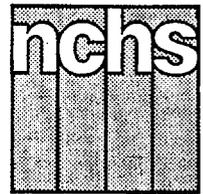


Monthly Vital Statistics Report



Final Data From the CENTERS FOR DISEASE CONTROL AND PREVENTION/National Center for Health Statistics

Advance Report of Final Natality Statistics, 1991

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Births and birth rates

There were 4,110,907 babies born in the United States in 1991, a 1-percent decrease compared with the 1990 total of 4,158,212. Between 1986 and 1990, the annual number of births had increased steadily, by 11 percent overall. Provisional data indicate a 1-percent decline for 1992 (table 1 and figure 1).

The birth rate for 1991 was 16.3 live births per 1,000 total population—2 percent lower than the 1990 rate of 16.7—reversing the 7-percent increase of the previous 5-year period. The birth rate continued to decline in 1992 according to provisional data.

The fertility rate (the number of live births per 1,000 women 15–44 years old) declined 2 percent in 1990, to 69.6. Provisional data indicate an additional 1-percent decline in the fertility rate for 1992. Between 1986 and 1990, the fertility rate had increased 8 percent.

The pattern of change between 1990 and 1991 in birth rates varied

considerably by age. Rates for women in their twenties and early thirties, who account for more than three-quarters of all births, decreased 1–2 percent. The only notable increases were observed for women 15–17 and 18–19 years old; there was a small increase for women 35–39 years old. Birth rates for other age groups were unchanged. (Basic data are shown in table 2.)

The rate for women 15–17 years of age increased 3 percent to 38.7 per 1,000, and the rate for women 18–19 years old increased 7 percent to 94.4 per 1,000. Between 1986 and 1991, these rates increased 27 percent for women 15–17 years and 19 percent for women aged 18–19 (tables 3 and 4, and figure 2). The rates for teenagers 15–17 years were very stable at 31–33 per 1,000 between 1977 and 1986, but have risen sharply since, by 3–8 percent annually. If the birth rate observed for this age group at its low point in 1986 (30.5) had remained in effect in 1991, there would have been 40,000 fewer births to young teenagers than the

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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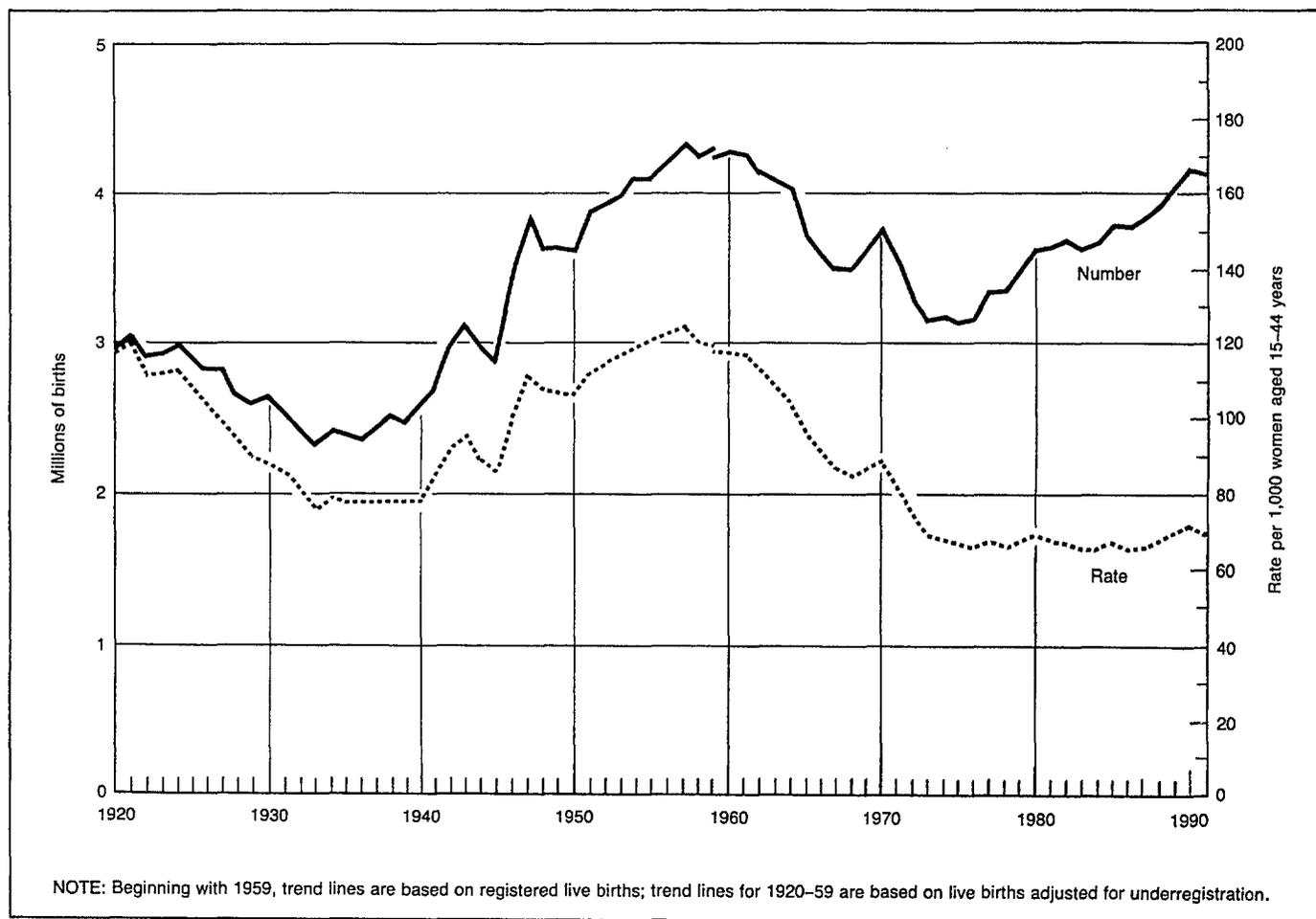


Figure 1. Live births and fertility rates: United States, 1920-91

number reported in 1991 (188,226). Moreover, if the 1986 birth rate had been in effect during the period 1987-91, there would have been a total of 126,000 fewer births to these very young women.

The birth rate of 94.4 per 1,000 for women 18-19 years of age was higher than in any year since 1972 (96.9). The rates for older teenagers had been fairly stable at 77-82 per 1,000 from 1976 to 1988. The increases since 1988 have been 5-7 percent annually.

Women in their thirties had relatively large increases in birth rates in recent years. For these women, 1991 appears to mark a turning point. The rate for women 30-34 years old declined for only the second time in 15 years, by 2 percent, to 79.5 per 1,000; the rate for women 35-39 years increased just 1 percent to 32.0 (table 4). Prior to the recent increases in teenagers' birth rates, women in their thirties composed the only age group for whom birth rates had

increased almost continuously since the mid- to late 1970's. The rate for women 30-34 years old increased 31 percent between 1980 and 1990, and 54 percent between 1975 and 1990. The rate for women aged 35-39 increased 60 percent between 1980 and 1990.

Not only did the birth rate decline for women in their early thirties, but the number of women in that age group increased only 1 percent (1). As a consequence, the number of births to women 30-34 years of age declined slightly in 1991 for the first time since 1973, when the trend to make up for previously postponed childbearing first began (2). The number of births to these women (884,862) was still more than double the number recorded in 1975 (375,500).

The number of births to women 35-39 years old continued to rise in 1991, a 4-percent increase compared with 1990, and the highest total (330,993) since 1962. This increase reflects not only the modest 1-percent

rise in the birth rate but also the 3-percent increase in the number of women aged 35-39.

In 1991, birth rates for women in the peak childbearing age groups 20-24 and 25-29 years declined by 1 and 2 percent, respectively, to 115.7 and 118.2 per 1,000, respectively. Although the birth rate for women 40-44 years of age had risen from 3.9 to 5.5 births per 1,000 between 1984 and 1990, there was no change in the rate in 1991. The 7-percent increase in the number of births for this age group (to 52,095) was associated entirely with the 7-percent growth in the number of women 40-44 years old.

In accounting for recent trends in childbearing at older ages, it is important to review variations in childlessness, which has increased among women in their early to midthirties and continues to be relatively high. For example, at the end of 1991, 21 percent of 35-year-old women were childless, compared with 11 percent of

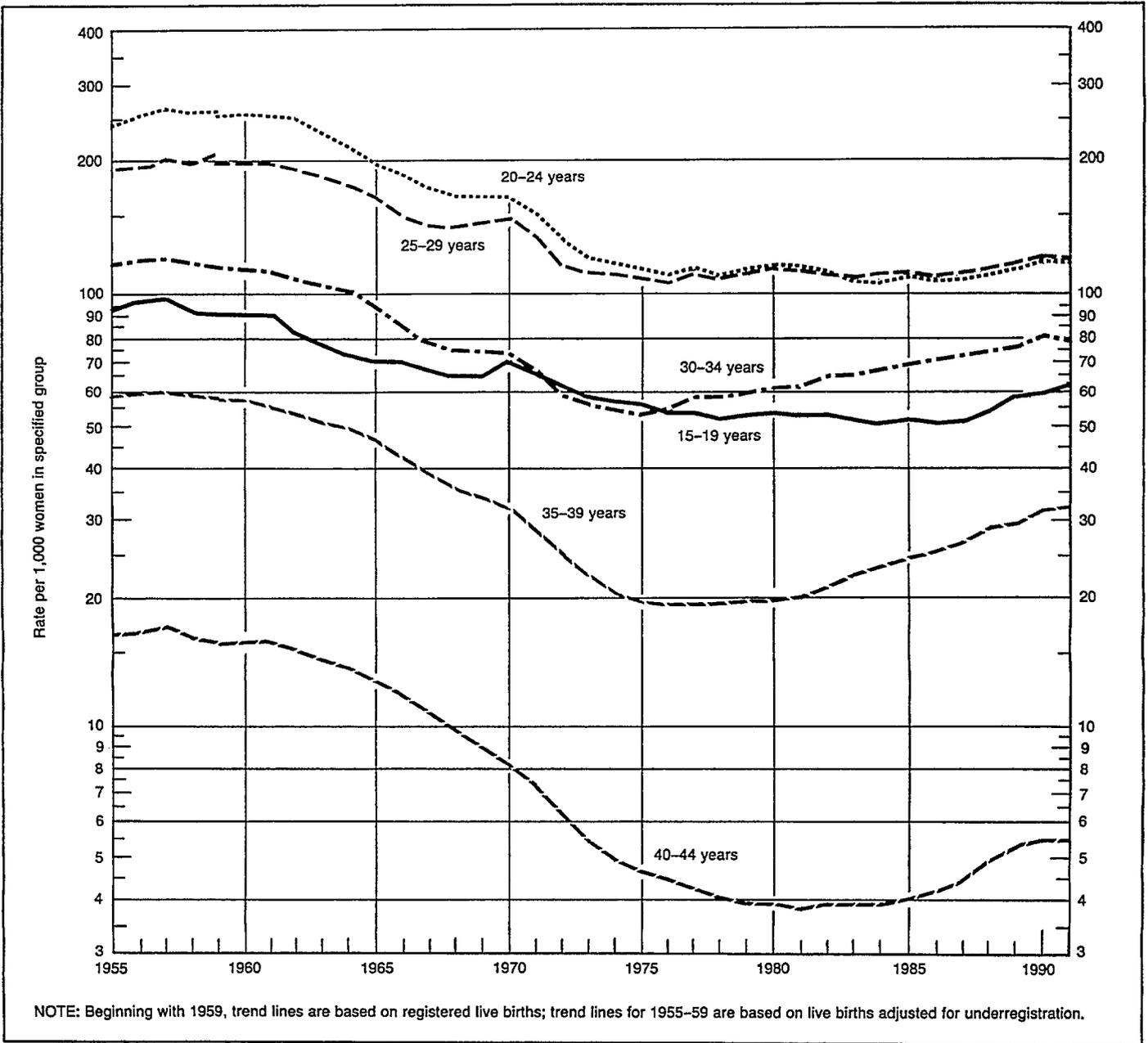


Figure 2. Birth rates by age of mother: United States, 1955-91

women aged 35 years at the end of 1975. Nonetheless, survey data based on currently married women show that nearly two-thirds of those currently childless expect to have at least one child (3). This suggests that some birth rates, at least those for women in their late thirties having their first child, would continue to increase during the next few years. It is possible, however, that fertility impairments will limit the fulfillment of these expectations. More than one-third of childless wives aged 35-44 years in 1988 were reported to have impaired fertility (4). Women

compensating for previously postponed childbearing are disproportionately well educated. For example, 47-52 percent of women in their thirties having their first child in 1991 were college graduates, compared with 34 percent of those aged 25-29 and just 7 percent of those 20-24 years old.

The continued large increase in birth rates for teenagers is associated in part with the growing proportion of teenagers who are sexually active. According to a recent report of sexual activity among high school students, 32-67 percent of women in grades 9-12

in 1990 were sexually experienced; of those who were sexually experienced, three-quarters were currently sexually active at the time of the survey (5). Pregnancy rates for teenagers increased during the years 1986-88, with relatively little change in the abortion rate (6). Thus, most of the rise in pregnancy rates among teenagers is reflected in increasing birth rates.

Another important factor in the rapid increase in birth rates for white teenagers is the growing proportion of white teenage births to Hispanic women in recent years. In 1991, 3 in 10 births

to white teenagers were to Hispanic women (see later section in text and related tables). Rates for Hispanic women have substantial impact on rates for white women, particularly because 97 percent of Hispanic mothers are reported as white on the birth certificate. In 1991, the rate for white teenagers was 52.8 per 1,000 15–19-year-olds. The corresponding rate for Hispanic teenagers was 106.7 per 1,000, compared with a rate of 42.7 for non-Hispanic white teenagers. The Hispanic teenage rate increased 6 percent between 1990 and 1991; the rate for non-Hispanic white teenagers rose less than 1 percent.

In addition to the disparity in rates for Hispanic and non-Hispanic white teenagers, there is also a disparity in the growth of the female teenage population. Between 1986 and 1991, the total white teenage population declined 11 percent; the number of Hispanic women 15–19 years of age increased 12 percent, and the number of non-Hispanic white teenagers declined 14 percent (1). In other words, the sustained increase in the white teenage birth rate since the mid-1980's reflects, in part, the combined impact of the much higher fertility of Hispanic compared with non-Hispanic white teenagers and the growing proportion of the white teenage population that is Hispanic. Fertility patterns among Hispanic women are discussed in detail later in this report.

Despite the increase in birth rates for teenagers and the decline in rates for women 20–34 years of age, the proportion of all births to teenagers remained at 13 percent in 1991, as it had since 1988. This apparent anomaly results from the continued decline in the teenaged population both in absolute numbers and as a proportion of the population of childbearing age, and from wide disparities in population change for other ages during this period. The total number of women 15–44 years old increased 3 percent—from 57.4 to 59.1 million—between 1986 and 1991 (1). While the number of teenagers declined 9 percent—from 9.2 million in 1986 to 8.4 million in 1991—and the number of women 20–34 years old decreased 2 percent, the

number of women 35–44 years old (all members of the post-World War II baby-boom generation) increased 18 percent.

As the smaller numbers of women under age 25 replace the much larger numbers of women 25–44 years of age during the next several years, the total number of births can be expected to decline unless there are more-than-compensating increases in birth rates for women in the principal childbearing age groups. The fact that rates for women in the age groups 20–34 years all declined in 1991 suggests that an increase in the number of births is unlikely. Additionally, the provisional estimate of the number of births in 1992 was 1 percent lower than the 1991 total.

Birth rates declined by 2–3 percent for first-, second-, and third-order births, and were unchanged for higher birth orders (tables 3 and 5, and figure 3). This, too, is a reversal of the pattern of increase reported for 1988–90. As a consequence of the 2-percent decrease in the first-birth rate, the number of first births fell in 1991, the first decline since 1986.

The only first-birth rates to increase were rates for women 15–17 and 18–19 years of age—with increases of 3 and 5 percent, respectively—and for women 35–39 years of age (1 percent). First-birth rates for women 20–34 years of age declined 1–2 percent. Rates for women in their forties were unchanged. The pattern of change for second-order rates was similar, except that increases in these rates for teenagers were greater (4–8 percent). There was also an increase in the second-order rate for women 40–44 years old.

Since 1986, when teenage birth rates began to rise, first-birth rates have increased substantially for teenagers compared with rates for women in their twenties, the peak childbearing ages. Between 1986 and 1991, the first-birth rate rose 24 percent for women 15–17 years old and 14 percent for older teenagers (18–19 years old), compared with increases of 5–11 percent for women in their twenties. First-birth rates also rose considerably for women in the 35–39-year and 40–44-year age groups (45–67 percent).

Second-order birth rates for teenagers also increased sharply between 1986 and 1991, by 46 percent for women 15–17 years old and 24 percent for women 18–19 years old. Increases in rates for women in their twenties were very modest (4 and 2 percent, respectively), and rates for women 35–44 years old rose sharply (by 38–75 percent).

Births by race—Since 1989, birth data compiled by the National Center for Health Statistics (NCHS) have been tabulated primarily by race of mother as reported directly on the birth certificate. Before 1989, birth tabulations were by race of child, as determined by an algorithm based on information reported for the mother and father. Children of mixed-racial parentage with one white parent were assigned the race of the other parent. When neither parent was white, the child was generally assigned the father's race. Other details of current and former procedures concerning the tabulations of births by race are described in the Technical notes. Changing the basis for tabulating birth data from race of child to race of mother generally results in more white births and fewer black births and births of other races.

In this report, the discussions of changes in rates and various other measures between 1991 and previous years are based on rates and measures computed by race of mother. Text references to white births and white mothers or black births and black mothers are all based on tabulations by race of mother.

In 1991, the fertility rate for white women was 67.0 live births per 1,000 women 15–44 years of age, 2 percent below the 1990 rate (68.3). The rate for black women also declined 2 percent, to 85.2 in 1991, compared with 86.8 in 1990. The 2-percent decline for white women is associated entirely with the 4-percent decrease in the birth rate for married white women; the rate for unmarried white women increased 5 percent between 1990 and 1991. The 2-percent reduction in the fertility rate for black women was due mostly to the decline in the birth rate for married black women (3 percent); the rate for unmarried black women also declined,

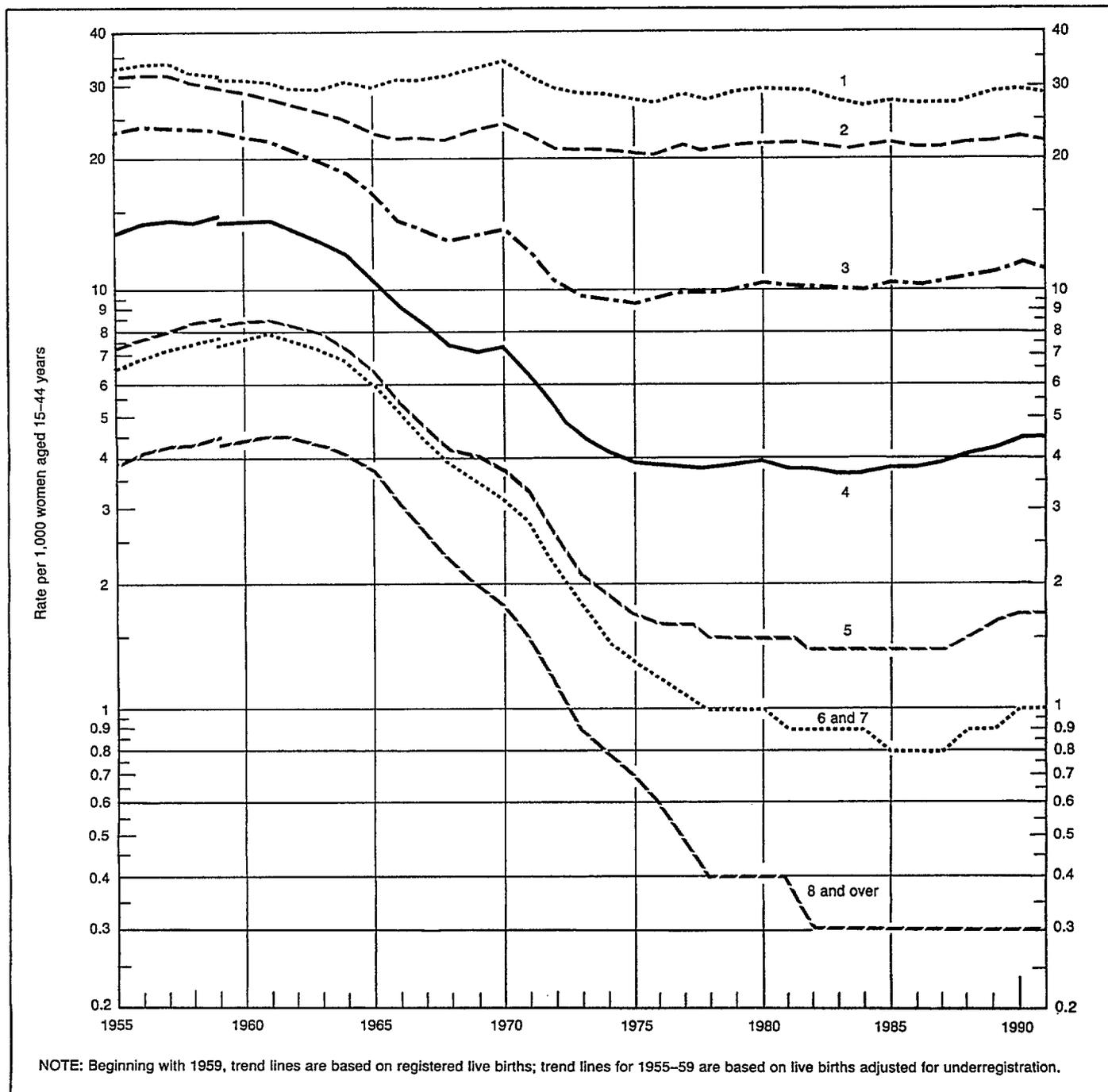


Figure 3. Birth rates by live-birth order: United States, 1955-91

by 1 percent. (See later section for discussion of births to unmarried women.)

Birth rates by race for women under age 25 years differ substantially, with rates for black women 1½-2 times greater than rates for white women. Birth rates rose at a faster pace for white than for black teenagers in 1991, by 4-7 percent compared with 2-4 percent. The birth rate for white women 20-24 years of age declined 1 percent,

while the rate for black women in their early twenties increased less than 1 percent. Rates by age for white and black women 25-49 years old were very similar and changed little between 1990 and 1991 (by 1-2 percent).

Birth rates by live-birth order declined for both white and black women having their first, second, or third child. Rates for white women having their fourth- or higher-order birth were unchanged, as were rates

for first- through fourth- and eighth-and-higher-order births to black women. Rates for fifth- and sixth- and seventh-order births to black women rose 3-5 percent.

The large increases in birth rates for white teenagers reflected comparably large increases in rates for first- and second-order births for women 15-17 years old and first- through fourth-order rates for women 18-19 years old. Rates by live-birth order for

black teenagers generally tended to increase more as live-birth order increased from first- through fifth-order births.

Total fertility rate—The total fertility rate is a measure that indicates how many births 1,000 women would have if they experienced throughout their childbearing years the set of age-specific birth rates observed in a given calendar year. It is a hypothetical measure that shows the implications of current fertility levels for completed family size. The total fertility rate is age adjusted because it is computed from age-specific birth rates; it assumes the same number of women in each age group.

The total fertility rate in 1991 was 2,073.0, slightly lower than the rate in 1990 (2,081.0) (table 4). The total fertility rate had risen steadily between 1986 and 1990, from 1,837.5 to 2,081.0—a 13-percent rise. The small decline from 1990 to 1991 results mainly from the decline in rates for women 20–34 years old, which was only partly offset by increases in rates for teenagers. The level of 2,073.0 remains below (by 1 percent) the level considered necessary for a given generation to replace itself exactly in the population over the long run (2,100). The total fertility rate has not exceeded replacement level since 1971 (2,266.5).

The total fertility rate for white women in 1991 was 1,995.5—less than 1 percent below the rate for 1990—while the rate for black women in 1991, as in 1990, was 2,480.0.

