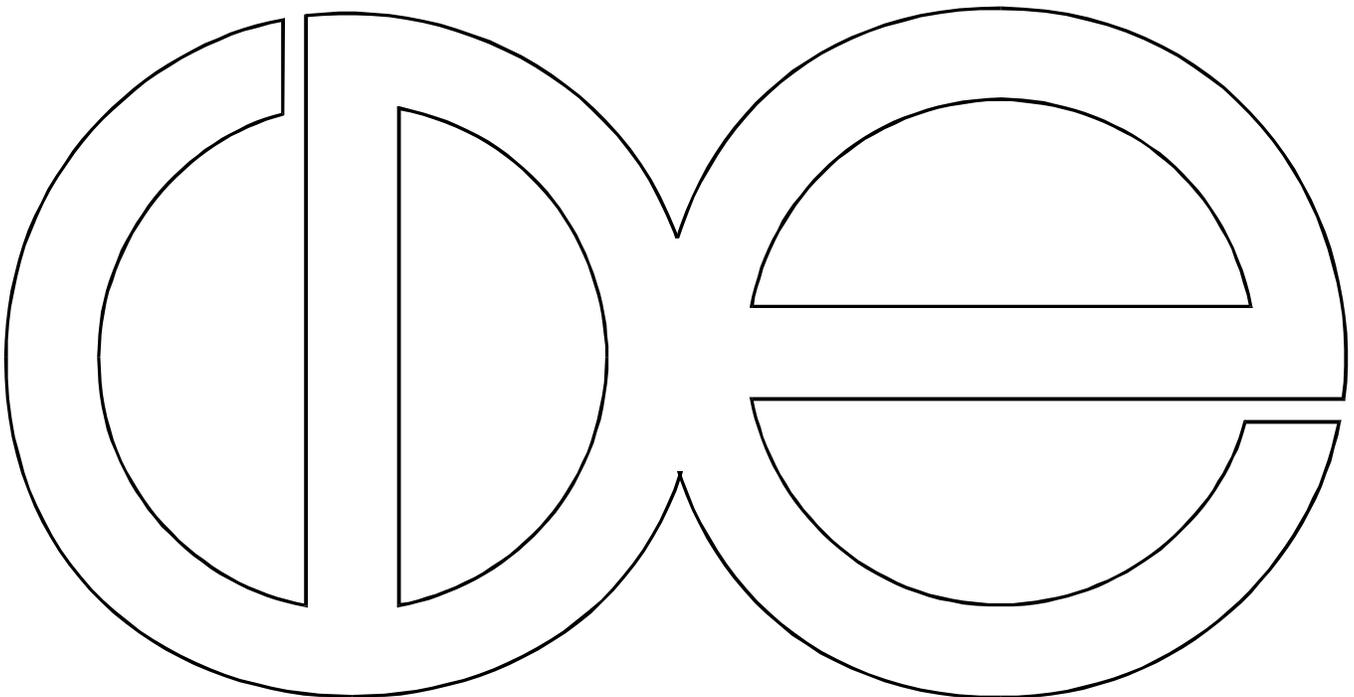


**Center for Demography and Ecology
University of Wisconsin-Madison**

**Determinants of Planned and Unplanned Childbearing among
Unmarried Women in the United States**

Kelly A. Musick

CDE Working Paper No. 99-09



**DETERMINANTS OF PLANNED AND UNPLANNED CHILDBEARING AMONG
UNMARRIED WOMEN IN THE UNITED STATES**

Kelly A. Musick*
University of Wisconsin-Madison

April 1999

*Direct correspondence to Kelly Musick, Center for Demography and Ecology, University of Wisconsin-Madison, 1180 Observatory Drive, Madison, WI 53706-1393. Phone: (608) 262-0213. Fax: (608) 262-8400. E-mail: kmusick@ssc.wisc.edu.

Paper revised for presentation at the Psychosocial Workshop, New York, NY, March 23-24, 1999. A previous version was prepared for presentation at the Research Conference on the 1995 National Survey of Family Growth, National Center for Health Statistics, Hyattsville, MD, October 13-14, 1998. I am grateful to Larry Bumpass for valuable comments and suggestions.

Research conducted under a grant from the Center for Population Research of the National Institute of Child Health and Human Development (HD 22433), using Center Grant Facilities provided under HD 05876.

Abstract

Increases in cohabitation and delays in first marriage have changed the composition and character of nonmarital births, with implications for how we understand the individual-level determinants of this important phenomenon. This paper uses Cycle 5 of the National Survey of Family Growth to investigate the determinants of planned and unplanned childbearing among unmarried women in the early 1990s. Results show consistency in who expresses approval of nonmarital childbearing for self and who has a birth out of wedlock. Cohabitation, prior childbearing, and spending time in a single-parent family during childhood increase the likelihood of a nonmarital birth, while education and parental resources decrease the likelihood. Results point to important differences in the determinants of planned and unplanned childbearing, as well as differences in the magnitude and pattern of education, family background, and union status effects by parity and race/Hispanic origin.

1. Introduction

Data from Cycle 5 of the National Survey of Family Growth are used to investigate the effects of demographic characteristics, union status, and family background on planned and unplanned childbearing among unmarried women in the early 1990s. Dramatic increases in cohabitation and associated delays in first marriage have changed the composition and character of nonmarital births. Nonmarital childbearing increasingly occurs within the context of cohabiting unions, and it increasingly involves older mothers and higher-order births. Nearly half of recent births to unmarried women are the result of planned pregnancies (Abma et al. 1997). As the link between nuptiality and childbearing continues to weaken, women may be ever more likely to plan their families outside of marriage.

This analysis considers the planned and unplanned components of nonmarital childbearing separately in order to arrive at a better understanding of the individual-level factors operating behind them. It examines how previous childbearing experience and union status affect these processes, and it attends to potential differences by race and ethnicity. Multivariate analyses of the determinants of planned and unplanned childbearing are conducted using discrete-time hazard models. Models treat births as repeated events, include never-married and formerly married women, and allow living arrangements and education to vary over time.

Section 2 briefly reviews trends in nonmarital childbearing, past findings on the determinants of nonmarital childbearing, and previous research on the planning status of nonmarital births. Section 3 describes the data and methods used in this analysis. Section 4 presents my multivariate results, and Section 5 concludes.

2. Background and Previous Research

The proportion of births to unmarried women has increased monotonically over the last several decades (Smith, Morgan, and Koropeckyj-Cox 1996). It has risen from about 1 in 4 black children and 1 in 20 white children born out of wedlock in the early 1960s to about 2 in 3 black children and 1 in 4 white children today. Smith and colleagues decompose trends in nonmarital fertility ratios since the 1960s into four components relating to the behavior of unmarried and married women. They show that increases in the proportion of women not married have accounted for much of the rise in nonmarital fertility ratios among blacks, although rising nonmarital fertility rates have also played a role since the early 1980s. For whites, decreases in marital fertility were most important to increases in nonmarital fertility ratios from 1960 to 1975. Since then, increases have been due primarily to rising nonmarital fertility rates and secondarily to increasing proportions not married. Trends in nonmarital childbearing can be viewed in the broader context of family change. Along with trends in divorce, earlier sexual onset, cohabitation, and delayed entry into marriage, they signal the “declining significance of marriage” (Bumpass 1995).

Rindfuss and Parnell (1989), using data from the June 1980 CPS, examine the varying connection between marital status and childbearing in the U.S. While they find no differences in marital fertility by race and education, they find large differences in the fertility of unmarried women by race and education. They conclude (p. 461): “It is not the meaning of *marriage* that varies across these groups but the meaning of *non-marriage*. This result implies that we need to turn the traditional method of examining fertility differences on its head: instead of studying the behavior of married women (or men), we must examine and contrast the behavior of the unmarried.” Although compelling, these findings could reflect a selection effect, i.e., marriage

might be more selective of women with low fertility among the lower status groups, resulting in the observed lack of difference among married women.

Situating childbearing with respect to transitions into and out of marriage is a vital step in understanding the evolving relationship between union status and fertility. This analysis treats marriage as a competing risk, and thereby focuses on differential fertility rates while unmarried. It does not address overall differences in nonmarital childbearing resulting from differences in marriage rates.

Demographic factors associated with nonmarital childbearing

Nonmarital childbearing differs substantially by race, education, age, and parity. It is more common among blacks and Hispanics than whites. Nonmarital births account for about 22 percent of non-Hispanic white, 70 percent of non-Hispanic black, and 41 percent of Hispanic births (Ventura et al. 1998). Nonmarital fertility is heavily concentrated among the least educated (Bumpass and Lu 1998; Bumpass and Sweet 1989; Rindfuss and Parnell 1989). In the early 1990s, nonmarital births made up over half of all births to women who had not completed high school, but only 6 percent of those to college graduates (Bumpass and Lu 1998). Largely as a consequence of delayed marriage, nonmarital childbearing is more likely among young women. About three-quarters of births to teen women are nonmarital (Ventura, Curtin, and Mathews 1998), compared to less than a quarter of births to women in their mid-20s (Bumpass and Lu 1998). Notwithstanding this fact, the majority of nonmarital births occur to women 20 and older.

Unmarried childbearing increasingly involves older mothers and higher-order births. The proportion of all nonmarital births to women over twenty increased from 50 percent in 1970 to 70 percent in 1990 (Ventura et al. 1995). The proportion of nonmarital births of second or higher-order parity increased from about 40 to 50 percent from the late 1970s to the late 1980s

(Bumpass and Raley 1995). Despite these trends, research has focused largely on first births to unmarried women. An exception is work by Rindfuss and Parnell (1989), who look at the connection between marital status and the likelihood of a birth. They find that unmarried women are more likely to bear a child at higher parities than at lower parities. They posit that, following a first nonmarital birth, women may have difficulty finding a suitable spouse and eventually decide to have another child while single. Or, since becoming a mother for the first time involves more uncertainty than does the second or third, an unmarried mother may feel more able to cope with additional births. A recent paper by Bumpass, Musick, and Wu (1999) examines the pathways women take following a first birth. They show that a mother's marital status at second birth is highly contingent on her marital status at first birth. Although interest in higher-order parity transitions has grown, our understanding of the individual-level factors associated with second and higher-order nonmarital childbearing remains limited.

Marital histories and cohabitation among unmarried mothers

The union formation patterns of women who bear children out of wedlock are changing. Data from pooled June Current Population Surveys show a dramatic decline in marriage following a nonmarital birth (Bumpass and Lu 1998). For whites, the cumulative proportion married within 5 years since birth fell from over 70 percent of women giving birth in the early 1960s to less than 40 percent of women giving birth in the late 1980s. For blacks, the cumulative proportion married dropped from over 50 percent to less than 20 percent. Cohabitation is clearly playing a role in these declines. Over half of all births to unmarried whites and Hispanics and over 20 percent of births to unmarried blacks occur within cohabiting unions (Bumpass and Lu 1998).

Studies show that the reproductive behavior of cohabiting women lies somewhere between the behavior of single and currently married women, but that the meaning of cohabitation

may vary by marital history, race, and socioeconomic status. Work by Bachrach (1987) suggests that while cohabitation is normatively childless for never-married women, formerly married cohabitators are more similar to married women in their reproductive behavior. Manning (1992) reports that cohabitation accelerates the timing of the first premarital pregnancy among blacks and whites. For whites but not blacks, pregnant cohabitators are more likely than pregnant single women to marry prior to the birth. Loomis and Landale (1994) find that the rate of childbearing within cohabitation is closest to the rate of childbearing within legal marriage among blacks and less advantaged whites. Overall, this research indicates that cohabitation most resembles marriage as a setting for childbearing among the formerly married, blacks, and whites of lower socioeconomic standing.

Formerly married women contribute substantially to nonmarital childbearing. Of all nonmarital births in 1970-84, nearly 30 percent were to previously married women (Bumpass and Sweet 1989). More recent estimates were not found in the literature.

