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ABSTRACT

This report presents and interprets birth statistics for the United States with particular emphasis on changes that took place during the period 1970-73. Data for the report were based on information entered on birth certificates collected from all states. The majority of the document comprises graphs and tables of data, but there are four short expository sections which summarize trends. These sections examine details of recent fertility trends, changes in completed fertility and total fertility, changing patterns of fertility control, and future trends. The statistics show that by 1973 the U.S. fertility rate had declined to the lowest number ever recorded, and the annual number of births was the lowest since 1945. Major factors influencing this decline were changes in the ages at which women give birth and an emerging preference for smaller families. The greatest declines in fertility were for women aged 40 and older. There was a gradual lengthening in the interval between births for both white and black women. White women under age 30 experienced a higher level of childlessness than women of all other races, a reversal of the pattern of previous decades. (Author/AV)

Data from the
NATIONAL VITAL STATISTICS SYSTEM

Series 21
Number 28

Trends in Fertility in the United States

An analytic study of recent and long-term fertility trends in terms of period and cohort measures with emphasis on changes occurring during the period 1970-73. Discusses variations in fertility of major population groups by color and place of residence.

DHEW Publication No. (HRA) 78-1906

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TRENDS IN FERTILITY IN THE UNITED STATES

Selma Taffel, *Division of Vital Statistics*

INTRODUCTION

The fertility of American women has dropped to unprecedentedly low levels in recent years. Since 1957, there has been an almost continuous decline in the rate at which women have been bearing children. The rate of decrease accelerated sharply from 1970 to 1973, and the level of fertility is now the lowest ever observed in the United States.

The purpose of this report is to present and interpret birth statistics for the United States with particular emphasis on changes that took place during the period 1970-73. Data for 1974 and 1975 became available after most of the analysis was completed and are included only on a limited basis. Data for this report are based on information entered on birth certificates collected from all States. Sampling rates and sources of data are described in the technical appendix.

SUMMARY OF FINDINGS

All measures of fertility fell sharply during the period 1970-73. By 1973, the fertility rate (births per 1,000 women aged 15-44 years) had declined to 69.2, the lowest ever recorded, and the annual number of births to 3,136,965, the lowest number since 1945. However, the decline in the annual number of births may be at an end. There were 3,159,958 live births in 1974 and 3,144,198 live births in 1975. Births in both years were thus slightly above the 1973 level. The fertility rate continued to decline, however, falling to 68.4 and 66.7 in 1974 and 1975, respectively, as a result of a rise in the number of women of childbearing age. The number of women in the childbearing ages (15-44 years) is growing rapidly and will increase by about 17 percent between 1975 and 1985 and will remain at about that level until the year 2000. Unless fertility rates fall well below their present levels, this increase in the number of women will raise the annual number of births.

Major factors influential in the recent decline in fertility are changes in the timing patterns of childbearing (i.e., the ages at which women give birth) and an emerging preference for smaller families. The decrease in numbers of wanted births occurred at a time when the introduction of more reliable and acceptable means of contraception made the limiting of family size a more readily attainable goal. The decline in fertility thus was due also in part to a reduction in the number of unwanted births.

Although all age groups (except girls aged 10-14 and 15-17 years) experienced substantial reductions in fertility between 1970 and 1973, the greatest declines were for women aged 40 years and over. While the median age of childbearing for white women (all birth orders combined) remained constant between 1970 and 1973 and dropped slightly for women of all other races, the median age for having second and higher order births increased for both racial groups.

Declines in birth rates were evident for all birth orders but were more pronounced for fourth and higher order births. Since there were far fewer higher order births, however, a major portion of the overall decline was due to the drop in first, second, and third order births.

When the fertility of white women was compared with that of women of all other races, the rates for the latter have been consistently higher. Both groups reached peak levels of fertility in 1957 and since then their rates of childbearing have been substantially lower. Since 1970 the decline has been much steeper for white women, however, resulting in a widening differential in rates.

There has been a gradual lengthening in the interval between births for both white and black women. Although the increase has been substantially greater for black women, in 1973 the mean interval between births was still slightly longer for white women (43.6 months for white women, 42.4 months for black women).

The birth rates for all States and large metropolitan areas declined during the 1970-73 period. Reductions were generally greater in States that had lower-than-average birth rates at the beginning of this period.

The proportion of women under age 30 bearing only one or two children has been increasing steadily, concomitant with a rise in the proportion of women in this age group who are remaining childless. White women under age 30 are presently experiencing a higher level of childlessness than women of all other races, a reversal of the pattern of the last few decades.

By the end of their childbearing period, women born in 1926 (the latest group for which such information is presently available) had given births to 3,007 children per 1,000 women. The U.S. Bureau of the Census projects that women born in 1950 will bear between 1,900 and 2,200 children per 1,000 women.

RECENT TRENDS IN FERTILITY

Fertility Rates

The downward trend in fertility since 1957 follows the period of increasing fertility of the 1940's and 1950's. After World War II, all indexes of fertility increased sharply. The high level of fertility reached in 1947 has been attributed in part to the large number of births that followed the 1946 surge of postwar marriages.[1] Many of these marriages and births would probably have occurred earlier if the war had not intervened. In effect, large numbers of marriages and births were shifted from the late 1930's and early 1940's to the postwar period. However, the increase in fertility was not a temporary phenomenon. Fertility rates rose from 101.9 births per 1,000 women aged 15-44 years in 1946, the first postwar year, to a peak of 122.7 in 1957 and remained at relatively high levels until the early 1960's. Some demographers have attributed this rise in fertility to favorable economic factors[2,3] and the relative competitive disadvantage faced by women with higher education seeking employment, which encouraged early marriage and childbearing.[1] Moreover, those women who did enter the labor force during this period experienced less childlessness than previously.[4]

Since 1957, fertility rates have declined each year except for slight rises in 1969 and 1970. By 1973, the rate had dropped to 69.2, 44 percent below the historic high of 122.7 in 1957. Fertility rates have continued to decline since 1973, dropping to 68.4 in 1974 and to 66.7 in 1975 (table 1 and figure 1). Many factors appear to have played a role in the reversal in fertility patterns that began in the late 1950's.

Women who were experiencing such high fertility levels earlier in the 1950's were reaching the older ages of the childbearing period. Since most of them had all the children they wanted to have while they were younger, they were having relatively few children at the older childbearing ages. This is part of the reason for the recent decline in annual fertility rates.

In addition, participation in the labor force of young wives with dependent children became more prevalent for a variety of economic reasons as indicated in a number of studies.[5,6] It has also been proposed that the rising rates of divorce beginning in 1963 sent many women into the labor market.[6] Concomitantly, there were increasing proportions of single women among those aged 15-24,[7] increasing percentages of childless women even among those married,[8] and there was a small rise in the bride's age at first marriage. More recently, the increased use of more effective family planning methods with the subsequent reduction in unwanted births has contributed substantially to the downturn in fertility.[9] A more detailed discussion of the

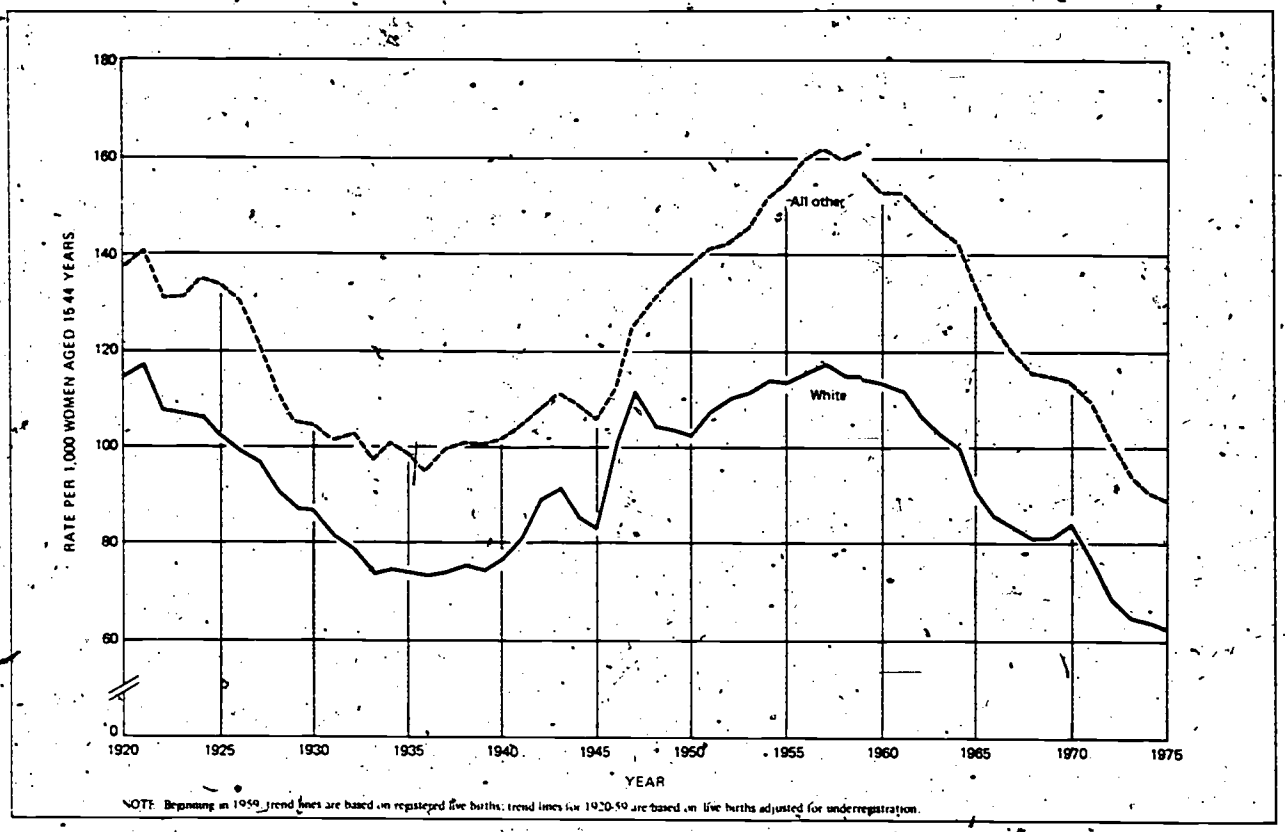


Figure 1. Fertility rates by color: 1920-75.

effect of the modernization of family planning methods on fertility is included in the section "Changing Patterns of Fertility Control."

Birth Rates

Birth rates (births per 1,000 population) are affected by the age-sex composition of the entire population and are, therefore, not as sensitive a measure of the fertility of the childbearing population as are fertility rates. A brief discussion of trends in the birth rate is included in this report, however, since birth rates are a useful measure of the impact of fertility on population growth.

There was a long-term decline in birth rates for the white population from the early 1900's until the mid-1930's and for the rest of the population from the 1920's to the mid-1930's (table 1). The lowest levels for both color groups were reached in 1936, when the overall birth rate was 18.4 and the rates for the white population and the remainder of the population were 17.6 and 25.1, respectively. As observed for fertility rates, there was a strong upsurge in birth rates soon after World War II, followed by a fairly steady climb in rates until 1957, when the peak rate of 25.3 was reached. Since then there have been year-to-year declines in birth rates, except for small rises in 1969 and 1970. By 1973, the birth rate had dropped to the then historic low of 14.9 and has remained at about this level through 1975.

Decline in Births

The yearly number of births has followed about the same pattern of fluctuation as that observed for fertility rates (table 1). The 1940's and early 1950's were generally characterized by a small annual increase. Peak fertility was reached in 1957, when there were 4,300,000 births. During the period 1960 through 1968, the number of births declined by an average of 2.2 percent each year. A temporary reversal of

this downward trend occurred in 1969 and 1970 but was followed by an accelerated rate of decrease during the period 1970 through 1973, when births declined an average of 5.3 percent annually.

The precipitous decrease in births between 1970 and 1973 occurred despite the growing number of women of childbearing age and is thus directly attributable to the major decline in the rate at which women were bearing children. In 1970 there were about 15,309,000 women aged 20-29, the ages that account for most births. By 1973, the number of women in this age group had increased by 11 percent to approximately 16,939,000.

Although the fertility rate had dropped to 68.4 in 1974 and to 66.7 in 1975 (1 and 4 percent, respectively, below the 1973 rate of 69.2), the number of births rose slightly to 3,159,958 in 1974 and 3,144,198 in 1975. This was due to the increase by 1975 in the number of women aged 20-29 to 18,035,000 (6 percent above the 1973 level), which more than offset this relatively small decline in the rate of childbearing.

Color Differentials

During the 1930's and until 1947, trends in fertility for white women and all other women closely paralleled one another (figure 1). In 1947 the fertility rate for white women reached a peak of 111.8, dropped abruptly during the following year, and then continued to rise slowly from 1950 to 1957, when the highest rate in the postwar period (117.6) was reached. Fertility levels for all other women rose without interruption throughout this period and reached their peak (161.7) in 1957. Since 1957, fertility rates for both color groups have declined steadily, interrupted only by a small rise in rates for white women during 1969 and 1970.

Historically, the fertility of white women has been consistently lower than the fertility of women of all other races, but the disparity has varied considerably during the last few decades. Fertility levels were most similar during 1946 and 1947 (the start of the "baby boom") when the fertility of women of all other races exceeded the fertility of white women by only 13 percent. For a number of years, however, the gap in fertility was 40 percent or greater (for example, the period 1963-68).

From 1966 to 1970, there was a steady narrowing in the fertility differential, followed by a widening in the differential between 1970 and 1973. In 1970 the fertility rate for women of all other races was 34 percent higher than for white women, but by 1973 the difference had increased to 44 percent and remained at slightly more than 40 percent in 1974 and 1975. During the period 1970-73 the fertility for both white women and women of all other races decreased markedly, but the decline was much steeper for white women (22.4 percent compared with 16.5 percent). Data from the 1965 and 1970 National Fertility Studies suggest that the persistent differential in fertility between white and black[a] women is not due to the desire for larger families on the part of black women, but rather to the greater frequency of unwanted births and longer exposure to the risk of pregnancy due to the pattern of earlier childbearing.[10]

Age of Mother

From 1957 until 1973, the downward movement in fertility was shared by all age and color groups of women, except for the small number of white women giving birth at ages younger than 15 years. As measured by age-specific birth rates (the number of births per 1,000 women in each age group), the decline in fertility was greatest for women aged 35 years and over (table 2 and figures 2 and 3). By 1973, the fertility of these older women in both color groups had declined more than 60 percent below the 1957 levels. For women aged 20-34 years the decreases were nearly as striking, ranging between 42 and 55 percent below the 1957 levels. This pattern is in sharp contrast to that observed in the 1940's and 1950's when older women had relatively stable fertility and that of women in the younger age groups moved steadily upward.

About half of the overall decline in fertility from the peak year of 1957 until 1973 took place beginning in 1970. During the period

[a] A very large proportion of the births to women of all other races are black births. In 1973 black births constituted 87 percent of these births.

