childbearing to single women or cohabiting couples. Social scientists and policymakers alike have been slow to grapple with the possibility that many of the difficulties faced by both children and parents may flow not only from parental divorce—a traditional focus of social scientific research—but from ongoing social changes affecting the family involving cohabitation, nonmarital childbearing, and divorce.

If family life is evolving, so too is the nature of nonmarital childbearing. Among white women, nonmarital birth rates doubled at all ages between the mid-1970s and mid-1990s (Ventura et al. 1995). Moreover, while nonmarital first births have been and continue to be prevalent among teenage women, nonmarital births increasingly consist of higher-order births to nonteen women. As of the early 1990s, second and higher-order nonmarital births accounted for 48 percent of births to unmarried white women and fully 60 percent of births to unmarried black women (Ventura 1995). Nonmarital fertility has also increased substantially among women over age 19. In 1970, one half of all nonmarital births were to teenage women, but by the early 1990s, nonmarital births to women aged 20 and older accounted for more than two-thirds of all nonmarital births (Ventura et al. 1995).

Although the link between cohabitation and nonmarital fertility is less well understood, it is increasingly clear that changes in nonmarital fertility have been affected significantly by ongoing trends in cohabitation (Bumpass, Raley, and Sweet 1995; Bumpass and Lu 1999). In the early 1990s, about 40 percent of nonmarital births officially classified as creating single-mother families were in fact births to cohabiting couples (Bumpass and Lu 1999). Cohabitation was prevalent
among AFDC populations, with Moffitt, Reveille, and Winkler (1998) reporting cohabitation rates as high as 18 to 25 percent for AFDC recipients in some age groups, prior to the welfare reforms of 1996. Moreover, for whites, trends in nonmarital fertility appear due almost entirely to increases in births within cohabiting unions during the 1970s and 1980s, with trends for blacks reduced substantially when accounting for cohabiting births (Bumpass and Raley 1995).

These observations point to significant shifts in the nature of nonmarital fertility—from first births to higher-order births, from childbearing during the teen years to childbearing at later ages, and from births occurring outside informal unions to a process increasingly linked to the formation (and dissolution) of cohabiting unions. To unravel these issues, we take a descriptive first step by tracing women’s pathways through marital, union, and nonunion childbearing in recent decades. One difficulty is that trajectories within these populations typically show enormous variability in family experience (Martinson and Wu 1992; Rindfuss 1991). Documenting such variation is, we believe, essential to understanding family change, but the resulting complexity of family experience can be daunting both descriptively and analytically. To manage this complexity, we describe selected components of the processes underlying nonmarital fertility, starting at the broadest level of description and then successively refining our focus at increasing levels of detail.

We begin by examining change over time in the broad contours of nonmarital childbearing over the last 25 years. We find that increases in nonmarital fertility during the last 25 years have been driven largely by dramatic increases in nonmarital first births. Widely cited figures from vital statistics indicate that the proportion of births occurring outside of marriage has risen sharply, with 1 in 3 births occurring outside of marriage as of the mid-1990s (Ventura 1995). We find that the proportion of first births occurring outside of marriage has increased even more dramatically. We estimate that more than 4 of 5 first births to black women and fully 1 of 3 to white women occurred outside of marriage in the mid-1990s; hence, the fraction of nonmarital first births for white women equals, and that for blacks substantially exceeds, the 1 in 3 proportion of all births occurring outside of marriage. These trends are mirrored in stark black/white differences in the
union status of unmarried first births: Of births to recent cohorts of first-time unmarried white women, over 40 percent occurred in a cohabiting union, while for black women the corresponding figure is 12 percent.

These levels of first births to unmarried women signal dramatic changes in the life course of women, with growing numbers of women now initiating motherhood outside of formal marriage. While recent research (see, e.g., Geronimus and Korenman 1993; Hoffman, Foster, and Furstenberg 1993a,b; Haveman, Wolfe, and Pence 1999; Korenman, Kaestner, and Joyce 1999) shows that the consequences of a teen birth are less dire than those put by Campbell (1968) and while we also know that there is considerable diversity in outcomes for teen mothers (Furstenberg, Brooks-Gunn, and Morgan 1987), poverty remains high in single-mother families, especially for those single mothers who gave birth while unmarried. Thus, continuing increases in nonmarital fertility provide considerable grounds for concern about the likely socioeconomic well-being of recent cohorts of U.S. children.

It is important to emphasize that not all behaviors related to nonmarital childbearing have accelerated over the last 25 years. Indeed, our results suggest relative stability along several behavioral dimensions. We find little change in the proportion proceeding from a first to second nonmarital birth for white women during recent decades, although we do observe a modest increase in this progression for black women. For both black and white women, our results suggest only a small increase in the average age at first birth for women who bear their first child outside of marriage, while the proportion of nonmarital first births to teen mothers has declined modestly. These latter findings nevertheless raise serious concerns. During this period, there have been substantial increases in the mean age at first birth for women who initiate childbearing within marriage, which contrasts with only small increases in age at first birth for unmarried women, large proportions of whom still give birth during their teen years. Because teen childbearing remains highly correlated with socioeconomic disadvantage to offspring, trends indicating widening disparities in age at first birth may serve to further widen already substantial
differentials in the social and economic circumstances in families in which childbearing is initiated within versus outside of marriage.

We conclude by examining the trajectories of women through marital and cohabiting unions, and by tracing how these union experiences relate to married and unmarried childbearing. Doing so requires that we describe initial marital, union, and fertility statuses and that we follow women forward in time as these statuses change. To make this task manageable, we restrict attention to a cohort of women with first births in the early 1980s.

We find that more than 7 in 10 women progress to a second birth within 10 years of a first birth. Differences by union status at first birth in the progression to a second birth are modest and decline with duration since first birth. What is remarkable is that second births to unmarried women are nearly as prevalent as second births to married women. We also find that union status at first birth is highly associated with union status at second birth, with marital first births almost always followed by marital second births, cohabiting first births most likely to be followed by cohabiting second births, and single first births most likely to be followed by single second births. Nevertheless, these results indicate greater similarity than difference in women’s fertility trajectories among those who have initiated childbearing, whether within or outside of marriage or within or outside a cohabiting union.

By contrast, women’s union trajectories exhibit substantial variability, especially for women single or cohabiting at first birth. What is notable is that we observe variability in union and marital trajectories both across individuals and within an individual’s life span. Couples who bear children within a cohabiting union are substantially more likely to dissolve their union subsequently than are couples who bear children within a marital union. Thus, while children born within cohabiting unions resemble those born within marital unions in that both biological parents are present at the birth of a child, these children are also much more likely to experience the disruption of their parents’ union than are children born within marital unions. This finding is notable because accumulating evidence suggests that turbulent family environments may carry
adverse consequences for children (see, e.g., An, Haveman, and Wolfe 1993; Capaldi, Crosby, and Stoolmiller 1996; Capaldi and Patterson 1991; Cherlin et al. 1991; Wu 1996; Wu and Martinson 1993; Wu and Thomson 1998).