Effects of family background on nonmarital childbearing

Low income and income instability during childhood significantly increase the risk of a premarital birth (Wu 1996). A young woman in a poor family is faced with economic uncertainty on a daily basis, which may lower her aspirations for the future and reduce her perceived returns to marriage (Hogan and Kitagawa 1985). Westoff (1988) posits that growing up in poverty leads to alienation from middle-class values and increased risk-taking behavior, resulting in high pregnancy rates among young unmarried women. Coming from a large family may affect subsequent fertility by reducing economic resources and parental interaction and supervision (Hogan and Kitagawa 1985).

Spending time in a single-parent family increases the risk of nonmarital fertility, net of socioeconomic status (McLanahan 1988; McLanahan and Bumpass 1988; Wu 1996; Wu and Martinson 1993). This increased risk might result from differences in attitudes, as growing up in a nontraditional family is associated with more permissive views toward sexual activity and childbearing outside of marriage (Axinn and Thornton 1996; Thornton and Camburn 1987). Alternatively, the effect of living with a single parent might arise not from value differences, but from the stress of family disruption and differences in parenting behaviors. Single parents exert less supervision and control in some domains than married parents (Thomson, McLanahan and Curtin 1992), and these behaviors are associated with competence, assertiveness, and social responsibility in children (Baumrind 1991).

Planning status of nonmarital births

Data from Cycle 5 of the National Survey of Family Growth (1995 NSFG) show that while unplanned pregnancies account for 21 percent of all births to married women, they represent 58 percent of births to never-married women and 40 percent of births to formerly married women (Abma et al. 1997).¹ In treating the determinants of nonmarital childbearing,

¹ Compared to previous cycles, Cycle 5 of the NSFG shows a sharp increase in the share of intended births to never-married women. With the current estimate at 42 percent (Abma et al. 1997), intendedness is up 15 points from 27 percent in 1990, 7 points from 35 percent in 1988, and 14 points from 28 percent in 1982 (Brown and Eisenberg 1995). While these figures point to an increase in planned births, tabulations from the 1988 and 1995 NSFGs, generated with Larry Bumpass, indicate potential problems in analyzing trend data from the NSFG on the planning status of births (see Table A-1). Estimates of the planning status of births in 1983-1987 to women under the age of 35 taken from the 1995 NSFG do not replicate planning status estimates for a comparable sample taken from the 1988 NSFG. Comparing the 1988 and 1995 periods using data from the 1995 NSFG, there appears to be no change in the planning status of births. However, increases in intendedness are observed from comparisons of the 1988 and 1995 NSFGs, and have been reported elsewhere (e.g., Henshaw 1998). Decay in memory of an event over time may be an explanation for this discrepancy between the surveys, but comparison of the 1982 and 1988 NSFGs do not show such a discrepancy. Estimates of planning status of births in 1977-1981 to women under 35 taken from the 1988 NSFG do replicate planning status estimates for a comparable sample taken from the 1982 NSFG. The 1995 NSFG was longer and more involved than past surveys. Differences in respondent burden and the order of survey questions may account for differences in how women reported planning status (see Schaeffer and Thomson 1992).

most analyses do not distinguish between planned and unplanned births (an exception is Bumpass and Brandon 1996). It seems reasonable to expect important differences in the individual-level determinants of planned and unplanned nonmarital childbearing. However, the implications of planning status are not entirely straightforward. While rational choice models should apply more directly to the planned component of nonmarital childbearing, abortion is a critical intermediate variable leading to differences in unmarried childbearing. If groups least likely to have a planned pregnancy are also most inclined to resolve an unplanned pregnancy by abortion, the effect of planning may be attenuated (Bumpass and Brandon 1996).

The National Survey of Families and Households (NSFH) asked all unmarried respondents under the age of 35 to indicate, on a scale from 1 to 4, how strongly they agreed or disagreed with the following statements: *“It would be all right for me to have children without being married... 1) Even if I had no plans to marry the father/mother; 2) If I had definite plans to marry the father/mother.”* These questions show little personal resistance to nonmarital childbearing and are highly predictive of subsequent behavior. Bumpass and Brandon (1996) report that the most disapproving women at the first wave of the NSFH were half as likely as the most approving women to have an unmarried birth by the second wave. I created an index of approval of nonmarital childbearing for self (with reliability of .76) by averaging responses to the two NSFH questions noted above. Over 20 percent of the sample agreed that it would be all right to have a nonmarital birth with or without plans to marry. I regressed approval on several demographic, union status, and family background variables. Results (see Table A-2) show that being black, cohabiting, having children, and spending time in a single-parent family increase the approval of nonmarital childbearing for self. Previous marital experience and education decrease the approval of nonmarital childbearing for self. The consistency of these predictors and the

determinants of actual nonmarital fertility suggests that, in addition to economic forces, strong normative forces may underlie increases in nonmarital fertility.

Bennett, Bloom, and Miller (1995, p. 60) characterize nonmarital childbearing as an unexpected event that derails existing plans. They argue that the “decision” not to marry is not a decision at all: “For most women, nonmarriage is the consequence, not cause, of their nonmarital childbearing.” In a recent replication, Lichter and Graefe (1999) confirm Bennett and colleagues’ basic findings and provide additional evidence that the occurrence of a first unmarried birth has a negative effect on subsequent marriage. This causal argument does not apply to women who are, from the start, consciously planning their families outside of marriage. Willis and Haaga (1996) portray men and women as maximizing utility subject to constraints imposed by the availability of partners. Where women’s incomes are high and marriageable men are scarce, women may choose to bear children out of wedlock.

The literature provides little guidance in understanding the intentions of unmarried women. We have little knowledge, for example, of whether repeat unmarried births are an intentional continuation of childbearing in the absence of marriage. Likewise, we know little about whether births to cohabiting women are an intentional initiation of childbearing in anticipation of marriage. Further, we have little data on how past planned and unplanned childbearing affects subsequent fertility behavior outside of marriage. These issues are clearly relevant to how we think about childbearing, marriage, and cohabitation.

3. Data and Methods

Discrete-time hazard model

This study uses discrete-time hazard models (Allison 1984; Guo 1993) to examine the determinants of planned and unplanned childbearing to unmarried women in the early 1990s. Three outcomes – not having a birth, having an unplanned birth, and having a planned birth – are analyzed using multinomial logistic regression. The unit of analysis is person-months exposed to the risk of a nonmarital birth. To avoid confounding the causal ordering of time-varying variables, the event is marked by the date of conception leading to a birth rather than the date of birth. Exposure to risk begins five years and nine months prior to the date of interview, or at age 15 for the youngest respondents. The period of analysis is restricted to a five-year window prior to interview to avoid age truncation.² Right censoring occurs nine months prior to the date of interview, at age 39 for the oldest respondents, and at marriage. Respondents censored at the time of marriage re-enter the risk set in the case of divorce or separation.³ Unmarried women with fertile conceptions over the interval are censored during pregnancy and re-enter the risk set after birth, i.e., births are treated as repeated events. Because this is an analysis of nonmarital births, I drop all births conceived out of marriage and born within marriage.

Births are modeled as a function of a woman's demographic characteristics, union status, and family background. Education, previous marital status, and cohabitation are treated as time-varying covariates. In addition, time-varying year and age dummies are included in the model to

² This analysis is restricted to women ages 15-39. Over the five-year period analyzed, only 9 births occurred to women under age 15. Since the NSFG does not interview women ages 45-49, estimates of births for women 40-44 at outcome would be based on a partial sample only. Thus the analysis is restricted to women 39 and younger.

³ The Vital Statistics treat births to separated women as marital births (Ventura 1995). Here, separated women are included with the unmarried. Data from the NSFG on births within five years of interview show that 1 percent of all births and 4 percent of unmarried births are to separated women.

account for period and age effects, and time-varying dummies for parity and duration since last birth account for the dependence of multiple intervals for each respondent. The full model includes controls for region and metropolitan residence:

$$\log(\pi_{ij}/\pi_{ij}) = \beta_{1j} + \beta_{2j} \text{ year}_{it} + \beta_{3j} \text{ age}_{it} + \beta_{4j} \text{ parity}_{it} + \beta_{5j} \text{ duration}_{it} + \beta_{6j} \text{ education}_{it} + \beta_{7j} \text{ race/ethnicity}_i + \beta_{8j} \text{ union status}_{it} + \beta_{9j} \text{ family background}_i + \beta_{10j} \text{ place of residence controls}_i + \varepsilon_{it}$$

where j indexes the outcome, i indexes the individual, and t indexes time.

Models are run for all unmarried women and separately by parity and race. Because women with one or more children have experience coping with motherhood and negotiating partnerships, I expect the factors affecting first and higher-order births to be quite different. To investigate these potentially distinct processes, I run models separately for women with and without prior births. And because the nonmarital fertility patterns of white, black, and Hispanic women differ considerably with respect to incidence and timing (Ventura et al. 1995), I run models separately for these three groups.

National Survey of Family Growth

This analysis relies on data from the 1995 NSFG. The NSFG is a periodic fertility survey conducted by the National Center for Health Statistics (NCHS) (Potter et al. 1998; Kelly et al. 1997; Abma et al. 1997). Data are based on a national probability sample of 14,000 women ages 15-44 drawn from among households participating in the 1993 National Health Interview Survey (NHIS). Of those eligible for the NSFG, 10,847 (79 percent) gave complete interviews. Hispanic and black women were over-sampled, making it possible to obtain reliable estimates of childbearing determinants for these groups. Interviews were conducted between January and October using computer-assisted personal interviewing (CAPI) procedures. Respondents were

offered an incentive of twenty dollars to complete the interview, which lasted about 100 minutes on average.

Several features of the 1995 NSFG make it appropriate for this analysis. Although complete childbearing and marriage histories have long been a part of the NSFG, the 1995 NSFG is the first to record detailed cohabitation histories. Rich life history data make it possible to map transitions into and out of unions and transitions from one level of schooling to another. Reports are available on the planning status of births, so that the planned and unplanned components of nonmarital fertility can be analyzed separately.

The sample is restricted to non-Hispanic white, non-Hispanic black, and Hispanic women ages 15-39 with responses to the planning status question and complete, consistent data on the timing of marriage, cohabitation, and educational transitions.⁴ As previously noted, all person-months outside the 15 to 39-year age range, all pregnant months, all premarital conceptions followed by a marital birth, and all person-months in the married state are excluded. The final sample consists of 276,429 person-months. Over the five-year window of observation, 6646 women contribute at least one month of unmarried experience, with an average exposure time of 42 months (three and a half years). Sample members have 683 unplanned and 555 planned nonmarital births during this period. Sixty-five percent of these births are the sole births to occur in the interval, and 35 percent are to women who have two or more births over the interval.

⁴ The following are dropped from the full NSFG sample of 10,847 women: 365 cases coded “other” for race and Hispanic origin; 89 cases with incomplete or inconsistent data on the timing of marriage, cohabitation, and educational transitions.

Dependent variable: planned and unplanned births

Pregnancies ending in live birth are classified as planned or unplanned. Planning status (or intendedness) is based on responses to questions about contraceptive use prior to pregnancy and feelings at the time of pregnancy. If contraception had been discontinued prior to pregnancy, respondents were asked, “*Was the reason you (had stopped/were not using) any methods because you yourself wanted to become pregnant?*” Except for those who had discontinued contraception in order to become pregnant, women were asked, “*At the time you became pregnant (this time with your nth pregnancy), did you yourself actually want to have a(nother) baby at some time?*” Women who wanted another baby and women who had discontinued contraceptive use because they wanted to become pregnant were then asked, “*So would you say you became pregnant too soon, at about the right time, or later than you wanted?*”

Births are “planned” if a woman discontinued contraceptive use because she wanted to become pregnant and the pregnancy came too late or on time, or if she reported wanting to have a(nother) baby at some time and the pregnancy came too late or on time. Births are “unplanned” if a woman reported not wanting a(nother baby) or if she felt the pregnancy came too soon. Unplanned births thus include number and timing failures.⁵

Planning status is determined retrospectively on the basis of questions about feelings at the time of pregnancy. Misreporting may arise from a misunderstanding of the question or from a retrospective assessment of the prospective attitude actually sought (Ryder and Westoff 1972).