1970-73, age-specific births rate declined an average of 7 to 13 percent each year, except among women under age 20, whose fertility remained relatively high. The recent decrease in fertility for women aged 15-19 years averaged only 4 percent per year and mainly reflected the decline among older teenagers. While birth rates for white teenagers 18-19 years of age declined 22 percent between 1970 and 1973, rates for younger white teenagers (15-17 years of age) *increased* by 1 percent. For teenagers of all other races, the rates dropped by 16 percent for those aged 18-19 years, but by only 4 percent for those aged 15-17 years. The fertility of very young girls, ages 10-14, actually increased between 1970 and 1973.

In 1973 age-specific birth rates for the population of women of all other races were still substantially greater than for white women for all but one age group, women aged 25-29 years where fertility was practically identical. Relative differences in fertility for other age groups ranged from 16 percent (30-34 years) to 733 percent (under 15 years).

Between 1970 and 1973, the median age for the beginning of childbearing decreased slightly for all other women and slowly increased for white women. This produced a gradual widening between color groups in the median age at the start of childbearing (table 3). By 1973 white women were starting their families an average of 2.3 years later than all other women. Although the median age of childbearing (all birth orders combined) has remained relatively constant for white women since 1960, and has dropped nearly a full year for all other women, the median age for having second and higher order births has been increasing steadily for both color groups. This apparent anomaly is due to the fact that proportionately more births in recent years are of lower orders. The median age for all orders combined reflects this shift in distribution of births to lower orders, where births are generally to younger women.

Interval Between Births

Not only are women having fewer children, (see section, "Changes in Completed Fertility and Total Fertility") but the length of time between births has been increasing. Beginning with 1969, information on the date of last live birth is available from the birth certificates of many States, permitting the computation of interval since last live birth. Since that year there has been a gradual lengthening in the interval between births for both white and black women (table 4). However, the increase in birth interval for black women, which averaged 4.6 months between 1969 and 1973, was substantially greater than the comparable increase of 1.9 months for white women. This may be a reflection of the increasing ease of obtaining contraceptive assistance on the part of black women with low and marginal incomes through the rapidly expanding network of public and private family planning agencies.[11]

Birth Order Changes

Decreases in birth rates for all birth orders have contributed to the falling fertility rate, but the rate of decline has been relatively greater for the higher birth orders (table 5). Between 1970 and 1973, white first, second, and third order birth rates declined an average of 18 percent, while the drop in fourth and higher order birth rates averaged 40 percent. Decreases during this period for lower order births to women of all other races were far less substantial, averaging 10 percent, but were nearly as great as those for the higher orders, which declined an average of 38 percent. As a result of the relatively greater decline in higher order births, first through third order births have become more predominant in recent years, increasing from 83 to 87 percent of all births to white women and from 75 to 82 percent of all births to women of all other races during the period 1970-73 (table 6). Since there are far fewer higher order births, the overall drop in fertility between 1970 and 1973 is to a large extent a reflection of changes in first, second, and third order births. During this period 69 percent of the decline in fertility of white women and 44 percent of the decline in fertility of women of all other races was attributable to the drop in these lower order births.

Between 1973 and 1975, the rate of decline slowed appreciably for all birth orders (table 5). There was only a small decrease in first and third

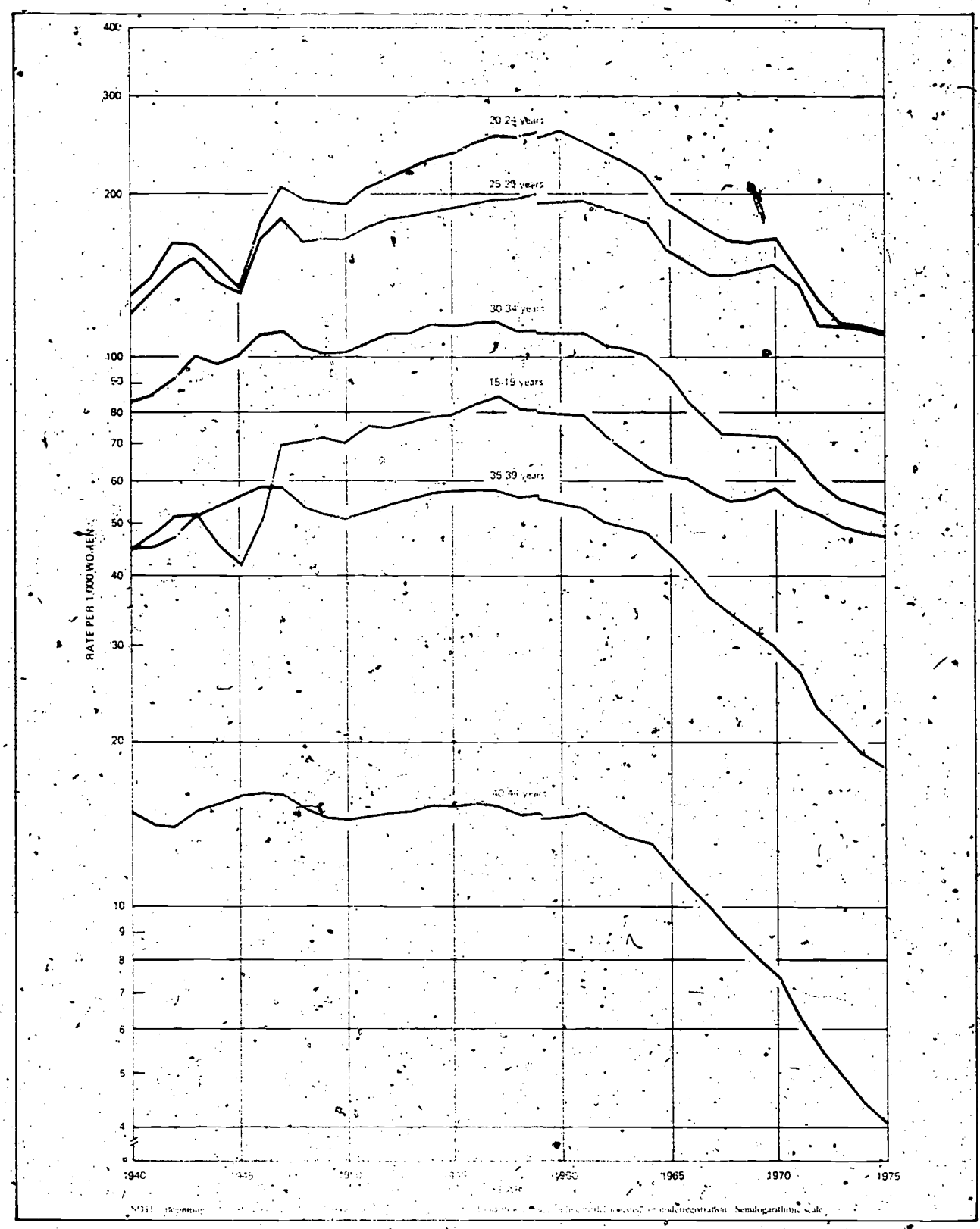
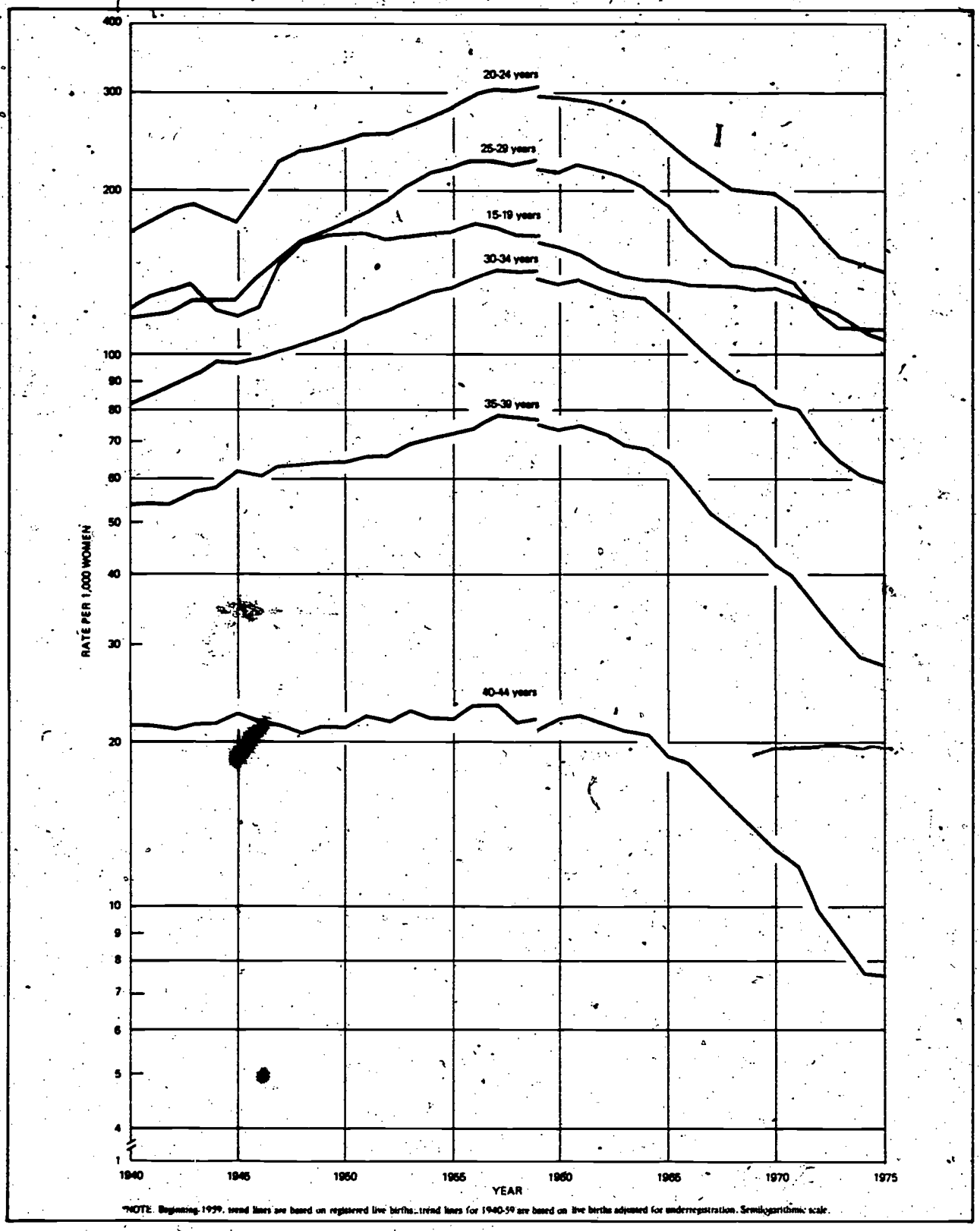


Figure 2. Birth rates for white women, by age of mother: 1940-75.



*NOTE: Beginning 1959, trend lines are based on registered live births; trend lines for 1940-59 are based on live births adjusted for underregistration. Semilogarithmic scale.

Figure 3. Birth rates for all other women by age of mother: 1940-75.

order birth rates during this period (1.4 and 3.1 percent, respectively), while second order birth rates stayed at approximately the same level. Fourth and higher order rates dropped far more rapidly than lower order rates, but the yearly declines averaged about half that of the 1970-73 period.

Conclusions drawn from birth rates by live-birth order must be used with caution because the base populations, or denominators, used in computing these rates include all women aged 15-44 years. They are not specific as to age and, therefore, include women among whom the probability of having a child of a specified order is very low. To obtain a clearer picture of birth order changes, first, second, and third order birth rates are presented by age of mother (table 7). It can be seen that decreases in first births between 1970 and 1973 were greatest among women aged 20-24. There was little change in rates for first births among women aged 25-34 years. Similarly, for second order births, women aged 25-34 years did not experience the pronounced drop in fertility seen among other age groups.

The decline in third order births was of a greater magnitude than for first and second births for all age groups. For white women, the drop in rates for third order births was greatest for women aged 20-29 years; for women of all other races, the birth rates for women under 25 years of age showed the greatest declines.

Fertility by Geographic Areas

State and geographic division.—The extent of variation in birth rates among the States can be measured by the coefficient of variation—the ratio of the standard deviation of an array of rates to the arithmetic mean of that array, expressed as a percent. Between 1960 and 1968, there was a year-to-year decline in the birth rates of most States. With this drop there was also a slight convergence of rates as measured by the coefficient of variation. Although birth rates continued to decline during almost all the years between 1969 and 1975, the pattern of convergence reversed, as shown in table A. The relative dispersion in rates increased each year beginning in 1969, and by 1975, the divergence in rates was 95 percent greater than in 1968.

Table A. Birth rates and coefficients of variation among States: United States, 1960 and 1965-75

Year	U.S. birth rate	Coefficient of variation among States
1975	14.8	16.6
1974	14.9	15.4
1973	14.9	14.6
1972	15.6	13.3
1971	17.2	11.8
1970	18.4	10.5
1969	17.8	9.3
1968	17.5	8.5
1967	17.8	8.6
1966	18.4	8.4
1965	19.4	9.1
1960	23.7	10.2

An examination of the percent decrease in rates between 1970 and 1973 for geographic divisions (table 8) reveals that the rate of decline was more rapid for the New England and Middle Atlantic States than for the remainder of the country. The smallest changes occurred in the East South Central, West South Central, and Mountain States.

There appears to be a negative correlation between the extent of decline in the period 1970-73 and the magnitude of a State's birth rate in 1970. (The coefficient of correlation is −.44. The probability of a value this low occurring by chance is less than 1 in 100.) That is, States that had relatively low birth rates in 1970 exhibited somewhat larger than average declines in fertility compared with States with higher initial birth rates. This observation is consistent with the pattern of increasing divergence among the birth rates of States noted in table A. Relatively larger decreases for States with already low birth rates would result in a widening gap in rates between these States and States with initially higher rates.