Geographic division and State

The number of births declined in seven of the nine geographic divisions by up to 4 percent between 1990 and 1991. Declines were up to 2 percent in the Middle Atlantic, East North Central, West North Central, South Atlantic, and Pacific divisions, and 4 percent in New England. The number of births increased very slightly in the West South Central and Mountain divisions. (See table 6 for 1991 data.) Births declined in all but nine States (Delaware, Oklahoma, Louisiana, Texas, Idaho, Colorado, New Mexico, Nevada, and Washington). The range of decline

was considerable, with the largest reductions in the New England States (3–7 percent). Declines of 3–4 percent were also observed in North Dakota, Kansas, Florida, Arkansas, Wyoming, and Hawaii.

The birth rate per 1,000 total population declined in every geographic division by 2–4 percent. The largest consistent declines were measured in the New England and Pacific States, but reductions of 3 percent or more were also observed in 20 other States. The rate for the District of Columbia increased slightly; there was no change in the rate for Oklahoma.

There was a similar pattern of decline in fertility rates per 1,000 women 15–44 years of age. Rates fell by 1–3 percent in all divisions. Rates by State dropped by up to 6 percent in all but three States. The rate for the District of Columbia rose 3 percent; rates for New Jersey and New Mexico did not change. Six-percent declines were reported for New Hampshire and Wyoming.

Sex ratio

The 1991 sex ratio at birth declined to 1,046 from 1,050 in 1990 (table 7). This is the lowest ratio reported in the more than 50 years that these data have been available. Most of the change between 1990 and 1991 can be attributed to the decline in the ratio for white births (from 1,054 to 1,049). The ratio for black births increased slightly to 1,029 from 1,031.

Month of birth

In 11 of the 12 months of 1991, monthly birth and fertility rates were below the rates observed in 1990; only in December were the rates slightly higher. Continuing a pattern observed for many years, the peak months of occurrence of births in 1991 were July, August, and September (table 8). When the seasonal component is removed from the monthly birth and fertility rates, the underlying trends can be observed. Seasonally adjusted birth and fertility rates for the first half of 1991 were, on average, higher than the rates for the second half of the year.

Provisional data for 1992 suggest a strengthening of this pattern.

Day of week of birth

The increasing concentration of births on Tuesdays through Fridays with concomitant deficits on weekends and holidays, observed since 1980 when these data first became available, intensified for 1991. (See table 9 for 1991 data.) The index of occurrence of births suggests the magnitude of the pattern. The index is defined as the ratio of the average daily number of births for the year, multiplied by 100. Thus an index of 100.0 represents the average daily number of births in 1991—11,263. The index for births occurring on the peak day of occurrence, Tuesdays, was 109.2, 37 percent higher than the Sunday index of 79.7. In contrast, in 1980, Tuesday births exceeded Sundays' by 22 percent.

The concentration of deliveries on weekdays has been associated with the high rate of cesarean deliveries (23.5 percent of all births in 1991), and, in particular, repeat cesareans (35 percent of all cesareans in 1991) (7), which are more likely to be planned in advance and less likely to be scheduled for a weekend or holiday. In 1990, the Sunday index of occurrence for cesarean deliveries was 58.6 compared with 84.9 for vaginal deliveries.

The more recent (1989–91) increase in the weekend deficit cannot be attributed to cesarean delivery rates, which appear to have stabilized. The shortfall may be explained in part by the rise in inductions of labor, which increased by 5 percent between 1989 and 1990 (8,9).

Place of delivery

There was virtually no change in delivery-utilization patterns noted between 1990 and 1991. The proportion of births reported to have occurred in hospitals remained the same (98.9 percent). Similarly, the percent of all births that occurred in free-standing birthing centers (0.3 percent) and in residences (0.7 percent) was essentially the same as that of the previous year. (See table 10 for 1991 data.)

Most nonhospital births in 1991 occurred in residences (60 percent), about the same as in 1990 (59 percent). For 1991, as for the previous year, births occurred in residences at a higher rate for black mothers (73 percent) than for white mothers (58 percent compared with 57 percent for 1990).

Out-of-hospital births were more prevalent among white mothers (1.2 percent) than among black mothers (0.8 percent), reflecting white mothers' greater usage of birthing centers. The percent of nonhospital births occurring in birthing centers in 1991 (31.0) declined slightly from the 1990 level of 31.4 percent. Decreases in birthing center utilization were noted for both white (from 35.1 to 34.6 percent) and black mothers (from 10.3 to 9.7 percent).

Attendant at birth

The proportion of births attended by doctors of medicine (M.D.'s) and doctors of osteopathy (D.O.'s) declined to 94.8 percent of all births in 1991 compared with 95.3 percent in 1990 (table 10). This rate has been slowly declining since a high of 99.5 percent in 1974. Conversely, the growth in midwife-attended births observed throughout the 1980's continued. Total midwife deliveries accounted for 4.4 percent of all births in 1991 compared with 3.9 percent in 1990 and 1.7 percent in 1980. Between 1980 and 1991, the proportion of midwife-attended births increased in both hospital and nonhospital settings, but growth has been more pronounced among in-hospital births, which increased by 186 percent (from 1.4 to 4.0 percent), compared with births occurring in out-of-hospital settings, which increased by 50 percent (from 32.1 percent to 48.2 percent).

Physicians attended 95.6 percent of all hospital births, 33.6 percent of births in freestanding birthing centers, and 19.8 percent of deliveries in residences in 1991. The proportion of all physician-attended births delivered by D.O.'s increased to 3.5 percent, compared with 3.1 percent in 1990. Of all physician-attended births, D.O.'s delivered

3.4 percent of in-hospital and 12.3 percent of out-of-hospital births.

The proportion of births attended by midwives in freestanding birthing centers increased to 65 percent in 1991, compared with 58 percent in 1990. Certified nurse midwives delivered the vast majority (92 percent) of all midwife-attended births in 1991. Of midwife-attended births, certified nurse midwives attended almost all in-hospital births (98 percent) and a preponderance of births in freestanding birthing centers (67 percent). In comparison, 28 percent of the midwife-attended births occurring in residences, clinics, or doctors' offices were delivered by certified nurse midwives. These proportions are essentially unchanged from 1990.

The proportion of white births attended by midwives increased from 3.7 percent to 4.2 percent between 1990 and 1991; however, black mothers continue to be more likely than white mothers to be attended by a nurse midwife in hospital settings (4.8 percent compared with 3.6 percent). Conversely, white mothers are more likely to be attended by midwives in freestanding birthing centers (66 percent compared with 55 percent).

Age of father

The birth rate for men declined 2 percent in 1991, to 57.1 live births per 1,000 men 15–54 years old. From 1980 through 1991, this rate varied little, ranging from a low of 54.8 (1986) to a high of 58.4 (1990). Basic data are shown in tables 11 and 12.

Changes in birth rates by age of father were similar to those by age of mother. The rate for men 15–19 years of age increased 6 percent, and rates for men in age groups 25–29 through 40–44 years and 50–54 years fell 1–4 percent. The rates for men aged 20–24, 45–49, and 55 and over did not change. The rate for teenaged men has risen sharply since 1986, by 39 percent, even more rapidly than for teenaged women (24 percent).

The birth rates for white and black men each declined 2 percent in 1991, to 53.3 for white men and 83.4 for black men. Changes in rates for white

and black men by age were very similar for age groups 15–19 through 40–44 years. Rates for white men 50–54 years old and white and black men 55 years old and older did not change. The rate for black men 50–54 years old fell 6 percent.

Weight at birth

The incidence of low birthweight (less than 2,500 grams or 5 pounds 8 ounces) increased to 7.1 percent in 1991 compared with 7.0 percent in 1990. This is the highest rate observed since 1978 (also 7.1 percent). The percent of low birthweight increased for both white (from 5.7 to 5.8 percent) and black births (from 13.3 to 13.6 percent). Most of the overall increase, and that for both white and black births, can be attributed to rises in low-birthweight levels among women in their thirties. Low birthweight and, in particular, very low birthweight (less than 1,500 grams or 3 pounds 4 ounces)—the result of preterm birth, intrauterine growth retardation, or both—are strongly associated with neonatal mortality and morbidity and may be related to childhood developmental delays (10). (Data for 1991 are shown in table 13.)

Substantial increases in low-birthweight rates between 1990 and 1991 were noted for births to white mothers under 15 years of age (from 10.3 to 11.2 percent) and mothers 35–39 years of age (from 6.3 to 6.5 percent). Among black mothers, the largest increases were for mothers 30–34 years of age (14.3 to 15.1 percent), 35–39 years of age (15.3 to 16.0 percent), and 40–44 years of age (15.1 to 16.3 percent).

Traditionally, the youngest mothers, those under 15 years of age, have carried the greatest risk of bearing a low-birthweight child. This tendency has been observed among both white and black births. The current year marks a departure from this pattern for black mothers. For 1991, black mothers 35–39 and 40–44 years of age were more likely to bear a low-birthweight infant (16.0 percent and 16.3 percent, respectively) than were black mothers under 15 years of age (15.9 percent). Since 1989, the rate of increase for low birthweight for black births has been the most pronounced

(9–10 percent) for these older age groups. In comparison, rates of low birthweight for births to the youngest white mothers were at least 35 percent higher than those of any other age group (11.2 percent for mothers under 15 years and 8.3 percent for mothers 45–49 years), and rates for women 35–39 years of age were among the most favorable. Low-birthweight rates for births to white mothers 35–44 years old have been relatively stable since 1989. Levels for births to mothers 45–49 years old have dropped from 10.7 percent to 8.3 percent between 1989 and 1991.

Almost one-third of the 292,230 low-birthweight infants and 38 percent of the very-low-birthweight infants born in 1991 were black births, although black babies comprised only 17 percent of all births. Black mothers were 2–3 times as likely as white mothers to have a low-birthweight baby at every age group except the very youngest (under 15 years) and very oldest (45 years and older), where the risk was increased by 42 and 75 percent, respectively.

Prepregnancy weight and weight gain during pregnancy are major factors influencing infant birthweight (11). On average, black mothers gain at least 2 pounds less than white mothers during pregnancy (28.1 pounds compared with 30.6 pounds) and are much more likely to gain less than 21 pounds (9). Recommended weight gain for a mother of average proportions was 25–35 pounds in 1990 (12).

Low birthweight incidence varies according to length of gestation. Four out of 10 preterm (less than 37 completed weeks) births were low-birthweight infants, but only 3 of every 100 term (37–41 weeks) births and 2 of every 100 postterm (42 completed weeks or more) births were low birthweight. All of the increase in low birthweight for white births was observed among preterm births (38.9 percent in 1990 to 39.2 percent in 1991); however, low birthweight increased at each gestation period for black births (45.5–46.4 percent for preterm, 5.9–6.0 percent for term, and 4.3–4.6 percent for postterm). The racial disparity in low birthweight is more pronounced at term

and postterm. Whereas low birthweight among black preterm births exceeded the rate for white preterm births by 18 percent, rates at term and postterm were 137 and 172 percent higher, respectively.

In 1991, 10.6 percent of all babies born weighed at least 4,000 grams (8 pounds 14 ounces). This condition, known as macrosomia, has been associated with increased risk of delivery by cesarean section and of infant morbidity (13,14). In 1991, macrosomia was twice as prevalent among white births (11.9 percent) as among black births (5.2 percent). Macrosomia has been associated with maternal diabetes and increased maternal weight gain (13,14). The differential between the races may be explained in part by higher diabetes rates and excessive weight gain among white mothers than among black mothers (8).

On average, in 1991, white babies weighed 250 grams (about 8 ounces) more than black babies at birth (median of 3,410 grams compared with 3,160 grams). The median birthweight was unchanged for white births from 1990, but for black births the median declined from 3,170 grams. The median weight at birth for all births decreased slightly from 3,370 grams in 1990 to 3,360 grams (approximately 7 pounds 7 ounces) in 1991. This is the lowest median reported since 1981 (also 3,360 grams).

Because rates of low birthweight tend to be higher for births to black mothers, the proportion of black births in a State has an important impact on overall State low-birthweight levels. Among the 51 reporting areas, the overall incidence of low birthweight ranged from 4.7 percent in Alaska to 15.4 percent in the District of Columbia (table 14). Decreases in low-birthweight levels of 5–13 percent were noted in Montana, North Dakota, and Wyoming, and increases of 7–8 percent in Tennessee and Vermont. States with the highest incidence of black low birthweight (more than 14.0 percent) and at least 1,000 black births in 1990 either increased (District of Columbia, Pennsylvania, Michigan, Illinois, and Nevada) or declined only slightly (Colorado and Wisconsin) from the pre-

vious year. Only Florida, Indiana, Massachusetts, Nebraska, and Washington have reported steady decreases in low-birthweight levels for black infants since 1989. In Massachusetts, low-birthweight rates dropped from 11.0 to 10.2 percent during this period.

Multiple births

The number of babies born in multiple deliveries continued to rise in 1991, totaling 98,125—a 1-percent increase over the number reported for 1990 (96,893). In contrast, the number of single births decreased by 1 percent over this period (table 15). Accordingly, the ratio of multiple births per 1,000 live births increased to 23.9 in 1991, compared with 23.3 in 1990. This ratio has risen steadily since 1973 and is currently the highest reported in at least 50 years.

The number of twin births increased by 1 percent between 1990 and 1991 (93,865 and 94,779, respectively); the number of triplet and higher order plural deliveries rose by 10 percent (3,028 and 3,346). As a result, the proportion of multiple births that are twins (96.6 percent) continued to decline (96.9 percent in 1990) as the proportion of higher order multiple births (other than twins) increased.

Multiple-birth ratios increased for births to both white (from 22.9 to 23.4) and black mothers (from 27.0 to 27.8) between 1990 and 1991. The ratio consistently has been higher for black than for white births because of a higher black twin ratio—27.2 compared with 22.5. In 1991, 98.1 percent of all black multiple births were twins, compared with 96.2 percent of white multiple births. Twin ratios for black births were higher than those for white births at almost every age group, but the difference narrows as the mother's age increases.

Conversely, the higher order multiple-birth ratio, which relates the number of triplet and higher order plural births to 100,000 live births, was significantly higher for white births (89.6) than for black births (53.9). Ratios increased for both white and black births from 1990 (80.2 and 46.9, respectively). Although black teenaged

mothers were more likely to have a higher order multiple birth than were white teenaged mothers, white women 30–39 years old were more than twice as likely to have a higher order multiple birth as black women of the same age group (166.7 compared with 66.4).

For all births, the higher order multiple birth ratio was 81.4 in 1990, an increase of 12 percent over the previous year (72.8). Ratios are highest for births to women in their thirties who are almost 2 1/2 times as likely as women 20–29 years of age to have a higher order plural birth (149.4 and 61.4). The tendency for older women to have a greater proportion of higher order multiple births has been observed for many years, but in the 1980's this gap began to widen dramatically.

Between 1980 and 1991, the higher order multiple-birth ratio for women under age 20 increased by 4 percent (from 14.8 to 15.4) while the ratio for women 30–39 years old increased by 166 percent (from 56.1 to 149.4).

The rise in the multiple-birth ratio has been associated with the increased childbearing among older women and expanded use of fertility drugs. The racial differential in higher order multiple births and the increase in this ratio for women 30–39 years of age has been linked to more widespread use of fertility drugs among older white women (15).

Births to unmarried women

The three principal measures of childbearing by unmarried women increased by 3–5 percent in 1991, the seventh consecutive year of such increases. The number of births to unmarried mothers in 1991 was the highest number ever reported in the United States (1,213,769)—4 percent higher than in 1990 (1,165,384). This number has risen 82 percent since 1980 (665,747). The birth rate per 1,000 unmarried women 15–44 years old rose 3 percent to 45.2, compared with 43.8 in 1990. This rate increased 54 percent between 1980 (29.4) and 1991.

While nonmarital births and birth rates rose in 1991, the number of births and the birth rate for married women both declined; consequently, the pro-

portion of all births that were to unmarried women increased in 1991 to 29.5 percent, compared with 28.0 percent in 1990. (See tables 16 and 17 for birth data for unmarried women.)

Nonmarital births increased much more for white than for black unmarried women, 6 percent compared with 2 percent. The number of white nonmarital births totaled 707,502 in 1991, more than double the number in 1980 (328,984). Births to black unmarried women numbered 463,750 in 1991, 45 percent more than in 1980 (318,799). The percent of all births to unmarried women was 21.8 percent for white women and 67.9 percent for black women.

The birth rate for white unmarried women in 1991 was 34.6 per 1,000 women 15–44 years old, 5 percent higher than in 1990 and nearly twice the 1980 rate (18.1). In contrast, the rate for black unmarried women declined 1 percent in 1991 to 89.5. The 1991 rate was 10 percent higher than the rate for 1980 (81.1). Because rates for white women have increased so sharply since 1980 with much more modest increases measured for black women, the racial differential in nonmarital birth rates declined substantially. In 1980, the rate for black women was 4.5 times the rate for white women; by 1991, this differential fell to 2.6.

Increases in nonmarital birth rates were 4–8 percent for teenagers and women aged 20–24 and 35 years and older. Rates for women 25–29 and 30–34 years old increased just 1 percent each. Overall, rates were highest for women 20–24 (68.0) and 18–19 (65.7) years old, followed by women 25–29 years old (56.5). Rates for young teenagers 15–17 years old and women 30–39 years old were 18–38 per 1,000. The increases in birth rates in 1991 brought each age-specific rate to the highest level ever reported during the 51-year period for which this information is available in the United States.

Increases in birth rates for white unmarried women were substantial for all women under 40 years. Rates increased by 7–10 percent for teenagers and women 20–24 years old, and by 4–5 percent for women in the 25–39-

year age groups. In contrast, increases in rates for black unmarried women were much more limited. Rates rose by 2–3 percent for teenagers and women 20–24 years old and declined by 2–4 percent for women 25–29 and 30–34 years old. The rate for women 35–39 years old increased less than 1 percent; the rate for women 40 years and older rose 6 percent.

The pattern of increase in birth rates in 1991 differs somewhat from that observed in recent years in that the increases were much greater for women under 25 years old than for women 25–34 years old. The reverse had been true from 1980 through 1990.

Between 1980 and 1990, the proportion of nonmarital births occurring to women 25 years old and older had risen steadily from 24 to 34 percent; in 1991 it remained at 34 percent.

Levels of nonmarital childbearing differ greatly according to State of residence. The number and ratio of births to unmarried women for each State by race of mother are shown in table 18. Except for very small declines in Arkansas and Massachusetts, the numbers of nonmarital births increased in all States in 1991. The ratios per 1,000 total live births in all States were higher in 1991 than in 1990. This was the case for births to white mothers as well, with the exception of the ratio in the District of Columbia. Ratios for births to black unmarried mothers increased in all but three States (Maine, Utah, and Washington).

Interval since last live birth

The interval since the mother's last live birth is computed for all second and higher order births from the date of the last live birth and the date of the present birth (table 19).

In 1991, as in 1990, 14 percent of all second- and higher order births occurred within 18 months of the mother's previous birth—28 percent within 2 years, and 52 percent within 3 years. A substantial racial differential has been observed for many years in the occurrence of births within 18 months. In 1991, the proportion for black mothers was 21 percent compared with 12 percent for white mothers.

It has been noted previously that closely spaced births tend to be at disproportionate risk of low birth-weight and other health complications even after controlling for age, education, and race of mother (16). Closely spaced births tend to occur more frequently to young women and to black women. For example, while 8 percent of all second-order births occurred to teenagers in 1991, 25 percent of all closely spaced second births were to teenage mothers. Babies born to teenage and black mothers are at greatly elevated risk of low birth-weight. (See earlier section of this report.)

Educational attainment of mother

Educational attainment of the parents was reported on the birth certificates of 48 States, the District of Columbia, and New York City in 1991. Data were not available for Washington and the remainder of New York State. The proportion of mothers reported to have completed high school was 76 percent, unchanged from 1990. (Basic data are shown in tables 20 and 21.) There was a slight decline in this proportion for fathers, to 81 percent. The proportion of high school graduates for fathers may be overstated because data for fathers are based principally on information for births to married parents; when the parents are unmarried, information on the father is often not reported on the birth certificate. Because nonmarital births tend to be disproportionately to young mothers, it is likely that the fathers of these babies are young as well, and, therefore, have limited educational attainment.

In 1991, 18 percent of mothers giving birth were college graduates, a slight increase compared with 17 percent reported in 1990. Among mothers 30 years old and older, at least one-third were college graduates.

Among white mothers, there was a slight decline in the proportion of high school graduates—to 77 percent—but a slight increase in the proportion who were college graduates—to 20 percent. There was no change in these propor-

tions for black mothers; 69 percent were high school graduates, and 7 percent were college graduates. The median number of years of school completed was 12.7 years by white mothers and 12.5 years by black mothers, both unchanged from 1991.

Births to Hispanic mothers

Hispanic origin of the parents was reported on the birth certificates of 49 States and the District of Columbia in 1991; only New Hampshire did not provide this information. According to data from the 1990 census, less than 0.1 percent of the Hispanic population resides in New Hampshire; the Hispanic reporting area is, therefore, essentially complete (17).

The text and tables 22–26 present data for births classified by Hispanic origin of the mother and by race of mother for the non-Hispanic population. Origin of the mother was very well reported in 1991; fewer than 1 percent of the birth certificates lacked this information. (See table 22 for basic data.)

The fertility of the Hispanic population, especially of Mexican women, continues to be the highest of any racial/ethnic group. The fertility rate for Hispanic women in 1991 was 108.1 births per 1,000 women 15–44 years old, 68 percent higher than the rate for non-Hispanic women as a group (64.4). Rates for white and black non-Hispanic women (60.0 and 86.8, respectively) were each far below the rate for Hispanic women. Moreover, while rates for white and black non-Hispanic women declined 2–4 percent in 1991, the rate for Hispanic women increased slightly.

The fertility rate for Mexican women increased 2 percent in 1991, to 121.6, while rates for Puerto Rican women (80.9), Cuban women (49.1), and “other” Hispanic women (99.3) were 2–7 percent lower (18,19). The relationship of the levels of rates by Hispanic subgroup has been stable for several years.

In 1991, 623,085 babies were born to Hispanic mothers, accounting for 15 percent of births in the United States. About two-thirds of Hispanic

births in 1991 were to Mexican mothers, 10 percent were to Puerto Rican mothers, and 2 percent were to Cuban mothers. Except for gradual increases in the proportion of Mexican births, these proportions have not changed in recent years.

The Hispanic population continues to be highly concentrated geographically. Two States, California and Texas, together accounted for 60 percent of all Hispanic births (41 percent and 19 percent, respectively). New York, Florida, Illinois, Arizona, New Jersey, and New Mexico together accounted for 25 percent of U.S. Hispanic births. Additionally, Hispanic births accounted for 10 percent or more of the births in each of 14 States; at least 30 percent of births in Arizona, California, New Mexico, and Texas were to Hispanic mothers.

The distribution of Hispanic births by race of mother has been stable since 1978, when the birth certificate data first became available. In 1991, 97 percent of Hispanic mothers were reported to be white, 2 percent black, and 1 percent of other races (table 23).

Birth rates by age, fertility rates, and total fertility rates by Hispanic origin for 1991 are shown in table 24. These rates by origin are based on birth data for the 49 States and the District of Columbia that reported Hispanic origin on the birth certificate. Birth rates for Hispanic women (except for Cuban women), particularly Mexican women, substantially exceed those for white and black non-Hispanic women at every age for women 20 years old and older. Hispanic, especially Mexican, women have high birth rates throughout the childbearing period. In contrast, birth rates for black non-Hispanic teenagers are higher than comparable rates for Hispanic women, but drop quickly at ages 25 years and older. Thus the differential between rates for Hispanic and non-Hispanic women increases as the age of the mother advances. For example, the birth rate for Hispanic women 25–29 years old was 152.8 per 1,000—33–38 percent higher than comparable rates for white and black non-Hispanic women (110.9 and 115.0, respectively).

