

Trends in Marital Status of Mothers at Conception and Birth of First Child: United States, 1964–66, 1972, and 1980

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Introduction

The purpose of this study is to describe trends in marital status for first-time mothers. An important aspect of the study is analyzing data relating to the likelihood that a woman whose first child was conceived outside marriage would marry before the birth of the child. The data for this study are derived from the 1964–66, 1972, and 1980 National Natality Surveys, conducted by the National Center for Health Statistics.

Over the past several years, public interest has been focused on the rising number and proportion of infants born to unmarried women. This increase has occurred during a period when fertility rates for married women have been very low. However, for teenage mothers in particular, the rise in the proportion of births occurring to unmarried women has been dramatic. Among those giving birth for the first time, fewer have been married prior to the child's birth—only 50 percent in 1980 compared with 60 percent in 1972 and 76 percent in 1964–66.

During the years covered by these surveys, radical shifts have occurred in the proportions of women unmarried at various ages. For example, the proportion of white women unmarried at ages 20–24 years increased from 34 percent in 1965 to 38 percent in 1972 to 51 percent in 1980.¹ The comparable proportions for unmarried white women aged 25–29 years were 12 percent (1965), 16 percent (1972), and 27 percent (1980). The increases were substantial for women of black and other races as well, and the proportions unmarried were considerably higher for these women than for white women, regardless of age. These figures reflect the widespread delay of marriage during the past two decades. It is also apparent that the discovery of a nonmarital conception is no longer the impetus to a quickly arranged marriage that it once was.

Data from earlier studies have shown the health implications associated with nonmarital childbearing^{2,3} as well as the lifetime social and economic consequences of a nonmarital or premaritally conceived first birth for a young woman.^{4–6} A previous study based on the 1980 National Natality Survey showed, for example, that teenage mothers who were married prior to conception were somewhat more likely to receive early prenatal care than those who were married after conception and that all married teenage mothers were much more likely than unmarried teenage mothers to have begun prenatal care in the first trimester.⁷ Moreover, the levels of low birth weight were substantially lower for babies born to married mothers compared with unmarried mothers. Again, infants born to mothers married prior to conception were less likely to be of low birth weight than those born to mothers married within 8 months before the child's birth.

In the following discussion as well as in the tables and figures, the terms “nonmaritally conceived” and “conceived outside marriage” are used interchangeably. “Premaritally conceived” births are births to married women that were conceived prior to marriage. In addition, births to unmarried women are often referred to as “nonmarital” in the text and tables.

Sources and limitations of data

It is not possible to compile data annually on the interval between marriage and birth of the first child in the United States because date of the parents' marriage is not reported on the birth certificate. However, this information can be derived from the National Natality Surveys (NNS) conducted periodically by the National Center for Health Statistics. These sur-

veys collect the dates of the mother's marriage(s) and the first birth from a national probability sample of mothers giving birth in each survey year.

The data in this study are restricted to first births to unmarried and once-married mothers. Mothers married more than once are excluded because it is not possible to measure the interval between the current marriage and first birth for many of these women. The number of first births included in this analysis for 1980 is estimated to be 1,445,000 out of a total of 1,546,000 first births in 1980. The difference between these two figures of about 100,000 is an approximation of the number of first births to mothers married more than once.

For married mothers a distinction is made between those who married before and those who married after conception. The interval "0-7 months" or "less than 8 months" is used as a measure of premaritally conceived births to mothers who married before the child's birth. Information on the sampling procedures, statistical reliability, and other aspects of these surveys is presented in the Technical notes and in earlier reports.⁸⁻¹⁰

Trends in marital and nonmarital conceptions for all mothers

Of the 1,445,000 first births in 1980, 63 percent were conceived within marriage according to data from the 1980 National Natality Survey (table 1). This was the lowest proportion measured in the three survey periods. Previous natality follow-back surveys had shown an increase in this proportion from 67 percent during 1964-66 to 71 percent in 1972.^{11,12} (See figure 1.) First births to women who had been married less than 8 months constituted only 12 percent of the total in 1980 and 10 percent in 1972 compared with 19 percent in 1964-66. This indicates relative stability between 1972 and 1980 in the proportion of first births occurring to married women who were premaritally pregnant in contrast with an earlier decrease between 1964-66 and 1972. Simultaneously, the proportion of first births occurring to unmarried women increased steadily over this entire period, from 15 percent in 1964-66 to 19 percent in 1972 and 25 percent in 1980.

Between the 1964-66 and 1972 surveys the total proportion of first births conceived outside marriage appeared to be relatively stable, although the distribution of these births between those whose parents married before the birth of the child and those whose parents were not married at the time of delivery shifted somewhat (table 2). During the 1964-66 period, more than half of the estimated 386,000 nonmaritally conceived first births occurred to women who married within 8 months prior to the child's birth (218,000). By 1972, only one-third of the estimated 359,000 nonmaritally conceived first births were to mothers who married prior to the birth of the child. Between 1972 and 1980, the relative distribution of births according to whether or not the mother married before the child's birth stayed about the same even though the proportion of first births that were nonmaritally conceived had increased from 29 to 37 percent (tables 1 and 2 and figure 1).