Variations in rates among States for the year 1973 are shown in figure 4. Geographic differences in birth rates do not necessarily correspond to differences in the level of fertility of women at childbearing ages. Birth rates are dependent on the age-sex composition of the population to which they refer and can, there-

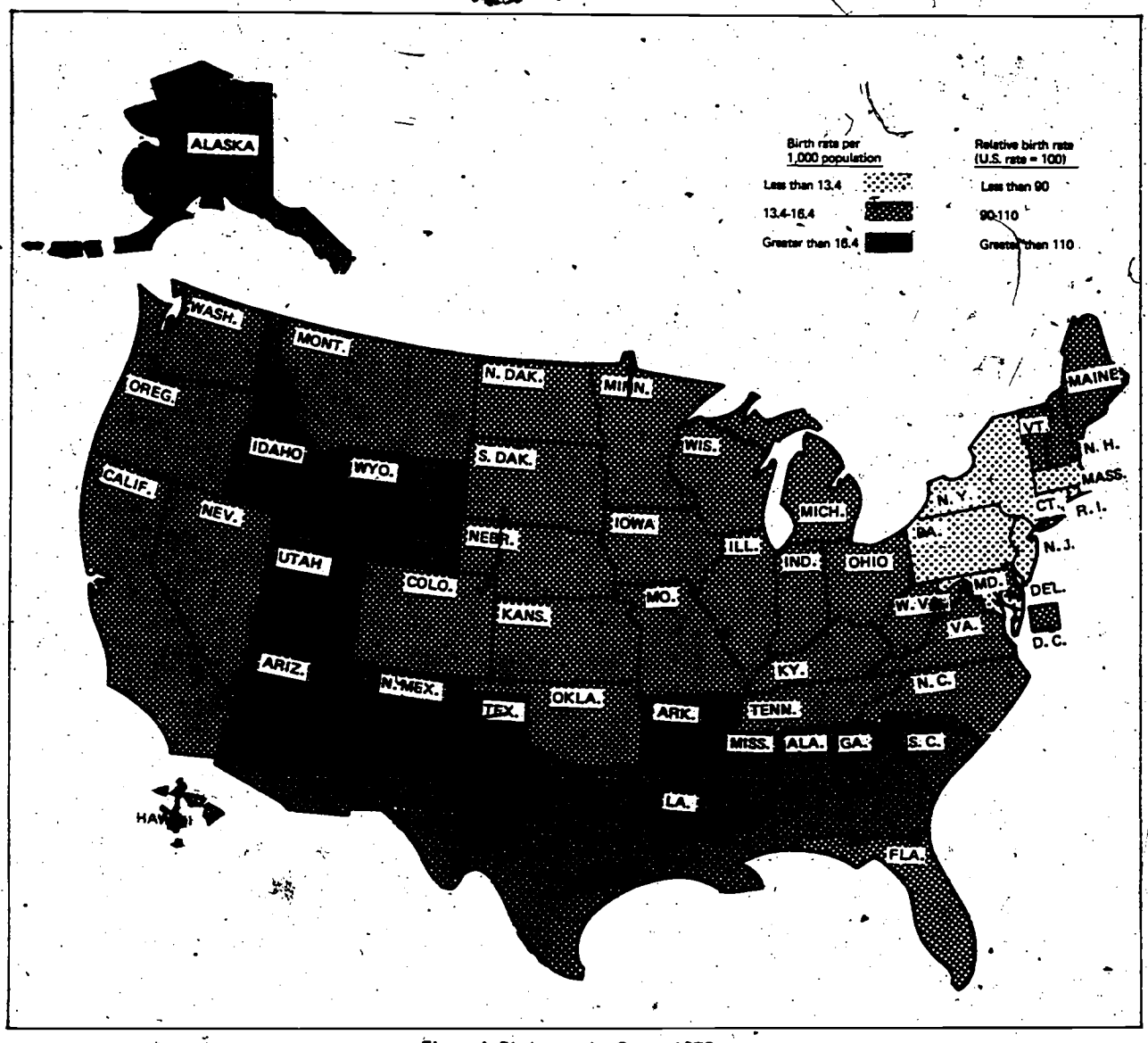


Figure 4. Birth rates by State: 1973

fore, be relatively unreliable yardsticks of comparative fertility. Fertility rates provide a more accurate measurement of comparative levels of fertility among States and other geographic areas, but the lack of population data for women aged 15-44 in the postcensal years precluded the computation of this measure for years subsequent to 1970.

An indication of the extent of distortion in the use of birth rates when comparing fertility of different geographic areas can be seen in the indexes for geographic divisions shown in table 9. Birth and fertility rates for each division in 1970 are compared with the national rates.

Fertility, when measured by the birth rate, was slightly lower in relation to the national rate than when measured by the fertility rate for the New England, Middle Atlantic, West North Central, and East South Central Divisions, and was higher or the same in the remaining divisions. However, only in the West North Central Division did the refinement in measurement achieved by use of the fertility rate produce a substantial difference.

The net effect of using the birth rate as a comparative measure is to increase slightly the variation among the States' rates. In 1970 the coefficient of variation of the States' birth rates was 10.5 and 8.8 for the fertility rates.

Metropolitan residence.—By 1970, the inverse association between reproductive levels and urbanization, which was observed by demographers for earlier decades,[7] had largely disappeared. Only in two geographic divisions, those comprising the New England and Middle Atlantic States, was this pattern still evident (table 10). Indeed, for the country as a whole, the birth rate was slightly higher in metropolitan (18.5) than in nonmetropolitan areas (18.1).[b] Between 1970 and 1973, however, birth rates declined more rapidly in metropolitan than in nonmetropolitan areas. During this period the metropolitan area birth rate dropped 21 percent to 14.7. In nonmetropolitan areas the corresponding drop was 14 percent, resulting in a birth rate of 15.5 (5 percent *greater* than the metropolitan area birth rate).

Population information necessary to compute birth rates by race in metropolitan and nonmetropolitan areas is available only for 1970. In that year very substantial differences in birth rates by race were evident in all geographic divisions within both metropolitan and nonmetropolitan areas (table 10). On the average, birth rates for women of all other races were 45 percent higher than those for white women in each of these areas. Slightly more than two-thirds (68.3 percent) of all white births and nearly three-quarters (74.2 percent) of the births to women of all other races were to residents of metropolitan counties in 1970. By 1973, the corresponding proportions of white births and those of all other races in metropolitan areas had dropped slightly to 65.8 and 73.4 percent.

Birth rates for 1971-73 for very large standard metropolitan statistical areas (SMSA's)—those with populations of 1 million or more—are shown in table 11. Decreases in birth rates for large SMSA's were most pronounced in the Northeast Region and least in the West Region. The percent declines in birth rates for large SMSA's in the North Central and South Region were similar to the overall national drop.

CHANGES IN COMPLETED FERTILITY AND TOTAL FERTILITY

In order to understand recent trends in fertility, it is necessary to consider two other important factors—completed family size and timing of births.

Cohort Fertility Concept

Up to this point, fertility has been examined primarily in terms of calendar year changes. Another approach is to follow the childbearing of groups of women through their reproductive years. Such groups are called "cohorts" and are identified by the year of their birth. Thus these women always carry the same designation regardless of their ages. This enables comparisons over time for the same cohort and also comparisons among different cohorts at the same age. For example, statements can be made about the fertility of the 1930 cohort when its members were 30 years of age in 1960 and when they were 40 years of age in 1970. Or, alternately, a comparison can be made between the number of children borne by women in the 1930 cohort by age 30 (in 1960) and the number of children borne by the 1940 cohort by age 30 (in 1970).[c]

Long-Term Trends in Completed Fertility

The average number of children ever borne by a cohort up to a specified age is termed the "cumulative fertility rate." Of special interest is the average number borne by age 50 (the end of the childbearing period), known as the "completed fertility rate." Table 12 shows completed fertility for cohorts of women born during each year from 1875 to 1926. (Completed fertility rates for white women and women of all other races for the cohorts of 1875 to 1926 are depicted as the top lines of figures 5

[b] Metropolitan areas consist of all counties within standard metropolitan statistical areas except in New England, where metropolitan areas are comprised of counties within metropolitan State economic areas.

[c] A more complete discussion of the cohort fertility concept and detailed data on the fertility of the cohorts of 1868 to 1959 can be found in *Fertility Tables for Birth Cohorts by Color: United States, 1917-73.* DHEW Pub. No. (HRA) 76-1152. Health Resources Administration, Washington. U.S. Government Printing Office, Apr. 1976.

and 6.) There was a long-term decline in completed fertility rates from the 1875 cohort (3,669 births per 1,000 women) to the 1908 cohort (2,270 births per 1,000 women). The extremely low levels of fertility seen for these later cohorts are probably due to the fact that they reached the ages of peak childbearing during the depression of the 1930's. Completed fertility increased for succeeding cohorts, reaching a high of 3,007 for the cohort of 1926, the latest cohort for which completed fertility is presently known. Although later cohorts have not yet reached age 50, the cohorts of 1927 to 1936 must surpass the 1926 cohort since these cohorts have already borne more children by younger ages than the 1926 cohort had altogether.

U.S. Bureau of the Census projections indicate that women born in 1935 will probably complete their families with approximately 3,200 births per 1,000 women. Projections of completed family size for younger cohorts are far lower, and it seems probable that the cohorts of 1940 and later years will show marked reductions in completed fertility. The Bureau of the Census assumes in their projections that completed fertility for the cohort of 1945 will range between 2,251 and 2,325, and for the 1950 cohort between 1,874 and 2,166.[12]

While trends in completed fertility for white women and women of all other races are quite similar, completed fertility for white women has been consistently lower. Projections by the Bureau of the Census are based on the assumption that this differential will persist well into the future.

Family Size at Younger Ages

In recent years young women are having fewer births and more young women are remaining childless. This is clearly illustrated by a comparison of the percent of women who have had no births, one birth, two births, and so forth, by age 30 as of January 1, 1966 (cohort of 1936) and as of January 1, 1976 (cohort of 1946) (figures 7 and 8). At the beginning of 1966, 13 percent of all white women who had reached the age of 30 had no children; by 1976, this had increased to 21 percent. About 24 percent of all white women had borne four children or more by age 30 at the beginning of 1966, but this proportion had fallen to about 9 percent at the start of 1976. Concomitantly, the proportion of white women with only one or two children has been increasing steadily.

During the last few decades, childlessness has been consistently higher among women of all other races than among white women. However, with the recent rapid increase in the percent of white women with no children and gradual decline in the percent of childlessness among women of all other races, by 1976 white women under age 30 were experiencing a higher level of childlessness than women of other races (21 percent and 14 percent, respectively). Although the drop in proportion of young women having large families has not been as precipitous for women of all other races as for white women, the decline has nevertheless been quite pronounced. From 1966 to the end of 1975, the proportion of women of all other races having four or more children by age 30 decreased from 40 percent to 20 percent. As observed for white women, the proportion of young women of all other races having only one or two children has gradually risen during this period.

Timing of Births—Total Fertility Rate

Another way of assessing changes in fertility is by use of the total fertility rate. This is the sum of age-specific birth rates for all ages in the reproductive period in any given calendar year. The total fertility rate states the number of births 1,000 women would have *if* they experienced throughout their reproductive ages the set of age-specific birth rates observed in a given calendar year. It is a useful measure because it can be compared with the completed childbearing expected by actual groups of women. Such comparisons may give some idea of the extent to which fertility in a given year is likely to be distorted by factors involving the timing of births, which have only a temporary effect. For example, the peak total fertility rate of 3,582 observed for white women in 1957 could be considered inflated in the sense that such a high rate was not in keeping with the birth expectations of white women then in the childbearing population. According to a 1955 survey, no actual group of white women at that time

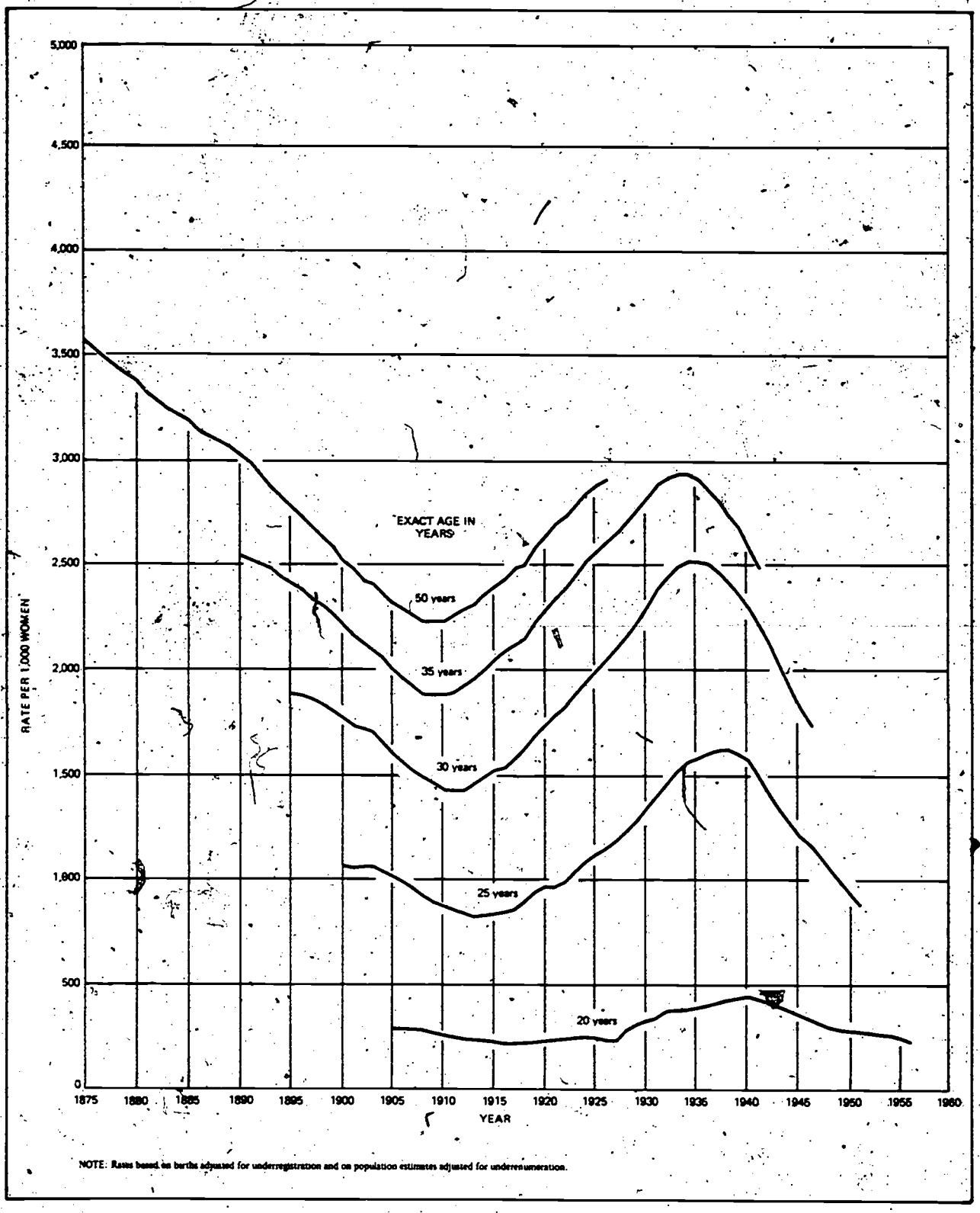


Figure 5. Cumulative birth rates for white women, by specified exact ages, cohorts of 1875-1956.