The birth rates for Hispanic women 15–17 years of age are the only ones that did not exceed rates for all other groups. The rate for black non-Hispanic teenagers 15–17 years old was 22 percent higher than the rate for all Hispanic teenagers 15–17 years old, and 13 percent higher than the comparable rate for Mexican teenagers. Hispanic teenage birth rates were, however, substantially greater than rates for white non-Hispanic teenagers. As noted earlier in the section “Births and birth rates,” the high fertility of Hispanic teenagers and the substantial growth in the Hispanic teenaged population compared with white non-Hispanic teenagers are both important factors in the overall level of the birth rate for white teenagers, as well as in the considerable increases in that rate in recent years.

Birth rates for Hispanic teenagers increased between 1990 and 1991 by 6 percent overall for women 15–19 years old. The pace of increase for Hispanic women 15–17 years of age was faster than for non-Hispanic teenagers (7 percent compared with 2 percent); for older teenagers, increases in rates were more similar for Hispanic and non-Hispanic teenagers (6–7 percent) (19). The birth rate for Hispanic women 20–24 years old rose 3 percent; for non-Hispanic women in the same age group, the birth rate declined 3 percent. Rates for Hispanic and non-Hispanic women 25–44 years of age declined by up to 4 percent. (See table 24 for 1991 rates.)

The total fertility rates indicate approximate levels of completed family size if current birth rates by age continue in the future. Hispanic women, especially Mexican women, continued to have elevated total fertility rates, reflecting the high age-specific birth rates of these women. The total fertility rate for Mexican women was 3,317.5—85 percent higher than the rate for white non-Hispanic women (1,796.0) and 31 percent above the rate for black non-Hispanic women (2,526.5). Rates for other Hispanic groups ranged from 1,385.5 for Cuban women to 2,817.0 for “other” Hispanic women.

Despite their elevated birth rates at all maternal ages, women under 20 years of age account for a disproportionate share of all Hispanic, and especially Mexican and Puerto Rican, births. In 1991, 17 percent of Hispanic, 18 percent of Mexican, and 22 percent of Puerto Rican births were to teenage mothers, compared with 7–10 percent of Cuban, Central and South American, and white non-Hispanic births and 23 percent of black non-Hispanic births. (See table 25 for basic data and table 26.)

The proportion of fourth- and higher-order births to Hispanic women continued to be very high, 15 percent, compared with 10 percent of non-Hispanic births. This disparity in high-order births results from the high teenage birth rates as well as from elevated birth rates throughout the childbearing period.

Childbearing by unmarried women has increased considerably for all Hispanic and non-Hispanic groups. Overall, 39 percent of Hispanic births and 28 percent of non-Hispanic births were nonmarital in 1991. The proportions of unmarried mothers among individual Hispanic origin groups were 20 percent for Cuban mothers, 35 percent for Mexican mothers, and 58 percent for Puerto Rican mothers.

The proportions of mothers who had completed high school continued to be considerably lower for Mexican (38 percent), Puerto Rican (58 percent), and Central and South American (55 percent) women than for Cuban (83 percent) and white (85 percent) and black (70 percent) non-Hispanic women. Much of this disparity is associated with the relatively low proportions of Mexican, Puerto Rican, and Central and South American mothers who were born in the 50 States and the District of Columbia, ranging from 5 percent (Central and South American) to 58 percent (Puerto Rican). Women born outside the United States may not have been exposed to a universal education system. Important differentials in childbearing for U.S. and foreign- or Puerto Rican-born women have been reported elsewhere (20,21).

Hispanic women (except Cubans) consistently have been less likely to begin prenatal care in the critical first trimester of pregnancy and more likely to receive care beginning in the third trimester or to have no care at all. This pattern was observed again in 1991.

In spite of the less advantageous status of many Hispanic women with respect to educational attainment and timely receipt of prenatal care, Hispanic infants as a group, and subgroups as well (except Puerto Rican infants) continue to have very favorable levels of low birthweight (weight of less than 2,500 grams or 5 pounds 8 ounces), averaging 6.1 percent overall, compared with 5.7 percent for white non-Hispanic infants and 13.6 percent for black non-Hispanic infants. Levels of very low birthweight (birthweight of less than 1,500 grams or 3 pounds 4 ounces) are also low for the Hispanic subgroups, except Puerto Ricans. One factor that probably accounts for the relatively favorable low birthweight of Hispanic babies is the much lower incidence of smoking by their mothers (8,9).

Hispanic babies are generally less likely than non-Hispanic babies to have birthweights of 4,000 grams (8 pounds 14 ounces) or more. A possible explanation may be that Hispanic women are less likely to have excessive weight gain during pregnancy (9).

The maternal and infant health characteristics shown in table 26, as well as the other tables presenting data for the Hispanic population, provide data for Mexican, Puerto Rican, Cuban, Central and South American, and “other and unknown” Hispanic populations separately. The heterogeneity of the Hispanic population and the importance of distinguishing among the Hispanic subgroups are evident from these data.

American Indian and Asian or Pacific Islander births

The number of babies born to “Other Asian or Pacific Islander” mothers increased by 5 percent between 1990 and 1991. (The racial category “Other Asian or Pacific Islander” comprises primarily South-

East Asians and Asian Indians.) The number of Filipino births also rose, but at a slower pace (2 percent). Conversely, the number of births to all other racial groups (including white and black) declined by up to 4 percent. (Data for 1991 are shown in table 27.)

Between 1990 and 1991, fertility rates (defined as the number of live births per 1,000 women 15–44 years old) declined by 1 percent for American Indian women and by 3 percent for Asian/Pacific Islander women, reflecting decreases in age-specific rates at the peak childbearing ages for both groups (20–29 years of age for American Indian women and 25–34 years of age for Asian or Pacific Islander women). (See table 28 for 1991 rates.) Birth rates for American Indian teenagers 15–19 years of age increased by 5 percent, from 81.1 in 1990 to 85.0 in 1991. The Asian/Pacific Islander birth rate for teenagers 15–19 years old also increased, from 26.4 in 1990 to 27.4 in 1991, but remained much lower than the rates of other racial groups for this age group.

Although rates for Asian or Pacific Islander mothers largely reflect the patterns of “Other Asian/Pacific Islanders” who accounted for the majority (57 percent) of births in this category, it is important to note that the Asian or Pacific Islander category comprises groups with very different fertility patterns. For example, in 1990 the general fertility rate of Hawaiian women was more than twice those of Chinese and Japanese women. Teenage birth rates especially reflected this diversity, ranging from 4.7 per 1,000 for Chinese women to 120.9 per 1,000 for Hawaiian women (19).

Of all the racial groups (except black mothers), American Indian and Hawaiian mothers bear the highest risk profile. In 1991, one of every five American Indian births was to a mother under 20 years of age. The level of teenage childbearing among Hawaiians was similar (18.1 percent). In contrast, only 1.1 percent of Chinese and 2.7 percent of Japanese births were to teenaged mothers. Births to unmarried women, which are strongly associated with teenage childbearing, also were

higher among American Indian (55.3 percent) and Hawaiian mothers (45.0 percent). Among the other racial or national origin groups, births to unmarried women ranged from 5.5 percent (Chinese) to 16.8 percent (Filipino). Inadequate levels of prenatal care also were high for American Indian women and, to a lesser extent, for Hawaiian women. Only 59.9 percent of American Indian mothers and 68.1 percent of Hawaiian mothers began care within the first 3 months of pregnancy. (See table 29.)

In spite of the numerous risk factors indicating adverse birth outcome, low-birthweight levels for American Indian (6.2 percent) and Hawaiian infants (6.7 percent) compared favorably with groups at much lower risk of poor outcome. Rates for the other racial/national origin groups ranged from 5.1 percent for Chinese to 7.3 for Filipino babies.

Sizable declines were noted in low birthweight levels for Hawaiian (from 7.2 to 6.7 percent) and Japanese births (from 6.2 to 5.9 percent) between 1990 and 1991. Although low-birthweight and very-low-birthweight incidence rose for Chinese births from 4.7 to 5.1 percent and from 0.5 to 0.7 percent, respectively, these rates continued to be lower than the rates of the other racial/ethnic groups. The levels of very low birthweight for American Indian, Japanese, Hawaiian, Filipino, and “Other Asian/Pacific Islander” infants were 1.1 percent or less and virtually unchanged from 1990.

The proportion of macrosomic births (birthweight of 4,000 grams or more) was highest among American Indian births (12.6 percent), reflecting, at least in part, the higher rate of diabetes among American Indian mothers (19).

Month of pregnancy prenatal care began

In 1991, as in 1990, 76 percent of mothers began prenatal care in the crucial first trimester of pregnancy. The proportion increased from 68 percent to 75 percent between 1969 and 1978, but has been essentially unchanged since 1979. The proportion of mothers

who received late or no prenatal care at all remained at 6 percent, as it has since 1983. (See table 30 for 1991 data).

There was a slight reduction in the substantial racial disparity in prenatal care for 1991. The proportion of black mothers who received care in the first trimester increased from 60 percent in 1990 to 62 percent in 1991, with no concurrent increase in the proportion of white mothers who received timely care from the previous year (79 percent). Increases among black mothers were noted for each age group, but the largest improvement was for mothers under 20 years of age. Although they were least likely to receive timely care (only 50 percent of black teenaged mothers began care in the first trimester in 1991), the proportion of black teenaged mothers who began care in the first 3 months of pregnancy increased by 4 percent between 1990 and 1991, and the percent who received late or no care decreased by 8 percent. Between 1989 and 1991, there was a 12-percent reduction in the proportion of black teenaged mothers who received late or no care. The proportion of mothers who received late or no care was essentially unchanged from 1990 for both white (5 percent) and black mothers (11 percent).

The risk of low birthweight is reduced among women who initiate prenatal care in the first trimester. In 1991, infants of mothers who delayed care until the final trimester or had no care were almost twice as likely to be low birthweight as those who had timely care (12.0 compared with 6.4 percent). For mothers who received no care at all, the risk more than tripled (21.8 percent).

The Kessner Index is accepted as a more sensitive measure of the adequacy of prenatal care received because it takes into account not only the timing of the first prenatal visit but also the number of visits and the length of gestation. Care is defined as “adequate,” “intermediate,” or “inadequate.” The contrast between white and black women seen with initiation of care is even more apparent for adequacy of care. In 1991, 73 percent of white mothers and 52 percent of black

mothers received adequate care (tabular data not included in this report). Conversely, 6 percent of white mothers and 16 percent of black mothers received inadequate care. The Kessner Index indicated, as did the timing of care, improvements in care for black mothers, especially teenaged black mothers, between 1990 and 1991.

Number of prenatal visits

Among mothers who received prenatal care, there was a slight increase in the median number of prenatal visits made, to 12.1 in 1991 compared with 12.0 in 1990. This increase in the overall median is the first since 1987. The median increased for black mothers to 10.8 in 1991 from 10.6 in 1990. One factor influencing this change was the increase in the proportion of black mothers who began care within the first trimester—the earlier care is initiated, the greater the number of visits. Increases were noted for both married and unmarried black women at almost every stage of initiation of care. No change was observed in the median for white mothers (12.2 visits). (Basic data are shown in table 31.)

When analyzed by the month prenatal care began, racial differences in the number of prenatal visits largely disappear, reflecting the fact that black mothers in general begin care later in pregnancy than white mothers. Black mothers who began care in the first or second month of pregnancy had 12.5 median visits, compared with 12.8 for white mothers. For married white and black mothers beginning care within this period, there was no difference in the median—12.8 visits.

Period of gestation

The incidence of preterm birth, which accounts for a large proportion of infant morbidity and mortality, increased to 10.8 percent in 1991, compared with 10.6 percent in 1990. The proportion of babies born preterm (defined as less than 37 completed weeks of gestation), the etiology of which is largely undetermined, has been increasing steadily over the last decade. The latest figure represents a

15-percent increase over the level reported in 1981 (9.4 percent). (Data for 1991 are shown in table 32.)

The rise in the proportion of preterm births and the rise in low birthweight, with which it is strongly associated, primarily reflect increases in preterm births to white mothers. After rising slightly between 1989 and 1990 from 8.8 to 8.9 percent, this proportion increased to 9.1 percent in 1991. Increases were observed for births to white mothers in all age groups except for those under 15 years of age; however, as was also noted for low birthweight, the largest increase was among women in their thirties (8.6 percent to 8.9 percent).

Among black births, the proportion of preterm births in 1991 returned to the level reported in 1989 (18.9 percent) following a slight decline between 1989 and 1990 (18.8 percent), so the racial differential remained considerable. The risk of a preterm birth was substantially greater for black than for white babies regardless of the mother's age. The most favorable level for black mothers was at 20–29 years of age (18.0 percent), but this rate was only slightly lower than that for white mothers under 15 years of age (19.0 percent), the age group at most risk.

For white mothers, the risk of preterm birth was considerably higher at the youngest and oldest ages; white teenagers and mothers in their forties were much more likely to have a preterm birth than their counterparts in their twenties (11.9 and 11.2 percent, respectively, compared with 8.7 percent). White mothers 25–34 years old shared the least risk. However, for black mothers, the risk was more evenly distributed across the childbearing ages. Black mothers 20–29 years of age were only slightly less likely (18.0 percent) than black teenaged mothers (20.6 percent) to have a preterm birth. The rates for black mothers 30–39 years old (19.4 percent) were even more comparable to the teenage preterm level.

Although preterm births decrease as levels of prenatal care, education, and weight gain increase for both white and black mothers, the racial disparity

persists even for mothers with similar levels of prenatal care, education, or weight gain. Black mothers who began care within the first trimester, had at least 16 years of education, or gained 26–35 pounds, were at at least twice the risk of a preterm birth as white mothers.

Apgar score

The Apgar score is a numerical expression of the physical condition of an infant at birth. It is a summary assessment of the heart rate, respiratory effort, muscle tone, reflex, irritability, and color of the newborn. Each of these factors is assigned a value from 0 to 2. The overall score is the sum of the 5 values, with a score of 10 being optimum. (Data for 1991 are shown in tables 33 and 34.)

The infant's long-term health status and survival chances are better assessed with the 5-minute than with the 1-minute Apgar score. The proportion of low 5-minute scores (scores less than 7) for births to mothers of all ages was 1.5 percent. When scores are analyzed by age of mother, the pattern that emerges is very similar to that for low birthweight. That is, babies born to younger and older mothers were more likely to have low scores than those born to mothers of other ages. A 5-minute score of less than 7, indicating that the baby is in some distress, ranged from 1.3 percent for births to mothers 25–34 years old to 3.3 percent for births to mothers under 15 years of age. The proportion of low 5-minute scores for births to mothers in their forties was 1.8 percent.

Black infants were more likely to have low 5-minute scores than white infants. Overall, 2.7 percent of black and 1.2 percent of white infants had 5-minute scores of less than 7. The differentials by age group within each racial group were fairly similar, except that black babies were more likely than white babies to have low scores in each age group.

The proportion of infants with a 1-minute Apgar score of 9–10 was decrease unchanged from the previous year (42.7 percent). As in past years, black infants were more likely than

white infants to have high 1-minute scores (45.0 percent compared with 42.1 percent).

Five-minute scores of 9–10 were reported for 89.7 percent of births in 1991, an increase over the level of 89.6 reported for 1990. The racial differential was reversed for 5-minute scores; white babies were more likely than black babies to have scores of 9 or 10 (90.2 percent compared with 87.7 percent).

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Symbols

- - - Data not available
 - . . . Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - * Figure does not meet standard of reliability or precision (estimate is based on fewer than 20 births in numerator or denominator)
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Table 1. Live births, birth rates, and fertility rates, by race: United States, specified years 1940–55 and each year 1960–91

[Birth rates are live births per 1,000 population in specified group. Fertility rates per 1,000 women aged 15–44 years in specified group. Population enumerated as of April 1 for census years and estimated as of July 1 for all other years. Beginning with 1970, excludes births to nonresidents of the United States]

Year	Number				Birth rate				Fertility rate			
	All races	White	All other		All races	White	All other		All races	White	All other	
			Total	Black			Total	Black			Total	Black
Registered births												
Race of mother:												
1991	4,110,907	3,241,273	869,634	682,602	16.3	15.4	21.1	21.9	69.6	67.0	81.5	85.2
1990	4,158,212	3,290,273	867,939	684,336	16.7	15.8	21.7	22.4	70.9	68.3	83.2	86.8
1989	4,040,958	3,192,355	848,603	673,124	16.4	15.4	21.6	22.3	69.2	66.4	82.7	86.2
Race of child:												
1990	4,158,212	3,225,343	932,869	724,576	16.7	15.5	23.3	23.8	70.9	66.9	89.4	91.9
1989	4,040,958	3,131,991	908,967	709,395	16.4	15.1	23.1	23.5	69.2	65.1	88.6	90.8
1988	3,909,510	3,046,162	863,348	671,976	16.0	14.8	22.5	22.6	67.3	63.4	85.9	87.0
1987	3,809,394	2,992,488	816,906	641,567	15.7	14.6	21.8	21.9	65.8	62.3	83.1	84.1
1986	3,756,547	2,970,439	786,108	621,221	15.6	14.6	21.4	21.5	65.4	62.1	81.9	82.6
1985	3,760,561	2,991,373	769,188	608,193	15.8	14.8	21.4	21.3	66.3	63.1	82.3	82.4
1984 ¹	3,669,141	2,923,502	745,639	592,745	15.6	14.6	21.2	21.0	65.5	62.3	81.8	81.5
1983 ¹	3,638,933	2,904,250	734,683	586,027	15.6	14.6	21.4	21.0	65.7	62.5	82.7	82.0
1982 ¹	3,680,537	2,942,054	738,483	592,641	15.9	14.9	22.0	21.5	67.3	63.9	85.3	84.3
1981 ¹	3,629,238	2,908,669	720,569	587,797	15.8	14.8	21.9	21.7	67.3	63.9	85.7	85.3
1980 ¹	3,612,258	2,898,732	713,526	589,616	15.9	14.9	22.5	22.1	68.4	64.7	88.6	88.1
1979 ¹	3,494,398	2,808,420	685,978	577,855	15.6	14.5	22.2	22.0	67.2	63.4	88.5	88.3
1978 ¹	3,333,279	2,681,116	652,163	551,540	15.0	14.0	21.6	21.3	65.5	61.7	87.0	86.7
1977 ¹	3,326,632	2,691,070	635,562	544,221	15.1	14.1	21.6	21.4	66.8	63.2	87.7	88.1
1976 ¹	3,167,788	2,567,614	600,174	514,479	14.6	13.6	20.8	20.5	65.0	61.5	85.8	85.8
1975 ¹	3,144,198	2,551,996	592,202	511,581	14.6	13.6	21.0	20.7	66.0	62.5	87.7	87.9
1974 ¹	3,159,958	2,575,792	584,166	507,162	14.8	13.9	21.2	20.8	67.8	64.2	89.8	89.7
1973 ¹	3,136,965	2,551,030	585,935	512,597	14.8	13.8	21.7	21.4	68.8	64.9	93.4	93.6
1972 ¹	3,258,411	2,655,558	602,853	531,329	15.6	14.5	22.8	22.5	73.1	68.9	99.5	99.9
1971 ²	3,555,970	2,919,746	636,224	564,960	17.2	16.1	24.6	24.4	81.6	77.3	109.1	109.7
1970 ²	3,731,386	3,091,264	640,122	572,362	18.4	17.4	25.1	25.3	87.9	84.1	113.0	115.4
1969 ²	3,600,206	2,993,614	606,592	543,132	17.9	16.9	24.5	24.4	86.1	82.2	111.6	112.1
1968 ²	3,501,564	2,912,224	589,340	531,152	17.6	16.6	24.2	24.2	85.2	81.3	111.9	112.7
1967 ³	3,520,959	2,922,502	598,457	543,976	17.8	16.8	25.0	25.1	87.2	82.8	117.1	118.5
1966 ²	3,606,274	2,993,230	613,044	558,244	18.4	17.4	26.1	26.2	90.8	86.2	123.5	124.7
1965 ²	3,760,358	3,123,860	636,498	581,126	19.4	18.3	27.6	27.7	96.3	91.3	131.9	133.2
1964 ^{2,4}	4,027,490	3,369,160	658,330	607,556	21.1	20.0	29.2	29.5	104.7	99.8	140.0	142.6
1963 ^{2,4}	4,098,020	3,326,344	638,928	580,658	21.7	20.7	29.7	---	108.3	103.6	143.7	---
1962 ^{2,4}	4,167,362	3,394,068	641,580	584,610	22.4	21.4	30.5	---	112.0	107.5	147.8	---
1961 ²	4,268,326	3,600,864	667,462	611,072	23.3	22.2	31.6	---	117.1	112.3	153.0	---
1960 ²	4,257,850	3,600,744	657,106	602,264	23.7	22.7	32.1	31.9	118.0	113.2	153.6	153.5
Births adjusted for underregistration												
Race of child:												
1955	4,097,000	3,485,000	613,000	---	25.0	23.8	34.5	---	118.3	113.7	154.3	---
1950	3,632,000	3,108,000	524,000	---	24.1	23.0	33.3	---	106.2	102.3	137.3	---
1945	2,858,000	2,471,000	388,000	---	20.4	19.7	26.5	---	85.9	83.4	106.0	---
1940	2,559,000	2,199,000	360,000	---	19.4	18.6	26.7	---	79.9	77.1	102.4	---

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

²Based on a 50-percent sample of births.

³Based on a 20- to 50-percent sample of births.

⁴Figures by race exclude data for New Jersey.

Table 2. Live births by age of mother, live-birth order, and race of mother: United States, 1991

[Live-birth order refers to number of children born alive to mother]

Live-birth order and race of mother	Age of mother													
	All ages	Under 15 years	15-19 years						20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
			Total	15 years	16 years	17 years	18 years	19 years						
All races														
Total	4,110,907	12,014	519,577	28,810	60,511	98,905	144,029	187,322	1,089,692	1,219,965	884,862	330,993	52,095	1,709
First child	1,666,328	11,469	387,157	26,624	52,724	79,561	104,803	123,445	512,854	443,345	231,785	69,683	9,792	243
Second child	1,314,335	425	103,330	1,869	6,757	16,233	31,030	47,441	357,796	425,853	312,133	101,802	12,739	257
Third child	671,602	22	22,245	125	638	2,377	6,411	12,694	148,862	217,882	195,296	76,537	10,513	245
Fourth child	262,381	7	3,762	11	56	244	996	2,455	47,121	81,518	82,572	40,251	6,904	246
Fifth child	98,571	3	508	3	5	20	105	375	13,506	28,907	32,350	18,935	4,203	159
Sixth child	40,704	-	80	-	2	8	17	53	3,538	10,489	14,141	9,800	2,536	120
Seventh child	18,117	-	9	-	1	1	1	6	820	3,835	6,373	5,287	1,691	102
Eighth child and over	18,155	-	7	-	-	1	1	5	288	2,170	5,362	6,697	3,317	314
Not stated	20,714	88	2,479	178	328	460	665	848	4,907	5,966	4,850	2,001	400	23
White														
Total	3,241,273	5,189	352,359	15,850	37,363	65,596	99,472	134,078	831,233	1,000,138	736,816	272,511	41,792	1,235
First child	1,339,216	4,993	275,735	15,019	33,930	55,596	77,001	94,189	415,286	377,459	197,852	59,502	8,202	187
Second child	1,058,100	151	62,996	703	3,039	8,711	18,884	31,659	275,699	357,222	265,484	85,743	10,596	209
Third child	522,430	10	10,606	41	199	922	2,851	6,593	102,090	174,464	163,378	63,198	8,492	192
Fourth child	191,741	3	1,372	2	15	80	323	952	26,882	59,555	65,782	32,502	5,463	182
Fifth child	66,581	2	134	-	-	10	24	100	6,259	18,607	23,795	14,482	3,190	112
Sixth child	26,170	-	25	-	2	2	6	15	1,329	5,784	9,767	7,276	1,908	81
Seventh child	11,066	-	5	-	1	1	1	2	256	1,779	4,008	3,736	1,222	60
Eighth child and over	11,158	-	6	-	-	1	1	4	121	892	2,992	4,541	2,415	191
Not stated	14,811	30	1,480	85	177	273	381	564	3,311	4,376	3,758	1,531	304	21
All other														
Total	869,634	6,825	167,218	12,960	23,148	33,309	44,557	53,244	258,459	219,827	148,046	58,482	10,303	474
First child	327,112	6,476	111,422	11,605	18,794	23,965	27,802	29,256	97,568	65,886	33,933	10,181	1,590	56
Second child	256,235	274	40,334	1,166	3,718	7,522	12,146	15,782	82,097	68,631	46,649	16,059	2,143	48
Third child	149,172	12	11,639	84	439	1,455	3,560	6,101	46,772	43,418	31,918	13,339	2,021	53
Fourth child	70,640	4	2,390	9	41	164	673	1,503	20,239	21,963	16,790	7,749	1,441	64
Fifth child	31,990	1	374	3	5	10	81	275	7,247	10,300	8,555	4,453	1,013	47
Sixth child	14,534	-	55	-	-	6	11	38	2,209	4,705	4,374	2,524	628	39
Seventh child	7,051	-	4	-	-	-	-	4	564	2,056	2,365	1,551	469	42
Eighth child and over	6,997	-	1	-	-	-	-	1	167	1,278	2,370	2,156	902	123
Not stated	5,903	58	999	93	151	187	284	284	1,596	1,590	1,092	470	96	2
Black¹														
Total	682,602	6,419	150,956	12,032	21,248	30,291	40,020	47,365	218,918	163,052	99,637	37,362	6,064	194
First child	250,529	6,099	99,492	10,758	17,184	21,590	24,584	25,376	78,418	41,369	18,858	5,465	807	21
Second child	198,775	251	37,083	1,101	3,480	7,003	11,155	14,344	70,437	51,396	29,239	9,188	1,157	24
Third child	122,093	11	10,840	79	403	1,362	3,312	5,684	41,562	35,752	23,776	8,926	1,195	31
Fourth child	58,628	4	2,223	8	34	155	620	1,406	18,075	18,277	13,315	5,697	1,001	36
Fifth child	26,207	1	348	2	5	7	79	255	6,475	8,536	6,787	3,352	689	19
Sixth child	11,519	-	52	-	-	4	10	38	1,925	3,840	3,362	1,903	418	19
Seventh child	5,285	-	4	-	-	-	-	4	493	1,629	1,775	1,095	277	12
Eighth child and over	4,681	-	1	-	-	-	-	1	135	980	1,700	1,379	456	30
Not stated	4,885	53	913	84	142	170	260	257	1,398	1,273	825	357	64	2

¹Included in All other.