There were increases between 1972 and 1980 in the proportions of first births to mothers aged 15-19 and 20-24 years that were nonmaritally conceived, but the increase was relatively larger for mothers aged 20-24 years. The data also suggest an increase in nonmarital conceptions for mothers aged 25-29, but the difference is not statistically significant. Among mothers in their early twenties, the proportion of first births that were nonmaritally conceived rose from 18 to 28 percent between 1972 and 1980. Almost all of the increase was in the proportion of births to unmarried mothers. The proportion of first births that occurred to mothers marrying prior to delivery was similar in both years.

Nonmaritally conceived first births increased in 1980 to unprecedented proportions of all first births among teenage mothers—76 percent compared with 57 percent in 1964-66 and 59 percent in 1972. In both 1972 and 1980, two-thirds of the nonmaritally conceived births among teenagers were to unmarried mothers and one-third to mothers marrying prior to delivery (table 2). In contrast, in 1964-66 the proportion of nonmaritally conceived first births to unmarried teenage women was somewhat lower (43 percent) and the proportion of nonmaritally conceived first births to mothers married within 8 months of delivery was higher (58 percent).

The overall trends in nonmarital conceptions for white and black women were similar to those for women of all races combined (table 1 and figure 2). There were declines between 1964-66 and 1972 and then increases between 1972 and 1980 to levels close to those in 1964-66. For white women the proportion of first births that were nonmaritally conceived increased from 22 percent in 1972 to 31 percent in 1980, with somewhat greater increases in the proportion of first births to unmarried women (table 1). The rise in nonmaritally conceived first births among black women was from 63 to 74 percent during this period.

Trends in premarital conceptions for married mothers

The first part of this report described trends in the marital status of all mothers at the time their first child was conceived and born. The analysis in this section is restricted to mothers who were married when their first child was born; there were 1,083,000 first births to married women in 1980. The question here is, was the birth *conceived* before or after marriage? For the three survey years in this study, the trend in premaritally conceived births for married mothers is a slightly V-shaped curve (table 3 and figure 3). For all once-married women there was a sharp decline from 22 percent in 1964-66 to 12 percent in 1972 followed by a rise to 16 percent in 1980. Put another way, although women who became pregnant outside marriage in 1972 and 1980 were about equally likely to marry before the child's birth (table 1), married women who gave birth in 1980 were more likely than their counterparts in 1972 to have been premaritally pregnant (table 3).

This trend (V-shaped curve) for mothers of all ages is also found for mothers aged 15-19 and 20-24 years, with the pro-