⁵ In the sample used for this analysis, 45 percent of nonmarital births are the result of intended pregnancies, 37 percent are the result of mistimed pregnancies, and 18 percent are the result of unwanted pregnancies. Less than 4 percent of nonmarital births in the sample were missing data on intendedness, due to errors in the NSFG CAPI program, nonresponse, and inconsistencies in dates of first sex, conception, and pregnancy. This analysis uses imputed values for missing data on intendedness generated by the National Center for Health Statistics. In all, seven cases are dropped from the analysis as a consequence of the intendedness series: two cases who never had voluntary intercourse and five cases who reported uncertainty about birth intendedness.

The tendency in retrospective assessments is probably to overreport intendedness, due to feelings about the child, improvements surrounding the conditions of the birth, or a reluctance to admit failing to manage such an important occurrence. This bias may be reduced by limiting the analysis to the five years prior to the date of interview.

Independent variables: demographic characteristics, union status, and family background

Table 1 shows the distribution and coding of independent variables for the analysis of planned and unplanned nonmarital childbearing. Sample characteristics are given for all women and separately for women without children, women with children, whites, blacks, and Hispanics. These descriptive statistics represent a snapshot of women's experiences in the early 1990s, as opposed to their cumulative experiences over time. They are based on weighted data from the last month in which the sample is observed (i.e., nine months prior to interview).

Variables include age, parity, duration since last birth, education, and union status. In addition, for women with a first birth, a variable is included for whether her last birth was intended. This is another dimension of a woman's fertility history that should bear on her subsequent birth intentions and efforts to avoid pregnancy. All of these variables are time-varying. Also included are indicators of race and ethnicity and family background measures of parental education, family size, and childhood family structure. These variables do not change over the period of analysis.

I experiment with two measures of family structure. The first indicates whether the respondent lived in a single-parent family at any time between birth and moving away from home. It is based on the following NSFG question: "*First I would like you to start at the very beginning of your life and tell me who you were living with right after you were born.*" If the respondent lived in any family type other than with both biological parents, her family type is coded single-

parent. I also created a variable for whether the respondent experienced multiple family types while growing up. While research by Wu and colleagues (Wu 1996; Wu and Martinson 1993) shows that multiple transitions are associated with higher rates of premarital childbearing, this variable had no significant effect in the models examined here and is thus excluded from the final specifications. Elsewhere, too, simple measures representing any experience in a single-parent family have been found to adequately capture the effects of family structure on children's life chances (McLanahan and Sandefur 1994; Wojtkiewicz 1993).

Characteristics of births by mother's union status

Before examining the determinants of nonmarital childbearing, it is instructive to look at the characteristics of births. Tables 2a and 2b show the characteristics of births within five years of interview to women ages 15 to 39 by mother's union status at birth. Table 2a gives the percentage distribution of births, and Table 2b gives the percentage of births resulting from unplanned pregnancies. Marital births are included in these tables to provide a point of reference.

As seen in Table 2a, data from the NSFG indicate that 29 percent of births within five years of interview were to unmarried mothers. This compares to 30 percent in the Vital Statistics from 1992 (Ventura 1995), about the average year of birth observed in the NSFG. Of all unmarried births, NSFG data show that 50 percent are to noncohabiting, never-married women; 11 percent are to noncohabiting, previously married women; 32 percent are to cohabiting, never-married women; and 7 percent are to cohabiting, previously married women. Bumpass and Sweet (1989) report that, between 1970 and 1984, 28 percent of nonmarital births were to previously married women and 27 percent were to cohabiting women. By the early 1990s, the share of nonmarital births to previously married women had dropped to 18 percent and the share to cohabiting women had increased to 39 percent.

It is clear from Table 2a that, contrary to popular notions, most nonmarital births are not first births to teen mothers. It is also clear that, compared to marital births, nonmarital births are more often first births to teen mothers. Whereas only 5 percent of marital births are to teen women, 29 percent of nonmarital births are to teens; and while 38 percent of marital births are first births, 48 percent of nonmarital births are first births. Differences by education are substantial: 13 percent of marital births and 43 percent of nonmarital births are to women without a high school degree. Differences by race and Hispanic origin are also large: marital births are 79 percent white, 6 percent black, and 15 percent Hispanic; nonmarital births are 45 percent white, 37 percent black, and 19 percent Hispanic.

Table 2b shows characteristics of births resulting from unplanned pregnancies by mother's union status at birth. Again, there are two ways to look at these data. While a substantial proportion of nonmarital births are planned, the majority are unplanned. The level of unplanned childbearing is much higher among the unmarried than the married: 21 percent of marital births and 55 percent of nonmarital births are unplanned. Planning status varies by race and ethnicity, mother's age at birth, mother's education, and parity. Although levels of intentionality are quite different for marital and nonmarital births, patterns with respect to these characteristics are similar. Higher proportions of marital and nonmarital births are unplanned among blacks versus whites and Hispanics, among young women versus older women, and among less-educated women versus women with a college degree. Patterns with respect to parity differ for marital and nonmarital births. Among married births, intentionality is highest for first births; among unmarried births, intentionality is highest for second births. Over half of all nonmarital second births are planned. Looking at unmarried women by prior marital status and cohabitation, it is clear that unmarried women are not a homogeneous group: 64 percent of births to never-married

singles are unplanned; less than half of all births to previously married women and cohabitators are unplanned. This provides some indication that the meaning of these statuses differ in terms of their suitability for childbearing.

4. Multivariate Results

Table 3 shows results of the discrete-time multinomial logistic regression model of planned and unplanned childbearing among unmarried women ages 15-39. Coefficients, standard errors, and relative risks are given for three outcomes: 1) having an unplanned birth versus no birth; 2) having a planned birth versus no birth; 3) having an unplanned birth versus a planned birth. When there are significant differences in the determinants of planned and unplanned childbearing, these categories are explicitly compared. Other than these explicit comparisons, the likelihood of a planned birth and the risk of an unplanned birth are discussed below with reference to having no birth. I start by reviewing the pooled model shown in Table 3, and then examine differences separately by parity and race/ethnicity.

Women of all ages are at a lower risk of having an unplanned nonmarital birth than women in their late teens (ages 17-19). Women in their young teens (ages 15-16) and thirties are also less likely to have a planned nonmarital birth, while differences between older teens and women in their twenties are not significant. On the one hand, many of the youngest women are not yet sexually active, and on the other, many of the older women are contraceptively sterile. There are significant differences between unplanned and planned childbearing by age. Women in their early teens are at over 2 times the risk of having an unplanned versus planned birth relative to women in their late teens. Women in their 20s and 30s are at half or less the risk of having an unplanned versus planned birth relative to older teens.

Compared to women with no children, women at all higher parities are at a greater risk of having an unplanned birth. The effects of parity are substantial: the relative risk of an unplanned birth is 1.64 at parity one, 1.40 at parity two, and 1.75 at parities three and higher. The likelihood of a planned birth is also higher for women at parities one and two, by 2.25 times for women with one child and 1.39 times for women with two children. However, the likelihood of a planned birth is no greater for women at parities three and higher. This means that compared to women with no children, women with three or more children are at nearly twice the risk of having an unplanned versus planned birth.

For women with at least one child, the planning status of the last birth has significant effects – and different effects – on planned and unplanned nonmarital childbearing. If the last birth was unplanned, the risk of another unplanned birth increases by 48 percent and the likelihood of a subsequent planned birth decreases by 39 percent. This translates into a 145 percent greater risk of an unplanned versus planned birth for women whose last birth was unplanned. These results suggest that an unplanned birth proxies, at least to some extent, poor contraceptive efficacy. Rather than motivating women to take extra precautions to avoid another unplanned pregnancy, past planning failures predict subsequent planning failures. Likelihood to resolve unplanned pregnancies by abortion may also factor into these results, i.e., women with more than one planning failure may be least likely to resolve an unplanned pregnancy through abortion.

For women with children, duration since last birth has significant effects on planned and unplanned childbearing. With one exception, the risk of childbearing is greatest within 18 months to 5 years of the last birth. The risk of having an unplanned birth, however, is highest at a duration of less than 18 months. At this duration, the risk of an unplanned versus planned birth is

nearly two times higher than at 18 months to 5 years. This result is probably a product of reverse causation, since an unplanned birth is likely to shorten the interval since last birth.

Blacks and Hispanics have higher rates of planned and unplanned nonmarital childbearing than whites. For blacks, the risk of an unplanned birth is 2.38 times higher than for whites, and the likelihood of a planned birth is 2.11 times higher. For Hispanics, the relative risks are somewhat smaller: 1.46 for an unplanned birth and 1.85 for a planned birth. Compared to whites, blacks have a higher risk of unplanned versus planned childbearing and Hispanics have a lower risk. These differences, however, are not statistically significant.

Cohabitation significantly increases the rate of planned and unplanned nonmarital childbearing, while marital history seems to have little effect. There is no significant difference in the childbearing behavior of never-married and previously married women who are not cohabiting (i.e., singles). Both never-married and previously married cohabitators have an elevated risk of nonmarital childbearing, and these risks are similar for the two groups. The risk of an unplanned birth is about 60 percent higher for cohabitators relative to never-married singles, and the likelihood of a planned birth is about 150 percent higher. The risk of an unplanned versus planned birth is over 30 percent lower for cohabitators than never-married singles (although this difference just misses statistical significance for the previously married cohabitators). This suggests that more than exposure to sexual intercourse is playing a role in the higher nonmarital fertility of cohabitators versus singles. Not only are cohabitators having more children out of wedlock, but they are planning more children out of wedlock.

Education reduces the rates of planned and unplanned nonmarital childbearing and exerts similar effects on both components of nonmarital childbearing. Compared to having no high school degree, a high school degree reduces the risk of an unplanned birth by 29 percent and a

planned birth by 31 percent. A college degree reduces these risks by 68 percent and 60 percent, respectively. The opportunity costs of nonmarital fertility are likely higher for women with high school and college degrees. Moreover, as seen in the NSFH (refer to Table A-2), education lowers the approval of nonmarital childbearing for self.

Family background also exerts effects on nonmarital childbearing. Spending time in a single-parent family increases the risk of having an unplanned birth by 46 percent, but does not appear to affect the likelihood of having a planned birth. Women who spend time in a single-parent family are at a 30 percent greater risk of having an unplanned versus planned birth out of wedlock. This finding lends some credence to the notion that the single-parent effect works through stress and instability rather than through differences in values and motivations.

Father's education does not significantly affect the risk of an unplanned birth, but father's high school education reduces the risk of having a planned birth by a third relative to no high school degree. Mother's education reduces the risk of planned and unplanned nonmarital childbearing. Compared to having a mother with no high school degree, having a mother with a high school degree reduces the risk of nonmarital childbearing by about 15 percent (although this effect is not significant for planned births), and having a mother with more than a high school degree reduces the risk by about 30 percent. Differences in the effects of parental education on the planned and unplanned components of nonmarital childbearing are not statistically significant. Coming from a large family has no effect on having an unplanned birth, but it increases the risk of having a planned birth by about a third. Women from large families are 20 percent less likely to have an unplanned versus planned birth. This suggests that the large family of origin effect works less through the availability of socioeconomic resources during childhood than through preferences

developed over the life course (Axinn, Clarkberg, and Thornton 1994). Living in a central city increases the risk of nonmarital childbearing, somewhat more for unplanned than planned births.

Differences by parity

We have seen that past fertility behavior affects nonmarital childbearing, and it differentially affects the planned and unplanned components of nonmarital childbearing. In a model pooled over all births, I tested interactions between parity and other respondent characteristics: race and ethnicity, union status, education, and childhood family structure. Many of these interactions were statistically significant, suggesting important differences by parity in the determinants of planned and unplanned nonmarital childbearing. To examine these differences, I run models separately for women with no prior births and women with at least one child.

