

VITAL & HEALTH STATISTICS

Interval Between Births: United States, 1970-77

An analytical review of recent trends and differentials in the interval between the current live birth and previous live birth or fetal death.

**Data From the National Vital
Statistics System
Series 21, No. 39**

DHHS Publication No. (PHS) 81-1917

U.S. Department of Health and Human
Services
Public Health Service
Office of Health Research, Statistics, and
Technology
National Center for Health Statistics
Hyattsville, Md.
August 1981

Library of Congress Cataloging in Publication Data

Spratley, Ernell

Interval between births, United States, 1970-77.

(Vital and health statistics. Series 21, Data from the national vital statistics system ; no. 39) (DHHS publications ; no (PHS) 81-1917)

References: p. 24

1. Birth intervals—United States—Statistics. I. Taffel, Selma, joint author. II. Title. III. Series. IV. Series: DHHS publication ; no. (PHS) 81-1917. [DNLM: 1. Birth intervals.

W2 A N148vu no. 39 / HB 902 161]

HA211.A3 no. 39 [HB902] 312'.1'73s 81-9575
ISBN 0-8406-0223-5 [312'.1'73] AACR2

National Center for Health Statistics

DOROTHY P. RICE, *Director*

ROBERT A. ISRAEL, *Deputy Director*

JACOB J. FELDMAN, Ph.D., *Associate Director for Analysis and Epidemiology*

GAIL F. FISHER, Ph.D., *Associate Director for the Cooperative Health Statistics System*

GARRIE J. LOSEE, *Associate Director for Data Processing and Services*

ALVAN O. ZARATE, Ph.D., *Assistant Director for International Statistics*

E. EARL BRYANT, *Associate Director for Interview and Examination Statistics*

ROBERT C. HUBER, *Associate Director for Management*

MONROE G. SIRKEN, Ph.D., *Associate Director for Research and Methodology*

PETER L. HURLEY, *Associate Director for Vital and Health Care Statistics*

ALICE HAYWOOD, *Information Officer*

Division of Vital Statistics

JOHN E. PATTERSON, *Director*

ALICE M. HETZEL, *Deputy Director*

ROBERT L. HEUSER, M.A., *Chief, Natality Statistics Branch*

JOSEPH D. FARRELL, *Chief, Computer Applications Staff*

MABEL G. SMITH, *Chief, Statistical Resources Branch*

Contents

Introduction	1
Summary of findings	2
Interval since last live birth	3
Age of mother	3
Live-birth order.	4
Trends in age and birth-order intervals	4
Race	6
Education of mother	8
Interval since termination of last pregnancy	14
Age of mother	14
Race	15
Education of mother	15
Trends.	16
Low birth weight.	19
References	23
List of detailed tables.	24
Technical notes	43

List of Text Figures

1. Mean interval since last live birth, by age of mother and race: Total of 43 reporting States and the District of Columbia, 1977	4
2. Observed and adjusted mean interval since last live birth, by live-birth order: Total of 43 reporting States and the District of Columbia, 1977	6
3. Mean interval since last live birth, by race: Total of reporting areas, 1970-77	9
4. Percent of live births occurring within 18 months of the preceding live birth, by age of mother and race: Total of 43 reporting States and the District of Columbia, 1977.	10
5. Percent of live births occurring within 24 months of the preceding live birth, by educational attainment of mother and race: Total of 43 reporting States and the District of Columbia, 1977	12
6. Mean interval since termination of last pregnancy, by age of mother and outcome of last pregnancy: Total of 43 reporting States and the District of Columbia, 1977.	15
7. Percent of infants of low birth weight, by interval since termination of last live birth and last fetal death and educational attainment of mother: Total of 41 reporting States and the District of Columbia, 1977	22

List of Text Tables

A. Cumulative percent distribution of live births by interval since last live birth, according to race: Total of reporting areas, 1970 and 1977	3
---	---

B.	Percent distribution of live births by interval since last live birth, according to age of mother and race: Total of 43 reporting States and the District of Columbia, 1977	5
C.	Absolute and percent change in mean interval since last live birth between 1970 and 1977, by age of mother and live-birth order: Total of reporting areas	7
D.	Percent distribution of live births by live-birth order, according to age of mother: Total of reporting areas, 1970 and 1977	7
E.	Mean interval since last live birth, by age of mother and live-birth order: Total of 43 reporting States and the District of Columbia, 1977	8
F.	Observed mean interval since last live birth for 1970 and 1977, and adjusted mean interval since last live birth for 1977, by age of mother: Total of reporting areas	8
G.	Observed mean interval since last live birth for white births, and observed and adjusted mean interval since last live birth for black births, by live-birth order: Total of 43 reporting States and the District of Columbia, 1977	10
H.	Mean interval since last live birth, by age of mother, educational attainment of mother, and race: Total of reporting areas, 1970 and 1977	11
J.	Median age of mother at first birth, by educational attainment of mother and race: Total of 41 reporting States and the District of Columbia, 1977	12
K.	Mean interval since last live birth, by educational attainment of mother, live-birth order, age of mother, and race: Total of 41 reporting States and the District of Columbia, 1977.	13
L.	Observed mean interval since last live birth for 1970 and 1977, and adjusted mean interval since last live birth for 1977, by educational attainment of mother: Total of reporting areas	13
M.	Percent of live births where the preceding pregnancy had terminated as a fetal death, by age of mother and race: Total of 43 reporting States and the District of Columbia, 1977.	14
N.	Cumulative percent distribution of live births by interval since termination of last pregnancy, according to outcome of last pregnancy: Total of 43 reporting States and the District of Columbia, 1977	14
O.	Percent of live births where the preceding pregnancy had terminated as a fetal death, by educational attainment of mother and race: Total of 41 reporting States and the District of Columbia, 1977	16
P.	Percent of live births occurring within 18 months of the termination of the preceding pregnancy, by outcome of last pregnancy, educational attainment of mother, and race: Total of 41 reporting States and the District of Columbia, 1977	16
Q.	Mean interval since termination of last pregnancy, by outcome of last pregnancy, age of mother, and race: Total of reporting areas, 1970 and 1977	17
R.	Mean interval since termination of last pregnancy, by outcome of last pregnancy, live-birth order, and race: Total of reporting areas, 1970 and 1977	18
S.	Percent of infants of low birth weight, by outcome of last pregnancy, interval since termination of last pregnancy, and race: Total of 43 reporting States and the District of Columbia, 1977	19
T.	Percent of full-term infants of low birth weight, by outcome of last pregnancy, interval since termination of last pregnancy, and race: Total of 41 reporting States and the District of Columbia, 1977	20
U.	Percent of infants of low birth weight, by age of mother, interval since last live birth, and race: Total of 43 reporting States and the District of Columbia, 1977	21

Symbols

- Data not available
 - ... Category not applicable
 - Quantity zero
 - 0.0 Quantity more than zero but less than 0.05
 - Z Quantity more than zero but less than 500
 - * Figure does not meet standards of reliability or precision
-

Interval Between Births

by Ernell Spratley^a and Selma Taffel, Division
of Vital Statistics

Introduction

How closely births are spaced is an important determinant of the rate of population growth and has a strong bearing on maternal and infant health. For these reasons, items requesting the dates of the mother's last live birth and last fetal death were added to the U.S. Standard Certificate of Live Birth in 1968 to provide information on child spacing. These items have been used to derive the interval between the date of the current live birth and the termination of the last pregnancy and to determine whether the preceding pregnancy had terminated as a live birth or a fetal death.^b

This report analyzes recent trends and differentials in the interval between the current live birth and previous live birth or fetal death. It also presents a discussion of the association between low birth weight (2,500 grams or 5½ pounds or less) and the length of time between deliveries.

^aFormerly with the Division of Vital Statistics.

^bFetal deaths in this report include all losses of conception, both spontaneous and induced, regardless of the gestational period. It is not possible to distinguish between induced and spontaneous fetal losses prior to the 1978 revision of the Standard Certificate of Live Birth. The number of fetal deaths before and after 20 weeks of gestation are noted separately on the revised certificate.

Data are based on information obtained from the live-birth certificates of the States that reported the dates of the last live birth and fetal death for the years 1970-77. A listing of the States that comprised the reporting area for these years as well as a description of the method of determining the interval between the current live birth and the previous delivery are given in the Technical notes of this report.

Trend data cover the years 1970-77 and focus on the changes in the interval between successive deliveries according to social and demographic factors available from the birth certificate—maternal age, live-birth order, race, and mother's educational attainment. Although there were changes in the number of States comprising the reporting area during this period, the effect of these changes on the comparison of statistics for 1970 and 1977 is minimal. For further discussion of this point, see the Technical notes. The health-related aspect of interval length is considered in terms of variations in low birth weight and is discussed only for the year 1977.

Because the data shown in this report are derived from individual birth certificates, the figures shown technically refer to numbers of births rather than to numbers of mothers. However, for ease in presentation, the terms "mothers" and "women" rather than "births" are occasionally used.

Summary of findings

The period 1970-77 was a time of generally declining fertility. Both birth and fertility rates reached record low levels in the years 1972-1976. Concomitantly, there was a gradual lengthening in the time between live births. By 1977, the mean interval between the mother's current birth and her previous live birth was 45.5 months, about 4 months longer than the average interval of 41.8 months in 1970. If the age distribution of mothers giving birth in 1977 had remained the same as it was in 1970, there would have been an even greater increase in the mean interval to 46.4 months. Coincident with the lengthening of the live-birth interval, there was a sharp decline in the proportion of children born within 18 months of a previous live birth (from 17.3 to 13.4 percent) and an increase in the proportion of children born 6 years or more after a previous birth (from 13.2 to 16.3 percent).

Women of all ages, educational attainment, and of both major racial groups spaced their children farther apart in 1977 than in 1970. Increases in the average interval between live births were substantially greater for older than for younger women, for better educated women than for women with less than a high school education, and for black than for white women.

In 1977 as in previous years, there was a strong association between maternal age and the mean interval between live births; each increase in age was associated with a lengthening in the mean interval. Births to teenage mothers in 1977 followed a previous birth by an average of 23 months; for women aged 25-29 years, the average birth interval increased to 45 months; and for women in the advanced childbearing years (45-49 years of age), the average interval since the previous birth was 9 years. The mean interval between first and second births (43 months) was less than the average interval following second or higher order births, reflecting the younger ages of mothers bearing a second child.