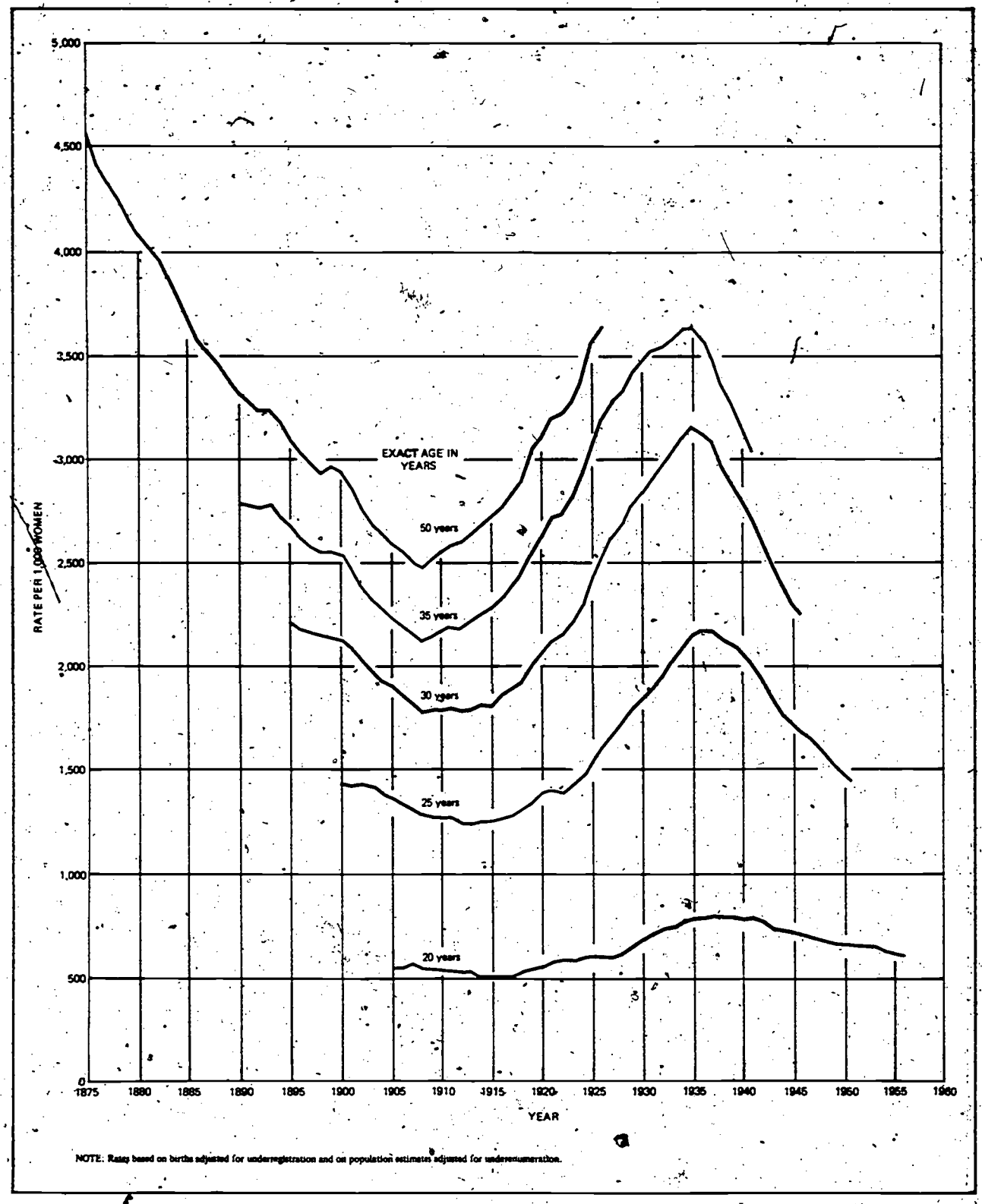


Figure 6. Cumulative birth rates for all other women, by specified exact ages, cohorts of 1875-1956.

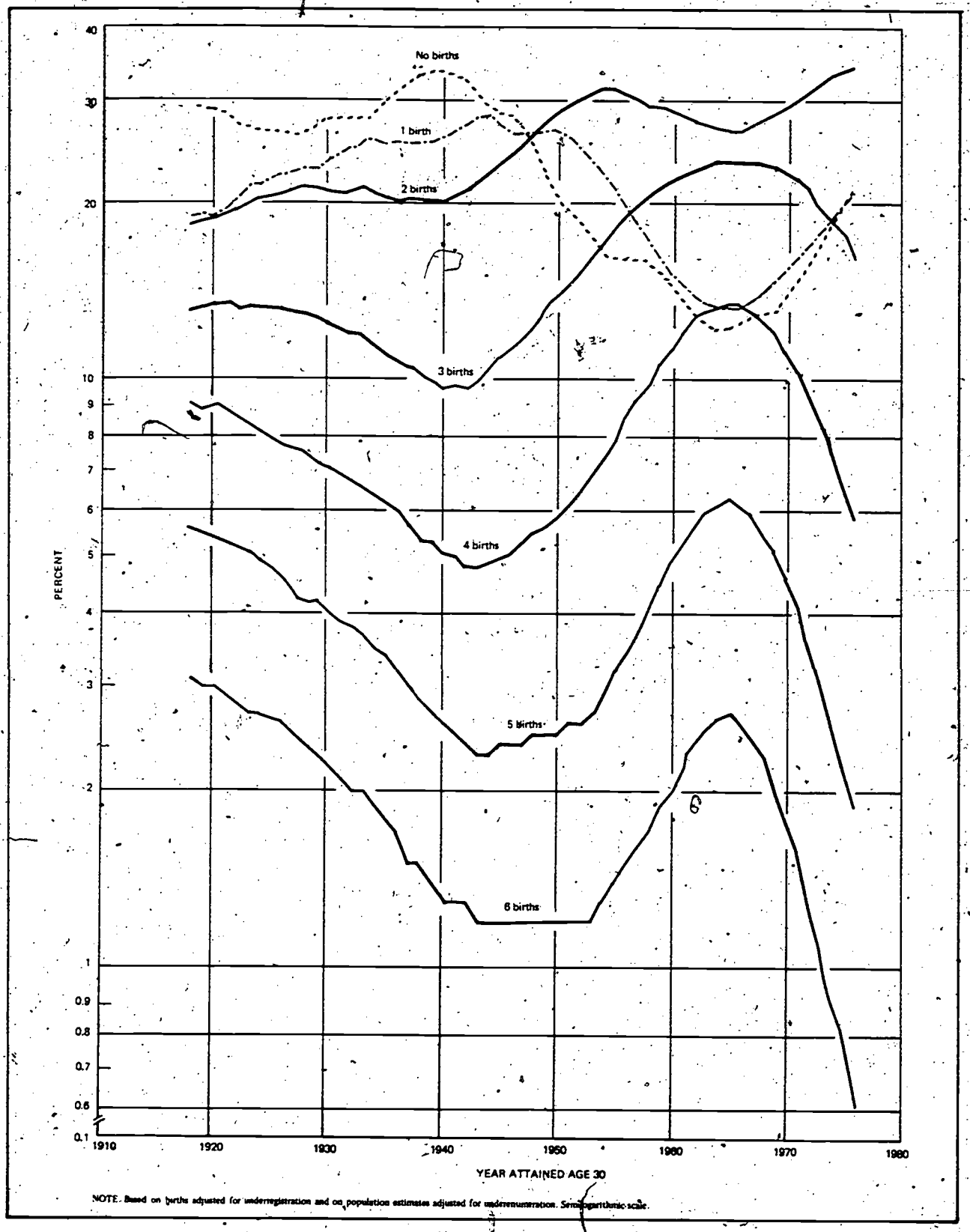


Figure 7. Percent of white women with specified number of births by exact age 30, January 1, 1918-76.

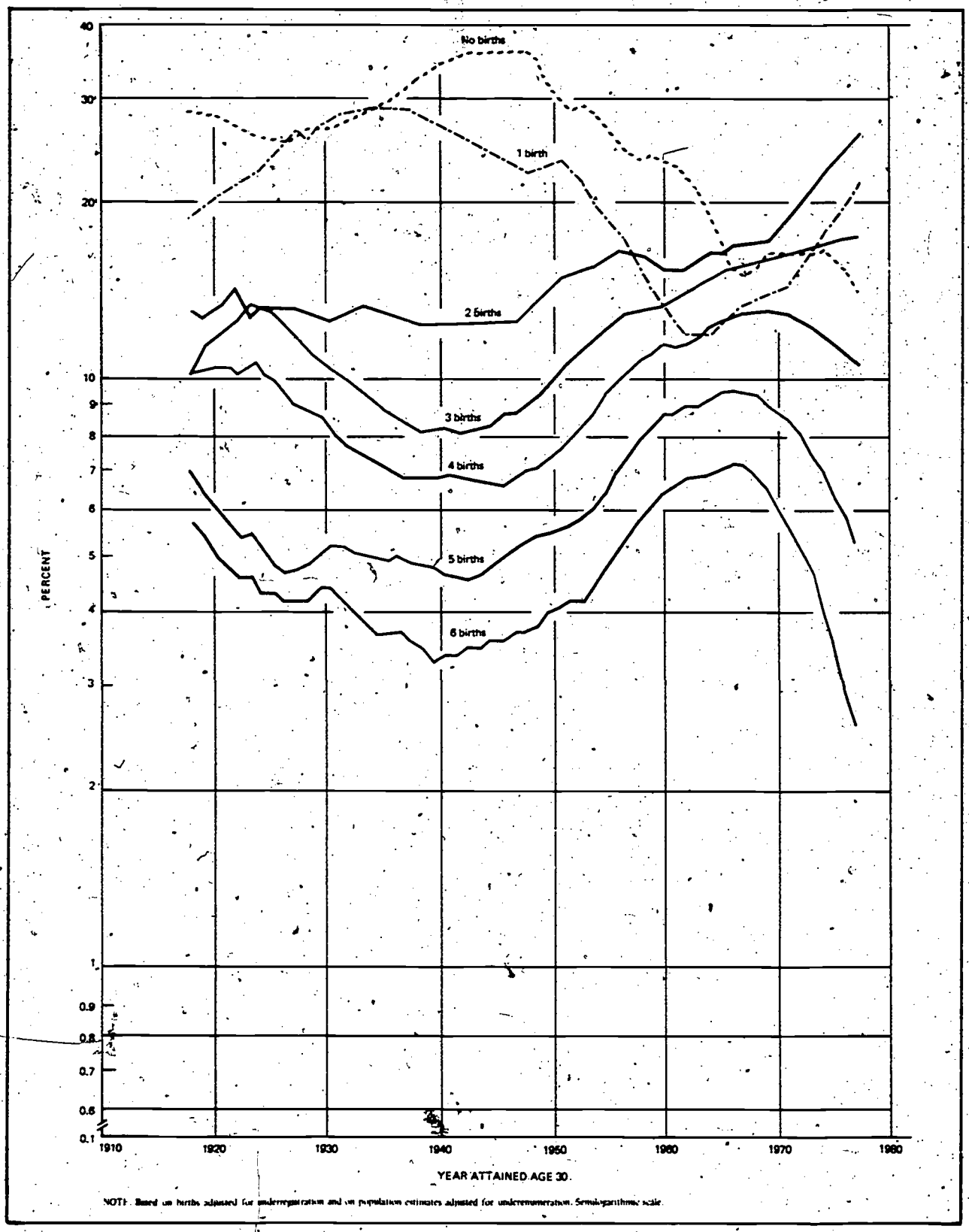


Figure 8. Percent of all other women with specified number of births by exact age 30, January 1, 1918-76.

expected to have as many as 3,600 children per 1,000 women by the end of the reproductive period.[15] Most of the women surveyed have now completed or are nearing completion of childbearing. So far, no cohort of women included in that survey has borne more than 3,100 children per 1,000 women.

Changes in the ages at which women have their children as well as changes in completed family size affect annual fertility. A major portion of the upward and downward shifts in fertility described earlier and also evidenced in total fertility-rate fluctuations (table 13) can be ascribed to changing timing patterns, that is, changes in the ages at which women have their children. The solid line in figure 9 shows the major trends in the total fertility rates that have actually been observed in the United States since 1920. This line is influenced both by changes in completed fertility and by changes in the timing of births. The broken line is designed to represent the hypothetical trend that would have been followed if the pattern in age at childbearing had been constant throughout this period. In other words, the only factor causing the broken line to rise and fall is changes in the average number of children that women have by the end of the childbearing period. It is apparent that annual fluctuations in actual fertility are considerably greater than the corresponding changes due to variations in family size only.

The following table gives an indication of the portion of the major up and down movements in fertility of white women and women of all other races which can be ascribed to shifts in timing patterns.

Color	*Period of 1935-39 to 1955-59 (rising rates)*	*Period 1955-59 to 1970-74 (falling rates)*
	Percent	
Total...	59	56
White.....	61	56
All other	55	54

These numbers must be regarded as approximations, for it was necessary to estimate the completed fertility of many of the women still in the reproductive ages.

These figures suggest that timing changes have played a somewhat smaller role in the decline in fertility of white women in recent years than in the rise during the postwar years, but have influenced to about the same extent both the up and down movements of fertility for women of all other races. During both periods, shifts in age at childbearing have had less impact on year-to-year changes in the fertility of women of all other races than of white women.

Figures 10 and 11 show total fertility rates by live-birth order for white women and for women of all other races from 1917 to 1975. For each order these rates are the sums of the

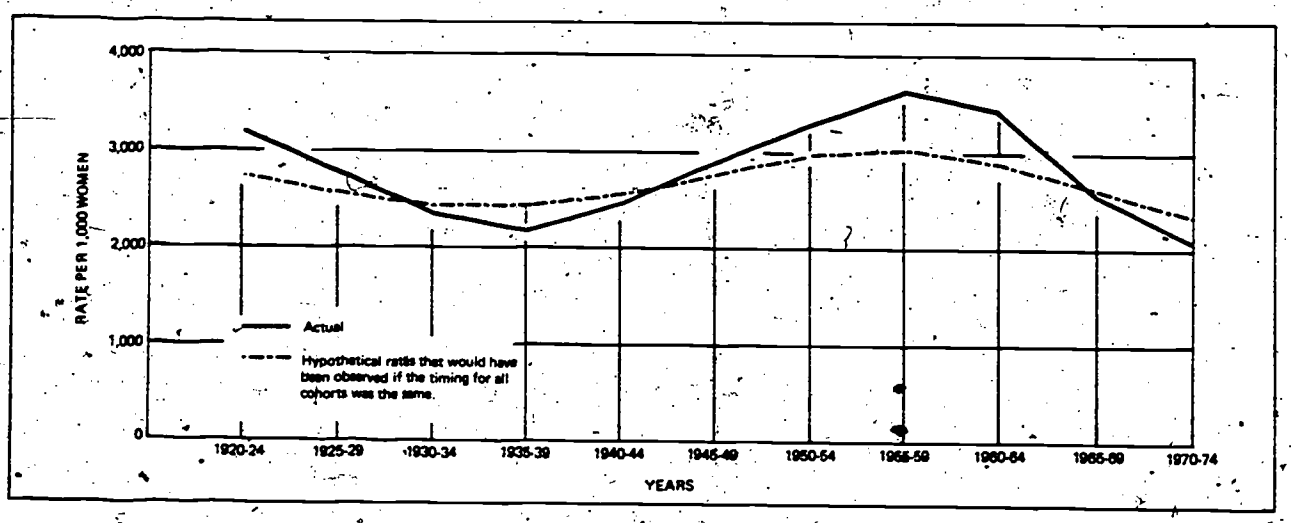


Figure 9. Actual and hypothetical secular trends in total fertility rates: 1920-74.

birth rates by single year of age in a given year. Sums of the total fertility rates of all orders are the rates shown in table 13.

One of the most striking features of figure 10 is the fact that the rates for first births for white women for the period 1947-57 were almost always above 1,000, indicating more than 1,000 first births per 1,000 women. This anomaly reflects the overlapping of two age patterns of childbearing. First-birth rates were very high for older women as well as for younger women during this period. Such high rates for first births obviously could not be experienced by an actual cohort of women, and they had to fall after the temporary effects of the overlapping shifts in timing had passed. Since 1957, there has been a major decline in first-birth rates, with only a temporary interruption in this trend between 1965 and 1970.