In interpreting these latter results, it is important to keep in mind both the rapid pace of change across first birth cohorts and the fact that the 1980–84 first birth cohort that we examine itself spans a considerable length of time with respect to changes in cohabitation and unmarried childbearing. Of course, these changes reflect the reality experienced by recent cohorts: Women in this period initiated childbearing under one regime and then proceeded to live through subsequent years of life during a period characterized by dramatic and rapid changes in childbearing, union formation, and union dissolution. Thus, conclusions and interpretations of our findings must be tempered by the realization that our object of inquiry—the union and fertility trajectories of women—is itself a moving target.

DATA AND METHODS


The June Current Population Survey (CPS)

The CPS is the monthly survey conducted by the Bureau of the Census to document changes in labor force status. Supplements on specific topics ranging from school enrollment to family and marital status occur on a periodic basis. The June CPS has collected marital and fertility data on a roughly 5-year cycle that provide detailed event histories for up to three marriages and for the first four births and the most recent birth. In analyzing trends over time, we have pooled data from the 1990 and 1995 June CPS. Pooling the data in this way provides us with large samples and hence relatively stable estimates of period trends. A significant drawback of these data, however, are that they lack retrospective information on respondents’ entries and exits from cohabiting unions. As a result, the CPS lets us distinguish only between married and unmarried births; hence, our analyses
of cohabitation rely on data from the 1995 National Survey of Family Growth (NSFG).

National Survey of Family Growth Cycle 5

The NSFG is a periodic survey conducted by the National Center for Health Statistics with the primary goal of providing estimates of factors affecting the U.S. birth rate and the reproductive health of U.S. women. The sample universe consists of women aged 15 to 44. Marital and fertility histories have long been a part of the content of this survey, but Cycle 5 provides complete cohabitation histories for the first time, as well as detailed education, employment, and living arrangement histories. Interviews averaging 105 minutes were conducted with 10,847 respondents over the first 10 months of 1995 (Potter et al. 1998).

Methods

In both data sources, we construct estimates by comparing dates in the marriage or union histories with dates in the fertility histories. Because of variation in the duration between separation and divorce and in the proportion of disrupted marriages that ever divorce, we include as nonmarital those births that occur between separation and divorce, or that occur after separation for women who separate but never divorce (Sweet and Bumpass 1990; Castro Martin and Bumpass 1989). Our definition differs from that used in the birth registration system; hence, when comparing trends obtained from vital statistics with trends estimated from survey data, we revert to the birth registration definition, using the timing of divorce, not separation, to distinguish between marital and nonmarital births.

We begin our analyses of trends in nonmarital fertility during the 1970s through the early 1990s with an examination of period estimates, followed by estimates obtained from competing risk life table methods. In these analyses, we rely primarily on pooled data from the June 1990 and 1995 CPS, which provide large samples over a long historical span. We then turn to a more detailed examination of the experiences of women with a first birth occurring in the period 1980–84. In these analyses, we rely heavily on data from the 1995 NSFG, but present some CPS analyses for
comparative purposes. We focus on a cohort of first births occurring in 1980–84, which provides at least 10 years in which to observe the joint union and fertility trajectories of women following a first birth.\footnote{Examining more recent first birth cohorts would result in greater truncation of women’s union and fertility trajectories. Although these issues can be addressed easily with life table techniques, the use of these procedures is complicated by the sheer diversity of trajectories through union and fertility statuses of women following a first birth and by the rapidity of period change across recent first birth cohorts. Because of these considerations and because of the descriptive nature of our analyses, we have adopted the analytic strategy described above.} We examine the union statuses of women 5 and 10 years after the first birth, and, for those women who go on to have a second child, the union status of the second birth. We then describe women’s pathways through union and fertility statuses in the 10 years following a first birth. To simplify this discussion, we focus attention on the major trajectories that capture over 90 percent of all pathways from a first birth. The remaining pathways are a diverse set and are not easily summarized.

**RESULTS**

*Trends over time*

To establish the context for this discussion, we begin with Figure 1, which presents well-known trends in the nonmarital fertility ratio since 1970. For a given calendar year, the nonmarital fertility ratio gives the number of births occurring outside of marriage expressed as a percentage of all births. The CPS estimates are derived from the comparison of women’s retrospective reports of marital and fertility histories, whereas the vital statistics series is based on the registration of births.

![Figure 1 about here](image_url)

The middle set of curves report estimates for the entire U.S. population. Here we see the widely cited and dramatic rise in the percentage of births occurring outside of marriage, with 1 in 3 births occurring outside of marriage by the late 1990s. The upper and lower sets of curves show corresponding increases in nonmarital childbearing among both white and black women, with about 1 in 4 births to white women occurring outside of marriage and nearly 7 of 10 births to black women occurring outside of marriage.\footnote{Examine more recent first birth cohorts would result in greater truncation of women’s union and fertility trajectories. Although these issues can be addressed easily with life table techniques, the use of these procedures is complicated by the sheer diversity of trajectories through union and fertility statuses of women following a first birth and by the rapidity of period change across recent first birth cohorts. Because of these considerations and because of the descriptive nature of our analyses, we have adopted the analytic strategy described above.}
black women occurring outside of marriage in 1998. It is worth noting that the nonmarital fertility ratio for both whites and blacks rose steadily throughout the 1970s to 1995, but flattened out after 1996. This post-1996 period, though coinciding with recent welfare reforms, was also preceded by declines in teenage pregnancy and increases in teenage contraceptive use (Kaye 1999; Ventura et al. 2000).

Despite very different estimation procedures, there is good agreement overall between the trends from CPS and vital statistics. Both sets of estimates reflect a marked increase in the proportion of births to unmarried women and both indicate a roughly linear increase over this period. For blacks, the CPS and vital statistics trends agree closely, while for whites, CPS estimates indicate a slightly less rapid increase, with estimates falling above the vital statistics series in the 1970s and early 1980s and below this series in the most recent period. While vital statistics reports of unmarried childbearing have generally been regarded as the “gold standard” against which other data sources can and should be calibrated, we think it important to acknowledge that both vital statistics and CPS data may be affected by stigma attached to unmarried childbearing, with stigma likely to vary both over time and operate differentially by race and ethnicity.²

Although these two series produce qualitatively similar patterns, conclusions about the magnitude of trends, as well as decompositions of these trends (see, e.g., Smith, Morgan, and Koropeckyj-Cox 1996), may be especially sensitive to slight differences in estimated levels of nonmarital childbearing during the 1970s, particularly for nonmarital childbearing among