Although the average interval between black births was longer than between white births in 1977 (a reversal from 1970), a larger proportion of black babies (16 percent) than of white babies (11 percent) was born within 1½ years of a previous live birth.

Increasing educational attainment for white mothers was associated with a closer spacing of births, but better educated black mothers spaced their children farther apart than those with minimal schooling. Among white mothers with less than 9 years of school, the mean interval between live births was 46.8 months, but only 41.3 months for mothers who had completed college. For comparable levels of educational attainment, the spacing between black births rose from 45.9 to 55.2 months.

Regardless of maternal age or birth order of the child, women were more likely to bear a child sooner after a fetal death than after a live birth. About two-thirds of the live births that followed a fetal death occurred within 2 years of the fetal death, but only about one-fourth of the births that followed a live birth were this closely spaced.

The mean interval between deliveries was about 2 months longer for black than for white births whether or not the preceding pregnancy had terminated as a live birth or as a fetal death.

Close spacing of births was found to be highly associated with an increased risk of a low-birth-weight outcome. In 1977, 19.2 percent of the births occurring within 1 year of a previous live birth weighed 2,500 grams or less, or about 3-4½ times the proportion observed for longer interbirth intervals. The percent low birth weight was lowest (4.2 percent) when the interval between live births was 2-4 years, and this period was the optimum interval for all maternal ages and for most levels of educational attainment.

To a lesser extent, births closely following a fetal death had a higher risk of a low-birth-weight outcome than when the interbirth interval was more than 1 year. The incidence of low birth weight was highest (11.6 percent) for births following a fetal death within 1 year and lowest (6.6 percent) when the interval was 12-23 months. For all levels of educational attainment, a far higher level of low birth weight was found among very closely spaced live births than when the current birth closely followed a fetal death.

Interval since last live birth

As the fertility of American women moderated during the period from 1970 to 1977, the interval between successive live births gradually increased. As shown in table 1, the mean interval rose steadily from 41.8 months in 1970 to 45.5 months in 1977.

In 1977, as in 1970, about one-half of all second or higher order infants were born within 3 years of a previous live birth. However, there was a noticeable decline in the proportion of children born after the relatively short interval of less than 18 months (from 17.3 percent in 1970 to 13.4 percent in 1977) (table A). Concomitantly, a larger proportion of children born in 1977 (16.3 percent) than in 1970 (13.2 percent) followed a previous birth by 6 years or more. These changes in the interval between successive children probably reflect in part the well-documented increasing availability, acceptance, and usage of highly effective means of family planning.¹⁻³

Age of mother

The mother's age is probably the most important factor associated with variations in the length of time

between live births. Women who start childbearing at young ages are likely to have additional children more rapidly and to have more unwanted births than women who postpone childbearing to later ages.^{4,5}

As shown in figure 1, the average interval between live births increased progressively as maternal age increased. Births to mothers less than 20 years old followed a previous birth by an average of 23 months, compared with an average interbirth interval of 45 months for women in their mid- and late twenties and of 9 years for women 45-49 years old. These differences are not primarily a reflection of the number of previous live births since the same pattern of lengthening interbirth interval with increasing age is seen for each birth order (table 1).

The large differences in *average* interbirth interval among different age groups reflect an overall shift in the distribution of births towards longer intervals with advancing age. For example, 38 percent of second and higher order births to mothers in their early twenties were born 3 years or more after a previous child, compared with 80 percent of the births to women 40 years of age or older. Over half of

Table A. Cumulative percent distribution of live births by interval since last live birth, according to race: Total of reporting areas, 1970 and 1977
[Refers only to second and higher order live births]

Interval	1977			1970		
	All races ¹	White	Black	All races ¹	White	Black
0 months (plural births)	1.4	1.3	1.6	3.3	2.9	5.6
1-11 months	3.0	2.7	4.3			
12-14 months	7.8	7.1	10.7	10.2	9.2	15.7
15-17 months	13.4	12.5	17.1	17.3	16.0	24.8
18-20 months	19.7	18.8	23.5	24.4	22.9	32.9
21-23 months	26.3	25.5	29.3	31.6	30.1	40.1
24-29 months	38.4	38.1	39.5	44.5	43.1	51.9
30-35 months	49.4	49.5	48.3	55.2	54.1	60.9
36-47 months	65.5	66.1	62.1	70.6	70.0	73.6
48-59 months	76.3	77.0	72.7	80.3	79.9	82.1
60-71 months	83.7	84.3	80.8	86.8	86.5	87.9
72 months and over	100.0	100.0	100.0	100.0	100.0	100.0

¹ Includes races other than white and black.

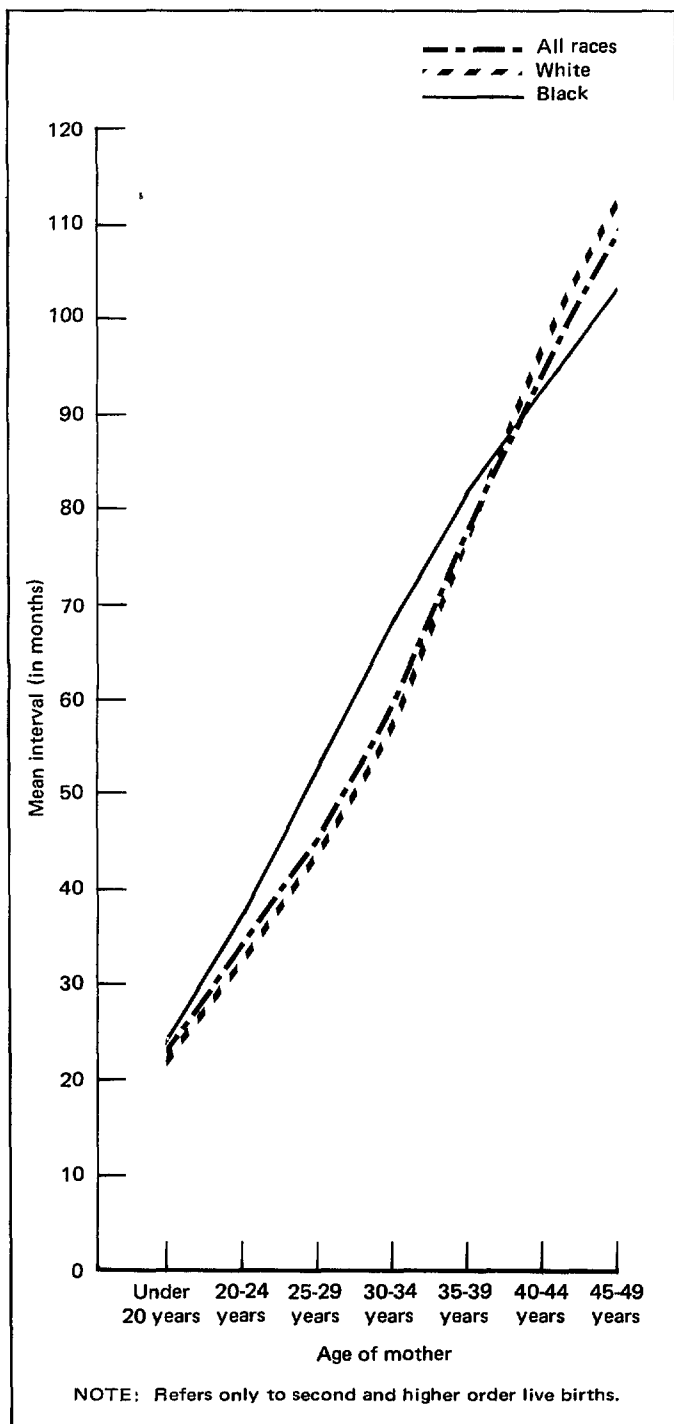


Figure 1. Mean interval since last live birth, by age of mother and race: Total of 43 reporting States and the District of Columbia, 1977

this latter group of women gave birth 6 years or more after their last live birth (see table B).

Teenage mothers comprise a small proportion of women having second and higher order births (only 6 percent of the total in 1977). However, it is likely that the short birth intervals predominant among these very young mothers have a profound effect on the family's economic welfare⁶ as well as increasing the risk of an unfavorable pregnancy outcome.⁷ The

adverse effects on infant health associated with the close spacing of births are discussed in the section entitled "Low birth weight."

The lengthening of the birth interval with increasing maternal age may be due to several factors. The first and most obvious is that mothers in their younger childbearing years have not had the time available to experience long intervals. Another explanation advanced by some researchers is that part of the increase in live-birth interval for older mothers is due to the higher rates of fetal loss and declining fecundity that are associated with advancing age.^{8,9} The very long intervals for older women may also reflect family planning failures.

Live-birth order

The average interval between births for each birth order is greatly influenced by the distribution of births by maternal age. Therefore, much of the difference between birth orders reflects differences in the proportion of older and younger mothers. The greater the proportion of births to older mothers comprising a particular birth order, the longer the average interval will be. Thus the average interval following a third, fourth, fifth, or sixth order birth (where older mothers predominate) was about 50 months in 1977 compared with a 43-month average interval following first births (table 1).

If the mothers' ages were similarly distributed for each birth order, then the length of the average interval would *decrease* between each successive birth after the third child.^c As shown in figure 2, this diminution in average interval between higher order births is quite substantial when the effects of age are eliminated. It has been hypothesized that a shortening in interval after the third child may be a reflection of the childbearing experience of a highly selected group of women who are not especially effective in controlling births after having the desired number of children.¹⁰

Trends in age and birth-order intervals

Mothers of all ages spaced their children farther apart in 1977 than in 1970, but the increase in the average interval between live births was greater for older than for younger mothers. The average inter-birth interval for mothers 40 years or older increased by 13-15 months between 1970 and 1977 (15-16 percent) compared with increases of 2-4 months (10-13 percent) for mothers less than 25 years of age (table C).

Based on probable completed fertility, the increases between 1970 and 1977 in the average

^cThe direct method of standardization was used for this procedure—see Technical notes for a more complete discussion.