Table 3. Birth rates by age of mother, live-birth order, and race of mother: United States, 1991

[Rates are live births per 1,000 women in specified age and racial group. Live-birth order refers to number of children born alive to mother]

Live-birth order and race of mother	Age of mother										
	15-44 years ¹	10-14 years	15-19 years								
			Total	15-17 years	18-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
All races											
Total	69.6	1.4	62.1	38.7	94.4	115.7	118.2	79.5	32.0	5.5	0.2
First child	28.3	1.3	46.5	32.9	65.3	54.7	43.1	20.9	6.8	1.0	0.0
Second child	22.4	0.0	12.4	5.1	22.5	38.2	41.4	28.2	9.9	1.4	0.0
Third child	11.4	0.0	2.7	0.6	5.5	15.9	21.2	17.7	7.4	1.1	0.0
Fourth child	4.5	*	0.5	0.1	1.0	5.0	7.9	7.5	3.9	0.7	0.0
Fifth child	1.7	*	0.1	0.0	0.1	1.4	2.8	2.9	1.8	0.4	0.0
Sixth and seventh child	1.0	*	0.0	*	0.0	0.5	1.4	1.9	1.5	0.4	0.0
Eighth child and over	0.3	*	*	*	*	0.0	0.2	0.5	0.7	0.4	0.0
White											
Total	67.0	0.8	52.8	30.7	83.5	109.0	118.8	80.5	31.8	5.2	0.2
First child	27.8	0.7	41.5	27.1	61.5	54.7	45.0	21.7	7.0	1.0	0.0
Second child	22.0	0.0	9.5	3.2	18.1	36.3	42.6	29.2	10.1	1.3	0.0
Third child	10.8	*	1.6	0.3	3.4	13.4	20.8	17.9	7.4	1.1	0.0
Fourth child	4.0	*	0.2	0.0	0.5	3.5	7.1	7.2	3.8	0.7	0.0
Fifth child	1.4	*	0.0	*	0.0	0.8	2.2	2.6	1.7	0.4	0.0
Sixth and seventh child	0.8	*	0.0	*	0.0	0.2	0.9	1.5	1.3	0.4	0.0
Eighth child and over	0.2	*	*	*	*	0.0	0.1	0.3	0.5	0.3	0.0
All other											
Total	81.5	3.9	98.4	70.3	137.2	144.1	115.2	75.0	32.8	6.8	0.4
First child	30.9	3.7	65.9	55.4	80.5	54.7	34.8	17.3	5.8	1.1	0.1
Second child	24.2	0.2	23.9	12.6	39.4	46.0	36.2	23.8	9.1	1.4	0.0
Third child	14.1	*	6.9	2.0	13.6	26.2	22.9	16.3	7.6	1.3	0.0
Fourth child	6.7	*	1.4	0.2	3.1	11.4	11.6	8.6	4.4	1.0	0.1
Fifth child	3.0	*	0.2	*	0.5	4.1	5.4	4.4	2.5	0.7	0.0
Sixth and seventh child	2.0	*	0.0	*	0.1	1.6	3.6	3.4	2.3	0.7	0.1
Eighth child and over	0.7	*	*	*	*	0.1	0.7	1.2	1.2	0.6	0.1
Black²											
Total	85.2	4.8	115.5	84.1	158.6	160.9	113.1	67.7	28.3	5.5	0.2
First child	31.5	4.6	76.6	65.9	91.2	58.0	28.9	12.9	4.2	0.7	0.0
Second child	25.0	0.2	28.5	15.4	46.6	52.1	35.9	20.0	7.0	1.1	0.0
Third child	15.4	*	8.3	2.5	16.4	30.7	25.0	16.3	6.8	1.1	0.0
Fourth child	7.4	*	1.7	0.3	3.7	13.4	12.8	9.1	4.4	0.9	0.0
Fifth child	3.3	*	0.3	*	0.6	4.8	6.0	4.6	2.6	0.6	*
Sixth and seventh child	2.1	*	0.0	*	0.1	1.8	3.8	3.5	2.3	0.6	0.0
Eighth child and over	0.6	*	*	*	*	0.1	0.7	1.2	1.1	0.4	0.0

¹Rates computed by relating total births, regardless of age of mother, to women aged 15-44 years.

²Included in All other.

Table 4. Total fertility rates and birth rates by age of mother and race: United States, 1970–91

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1970, 1980, and 1990, and estimated as of July 1 for all other years]

Year and race	Total fertility rate	Age of mother									
		10–14 years	15–19 years			20–24 years	25–29 years	30–34 years	35–39 years	40–44 years	45–49 years
			Total	15–17 years	18–19						
All races ¹											
1991	2,073.0	1.4	62.1	38.7	94.4	115.7	118.2	79.5	32.0	5.5	0.2
1990	2,081.0	1.4	59.9	37.5	88.6	116.5	120.2	80.8	31.7	5.5	0.2
1989	2,014.0	1.4	57.3	36.4	84.2	113.8	117.6	77.4	29.9	5.2	0.2
1988	1,934.0	1.3	53.0	33.6	79.9	110.2	114.4	74.8	28.1	4.8	0.2
1987	1,872.0	1.3	50.6	31.7	78.5	107.9	111.6	72.1	26.3	4.4	0.2
1986	1,837.5	1.3	50.2	30.5	79.6	107.4	109.8	70.1	24.4	4.1	0.2
1985	1,844.0	1.2	51.0	31.0	79.6	108.3	111.0	69.1	24.0	4.0	0.2
1984 ²	1,806.5	1.2	50.6	31.0	77.4	106.8	108.7	67.0	22.9	3.9	0.2
1983 ²	1,799.0	1.1	51.4	31.8	77.4	107.8	108.5	64.9	22.0	3.9	0.2
1982 ²	1,827.5	1.1	52.4	32.3	79.4	111.6	111.0	64.1	21.2	3.9	0.2
1981 ²	1,812.0	1.1	52.2	32.0	80.0	112.2	111.5	61.4	20.0	3.8	0.2
1980 ²	1,839.5	1.1	53.0	32.5	82.1	115.1	112.9	61.9	19.8	3.9	0.2
1979 ²	1,808.0	1.2	52.3	32.3	81.3	112.8	111.4	60.3	19.5	3.9	0.2
1978 ²	1,760.0	1.2	51.5	32.2	79.8	109.9	108.5	57.8	19.0	3.9	0.2
1977 ²	1,789.5	1.2	52.8	33.9	80.9	112.9	111.0	56.4	19.2	4.2	0.2
1976 ²	1,738.0	1.2	52.8	34.1	80.5	110.3	106.2	53.6	19.0	4.3	0.2
1975 ²	1,774.0	1.3	55.6	36.1	85.0	113.0	108.2	52.3	19.5	4.6	0.3
1974 ²	1,835.0	1.2	57.5	37.3	88.7	117.7	111.5	53.8	20.2	4.8	0.3
1973 ²	1,879.0	1.2	59.3	38.5	91.2	119.7	112.2	55.6	22.1	5.4	0.3
1972 ²	2,010.0	1.2	61.7	39.0	96.9	130.2	117.7	59.8	24.8	6.2	0.4
1971 ³	2,266.5	1.1	64.5	38.2	105.3	150.1	134.1	67.3	28.7	7.1	0.4
1970 ³	2,480.0	1.2	68.3	38.8	114.7	167.8	145.1	73.3	31.7	8.1	0.5
White											
Race of mother:											
1991	1,995.5	0.8	52.8	30.7	83.5	109.0	118.8	80.5	31.8	5.2	0.2
1990	2,003.0	0.7	50.8	29.5	78.0	109.8	120.7	81.7	31.5	5.2	0.2
1989	1,931.0	0.7	47.9	28.1	72.9	106.9	117.8	78.1	29.7	4.9	0.2
Race of child:											
1990	1,963.0	0.7	49.3	28.6	75.6	107.2	118.8	80.4	30.9	5.1	0.2
1989	1,894.5	0.7	46.6	27.4	70.9	104.6	115.9	76.9	29.2	4.8	0.2
1988	1,822.5	0.6	43.2	25.3	67.8	101.6	113.0	74.3	27.2	4.4	0.2
1987	1,774.5	0.6	41.5	24.0	67.3	100.4	110.7	71.9	25.5	4.1	0.2
1986	1,747.5	0.6	41.5	23.3	68.7	101.0	109.2	69.8	23.5	3.7	0.2
1985	1,759.0	0.6	42.5	24.0	69.2	102.4	110.7	68.9	22.9	3.6	0.2
1984 ²	1,722.5	0.6	42.2	23.9	67.3	101.1	108.3	66.8	21.8	3.5	0.2
1983 ²	1,716.0	0.6	43.3	24.7	67.7	102.2	108.0	64.4	21.0	3.5	0.2
1982 ²	1,741.5	0.6	44.3	25.1	69.7	106.0	110.4	63.2	20.1	3.5	0.2
1981 ²	1,726.0	0.5	44.3	25.1	70.4	106.7	111.0	60.3	18.8	3.4	0.2
1980 ²	1,748.5	0.6	44.7	25.2	72.1	109.5	112.4	60.4	18.5	3.4	0.2
1979 ²	1,715.5	0.6	43.7	24.7	71.0	107.0	110.8	59.0	18.3	3.5	0.2
1978 ²	1,667.5	0.6	42.9	24.9	69.4	104.1	107.9	56.6	17.7	3.5	0.2
1977 ²	1,703.0	0.6	44.1	26.1	70.5	107.7	110.9	55.3	18.0	3.8	0.2
1976 ²	1,652.0	0.6	44.1	26.3	70.2	105.3	105.9	52.6	17.8	3.9	0.2
1975 ²	1,686.0	0.6	46.4	28.0	74.0	108.2	108.1	51.3	18.2	4.2	0.2
1974 ²	1,748.5	0.6	47.9	28.7	77.3	113.0	111.8	52.9	18.9	4.4	0.2
1973 ²	1,783.0	0.6	49.0	29.2	79.3	114.4	112.3	54.4	20.7	4.9	0.3
1972 ²	1,906.5	0.5	51.0	29.3	84.3	124.8	117.4	58.4	23.3	5.6	0.3
1971 ³	2,160.5	0.5	53.6	28.5	92.3	144.9	134.0	65.4	26.9	6.4	0.4
1970 ³	2,385.0	0.5	57.4	29.2	101.5	163.4	145.9	71.9	30.0	7.5	0.4

See footnotes at end of table.

Table 4. Total fertility rates and birth rates by age of mother and race: United States, 1970-91 - Con.

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1970 and 1980, and 1990, and estimated as of July 1 for all other years]

Year and race	Total fertility rate	Age of mother									
		10-14 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
			Total	15-17 years	18-19						
Black											
Race of mother:											
1991	2,480.0	4.8	115.5	84.1	158.6	160.9	113.1	67.7	28.3	5.5	0.2
1990	2,480.0	4.9	112.8	82.3	152.9	160.2	115.5	68.7	28.1	5.5	0.3
1989	2,432.5	5.1	111.5	81.9	151.9	156.8	114.4	66.3	26.7	5.4	0.3
Race of child:											
1990	2,626.0	4.9	118.3	85.4	161.6	170.0	122.3	73.3	30.2	5.9	0.3
1989	2,564.0	5.2	116.2	84.4	159.4	165.2	120.9	70.6	28.6	5.8	0.3
1988	2,417.5	4.9	106.9	78.1	149.4	157.1	114.4	67.1	27.3	5.5	0.3
1987	2,306.5	4.8	101.1	74.2	141.4	149.2	110.2	64.4	26.2	5.2	0.2
1986	2,237.5	4.7	98.8	71.1	140.0	143.5	106.8	63.0	25.4	5.0	0.3
1985	2,206.0	4.6	97.9	70.7	136.4	140.7	105.9	61.4	25.5	4.9	0.3
1984 ²	2,161.0	4.4	96.1	70.4	131.3	137.8	103.8	60.0	24.8	5.0	0.3
1983 ²	2,153.0	4.1	95.8	70.6	130.2	137.5	103.7	59.3	24.6	5.3	0.3
1982 ²	2,198.0	4.1	96.4	70.8	132.4	141.3	106.9	60.5	24.6	5.4	0.4
1981 ²	2,205.5	4.1	96.5	70.4	134.4	142.5	107.6	60.3	24.2	5.6	0.3
1980 ²	2,266.0	4.3	100.0	73.6	138.8	146.3	109.1	62.9	24.5	5.8	0.3
1979 ²	2,263.2	4.6	101.7	75.7	140.4	146.3	108.2	60.7	24.7	6.1	0.4
1978 ²	2,218.0	4.4	100.9	75.0	139.7	143.8	105.4	58.3	24.3	6.1	0.4
1977 ²	2,251.0	4.7	104.7	79.6	142.9	144.4	106.4	57.5	25.4	6.6	0.5
1976 ²	2,187.0	4.7	104.9	80.3	142.5	140.5	101.6	53.6	24.8	6.8	0.5
1975 ²	2,243.0	5.1	111.8	85.6	152.4	142.8	102.2	53.1	25.6	7.5	0.5
1974 ²	2,298.5	5.0	116.5	90.0	158.7	146.7	102.2	54.1	27.0	7.6	0.6
1973 ²	2,411.0	5.4	123.1	96.0	166.6	153.1	103.9	58.1	29.4	8.6	0.6
1972 ²	2,601.0	5.1	129.8	99.5	179.5	165.0	112.4	64.0	33.4	9.8	0.7
1971 ³	2,902.0	5.1	134.5	99.4	192.6	186.6	128.0	74.8	38.9	11.6	0.9
1970 ³	3,099.5	5.2	140.7	101.4	204.9	202.7	136.3	79.6	41.9	12.5	1.0

¹Includes races other than white and black.

²Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

³Based on a 50-percent sample of births.

Table 5. Birth rates by live-birth order and race: United States, 1970 and 1980-91

[Rates are live births per 1,000 women aged 15-44 years, enumerated as of April 1 for 1970, 1980, and 1990, and estimated as of July 1 for all other years. Figures for live-birth order not stated are distributed]

Year and race	Total	Live-birth order						
		1	2	3	4	5	6 and 7	8 and over
All races								
1991	69.6	28.3	22.4	11.4	4.5	1.7	1.0	0.3
1990	70.9	29.0	22.8	11.7	4.5	1.7	1.0	0.3
1989	69.2	28.4	22.4	11.3	4.3	1.6	0.9	0.3
1988	67.3	27.6	22.0	10.9	4.1	1.5	0.9	0.3
1987	65.8	27.2	21.6	10.5	3.9	1.4	0.8	0.3
1986	65.4	27.2	21.6	10.3	3.8	1.4	0.8	0.3
1985	66.3	27.6	22.0	10.4	3.8	1.4	0.8	0.3
1984 ¹	65.5	27.4	21.7	10.1	3.7	1.4	0.9	0.3
1983 ¹	65.7	27.8	21.5	10.1	3.7	1.4	0.9	0.3
1982 ¹	67.3	28.6	22.0	10.2	3.8	1.4	0.9	0.3
1981 ¹	67.3	29.0	21.6	10.1	3.8	1.5	0.9	0.4
1980 ¹	68.4	29.5	21.8	10.3	3.9	1.5	1.0	0.4
1970 ²	87.9	34.2	24.2	13.6	7.2	3.8	3.2	1.8
White								
Race of mother:								
1991	67.0	27.8	22.0	10.8	4.0	1.4	0.8	0.2
1990	68.3	28.4	22.4	11.1	4.0	1.4	0.8	0.2
1989	66.4	27.6	21.9	10.7	3.8	1.3	0.7	0.2
Race of child:								
1990	66.9	27.8	22.0	10.8	3.9	1.4	0.7	0.2
1989	65.1	27.1	21.5	10.5	3.8	1.3	0.7	0.2
1988	63.4	26.3	21.2	10.2	3.6	1.2	0.7	0.2
1987	62.3	26.0	21.0	9.8	3.4	1.1	0.6	0.2
1986	62.1	26.1	21.0	9.7	3.3	1.1	0.6	0.2
1985	63.2	26.6	21.5	9.7	3.3	1.1	0.7	0.2
1984 ¹	62.3	26.5	21.1	9.4	3.3	1.1	0.7	0.2
1983 ¹	62.5	26.8	20.9	9.4	3.3	1.2	0.7	0.2
1982 ¹	63.9	27.6	21.3	9.5	3.3	1.2	0.7	0.3
1981 ¹	63.9	28.1	20.9	9.4	3.3	1.2	0.8	0.3
1980 ¹	64.7	28.4	21.0	9.5	3.4	1.3	0.8	0.3
1970 ²	84.1	32.9	23.7	13.3	6.8	3.4	2.7	1.2
Black								
Race of mother:								
1991	85.2	31.5	25.0	15.4	7.4	3.3	2.1	0.6
1990	86.8	32.4	25.6	15.6	7.4	3.2	2.0	0.6
1989	86.2	32.9	25.4	15.3	7.1	3.0	1.9	0.6
Race of child:								
1990	91.9	34.6	27.1	16.4	7.7	3.3	2.1	0.6
1989	90.8	34.9	26.8	16.0	7.4	3.1	2.0	0.6
1988	87.0	33.7	25.9	15.1	6.9	2.9	1.8	0.5
1987	84.1	33.0	25.0	14.5	6.5	2.8	1.7	0.5
1986	82.6	32.6	24.6	14.1	6.4	2.7	1.7	0.5
1985	82.4	32.5	24.5	14.0	6.3	2.7	1.8	0.6
1984 ¹	81.5	32.3	24.1	13.8	6.3	2.7	1.8	0.6
1983 ¹	82.0	32.4	24.2	13.8	6.4	2.8	1.8	0.7
1982 ¹	84.4	33.1	25.0	14.3	6.6	2.8	1.9	0.7
1981 ¹	85.3	33.7	25.2	14.3	6.6	2.9	2.0	0.8
1980 ¹	88.1	35.2	25.7	14.5	6.7	3.0	2.1	0.9
1970 ²	115.4	43.3	27.1	16.1	10.0	6.4	7.0	5.6

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

²Based on a 50-percent sample of births.

Table 6. Live births by race of mother, birth rates, and fertility rates, by division and State: United States, 1991

[By place of residence. Birth rates per 1,000 estimated population in each area; fertility rates per 1,000 women aged 15-44 years estimated in each area]

Division and State	Number			Birth rate	Fertility rate
	All races ¹	White	Black		
United States	4,110,907	3,241,273	682,602	16.3	69.6
New England	192,564	170,420	16,361	14.6	60.9
Maine	16,753	16,447	81	13.6	58.4
New Hampshire	16,341	16,112	80	14.8	60.5
Vermont	7,965	7,854	29	14.0	58.1
Massachusetts	88,205	75,979	8,684	14.7	60.4
Rhode Island	14,734	12,945	1,142	14.7	62.2
Connecticut	48,566	41,083	6,345	14.8	63.1
Middle Atlantic	582,890	449,427	111,672	15.4	66.3
New York	292,633	216,707	62,162	16.2	68.4
New Jersey	121,406	92,800	23,722	15.6	67.0
Pennsylvania	168,851	139,920	25,788	14.1	62.6
East North Central	668,002	536,828	117,960	15.7	67.3
Ohio	165,795	137,682	26,356	15.2	65.1
Indiana	85,707	75,391	9,510	15.3	65.3
Illinois	194,231	145,452	43,245	16.8	72.0
Michigan	150,198	116,039	31,625	16.0	67.6
Wisconsin	72,071	62,264	7,224	14.5	63.3
West North Central	266,424	234,335	22,276	15.0	66.3
Minnesota	67,069	60,637	2,802	15.1	64.9
Iowa	38,989	37,112	1,158	13.9	63.5
Missouri	78,677	63,902	13,676	15.3	67.2
North Dakota	8,887	7,907	84	14.0	63.9
South Dakota	10,946	9,117	56	15.6	72.5
Nebraska	24,017	21,986	1,338	15.1	67.5
Kansas	37,839	33,674	3,162	15.2	67.9
South Atlantic	686,251	470,062	200,553	15.4	65.9
Delaware	11,190	8,113	2,853	16.5	68.7
Maryland	79,184	51,092	24,972	16.3	66.1
District of Columbia	11,776	1,605	9,238	19.7	74.1
Virginia	97,370	70,315	23,804	15.5	63.0
West Virginia	22,508	21,587	805	12.5	55.2
North Carolina	102,362	69,274	30,440	15.2	63.7
South Carolina	57,572	34,603	22,457	16.2	67.3
Georgia	110,288	68,280	40,260	16.7	67.2
Florida	194,001	145,193	45,724	14.6	68.4
East South Central	234,850	167,232	65,555	15.3	65.1
Kentucky	54,326	48,676	5,274	14.6	62.2
Tennessee	74,510	55,984	17,808	15.0	63.5
Alabama	62,810	40,655	21,651	15.4	65.7
Mississippi	43,204	21,917	20,822	16.7	71.5
West South Central	473,213	372,176	86,950	17.4	73.6
Arkansas	35,479	26,786	8,299	15.0	67.6
Louisiana	72,193	40,579	30,399	17.0	71.4
Oklahoma	47,795	37,522	5,162	15.1	66.8
Texas	317,746	267,289	43,090	18.3	76.1
Mountain	242,818	216,284	8,420	17.3	74.6
Montana	11,513	10,030	45	14.2	64.7
Idaho	16,821	16,326	55	16.2	73.1
Wyoming	6,703	6,308	65	14.6	63.2
Colorado	53,813	49,148	2,913	15.9	65.0
New Mexico	27,800	23,038	575	18.0	77.7
Arizona	68,109	58,511	2,521	18.2	79.9
Utah	36,033	34,181	180	20.4	88.1
Nevada	22,026	18,742	2,066	17.2	74.7
Pacific	763,895	624,509	52,855	19.1	80.5
Washington	79,711	70,610	3,083	15.9	67.3
Oregon	42,499	39,484	968	14.5	63.7
California	610,077	500,652	47,669	20.1	84.4
Alaska	11,686	7,885	518	20.5	82.9
Hawaii	19,922	5,878	617	17.6	75.7

¹Includes races other than white and black.