There were 527 first births and 711 second and higher-order births over the five-year period of observation. Table 4 shows results of the discrete-time multinomial logistic regression model for first births, and Table 5 shows results for second and higher-order births. The specification of variables differs somewhat between the pooled model shown in Table 3 and the models shown in Tables 4 and 5. For the analysis of first births, no controls are needed for parity or duration since last birth. In this sample, there are relatively few women over age 30 or previously married women with no children. For the analysis of second and higher-order births, there are few young teens. Thus, for these analyses, age groups 15-16 and 17-19 are combined, age groups 30-34 and 35-39 are combined, and distinctions between the never-married and previously married are dropped so that union status contrasts only cohabitators and singles. As in the previous section, unless otherwise noted results are reported with reference to the category “no birth.”

These models highlight differences in the determinants of planned and unplanned nonmarital childbearing among women with and without prior births. Black women, compared to white women, are at about 3 times the risk of having a nonmarital first birth, planned or unplanned. Blacks remain at a higher risk than whites of having a second or higher-order birth, but the magnitude of risk is not as great: the relative risk of an unplanned birth is 1.83 and the relative risk of a planned birth is 1.40. Compared to white women, Hispanic women are at no greater risk of having an unplanned first birth, they are 3 times as likely to have a planned first birth, and they are at 35 percent the risk of having an unplanned versus planned first birth. The picture for women with prior births is quite different. At second and higher-order parities, Hispanics are 1.58 times more likely than whites to have an unplanned birth and no more likely to have a planned birth. Hispanic women are much more likely to plan their first nonmarital birth than whites, but no more likely to plan their second. This may reflect differences in the extent and meaning of cohabitation across groups. Manning (1999) finds that cohabitation is a more acceptable setting for childbearing among Hispanic women than African American or white women, and we see below that cohabitation differentially affects first and higher-order births.

Cohabiting has stronger effects on first births than second and higher-order births, and cohabitators are more likely to plan their first birth than second and higher-order births. Cohabitation increases the risk of an unplanned first birth by 2.31 times, and it increases the likelihood of a planned first birth by 4.81 times. Compared to singles, cohabitators are at half the risk of having an unplanned versus planned first birth. Among women with children, cohabitation increases the risk of an unplanned birth by 1.40 times and the likelihood of a planned birth by 1.75 times. In contrast to cohabitators without children, cohabitators with children are no more likely to have a planned versus unplanned birth.

Education reduces the risk of planned and unplanned nonmarital childbearing among women with and without prior births. Having a college degree, compared to no high school degree, has a greater inhibiting effect on first births than on second and higher-order births. A college degree reduces the risk of having an unplanned first birth by 76 percent and a planned first birth by 57 percent; the respective figures for second and higher-order births are 40 and 51 percent. In the pooled model, the parity-college degree interaction effect on unplanned births is significant.

Family background effects are stronger on first births than second and higher-order births. In fact, none of the family background variables is statistically significant in predicting second and higher-order nonmarital childbearing. Parental education reduces the risk of a first nonmarital birth. Spending time in a single-parent family and coming from a large family increase the risk of a first nonmarital birth. Family background variables do not have significantly different effects on planned and unplanned first births.

Differences by race and Hispanic origin

I also ran a pooled model with interactions between race and ethnicity and other respondent characteristics: parity, union status, education, and childhood family structure. Like the parity interactions, many of these race and ethnicity interactions were significant. To examine differences by race and Hispanic origin, I run three separate models and show results in Table 6 for whites, Table 7 for blacks, and Table 8 for Hispanics. There were 352 births to white women, 649 births to black women, and 237 births to Hispanic women over the five-year period of observation. The following discussion emphasizes differences in the effects of parity and union status by race and Hispanic origin.

As suggested by models run separately for women with and without children, there are important differences by race and Hispanic origin in the effects of parity on the planned and unplanned components of nonmarital fertility. Models run separately by race and ethnicity help to clarify the nature of these differences. Compared to white women without children, white women with children are at a greater risk of having another birth, planned or unplanned. This pattern holds for blacks, as well, but not Hispanics. Hispanic women with children, compared to those without, are at a greater risk of having another unplanned birth, but not another planned birth. White and black women are more likely to plan their second birth than their first. White women with one child are at one-third the risk of having an unplanned versus planned birth relative to those with no children, and black women with one child are at about 60 percent the risk. Hispanic women, by contrast, are more likely to plan their first birth than second and higher-order births. Hispanic women with children are at more than 5 times the risk of having an unplanned versus planned birth relative to women with no children. At higher parities, Hispanic women are at a much greater risk than whites or blacks of having a subsequent unplanned versus planned birth.

There are also variations in the effects of union status on the planned and unplanned components of nonmarital fertility by race and ethnicity. There are no statistically significant differences between never-married and previously married singles among whites, blacks, or Hispanics. Cohabitation increases the rate of nonmarital fertility for all groups, and the effects associated with cohabiting while never-married and previously married are similar. Among whites, never-married cohabitators are more than twice as likely to have an unplanned or planned nonmarital birth, relative to never-married singles. Among blacks, never-married cohabitators are at 1.29 times the risk of having an unplanned birth relative to never-married singles, and they are about twice as likely to have a planned birth. Among Hispanics, never-married cohabitators are at

no higher risk of having an unplanned birth relative to never-married singles, and they are nearly five times as likely to have a planned birth. Among blacks and Hispanics, but not whites, never-married cohabitators are at a significantly lower risk of having an unplanned versus planned birth. This result is especially strong among Hispanics: relative to never-married singles, both never-married and previously married cohabitators are at less than one-quarter the risk of having an unplanned versus planned nonmarital birth. Consistent with the literature, these findings suggest that cohabitation more closely approximates a setting for childbearing among blacks and Hispanics than among whites.

Education seems to have a more inhibiting effect on white nonmarital fertility than on black or Hispanic nonmarital fertility. Spending time in a single-parent family also has stronger effects on whites than blacks or Hispanics. While spending time in a single-parent family has no statistically significant effect on nonmarital fertility among blacks or Hispanics, among whites it doubles the risk of an unplanned birth and increases the likelihood of a planned birth by 50 percent.

5. Summary and Conclusions

This analysis has explored the determinants of planned and unplanned nonmarital childbearing among U.S. women in the early 1990s. It demonstrates important differences in nonmarital childbearing by planning status, parity, and race. It shows consistency in who expresses approval of nonmarital childbearing for self and who has a child out of wedlock. Results suggest that norms are an important force behind increasing nonmarital fertility. As has been the case with cohabitation (Bumpass, Sweet, and Cherlin 1991), the process of normative change is most rapid among the least educated. Being black, cohabiting, having children, and spending time in a single-parent family increase both the approval of nonmarital childbearing for

self and actual nonmarital childbearing, while education decreases both approval and nonmarital fertility.

Results of the pooled model show that women with children are at a higher risk of planned and unplanned nonmarital childbearing than women without children. A last unplanned birth increases the risk of another unplanned birth and decreases the likelihood of a subsequent planned birth, implying that planning failures may proxy poor contraceptive efficacy. Cohabitation increases the rate of nonmarital childbearing, and has a greater effect on planned than unplanned births. Contrary to earlier work suggesting variation in the meaning of cohabitation by marital history (Bachrach 1987), results reported here show little difference in the fertility behavior of never-married and previously married women. Spending time in a single-parent family increases the risk of having an unplanned birth, but not a planned birth. This finding points to stress and instability, as opposed to value transmission, as key mechanisms through which single-parent families affect children's subsequent fertility behavior. Parental education reduces the risk of nonmarital childbearing, whether planned or unplanned, and coming from a large family increases the likelihood of having a planned birth, but not an unplanned birth.

Results differ significantly by parity and race. Estimating models separately for women with and without children indicates that, compared to white women, black women are more likely to have both first and subsequent births, planned or unplanned. Hispanic women are more likely than white women to have a planned first birth, but at higher parities Hispanics are at a greater risk of having an unplanned birth. Cohabitation has stronger effects on first births than higher-order births, and cohabitators are more likely to plan their first birth than subsequent births. Having a college degree and family background also exert stronger effects on first births than higher-order births. The attenuation of cohabitation, education, and family background effects at higher

parities imply that these variables lose salience after the first birth, or perhaps exits from the unmarried pool into marriage leave a group of women less sensitive to their effects.

Models run separately by race and Hispanic origin show important differences by parity, union status, and background. While white and black women are less likely to plan their first birth than subsequent births, Hispanic women are more likely to plan their first birth than subsequent births. Cohabitation increases the rate of nonmarital fertility among all groups. However, among blacks and especially Hispanics, cohabitators are more likely to plan their births than singles. Consistent with previous literature (Loomis and Landale 1994; Manning 1999; Manning 1992), these results suggest that cohabitation functions more as a setting for childbearing among blacks and Hispanics than whites. College has a stronger fertility-inhibiting effect on unmarried whites than blacks or Hispanics, and spending time in a single-parent family increases the rate of nonmarital childbearing among whites, but has no significant effect among blacks or Hispanics. This latter finding supports work by McLanahan and Sandefur (1994), showing that the effects of spending time in a single-parent family on high school graduation and teen childbearing are stronger among whites than blacks or Hispanics. As noted by the authors, this may be due to the higher incidence of single motherhood, and perhaps better institutionalization of single-parent families, among blacks and Hispanics.

Prior childbearing increases the risk of subsequent nonmarital childbearing. This result lends itself to at least two plausible interpretations. The first, as articulated by Bennett and colleagues (1995), is that having a child out of wedlock derails women's existing plans by lowering marriage prospects. According to this view, women want to marry but are made less "marriageable" by the birth of their first child, and so eventually go on to complete their families out of wedlock. A second interpretation, closer to articulations by Willis and Haaga (1996), is

that women assess the options available to them, do not expect to marry, and from the start plan their families outside of marriage. Data show that white and black women are less likely to plan their first than subsequent nonmarital births, suggesting that a first unintended birth might change their expectations about marriage and their perceptions of the acceptability of continuing their childbearing outside of marriage. Hispanic women, by contrast, are more likely to plan their first than subsequent nonmarital births. Perhaps this should be understood in light of the particularly strong effect of cohabitation among Hispanics, hinting at a greater acceptability of starting a family within this context.

Cohabitation increases the rate of nonmarital childbearing, more for planned than unplanned births. This implies that, at least for blacks and Hispanics, living together increases fertility not merely through exposure to the risk of pregnancy, but also through the desire to have children. Cohabitation increases childbearing relative to being single for women with and without children, but has a greater effect on the first birth. For cohabiting women without children, having a first birth may represent the initiation of childbearing in anticipation of marriage. These may be women in the most committed partnerships, where childbearing may be perceived as most acceptable. Moreover, cohabiting women with prior births are not necessarily living with the father of their children, which may inhibit new family formation.

Movement into and out of the unmarried population has important implications for how these models are interpreted. For example, a higher proportion of women cohabiting at first birth than single at first birth go on to have their second birth within marriage (Bumpass et al. 1999). The most committed couples may marry subsequent to having their first child, leaving the pool of unmarried women and attenuating the effect of cohabitation on subsequent childbearing. Exits into marriage may also attenuate the effects of education and family background on higher-order

births. This analysis focuses on differential rates of fertility among the unmarried without directly addressing who enters and leaves the risk set. Further efforts should be made to put these two pieces together.