Table B. Percent distribution of live births by interval since last live birth, according to age of mother and race: Total of 43 reporting States and the District of Columbia, 1977

[Refers only to second and higher order live births. Excludes the later born in multiple deliveries]

Interval and race	Age of mother						
	All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-49 years
All races¹							
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-11 months	1.6	6.3	2.2	1.0	0.8	0.7	0.4
12-17 months	10.6	29.6	14.3	7.9	6.0	5.6	3.7
18-23 months	13.0	24.5	16.7	11.5	8.7	7.3	5.2
24-35 months	23.5	27.4	28.5	23.7	17.8	13.0	10.7
36-47 months	16.3	9.4	18.3	17.7	14.9	10.2	8.1
48-59 months	10.9	2.4	10.9	12.4	11.7	8.7	7.2
60-71 months	7.5	0.4	5.5	9.2	9.6	8.0	7.4
72 months and over	16.5	0.1	3.6	16.5	30.7	46.4	57.3
White							
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-11 months	1.4	6.0	1.9	0.9	0.7	0.6	0.4
12-17 months	10.0	30.0	14.0	7.7	5.7	5.2	3.3
18-23 months	13.1	25.2	17.2	11.9	8.8	7.4	5.0
24-35 months	24.4	28.0	29.8	24.9	18.4	13.3	10.6
36-47 months	16.8	8.6	18.6	18.4	15.5	10.3	8.1
48-59 months	11.0	1.9	10.5	12.4	11.9	8.7	7.3
60-71 months	7.4	0.3	5.0	8.9	9.5	8.0	7.4
72 months and over	16.0	0.1	3.0	15.0	29.6	46.4	58.0
Black							
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-11 months	2.7	6.6	3.0	1.7	1.2	1.2	0.6
12-17 months	13.1	28.5	14.6	8.6	7.1	6.9	4.5
18-23 months	12.3	23.1	14.5	8.6	7.3	6.1	5.9
24-35 months	19.3	26.5	23.4	15.9	12.5	11.3	10.5
36-47 months	14.0	11.0	17.6	13.7	10.4	8.8	7.5
48-59 months	10.8	3.5	12.8	12.6	9.7	8.0	7.2
60-71 months	8.2	0.7	7.7	11.6	9.9	7.8	7.4
72 months and over	19.5	0.1	6.4	27.4	41.9	49.9	56.4

¹Includes races other than white and black.

number of months between births are probably understated for many age groups. This understatement exists because at any given time before the end of the childbearing period all births of a particular order have not occurred, and there is evidence that births for some age groups were being postponed to a greater extent in 1977 than in 1970. For example, by the end of 1970, women aged 25-29 years in that year had already given birth to 518 second births per 1,000 women. This figure was far higher than the 383 second births for women aged 25-29 years in 1977. If we assume that both groups of women will eventually have the same number of second births, then there will be far more second births at older ages to women who were 25-29 years in 1977 than to their 1970 counterparts. Thus the increase of 5.6 months (from 42.0 in 1970 to 47.6 in 1977) in the average number of months between first and second births for women aged 25-29 years is probably an understatement of the eventual increase, which can only be ascertained at the end of the childbearing period of these two groups of women.

The increases between 1970 and 1977 in the average interval for each age group can be partly explained by the lengthening of the interval for some birth orders (table C) as well as a decline during this period in the total number of children that women had ever borne. A far larger proportion of all second and higher order children born in 1977 than in 1970 were second and third order births (table D). Because the mean interval since the last live birth for these low orders for each maternal age group is generally longer than for the higher orders (table E), the increases in mean interval between 1970 and 1977 for each age group to some extent reflect the larger proportion of low-order births.

Table F shows the observed mean intervals since the last live birth by age of mother for 1970 and 1977 and hypothetical intervals that would have occurred in 1977 if the birth-order distribution within each age group had remained constant during this period. From this table, it can be determined that 38 percent of the increase in the mean interval for women aged 25-29 years, 86 percent of the increase

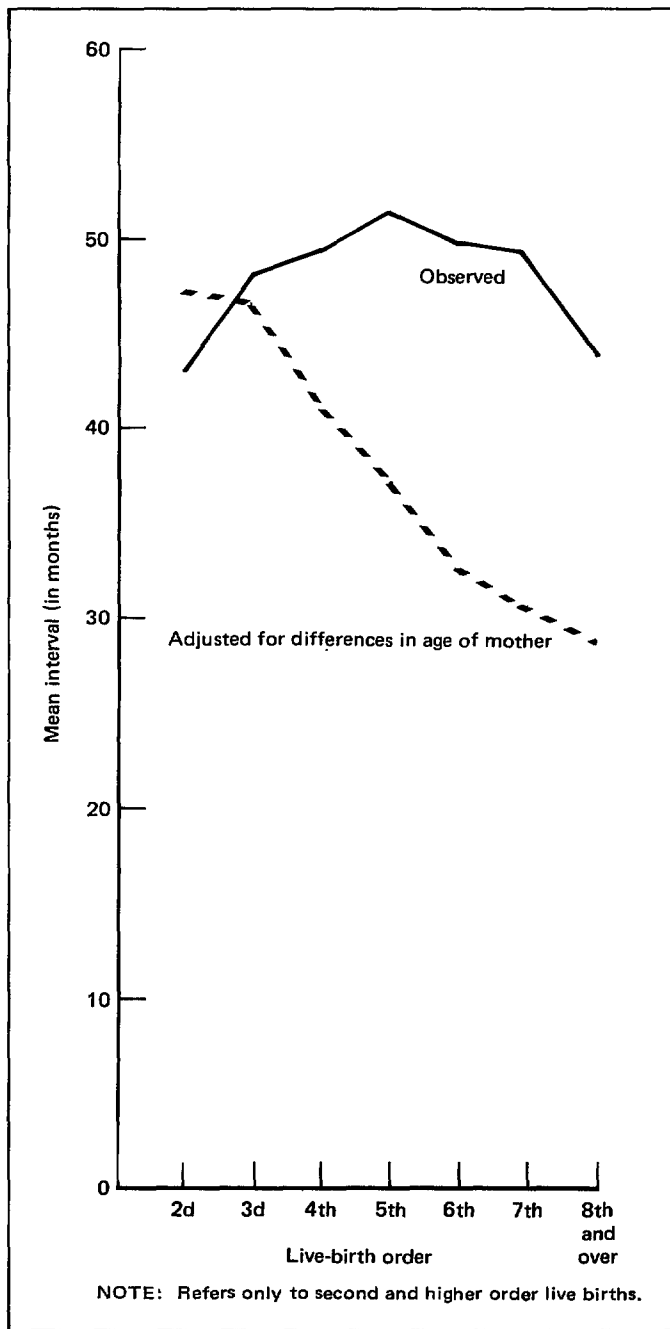


Figure 2. Observed and adjusted mean interval since last live birth, by live-birth order: Total of 43 reporting States and the District of Columbia, 1977

for women aged 30-34, and 51 percent of the increase for women aged 35-39 resulted from this shift to lower birth orders. For other age groups, changes in birth-order distribution accounted for 15 percent or less of the change in mean interval.

An overall picture of changes between 1970 and 1977 in the mean interval by maternal age and birth order is shown in table C. Women in the oldest years of childbearing, particularly those having higher order births, were spacing their children farther apart in 1977 than in 1970. In contrast, women in their teens, twenties, and early thirties for the most part were

reducing the interval between high-order births during this period. A far smaller proportion of women in these younger childbearing ages went on to have fourth or higher order births in 1977 than in 1970 (9 percent compared with 15 percent). It seems probable, therefore, that the shortening in the interval between high-order births to young women is reflecting to a large extent the birth experiences of women who either desired large families or who were unable to practice effective fertility control.

The increase in the mean interval from 41.8 months to 45.5 months between 1970 and 1977 cannot be attributed to a change in maternal age at the time of delivery. Indeed, if the age distribution had remained constant during this period, the average interval would have risen even more, to 46.4 months, because there were proportionately fewer mothers aged 35 years or more and a larger concentration of mothers less than 30 years of age in 1977 than in 1970.

Race

Historically, the overall level of childbearing has been higher for the black than for the white population. This has been manifest in higher birth rates, and until 1975, in shorter average intervals between successive live births (figure 3).

Between 1970 and 1977, the average interbirth interval increased by 8 months for black births (22 percent), but by only 3 months (7 percent) for white births. By 1974, racial differences had virtually disappeared, and recently, the direction of the racial difference has reversed (figure 3 and table 1). In 1977, the average interval was 47.3 months for black births compared with 45.2 months for white births. The greater overall increase from 1970 to 1977 in interbirth interval for black than for white births is a result of the larger increases experienced by all black maternal age groups, as well as the more pronounced shift towards lower birth orders observed for black than for white mothers of all ages.

Another way of contrasting changes in child-spacing between black and white births during the 1970's is to compare the proportion of births for each racial group that followed a previous birth within a specified period. For example, in 1970, one-third of all black births of second and higher order occurred less than 21 months after a previous birth; by 1977, this proportion had dropped to slightly less than one-fourth. The comparable decline for white births was from 23 to 19 percent (table A).

The substantial lengthening of interbirth intervals for black mothers during the early 1970's can be partly related to the increased usage of the more effective forms of contraception. Between 1970 and 1973, the proportion of black married women using the pill, an IUD, or where one partner had a sterilizing operation, increased from 39 percent to 49 per-

Table C. Absolute and percent change in mean interval since last live birth between 1970 and 1977, by age of mother and live-birth order: Total of reporting areas

[Refers only to second and higher order live births]

Live-birth order	Age of mother							
	All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
Absolute change (in months) ¹								
All second and higher order births	3.7	2.1	3.9	4.2	3.5	7.8	13.1	14.5
Second births	6.3	2.3	4.7	5.6	1.2	-1.9	1.3	17.1
Third births	3.1	0.8	1.8	1.9	1.0	0.1	5.9	15.1
Fourth births	1.6	-0.7	0.1	-0.4	0.1	5.8	12.4	15.1
Fifth births	2.9	-1.5	-0.8	-1.3	0.6	7.2	16.2	9.9
Sixth births	3.6	*	-0.2	-1.5	-0.4	6.0	13.6	17.5
Seventh births	5.5	*	-2.3	-0.7	0.2	4.7	18.7	22.9
Eighth and higher order births	4.9	*	-1.1	0.7	-0.9	3.5	9.2	17.0
Percent change ¹								
All second and higher order births	8.9	10.0	13.0	10.2	6.4	11.3	15.9	15.3
Second births	17.2	10.8	15.2	13.3	2.1	-2.4	1.2	13.0
Third births	6.9	4.0	6.2	4.3	1.6	0.1	5.0	10.6
Fourth births	3.4	-3.6	0.4	-1.0	0.2	7.3	11.8	12.0
Fifth births	6.0	-7.5	-3.2	-3.6	1.2	10.2	17.8	9.1
Sixth births	7.8	*	-0.9	-4.7	-0.9	10.0	17.0	17.0
Seventh births	12.6	*	-9.5	-2.5	0.5	8.8	28.0	24.8
Eighth and higher order births	12.6	*	-4.0	2.7	-2.7	8.6	18.1	27.8

¹Positive numbers indicate an increase in the mean interval between 1970 and 1977.