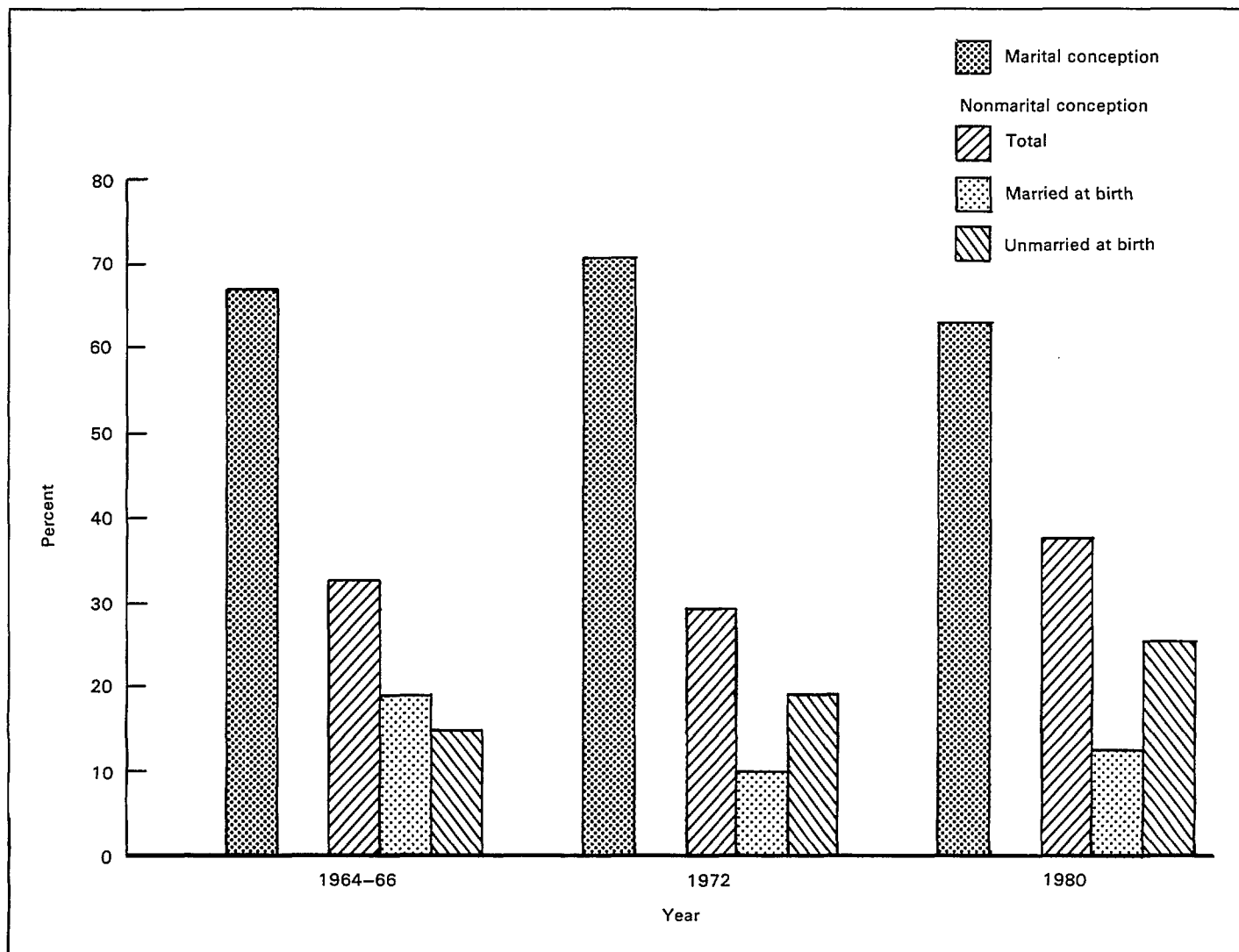


Figure 1. Percent distribution of first live births by mother's marital status at conception and birth of child: United States, 1964-66, 1972, and 1980

portion of premarital conceptions for teenage mothers three to five times as high as for mothers in their early twenties. Although the overall trends are the same, the proportion of premarital conceptions among married teenagers was higher in 1980 than in 1964-66 (52 percent compared with 43 percent), whereas among married women aged 20-24 years, the proportion of premarital conceptions in 1980 was lower than in 1964-66 (11 percent compared with 15 percent). Even though the figures are not statistically reliable for mothers aged 25 years and older because of small samples, they suggest the same pattern as for the younger mothers. White and black married women giving birth to their first child in 1980 were about equally likely to have conceived prior to marriage, 17 percent for white and 14 percent for black women (table 4).

An examination of mother's educational attainment indicates that there was an increase between 1964-66 and 1980 in the proportion of births to married mothers who had not completed high school that were premaritally conceived, from 30 to 37 percent (table 5). In contrast, for mothers with at least

a high school diploma there were declines in premarital conceptions. For example, for mothers with at least some college, the proportion with premarital conceptions declined from 19 to 11 percent. The overall proportion of premaritally conceived first births to once-married mothers declined from 22 to 16 percent during this period.

One would expect that if increases in premarital conceptions are confined to women with limited educational attainment, the increases might be restricted to teenagers. Data are shown in table 5 for married mothers aged 15-19 years compared with those aged 20-44 years. Because of sampling variability, many of the differences are not statistically significant. However, the rise in premarital conceptions was particularly noticeable for teenaged women with less than 12 years of schooling. Among married mothers aged 20 years and older, there were apparently declines in the proportions of first births that were premaritally conceived in all educational-attainment groups. This would suggest that married mothers giving birth as teenagers in 1980 were substantially more likely than their