²Recall that in this figure only, we use the date of divorce, rather than the date of marital separation, to classify births as marital or nonmarital. CPS estimates are derived from a woman’s retrospective recall of the timing of marital events and births as obtained in 1990 or 1995, whereas estimates from vital statistics are collected from women at the time of birth. While retrospective data on dates of births and marriage are typically reported with high accuracy (Pendleton, McCarthy, Cherlin 1989; Wu, Martin, and Long 1999), this is arguably less true of retrospectively reported dates of divorce, with data quality declining with duration since divorce. However, Raley and Bumpass (1999) find no evidence for such deterioration in data quality. Similar issues of data quality can be raised with vital statistics, which employ varying procedures for the estimation of marital status across states and over time (see, e.g., Ventura et al. 1995). In this context, one interpretation of the slight differences in Figure 1 is that declining stigma affected trends obtained from vital statistics more than those from the CPS. Note that this possibility, which supposes changes in stigma over time and likely differences in stigma between whites and blacks, is consistent with the finding that the differentials noted in Figure 1 are limited to whites only.
white women. Moreover, it is important to note the conceptual ambiguity posed by births that occur between marital separation and divorce, some of which will have been conceived prior to separation, but some of which may have been conceived months or even years after marital separation. Nevertheless, these conceptual issues, as well as the slight differences in the precise magnitude of these trends, should not obscure the fact that both sets of estimates in Figure 1 show substantial increases in the proportion of children born outside of marriage between the 1970s and early 1990s, and that both vital statistics and the CPS provide close—and remarkably high—estimates for current levels of unmarried childbearing.

Figure 2 presents trends in the distribution of births occurring within marital unions, cohabiting unions, and outside of any union for black and white women in the NSFG. Unshaded bars give the percentage of births occurring within marriage, shaded bars the percentage occurring within cohabiting unions, and dark bars the percentage occurring outside of either marital or cohabiting unions, with percentages for adjacent bars summing to 100. Because the NSFG sample consists of women aged 15–44 in 1995, to avoid issues of age truncation we restrict the sample in Figure 2 (and in subsequent analyses using the NSFG) to women under age 30 at the time of birth. This age restriction results in a series extending only from 1980 to 1995.

[Figure 2 about here]

Although the great majority of births to white women throughout this period occurred within marital unions, births within marital unions have nevertheless declined, while those occurring within cohabiting unions or outside of any union have increased. Of births to white women between 1980 and 1984, 86 percent occurred within marital unions, 5 percent within cohabiting unions, and 9 percent outside of either a marital or cohabiting union. Marital births to white women declined steadily over this period, falling in 1990–95 to 76 percent of all births to white women. Births within cohabiting unions and outside of any union rose, with 12 percent of births to white women in 1990–95 occurring within a cohabiting union and 13 percent occurring
Trends differ considerably for blacks. For black women, births outside of either a marital or cohabiting union predominate, rising from 47 to 62 percent of all black births between the 1980s and early 1990s. During this period, marital births fell sharply, from 37 to 22 percent, while births within cohabiting unions fluctuated between 16 and 19 percent.

Figure 2 also suggests a growing divergence in the family situations of black and white children. As of the early 1990s, 3 in 4 births to white women occurred within a marital union; of the remaining 1 in 4 white births outside of marriage, approximately equal numbers occurred in a cohabiting union or outside of any union. By contrast, only 22 percent of births to black women in the early 1990s occurred within marital unions; of the remaining 78 percent, black births outside of marriage, 4 in 5 were to single mothers, and only 1 in 5 occurred within cohabiting unions. Put another way, the great majority of white infants are born into households in which both biological parents are present—91 percent of whites born in 1980–84 and 87 percent in 1990–95 had both biological parents residing in the same household—while for blacks, 53 percent of infants born in 1980–84 and only 38 percent in 1990–95 were born into families in which both biological parents were coresiding.

Figures 1 and 2 track period change in the relative numbers of births within and outside of marital or cohabiting unions, but neither speaks to the evolving demographic composition of such births. We address this issue in Figure 3, which presents period trends in the age and parity distribution of nonmarital births. Overall, there are only minor fluctuations in either the age or parity distribution of births to unmarried white women, but marked trends in both the age and parity composition of births to unmarried black women.

The upper panel of Figure 3 presents period trends in the percentage of births by age to unmarried black and white women. For whites, the percentage of nonmarital births occurring to
teen women declined modestly from 38 percent in 1970–74 to 33 percent in 1990–95. At the other end of the age spectrum, births to unmarried white women in their 30s rose from 12 percent in 1970–74 to 15 percent in 1990–95. Changes in the age composition of nonmarital births are more marked for black women. For blacks, the proportion of nonmarital births to teen mothers declined markedly, from 50 percent in 1970–74 to 32 percent in 1990–95. Correspondingly, more nonmarital births to black women now occur after the teen years, with the percentage to women aged 25–29 increasing more than two fold, from 9 to 19 percent, and the percentage to women aged 30 and over increasing by over half, from 8 to 13 percent, between 1970–74 and 1990–95.

Although these data document a steady upward shift in the age composition of births, from teen childbearing to childbearing over a broader range of ages, nonmarital childbearing remains concentrated among younger women. This holds for both whites and blacks, with 2 out of 3 nonmarital births in 1990–95 to women under 25 and with nearly half of these births to teens.

The lower panel of Figure 3 presents period trends in the parity distribution of births to unmarried black and white women. For unmarried white women, 43 percent of births in 1970–74 were second or higher-order, rising to 47 percent in 1990–95; for third or higher-order births, percentages rose only slightly, from 19 to 21 percent during this period. For unmarried black women, births between 1970 and 1995 have become increasingly weighted towards higher-order births. Second or higher-order nonmarital births accounted for 44 percent of all births to unmarried black women in 1970–75, rising to 59 percent in 1990–95; third or higher-order nonmarital births accounted for 19 percent of nonmarital black births in 1970–74 and 31 percent in 1990–95. Thus, of births to unmarried black women in the early 1990s, fully 3 out of 5 was a second or higher-order birth, and nearly 1 in 3 was a third or higher-order birth.

What might account for increases over time in the absolute numbers, proportion, and distribution by parity of births outside of marriage? Figure 4 provides clues into the role of nonmarital and cohabiting *first* births. The top panel of Figure 4 presents black/white trends in the
The trajectories of nonmarital childbearing proportion of first births to married and unmarried women, using data from the June 1990 and 1995 CPS. Although the proportion of first births occurring outside of marriage increased substantially for both white and black women, there are stark differences in level by race. For whites, 85 percent of first births in 1970–74 occurred within a marital union; in the early 1990s, 66 percent of first births were marital. By contrast, 59 percent of black first births in the early 1970s, and fully 81 percent in the early 1990s, occurred outside a marital union. Thus, black/white trends in the marital status of first births are a virtual mirror image of one another, with the percentage of first births occurring outside of marriage to black women in the 1990s nearly equaling the percentage of first births occurring within marriage to white women in the 1970s.