Table D. Percent distribution of live births by live-birth order, according to age of mother: Total of reporting areas, 1970 and 1977

[Refers only to second and higher order births. Excludes the later born in multiple deliveries]

Live-birth order and year	Age of mother							
	All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
1977								
All second and higher order births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Second births	56.0	86.0	70.8	55.4	37.5	20.1	10.9	6.0
Third births	26.0	12.4	22.3	29.2	31.7	23.3	13.6	7.8
Fourth births	9.9	1.4	5.3	10.1	16.3	19.6	14.8	9.7
Fifth births	4.0	0.2	1.2	3.4	7.5	13.8	14.9	12.1
Sixth births	1.9	0.0	0.3	1.2	3.7	8.8	12.2	12.2
Seventh births	1.0	0.0	0.1	0.4	1.8	5.7	9.5	11.6
Eighth and higher order births	1.2	0.0	0.0	0.2	1.7	8.7	24.1	40.7
1970								
All second and higher order births	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Second births	44.6	83.9	65.4	40.3	19.9	11.3	7.9	4.9
Third births	25.8	13.6	24.1	31.6	26.3	17.4	12.2	10.7
Fourth births	13.5	2.1	7.4	15.9	21.6	19.0	15.3	12.3
Fifth births	7.1	0.3	2.2	7.1	13.9	16.2	14.7	11.2
Sixth births	3.8	0.0	0.6	3.0	8.1	11.6	12.4	11.9
Seventh births	2.1	0.0	0.2	1.3	4.6	8.2	9.8	9.8
Eighth and higher order births	3.1	0.0	0.1	0.9	5.5	16.2	27.7	39.3

Table E. Mean interval since last live birth, by age of mother and live-birth order: Total of 43 reporting States and the District of Columbia, 1977
[Refers only to second and higher order live births]

Live-birth order	Age of mother							
	All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
	Mean interval (in months)							
All second and higher order births	45.5	23.2	33.9	45.4	58.4	76.9	95.7	109.0
Second births	43.0	23.6	35.7	47.6	59.0	78.0	105.6	149.1
Third births	48.1	20.7	30.8	45.8	63.8	89.4	123.3	156.9
Fourth births	49.3	18.8	26.4	39.2	57.5	85.3	117.6	140.5
Fifth births	51.3	18.5	24.0	34.7	52.0	77.7	107.3	119.2
Sixth births	49.8	*16.3	22.5	30.2	44.4	66.3	93.6	120.7
Seventh births	49.3	*23.8	22.0	27.6	39.9	58.1	85.5	115.3
Eighth and higher order births	43.9	*21.3	26.5	26.8	32.0	44.2	60.1	78.1

Table F. Observed mean interval since last live birth for 1970 and 1977, and adjusted mean interval since last live birth for 1977, by age of mother: Total of reporting areas

Age of mother	[Refers only to second and higher order live births]		
	1977		1970
	Observed	Adjusted ¹	observed
	Mean interval (in months)		
20-24 years	33.9	33.5	30.0
25-29 years	45.4	43.8	41.2
30-34 years	58.4	55.4	54.9
35-39 years	76.9	72.9	69.1
40-44 years	95.7	93.8	82.6
45-49 years	109.0	110.9	94.5

¹ Adjusted by the direct method of standardization to reflect the 1970 birth-order distribution within each age group; see Technical Appendix for a more complete discussion of this procedure.

cent.¹ Although there was a reversion to less effective methods of contraception by black married women after 1973,¹¹ legal abortion rates rose dramatically,¹² which may account for the continued lengthening in birth interval. Among never-married black teenagers, a dramatic increase occurred in the regular use of contraception and in the use of oral contraceptives from the early to mid-1970's.¹³

Despite the fact that changes in birth spacing have been greater for black than for white mothers and that the average interval between births is presently longer for black mothers, a larger proportion of black than white children are born within a very short time after a previous live birth. In 1977, 16 percent of black babies, compared with 11 percent of white babies, were born less than 1½ years after a previous sibling (table B). This closer spacing of black births can be seen for all age groups except for teenage mothers (figure 4). The proportion of children born less than 1 year after a previous birth was consistently higher for black than for white mothers of all ages, partially due to the generally higher proportion of black premature births (gestational period of less than

37 weeks). In 1977, 37 percent of black children compared with 23 percent of white children born within 1 year of a previous sibling were premature.

The mean interval since the previous live birth was longer for black than for white mothers having their second child, but for most higher order births, the average interval was longer for white mothers. However, as noted previously, the length of the interval for each birth order is greatly affected by the proportion of older and younger women having a birth of that order. For all birth orders, there is a substantially higher proportion of black than white births to mothers less than 25 years of age, concomitant with a lower proportion of black births to older mothers. When the interval between black births of each order is adjusted to reflect an age distribution that is the same for black as for white births, the interval becomes longer for black births for all orders (table G).

Education of mother

Items on educational attainment of parents have been included on birth certificates in recent years to provide a measure of the socioeconomic status of the family. Data on education of the mother are generally used to measure socioeconomic differences because information about the father is often missing for out-of-wedlock births. However, the number of years of schooling is limited for young girls and is, therefore, an inadequate measure of socioeconomic status for teenagers.

Age.—For women old enough to have had at least a high school education, the interval between live births generally declined as the number of years of schooling increased. The most highly educated mothers aged 20 years or older consistently spaced their children the closest (table H).

The better educated population has been found to be successful family planners and to use contraception effectively.^{14,15} Therefore, the shorter inter-

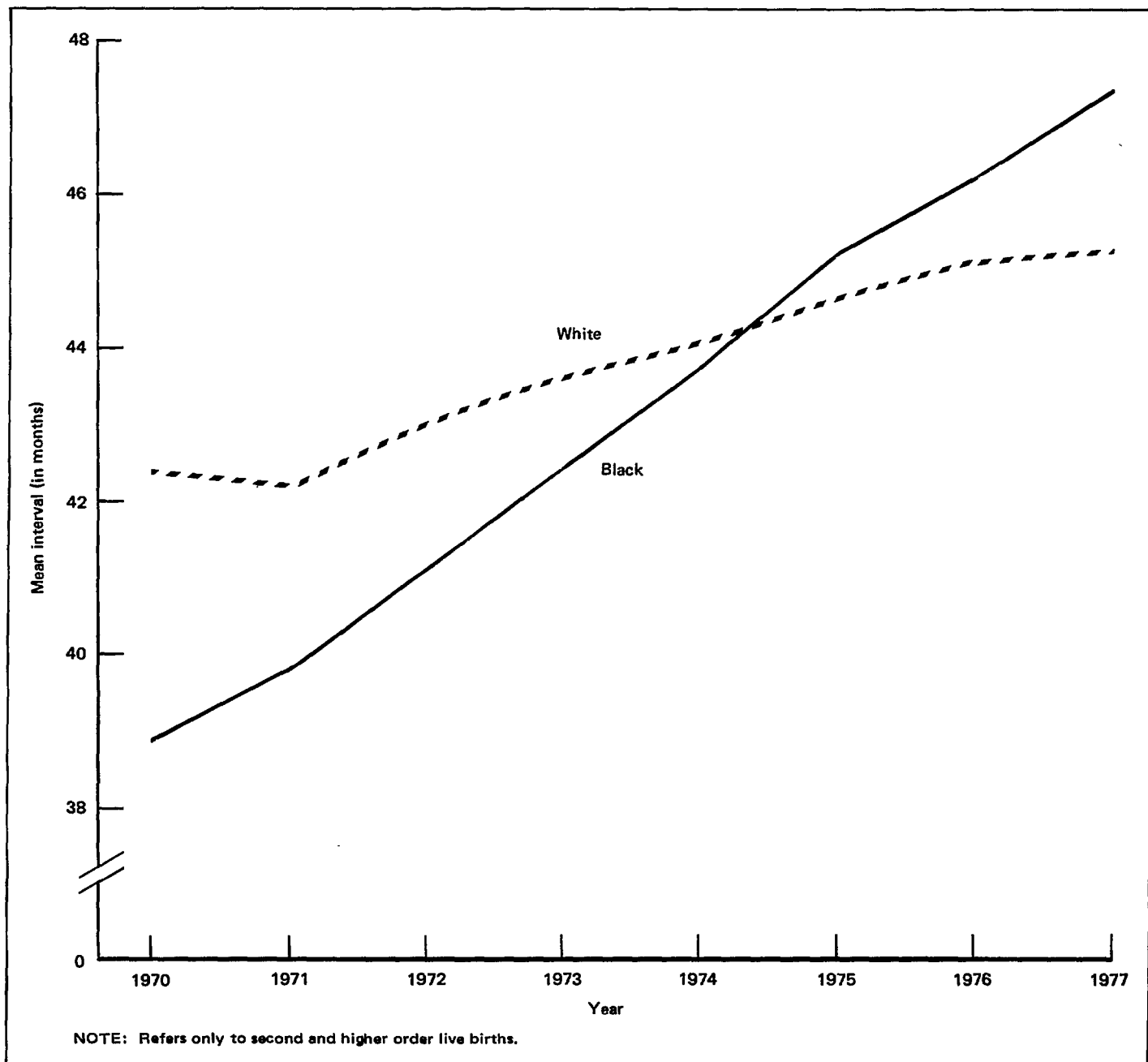


Figure 3. Mean interval since last live birth, by race: Total of reporting areas, 1970-77

birth intervals experienced by mothers with higher levels of education are not likely to be a result of poor family planning and excessive fertility. In 1977, about two-thirds of the second or higher order births to mothers who had completed college were second births. In contrast, only about one-third of the births to mothers with a grade school education (8 years of school or less) were second children.