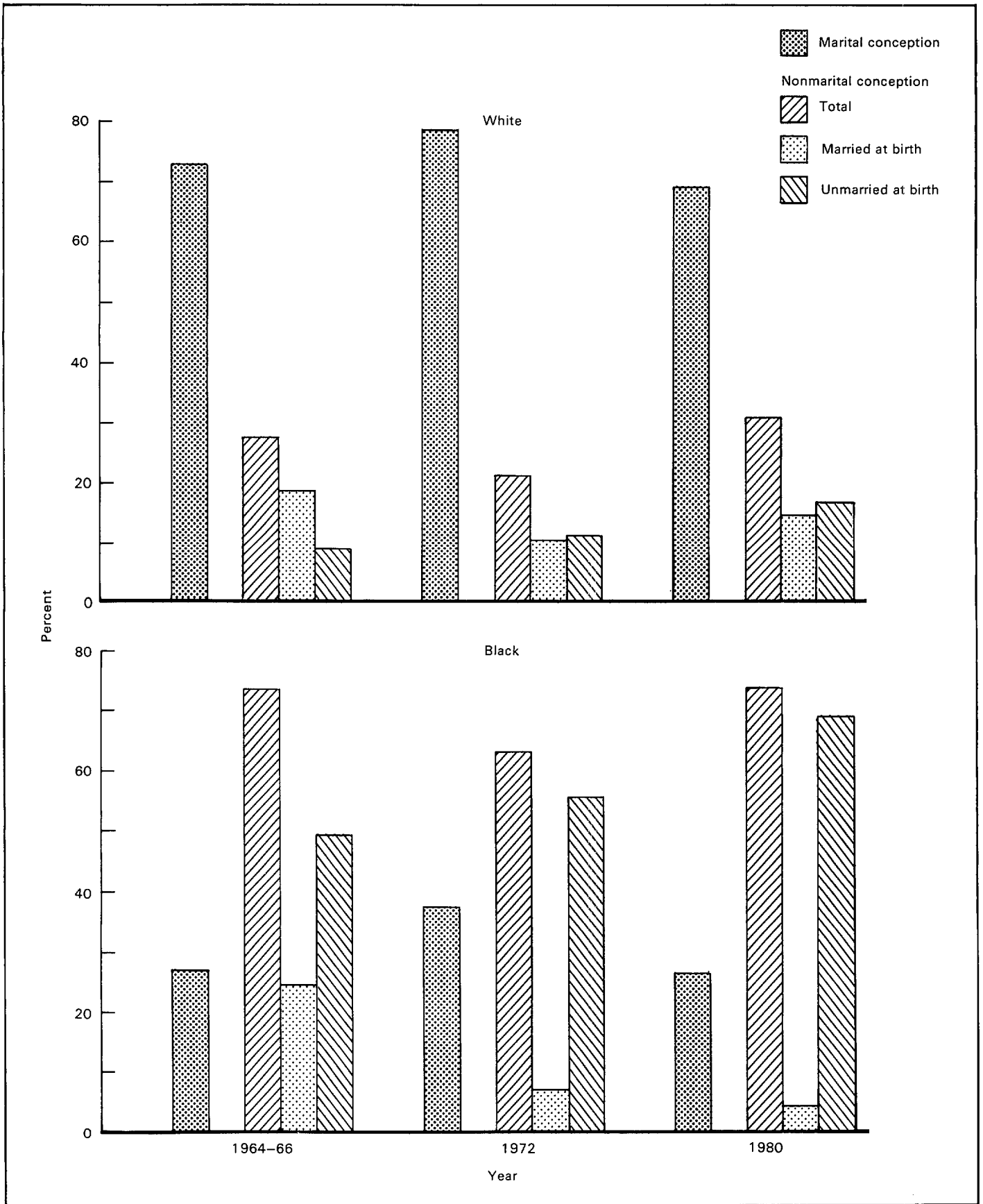


Figure 2. Percent distribution of first live births by mother's marital status at conception and birth, according to race: United States, 1964-66, 1972, and 1980

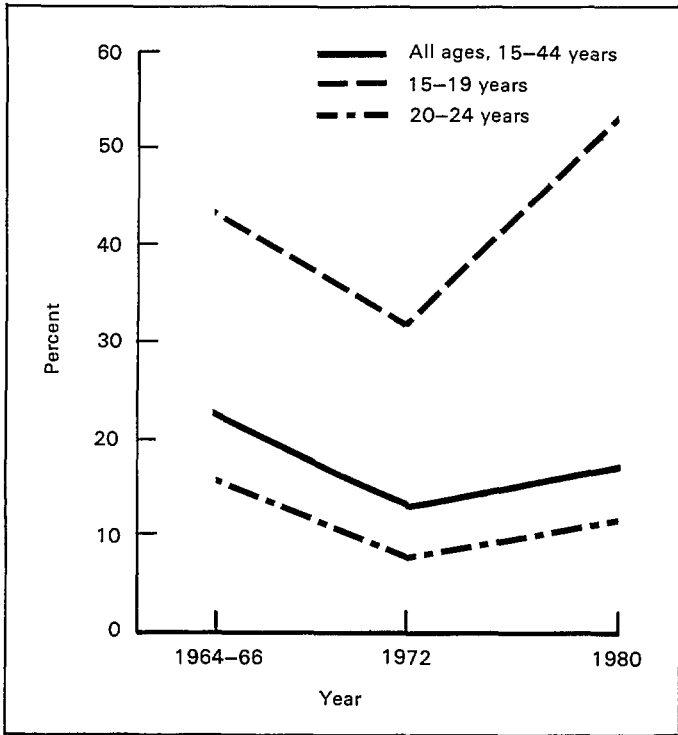


Figure 3. Percent of first births to once-married mothers that were premaritally conceived, by age of mother: United States, 1964-66, 1972, and 1980

counterparts in 1964-66 to have married because they were already pregnant. In other words, although relatively few teenagers were married in 1980, a larger fraction of them had evidently married in response to a premarital conception. This is consistent with the finding that about half of the married teenage mothers had less than a high school education in 1980, compared with only about 7 percent of older mothers. A premarital conception for a teenager can therefore have a much more critical impact on her educational attainment compared with the impact on a woman in her twenties.