References

- Abma, J. C., Chandra, A., Mosher, W. D., Peterson, L. S., & Piccinino, L. J. (1997). *Fertility, Family Planning, and Women's Health: New Data from the 1995 National Survey of Family Growth*. Vital and Health Statistics, Series 23, No. 19. Hyattsville, MD: National Center for Health Statistics.
- Allison, P. D. (1984). *Event History Analysis: Regression for Longitudinal Event Data*. Newbury Park, CA: Sage Publications.
- Axinn, W. G., & Thornton, A. (1996). "The Influence of Parents' Marital Dissolutions on Children's Attitudes Toward Family Formation." *Demography*, 33(1), February, 66-81.
- Axinn, W. G., Clarkberg, M. E., & Thornton, A. (1994). "Family Influences on Family Size Preferences." *Demography*, 31(1), February, 65-79.
- Bachrach, C. A. (1987). "Cohabitation and Reproductive Behavior in the U.S." *Demography*, 24(4), November, 623-637.
- Baumrind, D. (1991). "Effective Parenting During the Early Adolescent Transition." In *Family Transitions*, ed. P. A. Cowan, & M. Hetherington. Hillsdale, NJ: Lawrence Erlbaum Associates. pp. 111-163.
- Bennett, N. G., Bloom, D. E., & Miller, C. K. (1995). "The Influence of Nonmarital Childbearing on the Formation of First Marriages." *Demography*, 32(1), February, 47-62.
- Brown, S. S., & Eisenberg, L. (1995). *The Best Intentions: Unintended Pregnancy and the Well-Being of Children and Families*. Washington, DC: National Academy Press.
- Bumpass, L. L. (1995). *The Declining Significance of Marriage: Changing Family Life in the United States*. NSFH Working Paper No. 66. Madison, WI: Center for Demography and Ecology, University of Wisconsin-Madison.
- Bumpass, L. L., & Brandon, P. (1996). "The Prediction of Unmarried Childbearing: Evidence from NSFH2 on Family Values and Social Policy." University of Wisconsin-Madison, 22 July.
- Bumpass, L. L., & Lu, H.-H. (1998). "Trends in Cohabitation and Implications for Children's Family Contexts." Annual Meeting of the Population Association of America. Chicago, IL, 2-4 April.
- Bumpass, L. L., & Raley, R. K. (1995). "Redefining Single-Parent Families: Cohabitation and Changing Family Realities." *Demography*, 32(1), February, 97-109.
- Bumpass, L. L., & Sweet, J. A. (1989). "Children's Experience in Single-Parent Families: Implications of Cohabitation and Marital Transitions." *Family Planning Perspectives*, 21(6), November/December, 256-260.
- Bumpass, L. L., Sweet, J. A., & Cherlin, A. (1991). "The Role of Cohabitation in Declining Rates of Marriage." *Journal of Marriage and the Family*, 53(4), November, 913-927.
- Bumpass, L. L., Musick, K., & Wu, L. (1999). "Trajectories of Nonmarital Childbearing." Annual Meeting of the Population Association of America. New York, NY, 25-27 March.
- Guo, G. (1993). "Event History Analysis for Left-Truncated Data." *Sociological Methodology*, 23, 217-243.
- Henshaw, S. K. (1998). "Unintended Pregnancy in the United States." *Family Planning Perspectives*, 30(1), January/February, 24-29 & 46.

- Hogan, D. P., & Kitagawa, E. M. (1985). "The Impact of Social Status, Family Structure, and Neighborhood on the Fertility of Black Adolescents." *American Journal of Sociology*, 90(4), 825-855.
- Kelly, J. E., Mosher, W. D., Duffer, A. P., & Kinsey, S. H. (1997). *Plan and Operation of the 1995 National Survey of Family Growth*. Vital and Health Statistics, Series 1, No. 36. Hyattsville, MD: National Center for Health Statistics.
- Lichter, D. T., & Graefe, D. R. (1999). "Finding a Mate? The Post-Birth Marital and Cohabitation Histories of Unwed Mothers." Conference on Nonmarital Childbearing. Institute for Research on Poverty, University of Wisconsin-Madison, Madison, WI, 29-30 April.
- Loomis, L. S., & Landale, N. S. (1994). "Nonmarital Cohabitation and Childbearing Among Black and White Women." *Journal of Marriage and the Family*, 56 (November), 949-962.
- Manning, W. (1992). *The Linkage between Premarital Fertility and Cohabitation in the U.S.* NSFH Working Paper No. 52. Madison, WI: Center for Demography and Ecology, University of Wisconsin-Madison.
- (1999). "Childbearing in Cohabiting Unions: Racial and Ethnic Differences." Annual Meeting of the Population Association of America. New York, NY, 25-27 March.
- McLanahan, S. S. (1988). "Family Structure and Dependency: Early Transitions to Female Household Headship." *Demography*, 25(1), February, 1-16.
- McLanahan, S. S., & Bumpass, L. (1988). "Intergenerational Consequences of Family Disruption." *American Journal of Sociology*, 94(1), 130-152.
- McLanahan, S. S., & Sandefur, G. D. (1994). *Growing up with a Single Parent*. Cambridge, MA: Harvard University Press.
- Potter, F. J., Iannacchione, V. G., Mosher, W. D., Mason, R. E., & Kavee, J. D. (1998). *Sample Design, Sampling Weights, Imputation, and Variance Estimation in the 1995 National Survey of Family Growth*. Vital and Health Statistics, Series 2, No. 124. Hyattsville, MD: National Center for Health Statistics.
- Rindfuss, R., R., & Parnell, A. M. (1989). "The Varying Connection Between Marital Status and Childbearing in the United States." *Population and Development Review*, 15(3), September, 447-470.
- Ryder, N. B., & Westoff, C. F. (1972). "Wanted and Unwanted Fertility in the United States: 1965 and 1970." In *The Contraceptive Revolution*. Princeton, NJ: Princeton University Press. pp. 249-276.
- Schaeffer, N. C., & Thomson, E. (1992). "The Discovery of Grounded Uncertainty: Developing Standardized Questions About Strength of Fertility Motivation." *Sociological Methodology*, 22, 37-82.
- Smith, H. L., Morgan, S. P., & Koropecj-Cox, T. (1996). "A Decomposition of Trends in the Nonmarital Fertility Ratios of Blacks and Whites in the United States, 1960-1992." *Demography*, 33(2), May, 141-151.
- Thomson, E., McLanahan, S. S., & Curtin, R. B. (1992). "Family Structure, Gender, and Parental Socialization." *Journal of Marriage and the Family*, 54 (May), 368-378.
- Thornton, A., & Camburn, D. (1987). "The Influence of the Family on Premarital Sexual Attitudes and Behavior." *Demography*, 24(3), August, 323-340.

- Ventura, S. J. (1995). *Births to Unmarried Mothers: United States, 1980-92*. Vital and Health Statistics 21(53). Hyattsville, MD: National Center for Health Statistics.
- Ventura, S. J., Bachrach, C. A., Hill, L., Kaye, K., Holcomb, P., & Koff, E. (1995). *The Demography of Out-of-Wedlock Childbearing*. Report to Congress on Out-of-Wedlock Childbearing. DHHS Pub. No. (PHS) 95-1257. Hyattsville, MD: U.S. Department of Health and Human Services.
- Ventura, S. J., Curtin, S. C., & Mathews, T. J. (1998). *Teenage Births in the United States: National and State Trends, 1990-1996*. National Vital Statistics System. Hyattsville, MD: National Center for Health Statistics.
- Ventura, S. J., Martin, J. A., Curtin, S. C., & Mathews, T. J. (1998). *Report of Final Natality Statistics, 1996*. Monthly Vital Statistics Report, Vol. 46, No. 11, Supp. Hyattsville, MD: National Center for Health Statistics.
- Westoff, C. F. (1988). "Unintended Pregnancy in America and Abroad." *Family Planning Perspectives*, 20(6), November/December, 254-261.
- Willis, R. J., & Haaga, J. G. (1996). "Economic Approaches to Understanding Nonmarital Fertility." In *Fertility in the United States: New Patterns, New Theories*, ed. J. B. Casterline, R. D. Lee, & K. A. Foote. New York: The Population Council. pp. 67-86.
- Wojtkiewicz, R. A. (1993). "Simplicity and Complexity in the Effects of Parental Structure on High School Graduation." *Demography*, 30(4), November, 701-717.
- Wu, L. L. (1996). "Effects of Family Instability, Income, and Income Instability on the Risk of a Premarital Birth." *American Sociological Review*, 61 (June), 386-406.
- Wu, L. L., & Martinson, B. C. (1993). "Family Structure and the Risk of a Premarital Birth." *American Sociological Review*, 58 (April), 210-232.

Table 1. Distribution of Independent Variables Nine Months Prior to Interview, Unmarried Women Ages 15-39, 1995 NSFG

Independent Variables	All	Parity 0	Parity 1+	Whites	Blacks	Hispanics
Age						
15-16	0.13	0.19	0.01	0.14	0.12	0.15
17-19	0.19	0.25	0.06	0.20	0.14	0.18
20-24	0.23	0.26	0.18	0.24	0.20	0.24
25-29	0.17	0.15	0.24	0.17	0.20	0.17
30-34	0.14	0.09	0.25	0.13	0.18	0.13
35-39	0.13	0.07	0.26	0.12	0.15	0.13
Parity						
Parity 0	0.68	1.00	0.00	0.76	0.46	0.59
Parity 1	0.15	0.00	0.46	0.12	0.21	0.16
Parity 2	0.10	0.00	0.30	0.07	0.17	0.11
Parity 3 and higher	0.08	0.00	0.24	0.04	0.16	0.13
Last birth unplanned (of those with a first birth)	0.50	--	0.50	0.47	0.56	0.47
Duration since last birth (of those with a first birth)						
Less than 18 months	0.19	--	0.19	0.18	0.19	0.23
18 months to 5 years	0.31	--	0.31	0.28	0.33	0.34
5-10 years	0.27	--	0.27	0.30	0.24	0.25
10 or more years	0.23	--	0.23	0.24	0.23	0.18
Race/ethnicity						
Non-Hispanic white	0.68	0.76	0.50	1.00	0.00	0.00
Non-Hispanic black	0.21	0.14	0.35	0.00	1.00	0.00
Hispanic	0.12	0.10	0.15	0.00	0.00	1.00
Education						
Less than high school	0.31	0.33	0.27	0.28	0.35	0.45
High school degree	0.50	0.44	0.61	0.49	0.53	0.46
College degree (Associate degree or higher)	0.19	0.23	0.12	0.23	0.12	0.09
Union status						
Not cohabiting -- never married	0.69	0.84	0.35	0.68	0.70	0.66
Not cohabiting -- formerly married	0.15	0.05	0.38	0.15	0.16	0.15
Cohabiting -- never married	0.12	0.10	0.16	0.12	0.11	0.13
Cohabiting -- formerly married	0.05	0.01	0.11	0.05	0.03	0.05
Spent time in single-parent family growing up	0.45	0.42	0.52	0.39	0.62	0.49
Father's education						
Less than high school	0.24	0.18	0.37	0.18	0.31	0.46
High school	0.34	0.33	0.37	0.36	0.34	0.24
More than high school	0.36	0.44	0.17	0.42	0.22	0.21
Missing data on father	0.06	0.05	0.09	0.04	0.13	0.09
Mother's education						
Less than high school	0.25	0.17	0.41	0.17	0.33	0.56
High school	0.41	0.41	0.41	0.44	0.40	0.23
More than high school	0.34	0.42	0.17	0.39	0.26	0.20
Missing data on mother	0.01	0.01	0.01	0.01	0.01	0.01
Large family of origin (mother had 4 or more children)	0.40	0.32	0.57	0.32	0.55	0.54
Geographic region of residence at interview						
Northeast	0.20	0.20	0.19	0.21	0.18	0.21
Midwest	0.25	0.25	0.25	0.29	0.21	0.07
South	0.34	0.33	0.37	0.30	0.52	0.27
West	0.21	0.22	0.19	0.20	0.09	0.45
Metropolitan status at interview						
SMSA, other than central city	0.45	0.47	0.39	0.50	0.30	0.37
SMSA, central city	0.37	0.34	0.44	0.27	0.57	0.55
Not SMSA	0.19	0.19	0.17	0.22	0.12	0.07
Number of cases	4577	2678	1899	2448	1494	635

Source: 1995 National Survey of Family Growth. Distribution of variables nine months prior to interview.