The pattern in the total fertility rate for first births for women of all other races (figure 11) is noticeably different than that described for white women. Despite the generally high level of these rates in the period beginning 1947, the total fertility rate never rose above 1,000. The drop following the 1957 peak was far more gentle than for white births, and rates increased during the 1960's, reaching a higher level in 1970 than in 1957. Although the total fertility rates for first births declined between 1970 and 1973, the rate for white women dropped nearly twice as rapidly as for women of all other races—18.0 percent compared with 9.5 percent. This differential is due almost wholly to the far more rapid decline in first-order rates for young white women aged 15-24 compared with the decline for women of all other races at these ages.

CHANGING PATTERNS OF FERTILITY CONTROL

According to the results of the National Fertility Studies of 1965 and 1970 and the 1973 National Survey of Family Growth (NSFG)[d] there was a dramatic change in the most commonly used methods of contraception among married couples during the period 1965-73. Couples using one of the three more effective methods—sterilization, the pill, and the IUD (intrauterine devise)—increased from 37 percent of all couples practicing contraception in 1965 to 69 percent in 1973. Concomitantly, there was a gradual decline in the proportion of married couples not using any contraceptive method, from 36 percent in 1965 to 30 percent in 1973.[14,15]

Results of the NSFG show that use of these three effective methods varied inversely with family income. Couples with incomes below the poverty level were most likely to use effective methods (77 percent of all those practicing contraception) while those with incomes at least twice the poverty level were least likely to use these methods (67 percent).[15] The widespread use of effective methods of contraception among lower income couples has been attributed to the widening network of public and family planning organizations which have provided advice to women who have little access to private physicians.[9]

Although black couples were less likely than white couples to use any form of contraception according to the NSFG, among those couples who did practice contraception, there was a greater proportion of black than of white couples using these three effective methods. This relationship was observed at all income levels.[15]

Reduction in Unwanted Births

The shift to more effective methods of contraception may provide part of the explanation for the concurrent decline in unwanted fertility and the drop in the national birth rate. In the interval between 1961-65 and 1966-70, the rate of unwanted fertility, as measured by the number of unwanted births per 1,000 woman-years of exposure, was estimated to have been reduced by an average of 36 percent (55 compared with 35 unwanted births per 1,000 woman-years of exposure). The decline was much higher for black women (56 percent) than for white women (35 percent)—a decrease from 149 to 65 and 48 to 31 births per 1,000 woman-years of exposure, respectively. It was estimated that about half of the drop in fertility

[d]The NSFG was designed to provide information about fertility, family planning, and other aspects of maternal and child health related to childbearing. The statistics cited in this report refer to 7,566 currently married women interviewed between July 1973 and February 1974.

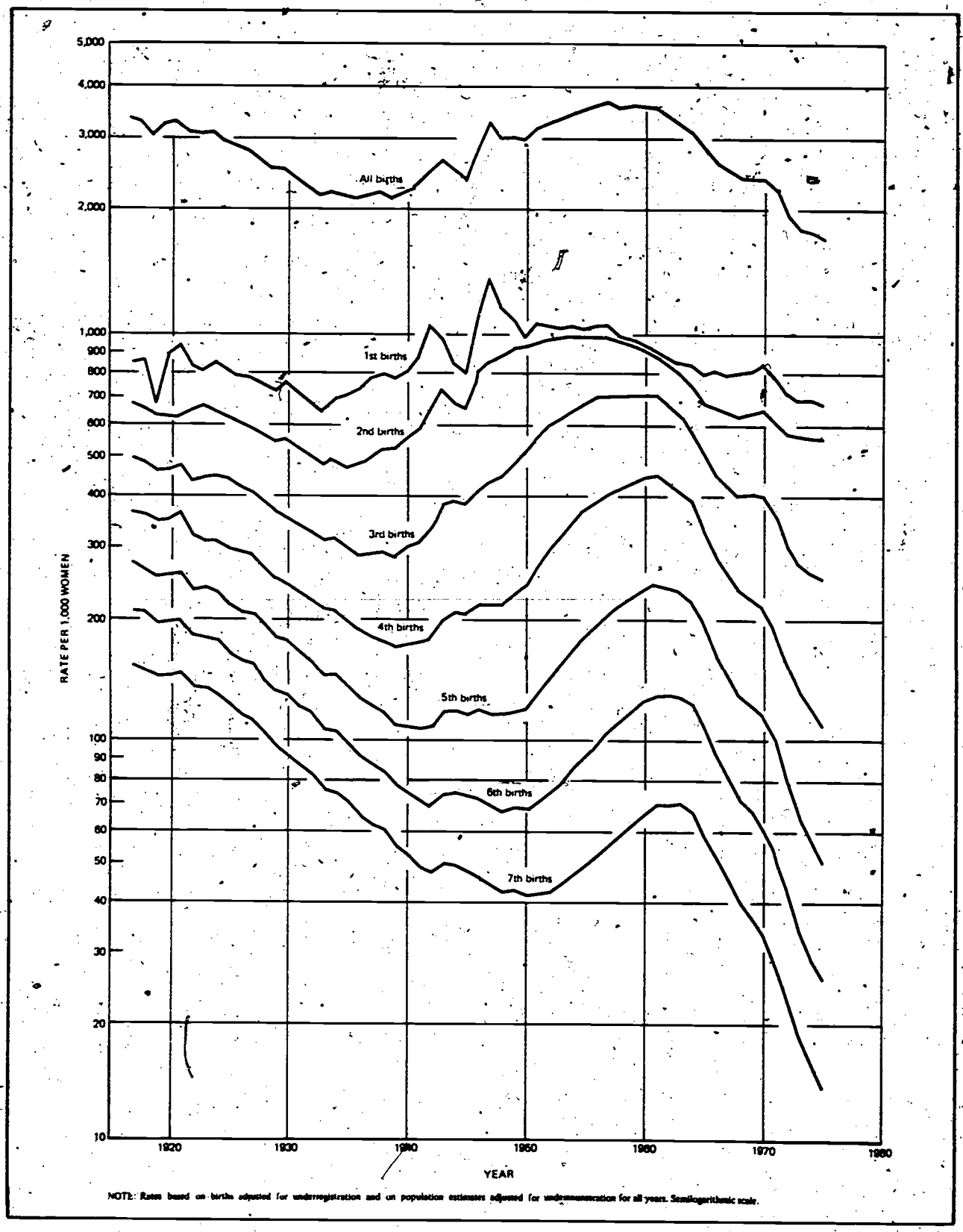


Figure 10. Total fertility rates for white women, by live-birth order: 1917-75.

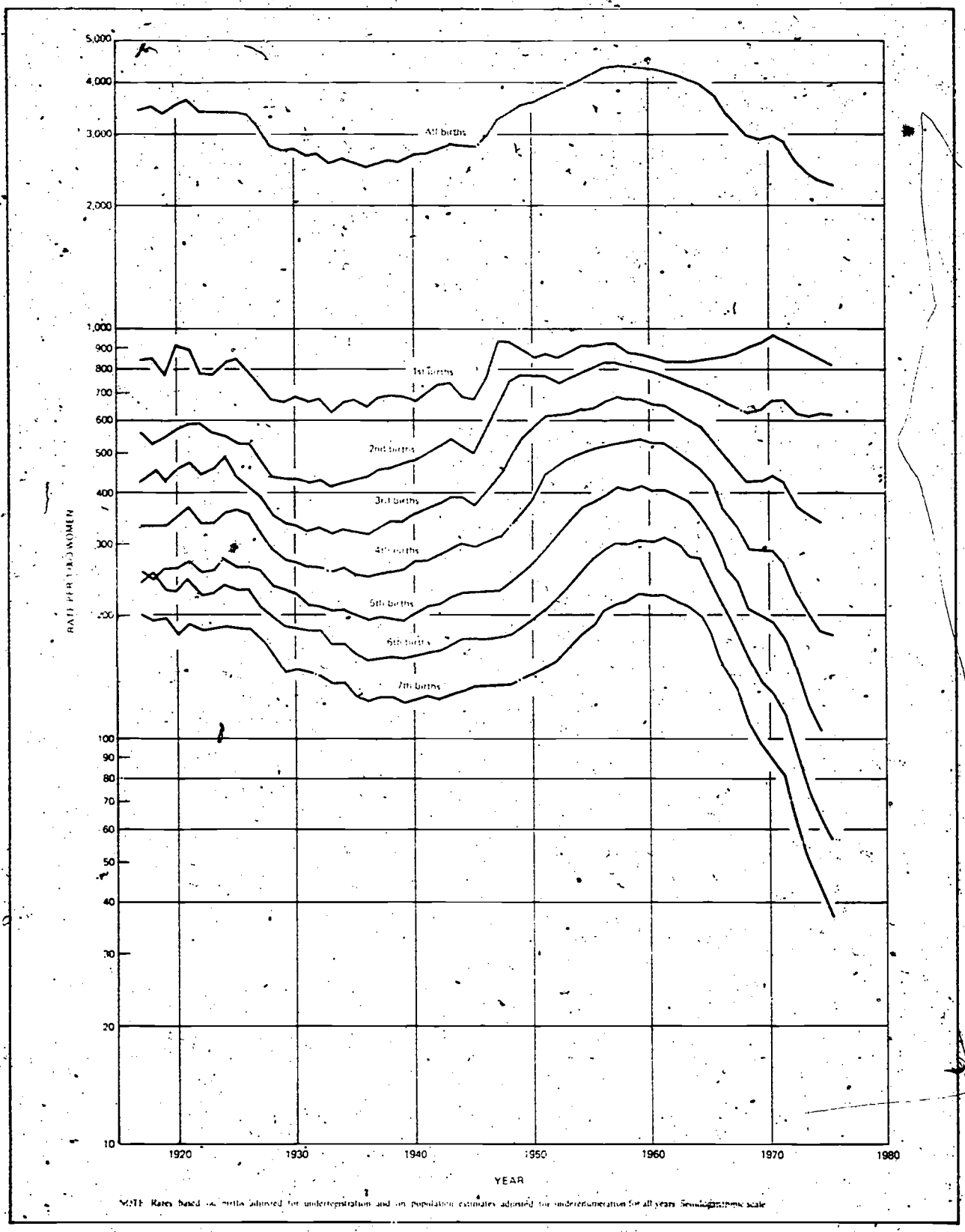


Figure 11. Total fertility rates for all other women, by live-birth order: 1917-75.

between 1965 and 1970 was due to the effect of this greater control of unwanted births.[10,14]

The change in methods of fertility control has had a marked influence on recent fertility, and is, therefore, examined in somewhat greater detail in the following sections.

Contraceptive Pills

The use of contraceptive pills has increased rapidly since their introduction to the public in 1960. Estimates based on national studies of fertility indicate that 24 percent of married women practicing contraception were using the pill by 1965, and that this proportion had grown to 36 percent by 1973 (about 6.7 million women). This method has found especial acceptance by black married women of all ages. Its usage among this group increased from 22 percent to 44 percent of those practicing contraception between 1965 and 1973.[15]

Since the long-term downturn in fertility began in 1958, 2 years before the introduction of oral contraceptives, their use could not have initiated the decline in births. However, increased usage of the pill during the 1960's probably did have a reinforcing effect on the rate of decline of births in that period. The pill is a highly effective method of contraception and is generally regarded as more convenient than other methods in common use at that time. Therefore, substitution of the pill for other methods of family limitation would tend to reduce the incidence of unintended conceptions.

Intrauterine Devices

Although it was estimated that only 1 percent of all wives practicing contraception were using an intrauterine device (IUD) in 1965,[9] by 1973 the comparable figure was 10 percent (about 1.8 million married women).[15] The 1973 NSFG found that proportionately more black than white married women were using this form of contraception (13 percent and 9 percent, respectively, of all married women using contraception).[15] Intrauterine devices are considered more effective in preventing pregnancy than any other nonsurgical method except oral contraceptives.[16]

Contraceptive Sterilization

In recent years voluntary sterilization (generally in the form of tubal ligation for women and vasectomy for men) has become one of the preferred methods of contraception among couples desiring no additional children. This form of contraception differs from the pill and IUD in that it is primarily a means of ending reproduction, rather than of controlling the spacing of children.

It has been estimated from data derived from the 1970 National Fertility Study that 2.75 million married couples, or 11 percent of all married couples in the reproductive ages, had been sterilized for contraceptive purposes by 1970. Indeed, it was found that this was the most widely used form of contraception among older couples (those where the wives were 30 years or older). Sterilization was used far more frequently by black women than by white women at all ages, but by relatively few black men. However, for couples where either the wife or husband was sterilized, it was found that sterilization was a more common method among older black couples (34 percent) than among older white couples (25 percent).[9]

Information from the 1973 National Survey of Family Growth indicates that by 1973 about 4.4 million couples, or 16 percent of all married couples, had been sterilized for the purposes of contraception. Consistent with the observations of the 1970 National Fertility Study, it was found that minority women of all ages were more likely than white women to have had sterilizing operations, but that the proportion of black males having such operations was far smaller than that of white males.[15] Unpublished data from the 1973 survey indicate that an additional 20 percent of all married couples anticipate having a contraceptive sterilization operation at some time.[17]

Legal Abortions

The use of induced abortion as a legal medical procedure to terminate pregnancies was relatively rare until the late 1960's. During the period 1967-70, 12 States enacted laws that extended the basis for medical abortions beyond previous stringent legal grounds, which usually limited such procedures to life-threatening situa-

tions. In 1970 four additional States passed laws that provided for abortion virtually on demand, and in 1973 the Supreme Court handed down two landmark decisions that, in effect, nullified the restrictive abortion laws of most States. As a result, the number of legal abortions in the United States increased from about 5,000 in 1963[18] to 742,000 reported in 1973 and an estimated 998,000 in 1975.[19]

There has been considerable speculation concerning the impact on the birth rate of these increasing numbers of legal abortions. One of the major difficulties in such an assessment is the fact that illegal abortion has always been widespread and that many legal abortions currently being performed are replacements for illegal terminations. A study of abortions in the United States concluded that although the great majority of legal abortions were replacements for illegal abortions, the rise in legal abortions prevented about 200,000 births in 1974.[20] A study of changes in legitimate and illegitimate fertility in the United States concluded that legal abortions performed during 1971 averted a substantial number of out-of-wedlock births in that year, but had only a negligible effect on the reduction in legitimate births.[21]

FUTURE TRENDS

It is apparent from the previous discussion that patterns of reproduction and methods of fertility control are now substantially different than they were even 10 years ago. Although demographers differ on what these changes foretell, it is clear that women are increasingly being directed towards goals other than motherhood and are gaining ever greater control over their fertility.