The shorter birth intervals experienced by mothers with higher educational attainment may be because more highly educated women are apt to begin their families at a later age than other women. Data in table J show that in general, as educational attainment rises, the age at which mothers have their

first child increases. The median age at first birth in 1977 was 18.4 years for mothers with only 0-8 years of schooling compared with 27.5 years for college graduates. Women who start their families later in the reproductive years have fewer years in which to accomplish their desired family size than do women who begin earlier, and, therefore, they are likely to shorten the time between births.

Race.—Although increasing educational attainment for white mothers is associated with a decline in the interval between births, black women with higher levels of schooling space their children further apart than less well-educated black mothers (table H). The mean interval between births in 1977 for white

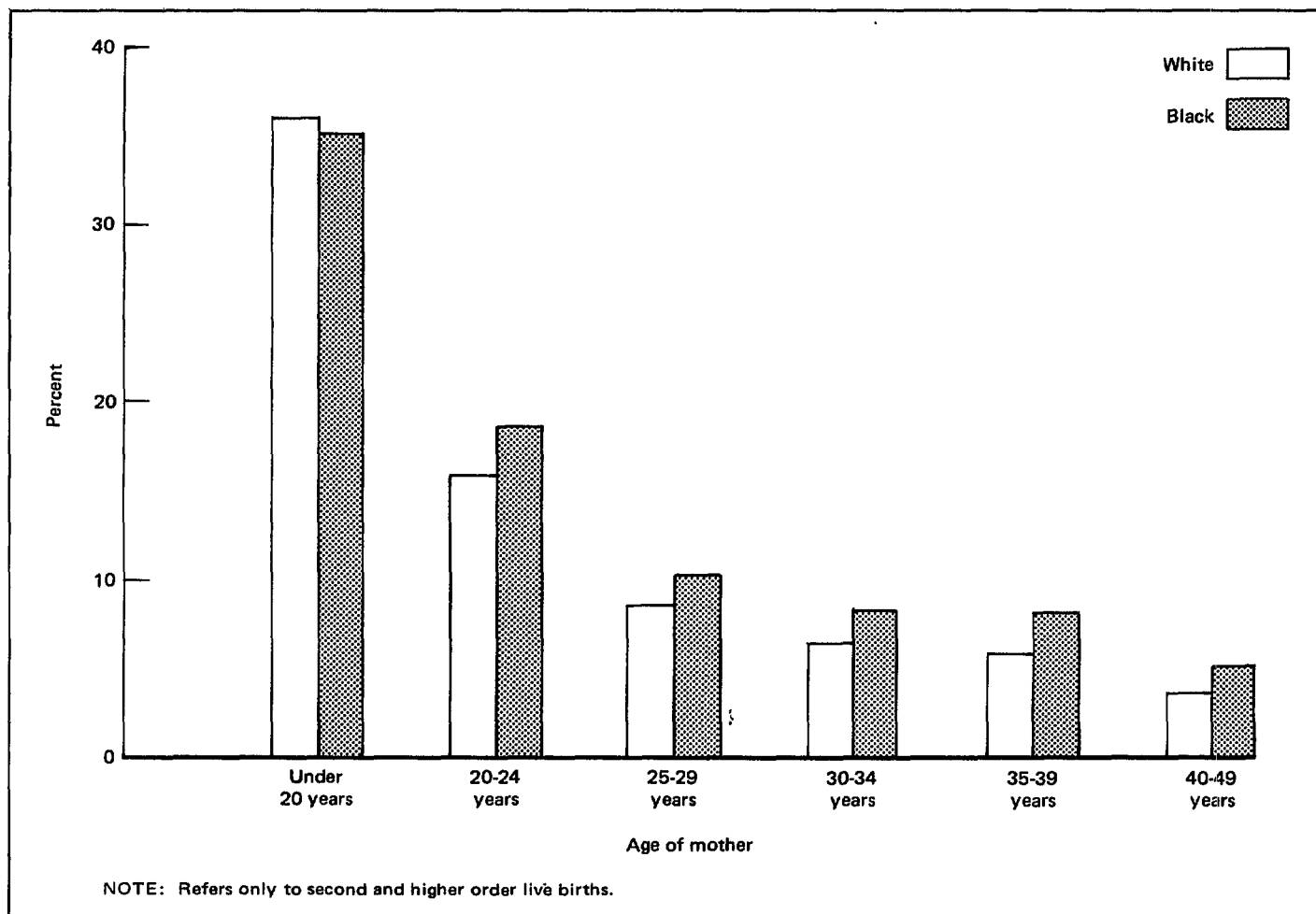


Figure 4. Percent of live births occurring within 18 months of the preceding live birth, by age of mother and race: Total of 43 reporting States and the District of Columbia, 1977

Table G. Observed mean interval since last live birth for white births, and observed and adjusted mean interval since last live birth for black births, by live-birth order: Total of 43 reporting States and the District of Columbia, 1977

[Refers only to second and higher order live births]

Live-birth order	White observed	Black	
		Observed	Adjusted ¹
	Mean interval (in months)		
Second births	42.4	46.8	54.7
Third births	48.3	47.4	56.3
Fourth births	50.0	47.7	57.6
Fifth births	52.2	49.4	59.4
Sixth births	50.3	48.9	57.8
Seventh births	49.1	50.4	57.5
Eighth and higher order births	42.8	46.4	49.1

¹Adjusted by the direct method of standardization to eliminate differences in the age distribution of black and white births for each birth order; see Technical Appendix for a more complete discussion of this procedure.

mothers with only 0-8 years of education was 46.8 months compared with 41.3 months for white mothers who had completed college. Among black mothers, the mean interval between births was 9

months longer for mothers with at least 16 years of schooling than for mothers with 0-8 years of education (55.2 months and 45.9 months, respectively). As a result, in 1977, although white mothers with a grade school education or less were spacing their children about 1 month further apart than similarly educated black mothers, among college graduates the interval between black births was on the average 14 months longer than between white births.

Consistent with these findings, figure 5 illustrates that among mothers with only a limited education a higher proportion of black than white births occurred within 2 years of a previous live birth. Conversely, among mothers with more than a high school education, relatively more white than black births occurred within this short interbirth interval.

Differences in the ages at which black and white mothers had their first child can only partially explain these racial dissimilarities. Table H shows that in 1977 black mothers of all ages with 12 years or more of schooling consistently spaced their children further apart than white mothers with the same educational attainment, but that the interval since the last birth was generally longer for white than for

Table H. Mean interval since last live birth, by age of mother, educational attainment of mother, and race: Total of reporting areas, 1970 and 1977
 [Refers only to second and higher order live births]

Age of mother and years of school completed by mother	1977			1970		
	All races ¹	White	Black	All races ¹	White	Black
All ages ²						
Mean interval (in months)						
All years of school ³	45.6	45.4	47.1	41.8	42.4	38.5
0-8 years	46.4	46.8	45.9	42.6	44.3	37.5
9-11 years	44.0	45.2	41.7	41.2	43.2	35.5
12 years	47.1	46.8	49.0	42.8	43.2	40.3
13-15 years	45.5	44.4	53.2	40.6	40.4	44.4
16 years or more	42.3	41.3	55.2	38.4	38.1	48.7
20-24 years						
All years of school ³	34.1	33.5	36.6	29.9	30.0	29.4
0-8 years	34.6	34.7	35.1	30.4	30.9	28.9
9-11 years	35.9	36.1	35.8	31.8	32.6	29.4
12 years	33.7	33.0	36.9	29.4	29.4	29.4
13-15 years	31.6	29.9	38.1	27.6	27.3	30.4
16 years or more	29.7	27.5	39.4	26.1	25.9	28.2
25-29 years						
All years of school ³	45.6	44.4	53.2	41.1	41.0	42.7
0-8 years	46.8	47.2	46.8	40.9	42.0	36.9
9-11 years	54.0	54.9	52.5	46.5	47.7	42.6
12 years	47.6	46.7	54.5	42.5	42.4	43.9
13-15 years	42.4	41.0	54.4	37.6	37.2	45.0
16 years or more	35.7	34.7	49.0	31.9	31.7	40.6
30-34 years						
All years of school ³	58.8	57.7	67.7	54.8	55.2	54.3
0-8 years	60.7	61.6	60.5	51.9	54.1	45.9
9-11 years	70.7	72.8	67.2	59.9	62.8	52.0
12 years	64.1	63.4	70.3	57.3	57.4	58.1
13-15 years	56.7	55.2	71.6	53.2	52.7	61.0
16 years or more	45.5	44.7	59.3	43.5	43.2	55.6
35-39 years						
All years of school ³	78.0	78.0	81.3	69.1	70.6	62.4
0-8 years	72.7	74.9	69.3	62.4	66.7	52.0
9-11 years	87.1	92.0	78.0	72.7	77.0	60.4
12 years	83.9	83.7	86.6	72.3	72.8	69.7
13-15 years	75.6	74.0	89.8	68.2	68.1	70.3
16 years or more	61.9	61.0	76.8	59.0	58.6	70.5
40-49 years						
All years of school ³	97.5	99.7	92.8	83.6	86.1	72.0
0-8 years	86.3	90.0	79.9	72.7	76.6	63.3
9-11 years	103.5	111.2	91.7	86.7	93.3	68.7
12 years	103.1	104.6	97.7	88.7	89.4	83.3
13-15 years	98.3	97.7	104.2	85.5	85.3	89.2
16 years or more	83.6	82.4	106.9	75.8	75.4	83.5

¹Includes races other than white and black.
²Includes births to mothers less than 20 years of age.
³Includes births to mothers with years of school not stated.

black children born to women of comparable ages with less than a high school education. Indeed, if the age distribution of black mothers had been the same as white mothers, then differences in the mean intervals at higher levels of education would be even greater. For example, the observed mean interval for black women with 13-15 years of schooling was 53.2 months compared with a mean interval of 44.4

months for white women with this level of educational attainment. After adjusting the age distribution of black mothers to be comparable to white mothers, the mean interval for black births increased to 57.6 months.