Table 7. Live births by sex and sex ratio, by race: United States, 1980-91

Year	All races			White			All other					
	Male	Female	Males per 1,000 females	Male	Female	Males per 1,000 females	Total		Black			
							Male	Female	Males per 1,000 females	Male	Female	Males per 1,000 females
Race of mother												
1991	2,101,518	2,009,389	1,046	1,659,077	1,582,196	1,049	442,441	427,193	1,036	346,455	336,147	1,031
1990	2,129,495	2,028,717	1,050	1,688,088	1,602,185	1,054	441,407	426,532	1,035	347,082	337,254	1,029
1989	2,069,490	1,971,468	1,050	1,637,594	1,554,761	1,053	431,896	416,707	1,036	341,716	331,408	1,031
Race of child												
1990	2,129,495	2,028,717	1,050	1,654,928	1,570,415	1,054	474,567	458,302	1,035	367,455	357,121	1,029
1989	2,069,490	1,971,468	1,050	1,606,757	1,525,234	1,053	462,733	446,234	1,037	360,131	349,264	1,031
1988	2,002,424	1,907,086	1,050	1,562,675	1,483,487	1,053	439,749	423,599	1,038	341,441	330,535	1,033
1987	1,951,153	1,858,241	1,050	1,535,517	1,456,971	1,054	415,636	401,270	1,036	325,259	316,308	1,028
1986	1,924,868	1,831,679	1,051	1,523,914	1,446,525	1,053	400,954	385,154	1,041	315,788	305,433	1,034
1985	1,927,983	1,832,578	1,052	1,536,646	1,454,727	1,056	391,337	377,851	1,036	308,575	299,618	1,030
1984 ¹	1,879,490	1,789,651	1,050	1,500,326	1,423,176	1,054	379,164	366,475	1,031	300,951	291,794	1,031
1983 ¹	1,865,553	1,773,380	1,052	1,492,385	1,411,865	1,057	373,168	361,515	1,032	297,011	289,016	1,028
1982 ¹	1,885,676	1,794,861	1,051	1,509,704	1,432,350	1,054	375,972	362,511	1,037	301,121	291,520	1,033
1981 ¹	1,860,272	1,768,966	1,052	1,494,437	1,414,232	1,057	365,835	354,734	1,031	297,864	289,933	1,027
1980 ¹	1,852,616	1,759,642	1,053	1,490,140	1,408,592	1,058	362,476	351,050	1,033	299,033	290,583	1,029

¹Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

Table 8. Live births by race of mother and observed and seasonally adjusted birth and fertility rates, by month: United States, 1991

[Rates on an annual basis per 1,000 population for specified month. Birth rates based on the total population. Fertility rates based on women aged 15-44 years]

Month	Number				Observed		Seasonally adjusted ¹	
	All races	White	All other		Birth rate	Fertility rate	Birth rate	Fertility rate
			Total	Black				
Total	4,110,907	3,241,273	869,634	682,602	16.3	69.6	...	...
January	335,172	261,002	74,170	58,810	15.7	67.0	16.5	70.4
February	309,130	242,759	66,371	52,407	16.1	68.4	16.4	69.8
March	344,079	272,359	71,720	56,341	16.1	68.7	16.4	69.7
April	335,626	267,509	68,117	53,251	16.3	69.2	16.7	71.0
May	353,131	282,495	70,636	55,151	16.5	70.5	16.6	71.0
June	334,265	265,336	68,929	53,869	16.1	68.9	15.8	67.5
July	362,913	285,951	76,962	60,765	16.9	72.3	16.3	69.5
August	366,786	288,046	78,740	61,944	17.1	73.1	16.2	69.0
September	356,016	280,984	75,032	58,813	17.1	73.3	16.1	69.0
October	348,934	275,193	73,741	57,530	16.2	69.5	16.3	69.8
November	323,635	253,491	70,144	54,646	15.5	66.7	16.0	68.7
December	341,220	266,148	75,072	59,075	15.9	68.0	16.5	70.7

¹The method of seasonal adjustment, developed by the U.S. Bureau of the Census, is described in the X-11 Variant of the Census Method II Seasonal Adjustment Program, Technical Paper No. 15 (1967 revision).

Table 9. Average number of live births and index of occurrence, by day of week: United States, 1991

Day of week	Average number of births	Index of occurrence ¹
Total	11,263	100.0
Sunday	8,975	79.7
Monday	11,562	102.7
Tuesday	12,301	109.2
Wednesday	12,053	107.0
Thursday	12,090	107.3
Friday	12,227	108.6
Saturday	9,612	85.3

¹Index is the ratio of the average number of births on a given day of the week to the average daily number of births for the year, multiplied by 100.

Table 10. Live births by attendant, place of delivery, and race of mother: United States, 1991

Place of delivery and race of mother	All births	Attendant							
		Physician			Midwife				
		Total	Doctor of medicine	Doctor of osteopathy	Total	Certified nurse midwife	Other midwife	Other	Unspecified
All races¹									
Total	4,110,907	3,892,053	3,757,348	134,705	182,457	167,704	14,753	31,123	5,274
In hospital ²	4,064,153	3,879,723	3,746,484	133,239	160,731	158,068	2,663	19,544	4,155
Not in hospital	45,835	11,788	10,334	1,454	21,696	9,611	12,085	11,547	804
Freestanding birthing center	14,228	4,784	4,098	686	9,202	6,166	3,036	231	11
Clinic or doctor's office	1,010	553	426	127	285	117	168	145	27
Residence	27,480	5,324	4,735	589	11,592	3,229	8,363	9,911	653
Other	3,117	1,127	1,075	52	617	99	518	1,260	113
Not specified	919	542	530	12	30	25	5	32	315
White									
Total	3,241,273	3,077,205	2,965,804	111,401	137,489	123,645	13,844	23,231	3,348
In hospital ²	3,202,287	3,068,457	2,958,366	110,091	116,714	114,660	2,054	14,509	2,607
Not in hospital	38,227	8,275	6,976	1,299	20,751	8,966	11,785	8,707	494
Freestanding birthing center	13,234	4,300	3,649	651	8,705	5,724	2,981	219	10
Clinic or doctor's office	856	456	336	120	272	113	159	109	19
Residence	22,139	2,955	2,462	493	11,183	3,046	8,137	7,607	394
Other	1,998	564	529	35	591	83	508	772	71
Not specified	759	473	462	11	24	19	5	15	247
Black									
Total	682,602	641,509	622,326	19,183	32,971	32,364	607	6,486	1,636
In hospital ²	676,662	638,496	619,445	19,051	32,421	31,938	483	4,338	1,407
Not in hospital	5,794	2,949	2,818	131	545	421	124	2,132	168
Freestanding birthing center	563	247	221	26	308	285	23	7	1
Clinic or doctor's office	80	59	56	3	2	—	2	11	8
Residence	4,250	2,151	2,062	89	215	122	93	1,750	134
Other	901	492	479	13	20	14	6	364	25
Not specified	146	64	63	1	5	5	—	16	61

¹Includes races other than white and black.

²Includes births occurring en route to or on arrival at hospital.

Table 11. Live births by age of father, age of mother, and race of father: United States, 1991

Age of mother and race of father	Age of father											Not stated
	Total	Under 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55 years and over	
All races ¹	4,110,907	505	129,074	624,968	1,006,905	940,399	477,724	168,728	45,923	13,601	7,509	695,571
Under 15 years	12,014	110	2,346	849	182	38	19	7	-	2	2	8,459
15-19 years	519,577	287	97,970	159,383	36,434	7,996	2,002	637	209	70	83	214,506
20-24 years	1,089,692	77	25,987	377,868	324,127	85,965	21,190	6,188	2,010	689	491	245,100
25-29 years	1,219,965	18	2,187	71,595	525,135	367,399	90,167	24,274	6,740	2,091	1,356	129,003
30-34 years	884,862	9	450	12,443	103,550	413,896	212,957	54,406	13,564	4,002	2,138	67,447
35-39 years	330,993	2	118	2,472	15,793	60,179	140,675	63,696	15,449	4,438	2,290	25,881
40-44 years	52,095	2	16	350	1,636	4,837	10,549	19,194	7,421	2,068	1,043	4,979
45-49 years	1,709	-	-	8	48	89	165	326	530	241	106	196
White	2,897,365	315	93,458	501,692	854,966	805,136	400,796	137,570	36,189	10,037	5,091	52,115
Under 15 years	2,476	49	1,295	597	131	26	15	5	-	2	-	356
15-19 years	244,895	188	70,570	124,339	28,805	6,271	1,527	478	160	53	57	12,447
20-24 years	705,461	58	19,431	306,286	269,237	69,290	16,421	4,726	1,538	493	306	17,675
25-29 years	938,301	12	1,703	57,949	453,987	313,075	73,141	19,294	5,175	1,516	874	11,575
30-34 years	705,457	5	350	10,166	88,190	360,945	179,982	44,208	10,651	2,915	1,426	6,619
35-39 years	260,304	2	97	2,059	13,202	51,412	120,714	52,640	12,382	3,362	1,619	2,815
40-44 years	39,342	1	12	293	1,377	4,045	8,863	15,976	5,869	1,550	756	600
45-49 years	1,129	-	-	3	37	72	133	243	414	146	53	28
Black	416,814	146	28,886	97,722	107,708	82,367	44,780	18,836	6,328	2,451	1,724	25,866
Under 15 years	1,631	50	939	184	30	8	3	2	-	-	1	414
15-19 years	64,302	74	22,174	27,721	5,489	1,174	349	113	32	12	16	7,148
20-24 years	126,727	12	5,287	57,124	40,176	10,903	3,199	1,033	350	150	154	8,339
25-29 years	114,736	5	395	10,628	49,672	32,934	10,298	3,407	1,163	441	371	5,422
30-34 years	75,392	4	75	1,728	10,457	31,506	18,722	6,396	2,001	797	522	3,184
35-39 years	29,085	-	14	288	1,714	5,372	11,248	6,179	1,906	721	482	1,161
40-44 years	4,772	1	2	45	163	461	942	1,669	834	301	163	191
45-49 years	169	-	-	4	7	9	19	37	42	29	15	7

¹Includes races other than white and black, and births with race of father not stated.

Table 12. Birth rates by age of father and race: United States, 1980-91

[Rates are live births per 1,000 men in specified group, enumerated as of April 1 for 1980 and 1990 and estimated as of July 1 for all other years. Figures for age of father not stated are distributed]

Year and race	Age of father									
	15-54 years ¹	15-19 years ²	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55 years and over
All races³										
1991	57.1	24.8	88.0	114.7	95.1	51.8	20.2	7.5	2.7	0.4
1990	58.4	23.5	88.0	116.4	97.8	53.0	21.0	7.5	2.8	0.4
1989	57.2	21.9	85.4	114.3	94.8	51.3	20.4	7.4	2.7	0.6
1988	55.8	19.6	82.4	111.6	93.1	49.9	19.9	7.1	2.7	0.4
1987	55.0	18.3	80.5	109.9	91.2	48.6	19.0	6.9	2.6	0.4
1986	54.8	17.9	80.3	109.6	90.3	46.8	18.3	6.7	2.6	0.4
1985	55.6	18.0	81.2	112.3	91.1	47.3	18.1	6.6	2.5	0.4
1984	55.0	17.8	80.7	111.4	89.9	46.0	17.8	6.3	2.4	0.4
1983	55.1	18.2	82.7	113.0	89.0	45.2	17.4	6.4	2.3	0.4
1982	56.4	18.6	86.5	117.3	90.2	44.5	17.5	6.4	2.3	0.4
1981	56.3	18.4	88.4	119.1	88.7	43.3	17.0	6.2	2.3	0.4
1980	57.0	18.8	92.0	123.0	91.0	42.8	17.1	6.1	2.2	0.4
White										
Race of father:										
1991	53.3	19.1	78.4	111.5	93.6	49.7	18.5	6.5	2.2	0.3
1990	54.6	18.1	78.3	113.2	96.1	50.9	19.2	6.5	2.2	0.3
1989	53.3	16.7	75.9	110.8	93.0	49.1	18.7	6.3	2.1	0.4
Race of child:										
1990	53.8	17.8	77.2	111.7	94.9	50.1	18.9	6.3	2.1	0.3
1989	52.6	16.4	74.7	109.3	91.8	48.3	18.3	6.2	2.0	0.4
1988	51.5	14.6	72.6	107.0	90.0	46.9	17.7	5.9	2.0	0.2
1987	50.9	13.7	71.8	105.7	88.4	45.6	17.0	5.7	2.0	0.2
1986	51.0	13.5	72.3	105.8	87.7	43.8	16.3	5.6	1.9	0.3
1985	51.9	13.8	73.7	108.7	88.5	44.2	16.0	5.4	1.9	0.3
1984	51.2	13.8	73.4	107.7	87.0	43.0	15.7	5.2	1.8	0.3
1983	51.4	14.3	75.4	109.1	85.9	42.0	15.3	5.2	1.8	0.2
1982	52.5	14.7	79.2	113.1	86.6	41.2	15.4	5.2	1.8	0.3
1981	52.3	14.8	80.8	114.7	84.9	39.9	14.8	5.1	1.8	0.3
1980	52.9	15.2	84.0	118.4	86.9	39.2	14.7	5.0	1.8	0.3
Black										
Race of father:										
1991	83.4	58.0	158.5	143.3	100.1	58.8	29.4	14.2	6.7	1.4
1990	84.9	55.2	158.2	144.9	103.2	60.4	31.1	15.0	7.1	1.4
1989	84.1	52.9	153.4	143.5	101.4	59.9	31.1	14.9	6.9	2.7
Race of child:										
1990	86.3	55.9	160.6	147.3	105.0	61.5	31.8	15.3	7.2	1.5
1989	85.4	53.6	155.6	145.8	103.1	60.9	31.7	15.2	7.1	2.8
1988	82.0	48.7	146.1	140.2	101.6	59.0	31.1	14.6	7.1	1.4
1987	79.5	45.1	138.0	136.0	99.0	59.1	30.7	14.1	6.7	1.3
1986	78.3	43.1	133.1	133.5	98.9	59.0	29.6	13.8	6.9	1.3
1985	78.3	42.3	131.1	134.4	98.6	60.4	30.0	13.6	6.7	1.3
1984	77.6	41.2	129.5	133.9	99.6	59.3	29.7	13.5	6.2	1.3
1983	78.1	41.0	130.5	136.1	100.2	60.5	30.0	13.7	6.1	1.2
1982	80.4	40.7	134.8	142.8	105.0	62.1	30.1	14.1	6.1	1.2
1981	81.2	39.2	139.7	147.2	105.6	62.1	30.0	13.6	5.9	1.2
1980	83.8	40.4	146.6	154.2	110.8	62.8	31.5	13.8	6.0	1.2

¹Rates computed by relating total births, regardless of age of father, to men aged 15-54 years.

²Rates computed by relating births of fathers under 20 years of age to men aged 15-19 years.

³Includes races other than white and black.

Table 13. Number and percent low birthweight and number of live births by birthweight, by age and race of mother: United States, 1991

Age and race of mother	Birthweight ²														
	Low birthweight ¹		Total	Less than 500 grams	500-999 grams	1,000-1,499 grams	1,500-1,999 grams	2,000-2,499 grams	2,500-2,999 grams	3,000-3,499 grams	3,500-3,999 grams	4,000-4,499 grams	4,500-4,999 grams	5,000 grams or more	Not stated
	Number	Percent													
All races ³															
All ages	292,230	7.1	4,110,907	5,497	20,606	26,894	55,934	183,299	669,364	1,511,479	1,197,183	365,391	62,925	7,591	4,744
Under 15 years	1,641	13.7	12,014	31	188	188	306	928	3,022	4,651	2,254	384	31	5	26
15-19 years	48,195	9.3	519,577	932	3,648	4,770	9,050	29,795	108,739	204,907	124,687	28,090	3,862	397	700
15 years	3,305	11.5	28,810	81	295	390	658	1,881	6,697	11,350	6,133	1,143	114	19	49
16 years	6,335	10.5	60,511	119	522	627	1,149	3,918	13,564	23,874	13,545	2,715	360	27	91
17 years	9,451	9.6	98,905	166	739	975	1,786	5,785	21,286	39,364	23,070	4,924	621	64	125
18 years	13,266	9.2	144,029	240	993	1,296	2,469	8,268	29,795	57,048	34,597	7,954	1,064	121	184
19 years	15,838	8.5	187,322	326	1,099	1,482	2,988	9,943	37,397	73,271	47,342	11,354	1,703	166	251
20-24 years	78,527	7.2	1,089,692	1,467	5,284	6,931	14,716	50,129	192,180	415,717	303,169	84,283	13,054	1,454	1,308
25-29 years	76,335	6.3	1,219,965	1,421	5,238	6,836	14,422	48,418	182,881	446,210	373,549	117,031	20,336	2,381	1,242
30-34 years	57,908	6.6	884,862	1,113	4,042	5,254	11,343	36,156	126,763	309,885	276,649	93,440	17,090	2,171	956
35-39 years	25,076	7.6	330,993	464	1,858	2,450	5,119	15,185	47,660	112,333	100,959	36,329	7,206	999	431
40-44 years	4,391	8.4	52,095	66	329	449	951	2,596	7,826	17,225	15,430	5,667	1,305	176	75
45-49 years	157	9.2	1,709	3	19	16	27	92	293	551	486	167	41	8	6
White															
All ages	187,811	5.8	3,241,273	2,901	11,780	16,479	35,762	120,889	469,304	1,178,433	1,015,515	323,770	56,426	6,595	3,419
Under 15 years	580	11.2	5,189	6	68	73	121	312	1,094	2,048	1,198	235	21	2	11
15-19 years	26,703	7.6	352,359	446	1,852	2,560	4,970	16,875	65,118	138,885	94,773	22,867	3,253	311	449
15 years	1,490	9.4	15,850	26	125	156	292	891	3,120	6,278	3,996	846	81	13	26
16 years	3,142	8.4	37,363	49	258	325	581	1,929	7,288	14,812	9,680	2,098	274	20	49
17 years	5,238	8.0	65,596	94	391	546	963	3,244	12,441	26,008	17,316	3,946	516	52	79
18 years	7,548	7.6	99,472	123	507	707	1,373	4,838	18,286	39,360	26,604	6,537	910	90	117
19 years	9,285	6.9	134,078	154	571	826	1,761	5,973	23,983	52,407	37,177	9,440	1,472	136	178
20-24 years	48,437	5.8	831,233	704	2,813	4,056	8,974	31,890	130,713	314,570	250,691	73,167	11,537	1,238	880
25-29 years	51,389	5.1	1,000,138	754	3,040	4,317	9,643	33,635	135,051	362,181	324,734	105,292	18,461	2,095	935
30-34 years	40,009	5.4	736,816	656	2,530	3,481	7,828	25,514	95,467	255,371	243,104	84,654	15,527	1,937	747
35-39 years	17,573	6.5	272,511	290	1,252	1,677	3,559	10,795	35,956	91,317	87,566	32,441	6,456	866	336
40-44 years	3,018	7.2	41,792	42	212	307	646	1,811	5,717	13,659	13,079	4,989	1,134	140	56
45-49 years	102	8.3	1,235	3	13	8	21	57	188	402	370	125	37	6	5
Black															
All ages	92,350	13.6	682,602	2,460	8,194	9,507	18,088	54,101	162,760	256,477	134,665	29,926	4,602	707	1,115
Under 15 years	1,020	15.9	6,419	24	118	112	178	588	1,821	2,435	983	135	9	2	14
15-19 years	20,136	13.4	150,956	468	1,714	2,111	3,840	12,003	40,085	59,469	26,145	4,374	453	67	227
15 years	1,724	14.4	12,032	53	161	224	348	938	3,348	4,703	1,953	255	23	4	22
16 years	2,997	14.1	21,248	65	253	294	532	1,853	5,849	8,308	3,464	517	68	6	39
17 years	3,947	13.0	30,291	71	330	404	775	2,367	8,220	12,135	5,031	835	76	9	38
18 years	5,347	13.4	40,020	115	464	563	1,026	3,179	10,502	15,825	6,977	1,173	109	25	62
19 years	6,121	12.9	47,365	164	506	626	1,159	3,666	12,166	18,498	8,720	1,594	177	23	66
20-24 years	27,520	12.6	218,918	732	2,357	2,691	5,305	16,435	53,214	84,952	42,807	8,717	1,167	168	373
25-29 years	21,693	13.3	163,052	632	2,041	2,279	4,245	12,496	36,627	60,278	34,428	8,245	1,331	204	246
30-34 years	14,991	15.1	99,637	421	1,361	1,548	3,016	8,645	21,831	34,697	21,054	5,657	1,076	159	172
35-39 years	5,975	16.0	37,362	161	515	646	1,271	3,382	7,842	12,612	7,925	2,389	466	82	71
40-44 years	987	16.3	6,064	22	84	114	229	538	1,296	1,979	1,278	390	99	24	11
45-49 years	28	14.5	194	-	4	6	4	14	44	55	45	19	1	1	1

¹Less than 2,500 grams (5 pounds 8 ounces).²Equivalents of gram weights in terms of pounds and ounces are shown in Technical notes.³Includes races other than white and black.

Table 14. Number and percent of births of low birthweight, by race of mother: United States and each State, 1991

[By place of residence]

State	Number ¹			Percent ¹		
	All races ²	White	Black	All races ²	White	Black
United States	292,230	187,811	92,350	7.1	5.8	13.6
Alabama	5,469	2,625	2,817	8.7	6.5	13.0
Alaska	544	354	40	4.7	4.5	7.7
Arizona	4,367	3,590	320	6.4	6.2	12.8
Arkansas	2,904	1,733	1,144	8.2	6.5	13.8
California	35,465	25,569	6,011	5.8	5.1	12.6
Colorado	4,409	3,790	450	8.2	7.7	15.4
Connecticut	3,352	2,360	898	6.9	5.7	14.2
Delaware	882	454	414	7.9	5.6	14.5
District of Columbia	1,805	89	1,651	15.4	5.6	17.9
Florida	14,382	8,516	5,670	7.4	5.9	12.4
Georgia	9,460	4,177	5,159	8.6	6.1	12.8
Hawaii	1,353	332	71	6.8	5.7	11.5
Idaho	972	938	6	5.8	5.7	*
Illinois	15,138	8,315	6,442	7.8	5.7	14.9
Indiana	5,716	4,485	1,174	6.7	6.0	12.4
Iowa	2,210	2,032	128	5.7	5.5	11.1
Kansas	2,344	1,894	384	6.2	5.6	12.1
Kentucky	3,891	3,214	650	7.2	6.6	12.3
Louisiana	6,767	2,490	4,198	9.4	6.1	13.8
Maine	901	883	4	5.4	5.4	*
Maryland	6,391	2,876	3,315	8.1	5.6	13.3
Massachusetts	5,197	4,098	886	5.9	5.4	10.2
Michigan	11,669	6,681	4,826	7.8	5.8	15.3
Minnesota	3,568	2,933	408	5.3	4.8	14.6
Mississippi	4,197	1,434	2,733	9.7	6.5	13.1
Missouri	5,900	3,948	1,875	7.5	6.2	13.7
Montana	643	566	6	5.6	5.6	*
Nebraska	1,344	1,150	156	5.6	5.2	11.7
Nevada	1,588	1,199	317	7.2	6.4	15.3
New Hampshire	793	772	9	4.9	4.8	*
New Jersey	8,940	5,358	3,243	7.4	5.8	13.7
New Mexico	1,970	1,640	74	7.1	7.1	12.9
New York	22,925	13,494	8,517	7.9	6.2	13.7
North Carolina	8,612	4,427	3,970	8.4	6.4	13.1
North Dakota	429	366	9	4.8	4.6	*
Ohio	12,427	8,560	3,758	7.5	6.2	14.3
Oklahoma	3,130	2,205	608	6.6	5.9	11.8
Oregon	2,088	1,845	121	4.9	4.7	12.5
Pennsylvania	12,287	8,164	3,908	7.3	5.8	15.2
Rhode Island	872	689	134	6.0	5.4	12.0
South Carolina	5,279	2,195	3,048	9.2	6.3	13.6
South Dakota	590	473	6	5.4	5.2	*
Tennessee	6,547	3,863	2,634	8.8	6.9	14.8
Texas	22,381	16,139	5,721	7.1	6.0	13.3
Utah	2,172	2,049	25	6.0	6.0	13.9
Vermont	451	442	5	5.7	5.6	*
Virginia	7,017	3,918	2,929	7.2	5.6	12.3
Washington	4,059	3,375	343	5.1	4.8	11.2
West Virginia	1,539	1,427	107	6.8	6.6	13.3
Wisconsin	4,425	3,246	1,024	6.1	5.2	14.2
Wyoming	469	439	4	7.0	7.0	*

¹Less than 2,500 grams (5 pounds 8 ounces).