References

- ¹U.S. Bureau of the Census: Marital status and living arrangements. *Current Population Reports*. Series 20, annual issues. Washington. U.S. Government Printing Office.
- ²National Center for Health Statistics, S. J. Ventura: Trends in teenage childbearing, United States, 1970-81. *Vital and Health Statistics*. Series 21, No. 41. DHHS Pub. No. (PHS) 84-1919. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1984.
- ³National Center for Health Statistics, S. J. Ventura: Trends and differentials in births to unmarried women, United States, 1970-76. *Vital and Health Statistics*. Series 21, No. 36. DHHS Pub. No. (PHS) 80-1914. Public Health Service. Washington. U.S. Government Printing Office, May 1980.
- ⁴A. A. Campbell: The role of family planning in the reduction of poverty. *J. Marriage and Family* 30(2):236-245, 1968.
- ⁵T. J. Trussell: Economic consequences of teenage childbearing. *Fam. Plann. Perspect.* 8(4):184-190, July-Aug. 1976.
- ⁶F. F. Furstenberg: The social consequences of teenage parenthood. *Fam. Plann. Perspect.* 9(4):148-164, July-Aug. 1976.
- ⁷S. J. Ventura and G. E. Hendershot: Infant health consequences of childbearing by teenagers and older mothers. *Public Health Rep.* 99(2):138-146, Mar.-Apr. 1984.
- ⁸National Center for Health Statistics, K. G. Keppel, R. L. Heuser, P. J. Placek, et al.: Methods and response characteristics: 1980 National Natality and Fetal Mortality Surveys. *Vital and Health Statistics*. Series 2, No. 100. DHHS Pub. No. (PHS) 86-1374. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1986.
- ⁹National Center for Health Statistics, M. G. Kovar: Differentials in expectation of additional children among mothers of legitimate live births, United States, 1964-1966. *Vital and Health Statistics*. Series 22, No. 13. DHEW Pub. No. (HSM) 72-1044. Public Health Service. Washington. U.S. Government Printing Office, Feb. 1972.
- ¹⁰National Center for Health Statistics, R. H. Weller and R. L. Heuser: Wanted and unwanted childbearing in the United States, 1968, 1969, and 1972 National Natality Surveys. *Vital and Health Statistics*. Series 21, No. 32. DHEW Pub. No. (PHS) 78-1918. Public Health Service. Washington. U.S. Government Printing Office, Sept. 1978.
- ¹¹National Center for Health Statistics: Interval between first marriage and legitimate first birth, United States, 1964-66. *Monthly Vital Statistics Report*. Vol. 18, No. 12 Supp. Public Health Service. Rockville, Md., Mar. 27, 1970.
- ¹²P. J. Placek: Trend in Legitimate, Legitimated, and Illegitimate First Births: United States, 1964-66 and 1972. Paper presented at the American Statistical Association meeting. San Diego, CA, Aug. 14-17, 1978.

Symbols

- - - Data not available
 - ... Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - Z Quantity more than zero but less than 500 where numbers are rounded to thousands
 - * Figure does not meet standards of reliability or precision
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Table 1. Number of first live births and percent distribution by mother's marital status at conception and birth of child, according to race and age of mother: United States, 1964-66, 1972, and 1980 National Natality Surveys and birth-registration data

[Refers only to first births to once-married or unmarried mothers. Due to rounding figures may not add to totals]

Race and marital status of mother	1980				1972				1964-66 ¹			
	15-44 years	15-19 years	20-24 years	25-29 years	15-44 years	15-19 years	20-24 years	25-29 years	15-44 years	15-19 years	20-24 years	25-29 years
All races²												
	Number in thousands											
First births	1,445	417	589	336	1,234	418	535	224	1,154	434	526	139
	Percent distribution											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Married at conception	62.6	23.7	71.8	86.6	70.9	40.9	82.2	94.6	66.6	42.9	77.2	91.4
Unmarried at conception	37.4	76.3	28.0	13.1	29.1	59.1	17.8	*5.4	33.4	56.9	22.8	*8.6
Married 0-7 months before birth	12.3	26.1	8.7	*4.8	10.0	19.1	6.9	*1.8	18.9	32.7	13.5	*2.9
Unmarried at birth	25.1	50.1	19.4	*8.3	19.0	40.0	10.8	*3.6	14.6	24.2	9.3	*5.8
White												
	Number in thousands											
First births	1,180	305	495	294	993	294	455	197	985	340	467	128
	Percent distribution											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Married at conception	69.1	30.5	77.2	89.1	78.3	52.0	85.9	95.4	72.6	50.3	81.4	93.0
Unmarried at conception	30.9	69.5	22.8	10.9	21.8	48.0	13.8	*4.6	27.3	49.4	18.6	*6.3
Married 0-7 months before birth	14.2	33.4	9.9	*5.1	10.8	23.5	7.0	*2.0	18.2	34.4	12.2	*3.1
Unmarried at birth	16.8	36.1	12.9	5.8	11.0	24.5	6.8	*2.5	9.1	15.0	6.4	*3.1
Black												
	Number in thousands											
First births	222	104	76	31	220	116	74	22	158	93	52	9
	Percent distribution											
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Married at conception	26.1	*4.8	*36.8	*64.5	37.3	12.1	59.5	*86.4	26.6	15.1	*36.5	*66.7
Unmarried at conception	73.9	95.2	64.5	*35.5	63.2	87.9	41.9	*13.6	73.4	83.9	63.5	*33.3
Married 0-7 months before birth	4.5	*5.8	*3.9	*3.2	*7.3	*8.6	*6.8	*	24.1	25.8	*26.9	*
Unmarried at birth	69.4	89.4	60.5	*32.3	55.9	79.3	35.1	*13.6	49.4	58.1	*36.5	*33.3

¹Figures are annual averages.

²Includes races other than white and black.