Birth Expectations

According to the results of a 1975 U.S. Bureau of the Census survey on birth expectations, American couples in recent years have anticipated having progressively fewer children. Wives in their mid- to late-twenties queried in 1975 anticipated having a total of 2.3 children, in contrast to an expected family size of 2.6 children for wives of similar ages who were interviewed in 1971. The survey also revealed that the percent of women expecting to have families of four children or more has dropped substantially in the last few years. In 1971 nearly one in four wives aged 18-39 years expected to have four children or more; by mid-1975 this proportion had decreased to about one in six wives. The survey also found that the expected family size of young black wives (aged 18-24 years) still remained larger (2.5 children) than that of young white wives (2.1 children).[22]

Numbers of Births

Let us consider what future numbers of births and levels of fertility are implied by three different assumptions. The size of the childbearing population is an important factor in any discussion of trends in the numbers of births. Between 1975 and 1985, the number of women in the childbearing ages will increase by about 17 percent and will remain at about that level until the year 2000, according to projections prepared by the Bureau of the Census that are based on the assumption that fertility will eventually drop to a level slightly below that observed in 1975.[12] That is, total fertility rates will stabilize at about 1,700 by the year 2000 compared to the 1975 total fertility rate of 1,770. Thus, unless fertility rates fall well below the 1975 level, the increase in the number of women will soon tend to raise the annual number of births.

Figure 12 (assumption I) shows that in order for the annual number of births to remain constant at a level of about 3 million a year (slightly less than the 3.1 million births in 1975), the total fertility rate would have to drop to 1,520 in 1985, but would gradually increase to about 1,850 by the year 2000. Although changes of this magnitude may seem unlikely, we may well be entering an era of very sharp fluctuations in fertility. As stated by Larry Bumpass,[23] "With near complete control, we may experience very deep troughs indeed following 'bad years,' and rather high peaks following 'good' ones as delayed marriages and births are made up."

Figure 12 (assumptions II and III) indicates that if the total fertility rate were to remain constant at 1,800 (about the present level), the

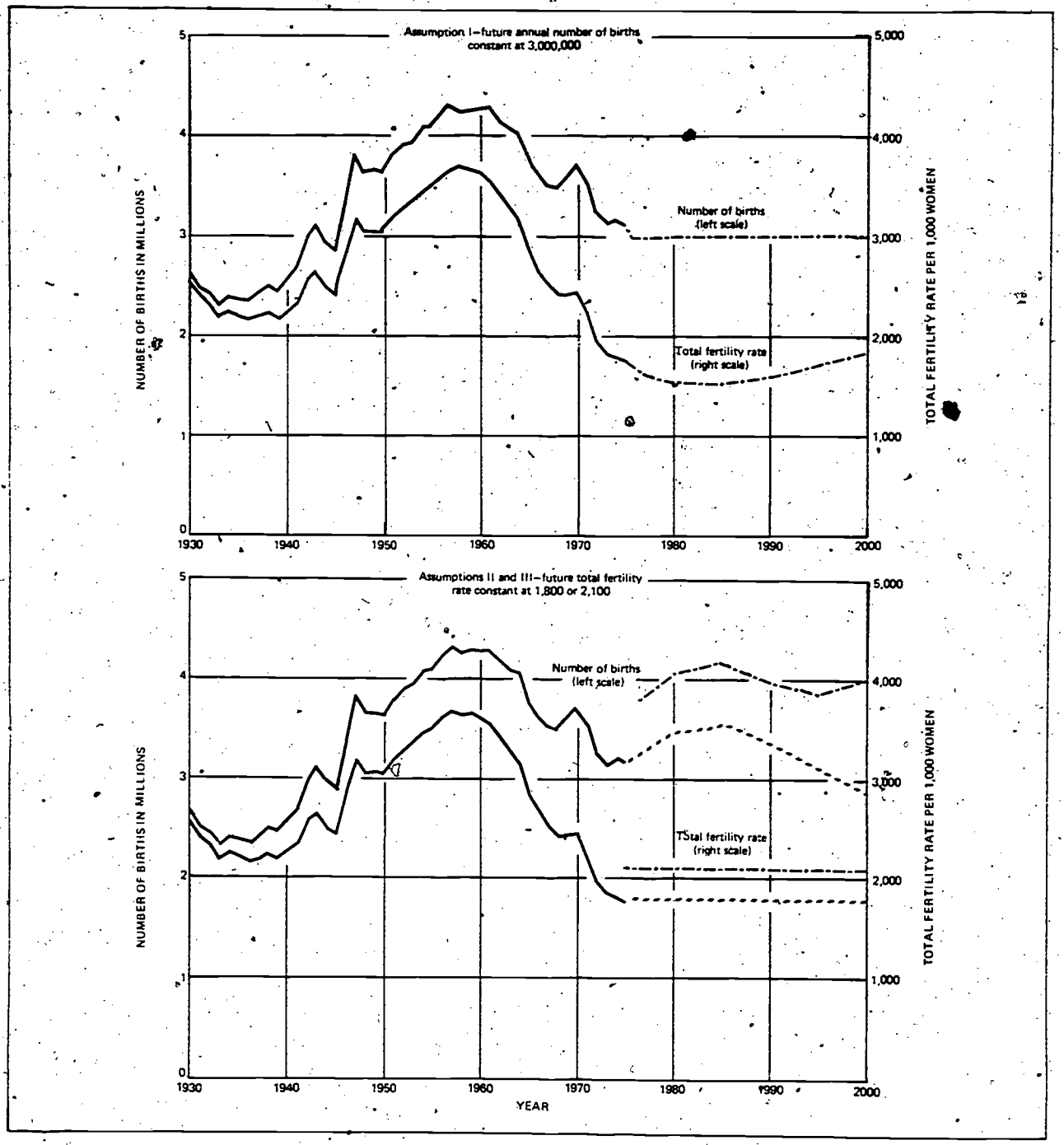


Figure 12. Observed and hypothetical numbers of births and total fertility rates: selected years, 1930-2000

annual number of births would rise to about 3.6 million in 1985 but would drop to slightly below present levels by the year 2000. However, if we assume that the present low fertility rate is a temporary phenomenon and that the more likely pattern would be for the total fertility rate to level off at about 2,100, the number of births would rise to 4.1 million in 1985 and decrease to just under 4.0 million in the year 2000.

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LIST OF DETAILED TABLES

Table 1. Number of live births, birth rates, and fertility rates, by color: United States, 1909-75

Year	Live births			Birth rate[1]			Fertility rate		
	Total	White	All other	Total	White	All other	Total	White	All other
Registered births	Number			Rate per 1,000 population			Rate per 1,000 women 15-44 years		
1975	3,144,198	2,551,996	592,202	14.8	13.8	21.2	66.7	63.0	89.3
1974	3,159,958	2,575,792	584,166	14.9	14.0	21.4	68.4	64.7	91.0
1973	3,136,965	2,551,030	585,935	14.9	13.9	21.9	69.2	65.3	94.3
1972	3,258,411	2,655,558	602,853	15.6	14.6	22.9	73.4	69.2	100.3
1971	3,555,970	2,919,746	636,224	17.2	16.2	24.7	81.8	77.5	108.5
1970	3,731,386	3,091,264	640,122	18.4	17.4	25.1	87.9	84.1	113.0
1969	3,600,206	2,993,614	606,592	17.8	16.9	24.4	86.5	82.4	114.8
1968	3,501,564	2,912,224	589,340	17.5	16.6	24.2	85.7	81.5	114.9
1967	3,520,959	2,922,502	598,457	17.8	16.8	25.0	87.6	83.1	119.8
1966	3,606,274	2,993,230	613,044	18.4	17.4	26.1	91.3	86.4	125.9
1965	3,760,358	3,123,860	636,498	19.4	18.3	27.6	96.6	91.4	133.9
1964	4,027,490	3,369,160	658,330	21.0	20.0	29.1	105.0	99.9	141.7
1963[2]	4,098,020	3,426,344	638,928	21.7	20.7	29.7	108.5	103.7	144.9
1962[2]	4,167,362	3,394,068	641,580	22.8	21.4	30.5	112.2	107.5	148.8
1961	4,268,326	3,600,864	667,462	23.3	22.2	31.6	117.2	112.2	153.5
1960	4,257,850	3,600,744	657,106	23.7	22.7	32.1	118.0	113.2	153.6
1959	4,244,796	3,597,430	647,366	24.0	22.9	32.9	118.8	113.9	156.0
Births adjusted for underregistration[3]									
1959	4,286,000	3,619,000	666,800	24.2	23.1	33.9	119.9	114.5	160.7
1958	4,246,000	3,595,000	651,000	24.5	23.3	34.0	120.0	114.8	159.1
1957	4,300,000	3,646,000	654,000	25.3	24.0	35.0	122.7	117.6	161.7
1956	4,210,000	3,570,000	640,000	25.2	24.0	35.1	121.0	115.9	159.7
1955	4,097,000	3,485,000	613,000	25.0	23.8	34.5	118.3	113.7	154.3
1954	4,071,000	3,472,000	599,000	25.3	24.2	34.7	117.9	113.5	152.2
1953	3,959,000	3,387,000	572,000	25.1	24.0	33.9	115.0	110.9	146.4
1952	3,909,000	3,356,000	553,000	25.1	24.1	33.4	113.8	110.0	142.7
1951	3,820,000	3,275,000	545,000	24.9	23.9	33.7	111.4	107.7	141.7
1950	3,632,000	3,108,000	524,000	24.1	23.0	33.3	106.2	102.3	137.3
1949	3,649,000	3,136,000	513,000	24.5	23.6	33.0	107.1	103.6	135.1
1948	3,637,000	3,141,000	496,000	24.9	24.0	32.4	107.3	104.3	131.8
1947	3,817,000	3,347,000	469,000	26.6	26.1	31.2	113.3	111.8	126.9
1946	3,411,000	2,990,000	420,000	24.1	23.6	28.4	101.9	100.4	113.9
1945	2,858,000	2,471,000	388,000	20.4	19.7	26.5	85.9	83.4	106.0
1944	2,939,000	2,545,000	394,000	21.2	20.5	27.4	88.8	86.3	108.5
1943	3,104,000	2,704,000	400,000	22.7	22.1	28.3	94.3	92.3	111.0
1942	2,989,000	2,605,000	384,000	22.2	21.5	27.7	91.5	89.5	107.8
1941	2,703,000	2,330,000	374,000	20.3	19.5	27.3	83.4	80.7	105.4
1940	2,559,000	2,199,000	360,000	19.4	18.6	26.7	79.9	77.1	102.4
1939	2,466,000	2,117,000	349,000	18.8	18.0	26.1	77.8	74.8	100.1
1938	2,496,000	2,148,000	348,000	19.2	18.4	26.3	79.1	76.5	100.5
1937	2,413,000	2,071,000	342,000	18.7	17.9	26.0	77.1	74.4	99.4
1936	2,355,000	2,027,000	328,000	18.4	17.8	25.1	75.8	73.3	95.9
1935	2,377,000	2,042,000	334,000	18.7	17.9	25.8	77.2	74.5	98.4
1934	2,396,000	2,058,000	338,000	19.0	18.1	26.3	78.5	75.8	100.4
1933	2,307,000	1,982,000	325,000	18.4	17.6	25.5	76.3	73.7	97.3
1932	2,440,000	2,099,000	341,000	19.5	18.7	26.9	81.7	79.0	103.0
1931	2,506,000	2,170,000	335,000	20.2	19.5	26.6	84.6	82.4	102.1
1930	2,618,000	2,274,000	344,000	21.3	20.6	27.5	89.2	87.1	105.9
1929	2,582,000	2,244,000	339,000	21.2	20.5	27.3	89.3	87.3	106.1
1928	2,674,000	2,325,000	349,000	22.2	21.5	28.5	93.8	91.7	111.0
1927	2,802,000	2,425,000	377,000	23.5	22.7	31.1	99.8	97.1	121.7
1926	2,839,000	2,441,000	398,000	24.2	23.1	33.4	102.6	99.2	130.3
1925	2,909,000	2,506,000	403,000	25.1	24.1	34.2	106.6	103.3	134.0
1924	2,979,000	2,577,000	401,000	26.1	25.1	34.6	110.9	107.8	135.6
1923	2,910,000	2,531,000	380,000	26.0	25.2	33.2	110.5	108.0	130.5
1922	2,882,000	2,507,000	375,000	26.2	25.4	33.2	111.2	108.8	130.8
1921	3,055,000	2,657,000	398,000	28.1	27.3	35.8	119.8	117.2	140.8
1920	2,950,000	2,566,000	383,000	27.7	26.9	35.0	117.9	115.4	137.5
1919	2,740,000	2,387,000	353,000	26.1	25.3	32.4	111.2	---	---
1918	2,948,000	2,588,000	360,000	28.2	27.6	33.0	119.8	---	---
1917	2,944,000	2,587,000	357,000	28.5	27.9	32.9	121.0	---	---
1916	2,964,000	2,599,000	---	29.7	28.5	---	123.4	121.8	---
1915	2,965,000	2,594,000	---	29.5	28.9	---	125.0	123.2	---
1914	2,966,000	2,588,000	---	29.9	29.3	---	126.6	124.6	---
1913	2,869,000	2,497,000	---	29.5	28.8	---	124.7	122.4	---
1912	2,840,000	2,467,000	---	29.8	29.0	---	125.8	123.3	---
1911	2,809,000	2,435,000	---	29.9	29.1	---	126.3	123.6	---
1910	2,777,000	2,401,000	---	30.1	29.2	---	126.8	123.8	---
1909	2,718,000	2,344,000	---	30.0	29.2	---	126.8	123.6	---

[1] For 1917-19 and 1941-46, figures are based on population including Armed Forces abroad.
[2] Figures by race exclude data for residents of New Jersey.
[3] For 1915-32, figures include adjustments for States not in the registration area; for years prior to 1915, figures are estimates based on the number of registered births in the 10 original registration States for the same period. Estimates for 1909-34 were prepared by P. K. Whelpton. See National Office of Vital Statistics: Births and birth rates in the entire United States, 1909 to 1948, *Vital Statistics—Special Reports*, Vol. 33, No. 8. Public Health Service. Washington, D.C. 1950.