²Includes races other than white and black.

Table 15. Live births by plurality of birth and race of mother, by age of mother: United States, 1991

Age of mother	All live births			Single live births			Live births in twin deliveries			Live births in triplet and higher order plural deliveries		
	All races ¹	White	Black	All races ¹	White	Black	All races ¹	White	Black	All races ¹	White	Black
	All ages	4,110,907	3,241,273	682,602	4,012,782	3,165,323	663,641	94,779	73,045	18,593	3,346	2,905	368
Under 15 years	12,014	5,189	6,419	11,875	5,121	6,355	136	68	61	3	-	3
15-19 years	519,577	352,359	150,956	512,016	347,737	148,207	7,482	4,596	2,697	79	26	52
15 years	28,810	15,850	12,032	28,510	15,688	11,904	295	157	128	5	5	-
16 years	60,511	37,363	21,248	59,764	36,940	20,951	744	423	294	3	-	3
17 years	98,905	65,596	30,291	97,577	64,786	29,794	1,313	809	483	15	1	14
18 years	144,029	99,472	40,020	141,836	98,149	39,210	2,173	1,312	802	20	11	8
19 years	187,322	134,078	47,365	184,329	132,174	46,348	2,957	1,895	990	36	9	27
20-24 years	1,089,692	831,233	218,918	1,068,121	816,402	212,761	21,171	14,551	6,040	400	280	117
25-29 years	1,219,965	1,000,138	163,052	1,190,037	976,147	158,060	28,909	23,093	4,894	1,019	898	98
30-34 years	884,862	736,816	99,637	858,444	714,864	96,128	25,156	20,779	3,456	1,262	1,173	53
35-39 years	330,993	272,511	37,362	319,916	263,198	36,035	10,522	8,803	1,289	555	510	38
40-44 years	52,095	41,792	6,064	50,699	40,643	5,902	1,368	1,131	155	28	18	7
45-49 years	1,709	1,235	194	1,674	1,211	193	35	24	1	-	-	-

¹Includes races other than white and black.

Table 16. Numbers, rates, and ratios of births to unmarried women by age and race of mother: United States, 1991

Age of mother	Number				Rate per 1,000 unmarried women in specified group				Ratio per 1,000 live births			
	All races	White	All other		All races	White	All other		All races	White	All other	
			Total	Black			Total	Black			Total	Black
All ages	1,213,769	707,502	506,267	463,750	¹ 45.2	¹ 34.6	¹ 78.8	189.5	295.3	218.3	582.2	679.4
Under 15 years	10,968	4,346	6,622	6,298	---	---	---	---	912.9	837.5	970.3	981.1
15-19 years	357,483	207,035	150,448	139,325	44.8	32.8	90.3	108.5	688.0	587.6	899.7	923.0
15 years	25,083	12,615	12,468	11,701	30.9	21.8	66.3	80.4	870.6	795.9	962.0	972.5
16 years	49,049	27,150	21,899	20,402					810.6	726.7	946.0	960.2
17 years	74,039	43,058	30,981	28,714	65.7	49.6	125.0	148.7	748.6	656.4	930.1	947.9
18 years	98,118	58,132	39,986	36,902					681.2	584.4	897.4	922.1
19 years	111,194	66,080	45,114	41,606					593.6	492.8	847.3	878.4
20-24 years	429,094	251,228	177,866	163,532	68.0	51.5	124.4	147.5	393.8	302.2	688.2	747.0
25-29 years	234,593	136,727	97,866	89,198	56.5	44.6	90.1	100.9	192.3	136.7	445.2	547.1
30-34 years	123,901	72,484	51,417	46,370	38.1	31.1	55.8	60.1	140.0	98.4	347.3	465.4
35-39 years	48,353	29,607	18,746	16,357	18.0	15.2	25.1	25.6	146.1	108.6	320.5	437.8
40 years and over	9,377	6,075	3,302	2,670	² 3.8	² 3.2	² 5.7	² 5.4	174.3	141.2	306.4	426.7

¹Rates computed by relating total births to unmarried mothers, regardless of age of mother, to unmarried women aged 15-44 years.

²Rates computed by relating births to unmarried mothers aged 40 years and over to unmarried women aged 40-44 years.

NOTE: For 44 States and the District of Columbia, marital status of mother is reported on the birth certificate; for 6 States, mother's marital status is inferred; see Technical notes.

Table 17. Birth rates for unmarried women by age of mother and race: United States, 1970, 1975, and 1980-91

[Rates are live births to unmarried women per 1,000 unmarried women in specified group, estimated as of July 1]

Year and race	Age of mother									
	15-44 years ¹	15-19 years							35-39 years	40-44 years ²
		Total	15-17 years	18-19 years	20-24 years	25-29 years	30-34 years			
All races³										
1991 ⁴	45.2	44.8	30.9	65.7	68.0	56.5	38.1	18.0	3.8	
1990 ⁴	43.8	42.5	29.6	60.7	65.1	56.0	37.6	17.3	3.6	
1989 ⁴	41.6	40.1	28.7	56.0	61.2	52.8	34.9	16.0	3.4	
1988 ⁴	38.5	36.4	26.4	51.5	56.0	48.5	32.0	15.0	3.2	
1987 ⁴	36.0	33.8	24.5	48.9	52.6	44.5	29.6	13.5	2.9	
1986 ⁴	34.2	32.3	22.8	48.0	49.3	42.2	27.2	12.2	2.7	
1985 ⁴	32.8	31.4	22.4	45.9	46.5	39.9	25.2	11.6	2.5	
1984 ^{4,5}	31.0	30.0	21.9	42.5	43.0	37.1	23.3	10.9	2.5	
1983 ^{4,5}	30.3	29.5	22.0	40.7	41.8	35.5	22.4	10.2	2.6	
1982 ^{4,5}	30.0	28.7	21.5	39.6	41.5	35.1	21.9	10.0	2.7	
1981 ^{4,5}	29.5	27.9	20.9	39.0	41.1	34.5	20.8	9.8	2.6	
1980 ^{4,5}	29.4	27.6	20.6	39.0	40.9	34.0	21.1	9.7	2.6	
1980 ^{5,6}	28.4	27.5	20.7	38.7	39.7	31.4	18.5	8.4	2.3	
1975 ^{5,6}	24.5	23.9	19.3	32.5	31.2	27.5	17.9	9.1	2.6	
1970 ^{6,7}	26.4	22.4	17.1	32.9	38.4	37.0	27.1	13.6	3.5	
White										
Race of mother:										
1991 ⁴	34.6	32.8	21.8	49.6	51.5	44.6	31.1	15.2	3.2	
1990 ⁴	32.9	30.6	20.4	44.9	48.2	43.0	29.9	14.5	3.2	
1989 ⁴	30.2	28.0	19.3	40.2	43.8	39.1	26.8	13.1	2.9	
Race of child:										
1990 ⁴	31.8	29.5	19.8	43.3	46.5	41.7	28.9	14.0	3.1	
1989 ⁴	29.2	27.2	18.7	38.9	42.4	37.9	25.9	12.7	2.8	
1988 ⁴	26.5	24.5	17.1	35.7	38.0	34.2	23.4	11.7	2.6	
1987 ⁴	24.5	22.5	15.8	33.5	35.6	31.0	21.5	10.4	2.3	
1986 ⁴	23.2	21.3	14.5	32.7	33.3	29.4	19.5	9.4	2.1	
1985 ⁴	21.8	20.3	14.2	30.4	30.8	27.5	17.7	8.7	1.9	
1984 ^{4,5}	20.1	18.9	13.5	27.3	27.7	24.6	16.2	8.1	1.9	
1983 ^{4,5}	19.2	18.4	13.4	25.8	26.3	22.9	15.4	7.5	1.9	
1982 ^{4,5}	18.7	17.6	12.9	24.7	25.7	22.2	14.7	7.2	2.0	
1981 ^{4,5}	18.1	16.9	12.4	24.1	25.0	21.5	13.6	7.0	1.8	
1980 ^{4,5}	17.6	16.2	11.8	23.6	24.4	20.7	13.6	6.8	1.8	
1980 ^{5,6}	16.2	15.9	11.7	22.8	22.4	17.3	10.5	5.3	1.4	
1975 ^{5,6}	12.4	12.0	9.6	16.5	15.5	14.8	9.8	5.4	1.5	
1970 ^{6,7}	13.9	10.9	7.5	17.6	22.5	21.1	14.2	7.6	2.0	
Black										
Race of mother:										
1991 ⁴	89.5	108.5	80.4	148.7	147.5	100.9	60.1	25.6	5.4	
1990 ⁴	90.5	106.0	78.8	143.7	144.8	105.3	61.5	25.5	5.1	
1989 ⁴	90.7	104.5	78.9	140.9	142.4	102.9	60.5	24.9	5.0	
Race of child:										
1990 ⁴	93.9	110.1	81.2	150.0	150.6	109.0	64.0	26.5	5.3	
1989 ⁴	93.8	107.9	80.9	146.2	147.4	106.4	62.8	26.0	5.2	
1988 ⁴	89.3	99.1	75.6	135.1	137.8	100.5	59.6	25.2	5.2	
1987 ⁴	85.1	93.5	71.6	126.8	129.8	94.6	55.1	23.4	5.0	
1986 ⁴	81.2	90.6	68.4	124.3	121.2	87.4	51.8	21.5	4.6	
1985 ⁴	79.0	89.3	67.9	120.4	116.0	82.0	49.3	21.2	4.4	
1984 ^{4,5}	77.0	87.5	67.4	115.6	110.6	80.4	45.4	20.3	4.5	
1983 ^{4,5}	78.0	86.8	67.6	113.8	109.9	82.4	45.4	20.2	5.0	
1982 ^{4,5}	79.8	86.5	67.2	114.8	112.0	85.5	45.9	20.3	5.4	
1981 ^{4,5}	81.3	86.2	66.7	116.1	113.5	85.8	47.2	20.4	5.8	
1980 ^{4,5}	82.9	89.2	69.6	120.2	115.1	83.9	48.2	19.6	5.6	
1980 ^{5,6}	83.2	90.3	70.6	121.8	116.0	82.9	47.0	18.5	5.5	
1975 ^{5,6}	84.2	93.5	76.8	123.8	108.0	75.7	50.0	20.5	7.2	
1970 ^{6,7}	95.5	96.9	77.9	136.4	131.5	100.9	71.8	32.9	10.4	

¹Rates computed by relating total births to unmarried mothers, regardless of age of mother, to unmarried women aged 15-44 years.

²Rates computed by relating births to unmarried mothers aged 40 years and over to unmarried women aged 40-44 years.

³Includes races other than white and black.

⁴Data for States in which marital status was not reported have been inferred and included with data from the remaining States; see Technical notes.

⁵Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

⁶Births to unmarried women are estimated for the United States from data for registration areas in which marital status of mother was reported; see Technical notes.

⁷Based on a 50-percent sample of births.

Table 18. Number and ratio of births to unmarried women, by race of mother: United States and each State, 1991

[By place of residence]

State	Number			Ratio per 1,000 live births		
	All races ¹	White	Black	All races ¹	White	Black
United States	1,213,769	707,502	463,750	295.3	218.3	679.4
Alabama	20,009	5,197	14,755	318.6	127.8	681.5
Alaska	3,148	1,482	178	269.4	188.0	343.6
Arizona	23,899	18,321	1,616	350.9	313.1	641.0
Arkansas	10,601	4,676	5,849	298.8	174.6	704.8
California ²	204,229	164,995	30,287	334.8	329.6	635.4
Colorado	12,684	10,590	1,657	235.7	215.5	568.8
Connecticut ²	13,581	8,792	4,450	279.6	214.0	701.3
Delaware	3,559	1,482	2,054	318.1	182.7	719.9
District of Columbia	7,806	198	7,145	662.9	123.4	773.4
Florida	64,101	32,159	31,414	330.4	221.5	687.0
Georgia	38,116	11,066	26,892	345.6	162.1	668.0
Hawaii	5,195	934	111	260.8	158.9	179.9
Idaho	2,924	2,767	13	173.8	169.5	*
Illinois	63,225	28,954	33,811	325.5	199.1	781.8
Indiana	24,294	16,974	7,224	283.5	225.1	759.6
Iowa	8,657	7,626	861	222.0	205.5	743.5
Kansas	8,746	6,452	2,048	231.1	191.6	647.7
Kentucky	13,796	10,017	3,726	253.9	205.8	706.5
Louisiana	27,694	6,795	20,705	383.6	167.5	681.1
Maine	4,180	4,087	21	249.5	248.5	259.3
Maryland	24,292	8,733	15,173	306.8	170.9	607.6
Massachusetts	22,873	16,691	5,414	259.3	219.7	623.4
Michigan ²	40,941	17,830	22,720	272.6	153.7	718.4
Minnesota	14,984	11,319	2,090	223.4	186.7	745.9
Mississippi	18,317	3,302	14,848	424.0	150.7	713.1
Missouri	23,736	12,991	10,541	301.7	203.3	770.8
Montana	2,898	2,000	13	251.7	199.4	*
Nebraska	5,181	3,866	999	215.7	175.8	746.6
Nevada ²	7,016	5,132	1,503	318.5	273.8	727.5
New Hampshire	2,996	2,953	33	183.3	183.3	412.5
New Jersey	31,972	15,993	15,611	263.3	172.3	658.1
New Mexico	10,445	7,549	329	375.7	327.7	572.2
New York ²	99,738	55,752	42,118	340.8	257.3	677.6
North Carolina	32,340	11,096	20,357	315.9	160.2	668.8
North Dakota	1,952	1,376	13	219.6	174.0	*
Ohio	50,826	30,500	20,079	306.6	221.5	761.8
Oklahoma	12,973	7,548	3,545	271.4	201.2	686.7
Oregon	11,324	10,011	703	266.5	253.5	726.2
Pennsylvania	51,360	30,501	20,319	304.2	218.0	787.9
Rhode Island	4,073	3,065	757	276.4	236.8	662.9
South Carolina	20,000	5,484	14,466	347.4	158.5	644.2
South Dakota	2,720	1,516	10	248.5	166.3	*
Tennessee	24,026	10,868	13,027	322.5	194.1	731.5
Texas ²	56,528	34,992	20,896	177.9	130.9	484.9
Utah	5,196	4,621	92	144.2	135.2	511.1
Vermont	1,811	1,776	17	227.4	226.1	*
Virginia	27,125	11,731	14,997	278.6	166.8	630.0
Washington	19,861	16,341	1,672	249.2	231.4	542.3
West Virginia	6,040	5,451	581	268.3	252.5	721.7
Wisconsin	18,235	11,579	5,971	253.0	186.0	826.6
Wyoming	1,546	1,371	39	230.6	217.3	600.0

¹Includes races other than white and black.²Marital status of mother is inferred: see Technical notes.

Table 19. Live births by interval since last live birth, live-birth order, and race of mother: United States, 1991

[Refers only to second- and higher-order births. Live-birth order refers to number of children born alive to mother]

Interval since last live birth and race of mother	Total, second- and higher order births ¹	Live-birth order						
		2	3	4	5	6	7	8 and over
All races²								
All intervals	2,423,865	1,314,335	671,602	262,381	98,571	40,704	18,117	18,155
0 months (plural deliveries)	43,077	16,156	13,909	7,441	3,212	1,310	569	480
1-11 months	39,540	16,858	11,116	6,034	2,935	1,351	634	612
12-17 months	272,387	128,748	75,345	37,262	16,221	7,585	3,456	3,770
18-23 months	326,370	172,763	86,579	38,371	15,483	6,785	3,039	3,350
24-35 months	530,650	305,134	135,663	53,635	19,945	8,327	3,876	4,070
36-47 months	344,206	201,918	91,740	31,731	11,108	4,233	1,815	1,661
48-59 months	217,567	122,676	62,474	20,985	6,884	2,516	1,087	945
60-71 months	146,573	79,675	44,289	14,616	4,834	1,819	743	597
72 months or more	373,977	198,410	118,357	38,238	12,043	4,126	1,609	1,194
Not stated	129,518	71,997	32,130	14,068	5,906	2,652	1,289	1,476
White								
All intervals	1,887,246	1,058,100	522,430	191,741	66,581	26,170	11,066	11,158
0 months (plural deliveries)	33,198	13,196	10,959	5,463	2,181	798	340	261
1-11 months	23,598	11,528	6,577	3,095	1,347	577	253	221
12-17 months	191,695	98,702	52,617	23,649	9,215	4,006	1,700	1,806
18-23 months	254,602	141,258	66,642	27,790	10,495	4,436	1,833	2,148
24-35 months	433,545	257,824	108,975	41,217	14,312	5,840	2,580	2,797
36-47 months	283,672	170,204	75,093	24,774	8,142	3,036	1,269	1,154
48-59 months	175,972	100,529	50,787	16,384	5,122	1,783	744	623
60-71 months	116,821	63,628	36,012	11,328	3,582	1,331	525	415
72 months or more	284,371	149,724	92,250	28,966	8,641	2,875	1,096	819
Not stated	89,772	51,507	22,518	9,075	3,544	1,488	726	914
Black								
All intervals	427,188	198,775	122,093	58,628	26,207	11,519	5,285	4,681
0 months (plural deliveries)	8,447	2,392	2,512	1,761	935	464	210	173
1-11 months	13,561	4,435	3,959	2,571	1,373	649	288	286
12-17 months	65,775	23,432	19,267	11,624	5,917	2,911	1,334	1,290
18-23 months	56,652	23,896	16,423	8,808	4,038	1,835	887	765
24-35 months	74,462	34,843	21,427	10,055	4,503	1,884	950	800
36-47 months	46,174	23,433	13,207	5,644	2,307	886	386	311
48-59 months	32,311	16,929	9,269	3,699	1,386	574	235	219
60-71 months	23,519	12,579	6,637	2,661	988	365	161	128
72 months or more	73,723	40,623	21,257	7,512	2,698	989	371	273
Not stated	32,564	16,213	8,135	4,293	2,062	962	463	436

¹Excludes not stated birth order.

²Includes races other than white and black.

Table 20. Live births by educational attainment of mother and of father and race: Total of 48 reporting States, the District of Columbia, and New York City, 1991

Years of school completed	Education and race of mother			Education and race of father		
	All races ¹	White	Black	All races ^{1,2}	White	Black
Total	3,872,352	3,032,173	662,622	3,872,352	2,710,383	404,046
0-5 years	65,955	52,716	2,920	76,290	51,876	2,836
6 years	75,151	71,207	1,883	67,639	65,138	841
7 years	27,448	21,381	4,538	16,574	14,730	838
8 years	82,445	65,901	13,351	49,064	44,656	2,541
9 years	171,553	135,308	30,671	94,636	86,020	5,845
10 years	219,612	156,187	54,933	120,959	101,053	14,866
11 years	286,041	186,177	90,155	172,423	135,306	31,070
12 years	1,432,892	1,099,432	278,589	1,240,258	997,016	197,930
13 years	292,102	233,233	49,877	186,302	154,398	25,389
14 years	364,536	291,294	55,981	299,514	248,960	36,418
15 years	123,105	96,272	19,969	101,242	82,060	13,507
16 years	453,651	392,774	33,688	434,867	382,521	28,452
17 years or more	225,500	194,899	13,652	319,571	279,249	14,806
Not stated	52,361	35,392	12,415	693,013	67,400	28,707

¹Includes races other than white and black.

²Includes births with race of father not stated.

NOTE: Excludes data for Washington and New York State (exclusive of New York City), which did not require reporting of educational attainment of mother and father.

Table 21. Live births by educational attainment of mother, by age and race of mother: Total of 48 reporting States, the District of Columbia, and New York City, 1991

Age and race of mother	Total	Years of school completed by mother					
		0-8 years	9-11 years	12 years	13-15 years	16 years or more	Not stated
All races¹							
All ages	3,872,352	250,999	677,206	1,432,892	779,743	679,151	52,361
Under 15 years	11,625	8,895	2,268	-	-	-	462
15-19 years	498,459	52,378	267,748	151,981	18,825	-	7,527
15 years	27,818	9,684	17,354	-	-	-	780
16 years	58,165	9,155	46,728	1,272	-	-	1,010
17 years	94,929	9,447	71,211	12,515	254	-	1,502
18 years	138,106	11,208	69,182	52,648	3,170	-	1,898
19 years	179,441	12,884	63,273	85,546	15,401	-	2,337
20-24 years	1,036,044	68,232	221,516	492,356	200,374	40,441	13,125
25-29 years	1,145,053	57,719	113,407	440,273	285,827	233,129	14,698
30-34 years	823,371	38,953	52,077	255,288	195,514	270,532	11,007
35-39 years	307,688	19,405	16,971	80,925	69,223	116,587	4,577
40 years and over	50,112	5,417	3,219	12,069	9,980	18,462	965
White							
All ages	3,032,173	211,205	477,672	1,099,432	620,799	587,673	35,392
Under 15 years	4,975	3,782	974	-	-	-	219
15-19 years	335,888	41,772	174,703	102,313	12,537	-	4,563
15 years	15,195	5,671	9,130	-	-	-	394
16 years	35,677	6,666	27,637	776	-	-	598
17 years	62,622	7,952	45,505	8,015	192	-	958
18 years	94,757	9,848	47,020	34,669	2,085	-	1,135
19 years	127,637	11,635	45,411	58,853	10,260	-	1,478
20-24 years	785,648	61,179	166,448	365,920	150,718	32,816	8,567
25-29 years	933,220	50,835	85,265	352,637	232,724	201,522	10,237
30-34 years	681,144	33,505	36,799	206,336	160,389	236,214	7,901
35-39 years	251,541	15,979	11,375	63,146	56,455	101,305	3,281
40 years and over	39,757	4,153	2,108	9,080	7,976	15,816	624
Black							
All ages	662,622	22,692	175,759	278,589	125,827	47,340	12,415
Under 15 years	6,267	4,830	1,216	-	-	-	221
15-19 years	147,105	8,894	85,086	44,937	5,618	-	2,570
15 years	11,736	3,743	7,650	-	-	-	343
16 years	20,669	2,231	17,638	433	-	-	367
17 years	29,439	1,190	23,618	4,113	52	-	466
18 years	39,037	942	20,149	16,297	981	-	668
19 years	46,224	788	16,031	24,094	4,585	-	726
20-24 years	212,754	3,069	48,356	110,419	42,173	5,168	3,569
25-29 years	157,966	2,390	23,501	70,618	41,695	16,653	3,109
30-34 years	96,397	1,947	12,350	37,266	26,073	16,749	2,012
35-39 years	36,066	1,200	4,417	13,186	8,962	7,521	780
40 years and over	6,067	362	833	2,163	1,306	1,249	154

¹Includes races other than white and black.

NOTE: Excludes data for Washington and New York State (exclusive of New York City), which did not require reporting of educational attainment of mother.