The lower panel of Figure 4 gives black/white trends in the proportion of first births occurring in a marital union, in a cohabiting union, or in neither a marital nor cohabiting union, using data from the 1995 NSFG. Among white women, there was a marked rise in the proportion of cohabiting first births, from 5 percent of first births in 1980–84 to 12 percent in 1990–95. The proportion of first births to white women that occurred in neither a marital nor cohabiting union also rose substantially, from 13 to 16 percent over this period. Thus, first births to cohabiting white women increased much more quickly than first births to single white women in the period between 1980 and 1995, with a 128 percent increase in the proportion of cohabiting first births during this period, compared to a 29 percent increase in the proportion of single first births.

Trends in the union status of first births differ substantially for black women, with dramatic declines in the proportion of marital first births, an overall increase in single first births, and a relatively constant proportion of cohabiting first births. First births to cohabiting black women constituted between 10 and 13 percent of all black first births, while first births in neither a marital nor cohabiting union rose from 57 to 72 percent between 1980 and 1995. For black women in the early 1990s, fewer than 2 of 10 first births were to married women, roughly 1 out of 10 were to
cohabiting women, and more than 7 of 10 were to single women; for whites, about 7 of 10 first births were to married women, roughly 1 out of 10 were to cohabiting women, and fewer than 2 of 10 were to single women. Thus in the early 1990s, 43 percent of first births to white women that occurred outside of marriage in fact occurred in families in which two biological parents were coresiding; for blacks, the corresponding figure is 12 percent.

Figure 4 suggests a substantial decline over time in marital first births and a substantial increase in first births occurring in cohabiting unions or outside of any union. However, the period between 1970 and 1995 also coincided with changes in other dimensions of family life, including delays in age at marriage and age at initiation of childbearing. Figure 5 presents trends, by marital status, in mean age at first birth and the percentage of births to teen mothers for white and black women. Results in the upper panel show that mean age at entry into motherhood has increased for women with both marital and nonmarital first births, but that the pace of this change varied markedly by marital status. The upper two curves plot the mean age at first birth for white and black women with a marital first birth.\(^3\) For both white and black women, the mean age at first birth increased substantially, from roughly 23 years in 1970 to around 28 years in 1995, with the rise consistent with trends in delayed age at marriage. Although the black curve tends to lie slightly below the white curve, there is considerable similarity between the two curves. Note, however, that marital fertility among first-time black mothers is concentrated within an increasingly small and potentially selected population.

[Figure 5 about here]

Among women with a nonmarital first birth, black/white differences in mean age at first birth appear to have narrowed, although this statement must be qualified by the considerable sampling variability in these curves. For white women with a nonmarital first birth, mean age at first birth has fluctuated between 20 and 22 years, declining somewhat in the early 1990s. For

\(^3\)The greater fluctuation for estimates for black women after 1985 reflects the relatively small numbers of black women with marital first births in this period.
black women with a nonmarital first birth, the mean age at first birth has risen steadily, from 19 in 1970 to 21 in 1994.

The lower panel of Figure 5 presents parallel trends in the percentage of first births occurring to teen women—those aged 19 or younger. Despite considerable sampling variability, the proportion of nonmarital first births to black teen mothers declined modestly, from about 70 percent in 1970 to just below 60 percent in 1995. For first births to unmarried white teen mothers, levels fluctuate between 40 and 60 percent, averaging around 50 percent between 1970 and 1995. By contrast, first births among married teen women declined noticeably for both white and black women, from around 35 percent in the early 1970s to around 11 percent in early 1990s for blacks and around 20 percent in the 1970s to less than 10 percent in the early 1990s for whites.

Overall, the trends in the mean age at first birth and percentage of teen births in Figure 5 suggest a modest convergence by race, on the one hand, and a more marked divergence between married and unmarried births, on the other hand. We find that black/white differentials in both mean age at first birth and the proportion of teen births have narrowed somewhat over time, although these patterns exhibit substantial sampling variability. Previous studies have documented similarities among black and white women with marital first births; however, our results also point to a possible modest narrowing in mean age at first birth and the proportion of teen births among those with nonmarital first births. These findings on the narrowing of differences between blacks and whites also echo Rindfuss and Parnell’s (1989) observation regarding the increasing importance of marital status and the relative declining significance of race, conditional on selection into marriage.

Figure 5 also reveals a growing divergence in mean age at first birth and the proportion of teen births for women who were married, and those who were not, when they first became mothers. This divergence is notable for at least two reasons. First, studies have found a consistent association between early childbearing and socioeconomic disadvantage (see e.g., Hoffman, Foster, and Furstenberg 1993a,b, but see also Geronimus and Korenman 1993 and Korenman, Kaestner, and
Joyce 1999 for caveats about the causal nature of this association). Second, *delayed* childbearing is typically held to carry greater parental investment in offspring, both as a consequence of the higher earnings and life cycle accumulation that delayed childbearing affords to parents and as a consequence of the typical attributes of parents who delay childbearing (see, e.g., Becker 1991; Oppenheimer 1994). Thus, the diverging trends in Figure 5 point to possible demographic and life cycle components that may further exacerbate inequalities in the socioeconomic circumstances of children born within and outside of marital unions.

Although the period estimates in Figures 1–5 provide a glimpse of trends in U.S. marital and nonmarital childbearing, they say little about the *trajectories* of childbearing and marriage experienced by successive cohorts of women. Figure 6 provides an initial step toward this goal by reporting competing risk life table estimates of the cumulative probability of experiencing the transition from a first to second birth, cross-classified by marital status at birth. These life table estimates can be interpreted as giving the expected proportion making each transition, conditional on not transiting to another state during the period of exposure to risk.

[Figure 6 about here]

As in previous figures, we trace change over time by conditioning on first births occurring in the periods 1970–74, 1975–79, 1980–84, and 1985–89. Although the June 1995 CPS could, in principle, yield 10 years of exposure for first births occurring in the 1985–89 period, for some transitions (and in particular, the transition from a marital first birth to a nonmarital second birth), the number of second birth events is small for first births in the 1985–89 period. To make estimates comparable across first birth cohorts, we present cumulative proportions of women experiencing a second birth within 8.5 years of a first birth.

The results in the upper left-hand panel of Figure 6 provide life table estimates for the transition from a marital first to marital second birth. Over this period, white women have uniformly higher probabilities than black women of proceeding from a marital first birth to a
marital second birth. There is a slight upward trend for white women, with probabilities increasing about 3 percentage points for white women, but no apparent trend for black women.

The upper right-hand panel of Figure 6 gives life table estimates for the transition from a nonmarital first birth to a nonmarital second birth. Estimates fluctuate between 35 and 38 percent for white women, and rise from 55 to 65 percent for black women between 1970–74 and 1985–89. Thus, black women are substantially more likely than white women to progress from a nonmarital first to second birth, with the black/white differential rising over this period.