Table 2. Birth rates and percent change, by age of mother and color: United States, 1957, 1970, and 1973-75

Color and year	All ages, 15-44 years[1]	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 years						
Total	Birth rate per 1,000 women										
1975	66.7	1.3	56.3	36.6	85.7	114.7	110.3	53.1	19.4	4.6	0.3
1974	68.4	1.2	58.1	37.7	89.3	119.0	113.3	54.4	20.2	4.8	0.3
1973	69.2	1.3	59.7	38.9	91.8	120.7	113.6	56.1	22.0	5.4	0.3
1970	87.9	1.2	68.3	38.8	114.7	167.8	145.1	73.3	31.7	8.1	0.5
1957[2]	122.7	1.0	96.1	48.2	173.5	260.1	199.0	118.7	59.8	16.3	1.1
	Percent change										
1973-75	-3.6		-5.7	-5.9	-6.6	-5.0	-2.9	-5.3	-11.8	-14.8	
1970-73	-21.3	8.3	-12.6	0.3	-20.0	-28.1	-21.7	-23.5	-30.6	-33.3	-40.0
1957-73	-43.6	30.0	-37.9	-19.3	-47.1	-53.6	-42.9	-52.7	-63.2	-66.9	-72.7
White	Birth rate per 1,000 women										
1975	63.0	0.6	46.8	28.3	74.4	109.7	110.0	52.1	18.1	4.1	0.2
1974	64.7	0.6	48.3	29.0	77.7	114.2	113.5	53.5	18.9	4.4	0.2
1973	65.3	0.6	49.3	29.5	79.6	115.4	113.7	54.9	20.7	4.9	0.3
1970	84.1	0.5	57.4	29.2	101.5	163.4	145.9	71.9	30.0	7.5	0.4
1957[2]	117.6	0.5	85.1	38.5	160.6	253.6	195.6	115.8	57.4	15.4	0.8
	Percent change										
1973-75	-3.5		-5.1	-4.1	-6.5	-4.9	-3.3	-5.1	-12.6	-16.3	-33.3
1970-73	-22.4	20.0	-14.1	1.0	-21.6	-29.4	-22.1	-23.6	-31.0	-34.7	-25.0
1957-73	-44.5	20.0	-42.1	-23.4	-50.4	-54.5	-41.9	-52.6	-63.9	-68.2	-62.5
All other	Birth rate per 1,000 women										
1975	89.3	4.7	108.6	82.0	150.1	143.5	112.1	59.7	27.6	7.6	0.5
1974	91.0	4.7	113.3	86.2	156.4	147.4	112.3	60.7	28.9	7.6	0.5
1973	94.3	5.0	119.1	91.6	163.7	153.2	113.3	63.9	31.0	8.7	0.6
1970	113.0	4.8	133.4	95.2	195.4	196.8	140.1	82.5	42.2	12.6	0.9
1957[2]	161.7	5.6	171.4	114.0	264.6	304.5	226.3	142.3	78.1	23.3	2.0
	Percent change										
1973-75	-5.3	-6.0	-8.8	-10.5	-8.3	-6.3	-1.1	-6.6	-11.0	-12.6	-16.7
1970-73	-16.5	4.2	-10.7	-3.8	-16.2	-22.2	-19.1	-22.5	-26.5	-31.0	-33.3
1957-73	-41.7	-10.7	-30.5	-19.6	-38.1	-49.7	-49.9	-55.1	-60.3	-62.7	-70.0

[1]Rates computed by relating total births, regardless of age of mother, to female population aged 15-44 years.
[2]Rates adjusted for underregistration of births.

Table 3. Median ages of women starting families and bearing second, third, and fourth and higher order children, by color: United States, 1960 and 1970-73

Color and live-birth order	1973	1972	1971	1970	1960
	Median age in years				
Total					
Average of all orders	25.4	25.4	25.4	25.4	25.4
First child	22.1	22.1	22.1	22.1	21.8
Second child	25.3	25.1	24.8	24.7	24.0
Third child	27.7	27.6	27.5	27.5	26.6
Fourth child and over	31.9	31.8	31.5	31.4	30.2
White					
Average of all orders	25.6	25.6	25.6	25.6	25.5
First child	22.5	22.4	22.4	22.3	22.0
Second child	25.7	25.4	25.1	25.0	24.2
Third child	28.1	27.9	27.8	27.7	27.0
Fourth child and over	32.2	32.1	31.7	31.7	30.6
All other					
Average of all orders	24.1	24.2	24.4	24.3	24.9
First child	20.2	20.2	20.3	20.4	19.9
Second child	23.6	23.5	23.3	23.2	22.5
Third child	25.7	25.6	25.5	25.2	24.1
Fourth child and over	30.8	30.6	30.5	30.3	29.2

Table 4. Mean interval since last live birth for selected birth orders, by race: reporting States, 1969-73

[Refers only to second and higher order births occurring within the areas reporting mean interval since last live birth to residents of these areas. There were 36 reporting States in 1969, 38 in 1970 and 1971, 39 in 1972, and 40 States and the District of Columbia in 1973]

Race and year	All second and higher order births	Mean interval between:		
		First and second births	Second and third births	Third and fourth births
	Mean interval in months			
All races				
1973	43.3	39.2	46.5	49.6
1972	42.6	38.1	45.9	48.5
1971	41.8	37.0	44.9	47.7
1970	41.8	36.7	45.0	47.7
1969	41.1	36.3	44.4	46.8
White				
1973	43.6	39.2	47.3	50.7
1972	43.0	38.1	46.7	49.6
1971	42.2	37.1	45.7	48.7
1970	42.3	36.9	45.9	48.9
1969	41.7	36.5	45.3	47.9
Black				
1973	42.4	39.8	43.0	44.9
1972	41.0	38.4	41.6	43.6
1971	39.8	36.8	40.3	42.7
1970	38.9	35.8	39.8	41.7
1969	37.8	35.3	38.9	40.2

Table 5. Birth rates and percent change, by live-birth order and color: United States, 1970-75

Color and year	All birth orders	Live-birth order						
		First	Second	Third	Fourth	Fifth	Sixth and seventh	Eighth and over
Total	Rate per 1,000 women aged 15-44 years							
1975	66.7	28.4	21.2	9.5	3.9	1.8	1.4	0.7
1974	68.4	28.9	21.5	9.6	4.2	1.9	1.5	0.8
1973	69.2	28.8	21.1	9.8	4.6	2.2	1.8	0.9
1972	73.4	29.9	21.5	10.7	5.3	2.7	2.2	1.2
1971	81.8	32.1	23.1	12.5	6.4	3.3	2.8	1.5
1970	87.9	34.2	24.2	13.6	7.2	3.8	3.2	1.8
	Percent change							
1973-75	-3.6	-1.4	0.5	-3.1	-15.2	-18.2	-22.2	-22.2
1970-73	-21.3	-15.8	-12.8	-27.9	-36.1	-42.1	-43.8	-50.0
White	Rate per 1,000 women aged 15-44 years							
1975	63.0	26.9	20.5	8.9	3.6	1.5	1.1	0.5
1974	64.7	27.4	21.0	9.0	3.8	1.7	1.2	0.6
1973	65.3	27.2	20.5	9.3	4.2	2.0	1.5	0.7
1972	69.2	28.2	21.0	10.2	4.9	2.3	1.8	0.8
1971	77.5	30.6	22.6	12.0	6.0	3.0	2.3	1.0
1970	84.1	32.9	23.7	13.3	6.8	3.4	2.7	1.2
	Percent change							
1973-75	-3.5	-1.1	-	-4.3	-14.3	-25.0	-26.7	-28.6
1970-73	-22.4	-17.3	-13.5	-30.1	-38.2	-41.2	-44.4	-41.7
All other	Rate per 1,000 women aged 15-44 years							
1975	89.3	37.3	25.1	12.8	6.2	3.2	2.8	1.8
1974	91.0	38.2	25.1	12.7	6.4	3.3	3.2	2.1
1973	94.3	39.2	24.7	13.1	6.9	3.9	3.8	2.7
1972	100.3	40.9	25.2	13.8	7.8	4.6	4.6	3.4
1971	109.5	41.8	26.9	15.6	9.1	5.6	6.0	4.6
1970	113.0	42.4	26.9	15.9	9.7	6.1	6.7	5.3
	Percent change							
1973-75	-5.3	-4.8	1.6	-2.3	-10.1	-17.9	-26.3	-33.3
1970-73	-16.5	-7.5	-8.2	-17.6	-28.9	-36.1	-43.3	-49.1

Table 6. Percent distribution of live births by live-birth order and color: United States, 1960 and 1970-75

Race and year	All birth orders	Live-birth order						
		First	Second	Third	Fourth	Fifth	Sixth and seventh	Eighth and over
	Percent distribution							
Total								
1975	100.0	42.5	31.7	14.2	5.9	2.6	2.0	1.0
1974	100.0	42.2	31.5	14.0	6.1	2.8	2.2	1.1
1973	100.0	41.4	30.5	14.2	6.6	3.2	2.6	1.4
1972	100.0	40.7	29.3	14.6	7.2	3.6	3.0	1.6
1971	100.0	39.2	28.3	15.3	7.9	4.1	3.4	1.9
1970	100.0	38.8	27.5	15.5	8.2	4.3	3.7	2.0
1960	100.0	26.4	24.7	19.3	12.4	7.1	6.5	3.7
White								
1975	100.0	42.6	32.6	14.2	5.7	2.4	1.8	0.8
1974	100.0	42.3	32.4	14.0	5.9	2.6	1.9	0.9
1973	100.0	41.5	31.5	14.3	6.4	3.0	2.3	1.0
1972	100.0	40.7	30.3	14.7	7.1	3.4	2.6	1.2
1971	100.0	39.4	29.1	15.6	7.8	3.9	3.0	1.3
1970	100.0	39.1	28.2	15.8	8.1	4.1	3.2	1.5
1960	100.0	27.2	25.8	20.0	12.4	6.7	5.5	2.5
All other								
1975	100.0	41.7	28.1	14.4	7.0	3.6	3.1	2.0
1974	100.0	41.9	27.6	14.0	7.1	3.7	3.5	2.3
1973	100.0	41.3	26.2	14.0	7.4	4.2	4.1	2.9
1972	100.0	40.6	25.1	13.8	7.8	4.6	4.7	3.5
1971	100.0	38.1	24.6	14.2	8.3	5.1	5.5	4.3
1970	100.0	37.5	23.8	14.1	8.6	5.5	5.9	4.7
1960	100.0	21.9	19.1	15.6	12.1	9.2	12.0	10.2

Table 7. Birth rates and percent change, by age of mother and color for first, second, and third order births: United States, 1970 and 1973

Live-birth order and age of mother	Total			White			All other		
	1973	1970	Percent change	1973	1970	Percent change	1973	1970	Percent change
Total	Rate per 1,000 women			Rate per 1,000 women			Rate per 1,000 women		
All ages, 15-44 years[1]	28.8	34.2	−15.8	27.2	32.9	−17.3	39.2	42.4	−7.5
15-19 years	47.6	53.7	−11.4	40.8	47.1	−13.4	86.8	93.1	−6.8
20-24 years	56.5	78.2	−27.7	56.5	79.4	−28.8	56.2	70.0	−19.7
25-29 years	30.1	31.2	−3.5	30.9	32.3	−4.3	24.5	24.0	2.1
30-34 years	7.3	7.3	-	7.3	7.4	−1.4	7.3	7.0	4.3
35-39 years	1.7	2.1	−19.0	1.7	2.1	−19.0	2.0	2.2	−9.1
40-44 years	0.3	0.4	−25.0	0.3	0.4	−25.0	0.4	0.4	-
Second births									
All ages, 15-44 years[1]	21.1	24.2	−12.8	20.5	23.7	−13.5	24.7	26.9	−8.2
15-19 years	10.3	12.2	−15.6	7.5	9.0	−16.7	25.8	31.0	−16.8
20-24 years	44.3	58.0	−23.6	43.0	57.5	−25.2	52.4	61.6	−14.9
25-29 years	42.8	46.3	−7.6	44.4	48.5	−8.5	32.0	31.9	0.3
30-34 years	14.0	13.5	3.7	14.2	13.7	3.6	12.9	12.0	7.5
35-39 years	3.0	3.4	−11.8	3.0	3.4	−11.8	3.4	3.6	−5.6
40-44 years	0.5	0.6	−16.7	0.5	0.6	−16.7	0.6	0.7	−14.3
Third births									
All ages, 15-44 years[1]	9.8	13.6	−27.9	9.3	13.3	−30.1	13.1	15.9	−17.6
15-19 years	1.6	2.1	−23.8	0.9	1.2	−25.0	5.6	7.6	−26.3
20-24 years	14.2	21.6	−34.3	12.1	19.4	−37.6	27.6	36.4	−24.2
25-29 years	23.5	35.1	−33.0	23.5	36.2	−35.1	23.6	27.7	−14.8
30-34 years	13.6	17.2	−20.9	13.9	17.9	−22.3	11.7	13.1	−10.7
35-39 years	3.8	5.1	−25.5	3.7	5.2	−28.8	4.1	4.6	−10.9
40-44 years	0.6	0.9	−33.3	0.6	0.9	−33.3	0.7	0.9	−22.2

[1]Rates computed by relating total births, regardless of age of mother, to female population aged 15-44 years.

Table 8. Birth rates and percent change: United States, each division, and State, 1970-73

Division and State	1973	1972	1971	1970	Percent change 1970-73
	Birth rate per 1,000 population				
United States	14.9	15.6	17.2	18.4	-19.0
GEOGRAPHIC DIVISION					
New England	12.8	13.7	15.5	16.9	-24.3
Middle Atlantic	13.0	13.8	15.4	16.9	-23.1
East North Central	15.1	15.9	17.6	18.7	-19.3
West North Central	14.2	14.9	16.3	17.4	-18.4
South Atlantic	15.4	16.3	18.0	18.7	-17.6
East South Central	16.7	17.4	19.0	19.4	-13.9
West South Central	17.3	18.0	19.5	20.0	-13.5
Mountain	18.1	18.5	20.0	20.7	-12.6
Pacific	14.5	15.0	16.4	18.2	-20.3
New England					
Maine	15.2	15.8	17.6	17.9	-15.1
New Hampshire	14.6	15.7	17.8	17.9	-18.4
Vermont	14.6	16.0	17.4	18.8	-22.3
Massachusetts	12.4	13.3	15.1	16.6	-25.3
Rhode Island	12.6	13.7	15.5	16.5	-23.6
Connecticut	12.2	12.9	14.8	16.7	-26.9
Middle Atlantic					
New York	13.1	13.8	15.5	17.4	-24.7
New Jersey	13.0	13.7	15.4	16.8	-22.6
Pennsylvania	12.9	13.7	15.2	16.3	-20.9
East North Central					
Ohio	15.0	15.8	17.7	18.7	-19.8
Indiana	15.8	16.5	18.3	19.1	-17.3
Illinois	15.1	15.9	17.5	18.5	-18.4
Michigan	15.6	16.3	18.0	19.4	-19.6
Wisconsin	13.7	14.3	16.1	17.6	-22.2
West North Central					
Minnesota	13.8	14.5	16.2	18.0	-23.3
Iowa	13.4	14.2	15.8	17.1	-21.6
Missouri	14.5	15.3	16.6	17.3	-16.2
North Dakota	15.2	15.9	16.5	17.6	-13.6
South Dakota	15.6	16.0	17.2	17.6	-11.4
Nebraska	14.8	15.4	16.9	17.3	-14.5
Kansas	14.1	14.6	16.0	17.0	-17.1
South Atlantic					
Delaware	14.3	15.4	17.7	19.2	-25.5
Maryland	13.2	14.4	16.3	17.6	-25.0
District of Columbia	14.5	16.0	18.8	20.1	-27.9
Virginia	15.0	15.8	17.5	18.6	-19.4
West Virginia	15.4	16.3	17.6	17.8	-13.5
North Carolina	16.3	17.0	18.5	19.3	-15.5
South Carolina	18.0	18.6	20.2	20.1	-10.4
Georgia	17.8	18.5	20.1	21.1	-15.6
Florida	14.0	15.0	16.6	16.9	-17.2

Table 8. Birth rates and percent change: United States, each division, and State, 1970-73—Con.