Notes: Weighted statistics and unweighted N.
Calendar year is controlled in all multivariate models, but not shown here.

Table 2a. Percentage Distribution of Births in Previous Five Years to Women Ages 15-39, by Mother's Union Status at Birth, 1995 NSFG

	Currently Married	Currently Unmarried	Currently Unmarried			
			Not cohabiting --		Cohabiting --	
			Never married	Prev. married	Never married	Prev. married
Race/ethnicity						
Non-Hispanic white	79	45	36	54	50	63
Non-Hispanic black	6	37	51	27	24	14
Hispanic	15	19	13	18	26	23
Total	100	100	100	100	100	100
Mother's age						
Less than 20	5	29	47	7	27	0
20s	58	57	47	55	62	70
30s	37	14	6	37	11	30
Total	100	100	100	100	100	100
Parity						
First birth	38	48	61	20	39	9
Second birth	37	27	24	21	38	25
Third or higher-order birth	25	24	14	59	23	65
Total	100	100	100	100	100	100
Mother's education						
Less than high school	13	43	45	33	45	36
High school degree	56	53	50	61	53	60
College degree	30	5	6	6	2	4
Total	100	100	100	100	100	100
Percentage of all births	71	29	14	3	9	2
Percentage of all nonmarital births	--	100	50	11	32	7
Number of births	2443	1298	679	138	398	83

Table 2b. Percentage Births Resulting from Unplanned Pregnancies in Previous Five Years to Women Ages 15-39, by Mother's Union Status at Birth, 1995 NSFG

	Currently Married	Currently Unmarried	Currently unmarried			
			Not cohabiting --		Cohabiting --	
			Never married	Prev. married	Never married	Prev. married
Race/ethnicity						
Non-Hispanic white	20	54	62	47	56	26
Non-Hispanic black	26	61	67	46	48	49
Hispanic	23	46	58	39	38	50
Mother's age						
Less than 20	40	75	81	53	62	--
20s	22	49	55	46	46	37
30s	17	35	30	41	38	30
Parity						
First birth	16	61	69	39	51	17
Second birth	18	45	51	37	42	22
Third or higher-order birth	34	54	61	53	59	41
Mother's education						
Less than high school	33	57	69	37	48	35
High school degree	22	55	62	49	51	33
College degree	14	35	32	40	33	60
All births	21	55	64	45	49	35
Number of births	2443	1298	679	138	398	83

Source for Tables 2a and 2b: 1995 National Survey of Family Growth. Births within five years of interview.
 Notes for Tables 2a and 2b: Weighted statistics and unweighted N.

Table 3. Discrete-Time Multinomial Logistic Regression Model of Unplanned and Planned Births among Unmarried Women Ages 15-39, 1995 NSFG

	Unplanned vs. No Birth			Planned vs. No Birth			Unplanned vs. Planned		
	B	SE	exp(B)	B	SE	exp(B)	B	SE	exp(B)
Year (1990 omitted)									
1991	0.10	0.11	1.11	0.05	0.12	1.05	0.05	0.16	1.05
1992	0.05	0.11	1.05	-0.14	0.12	0.87	0.19	0.17	1.20
1993	0.10	0.11	1.10	-0.26	0.13	0.77 **	0.36	0.17	1.44 **
1994	-0.17	0.14	0.85	-0.23	0.15	0.80	0.06	0.21	1.06
Age (17-19 omitted)									
15-16	-0.54	0.14	0.58 ***	-1.29	0.27	0.28 ***	0.75	0.30	2.12 **
20-24	-0.42	0.11	0.65 ***	0.21	0.14	1.23	-0.63	0.17	0.53 ***
25-29	-1.08	0.15	0.34 ***	-0.12	0.16	0.89	-0.96	0.22	0.38 ***
30-34	-1.68	0.21	0.19 ***	-0.40	0.19	0.67 **	-1.28	0.28	0.28 ***
35-39	-1.91	0.28	0.15 ***	-0.94	0.26	0.39 ***	-0.97	0.38	0.38 **
Parity (0 omitted)									
Parity 1	0.49	0.15	1.64 ***	0.81	0.15	2.25 ***	-0.32	0.21	0.73
Parity 2	0.34	0.17	1.40 **	0.33	0.17	1.39 *	0.01	0.24	1.01
Parity 3 and higher	0.56	0.18	1.75 ***	-0.04	0.20	0.96	0.60	0.27	1.83 **
Last birth unplanned	0.39	0.11	1.48 ***	-0.50	0.11	0.61 ***	0.89	0.16	2.45 ***
Duration since last birth (18 months to 5 years omitted)									
0-17 months	0.36	0.12	1.43 ***	-0.19	0.13	0.83	0.55	0.18	1.73 ***
5-10 years	-0.21	0.18	0.81	-0.39	0.15	0.68 **	0.18	0.23	1.20
10 or more years	-0.76	0.31	0.47 **	-1.43	0.31	0.24 ***	0.67	0.44	1.95
Race/ethnicity (Non-Hispanic white omitted)									
Non-Hispanic black	0.87	0.11	2.38 ***	0.75	0.12	2.11 ***	0.12	0.16	1.13
Hispanic	0.38	0.14	1.46 ***	0.61	0.14	1.85 ***	-0.24	0.20	0.79
Education (Less than high school omitted)									
High school degree	-0.34	0.09	0.71 ***	-0.38	0.10	0.69 ***	0.03	0.14	1.03
College degree	-1.14	0.26	0.32 ***	-0.91	0.22	0.40 ***	-0.23	0.33	0.79
Union status (Not cohabiting -- never married omitted)									
Not cohabiting -- formerly married	0.12	0.17	1.13	0.00	0.16	1.00	0.12	0.23	1.12
Cohabiting -- never married	0.47	0.10	1.60 ***	0.85	0.11	2.33 ***	-0.38	0.15	0.68 **
Cohabiting -- formerly married	0.50	0.22	1.64 **	0.94	0.18	2.55 ***	-0.44	0.29	0.64
Spent time in single-parent family growing up	0.38	0.09	1.46 ***	0.10	0.10	1.10	0.28	0.13	1.32 **
Father's education (Less than high school omitted)									
High school degree	0.08	0.10	1.08	0.14	0.11	1.15	-0.06	0.15	0.94
More than high school	-0.14	0.13	0.87	-0.41	0.15	0.67 ***	0.27	0.20	1.31
Missing data	-0.04	0.13	0.96	-0.03	0.15	0.97	-0.01	0.20	0.99
Mother's education (Less than high school omitted)									
High school degree	-0.18	0.10	0.84 *	-0.15	0.11	0.86	-0.02	0.14	0.98
More than high school	-0.35	0.12	0.71 ***	-0.43	0.15	0.65 ***	0.09	0.19	1.09
Missing data	-0.03	0.42	0.97	0.70	0.37	2.02 *	-0.73	0.56	0.48
Large family of origin	0.05	0.08	1.05	0.28	0.10	1.32 ***	-0.23	0.13	0.80 *
Region (Northeast omitted)									
Midwest	0.23	0.12	1.25 *	0.12	0.14	1.13	0.10	0.18	1.11
South	0.01	0.12	1.01	0.04	0.13	1.04	-0.02	0.17	0.98
West	0.05	0.14	1.05	0.09	0.14	1.09	-0.04	0.20	0.96
Metropolitan status (SMSA, other omitted)									
SMSA, central city	0.29	0.09	1.34 ***	0.23	0.10	1.26 **	0.06	0.14	1.06
Not SMSA	0.08	0.13	1.08	-0.04	0.15	0.96	0.12	0.19	1.12
Constant	-6.44	0.23	0.00 ***	-6.40	0.26	0.00 ***	-0.04	0.34	0.96
Log Likelihood	-8082.70								

*** p < .01; ** p < .05; * p < .10.

Source: 1995 National Survey of Family Growth. Unmarried experience between nine months and sixty-nine months prior to interview.

Notes: Analyses are unweighted. N=276,429 person-months. 683 unplanned births and 555 planned births.

Table 4. Discrete-Time Multinomial Logistic Regression Model of Unplanned and Planned First Births among Unmarried Women Ages 15-39, 1995 NSFG

	Unplanned vs. No Birth			Planned vs. No Birth			Unplanned vs. Planned		
	B	SE	exp(B)	B	SE	exp(B)	B	SE	exp(B)
Year (1990 omitted)									
1991	0.18	0.16	1.20	0.13	0.19	1.14	0.05	0.25	1.05
1992	0.24	0.16	1.27	0.08	0.20	1.08	0.16	0.26	1.18
1993	0.25	0.16	1.29	-0.19	0.22	0.83	0.44	0.27	1.56
1994	-0.18	0.22	0.83	-0.19	0.25	0.82	0.01	0.33	1.01
Age (15-19 omitted)									
20-24	-0.36	0.16	0.70 **	0.37	0.21	1.45 *	-0.73	0.26	0.48 ***
25-29	-1.71	0.30	0.18 ***	-0.03	0.25	0.97	-1.68	0.39	0.19 ***
30-39	-2.65	0.47	0.07 ***	-0.17	0.27	0.84	-2.48	0.54	0.08 ***
Race/ethnicity (Non-Hispanic white omitted)									
Non-Hispanic black	1.07	0.14	2.93 ***	1.19	0.19	3.30 ***	-0.12	0.23	0.89
Hispanic	0.06	0.20	1.06	1.12	0.22	3.07 ***	-1.06	0.30	0.35 ***
Education (Less than high school omitted)									
High school degree	-0.10	0.14	0.90	-0.19	0.19	0.83	0.09	0.24	1.09
College degree	-1.43	0.44	0.24 ***	-0.85	0.32	0.43 ***	-0.58	0.55	0.56
Cohabiting	0.84	0.17	2.31 ***	1.57	0.16	4.81 ***	-0.73	0.23	0.48 ***
Spent time in single-parent family growing up	0.55	0.13	1.73 ***	0.26	0.16	1.30 *	0.29	0.20	1.34
Father's education (Less than high school omitted)									
High school degree	0.01	0.15	1.01	0.13	0.18	1.14	-0.12	0.23	0.89
More than high school	-0.43	0.18	0.65 **	-0.60	0.25	0.55 **	0.16	0.30	1.18
Missing data	-0.42	0.22	0.65 *	0.04	0.25	1.04	-0.46	0.34	0.63
Mother's education (Less than high school omitted)									
High school degree	-0.30	0.15	0.74 **	-0.11	0.18	0.89	-0.19	0.23	0.83
More than high school	-0.56	0.17	0.57 ***	-0.61	0.23	0.54 ***	0.05	0.29	1.06
Missing data	-0.09	0.60	0.91	0.67	0.61	1.95	-0.76	0.85	0.47
Large family of origin	0.13	0.12	1.14	0.38	0.15	1.46 **	-0.25	0.19	0.78
Region (Northeast omitted)									
Midwest	0.25	0.17	1.29	0.39	0.22	1.48 *	-0.14	0.28	0.87
South	-0.07	0.17	0.93	0.01	0.22	1.01	-0.08	0.27	0.92
West	0.04	0.19	1.04	0.23	0.23	1.26	-0.19	0.30	0.83
Metropolitan status (SMSA, other omitted)									
SMSA, central city	0.29	0.13	1.34 **	0.69	0.16	1.99 ***	-0.39	0.21	0.67 *
Not SMSA	0.05	0.17	1.05	-0.02	0.24	0.98	0.07	0.30	1.07
Constant	-6.33	0.26	0.00 ***	-7.98	0.35	0.00 ***	1.65	0.44	5.21 ***
Log Likelihood	-3557.76								

*** p < [.01]; ** p < [.05]; * p < [.10].

Source: 1995 National Survey of Family Growth. Unmarried experience between nine months and sixty-nine months prior to interview.