How large are these trends? A natural comparison is with trends in the percentage of first births occurring outside of marriage in Figure 4. For whites in Figure 4, these percentages rose from 15 to 26 percent between 1970–74 and 1985–89; for blacks, the increase was from 59 to 75 percent. These correspond to relative increases of 69 and 28 percent for first births to unmarried white and black women, respectively. By contrast, the trends in Figure 6 for the transition from a nonmarital first birth to a nonmarital second birth correspond to a relative decrease of 4 percent for whites and a relative increase of 17 percent for blacks. Trends in the initiation of nonmarital childbearing (+69 and +28 percent increase for whites and blacks, respectively) thus substantially outweigh trends in the progression from a nonmarital first to nonmarital second birth (−4 percent decrease and +17 percent increase for whites and blacks).

The lower panel of Figure 6 presents estimates for two other transitions—from a nonmarital first birth to a marital second birth, and from a marital first birth to a nonmarital second birth. As expected, whites are substantially more likely than blacks to have a marital second birth given a nonmarital first birth, with black/white differences fluctuating between 18 and 23 percent over this period. There is only a modest decline in the probability of this transition between the 1970s and 1980s for both white and black women (49 vs. 44 percent for white women and 30 vs. 26 percent for black women for the 1970–74 and 1985–89 periods, respectively). Estimated probabilities for the final transition—from a marital first birth to a nonmarital second birth—are much lower than for other transitions, and are subject to considerable sampling variability.
To this point, our analyses have examined births conditional on marital status, yet this arguably conditions away too much, given that this period witnessed substantial delays in women’s entry into marriage (Cherlin 1992), leading a number of researchers to point to the role of declining marital prospects in nonmarital childbearing (An, Haveman, and Wolfe 1993; Bennett, Bloom, and Miller 1995; Duncan and Hoffman 1990; Lichter and Graefe 1999; South and Lloyd 1992; Upchurch, Lillard, and Panis 1999; Wilson 1987). It is also important to recognize that an increasing mean age at first marriage will imply increasing numbers of nonmarital births even in the absence of changing reproductive behaviors by virtue of longer durations of exposure to the risk of childbearing outside of marriage (Bumpass and McLanahan 1989).

Figure 7 replicates results reported by Bumpass and Lu (1999) on trends in marriage subsequent to a first unmarried birth. Overall, the results suggest little trend in the likelihood of marriage following a nonmarital first birth for white women, but show a significant decline for black women. For white women, life table estimates of the cumulative probability of marriage within 8.5 years of a nonmarital first birth decline only slightly, from 73 to 70 percent between 1970–74 and 1985–89. By contrast, we observe a notable decline in marriage probabilities for black women, from 49 to 34 percent, between the early 1970s and late 1980s.

These results also provide insight into trends in previous figures. For example, we noted the relative lack of change in the parity distribution of nonmarital births to white women in Figure 3, despite a clear upward trend in Figure 1 in the proportion of births occurring to unmarried white women. Although a full decomposition of the trends in Figures 1 and 3 would necessarily require accounting for other demographic processes (see, e.g., Smith, Morgan, and Koropeckyj-Cox 1996), these results are nevertheless consistent with the large increases in the proportion of first births to unmarried white women observed in Figure 4, the small changes in the probability of marriage given a nonmarital first birth observed in Figure 7, and the relatively unchanging progression from
a first to second nonmarital birth for white women observed in Figure 6. Similarly, recall that black women were characterized by both an upward trend in the nonmarital fertility ratio and a shift toward higher-order nonmarital births in Figures 1 and 3. These findings are likewise consistent with the dramatic increase in the proportion of first births to unmarried black women observed in Figure 4, the substantial decline in marriage for unmarried black mothers observed in Figure 7, and modest increases in the progression from a first to second nonmarital birth observed in Figure 6.

These observations suggest that, for white women, upward trends in the nonmarital fertility ratio appear driven primarily by increases over the last 25 years in the proportion of first births outside of marriage, while the absence of any substantial trend in the progression from a nonmarital first to nonmarital second birth accounts for the relative stability in the parity composition of nonmarital births among white women. For black women, increases in the nonmarital fertility ratio appear to result primarily from the dramatic rise in nonmarital first births and substantial declines in marriage, and only secondarily from more modest increases in progression from a first to second nonmarital birth. Similarly, the shift in the parity distribution of black nonmarital births toward higher-order parities appears due to a modest increase in the progression from a nonmarital first to a nonmarital second birth, coupled with increases in the duration of exposure to the risk of higher-order nonmarital births resulting from declining marital prospects.

Union statuses after 5 and 10 years

We now turn attention away from historical change and toward a more intensive examination of the union and fertility trajectories of women. Our analytic strategy is to follow a single cohort of women—those with first births occurring in the period 1980–84—over a 10 year period, using data from the 1995 NSFG. These data also permit us to differentiate between births to married,

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4 In analyses not reported, we compared, to the extent possible, NSFG and CPS estimates for Figures 8–13 below. Throughout, we find remarkable agreement between these two sources, with estimates typically within 2 to 5 percentage points—the expected sampling error—of one another. See also Figure A2 in the Appendix.
cohabiting, and single women, which lets us focus particular attention on the role of cohabitation in shaping women’s trajectories of nonmarital childbearing. An advantage of this analytic strategy is that it traces trajectories through union and fertility statuses as experienced by a cohort of women exposed to a uniform, albeit changing, set of period influences. A drawback is that it necessarily limits the number of NSFG women analyzed, with available sample sizes too small to compare the experiences of white and black women. And as noted above, we restrict our NSFG analyses to first births to women under age 30 to avoid issues of truncation induced by the age structure of the 1995 NSFG sampling frame.

Figure 8 presents estimates for the percentage of women with a second birth at durations of 5 and 10 years after first birth by union status at first birth. Note that these cross-classifications of initial statuses with statuses 5 and 10 years later ignore intervening changes in union status—for example, women married at first birth may experience a second birth within a cohabiting union, and women cohabiting at first birth may have a second birth within a different cohabiting union.

[Figure 8 about here]

Does subsequent fertility differ by union status at first birth? The answers in Figure 8 reveal notable similarities across women of different union status at first birth. Women married at first birth are the most likely, and women single at first birth the least likely, to have a second birth; nevertheless, differences by union status at first birth are modest and decline with duration since first birth. Within 5 years of a first birth, 68 percent of those married at first birth, 59 percent of those cohabiting at first birth, and 52 percent of those single at first birth proceed to a second birth. At 10 years duration, similarities are even more apparent, with second births to 82, 78, and 71 percent of women with marital, cohabiting, and single first births, respectively. Thus, for women in this cohort of first births, very high proportions proceed to a second birth, with only relatively minor variation by union status at first birth.

Is union status at second birth associated with union status at first birth? The results in
Figure 9 are striking. Among those who progress to a second birth within 5 or 10 years of a first birth, union status at first birth is highly associated with union status at second birth, with marital first births followed by marital second births, cohabiting first births most likely to lead to cohabiting second births, and single first births to single second births. Of second births occurring within 5 or 10 years to women married at first birth, more than 96 percent occur within marriage. Moreover, of these marital second births, nearly all occurred within the same marriage (results not presented). Patterns among unmarried births are similar at both 5 and 10 years after first birth. Five years after first birth, fully 60 percent of second births to women cohabiting at first birth are within cohabiting unions, with another 39 percent of these second births occurring in marital unions. Finally, a plurality of second births to women single at first birth occur to women single at second birth—48 percent at 5 years duration, with 32 percent of second births occurring within marital unions, and 20 percent of second births occurring within cohabiting unions.