As shown in table K, the same pattern of longer spacing between live births to better educated black than comparably educated white mothers holds for

Table J. Median age of mother at first birth, by educational attainment of mother and race: Total of 41 reporting States and the District of Columbia, 1977

Years of school completed by mother	All races ¹	White	Black
	Median age (in years)		
All years of school ²	22.3	22.8	19.6
0-8 years	18.4	19.0	16.4
9-11 years	18.2	18.3	17.8
12 years	22.3	22.5	21.0
13-15 years	24.0	24.2	22.8
16 years or more	27.5	27.5	26.8

¹Includes races other than white and black.

²Includes births to mothers with years of school not stated.

each birth order. However, when age and birth order are considered simultaneously, even among less well-educated women, the mean intervals are generally longer for black than white mothers, but the racial differential widens substantially as years of schooling increase.

A possible explanation for these racial differences can be found in the "minority-status hypothesis," which purports that the greater difficulty faced by racial minorities in attaining or maintaining social status may result in a greater deferral or limitation of childbirth for those minority families that are economically successful compared with nonminority families of similar economic status.¹⁶ An additional reason for the longer intervals between live births for better educated black than white mothers of similar background is that there is a higher proportion of intervening fetal deaths among black mothers with 13 years or more of schooling.¹⁷

Trends.—Women with comparable levels of educational attainment spaced their children further apart in 1977 than in 1970. The increases in mean interval between live births during this period ranged from 3 months (7 percent) among mothers with 9-11 years of schooling to 4-5 months (10-12 percent) for mothers with at least a high school education (table H). These increases reflect the larger proportion of births in 1977 than in 1970 where the average interval was 3 years or longer (table 2). Because of the shift in the maternal age distribution towards younger ages between 1970 and 1977, which was noted earlier, the increases in the mean interval for all but the highest educational levels were actually smaller than would have occurred if the age distribution had remained constant (table L).

For mothers in their early twenties, regardless of educational attainment, a consistent lengthening in

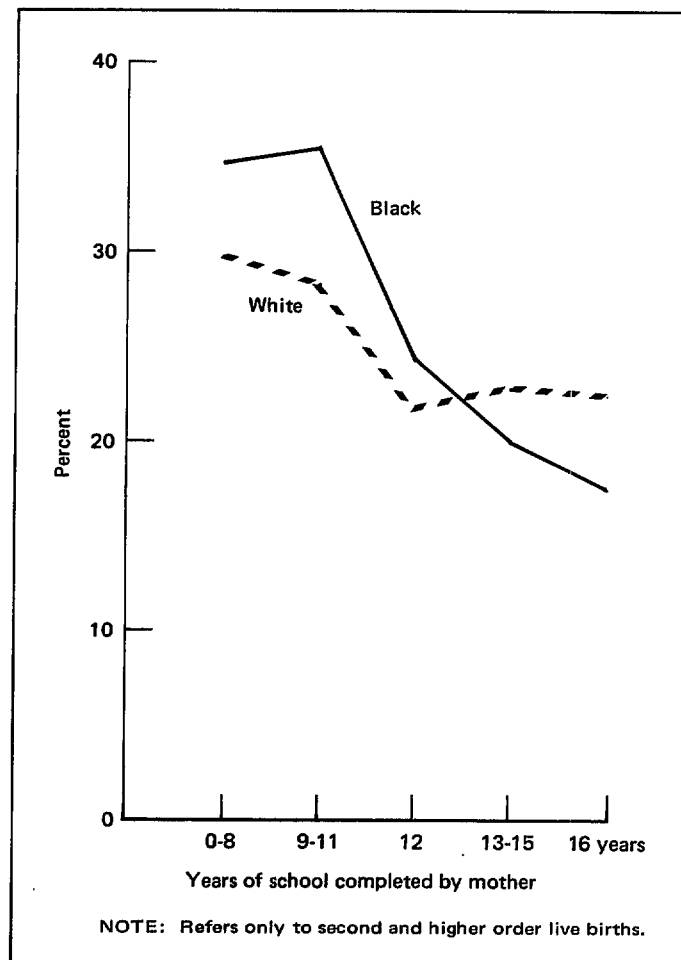


Figure 5. Percent of live births occurring within 24 months of the preceding live birth, by educational attainment of mother and race: Total of 43 reporting States and the District of Columbia, 1977

interbirth interval of about 4 months (13-15 percent) occurred during this period. However, among women 25 years of age or older, increases in interbirth intervals were generally far smaller for mothers with at least 12 years of schooling than for less well-educated women, and this trend was especially evident among mothers in their thirties (table H). During this period, overall fertility declined rapidly among all age groups of women. However, fertility rates for low-order births for older women did not follow this general trend, but declined at a slower pace or actually increased. The smaller increases in average interval observed for better educated women 25 years and older may be an indication that many of these women, to compensate for previously deferred births, were not postponing births to the same extent as other women.

Table K. Mean interval since last live birth, by educational attainment of mother, live-birth order, age of mother, and race: Total of 41 reporting States and the District of Columbia, 1977
[Refers only to second and higher order live births]

Live-birth order and age of mother	Years of school completed by mother																								
	All years of school ¹		0-8 years		9-11 years		12 years		13-15 years		16 years or more														
	White	Black	White	Black	White	Black	White	Black	White	Black	White	Black													
Second births													Mean interval (in months)												
All ages ²	42.5	46.6	42.4	43.4	40.9	38.3	43.9	48.7	42.7	53.8	39.8	55.8													
20-24 years	35.0	40.9	38.2	43.6	39.4	42.3	34.2	40.3	30.6	40.4	27.7	40.1													
25-29 years	46.1	62.8	53.1	64.4	65.2	72.6	49.8	64.5	43.2	60.7	35.5	52.0													
30-34 years	57.8	79.4	69.9	84.7	86.0	96.0	66.8	84.1	58.0	81.1	45.5	63.4													
35-39 years	77.8	101.2	88.3	103.9	110.7	116.6	87.6	109.2	76.5	104.7	59.1	79.5													
40-49 years	109.0	131.7	113.6	120.7	149.9	141.4	119.0	147.7	107.1	110.8	70.9	105.3													
Third births																									
All ages ²	48.6	47.1	48.4	46.2	48.0	41.8	50.3	49.1	47.1	52.9	44.6	53.9													
20-24 years	30.2	33.1	33.6	36.5	32.1	34.0	28.5	32.0	25.7	32.3	25.6	35.6													
25-29 years	44.7	53.4	51.5	56.3	57.6	60.0	45.4	52.5	38.9	50.6	32.5	40.8													
30-34 years	63.1	75.1	71.9	74.6	85.1	87.1	69.1	77.1	59.4	73.6	46.4	55.4													
35-39 years	90.5	98.0	93.0	89.7	115.5	106.1	99.3	102.7	86.1	96.2	69.2	81.1													
40-49 years	128.8	122.0	127.1	127.1	154.8	131.5	133.4	119.2	120.7	121.4	106.1	120.5													
Fourth births																									
All ages ²	50.4	47.3	51.2	46.9	52.0	43.9	52.0	49.5	46.9	51.7	43.6	53.9													
20-24 years	25.8	27.5	28.2	30.1	26.1	27.7	24.1	26.3	23.7	26.8	28.0	*33.3													
25-29 years	37.9	44.6	44.3	47.9	45.0	48.1	36.6	42.7	31.4	41.0	26.9	35.4													
30-34 years	56.1	67.6	65.2	71.4	72.3	74.0	58.2	66.5	49.0	63.8	39.1	51.6													
35-39 years	85.8	90.5	89.0	83.5	105.4	99.5	90.4	91.9	79.2	89.5	61.9	67.1													
40-49 years	121.4	123.4	123.0	129.3	139.2	127.0	123.4	117.8	118.4	151.1	98.1	106.3													

¹Includes births to mothers with years of school not stated.

²Includes births to mothers less than 20 years of age.

Table L. Observed mean interval since last live birth for 1970 and 1977, and adjusted mean interval since last live birth for 1977, by educational attainment of mother: Total of reporting areas
[Refers only to second and higher order live births]

Years of school completed by mother	1977		1970 observed
	Observed	Adjusted ¹	
Mean interval (in months)			
All years of school ²	45.6	46.4	41.8
0-8 years	46.4	49.0	42.6
9-11 years	44.0	47.5	41.2
12 years	47.1	48.4	42.8
13-15 years	45.5	45.2	40.6
16 years or more	42.3	41.6	38.4

¹Adjusted by the direct method of standardization to reflect the 1970 age distribution within each educational attainment group; see Technical Appendix for a more complete discussion of this procedure.

²Includes births to mothers with years of school not stated.

Interval since termination of last pregnancy

In the preceding section the discussion focused on the interval between the current live birth and a preceding live birth, regardless of whether there was an intervening fetal death which occurred about 6 percent of the time. In this section, the group of current births examined will be expanded to include first live births where the preceding pregnancy had terminated as a fetal death. This permits comparison of the average interval of time the current birth followed an immediately preceding live birth or fetal death. In 1977, 88 percent of the preceding deliveries for this expanded group of live births had terminated as live births, and 12 percent as fetal deaths. The likelihood that the previous delivery was a fetal death was greatest for young mothers (table M).

The length of time between the termination of a previous pregnancy and a subsequent live birth is greatly influenced by the outcome of the preceding pregnancy. Mothers are more likely to have a child soon after a fetal death than after a live birth, regardless of maternal age or parity. The average interval since the termination of a previous pregnancy was approximately 1½ years longer when the previous pregnancy ended in a live birth than when it ended in a fetal death (table 3). In 1977, about two-thirds of the live births following a fetal death occurred within

2 years of the fetal death. In contrast, only slightly more than one-fourth of the births following a live birth were similarly spaced (table N). This implies that for many women a fetal death represents a reproductive failure, and it is likely that these women are then motivated to have another birth as soon as possible.

Age of mother

The interval since the termination of a previous pregnancy lengthened with advancing maternal age regardless of whether the previous pregnancy had terminated as a live birth or as a fetal death (figure 6 and table 3). However, the differences by age were not as great for births following a fetal death as for those following a live birth. The average interbirth interval following a live birth was almost 6 years longer for mothers 40 years or older than for mothers under 20 years of age (92.6 months compared with 22.8 months). For births following a fetal death, the interval was slightly over 2 years longer for the oldest

Table M. Percent of live births where the preceding pregnancy had terminated as a fetal death, by age of mother and race: Total of 43 reporting States and the District of Columbia, 1977

[Refers only to live births resulting from second and higher order pregnancies]

Age of mother	All races ¹	White	Black
All ages	11.8	11.8	12.0
Under 20 years	19.9	21.2	17.5
20-24 years	13.2	13.3	12.8
25-29 years	10.6	10.6	10.4
30-34 years	9.5	9.6	9.1
35-39 years	9.3	9.7	8.0
40-49 years	8.1	8.9	5.0

¹Includes races other than white and black.