Notes: Analyses are unweighted. N=165,104 person-months. 320 unplanned births and 207 planned births.

Table 5. Discrete-Time Multinomial Logistic Regression Model of Unplanned and Planned Second and Higher-Order Births among Unmarried Women Ages 15-39, 1995 NSFG

	Unplanned vs. No Birth			Planned vs. No Birth			Unplanned vs. Planned		
	B	SE	exp(B)	B	SE	exp(B)	B	SE	exp(B)
Year (1990 omitted)									
1991	0.04	0.15	1.04	0.01	0.15	1.01	0.03	0.21	1.03
1992	-0.13	0.16	0.88	-0.26	0.16	0.77	0.13	0.23	1.14
1993	-0.05	0.15	0.96	-0.30	0.16	0.74 *	0.25	0.23	1.29
1994	-0.17	0.18	0.84	-0.25	0.19	0.78	0.07	0.26	1.08
Age (15-19 omitted)									
20-24	-0.22	0.16	0.80	0.18	0.20	1.20	-0.40	0.25	0.67
25-29	-0.65	0.20	0.52 ***	-0.30	0.23	0.74	-0.36	0.30	0.70
30-39	-1.25	0.25	0.29 ***	-0.86	0.26	0.42 ***	-0.39	0.36	0.67
Parity (1 omitted)									
Parity 2	-0.14	0.14	0.87	-0.35	0.13	0.70 ***	0.22	0.19	1.24
Parity 3 and higher	0.04	0.16	1.04	-0.63	0.17	0.53 ***	0.67	0.23	1.95 ***
Last birth unplanned	0.44	0.12	1.55 ***	-0.57	0.12	0.57 ***	1.01	0.16	2.75 ***
Duration since last birth (18 months to 5 years omitted)									
0-17 months	0.41	0.12	1.51 ***	-0.20	0.13	0.81	0.62	0.18	1.86 ***
5-10 years	-0.33	0.18	0.72 *	-0.33	0.15	0.72 **	0.00	0.24	1.00
10 or more years	-1.01	0.31	0.36 ***	-1.40	0.31	0.25 ***	0.39	0.44	1.48
Race/ethnicity (Non-Hispanic white omitted)									
Non-Hispanic black	0.61	0.15	1.83 ***	0.34	0.14	1.40 **	0.27	0.21	1.31
Hispanic	0.46	0.19	1.58 **	0.21	0.18	1.23	0.25	0.26	1.28
Education (Less than high school omitted)									
High school degree	-0.39	0.12	0.68 ***	-0.34	0.12	0.71 ***	-0.05	0.17	0.96
College degree	-0.51	0.31	0.60 *	-0.72	0.30	0.49 **	0.21	0.43	1.24
Cohabiting	0.34	0.11	1.40 ***	0.56	0.11	1.75 ***	-0.22	0.16	0.80
Spent time in single-parent family growing up	0.14	0.12	1.15	-0.09	0.12	0.91	0.23	0.17	1.26
Father's education (Less than high school omitted)									
High school degree	0.09	0.14	1.10	0.11	0.14	1.12	-0.02	0.20	0.99
More than high school	0.26	0.17	1.29	-0.10	0.19	0.91	0.35	0.26	1.43
Missing data	0.19	0.17	1.21	-0.01	0.19	0.99	0.21	0.26	1.23
Mother's education (Less than high school omitted)									
High school degree	-0.15	0.13	0.86	-0.15	0.13	0.86	0.00	0.18	1.00
More than high school	-0.17	0.17	0.84	-0.20	0.19	0.82	0.03	0.26	1.03
Missing data	-0.11	0.59	0.89	0.63	0.46	1.88	-0.74	0.75	0.48
Large family of origin	-0.05	0.12	0.95	0.19	0.12	1.21	-0.25	0.17	0.78
Region (Northeast omitted)									
Midwest	0.22	0.17	1.25	-0.09	0.17	0.91	0.31	0.24	1.37
South	0.06	0.16	1.06	-0.02	0.15	0.98	0.08	0.22	1.09
West	0.02	0.19	1.02	-0.08	0.18	0.92	0.10	0.27	1.11
Metropolitan status (SMSA, other omitted)									
SMSA, central city	0.33	0.13	1.39 **	-0.01	0.12	0.99	0.34	0.18	1.41 *
Not SMSA	0.04	0.20	1.05	-0.12	0.18	0.89	0.17	0.27	1.18
Constant	-5.88	0.31	0.00 ***	-4.68	0.31	0.01 ***	-1.20	0.44	0.30 ***
Log Likelihood	-4466.05								

*** p < .01; ** p < .05; * p < .10.

Source: 1995 National Survey of Family Growth. Unmarried experience between nine months and sixty-nine months prior to interview.

Notes: Analyses are unweighted. N=111,325 person-months. 363 unplanned births and 348 planned births.

Table 6. Discrete-Time Multinomial Logistic Regression Model of Unplanned and Planned Births among Unmarried White Women Ages 15-39, 1995 NSFG

	Unplanned vs. No Birth			Planned vs. No Birth			Unplanned vs. Planned		
	B	SE	exp(B)	B	SE	exp(B)	B	SE	exp(B)
Year (1990 omitted)									
1991	-0.18	0.24	0.84	0.02	0.23	1.02	-0.20	0.33	0.82
1992	0.29	0.21	1.34	-0.15	0.24	0.86	0.44	0.32	1.56
1993	0.32	0.21	1.38	-0.08	0.24	0.93	0.40	0.31	1.49
1994	0.04	0.25	1.05	-0.29	0.29	0.75	0.34	0.38	1.40
Age (17-19 omitted)									
15-16	-1.13	0.26	0.32 ***	-1.53	0.55	0.22 ***	0.40	0.61	1.50
20-24	-0.54	0.21	0.58 ***	0.44	0.26	1.55 *	-0.98	0.33	0.37 ***
25-29	-1.30	0.30	0.27 ***	-0.33	0.32	0.72	-0.97	0.44	0.38 **
30-34	-1.94	0.44	0.14 ***	-0.37	0.38	0.69	-1.58	0.59	0.21 ***
35-39	-2.83	0.71	0.06 ***	-0.43	0.46	0.65	-2.39	0.84	0.09 ***
Parity (0 omitted)									
Parity 1	0.02	0.33	1.02	1.14	0.30	3.12 ***	-1.12	0.45	0.33 **
Parity 2	0.40	0.37	1.49	0.73	0.36	2.08 **	-0.33	0.52	0.72
Parity 3 and higher	0.06	0.55	1.06	0.51	0.47	1.66	-0.45	0.72	0.64
Last birth unplanned	0.64	0.28	1.90 **	-0.13	0.22	0.88	0.77	0.35	2.16 **
Duration since last birth (18 months to 5 years omitted)									
0-17 months	0.17	0.30	1.19	-0.35	0.26	0.70	0.53	0.40	1.69
5-10 years	0.29	0.36	1.33	-0.76	0.32	0.47 **	1.04	0.48	2.84 **
10 or more years	-0.10	0.71	0.90	-1.62	0.58	0.20 ***	1.52	0.91	4.55 *
Education (Less than high school omitted)									
High school degree	-0.52	0.18	0.59 ***	-0.45	0.20	0.64 **	-0.07	0.27	0.93
College degree	-1.74	0.50	0.17 ***	-1.27	0.42	0.28 ***	-0.48	0.66	0.62
Union status (Not cohabiting -- never married omitted)									
Not cohabiting -- formerly married	0.33	0.33	1.39	-0.17	0.31	0.84	0.50	0.46	1.65
Cohabiting -- never married	1.01	0.19	2.74 ***	0.76	0.21	2.15 ***	0.24	0.29	1.28
Cohabiting -- formerly married	0.53	0.37	1.70	0.87	0.29	2.39 ***	-0.34	0.47	0.71
Spent time in single-parent family growing up	0.70	0.16	2.01 ***	0.42	0.18	1.52 **	0.28	0.24	1.32
Father's education (Less than high school omitted)									
High school degree	-0.10	0.19	0.91	0.15	0.20	1.17	-0.25	0.28	0.78
More than high school	-0.49	0.23	0.61 **	-0.42	0.27	0.65	-0.07	0.35	0.93
Missing data	-0.55	0.36	0.58	-0.25	0.38	0.78	-0.29	0.53	0.75
Mother's education (Less than high school omitted)									
High school degree	0.01	0.19	1.01	-0.09	0.19	0.91	0.11	0.27	1.11
More than high school	-0.29	0.23	0.75	-0.62	0.28	0.54 **	0.33	0.36	1.39
Missing data	0.07	0.54	1.07	0.50	0.54	1.66	-0.43	0.76	0.65
Large family of origin	-0.20	0.16	0.82	0.53	0.17	1.70 ***	-0.73	0.24	0.48 ***
Region (Northeast omitted)									
Midwest	-0.01	0.21	0.99	0.04	0.25	1.04	-0.05	0.32	0.95
South	-0.29	0.22	0.75	-0.09	0.26	0.91	-0.20	0.34	0.82
West	-0.25	0.24	0.78	0.25	0.26	1.29	-0.50	0.36	0.61
Metropolitan status (SMSA, other omitted)									
SMSA, central city	0.16	0.18	1.18	0.43	0.19	1.54 **	-0.27	0.26	0.77
Not SMSA	0.16	0.18	1.18	0.33	0.21	1.39	-0.16	0.28	0.85
Constant	-5.99	0.43	0.00 ***	-6.91	0.48	0.00 ***	0.92	0.64	2.50
Log Likelihood	-2455.22								

*** p < .01; ** p < .05; * p < .10.

Source: 1995 National Survey of Family Growth. Unmarried experience between nine months and sixty-nine months prior to interview.

Notes: Analyses are unweighted. N=148,923 person-months. 196 unplanned births and 156 planned births.

Table 7. Discrete-Time Multinomial Logistic Regression Model of Unplanned and Planned Births among Unmarried Black Women Ages 15-39, 1995 NSFG