Figure 9 also suggests divergence in the populations at risk of a nonunion birth. Union first births—those occurring in either a cohabiting or marital union—are followed only very rarely by nonunion second births—those occurring outside both a cohabiting or marital union. Nonunion second births are extremely infrequent for those with marital first births—constituting under 3 percent of second births to these women at both 5 and 10 years duration—but nonunion second births are nearly as rare among women with cohabiting first births—constituting 3 and 5 percent at 5 and 10 years duration. We caution that in analyses not reported, we find that the proportion of nonunion second births to women cohabiting at first birth rises substantially for later NSFG cohorts of first births; hence, this bifurcation has continued to evolve over time, from a pattern involving nonunion births to one involving nonmarital births. The evolving nature of this bifurcation serves to reemphasize an issue raised at the outset of this chapter—namely, that in following a cohort of first births forward in time, we will be selecting on women who initiated childbearing under one
regime, and who then lived out subsequent years during a period of extremely rapid change with respect to childbearing, union formation, and union dissolution.

Part of the substantive motivation behind Figure 9 is that the situations of children born to parents who were cohabiting or married might be thought to be similar by virtue of the fact that both biological parents are present at birth. Figure 9 provides some indirect evidence to this hypothesis, showing, for example, that cohabiting first births tend to be followed by cohabiting second births; moreover, in results not reported, we find that just under 70 percent of these cohabiting second births occurred within the same cohabiting relationship. Still, what Figure 9 does not reveal is the extent to which these union statuses are stable or transitory.

Figure 10 provides a first look at this question by cross-classifying women’s union statuses at first birth and at 5 and 10 years after first birth. These results show that women who were married at first birth are overwhelmingly married 5 and 10 years later (85 and 82 percent, respectively), although it should be noted that 12 percent of those observed to be married 10 years after first birth have divorced and remarried (results not shown). Of the 18 percent of women who were married at first birth but who subsequently separate, most are single (11 and 14 percent at 5 and 10 years after a first birth), with relatively few cohabiting (3 and 4 percent). While this last finding may appear inconsistent with what we know about cohabitation following a marital disruption (Bumpass, Sweet, and Cherlin 1989; Martinson and Wu 1998), it must be remembered that this group of women is selected from those who ever experienced a marital disruption by virtue of a first birth followed by a marital separation, all within a 5- or 10-year period.

Union statuses following first birth are considerably more diverse for women not married at first birth. At 5 years duration, union status at first birth is highly associated with subsequent union status for those not married at first birth. Women cohabiting at first birth are almost as likely to be cohabiting 5 years later as to be married (36 vs. 41 percent), and considerably less
likely to be single (23 percent), while women single at first birth are most likely to be single 5 years later (51 percent vs. 33 and 17 percent married and cohabiting, respectively). At 10 years duration, the association between union status at first birth and subsequent union status persists for women married or single at first birth; however, women cohabiting at first birth are most likely to be married (51 percent) but least likely to be cohabiting (19 percent), with the single state falling in between (30 percent). Hence, though there is substantial movement into marriage among mothers who were either cohabiting or single at their first birth, these flows into marriage are relatively modest during the 5 years following a first birth. As a result, many of those cohabiting at first birth are cohabiting 5 years later, and of those single at first birth, substantial proportions are single 5 years later.

Figure 11 presents a more direct look at the stability of cohabiting and marital unions by comparing life table estimates of the cumulative proportions who experience a union dissolution within 10 years after a first birth for women cohabiting or married at first birth. There are several possible outcomes of interest for a woman cohabiting at first birth: she may have remained in the same cohabiting union 10 years after first birth, she may have married her cohabiting partner and remained in this marital union 10 years after first birth, she may have married her cohabiting partner but then divorced, or she may have separated from her cohabiting partner without marrying. We censor women in the first two cases (at 10 years duration) and define the last two as union dissolutions, the event of substantive interest.

[Figure 11 about here]

Figure 11 reveals striking differentials in union dissolution by status at first birth, with cohabiting unions more than twice as likely as marital unions to dissolve following a first birth. Life table estimates suggest that 31 percent of those cohabiting at first birth and 16 percent of those married at first birth have experienced a union dissolution within 4 years after a first birth; within 8 years of a first birth, the corresponding percentages are 54 and 25 percent.
Trajectories of Nonmarital Childbearing

Trajectories over 10 years

Figures 12 and 13 present simple descriptions of the major trajectories culminating in a second birth (or no second birth) over 10 years. The first column of percentages on the right side of each figure represents the proportion of all trajectories captured by each pathway, with numbers at the bottom of this column giving the total for pathways represented in the figure. The second column restates these same trajectories conditional on status at first birth, with the totals representing the proportion of the pathways from each initial status. We emphasize the highly descriptive nature of Figures 12 and 13—in particular, the simple percentages reported do not account for a woman’s duration of exposure while in any particular status nor do they accurately reflect the likelihood that a woman will eventually occupy a particular status.

[Figure 12 about here]

We begin with results from the CPS. As can be seen in the totals reported in the first column at the bottom of Figure 12, virtually all pathways followed within 10 years of the first birth can be represented by nine distinct trajectories through fertility and marital statuses. The most common path is from a marital first birth through an intact marriage to a marital second birth. At the same time, this trajectory—which we might expect to be even more dominant—represents only half of the trajectories between a first and second birth. The next most common path is from an unmarried first birth to an unmarried second birth, representing 15 percent of observed trajectories. Paths to no second birth, whether begun by a marital or nonmarital first birth, account for about another 20 percent of observed trajectories. Among those with nonmarital first births, a nonmarital second birth was two-thirds as likely (15 vs. 9 percent) as a marital second birth.

The second column provides an alternative view of the same process by giving percentages separately by marital status at first birth. It is no surprise that 77 percent of the transitions to women married at first birth consisted of second births to women in intact marriages. Nonetheless, 30 percent of women with a marital first and second birth subsequently disrupted within 10 years
of the first birth (results not reported), while only 4 percent of women with a marital first birth had a nonmarital second birth. Another 17 percent of women with a marital first birth did not have a second birth within 10 years—whether within an intact marriage or following a marital disruption.

With respect to women with nonmarital first births, about a quarter proceeded to a marital second birth, although nearly a third of these marriages disrupted subsequently within 10 years (results not reported). About 30 percent of these unmarried first mothers did not have a second birth—either after marriage or while remaining single. But the most prevalent trajectory by far among these women was to a second nonmarital birth (42 percent). Hence, these simple tabulations again reveal a picture of quite distinctive trajectories of childbearing, depending heavily on mother’s marital status at first birth, with marital first births overwhelmingly followed by marital second births, and nonmarital first births disproportionately followed by nonmarital second births.