Table 2. Number of nonmaritally conceived first live births and percent distribution by mother's marital status at birth of child, according to age and race of mother: United States, 1964-66, 1972, and 1980 National Natality Surveys and birth-registration data

[Refers only to first births to once-married or unmarried mothers]

Race and marital status of mother	1980			1972			1964-66 ¹		
	15-44 years	15-19 years	20-24 years	15-44 years	15-19 years	20-24 years	15-44 years	15-19 years	20-24 years
All races ²									
	Number in thousands								
Unmarried at conception of first child	540	318	165	359	247	95	386	247	120
	Percent distribution								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Married at birth	33.0	34.3	30.9	34.5	32.4	38.9	56.5	57.5	59.2
Unmarried at birth	67.0	65.7	69.1	65.5	67.6	61.1	43.5	42.5	40.8
White									
	Number in thousands								
Unmarried at conception of first child	365	212	113	216	141	63	269	168	87
	Percent distribution								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Married at birth	45.8	48.1	43.4	49.5	48.9	50.8	66.5	69.6	65.5
Unmarried at birth	54.2	51.9	56.6	50.5	51.1	49.2	33.5	30.4	34.5
Black									
	Number in thousands								
Unmarried at conception of first child	164	99	49	139	102	31	116	78	33
	Percent distribution								
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Married at birth	6.1	*6.1	*6.1	*11.5	*9.8	*16.1	32.8	30.8	*42.4
Unmarried at birth	93.9	93.9	93.9	88.5	90.2	83.9	67.2	69.2	*57.6

¹Figures are annual averages.²Includes races other than white and black.

Table 3. Number of first live births to once-married mothers and percent distribution by interval from first marriage to first birth, according to age of mother: United States, 1964-66, 1972, and 1980 National Natality Surveys

[Due to rounding figures may not add to totals]

Interval from first marriage to first birth	Age of mother at first birth											
	15-44 years			15-19 years			20-24 years			25-29 years		
	1980	1972	1964-66 ¹	1980	1972	1964-66 ¹	1980	1972	1964-66 ¹	1980	1972	1964-66 ¹
	Number in thousands											
First births.....	1,083	999	986	208	251	329	475	477	477	308	216	131
	Percent distribution											
All intervals.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 8 months.....	16.4	12.4	22.1	52.4	31.9	43.3	10.8	7.8	14.8	5.3	*1.7	*3.3
8 months or more.....	83.6	87.6	77.9	47.6	68.1	56.7	89.2	92.2	85.2	94.7	98.3	96.7
8-11 months.....	9.0	20.0	22.1	15.3	35.0	27.5	11.0	19.8	21.5	*3.1	5.5	*14.4
12-23 months.....	24.3	22.3	29.3	27.0	27.0	25.4	31.5	24.5	35.6	15.5	14.4	20.8
24-35 months.....	15.7	16.7	11.5	*4.6	5.1	*2.9	21.1	24.1	16.8	17.5	16.1	*15.1
36-47 months.....	11.4	11.4	5.8	*0.6	*0.4	*0.7	13.5	12.9	7.7	15.8	23.0	*11.0
48-59 months.....	7.3	7.5	2.8	*0.1	*0.2	*0.1	6.8	7.2	1.9	12.1	15.6	*11.8
60 months or more.....	15.9	9.7	6.5	-	*0.4	*0.2	5.4	3.7	1.6	30.7	23.8	23.6

¹Figures are annual averages.

Table 4. Number of first live births to once-married mothers and percent distribution by interval from first marriage to first birth, according to race of mother: United States, 1980 National Natality Survey

[Due to rounding figures may not add to totals]

<i>Interval from first marriage to first birth</i>	<i>All races¹</i>	<i>White</i>	<i>Black</i>
	Number in thousands		
First births	1,083	982	68
	Percent distribution		
All intervals	100.0	100.0	100.0
Less than 8 months	16.4	17.0	14.3
8 months or more	83.6	83.0	85.7
8-11 months	9.0	9.1	*8.2
12-23 months	24.3	23.8	31.8
24-35 months	15.7	14.8	24.3
36-47 months	11.4	11.7	*6.1
48-59 months	7.3	7.6	*0.2
60 months or more	15.9	16.0	15.2

¹Includes races other than white and black.

Table 5. Number of first live births to once-married mothers and percent distribution by interval from first marriage to first birth, according to educational attainment and age of mother: United States, 1964-66 and 1980 National Natality Surveys

[Due to rounding figures may not add to totals]

Age of mother and interval from first marriage to first birth	1980					1964-66 ¹				
	Total	Years of school completed by mother				Total	Years of school completed by mother			
		0-11 years	12 years	13-15 years	16 years or more		0-11 years	12 years	13-15 years	16 years or more
15-44 years										
First births	1,083	159	493	228	203	986	276	485	135	90
Number in thousands										
Percent distribution										
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 8 months	16.4	37.4	17.8	10.6	*3.2	22.1	30.4	21.1	18.6	7.7
8 months or more	83.6	62.6	82.2	89.4	96.8	77.9	69.6	78.9	81.4	92.3
8-11 months	9.0	13.2	9.3	8.8	*5.3	22.1	23.2	22.2	21.6	18.9
12-23 months	24.3	26.7	25.7	25.0	18.2	29.3	27.5	29.8	31.4	28.3
24-35 months	15.7	9.7	15.6	18.7	17.3	11.5	7.2	12.2	12.2	19.9
36-47 months	11.4	*3.7	11.7	12.0	16.1	5.8	4.0	6.2	5.3	9.7
48 months or more	23.1	9.3	19.9	24.9	40.0	9.3	7.6	8.6	10.9	15.5
15-19 years										
First births	208	103	95	*9	*2	329	184	132	13	*
Number in thousands										
Percent distribution										
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 8 months	52.4	54.0	48.7	*78.1	*26.4	43.3	41.3	45.9	*46.2	*
8 months or more	47.6	46.0	51.3	*21.9	*73.6	56.7	58.7	54.1	53.8	*
20-44 years										
First births	875	57	398	220	201	658	92	353	122	90
Number in thousands										
Percent distribution										
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than 8 months	7.9	*7.3	10.4	7.9	*3.0	11.6	8.9	11.8	15.7	7.7
8 months or more	92.1	92.7	89.6	92.1	97.0	88.4	91.1	88.2	84.3	92.3

¹Figures are annual averages.