Table 22. Live births by Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: Total of 49 reporting States and the District of Columbia, and each State, 1991

[By place of residence]

State	Origin of mother											
	All origins	Hispanic						Non-Hispanic				Not stated
		Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total ¹	White	Black		
All reporting States	4,094,566	623,085	411,233	59,833	11,058	86,908	54,053	3,434,464	2,589,878	666,758	37,017	
Alabama	62,810	400	218	97	13	37	35	62,396	40,296	21,616	14	
Alaska	11,686	367	195	46	7	34	85	11,310	7,561	507	9	
Arizona	68,109	20,552	19,737	153	28	360	274	47,499	38,214	2,482	58	
Arkansas	35,479	379	298	9	4	23	45	35,092	26,425	8,288	8	
California	610,077	258,005	214,335	2,129	902	30,000	10,639	349,122	242,274	46,756	2,950	
Colorado	53,813	9,803	4,813	150	19	165	4,656	43,954	39,487	2,820	56	
Connecticut	48,566	5,234	144	3,806	68	718	498	40,198	33,737	5,451	3,134	
Delaware	11,190	407	118	248	3	19	19	10,772	7,725	2,831	11	
District of Columbia	11,776	865	39	14	6	767	39	10,804	1,401	9,185	107	
Florida	194,001	28,183	5,152	4,510	7,074	8,954	2,493	165,718	118,154	44,681	100	
Georgia	110,288	2,587	1,592	253	94	427	221	107,403	65,513	40,173	298	
Hawaii	19,922	2,230	318	628	15	47	1,222	17,685	5,224	597	7	
Idaho	16,821	1,535	1,228	13	3	21	270	15,259	14,792	52	27	
Illinois	194,231	25,727	19,272	3,208	193	1,144	1,910	167,013	119,739	41,996	1,491	
Indiana	85,707	1,841	1,364	222	9	47	199	83,729	73,528	9,453	137	
Iowa	38,989	732	448	20	6	24	234	38,215	36,371	1,148	42	
Kansas	37,839	2,088	1,726	70	10	82	200	35,730	31,607	3,142	21	
Kentucky	54,326	231	153	26	11	15	26	54,051	48,447	5,255	44	
Louisiana	72,193	927	206	56	57	543	65	71,196	39,788	30,347	70	
Maine	16,753	107	22	6	4	10	65	15,883	15,602	71	763	
Maryland	79,184	2,477	405	262	65	1,572	173	74,284	47,821	23,883	2,423	
Massachusetts	88,205	8,485	217	4,912	102	3,035	219	79,141	68,390	7,233	579	
Michigan	150,198	4,397	2,644	404	60	219	1,070	139,862	106,234	31,261	5,939	
Minnesota	67,069	1,262	878	80	16	83	205	62,664	57,059	2,368	3,143	
Mississippi	43,204	137	54	11	-	20	52	43,049	21,771	20,815	18	
Missouri	78,677	1,070	783	59	21	98	109	77,564	62,887	13,646	43	
Montana	11,513	260	139	11	4	4	102	10,816	9,376	32	437	
Nebraska	24,017	954	683	13	6	29	223	22,787	20,767	1,334	276	
Nevada	22,026	3,679	2,899	69	99	349	263	18,315	15,143	2,043	32	
New Jersey	121,406	17,500	1,286	8,569	908	5,170	1,567	103,542	76,192	22,697	364	
New Mexico	27,800	12,592	3,030	37	50	51	9,424	15,208	10,563	550	-	
New York	292,633	53,694	4,360	22,007	617	23,158	3,552	229,408	159,146	56,986	9,531	
North Carolina	102,362	1,833	1,119	242	33	260	179	100,492	67,561	30,381	37	
North Dakota	8,887	110	67	8	4	4	27	8,709	7,734	84	68	
Ohio	165,795	2,554	1,104	964	33	121	332	163,029	135,107	26,227	212	
Oklahoma	47,795	1,862	1,368	77	9	41	367	45,879	35,684	5,135	54	
Oregon	42,499	3,285	2,925	49	16	144	151	39,192	36,324	956	22	
Pennsylvania	168,851	5,956	438	3,995	91	491	941	162,593	134,279	25,296	302	
Rhode Island	14,734	1,400	70	448	18	751	113	12,659	11,044	1,022	675	
South Carolina	57,572	599	255	113	15	8	208	56,933	34,039	22,404	40	
South Dakota	10,946	97	73	8	-	5	11	10,837	9,030	54	12	
Tennessee	74,510	481	275	71	10	51	74	74,023	55,525	17,797	6	
Texas	317,746	121,234	106,446	709	255	4,976	8,848	196,283	146,199	42,876	229	
Utah	36,033	2,175	1,421	54	10	204	486	33,833	32,050	170	25	
Vermont	7,965	31	5	11	2	2	11	7,003	6,918	23	931	
Virginia	97,370	3,749	650	358	55	2,323	363	93,551	66,858	23,733	70	
Washington	79,711	6,492	4,627	134	21	219	1,491	71,073	62,567	2,887	2,146	
West Virginia	22,508	73	28	10	1	6	28	22,428	21,525	801	7	
Wisconsin	72,071	1,950	1,283	477	11	69	110	70,076	60,374	7,154	45	
Wyoming	6,703	497	323	7	0	8	159	6,202	5,826	59	4	

¹Includes races other than white and black.

Table 23. Number and percent distribution of live births by race of mother, according to Hispanic origin of mother: Total of 49 reporting States and the District of Columbia, 1991

Race	Origin of mother									
	Hispanic								Non-Hispanic	Not stated
	All origins	Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic			
	Number									
All races	4,094,566	623,085	411,233	59,833	11,058	86,908	54,053	3,434,464	37,017	
White	3,225,161	606,624	408,619	57,144	10,739	79,875	50,247	2,589,878	28,659	
Black	682,522	9,556	1,033	2,010	273	5,008	1,232	666,758	6,208	
Other	186,883	6,905	1,581	679	46	2,025	2,574	177,828	2,150	
	Percent distribution									
All races	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
White	78.8	97.4	99.4	95.5	97.1	91.9	93.0	75.4	77.4	
Black	16.7	1.5	0.3	3.4	2.5	5.8	2.3	19.4	16.8	
Other	4.6	1.1	0.4	1.1	0.4	2.3	4.8	5.2	5.8	

NOTE: Excludes New Hampshire, which did not report Hispanic origin of mother on the birth certificate.

Table 24. Estimated birth and fertility rates, total fertility rates, and birth rates by age of mother, by Hispanic origin of mother, and by race of mother for mothers of non-Hispanic origin: United States, 1991

Measure	Origin of mother								
	All origins ¹	Hispanic					Non-Hispanic ¹		
		Total	Mexican	Puerto Rican	Cuban	Other Hispanic ²	Total ³	White	Black
Birth rate ⁴	16.3	26.7	29.2	21.0	10.1	26.5	15.0	13.7	22.3
Fertility rate ⁵	69.6	108.1	121.6	80.9	49.1	99.3	64.4	60.0	86.8
Total fertility rate ⁶	2,073.0	3,002.5	3,317.5	2,276.0	1,385.5	2,817.0	1,930.0	1,796.0	2,526.5
Birth rates by age of mother: ⁷									
10-14 years	1.4	2.4	2.6	2.6	0.0	2.1	1.2	0.5	4.9
15-19 years	62.1	106.7	117.3	102.7	27.7	88.1	55.5	42.7	118.1
15-17 years	38.7	70.6	75.9	75.2	17.5	58.9	34.0	23.3	86.1
18-19 years	94.4	158.5	178.4	143.0	41.3	128.8	85.0	69.5	162.0
20-24 years	115.7	186.3	209.9	149.4	61.2	161.1	105.2	94.2	164.7
25-29 years	118.2	152.8	168.2	107.5	88.8	150.6	112.2	110.9	115.0
30-34 years	79.5	96.1	103.3	61.4	68.2	101.5	76.5	76.5	68.4
35-39 years	32.0	44.9	49.1	25.7	26.7	48.2	30.2	29.6	28.5
40-44 years	5.5	10.7	12.3	5.7	4.0	11.2	5.0	4.6	5.5
45-49 years	0.2	0.6	0.8	0.4	0.0	0.6	0.2	0.2	0.2

¹Includes origin not stated.²Includes Central and South American and other and unknown Hispanic.³Includes races other than white and black.⁴Rate per 1,000 total population.⁵Rate per 1,000 women aged 15-44 years.⁶Rates are sums of birth rates for 5-year age groups multiplied by 5.⁷Rates per 1,000 women in specified group.

NOTE: Rates by Hispanic origin based on birth data for 49 reporting States and the District of Columbia. Excludes New Hampshire, which did not require reporting of Hispanic origin of mother on the birth certificate. See Technical notes for description of procedure for estimating populations for individual Hispanic groups.

Table 25. Live births by age and Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: Total of 49 reporting States and the District of Columbia, 1991

Age of mother	Origin of mother									
	All origins ¹	Total	Hispanic					Non-Hispanic		
			Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total ²	White	Black
All ages	4,094,566	623,085	411,233	59,833	11,058	86,908	54,053	3,434,464	2,589,878	666,758
Under 15 years	12,006	2,484	1,722	324	9	180	249	9,437	2,721	6,338
15-19 years	518,421	104,651	72,842	12,630	775	8,006	10,398	409,836	246,570	148,342
15 years	28,779	6,411	4,314	926	33	419	719	22,138	9,444	11,849
16 years	60,413	13,440	9,273	1,793	93	881	1,400	46,514	23,899	20,902
17 years	98,699	20,907	14,486	2,618	154	1,521	2,128	77,043	44,531	29,746
18 years	143,682	28,517	20,083	3,319	231	2,158	2,726	114,097	70,592	39,323
19 years	186,848	35,376	24,686	3,974	264	3,027	3,425	150,044	98,104	46,522
20-24 years	1,086,199	199,329	137,293	20,169	2,081	22,933	16,853	878,094	626,666	214,499
25-29 years	1,214,456	170,362	109,322	15,154	4,174	27,439	14,273	1,033,586	820,779	158,613
30-34 years	880,430	99,819	61,436	8,105	2,864	18,833	8,581	771,587	628,209	96,715
35-39 years	329,471	38,690	23,767	2,880	1,014	7,924	3,105	286,782	230,211	36,195
40-44 years	51,879	7,443	4,646	549	137	1,534	577	43,764	33,806	5,869
45-49 years	1,704	307	205	22	4	59	17	1,378	916	187

¹Includes origin not stated.
²Includes races other than white and black.

NOTE: Excludes New Hampshire, which did not report Hispanic origin of mother on the birth certificate.

Table 26. Percent of births with selected characteristics, by Hispanic origin of mother and by race of mother for mothers of non-Hispanic origin: Total of 49 reporting States and the District of Columbia, 1991

Characteristic	Origin of mother									
	All origins ¹	Total	Hispanic					Non-Hispanic		
			Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total ²	White	Black
Births to mothers under 20 years	13.0	17.2	18.1	21.7	7.1	9.4	19.7	12.2	9.6	23.2
Fourth- and higher-order births	10.7	15.3	16.8	13.5	6.6	12.6	12.3	9.9	8.1	15.7
Births to unmarried mothers	29.6	38.5	35.3	57.5	19.5	43.1	37.9	28.0	18.0	68.2
Mothers with 12 years or more of education ³	75.6	45.5	38.3	57.7	83.1	55.4	65.5	81.3	84.7	69.6
Mothers born in the United States	83.7	38.2	37.4	57.9	25.2	4.7	79.6	91.9	95.8	93.2
Mothers who began prenatal care in the first trimester	76.2	61.0	58.7	65.0	85.4	63.4	65.6	78.9	83.7	61.9
Mothers who had late or no prenatal care	5.8	11.0	12.2	9.1	2.4	9.5	8.2	4.8	3.2	10.7
Preterm births ⁴	10.8	11.0	10.6	13.5	9.7	10.9	11.1	10.8	8.7	19.0
Birthweight										
Births of very low birthweight ⁵	1.3	1.0	0.9	1.7	1.1	1.0	1.1	1.3	0.9	3.0
Births of low birthweight ⁶	7.1	6.1	5.6	9.4	5.6	5.9	7.2	7.3	5.7	13.6
Births of 4,000 grams or more ⁷	10.6	9.3	9.9	6.7	10.7	9.4	8.1	10.8	12.5	5.1

¹Includes origin not stated.
²Includes races other than white and black.
³Excludes data for New York State (exclusive of New York City) and Washington, which did not require reporting of educational attainment of mother.
⁴Born prior to 37 completed weeks of gestation.
⁵Birthweight of less than 1,500 grams (3 pounds 4 ounces).
⁶Birthweight of less than 2,500 grams (5 pounds 8 ounces).
⁷Equivalent to 8 pounds 14 ounces (macrosomic).

NOTE: Excludes New Hampshire, which did not report Hispanic origin of mother on the birth certificate.

Table 27. Live births by age and specified race of mother: United States, 1991

Age of mother	All races ¹	White	Black	American Indian ²	Asian or Pacific Islander				
					Chinese	Japanese	Hawaiian	Filipino	Other
All ages	4,110,907	3,241,273	682,602	38,841	22,498	8,500	5,888	26,227	82,259
Under 15 years	12,014	5,189	6,419	166	8	3	11	26	184
15-19 years	519,577	352,359	150,956	7,735	247	230	1,054	1,566	5,172
15 years	28,810	15,850	12,032	471	17	10	58	85	270
16 years	60,511	37,363	21,248	907	22	34	131	160	609
17 years	98,905	65,596	30,291	1,523	29	41	200	261	914
18 years	144,029	99,472	40,020	2,149	72	47	303	431	1,473
19 years	187,322	134,078	47,365	2,685	107	98	362	629	1,906
20-24 years	1,089,692	831,233	218,918	12,755	1,842	776	1,862	4,894	16,582
25-29 years	1,219,965	1,000,138	163,052	9,727	7,332	2,325	1,628	7,449	27,462
30-34 years	884,862	736,816	99,637	5,761	8,557	3,288	909	7,499	21,790
35-39 years	330,993	272,511	37,362	2,258	3,855	1,619	357	3,937	8,862
40-44 years	52,095	41,792	6,064	417	637	250	65	828	2,009
45-49 years	1,709	1,235	194	22	20	9	2	28	198

¹Includes births of other races not shown separately.

²Includes births to Aleuts and Eskimos.

Table 28. Birth rates by age and specified race of mother: United States, 1991

[Birth rates by age of mother are live births per 1,000 women in specified group]

Measure	All races ¹	White	Black	American Indian ²	Asian or Pacific Islander
Birth rate ³	16.3	15.4	21.9	18.3	18.2
Fertility rate ⁴	69.6	67.0	85.2	75.1	67.6
Birth rates by age of mother					
10-14 years	1.4	0.8	4.8	1.6	0.8
15-19 years	62.1	52.8	115.5	85.0	27.4
15-17 years	38.7	30.7	84.1	52.7	16.1
18-19 years	94.4	83.5	158.6	134.3	43.1
20-24 years	115.7	109.0	160.9	144.9	75.2
25-29 years	118.2	118.8	113.1	106.9	123.2
30-34 years	79.5	80.5	67.7	61.9	103.3
35-39 years	32.0	31.8	28.3	27.2	49.0
40-44 years	5.5	5.2	5.5	5.9	11.2
45-49 years	0.2	0.2	0.2	0.4	1.1

¹Includes births of other races not shown separately.

²Includes births to Aleuts and Eskimos.

³Rate per 1,000 total population.

⁴Rate per 1,000 women aged 15-44 years.

Table 29. Percent of births with selected characteristics, by specified race of mother: United States, 1991

Characteristic	All races ¹	White	Black	American Indian ²	Asian or Pacific Islander				
					Chinese	Japanese	Hawaiian	Fillipino	Other
Births to mothers under 20 years	12.9	11.0	23.1	20.3	1.1	2.7	18.1	6.1	6.5
Fourth- and higher-order births	10.7	9.5	15.7	22.7	3.5	4.2	16.3	7.3	14.4
Births to unmarried mothers	29.5	21.8	67.9	55.3	5.5	9.8	45.0	16.8	13.5
Mothers with 12 years or more of education ³	75.7	77.0	69.5	63.5	84.2	97.0	80.6	89.8	73.5
Mothers born in the United States	83.5	84.8	91.6	97.6	10.4	51.9	96.8	15.3	6.3
Mothers who began prenatal care in the first trimester	76.2	79.5	61.9	59.9	82.3	87.7	68.1	77.1	71.9
Mothers who had late or no prenatal care . .	5.8	4.7	10.7	12.2	3.4	2.5	7.5	5.0	6.8
Preterm births ⁴	10.8	9.1	18.9	11.9	7.4	7.5	11.2	10.9	10.8
Birthweight									
Births of very low birthweight ⁵	1.3	1.0	3.0	1.1	0.7	0.6	1.0	1.0	0.9
Births of low birthweight ⁶	7.1	5.8	13.6	6.2	5.1	5.9	6.7	7.3	6.7
Births of 4,000 grams or more ⁷	10.6	11.9	5.2	12.6	6.1	5.2	8.9	6.3	5.8

¹Includes births of other races not shown separately.

²Includes births to Aleuts and Eskimos.

³Excludes data for New York State (exclusive of New York City) and Washington, which did not require reporting of educational attainment.

⁴Born prior to 37 weeks of gestation.

⁵Birthweight of less than 1,500 grams (3 pounds 4 ounces).

⁶Birthweight of less than 2,500 grams (5 pounds 8 ounces).

⁷Equivalent to 8 pounds 14 ounces (macrosomic).

Table 30. Live births by month of pregnancy prenatal care began and age and race of mother: United States, 1991

Age and race of mother	Month of pregnancy prenatal care began						
	All births	1st and 2d months	3d month	4th–6th months	7th–9th months	No prenatal care	Not stated
All races¹							
All ages	4,110,907	2,227,360	840,135	723,397	155,229	76,864	87,922
Under 15 years	12,014	2,577	2,085	4,737	1,457	721	437
15–19 years	519,577	169,952	116,465	164,554	38,426	16,889	13,291
15 years	28,810	7,228	6,004	10,672	2,801	1,231	874
16 years	60,511	17,225	13,271	20,956	5,105	2,198	1,756
17 years	98,905	30,356	22,401	32,581	7,584	3,405	2,578
18 years	144,029	47,588	32,307	45,413	10,461	4,666	3,594
19 years	187,322	67,555	42,482	54,932	12,475	5,389	4,489
20–24 years	1,089,692	503,437	236,580	244,894	54,577	25,515	24,689
25–29 years	1,219,965	737,607	242,009	165,327	33,026	17,980	24,016
30–34 years	884,862	572,089	169,484	97,352	18,566	10,410	16,961
35–39 years	330,993	210,630	63,192	38,346	7,384	4,361	7,080
40 years and over	53,804	31,068	10,320	8,187	1,793	988	1,448
White							
All ages	3,241,273	1,868,348	661,885	504,732	104,862	44,003	57,443
Under 15 years	5,189	1,247	959	1,893	604	311	175
15–19 years	352,359	122,362	82,489	106,234	24,249	9,457	7,568
15 years	15,850	4,304	3,506	5,485	1,535	614	406
16 years	37,363	11,213	8,645	12,417	3,002	1,185	901
17 years	65,596	21,196	15,643	20,710	4,683	1,930	1,434
18 years	99,472	34,531	23,328	30,149	6,781	2,607	2,076
19 years	134,078	51,118	31,367	37,473	8,248	3,121	2,751
20–24 years	831,233	407,265	183,175	172,784	37,382	14,767	15,860
25–29 years	1,000,138	633,999	196,769	119,683	23,266	10,296	16,125
30–34 years	736,816	496,225	139,315	70,662	12,920	5,912	11,782
35–39 years	272,511	181,166	51,075	27,585	5,144	2,595	4,946
40 years and over	43,027	26,084	8,103	5,891	1,297	665	987
Black							
All ages	682,602	268,107	139,339	180,699	40,336	30,063	24,058
Under 15 years	6,419	1,256	1,067	2,671	790	393	242
15–19 years	150,956	42,901	30,687	52,798	12,563	6,932	5,075
15 years	12,032	2,715	2,319	4,837	1,149	587	425
16 years	21,248	5,520	4,251	7,881	1,885	947	764
17 years	30,291	8,341	6,139	10,799	2,614	1,377	1,021
18 years	40,020	11,738	8,077	13,697	3,242	1,913	1,353
19 years	47,365	14,587	9,901	15,584	3,673	2,108	1,512
20–24 years	218,918	80,736	45,041	61,799	14,197	9,866	7,279
25–29 years	163,052	74,455	33,211	35,200	7,155	7,006	6,025
30–34 years	99,637	48,345	20,342	19,383	3,854	4,045	3,668
35–39 years	37,362	17,698	7,698	7,443	1,506	1,552	1,465
40 years and over	6,258	2,716	1,293	1,405	271	269	304

¹Includes races other than white and black.

Table 31. Live births by month of pregnancy prenatal care began, number of prenatal visits, and race of mother: United States, 1991

Number of prenatal visits and race of mother	All births	Month of pregnancy prenatal care began					
		1st and 2d months	3d month	4th-6th months	7th-9th months	No prenatal care	Not stated
All races¹							
Total	4,110,907	2,227,360	840,135	723,397	155,229	76,864	87,922
No visits	76,864	...	...	...	...	76,864	...
1-2 visits	65,080	7,933	5,580	17,249	31,805	...	2,513
3-4 visits	124,217	14,527	13,470	50,943	42,652	...	2,625
5-6 visits	239,910	45,346	41,722	111,723	37,416	...	3,703
7-8 visits	396,045	119,166	93,906	157,162	22,019	...	3,792
9-10 visits	782,995	358,164	214,348	193,508	10,882	...	6,093
11-12 visits	1,054,983	693,506	248,255	104,430	3,971	...	4,821
13-14 visits	623,741	467,710	113,670	38,714	1,503	...	2,144
15-16 visits	410,334	318,153	65,199	24,408	1,011	...	1,563
17-18 visits	89,038	70,099	13,906	4,427	207	...	399
19 visits or more	130,402	101,641	18,563	8,975	450	...	773
Not stated	117,298	31,115	11,516	11,858	3,313	...	59,496
White							
Total	3,241,273	1,868,348	661,885	504,732	104,862	44,003	57,443
No visits	44,003	...	...	...	...	44,003	...
1-2 visits	38,426	4,960	3,202	9,152	19,866	...	1,246
3-4 visits	77,478	8,924	8,068	30,710	28,265	...	1,511
5-6 visits	162,003	31,484	28,397	73,853	25,946	...	2,323
7-8 visits	293,515	92,895	70,986	111,351	15,740	...	2,543
9-10 visits	614,432	294,089	169,094	139,253	7,738	...	4,258
11-12 visits	881,901	594,065	203,773	77,476	2,912	...	3,675
13-14 visits	531,738	406,676	93,432	28,926	1,088	...	1,616
15-16 visits	338,470	267,671	51,592	17,329	734	...	1,144
17-18 visits	74,606	59,647	11,232	3,276	145	...	306
19 visits or more	105,905	84,744	14,161	6,127	323	...	550
Not stated	78,796	23,193	7,948	7,279	2,105	...	38,271
Black							
Total	682,602	268,107	139,339	180,699	40,336	30,063	24,058
No visits	30,063	...	...	...	...	30,063	...
1-2 visits	22,910	2,570	2,115	7,286	9,816	...	1,123
3-4 visits	38,705	4,752	4,610	16,979	11,437	...	927
5-6 visits	62,982	11,184	10,797	30,713	9,113	...	1,175
7-8 visits	80,526	19,866	17,837	36,901	4,945	...	977
9-10 visits	129,910	46,849	34,480	44,693	2,466	...	1,422
11-12 visits	128,813	71,173	33,811	22,134	837	...	858
13-14 visits	69,453	44,661	15,922	8,138	340	...	392
15-16 visits	56,213	38,702	10,795	6,174	228	...	314
17-18 visits	11,203	8,024	2,125	945	38	...	71
19 visits or more	20,254	13,637	3,751	2,582	105	...	179
Not stated	31,570	6,689	3,096	4,154	1,011	...	16,620

¹Includes races other than white and black.