Figure 13 extends these analyses using data from the 1995 NSFG to distinguish between marital, cohabiting, and single union statuses. We report 16 pathways that account for 97 percent of all trajectories observed. The resulting complexity of trajectories defies easy summary, but inspection of the second column of Figure 13 suggests several findings of note. For women with a marital first birth, CPS and NSFG estimates of the percentage of women following various trajectories agree closely and differ by no more than 2 percentage points in Figures 12 and 13.

Among mothers who were cohabiting at their first birth, the three most common pathways account for 81 percent of observed trajectories, with the remaining 3 trajectories covering another 14 percent. We emphasize again that union dissolution after a second birth is common among this pool of women. It is nonetheless striking that the two most common trajectories to a second birth occur among women within the same intact union—36 percent within the same cohabiting union and 29 percent to women who have married their cohabiting partner. These two trajectories constitute just under two-thirds of all trajectories observed for women cohabiting at first birth.
Second births within marital or cohabiting unions account for another 10 percent of trajectories; these trajectories are characterized by the breakup of the cohabiting union at first birth, followed by a subsequent cohabiting or marital union, followed by a second birth.

Five major pathways describe 92 percent of the trajectories among single first-time mothers. Two of these result in no second birth: 12 percent through marriage, and another 12 percent outside of either a marital or cohabiting during the 10 years of observation. About a quarter of single first mothers subsequently married and had a marital second birth, with another 28 percent remaining single and continuing to a second unmarried birth. Cohabiting births account for 14 percent of these trajectories, compared to the 41 percent noted above for women who cohabited at first birth. Only 40 percent of women single at first birth proceeded to a second birth within a cohabiting or marital union; by contrast, three-fourths of those cohabiting at first birth proceeded to a second birth in either a cohabiting or marital union. These findings thus emphasize once again how experience subsequent to a first birth depends heavily on the union status of the first birth.

**DISCUSSION**

Unmarried childbearing has increased to the point where, as of the mid-1990s, one-third of all births in the United States are to unmarried mothers. Although significant in itself, this stark statistic masks considerable complexity. It is frequently assumed that unmarried births create mother-only families; in fact, fully two-fifths of such births now occur in families with two unmarried parents. Similarly, policymakers and researchers often proceed as if unmarried births are predominantly first births, whereas one-half of such births are second or higher-order births and fully a quarter are third or higher-order.

In addition to increases in the level of nonmarital childbearing, there has been a shift over time toward higher-order nonmarital births. According to our estimates, this shift occurred primarily among black women, with little change in the parity distribution of nonmarital births to white women. At the same time, the prevalence of higher parity nonmarital births to white women
is also much higher than is generally appreciated. Of births to unmarried white women, we estimate that 43 percent were second or higher-order, and 19 percent were third or higher-order, as of the early 1970s; these percentages rose modestly to 47 and 21 percent, respectively, in the early 1990s. By contrast, of births to unmarried black women, 44 percent were second or higher-order and 19 percent were third or higher-order in the early 1970s, with these percentages rising substantially to 59 and 31 percent in the early 1990s.

These trends in both the numbers and parity distribution of nonmarital births have coincided with a dramatic increase in first births to unmarried women. We estimate that the percentage of first births occurring outside marriage rose from 15 to 33 percent between the early 1970s and early 1990s for white women and from 59 to 81 percent for black women. Thus in recent years, 4 of 5 first births to black women and fully 1 of 3 to white women occurred outside of marriage. Changes in the likelihood of progressing from a first to second nonmarital birth appear much less central to overall trends in nonmarital childbearing. Life table estimates reveal little trend in these parity progressions for white women and a modest increase for black women. Thus, our findings suggest the somewhat paradoxical conclusion that the shift in the distribution toward higher-parity nonmarital births is in fact primarily a consequence of the rising number of women who initiate childbearing outside of marriage and only secondarily a consequence of changes in the subsequent reproductive behavior within this pool of unmarried mothers. Widening black/white differentials in higher-order nonmarital births are also a result of declining rates of marriage for black women following a nonmarital first birth.

These findings also suggest, somewhat paradoxically, that we redirect attention back to the circumstances characterizing first births to unmarried mothers. In this regard, the processes leading to a first birth outside of marriage continue to be concentrated in the teen years and early 20s, while first births within marriage have become increasingly prevalent among women in their mid- and late-20s. And despite the very large numbers of nonmarital first births to black women, we find little difference over the last 25 years between black and white unmarried mothers in the
age at which they initiate childbearing. To us, these trends suggest yet another way in which the
gulf between the married and unmarried has widened, while the divide between racial groups has
narrowed conditional on marriage.

Of course, the other crucial element to understanding the circumstances characterizing first
births to unmarried mothers is marriage itself; thus, our statement that the gulf between the married
and unmarried has widened while the divide between racial groups has narrowed conditional
on marriage, conditions away too much of real substance. The view that declining marriage
is essential to understanding nonmarital fertility, articulated forcefully by Wilson (1987), gains
even greater relevance when juxtaposed with studies suggesting that poverty—and particularly
persistent child poverty—has been especially concentrated in households headed by never-married
women (Duncan and Rodgers 1988; Hoffman and Foster 1997). Nevertheless, our results make
us skeptical about the policy potential of simplistic calls to reconstitute marriage and fatherhood
within these populations (see, e.g., Blankenhorn 1995; Popenoe 1996). The decision not to marry
is, after all, the “revealed preference” of the pregnant woman and her potential spouse, and the
information known to the woman about the marriageability of the relevant male most surely
exceeds that available to the researcher or policymaker (Lundberg 1999). Furthermore, because
the initiation of nonmarital childbearing remains stubbornly concentrated among teenage women,
we suspect that other factors—not the least of which concerns the unplanned nature of many such
pregnancies—are critical to understanding the social context in which unmarried pregnancies are
conceived and brought to term.

As we have emphasized repeatedly, any attempt to understand evolving differences in
the reproductive behaviors of the married and unmarried must also grapple with the remarkable
increase in cohabitation. Births within cohabiting unions now constitute a significant fraction of
first births that occur outside of marriage. Cohabiting first births have quadrupled for white women,
from below 4 to 16 percent from the 1970s to the early 1990s, with 2 out of 5 nonmarital first births
to white women now occurring in families with two unmarried parents. Cohabiting first births have
also been a fixture among black women, but the proportion of such births has held steady at around 10 to 13 percent, while the prevalence of births to single black women has risen substantially over time. Consequently, first births to cohabiting black women have constituted an increasingly smaller fraction of the pool of first births to blacks that occur outside of formal marriage.