Technical notes

Sources of data

The data presented in this report are based on the 1964–66, 1972, and 1980 National Natality Surveys conducted by the National Center for Health Statistics. A detailed description of the methods and procedures of these surveys can be found in “Methods and response characteristics: 1980 National Natality and Fetal Mortality Surveys,”⁸ and other reports for the earlier surveys.^{9,10} The following notes briefly describe survey procedures relevant to this report.

The National Natality Survey (NNS) is based on a probability sample of registered live births in the United States for the years 1964–66, 1972, and 1980. The 1980 NNS sample consisted of 9,941 live births, or approximately 1 in every 363 live births. The sample for the 1972 NNS included 6,505 births or 1 in every 500 births. The 1964–66 sample included a total of 11,331 births, or approximately 1 in every 1,000 births. Demographic and socioeconomic information beyond that available from the certificate of live birth was sought from the mother in a mailed questionnaire. To ensure their privacy, mothers who were not married were not contacted in any survey year; data shown in this report for unmarried mothers, therefore, are based on registration information from the birth certificates. The NNS data have been weighted to provide estimates for the appropriate populations of live births in the United States in 1964–66, 1972, and 1980.

Sampling error

Because NNS estimates are based on a sample, they may differ from the figures that would have been obtained had all live births been surveyed. The use of probability sampling techniques makes it possible to approximate sampling errors for these estimates.

The standard error is a measure of the variability that occurs by chance because a sample rather than the entire population is surveyed. Although the standard errors calculated for this report reflect some of the random variation inherent in the measurement process, they do not measure any systematic error, or bias, that may be present in the data.

The chances are about 68 out of 100 that an estimate from the sample differs by less than one standard error from the figure that would be obtained from a complete census of all births; the chances are about 95 out of 100 that the estimate differs by less than two standard errors. The relative standard error of an estimate is obtained by dividing the standard error of an estimate by the estimate itself and can be expressed as a percent. In this report an estimate is considered unreliable if it is based on fewer than 30 sample cases in 1980, or fewer than 20 cases in 1964–66 and 1972, or if its relative standard error

is 25 percent or greater. For purposes of this report, standard errors for the 1980 NNS were estimated using a balanced repeated replication technique. This technique produces highly reliable, unbiased estimates of sampling errors. Its application to the NNS is described elsewhere.⁸ Standard errors for the 1964–66 NNS and 1972 NNS were estimated by interpolation from tables showing approximate standard errors for those survey years.

Standard errors for the percents shown in table 1 of the text are presented in table I of these notes. Approximate standard errors for the percents shown in tables 2–5 are shown in tables II–IV of these notes.

Testing differences

The determination of statistical significance for this study is based on a two-tailed *t* test, with a significance level of 5 percent. Terms in the text relating to differences such as “higher” or “less” indicate that the differences are statistically significant unless otherwise noted. Terms such as “similar” or “equally likely” mean that no statistically significant difference exists between the estimates being compared. No inference about statistical significance should be made about any differences not discussed in the text; they may or may not be significant.

Definitions of terms

Age of mother—Age of mother refers to age at last birthday and is recorded or derived from entries on the birth certificate.

Educational attainment of mother—Educational attainment refers to the highest grade of regular school completed. Regular school consists of elementary and high school and college or university and does not include trade or business schools. Data are derived from responses on the questionnaire concerning the highest grade of school attended and completed by the mother.

First births—Live-birth order is derived from an item on the birth certificate asking for the number of previous live births. If there were no previous live births, this was a first birth.

Interval from first marriage to first birth—This is the difference in months between the date of first marriage as reported on the questionnaire and the date of first birth as recorded on the birth certificate.

Race of mother—Race is recorded or derived from entries on the birth certificate. The category “white” includes all mothers reported in the race item as white or as Mexican, Puerto Rican, or Cuban.

Table 1. Standard errors for estimated percent distributions of first live births, expressed in percentage points, by mother's age, race, and marital status at conception and birth of child: United States, 1964-66, 1972, and 1980 National Natality Surveys and birth-registration data