Division and State	1973	1972	1971	1970	Percent change 1970-73
	Birth rate per 1,000 population				
East South Central					
Kentucky	16.0	16.8	18.6	18.7	-14.4
Tennessee	15.6	16.2	17.9	18.4	-15.2
Alabama	16.8	17.5	19.1	19.4	-13.4
Mississippi	19.5	20.4	21.6	22.1	-11.8
West South Central					
Arkansas	16.5	16.8	18.3	18.5	-10.8
Louisiana	17.6	18.3	19.8	20.4	-13.7
Oklahoma	15.3	16.1	17.4	17.5	-12.6
Texas	17.8	18.5	20.1	20.6	-13.6
Mountain					
Montana	15.8	16.0	17.4	18.2	-13.2
Idaho	18.9	18.8	19.6	20.3	-6.9
Wyoming	17.2	17.3	18.1	19.6	-12.2
Colorado	15.8	16.3	17.7	18.8	-16.0
New Mexico	18.8	19.3	21.2	21.8	-13.8
Arizona	18.4	19.1	20.6	21.3	-13.6
Utah	24.2	23.9	25.2	25.5	-5.1
Nevada	15.7	16.9	18.9	19.6	-19.9
Pacific					
Washington	13.9	14.1	16.0	17.8	-21.9
Oregon	13.9	14.3	15.6	16.8	-17.3
California	14.5	15.0	16.3	18.2	-20.3
Alaska	20.0	21.3	23.3	25.1	-20.3
Hawaii	18.5	18.9	20.0	21.4	-13.6

Table 9. Indexes of birth and fertility rates, by geographic division: United States, 1970

Measure of fertility	United States	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Birth rate	100	92	92	102	95	102	105	109	113	99
Fertility rate	100	94	93	102	99	100	106	108	111	97

NOTE: Each index is computed by dividing the rate for a division by the corresponding rate for the United States.

Table 10. Birth rates for metropolitan and nonmetropolitan areas, by color: United States and each division, 1970

[Metropolitan areas consist of all counties within standard metropolitan statistical areas except in New England where metropolitan areas are comprised of counties within metropolitan State economic areas. See also Technical Appendix]

Area	Total	White	All other
	Birth rate per 1,000 population		
United States	18.4	17.4	25.1
Metropolitan areas	18.5	17.4	25.2
Nonmetropolitan areas	18.1	17.3	25.0
Geographic division			
New England	16.9	16.5	26.7
Metropolitan areas	16.6	16.1	26.5
Nonmetropolitan areas	17.9	17.8	28.2
Middle Atlantic	16.9	15.9	25.2
Metropolitan areas	16.9	15.6	25.2
Nonmetropolitan areas	17.2	16.9	25.0
East North Central	18.7	17.8	26.7
Metropolitan areas	19.0	17.9	26.8
Nonmetropolitan areas	17.9	17.8	24.4
West North Central	17.4	16.9	26.4
Metropolitan areas	18.9	18.2	26.2
Nonmetropolitan areas	16.0	15.8	27.1
South Atlantic	18.7	17.2	24.2
Metropolitan areas	18.7	17.2	24.3
Nonmetropolitan areas	18.8	17.3	24.1
East South Central	19.4	17.8	25.5
Metropolitan areas	19.4	17.9	24.7
Nonmetropolitan areas	19.4	17.8	26.1
West South Central	20.0	19.0	24.9
Metropolitan areas	21.1	20.2	25.7
Nonmetropolitan areas	18.0	16.9	23.5
Mountain	20.7	20.1	30.7
Metropolitan areas	20.8	20.5	27.3
Nonmetropolitan areas	20.6	19.6	33.9
Pacific	18.2	17.5	23.5
Metropolitan areas	18.2	17.5	23.3
Nonmetropolitan areas	18.2	17.6	25.5

Table 11. Birth rates and percent change for standard metropolitan statistical areas with populations of 1,000,000 or more in 1971: United States and each region, 1971-73

[By place of residence, SMSA's are as currently defined by the Office of Management and Budget. See also Technical Appendix]

Area	1973	1972	1971	Percent change 1971-73
	Birth rate per 1,000 population			
United States	14.9	15.6	17.2	-13.4
35 SMSA's	14.2	14.8	16.5	-13.9
Northeast Region	13.0	13.7	15.4	-15.6
7 SMSA's	12.6	13.3	15.0	-16.0
Boston, Mass.[1]	11.8	12.8	14.6	-19.2
Buffalo, N.Y.	12.3	13.5	15.0	-18.0
Nassau-Suffolk, N.Y.	11.4	12.0	13.4	-14.9
New York, N.Y.-N.J.	13.1	13.7	15.4	-14.9
Newark, N.J.	12.6	13.4	15.1	-16.6
Philadelphia, Pa.-N.J.	13.4	13.9	15.7	-14.6
Pittsburgh, Pa.	11.3	12.3	14.0	-19.3
North Central Region	14.9	15.6	17.2	-13.4
10 SMSA's	15.0	15.8	17.7	-15.3
Chicago, Ill.	15.4	16.2	18.0	-14.4
Cincinnati, Ohio-Ky.-Ind.	15.1	15.8	17.9	-15.6
Cleveland, Ohio	13.6	14.4	16.5	-17.6
Columbus, Ohio	15.9	16.3	19.0	-16.3
Detroit, Mich.	15.4	16.0	17.9	-14.0
Indianapolis, Ind.	15.9	17.0	18.7	-15.0
Kansas City, Mo.-Kans.	15.2	15.9	17.7	-14.1
Milwaukee, Wis.	13.8	14.3	16.2	-14.8
Minneapolis-St. Paul, Minn.-Wis.	14.2	15.0	17.0	-16.5
St. Louis, Mo.-Ill.	14.9	16.0	17.2	-13.4
South Region	16.3	17.0	18.7	-12.8
8 SMSA's	15.4	16.2	18.1	-14.9
Atlanta, Ga.	17.3	17.9	19.9	-13.1
Baltimore, Md.	12.9	13.8	15.6	-17.3
Dallas-Fort Worth, Tex.	17.2	17.5	19.6	-12.2
Houston, Tex.	18.4	18.9	20.7	-11.1
Miami, Fla.	12.9	13.7	15.1	-14.6
New Orleans, La.	17.8	18.2	19.6	-9.2
Tampa-St. Petersburg, Fla.	12.5	13.4	14.6	-14.4
Washington, D.C.-Md.-Va.	14.1	15.4	17.8	-20.8
West Region	15.4	15.9	17.2	-10.5
10 SMSA's	14.3	14.8	16.2	-11.7
Anaheim-Santa Ana-Garden Grove, Calif.	14.7	15.4	16.5	-10.9
Denver-Boulder, Colo.	14.9	16.0	17.2	-13.4
Los Angeles-Long Beach, Calif.	15.0	15.1	16.4	-8.5
Phoenix, Ariz.	17.3	18.0	19.4	-10.8
Portland, Oreg.-Wash.	13.4	14.1	15.5	-13.5
Riverside-San Bernardino-Ontario, Calif.	15.1	15.6	17.1	-11.7
San Diego, Calif.	14.8	15.2	16.2	-8.6
San Francisco-Oakland, Calif.	12.1	13.0	14.6	-17.1
San Jose, Calif.	14.0	14.8	16.1	-13.0
Seattle-Everett, Wash.	12.4	12.6	14.9	-16.8

[1]Massachusetts State Economic Area

Table 12. Completed fertility rates for the cohorts of 1875 to 1926, by color: United States, 1925-76

[Rate per 1,000 women. See Technical Appendix]

Cohort	As of January 1	Total	White	All other
1926	1976	3,007	2,918	3,631
1925	1975	2,966	2,888	3,522
1924	1974	2,913	2,847	3,394
1923	1973	2,847	2,789	3,270
1922	1972	2,794	2,739	3,204
1921	1971	2,765	2,707	3,189
1920	1970	2,702	2,646	3,117
1919	1969	2,638	2,587	3,026
1918	1968	2,550	2,504	2,896
1917	1967	2,512	2,470	2,822
1916	1966	2,467	2,428	2,761
1915	1965	2,434	2,394	2,713
1914	1964	2,388	2,348	2,672
1913	1963	2,343	2,303	2,629
1912	1962	2,312	2,270	2,600
1911	1961	2,296	2,253	2,593
1910	1960	2,274	2,233	2,555
1909	1959	2,273	2,234	2,526
1908	1958	2,270	2,236	2,491
1907	1957	2,295	2,260	2,517
1906	1956	2,318	2,281	2,557
1905	1955	2,359	2,320	2,596
1904	1954	2,405	2,367	2,642
1903	1953	2,442	2,402	2,679
1902	1952	2,477	2,432	2,759
1901	1951	2,525	2,473	2,857
1900	1950	2,583	2,528	2,944
1899	1949	2,635	2,587	2,954
1898	1948	2,672	2,632	2,940
1897	1947	2,718	2,678	2,969
1896	1946	2,773	2,733	3,033
1895	1945	2,830	2,789	3,106
1894	1944	2,881	2,836	3,176
1893	1943	2,936	2,888	3,248
1892	1942	2,983	2,944	3,248
1891	1941	3,032	2,995	3,286
1890	1940	3,072	3,034	3,328
1889	1939	3,108	3,068	3,386
1888	1938	3,141	3,096	3,455
1887	1937	3,167	3,121	3,512
1886	1936	3,197	3,146	3,576
1885	1935	3,235	3,180	3,663
1884	1934	3,280	3,218	3,777
1883	1933	3,322	3,251	3,891
1882	1932	3,365	3,289	3,969
1881	1931	3,407	3,330	4,025
1880	1930	3,450	3,370	4,083
1879	1929	3,490	3,406	4,161
1878	1928	3,532	3,444	4,253
1877	1927	3,570	3,478	4,341
1876	1926	3,619	3,525	4,437
1875	1925	3,669	3,572	4,541

Table 13. Total fertility rates, by color: United States, 1917-75

[Rate per 1,000 women. See Technical Appendix]

Year	Total	White	All other	Year	Total	White	All other
1975	1,770	1,685	2,254	1945	2,422	2,375	2,733
1974	1,824	1,740	2,309	1944	2,495	2,452	2,787
1973	1,863	1,768	2,406	1943	2,640	2,611	2,837
1972	1,994	1,894	2,583	1942	2,555	2,526	2,744
1971	2,245	2,144	2,860	1941	2,332	2,281	2,690
1970	2,432	2,338	2,998	1940	2,229	2,177	2,618
1969	2,423	2,337	2,961	1939	2,172	2,120	2,564
1968	2,431	2,341	2,996	1938	2,222	2,175	2,584
1967	2,526	2,425	3,178	1937	2,173	2,121	2,563
1966	2,670	2,563	3,391	1936	2,146	2,101	2,483
1965	2,882	2,764	3,657	1935	2,189	2,141	2,548
1964	3,171	3,061	3,900	1934	2,232	2,181	2,605
1963	3,298	3,194	4,000	1933	2,172	2,126	2,523
1962	3,423	3,320	4,108	1932	2,319	2,271	2,686
1961	3,564	3,464	4,234	1931	2,402	2,369	2,641
1960	3,606	3,510	4,238	1930	2,533	2,506	2,734
1959	3,638	3,537	4,321	1929	2,532	2,506	2,716
1958	3,629	3,532	4,285	1928	2,660	2,632	2,829
1957	3,682	3,582	4,347	1927	2,824	2,783	3,101
1956	3,605	3,504	4,286	1926	2,901	2,839	3,324
1955	3,498	3,405	4,126	1925	3,012	2,949	3,417
1954	3,461	3,372	4,053	1924	3,121	3,069	3,454
1953	3,349	3,269	3,880	1923	3,101	3,063	3,332
1952	3,287	3,213	3,760	1922	3,109	3,072	3,354
1951	3,199	3,120	3,718	1921	3,326	3,282	3,615
1950	3,028	2,945	3,579	1920	3,263	3,219	3,556
1949	3,036	2,964	3,509	1919	3,068	3,025	3,344
1948	3,026	2,968	3,402	1918	3,312	3,288	3,475
1947	3,181	3,167	3,247	1917	3,333	3,312	3,451
1946	2,858	2,843	2,937				

NOTE: The total fertility rate is the sum of age-specific birth rates for single years of age for women 14-49 years of age. The birth rates for single years of age used to compute total fertility rates are based on births adjusted for underregistration for all years (including 1960-75) and on population estimates adjusted for underenumeration. Hence, they are not precisely comparable to birth rates and fertility rates shown in table 1.

APPENDIX

CONTENTS

TECHNICAL APPENDIX

Sources of Data

Birth statistics in this report are based on information obtained from the certificates of live births filed throughout the United States. Additional data are published annually by the National Center for Health Statistics in *Vital Statistics of the United States,* Volume 1. A complete discussion of the sources, classification, and processing of natality data may be found in the Technical Appendix of these volumes. For additional information on the fertility of cohorts of women, refer to the National Center for Health Statistics, publication *Fertility Tables for Birth Cohorts by Color: United States, 1917-73.*

Sampling Rates

Data for years prior to 1951 and for 1955 are based on the total file of birth records. Data for 1951-54, 1956-66, and 1968-71 are derived from 50-percent samples of birth records; data for 1967 are based partly on 20-percent and partly on 50-percent samples. A discussion of sampling procedures and sampling errors for 1967 may be found in the Technical Appendix of *Vital Statistics of the United States, 1967,* Volume 1. Birth statistics for the years 1972 to 1975 are based on information from two sources. For 6 States in 1972, 9 States in 1973, 16 States in 1974, and 23 States in 1975, statistics are based on information from the total file of records provided to the National Center for Health Statistics through the Cooperative Health Statistics System. In 1972, birth certificates from Florida, Maine, Missouri, New Hampshire, Rhode Island, and Vermont were included on a 100-percent basis. In succeeding years, additional States were added to this listing as follows: 1973—Colorado, Michigan, New York (exclusive of New York City); 1974—Illinois, Iowa, Kansas, Montana, Nebraska, Oregon, South Carolina; 1975—Maryland, Virginia, North Carolina, Tennessee, Louisiana, Oklahoma, and Wisconsin. Statistics for the remaining States are based on information obtained from a 50-percent sample of birth records.

Residence Classification

All tables included in this report are by place of residence. Births to U.S. residents occurring outside this country are not included. Beginning in 1970, births to nonresidents of the United States occurring in the United States are excluded from tabulations by place of residence. Prior to that year, births occurring in the United States to nonresident mothers were considered as births to residents of the place of occurrence. All tables showing time series include data for Alaska beginning in 1959 and for Hawaii beginning in 1960.

Population Bases

Birth rates shown in this report are based on populations residing in the respective areas. Populations for the United States exclude the Armed Forces overseas and persons living abroad but include the Armed Forces stationed in each area. Rates for 1940, 1950, 1960, and 1970 are based on populations enumerated as of April 1; rates for all other years are based on populations estimated as of July 1.

Adjustment for Underregistration of Births

Adjustment for underregistered births was discontinued for all period measures in 1960, when it was estimated that 99.1 percent of all births were registered. However, cohort rates shown in this report make allowances for both

the underregistration of births and the underenumeration of the base population.

Classification by Race

The category "white" comprises births reported as white, Mexican, Puerto Rican, and Cuban. The category "all other" comprises births reported as black, American Indian, Chinese, Japanese, Hawaiian and Part-Hawaiian, and births of other races.

Median Age of Mother

Median age is the value which divides an age distribution into two equal parts. Median ages were computed using birth rates for 5-year age groups rather than from birth frequencies. This method eliminates the effects of changes in the age composition of the childbearing population over time.

Total Fertility Rate

The total fertility rate is the sum of the birth rates for each single year of age for mothers aged 14-49 years. It is an age-adjusted rate because it is based on the assumption that there are the same number of women in each age group.

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