To what extent does a woman’s union status at first birth shape her subsequent trajectory of childbearing? Our results are consistent with the view that two-child norms remain strong in the U.S., with only modest differences emerging between married, cohabiting, and single mothers. Thus, the progression to a second birth remains prevalent among those who have initiated a first birth, with similarities across union status at first birth far outweighing differences. Nevertheless, a woman’s union status at second birth is highly contingent on her union status at first birth, with marital first births overwhelmingly followed by marital second births, cohabiting first births leading to cohabiting second births, and single first births leading to single second births.

Much of our interest in distinguishing between births to married, cohabiting, or single women is that it lets us identify births in which two biological parents—married or unmarried—are coresiding at the birth of a child. In this respect, marital and cohabiting unions might be thought to provide children with roughly similar circumstances at birth relative to births to unmarried women. But the family situations of children at birth correlate only imperfectly with their family situations in later life (Martinson and Wu 1992); in particular, the lives of substantial numbers of children will be disrupted by the dissolution of parents’ marital or cohabiting unions (Bumpass and Raley 1995; Bumpass and Sweet 1989).

Are the families of children born within cohabiting unions less stable than the families of children born within marital unions? Our answer is yes, with striking differentials by union status at first birth. Of women with first births in 1980–84, more than half of those cohabiting at first birth experienced a union dissolution within 8 years of a first birth, compared to 1 in 4 dissolutions for those married at first birth. This finding mirrors recent empirical studies documenting the greater instability of marriages preceded by cohabitation (Bennett, Blanc, and Bloom 1988; Teachman
and Polonko 1990; but see Lillard, Brien, and Waite 1995), but our analyses do not tell us if this
greater instability is a consequence of the decision by parents to cohabit, of the decision to bear a
child prior to marrying, or of characteristics of the parents (for example, lower earnings potentials)
determined prior to the birth of the child, which may in turn contribute to union instability. Answers
to these and other questions are critically important to social scientists and policymakers interested
in understanding parental behaviors in these domains. Still, when viewed from the perspective of
children, these results are troubling if, as some evidence suggests, family instability is associated
with negative consequences for children later in life (see, e.g., Cherlin et al. 1991; Wu 1996; Wu
and Martinson 1993).

Our analyses have been self-consciously descriptive and, as noted above, do not speak
to issues of causality. Yet, authors as diverse as Becker (1991) and Rindfuss and Parnell
(1989) view marriage and fertility as inextricably intertwined; indeed, we would add other
components—the planned or unplanned nature of pregnancies, the processes influencing the
formation and dissolution of cohabiting unions, and turbulence or the lack thereof in women’s
families of origin and of choice—to the mix of endogeneities that recent research has begun to
document (Lillard, Brien, and Waite 1995; Brien, Lillard, and Waite 1999; Korenman, Kaestner,
and Joyce 1999; Upchurch, Lillard, and Panis 1999). Given the complexity of these issues, it is
dangerous to venture predictions, particularly during a period of rapid social change. Nevertheless,
the overall story that emerges from our findings provides, to our eyes, evidence of an evolving
divergence between those who bear children within marriage and those who do not.
APPENDIX

Figure A1 provides a more direct comparison of estimates from the June 1990 and 1995 CPS and 1995 NSFG presented in Figures 4 and 5. The white and gray bars repeat estimates presented in Figure 4; the black bars present estimates from the 1995 NSFG corresponding to a definition of nonmarital childbearing obtained by summing the proportions of first births occurring in a cohabiting union or outside of a marital or cohabiting union. We do not report NSFG estimates for the period 1970–79 because the sampling universe of the 1995 NSFG consists of women aged 15–44 in 1995; hence, since NSFG respondents were born between 1951 and 1980, only a small fraction were at risk of a first birth in 1970–79. Moreover, first births to NSFG respondents in 1970–79 will not be representative of all first births in this period by virtue of the upper age limit of 45 in the 1995 NSFG.

For the period 1980–1995, Figure A1 shows close agreement between estimates from 1995 NSFG and from the June 1990 and 1995 CPS and 1995 NSFG for the proportion of first births occurring outside of marriage. For white women, NSFG estimates are slightly lower than CPS estimates for 1980–84 and 1990–95, but higher in 1985–89. By contrast, for black women, NSFG estimates are slightly higher than CPS estimates, except for the 1980–84 period. CPS estimates provide somewhat smoother patterns for trends over time due to the larger sample sizes provided by pooling data over the June 1990 and 1995 CPS. However, trends from the 1995 NSFG mirror those in the CPS closely, despite the smaller NSFG sample sizes.

Table A1 presents some selected comparisons of estimates from both the June 1995 CPS and the 1995 NSFG for women with a first birth by age 30 that occurred in 1980–84. The left-hand side of Table A1 shows that about 82 percent of those who were married at first birth were married 10 years later, and that slightly less than half of those who were unmarried at the first interview were unmarried 10 years later. The right-hand side of Table A1 gives a corresponding set of results for marital status at second birth within ten years of a first birth. Estimates from the CPS and
NSFG again agree closely. In both surveys, about 96 percent of women with second births who were married at first birth had marital second births; of those not married at first birth, somewhat less than 40 percent had marital second births. Overall, results from these two data sources agree closely, with estimates from the CPS and NSFG deviating by at most 3 percentage points in the upper panel and by less than 2 percentage points in the lower panel.
Figure A1: Comparison of trends in the proportion of first births occurring within and outside of marriage.

**Table A1:** Percentage married 10 years after first birth and percentage married at second birth by marital status at first birth. Second births occurring within 10 years of a first birth to women under age 30 at first birth.

<table>
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<td>NSFG</td>
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<td>Not married at first birth</td>
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REFERENCES


Figure 1: Black/white trends in the percentage of births occurring to unmarried women, 1970–1998.

Figure 2: Black/white trends in the distribution of marital, cohabiting, and nonmarital births to women under age 30.

Figure 3: Black/white trends in the age and cumulative parity distribution of nonmarital births.

Figure 4: Black/white trends in the distribution of marital, cohabiting, and nonmarital first births to women under age 30.

Figure 5: Black/white trends in mean age at first birth and percentage of first births to teenage mothers by marital status at first birth.


Figure 8: Percentage of women with a second birth at durations of 5 and 10 years after first birth. First births occurring in 1980–84 to women under age 30.

Figure 9: Union statuses of women at second birth at durations of 5 and 10 years after first birth. First births occurring in 1980–84 to women under age 30.

Figure 10: Union statuses of women at durations of 5 and 10 years after first birth. First births occurring in 1980–84 to women under age 30.

Figure 11: Life table estimates of the cumulative probability of union dissolution following a first birth by union status at first birth. First births occurring in 1980–84 to married and cohabiting women under age 30.

**Figure 12:** Percentage distribution of major trajectories of fertility and marriage by marital status at first birth. First births occurring in 1980–84 to women under age 30. Some percentages sum to more than 100 percent because of rounding.

**Figure 13:** Percentage distribution of major trajectories of fertility and marriage by union status at first birth. First births occurring in 1980–84 to women under age 30. Some percentages sum to more than 100 percent because of rounding error.