	Unplanned vs. No Birth			Planned vs. No Birth			Unplanned vs. Planned		
	B	SE	exp(B)	B	SE	exp(B)	B	SE	exp(B)
Year (1990 omitted)									
1991	0.04	0.14	1.04	-0.12	0.17	0.89	0.16	0.22	1.17
1992	-0.16	0.15	0.85	-0.27	0.18	0.76	0.12	0.23	1.12
1993	-0.13	0.15	0.88	-0.43	0.19	0.65 **	0.30	0.24	1.35
1994	-0.31	0.19	0.74	-0.33	0.22	0.72	0.02	0.29	1.02
Age (17-19 omitted)									
15-16	-0.29	0.19	0.75	-1.21	0.39	0.30 ***	0.92	0.43	2.50 **
20-24	-0.40	0.15	0.67 ***	-0.05	0.20	0.95	-0.34	0.25	0.71
25-29	-1.04	0.20	0.35 ***	-0.20	0.22	0.82	-0.84	0.30	0.43 ***
30-34	-1.64	0.27	0.19 ***	-0.71	0.28	0.49 **	-0.94	0.39	0.39 **
35-39	-1.94	0.38	0.14 ***	-1.54	0.42	0.21 ***	-0.39	0.57	0.68
Parity (0 omitted)									
Parity 1	0.44	0.19	1.56 **	0.94	0.20	2.57 ***	-0.50	0.28	0.61 *
Parity 2	0.11	0.21	1.12	0.44	0.22	1.56 **	-0.33	0.31	0.72
Parity 3 and higher	0.44	0.23	1.56 *	0.16	0.27	1.18	0.28	0.35	1.32
Last birth unplanned	0.36	0.15	1.44 **	-0.75	0.16	0.47 ***	1.11	0.22	3.04 ***
Duration since last birth (18 months to 5 years omitted)									
0-17 months	0.34	0.15	1.41 **	0.08	0.18	1.08	0.26	0.23	1.30
5-10 years	-0.31	0.23	0.73	-0.28	0.21	0.75	-0.03	0.31	0.97
10 or more years	-0.58	0.38	0.56	-1.10	0.43	0.33 **	0.52	0.57	1.68
Education (Less than high school omitted)									
High school degree	-0.33	0.13	0.72 **	-0.17	0.15	0.85	-0.16	0.20	0.85
College degree	-0.86	0.33	0.42 **	-0.55	0.30	0.58 *	-0.31	0.45	0.73
Union status (Not cohabiting -- never married omitted)									
Not cohabiting -- formerly married	-0.05	0.24	0.95	0.08	0.23	1.09	-0.13	0.33	0.87
Cohabiting -- never married	0.26	0.15	1.29 *	0.65	0.15	1.92 ***	-0.39	0.21	0.68 *
Cohabiting -- formerly married	0.64	0.36	1.89 *	0.52	0.38	1.67	0.12	0.52	1.13
Spent time in single-parent family growing up	0.19	0.12	1.21	-0.17	0.14	0.84	0.36	0.18	1.44 **
Father's education (Less than high school omitted)									
High school degree	0.22	0.14	1.25	0.05	0.16	1.06	0.17	0.21	1.18
More than high school	0.10	0.18	1.11	-0.31	0.23	0.73	0.42	0.29	1.52
Missing data	0.23	0.17	1.26	0.08	0.20	1.08	0.15	0.26	1.16
Mother's education (Less than high school omitted)									
High school degree	-0.23	0.13	0.79 *	-0.21	0.15	0.81	-0.02	0.19	0.98
More than high school	-0.31	0.16	0.73 *	-0.35	0.20	0.70 *	0.04	0.26	1.04
Missing data	--	--	--	1.11	0.74	3.05	--	--	--
Large family of origin	0.08	0.11	1.09	0.08	0.14	1.08	0.00	0.18	1.00
Region (Northeast omitted)									
Midwest	0.35	0.17	1.42 **	0.20	0.19	1.22	0.15	0.25	1.16
South	0.19	0.16	1.21	0.12	0.17	1.13	0.07	0.23	1.08
West	0.12	0.23	1.13	-0.27	0.30	0.76	0.39	0.38	1.48
Metropolitan status (SMSA, other omitted)									
SMSA, central city	0.42	0.14	1.53 ***	0.20	0.15	1.22	0.22	0.20	1.25
Not SMSA	0.08	0.21	1.09	-0.39	0.25	0.68	0.47	0.33	1.60
Constant	-5.60	0.31	0.00 ***	-5.31	0.36	0.00 ***	-0.29	0.48	0.75
Log Likelihood	-4029.14								

*** p < .01; ** p < .05; * p < .10.

Source: 1995 National Survey of Family Growth. Unmarried experience between nine months and sixty-nine months prior to interview.

Notes: Analyses are unweighted. N=88,737 person-months. 377 unplanned births and 272 planned births.

Table 8. Discrete-Time Multinomial Logistic Regression Model of Unplanned and Planned Births among Unmarried Hispanic Women Ages 15-39, 1995 NSFG

	Unplanned vs. No Birth			Planned vs. No Birth			Unplanned vs. Planned		
	B	SE	exp(B)	B	SE	exp(B)	B	SE	exp(B)
Year (1990 omitted)									
1991	0.78	0.28	2.18 ***	0.51	0.25	1.66 **	0.27	0.38	1.31
1992	0.35	0.31	1.42	0.25	0.27	1.28	0.10	0.41	1.11
1993	0.45	0.30	1.56	-0.07	0.30	0.93	0.52	0.42	1.68
1994	-0.16	0.40	0.85	0.10	0.31	1.11	-0.26	0.51	0.77
Age (17-19 omitted)									
15-16	-0.19	0.36	0.83	-1.24	0.50	0.29 **	1.06	0.62	2.88 *
20-24	-0.27	0.28	0.76	0.38	0.28	1.46	-0.66	0.40	0.52 *
25-29	-0.92	0.38	0.40 **	0.11	0.34	1.12	-1.03	0.51	0.36 **
30-34	-1.50	0.52	0.22 ***	0.29	0.40	1.33	-1.78	0.65	0.17 ***
35-39	-1.31	0.57	0.27 **	-0.47	0.54	0.62	-0.84	0.79	0.43
Parity (0 omitted)									
Parity 1	0.98	0.36	2.67 ***	-0.63	0.36	0.53 *	1.62	0.51	5.04 ***
Parity 2	1.16	0.40	3.20 ***	-0.87	0.39	0.42 **	2.03	0.56	7.65 ***
Parity 3 and higher	1.63	0.42	5.11 ***	-1.31	0.44	0.27 ***	2.94	0.61	18.98 ***
Last birth unplanned	0.30	0.25	1.34	-0.19	0.26	0.83	0.48	0.36	1.62
Duration since last birth (18 months to 5 years omitted)									
0-17 months	0.48	0.27	1.62 *	-0.64	0.30	0.53 **	1.12	0.41	3.07 ***
5-10 years	-0.31	0.43	0.73	0.04	0.31	1.04	-0.35	0.53	0.70
10 or more years	-1.92	1.06	0.15 *	-1.83	0.76	0.16 **	-0.10	1.30	0.91
Education (Less than high school omitted)									
High school degree	-0.10	0.24	0.90	-0.84	0.22	0.43 ***	0.73	0.33	2.09 **
College degree	-0.38	0.63	0.68	-0.89	0.49	0.41 *	0.51	0.80	1.66
Union status (Not cohabiting -- never married omitted)									
Not cohabiting -- formerly married	0.01	0.36	1.01	0.10	0.38	1.10	-0.08	0.52	0.92
Cohabiting -- never married	0.15	0.26	1.16	1.58	0.24	4.86 ***	-1.43	0.35	0.24 ***
Cohabiting -- formerly married	-0.25	0.52	0.78	1.24	0.38	3.45 ***	-1.49	0.64	0.23 **
Spent time in single-parent family growing up	0.27	0.21	1.31	0.08	0.20	1.08	0.19	0.30	1.21
Father's education (Less than high school omitted)									
High school degree	-0.04	0.29	0.96	0.16	0.25	1.17	-0.20	0.38	0.82
More than high school	0.22	0.30	1.25	-0.47	0.34	0.63	0.69	0.45	1.99
Missing data	-0.35	0.39	0.71	0.01	0.32	1.01	-0.36	0.50	0.70
Mother's education (Less than high school omitted)									
High school degree	-0.47	0.30	0.62	-0.02	0.27	0.98	-0.46	0.40	0.63
More than high school	-0.52	0.36	0.59	-0.31	0.37	0.74	-0.22	0.52	0.81
Missing data	0.39	0.75	1.48	0.70	0.75	2.02	-0.31	1.06	0.73
Large family of origin	0.34	0.23	1.40	0.33	0.23	1.39	0.01	0.33	1.01
Region (Northeast omitted)									
Midwest	0.39	0.40	1.48	-0.49	0.45	0.61	0.88	0.60	2.40
South	-0.07	0.31	0.93	-0.04	0.28	0.96	-0.03	0.41	0.97
West	0.05	0.28	1.05	-0.19	0.26	0.83	0.24	0.38	1.27
Metropolitan status (SMSA, other omitted)									
SMSA, central city	0.13	0.22	1.14	-0.05	0.20	0.96	0.18	0.30	1.19
Not SMSA	-0.22	0.45	0.81	-0.45	0.44	0.64	0.24	0.63	1.27
Constant	-6.91	0.54	0.00 ***	-5.19	0.53	0.01 ***	-1.72	0.76	0.18 **
Log Likelihood	-1484.80								

*** p < .01; ** p < .05; * p < .10.

Source: 1995 National Survey of Family Growth. Unmarried experience between nine months and sixty-nine months prior to interview.

Notes: Analyses are unweighted. N=38,769 person-months. 110 unplanned births and 127 planned births.

**Table A-1. Trends in Intention Status at Conception of Births, 1982-1995,
Estimates from Three Rounds of the National Survey of Family Growth (NSFG)**

	Births from Intended Pregnancies				
	NSFG3/1 1982	NSFG4/2 1982	NSFG4/3 1988	NSFG5/4 1988	NSFG5/5 1995
All births	0.64	0.63	0.60	0.70	0.69
Marital status at time of birth					
Ever married	0.68	0.69	0.65	0.76	0.77
Never married	0.28	0.30	0.35	0.43	0.42
Parity					
First birth	--	0.63	0.62	0.68	0.69
Second birth	--	0.70	0.68	0.77	0.74
Third and higher parity	--	0.54	0.46	0.63	0.60
Age at time of birth					
Under 20 years	--	0.33	0.27	0.32	0.36
20-24 years	--	0.62	0.55	0.67	0.61
25-29 years	--	0.74	0.68	0.79	0.78
30-35 years	--	0.71	0.71	0.84	0.81
Race					
Black	--	0.42	0.41	0.54	0.48
White	--	0.67	0.63	0.73	0.73
Other	--	0.71	0.65	0.68	0.67
Education at time of interview					
Less than 12 years	--	0.49	0.47	0.62	0.55
12 years	--	0.64	0.58	0.69	0.68
More than 12 years	--	0.71	0.69	0.76	0.78
Poverty status at time of interview					
Not in poverty	--	0.67	0.65	0.73	0.73
In poverty	--	0.44	0.41	0.58	0.54

Sources :

1. NSFG3 (1982), 5 years from interview. In Brown, Sarah S., and Leon Eisenberg (eds.). 1995. *The Best Intentions*. Washington, DC: National Academy Press. Figure 2-4 (p. 35), Figure 2-7 (p. 39), and Table 2-3 (p. 40).
2. NSFG4 (1988), 1977-1981, women 35 and under at time of birth, N=2918.
3. NSFG4 (1988), 1983-87, women 35 and under at time of birth, N=2974.
4. NSFG5 (1995), 1983-87, women 35 and under at time of birth, old wantedness measure, N=3669
5. NSFG5 (1995), 1990-94, women 35 and under at time of birth, old wantedness measure, N=3677.

Notes: Observations unweighted, proportions weighted.

**Table A-2. Approval of Nonmarital Childbearing for Self,
Unmarried Women Ages 19-35, OLS Regression, 1987-1988 NSFH**

	B	SE
Age (25-29 omitted)		
19-24	-0.20	0.08 **
30-35	-0.25	0.08 ***
Race/ethnicity (White omitted)		
Black	0.19	0.08 **
Hispanic	-0.07	0.12
Union status (Not cohabiting -- never married omitted)		
Not cohabiting -- previously married	-0.48	0.08 ***
Cohabiting -- never married	0.20	0.10 *
Cohabiting -- previously married	-0.13	0.14
Has children	0.59	0.08 ***
Education (Less than high school omitted)		
High school degree/GED	-0.08	0.09
Some college	-0.21	0.10 **
College degree or more	-0.29	0.13 **
Father's education (Less than high school omitted)		
High school degree/GED	0.21	0.09 **
At least some college	0.03	0.11
Missing data	0.01	0.09
Mother's education (Less than high school omitted)		
High school degree/GED	-0.10	0.08
At least some college	-0.09	0.11
Missing data	0.02	0.11
Spent time in single-parent family growing up	0.15	0.07 **
Number siblings	0.01	0.01
Geographic region of residence (Northeast omitted)		
Midwest	-0.08	0.09
South	-0.21	0.09 **
West	0.03	0.10
Non-SMSA	0.08	0.08
Constant	2.75	0.15 ***
R-squared	0.12	
Adj R-squared	0.11	
Number cases	1452	

*** p < .01; ** p < .05; * p < .10.

Source: 1987-1988 National Survey of Families and Households.

Note: Analyses are unweighted.

Center for Demography and Ecology
University of Wisconsin
1180 Observatory Drive Rm. 4412
Madison, WI 53706-1393
U.S.A.
608/262-2182
FAX 608/262-8400
comments to: kmusick@ssc.wisc.edu
requests to: cdepubs@ssc.wisc.edu