Race and marital status of mother at conception and birth of first child	1980				1972				1964-66 ¹			
	15-44 years	15-19 years	20-24 years	25-29 years	15-44 years	15-19 years	20-24 years	25-29 years	15-44 years	15-19 years	20-24 years	25-29 years
All races ²												
Married at conception	0.38	1.02	0.94	1.14	0.69	1.31	0.93	0.94	0.80	1.43	0.90	1.44
Unmarried at conception	0.52	1.46	0.74	0.91	0.54	1.50	0.66	0.48	0.80	1.43	1.04	1.44
Married 0-7 months before birth	0.47	1.20	0.69	0.88	0.43	1.01	0.55	³ 0.45	0.65	1.36	0.85	³ 0.86
Unmarried at birth	0.15	0.52	0.16	0.12	0.20	0.72	0.21	0.12	0.57	1.22	0.76	1.23
White												
Married at conception	0.49	1.45	1.16	1.22	0.72	1.59	0.89	0.88	0.81	1.62	1.03	1.36
Unmarried at conception	0.62	1.88	0.76	0.94	0.59	1.83	0.69	0.54	0.81	1.62	1.03	1.31
Married 0-7 months before birth	0.57	1.60	0.72	0.91	0.50	1.30	0.60	³ 0.50	0.67	1.56	0.89	³ 0.91
Unmarried at birth	0.12	0.46	0.13	0.11	0.14	0.60	0.15	0.09	0.49	1.16	0.69	³ 0.91
Black												
Married at conception	2.07	1.32	3.22	6.63	1.88	1.56	3.50	4.86	2.18	2.13	3.85	(⁴)
Unmarried at conception	1.66	2.28	2.89	3.48	1.68	2.31	2.50	1.33	2.18	2.19	3.85	(⁴)
Married 0-7 months before birth	0.68	1.73	1.81	2.55	0.87	1.36	1.50	-	2.12	2.66	3.53	-
Unmarried at birth	1.43	1.44	2.28	2.57	1.26	1.68	1.66	1.33	2.47	2.99	3.85	(⁴)

¹Figures are annual averages.

²Includes races other than white and black.

³The number of unweighted births in numerator of percent was fewer than 20 in 1964-66 and 1972 National Natality Surveys.

⁴Appropriate formulas were not available for calculating the standard errors of these estimates based on fewer than 20 unweighted births.

Table II. Approximate standard errors for percentages expressed in percentage points: 1964-66 National Natality Survey

Base of percentage	Estimated percentage							
	2 or 98	5 or 95	10 or 90	20 or 80	25 or 75	30 or 70	40 or 60	50
30,000	1.5	2.3	3.2	4.2	4.6	4.8	5.2	5.3
50,000	1.1	1.8	2.4	3.3	3.5	3.7	4.0	4.1
100,000	0.8	1.3	1.7	2.3	2.5	2.6	2.8	2.9
250,000	0.5	0.8	1.1	1.5	1.6	1.7	1.8	1.8
500,000	0.4	0.6	0.8	1.0	1.1	1.2	1.3	1.3
1,000,000	0.3	0.4	0.5	0.7	0.8	0.8	0.9	0.9
2,000,000	0.2	0.3	0.4	0.5	0.6	0.6	0.6	0.6

Table III. Approximate standard errors for estimated percentages expressed in percentage points: 1972 National Natality Survey

Base of percentage	Estimated percentage							
	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	40 or 60	50	
10,000	2.2	3.5	4.8	6.4	7.3	7.8	8.0	
30,000	1.3	2.0	2.8	3.7	4.2	4.5	4.6	
50,000	1.0	1.6	2.1	2.9	3.3	3.5	3.6	
70,000	0.8	1.3	1.8	2.4	2.8	3.0	3.0	
100,000	0.7	1.1	1.5	2.0	2.3	2.5	2.5	
200,000	0.5	0.8	1.1	1.4	1.6	1.8	1.8	
500,000	0.3	0.5	0.7	0.9	1.0	1.1	1.1	
700,000	0.3	0.4	0.6	0.8	0.9	0.9	1.0	
1,000,000	0.2	0.3	0.5	0.6	0.7	0.8	0.6	
2,000,000	0.2	0.2	0.3	0.4	0.5	0.6	0.6	

Table IV. Approximate standard errors for estimated percentages expressed in percentage points, by race of mother: 1980 National Natality Survey

<i>Race of mother and base of percentage</i>	<i>Estimated percentage</i>						
	<i>2 or 98</i>	<i>5 or 95</i>	<i>10 or 90</i>	<i>20 or 80</i>	<i>30 or 70</i>	<i>40 or 60</i>	<i>50</i>
All races and white							
10,000.....	2.7	4.2	5.8	7.8	8.9	9.5	9.7
30,000.....	1.6	2.4	3.4	4.5	5.1	5.5	5.6
50,000.....	1.2	1.9	2.6	3.5	4.0	4.3	4.3
70,000.....	1.0	1.6	2.2	2.9	3.4	3.6	3.7
100,000.....	0.9	1.3	1.8	2.5	2.8	3.0	3.1
200,000.....	0.6	0.9	1.3	1.7	2.0	2.1	2.2
500,000.....	0.4	0.6	0.8	1.1	1.3	1.3	1.4
700,000.....	0.3	0.5	0.7	0.9	1.1	1.1	1.2
1,000,000.....	0.3	0.4	0.6	0.8	0.9	1.0	1.0
2,000,000.....	0.2	0.3	0.4	0.5	0.6	0.7	0.7
Black							
10,000.....	2.8	4.3	5.9	7.9	9.1	9.7	9.9
30,000.....	1.6	2.5	3.4	4.6	5.2	5.6	5.7
50,000.....	1.2	1.9	2.6	3.5	4.0	4.3	4.4
70,000.....	1.0	1.6	2.2	3.0	3.4	3.7	3.7
100,000.....	0.9	1.4	1.9	2.5	2.9	3.1	3.1
200,000.....	0.6	1.0	1.3	1.8	2.0	2.2	2.2

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