Table N. Cumulative percent distribution of live births by interval since termination of last pregnancy, according to outcome of last pregnancy: Total of 43 reporting States and the District of Columbia, 1977

[Refers only to live births resulting from second and higher order pregnancies]

Interval	All previous pregnancies ¹	Last pregnancy, live birth	Last pregnancy, fetal death
0-11 months	4.3	3.2	14.3
12-17 months	17.9	14.3	48.9
18-23 months	31.7	27.8	65.2
24-35 months	54.6	51.5	81.2
36-47 months	69.7	67.5	88.7
48-59 months	79.5	78.0	93.1
60 months and over	100.0	100.0	100.0

¹Includes births for which the outcome of the mother's last pregnancy is unknown.

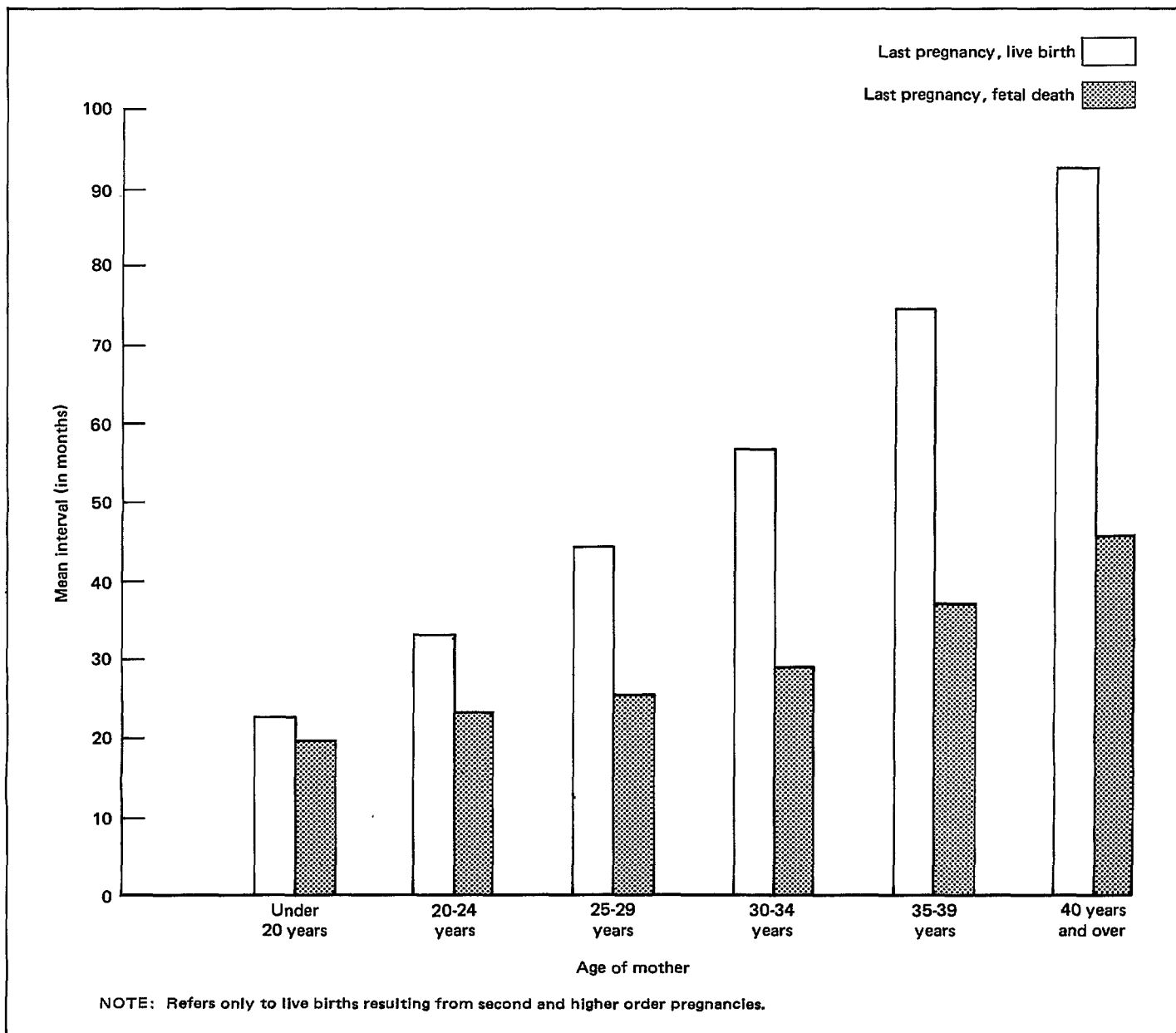


Figure 6. Mean interval since termination of last pregnancy, by age of mother and outcome of last pregnancy: Total of 43 reporting States and the District of Columbia, 1977

compared with the youngest mothers (45.7 months compared with 19.7 months).

Race

The mean interval since the termination of a woman's last pregnancy was about 2 months longer for black than for white mothers whether the previous pregnancy ended in a live birth or in a fetal death (table 3). The average interval since the previous delivery was consistently longer for black than for white mothers less than 40 years of age. This racial difference reversed only for mothers aged 40 years or more where the preceding pregnancy had terminated as a live birth. For each maternal age-

birth-order classification, the racial difference was smaller when the current birth followed a fetal death than when it followed a live birth.

Education of mother

The likelihood that the preceding pregnancy had terminated as a fetal death rather than a live birth was greater for mothers with higher levels of educational attainment (table O). Because no distinction is made on the birth certificate between spontaneous and induced fetal terminations, it is not possible to determine if this is due to a higher incidence of previous therapeutic abortions among better educated women.

Table O. Percent of live births where the preceding pregnancy had terminated as a fetal death, by educational attainment of mother and race: Total of 41 reporting States and the District of Columbia, 1977

[Refers only to live births resulting from second and higher order pregnancies]

Years of school completed by mother	All races ¹	White	Black
All years of school ²	13.0	13.0	12.7
0-8 years	8.9	9.2	7.5
9-11 years	12.5	13.0	11.2
12 years	12.7	12.7	12.6
13-15 years	14.8	14.3	18.0
16 years or more	14.8	14.5	18.3

¹Includes races other than white and black.

²Includes births to mothers with years of school not stated.

NOTE: The differences in the overall percents shown in this table and those in table M are due to the change in the composition of the reporting area.

As shown in table P, the proportion of current births that occurred within 1½ years of the termination of a previous pregnancy generally decreased as the mother's years of schooling increased. When the preceding delivery was a live birth, 16.3 percent of the births to women with a grade school education or less occurred within this short an interval, compared with about one-tenth of the births to mothers who had completed 1 year or more of college. However, there was a greater likelihood that births following a fetal death would be spaced less than 18 months apart for women with a higher level of educational attainment. The proportion of births following a fetal death within 18 months increased from slightly over 45 percent for women with less than a high school education to 54 percent for those who had completed college.

Trends

On the average, in 1977 live births resulting from second and higher order pregnancies occurred 3½ years after the termination of the preceding pregnancy. This was approximately 3 months longer than the average time between deliveries in 1970 (table Q).

Age.—Regardless of the age of the mother, the mean interval since the last live birth was longer in 1977 than in 1970; the average interval increased by 2-12 months (6-15 percent) (table Q). For mothers whose last pregnancy ended in a fetal death, the mean interval for those under 25 years of age increased 3 months (17-18 percent); for mothers 30 years or older the mean interval *decreased* 2-3 months (4-8 percent). The proportion of births that occurred within 1½ years of a previous live birth declined for all age groups, but for births following a fetal death, a decline was evident only for teenagers and women in their early twenties (table 4).

Table P. Percent of live births occurring within 18 months of the termination of the preceding pregnancy, by outcome of last pregnancy, educational attainment of mother, and race: Total of 41 reporting States and the District of Columbia, 1977

[Excludes births to women less than 20 years of age and the later born in multiple deliveries. Refers only to live births resulting from second and higher order pregnancies]

Years of school completed by mother and race	All previous pregnancies ¹	Last pregnancy, live birth	Last pregnancy, fetal death
All races ²			
All years of school ³	15.4	11.2	48.2
0-8 years	18.5	16.3	45.3
9-11 years	16.6	13.5	45.2
12 years	14.7	10.7	47.1
13-15 years	15.7	10.6	49.0
16 years or more	15.0	8.9	53.9
White			
All years of school ³	15.0	10.5	49.3
0-8 years	17.8	15.5	45.4
9-11 years	15.4	12.0	45.4
12 years	14.4	10.1	48.1
13-15 years	15.6	10.4	50.6
16 years or more	14.9	8.7	55.3
Black			
All years of school ³	16.9	14.1	41.2
0-8 years	20.1	18.6	45.0
9-11 years	19.4	17.1	43.7
12 years	15.8	12.9	40.8
13-15 years	15.4	11.2	39.5
16 years or more	13.8	9.2	39.5

¹Includes births for which the outcome of the mother's last pregnancy is unknown.

²Includes races other than white and black.

³Includes births to mothers with years of school not stated.

Birth order.—When the current birth followed a live birth, the average interval since the preceding delivery lengthened during this period for each birth order, with increases ranging from 2 to 6 months (3-17 percent) (table R). The mean interval following a fetal death remained virtually the same for second order births and declined for higher order births. This interval increased only for first live births, which was a result of increases for mothers under 30 years of age.

Race.—Between 1970 and 1977, the average interval since a preceding live birth increased nearly 3 times as much for black as for white births. The increase in interval was 8 months for black births (from 37.4 months in 1970 to 45.7 months in 1977) and 3 months for white births (from 41.0 months to 43.8 months) (table R). There was little change in the interval since a previous fetal death for both black and white births. In 1977 as in 1970, this interval averaged about 2 years for both racial groups.