Table 32. Live births by period of gestation, birthweight, and race of mother: United States, 1991

Birthweight ¹ and race of mother	Period of gestation									
	All births	Under 28 weeks	28–31 weeks	32–35 weeks	36 weeks	37–39 weeks	40 weeks	41 weeks	42 weeks and over	Not stated
All races ²										
Total	4,110,907	29,304	49,690	208,895	152,193	1,715,825	919,682	557,969	434,195	43,154
Less than 500 grams	5,497	5,042	218	15	1	10	6	—	4	201
500–999 grams	20,606	15,019	4,159	594	58	166	75	33	31	471
1,000–1,499 grams	26,894	4,378	13,590	5,887	603	1,208	311	150	273	494
1,500–1,999 grams	55,934	1,474	11,427	26,675	4,566	7,849	1,289	694	1,152	808
2,000–2,499 grams	183,299	1,069	5,384	54,803	25,256	67,601	12,762	6,180	7,954	2,290
2,500–2,999 grams	669,364	1,571	5,599	54,316	54,571	345,680	101,543	49,823	49,081	7,180
3,000–3,499 grams	1,511,479	—	6,079	42,116	45,117	714,163	347,079	188,788	153,190	14,947
3,500–3,999 grams	1,197,183	—	3,078	19,323	17,463	450,561	330,569	212,470	152,894	10,825
4,000–4,499 grams	365,391	—	—	4,216	3,796	109,087	105,961	82,279	56,592	3,460
4,500–4,999 grams	62,925	—	—	638	605	16,433	17,794	15,467	11,323	665
5,000 grams or more	7,591	—	—	120	79	2,176	1,877	1,786	1,434	119
Not stated	4,744	751	156	192	78	891	416	299	267	1,694
White										
Total	3,241,273	15,766	29,363	138,530	109,514	1,342,873	755,251	467,150	351,008	31,818
Less than 500 grams	2,901	2,646	120	11	—	6	5	—	3	110
500–999 grams	11,780	8,394	2,505	373	39	111	48	24	16	270
1,000–1,499 grams	16,479	2,399	8,453	3,742	389	761	187	96	172	280
1,500–1,999 grams	35,762	648	7,108	17,488	3,046	5,036	811	460	710	455
2,000–2,499 grams	120,889	494	2,714	37,019	17,058	44,777	8,333	4,040	5,062	1,392
2,500–2,999 grams	469,304	731	2,771	35,520	38,906	244,111	72,545	35,986	34,065	4,669
3,000–3,499 grams	1,178,433	—	3,545	26,979	33,057	556,882	276,101	151,681	119,164	11,024
3,500–3,999 grams	1,015,515	—	2,044	13,503	13,369	378,966	284,416	184,477	129,925	8,815
4,000–4,499 grams	323,770	—	—	3,174	3,027	95,331	94,747	74,368	50,162	2,961
4,500–4,999 grams	56,426	—	—	497	502	14,375	16,063	14,150	10,248	591
5,000 grams or more	6,595	—	—	88	62	1,808	1,652	1,623	1,266	96
Not stated	3,419	454	103	136	59	709	343	245	215	1,155
Black										
Total	682,602	12,720	18,461	60,716	35,694	286,852	124,630	69,469	66,096	7,964
Less than 500 grams	2,460	2,280	93	4	—	3	1	—	1	78
500–999 grams	8,194	6,209	1,521	197	15	48	23	7	14	160
1,000–1,499 grams	9,507	1,852	4,700	1,926	197	403	109	42	88	190
1,500–1,999 grams	18,088	786	3,944	8,229	1,364	2,455	423	209	388	290
2,000–2,499 grams	54,101	546	2,465	15,665	7,095	19,346	3,822	1,866	2,561	735
2,500–2,999 grams	162,760	772	2,580	16,206	13,137	80,888	23,254	11,324	12,709	1,890
3,000–3,499 grams	256,477	—	2,222	12,694	9,910	119,417	53,878	28,582	27,186	2,588
3,500–3,999 grams	134,665	—	890	4,775	3,263	52,505	33,738	20,748	17,511	1,235
4,000–4,499 grams	29,926	—	—	837	607	9,896	7,966	5,622	4,718	280
4,500–4,999 grams	4,602	—	—	112	78	1,481	1,205	911	767	48
5,000 grams or more	707	—	—	24	14	265	154	118	117	15
Not stated	1,115	275	46	47	14	145	57	40	36	455

¹Equivalents of the gram weights in pounds and ounces are shown in the Technical notes.²Includes races other than white and black.

Table 33. Live births by 1- and 5-minute Apgar scores, by race of mother: Total of 48 reporting States and the District of Columbia, 1991

1-minute score and race of mother	Total	5-minute score											Not stated
		0	1	2	3	4	5	6	7	8	9	10	
All races¹													
Total	3,183,084	2,396	6,491	2,990	3,064	4,546	8,733	19,237	48,537	227,817	2,397,369	434,592	27,312
0	2,515	997	354	220	198	165	127	106	76	79	134	36	23
1	19,698	780	4,713	952	1,266	1,508	1,863	2,167	2,089	2,189	1,989	72	110
2	21,511	182	838	1,213	729	1,300	2,178	3,243	3,590	4,126	3,864	153	95
3	27,166	54	248	232	467	715	1,977	3,828	5,386	6,819	7,126	239	75
4	38,275	23	61	98	122	384	1,181	4,020	7,592	11,408	12,916	382	88
5	58,743	9	26	61	68	95	646	3,325	10,741	19,336	23,595	789	52
6	100,932	9	24	30	38	101	158	1,587	11,062	37,719	48,287	1,854	63
7	272,221	29	28	52	53	82	205	389	5,890	78,406	180,760	6,242	85
8	1,265,946	132	67	63	59	124	219	366	1,470	65,365	1,152,964	44,897	220
9	1,322,165	170	96	45	34	40	131	163	571	2,107	964,810	353,688	310
10	26,379	6	3	1	1	-	4	2	4	28	270	26,017	43
Not stated	27,533	5	33	23	29	32	44	41	66	235	654	223	26,148
White													
Total	2,473,332	1,413	3,646	1,762	1,848	2,956	5,714	13,025	35,047	175,879	1,857,903	355,381	18,758
0	1,486	530	213	146	126	108	75	73	51	49	78	23	14
1	12,480	453	2,605	582	766	997	1,198	1,408	1,389	1,514	1,446	61	61
2	14,413	110	478	686	445	831	1,410	2,127	2,439	2,907	2,814	115	51
3	19,092	30	126	128	269	478	1,301	2,558	3,711	4,957	5,294	194	46
4	27,572	13	39	54	74	234	789	2,756	5,382	8,217	9,635	327	52
5	43,519	6	14	36	37	60	429	2,334	7,815	14,303	17,829	624	32
6	77,289	5	14	16	18	63	102	1,113	8,238	28,748	37,396	1,526	50
7	216,805	23	20	34	31	50	143	275	4,453	61,630	144,741	5,351	54
8	1,008,183	109	49	40	43	87	154	246	1,116	51,744	915,329	39,110	156
9	1,012,162	129	68	27	22	30	85	111	419	1,656	722,749	286,643	223
10	21,566	3	3	-	1	-	2	1	2	20	231	21,281	22
Not stated	18,765	2	17	13	16	18	26	23	32	134	361	126	17,997
Black													
Total	591,843	902	2,705	1,152	1,117	1,449	2,749	5,645	12,053	44,190	449,149	63,376	7,356
0	957	436	131	71	65	51	48	31	24	26	53	12	9
1	6,648	306	2,018	348	456	470	598	700	628	601	466	11	46
2	6,411	66	337	495	265	425	697	1,023	1,051	1,061	917	34	40
3	7,199	23	114	93	180	214	629	1,146	1,522	1,644	1,570	37	27
4	9,458	8	20	40	47	136	357	1,157	1,979	2,809	2,828	45	32
5	13,450	3	10	24	26	34	196	898	2,623	4,444	5,033	140	19
6	20,489	4	10	14	19	34	53	421	2,515	7,830	9,298	279	12
7	46,389	5	8	16	21	27	58	93	1,230	14,143	30,057	704	27
8	210,282	16	14	23	14	35	57	114	307	11,155	193,949	4,549	49
9	258,919	30	27	17	11	10	38	43	140	383	204,686	53,461	73
10	4,077	2	-	1	-	-	2	1	2	7	27	4,015	20
Not stated	7,564	3	16	10	13	13	16	18	32	87	265	89	7,002

¹Includes races other than white and black.

NOTE: Excludes data for California and Texas which did not require reporting of either 1- or 5-minute Apgar score.

Table 34. Live births by 5-minute Apgar score and age and race of mother: Total of 48 reporting States and the District of Columbia, 1991

Age and race of mother	Total	5-minute score											Not stated
		0	1	2	3	4	5	6	7	8	9	10	
All races¹													
Total	3,183,084	2,396	6,491	2,990	3,064	4,546	8,733	19,237	48,537	227,817	2,397,369	434,592	27,312
Under 15 years	9,299	25	44	28	20	25	54	105	247	836	6,856	936	123
15-19 years	399,547	395	1,139	493	524	805	1,456	3,168	7,738	32,187	298,012	49,977	3,653
15 years	22,036	39	94	37	46	53	100	217	527	1,876	16,288	2,521	238
16 years	45,896	58	157	78	61	106	184	420	934	3,885	34,050	5,497	466
17 years	75,691	77	215	100	100	155	284	605	1,488	5,976	56,661	9,294	736
18 years	111,006	101	287	130	146	198	426	841	2,146	8,979	82,611	14,140	1,001
19 years	144,918	120	386	148	171	293	462	1,085	2,643	11,471	108,402	18,525	1,212
20-24 years	837,629	607	1,763	842	837	1,221	2,375	5,327	13,539	62,666	629,437	111,803	7,212
25-29 years	952,792	655	1,698	806	805	1,199	2,342	5,201	13,137	65,304	720,839	133,304	7,502
30-34 years	691,539	482	1,229	554	599	862	1,665	3,618	9,328	46,067	523,501	97,900	5,734
35-39 years	252,926	193	539	226	230	365	713	1,530	3,877	17,779	189,607	35,324	2,543
40-44 years	38,201	38	77	40	49	64	115	284	646	2,904	28,292	5,172	520
45-49 years	1,151	1	2	1	-	5	13	4	25	74	825	176	25
White													
Total	2,473,332	1,413	3,646	1,762	1,848	2,956	5,714	13,025	35,047	175,879	1,857,903	355,381	18,758
Under 15 years	3,259	7	9	7	7	8	18	33	85	322	2,377	355	31
15-19 years	254,859	179	541	260	271	443	836	1,855	4,739	21,148	187,956	34,593	2,038
15 years	10,731	13	36	10	20	19	46	98	257	973	7,771	1,385	103
16 years	25,840	22	66	32	31	44	94	230	507	2,308	18,875	3,388	243
17 years	46,766	32	112	52	48	86	158	347	915	3,762	34,595	6,262	397
18 years	72,470	56	141	72	72	118	262	513	1,348	5,997	53,373	9,936	582
19 years	99,052	56	186	94	100	176	276	667	1,712	8,108	73,342	13,622	713
20-24 years	620,034	324	937	450	495	759	1,503	3,441	9,499	46,887	463,207	87,893	4,639
25-29 years	776,681	407	976	503	504	838	1,609	3,719	10,045	53,029	586,570	113,113	5,368
30-34 years	577,788	339	761	367	387	599	1,163	2,649	7,194	37,780	437,662	84,572	4,315
35-39 years	209,144	133	369	148	156	262	496	1,124	2,979	14,394	156,764	30,364	1,955
40-44 years	30,709	23	51	27	28	43	79	202	491	2,267	22,764	4,340	394
45-49 years	858	1	2	-	-	4	10	2	15	52	603	151	18
Black													
Total	591,843	902	2,705	1,152	1,117	1,449	2,749	5,645	12,053	44,190	449,149	63,376	7,356
Under 15 years	5,774	17	34	20	13	17	34	68	158	488	4,288	551	86
15-19 years	132,611	208	580	226	236	334	582	1,237	2,811	10,032	100,813	14,083	1,469
15 years	10,626	26	57	27	24	34	52	116	256	846	7,985	1,080	123
16 years	18,666	36	87	44	30	54	80	182	405	1,460	14,125	1,953	210
17 years	26,651	43	98	48	46	66	118	246	535	2,007	20,335	2,797	312
18 years	35,148	44	141	55	69	75	158	300	739	2,696	26,680	3,820	371
19 years	41,520	59	197	52	67	105	174	393	876	3,023	31,688	4,433	453
20-24 years	190,254	264	785	373	323	432	812	1,756	3,689	13,890	145,078	20,618	2,234
25-29 years	140,210	221	695	281	276	325	658	1,337	2,727	10,067	106,723	15,100	1,800
30-34 years	85,350	130	433	175	184	229	450	841	1,791	6,567	64,317	9,049	1,184
35-39 years	32,199	49	156	67	69	94	186	342	742	2,645	23,975	3,393	481
40-44 years	5,275	13	22	9	16	17	26	62	129	491	3,826	564	100
45-49 years	170	-	-	1	-	1	1	2	6	10	129	18	2

¹Includes races other than white and black.

NOTE: Excludes data for California and Texas, which did not require reporting of 5-minute Apgar score.

Technical notes

Source of data

Data shown in this report for 1991 are based on 100 percent of the birth certificates in all States and the District of Columbia. The data are provided to the National Center for Health Statistics (NCHS) through the Vital Statistics Cooperative Program (VSCP). In 1984 and earlier years, the VSCP included varying numbers of States that provided data based on 100 percent of their birth certificates. Data for States not in the VSCP were based on a 50-percent sample of birth certificates filed in those States. Information on sampling procedures and sampling errors for 1984 and earlier years is provided in the annual report, *Vital Statistics of the United States*, Volume I, Natality.

Race

Beginning with the 1989 data year, NCHS is tabulating its birth data primarily by race of the mother. In 1988 and prior years, births were tabulated by the race of the child, which was determined from the race of the parents as entered on the birth certificate. When the parents were of the same race, as was the case for 96.3 percent of births in 1991, the race of the child was the same as the race of the parents. When the parents were of different races and one parent was white, the child was assigned to the other parent's race. When the parents were of different races and neither parent was white, the child was assigned to the father's race, with one exception. If either parent was Hawaiian, the child was assigned to Hawaiian. If race was missing for one parent, the child was assigned the race of the parent for whom race was reported.

The most important factor influencing the decision to tabulate births by race of the mother was the recent revision of the birth certificate, effective with the 1989 data year. This revision includes many more health questions that are directly associated with the mother (for example, method of delivery, medical risk factors for this pregnancy, tobacco and alcohol use during pregnancy, and maternal weight

gain). Additionally, many of the other items on the birth certificate for more than two decades also relate directly to the mother, for example, her education level and her receipt of prenatal care. In all these instances, it was deemed more appropriate to tabulate births by the mother's race.

A second factor has been the increasing incidence of interracial parentage. In 1991, 3.7 percent of births were to parents of different races, compared with just 1.0 percent in 1968. The majority of these births were to white mothers and fathers of another race. There have been two major consequences of the increasing interracial parentage. One is the effect on birth rates by race. Under the pre-1989 procedures, the number of white births had been arbitrarily limited to infants whose parents were both white (or one parent white if only one parent's race was reported). At the same time, the number of births of other races had been arbitrarily increased to include all births to white mothers and fathers of other races. Thus, if race of mother had been used, birth rates per 1,000 white women in a given age group would have been higher, and comparable rates for black women and women of other races would have been lower. The other consequence of increasing interracial parentage is its impact on the racial differential in various characteristics of births, particularly in cases where there is generally a large racial disparity, such as the incidence of low birthweight. In this instance, the racial differential is smaller when the data are tabulated by race of child than by race of mother. The same effect has been noted for characteristics such as nonmarital childbearing, preterm births, late or no prenatal care, and low educational attainment of mother.

The third factor influencing the decision to tabulate births by race of mother is the growing proportion of births with race of father not stated, 16 percent in 1991 compared with 7 percent in 1968. This reflects the increase in the proportion of births to unmarried women; in many such cases, no information is reported on the father. These births were already

assigned the race of the mother because there was no alternative.

Tabulating all births by race of mother, therefore, provides for a more uniform approach, rather than a necessarily arbitrary combination of parental races. This topic has been discussed in greater detail in two recent papers (22,23).

This change in the tabulation of births by race presents challenges to those analyzing birth data by race, particularly trend data. The problem is likely to be acute for races other than white and black. To facilitate continuity and analysis of the data, all trend tables show data for both race of mother and race of child for 1989 and 1990. This makes it possible to distinguish the effects of this change from real changes in the data. The text in this report focuses on data tabulated by race of mother. When the trend in rates is discussed, the rates are those tabulated by race of mother. Rates and other measures tabulated by race of mother for years prior to 1989 will be published in a future report.

Population denominators

Birth and fertility rates for 1991 shown in tables 1, 3-5, 12, 24, and 28 are based on populations estimated as of July 1, 1991. The population estimates have been published by the U.S. Bureau of the Census (1) and are based on the 1990 census counts by race and age. These counts were modified to be consistent with Office of Management and Budget categories and historical categories for birth data and, in the case of age, to reflect age as of the census reference date. The modification procedures are described in detail in a census report (17).

Birth and fertility rates by month shown in table 8 are based on monthly population estimates also based on the 1991 census count. Rates for unmarried women shown in tables 16 and 17 are based on distributions of the population by marital status as of March 1991 (24), published by the U.S. Bureau of the Census, which have been adjusted to July 1991 population levels

(1) by the Division of Vital Statistics, NCHS.

Birth and fertility rates for the Hispanic population, shown in table 24, are based on estimates of the total Hispanic population as of July 1, 1991 (1). Detailed population figures are not available for individual Hispanic groups for 1991 from the Bureau of the Census. Therefore, to produce rates for the individual Hispanic groups, the 1990 census-based distribution of the population by detailed Hispanic group (17) within each age-of-woman category has been applied to the 1991 totals to develop an estimated number of women in each Hispanic group by age. It is believed that the basis for this procedure is valid (i.e., that the distributions of the Hispanic population by individual group in 1990 and 1991 are essentially the same). Birth data for New Hampshire are excluded from the rates by Hispanic origin because New Hampshire did not report this information on the birth certificate in 1991.

Computation of rates

In computing birth rates by live-birth order, births with birth order not stated were distributed in the same proportion as births of known live-birth order within each age-of-mother classification. This procedure is done separately by race. A similar process is followed for computing birth rates by age of father; births with age of father not stated are distributed first within each age-of-mother group.

In computing birth and fertility rates for the Hispanic population, births with origin of mother not stated are included with non-Hispanic births rather than being distributed. Thus, rates for the Hispanic population are underestimates of the true rates to the extent that the births with origin not stated (1.0 percent) were actually to Hispanic mothers. The population with origin not stated was imputed. The effect on the rates is believed to be small.

Births by marital status of mother

Beginning with 1980 data, national estimates of births to unmarried women

have been derived from two sources. In 1991 marital status was reported directly on the birth certificates of 44 States and the District of Columbia; in the remaining 6 States (California, Connecticut, Michigan, Nevada, New York, and Texas), which lack such an item, marital status is inferred from a comparison of the child's and parents' surnames. This procedure represents a substantial departure from the method used before 1980 to prepare national estimates of births to unmarried women. The previous method assumed that the incidence of births to unmarried women in States with no direct question on marital status was the same as the incidence in reporting States in the same geographic division.

The current method represents an attempt to use related information on the birth certificate to improve the quality of national data as well as to provide data for the individual nonreporting States. An evaluation of this method and its validity for California (the largest nonreporting State) has been published (25). Because of the continued substantial increases in nonmarital childbearing throughout the 1980's, the data have been intensively evaluated by the Division of Vital Statistics, NCHS. There has been continuing concern that the current method might overstate the number of births to unmarried women because it incorporates data based on a comparison of surnames. This is because women who have retained their maiden surname after marriage and who are frequently older, well-educated women, would be classified as unmarried. The results of this evaluation have been generally similar in both the reporting States and the States using inferential data for all races combined. The results differed for white and black births. Births to unmarried white women increased 6 percent in the States providing inferential data but declined slightly in the States with a marital status item on the birth certificate. Conversely, births to unmarried black women declined slightly in the States providing inferential data, but increased 8 percent in the States reporting marital status directly on the birth certificate.

The 6-percent increase for white births in the States providing inferential data reflects the difference in proportions of nonmarital births between Hispanic women (97 percent of whom are reported as white) and non-Hispanic white women. The proportion nonmarital for Hispanic women is about double the proportion for non-Hispanic white women. Hispanic women account for about half of the births to white women in California, the largest State providing inferential data.

Birthweight

Birthweight is reported in some areas in pounds and ounces rather than in grams. However, the metric system has been used in tabulating and presenting the statistics to facilitate comparison with data published by other groups. Equivalent weights in terms of pounds and ounces are as follows:

Less than 500 grams = 1 lb 1 oz or less
 500–999 grams = 1 lb 2 oz–2 lb 3 oz
 1,000–1,499 grams = 2 lb 4 oz–3 lb 4 oz
 1,500–1,999 grams = 3 lb 5 oz–4 lb 6 oz
 2,000–2,499 grams = 4 lb 7 oz–5 lb 8 oz
 2,500–2,999 grams = 5 lb 9 oz–6 lb 9 oz
 3,000–3,499 grams = 6 lb 10 oz–7 lb 11 oz
 3,500–3,999 grams = 7 lb 12 oz–8 lb 13 oz
 4,000–4,499 grams = 8 lb 14 oz–9 lb 14 oz
 4,500–4,999 grams = 9 lb 15 oz–11 lb 0 oz
 5,000 grams or more = 11 lb 1 oz or more

Period of gestation and birthweight

The 1989 revision of the U.S. Standard Certificate of Live Birth includes a new item, "clinical estimate of gestation," which is being compared with length of gestation computed from the date the last normal menstrual period (LMP) began when the latter appears to be inconsistent with birthweight. This is done for normal weight births of apparently short gestations and very low birthweight births reported to be full term. The clinical estimate was also used if the LMP date was not reported. The period of gestation for 4.3 percent of the births in 1991 was based on the clinical estimate of gestation. For 4 percent of these records,

the clinical estimate was used because the LMP date was not reported. For the remaining 96 percent, the clinical estimate was used because it was compatible with the reported birthweight, whereas the LMP-based gestation was not. In cases where the reported birthweight was inconsistent with both the LMP-computed gestation and the clinical estimate of gestation, the LMP-computed gestation was used and birthweight was reclassified as "not stated." This was necessary for only 566 births or 0.01 percent of all birth records in 1991. The levels of the adjustments made for the 1991 data are very similar to those for the 1990 data.

Computations of percents, percent distributions, and medians

Births with unknown live-birth order, attendant at birth, educational attainment of mother, nativity of mother, month of pregnancy prenatal care began, number of prenatal visits, birthweight, length of gestation, and 1- and 5-minute Apgar scores were subtracted from the figures for total births that were used as denominators before percents, percent distributions, and medians were computed. In the case of

birth intervals, the percent distributions also exclude the second- or later-born child in a multiple delivery (interval of 0 months). Percent distributions and the median number of prenatal visits also exclude births to mothers who had no prenatal care. Computations of the median years of school completed and the median number of prenatal visits were based on ungrouped data. An asterisk is shown in place of any derived statistic based on fewer than 20 births in the numerator or denominator.

Random variation

Although the birth data in this report for births since 1985 are not subject to sampling error, they may be affected by random variation in the number of births involved. When the number of events is small (perhaps less than 100) and the probability of such an event is small, considerable caution must be observed in interpreting the data. More information on this topic is included in the Technical appendix of the annual report, *Vital Statistics of the United States, 1989*, Volume I, Natality.

Related reports

Throughout this report, reference has been made to the 1989 revision of

the U.S. Standard Certificate of Live Birth. This report describes birth rates and characteristics of births that have been based on data available on previous versions of the birth certificate. A second supplement to the *Monthly Vital Statistics Report* for 1991 birth data will be published and will present summary data on all the new topics included on the new birth certificate. Similar reports were published for 1989 (8) and 1990 (9).

The second supplement will include data on method of delivery, tobacco and alcohol use during pregnancy, maternal weight gain, obstetric procedures, medical risk factors, complications of labor and delivery, abnormal conditions of the newborn, and congenital anomalies of the child.

Many of the topics discussed in this report are covered in more analytic detail in other reports published by NCHS. Topics of reports published in the past 5 years include first births to older mothers (2), low birthweight (26), birth rates by educational attainment (27), births of Hispanic parentage (28), and twin births (29). Also available is a report evaluating inferred birth statistics for unmarried women in California (25).

This report presents summary tabulations from the final natality statistics for 1991. More detailed tabulations for 1991 will be published in *Vital Statistics of the United States, Volume I—Natality*. Prior to the publication of that volume, the National Center for Health Statistics will respond to requests for unpublished data whenever possible.

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