Table Q. Mean interval since termination of last pregnancy, by outcome of last pregnancy, age of mother, and race: Total of reporting areas, 1970 and 1977

[Refers only to live births resulting from second and higher order pregnancies]

<i>Age of mother and race</i>	<i>All previous pregnancies</i> ¹		<i>Last pregnancy, live birth</i>		<i>Last pregnancy, fetal death</i>	
	1977	1970	1977	1970	1977	1970
All races²		Mean interval (in months)				
All ages	42.1	39.2	44.0	40.4	25.4	24.9
Under 20 years	22.3	20.5	22.8	20.8	19.7	16.7
20-24 years	32.2	28.8	33.3	29.6	23.3	19.9
25-29 years	42.6	39.2	44.5	40.5	25.6	24.4
30-34 years	54.3	52.0	56.9	53.7	29.0	31.5
35-39 years	71.1	65.2	74.5	67.3	37.1	39.4
40-49 years	88.9	78.3	92.6	80.6	45.7	47.6
White						
All ages	41.8	39.7	43.8	41.0	25.2	24.7
Under 20 years	22.0	20.5	22.5	21.0	19.4	16.3
20-24 years	31.6	28.9	32.8	29.7	23.0	19.6
25-29 years	41.7	39.1	43.5	40.4	25.2	24.0
30-34 years	53.5	52.3	56.0	54.1	28.6	31.2
35-39 years	70.8	66.5	74.4	68.8	36.4	39.2
40-49 years	90.3	80.6	94.5	83.2	45.7	47.7
Black						
All ages	43.7	36.7	45.7	37.4	26.8	26.9
Under 20 years	23.2	20.5	23.5	20.7	20.8	18.4
20-24 years	34.6	28.6	35.9	29.0	24.6	21.8
25-29 years	50.0	41.4	52.2	42.3	29.0	29.5
30-34 years	63.3	52.4	66.1	53.4	33.4	35.5
35-39 years	75.7	59.4	78.5	60.4	42.4	41.7
40-49 years	86.4	67.1	88.4	68.1	49.6	46.7

¹Includes births for which the outcome of the mother's last pregnancy is unknown.

²Includes races other than white and black.

Table R. Mean interval since termination of last pregnancy, by outcome of last pregnancy, live-birth order, and race: Total of reporting areas, 1970 and 1977

[Refers only to live births resulting from second and higher order pregnancies]

<i>Live-birth order and race</i>	<i>All previous pregnancies¹</i>		<i>Last pregnancy, live birth</i>		<i>Last pregnancy, fetal death</i>	
	<i>1977</i>	<i>1970</i>	<i>1977</i>	<i>1970</i>	<i>1977</i>	<i>1970</i>
	Mean interval (in months)					
All races²						
All birth orders	42.1	39.2	44.0	40.4	25.4	24.9
First births	27.7	24.6	...	...	27.7	24.6
Second births	40.5	35.0	41.7	35.7	22.1	22.0
Third births	45.3	42.8	46.6	43.7	24.8	26.6
Fourth births	46.3	45.2	47.7	46.2	25.4	28.5
Fifth and higher order births	46.8	43.5	48.0	44.2	26.6	28.3
White						
All birth orders	41.8	39.7	43.8	41.0	25.2	24.7
First births	27.5	24.4	...	...	27.5	24.4
Second births	40.0	35.1	41.2	35.9	21.8	21.7
Third births	45.6	43.6	47.0	44.6	24.9	26.5
Fourth births	46.9	46.3	48.4	47.4	25.5	28.5
Fifth and higher order births	47.3	44.9	48.5	45.7	26.7	28.6
Black						
All birth orders	43.7	36.7	45.7	37.4	26.8	26.9
First births	29.1	26.9	...	...	29.1	26.9
Second births	44.0	34.1	45.3	34.4	24.6	25.4
Third births	44.3	37.6	45.6	38.0	25.1	27.4
Fourth births	44.6	39.4	45.8	39.9	25.5	28.8
Fifth and higher order births	46.2	39.4	47.2	39.8	26.7	27.6

¹ Includes births for which the outcome of the mother's last pregnancy is unknown.

² Includes races other than white and black.

Low birth weight

Weight at birth has long been regarded as an indicator of an infant's potential for survival and future growth. Infants of low birth weight (2,500 grams or 5½ pounds or less) have a greatly elevated risk of physical and neurological impairment¹⁸⁻²⁰ and are more likely to die within the first year of life.²¹

As shown in table S, the percent of infants of low birth weight is highest among babies born at very short intervals after the termination of a previous pregnancy and to a much lesser extent at very long intervals. In 1977, 15.5 percent of the births occurring within 1 year of a previous delivery were of low birth weight. This was 2½-3½ times the percent low birth weight among births with longer interbirth intervals. The percent low birth weight was lowest (about 4.5 percent) when babies were born within 2-4 years after the termination of the previous pregnancy. Live births in multiple deliveries (including first born) have been excluded from these data to eliminate the effect of plurality on low birth weight.

The pattern of risk of low birth weight when the previous pregnancy terminated as a live birth is the same as previously described, but is somewhat different when the previous pregnancy terminated as a fetal death. For this latter group of births, the risk of low birth weight was highest for intervals of less than 1 year (11.6 percent), lowest for intervals of 12-23 months (6.6 percent), and increased as the interval increased thereafter. Additionally, births following a fetal death within 1 year were less likely to be of low birth weight than births following a live birth within this short interval. For all other intervals, births following a fetal death had a higher risk of low birth weight. The average gestational period for fetal deaths is considerably shorter than for live births. It is possible that the longer gestational period associated with a live birth is more taxing to the mother and a more extended interval needed before the next delivery to ensure the restoration of critical nutrients. Births following a live birth after a relatively short

Table S. Percent of infants of low birth weight, by outcome of last pregnancy, interval since termination of last pregnancy, and race: Total of 43 reporting States and the District of Columbia, 1977 [Refers only to live births resulting from second and higher order pregnancies. Excludes plural births]

<i>Interval and race</i>	<i>All previous pregnancies¹</i>	<i>Last pregnancy, live birth</i>	<i>Last pregnancy, fetal death</i>
All races²			
All intervals	5.8	5.2	8.3
1-11 months	15.5	19.2	11.6
12-23 months	6.0	5.9	6.6
24-35 months	4.5	4.2	7.8
36-47 months	4.4	4.2	8.2
48 months and over	5.2	5.0	8.8
White			
All intervals	4.7	4.2	7.0
1-11 months	12.7	16.0	10.0
12-23 months	4.8	4.6	5.6
24-35 months	3.6	3.4	6.7
36-47 months	3.6	3.4	7.2
48 months and over	4.3	4.2	7.6
Black			
All intervals	11.3	10.5	14.7
1-11 months	25.8	27.7	21.8
12-23 months	12.1	11.9	13.1
24-35 months	9.9	9.6	13.0
36-47 months	9.1	8.8	13.2
48 months and over	9.3	9.1	14.9

¹Includes births for which the outcome of the mother's last pregnancy is unknown.

²Includes races other than white and black.

time are therefore more likely to have an unfavorable outcome than births closely following a fetal death.

Data which suggest that short-birth intervals are related to low birth weight and high levels of fetal and infant mortality are confounded by the fact that these adverse outcomes are associated with shortened periods of gestation which in turn shorten the birth interval. However, when only full-term births are

considered, the pattern of an increased risk of low birth weight for the shortest intervals is still evident (table T). Similarly, variations in the risk of low birth weight for different interbirth intervals do not merely reflect maternal age differences, which also have a profound effect on birth weight. The same pattern of a higher incidence of low birth weight for very short and very long intervals and an optimum interval of between 2 and 4 years is evident for all maternal ages (table U).

Additionally, the low birth weight associated with short interbirth intervals cannot be solely attributed to socioeconomic differences. As shown in figure 7, regardless of mother's educational attainment, the risk of low birth weight is highest when the birth interval is less than 1 year. Among births to mothers with the most schooling, the percent of low birth weight was 3-5 times higher among those born at intervals of less than 1 year following a live birth than among those born at longer intervals. The far higher level of low birth weight among births following a live birth within 1 year than among births following a fetal death within this period as noted previously is also evident for all levels of educational attainment (see also table 5).

The associations between low birth weight and interbirth intervals according to the factors discussed are similar for white and black births, but the levels of low birth weight are consistently higher for black births.

Table T. Percent of full-term infants of low birth weight, by outcome of last pregnancy, interval since termination of last pregnancy, and race: Total of 41 reporting States and the District of Columbia, 1977

[Refers only to live births of 37 weeks' gestation or more resulting from second and higher order pregnancies. Excludes plural births]

<i>Interval and race</i>	<i>Last pregnancy, live birth</i>	<i>Last pregnancy, fetal death</i>
White		
All intervals	2.0	2.9
1-11 months	4.5	3.5
12-23 months	2.0	2.6
24-35 months	1.7	3.0
36-47 months	1.8	3.5
48 months and over	2.2	3.4
Black		
All intervals	4.9	5.9
1-11 months	10.1	6.6
12-23 months	5.5	5.6
24-35 months	4.8	5.9
36-47 months	4.4	6.3
48 months and over	4.6	5.9

A study of the effect of the close spacing of births⁷ concluded that sufficient time between births is needed for optimum fetal body and brain development. The depression in birth weight seen in closely spaced births may be attributed to intrauterine impoverishment because of insufficient time between pregnancies to restore supplies of critical nutrients.

Table U. Percent of infants of low birth weight, by age of mother, interval since last live birth, and race: Total of 43 reporting States and the District of Columbia, 1977

[Refers only to second and higher order live births. Excludes plural births]

<i>Interval and race</i>	<i>Age of mother</i>						
	<i>All ages</i>	<i>Under 20 years</i>	<i>20-24 years</i>	<i>25-29 years</i>	<i>30-34 years</i>	<i>35-39 years</i>	<i>40-49 years</i>
All races¹							
All intervals	5.5	10.6	6.1	4.5	4.6	6.3	7.6
1-11 months	19.6	27.0	19.3	15.3	14.4	14.3	15.3
12-23 months	6.1	10.2	6.2	4.7	4.5	6.0	6.1
24-35 months	4.4	8.2	4.9	3.5	3.8	4.7	4.3
36-47 months	4.5	8.3	5.4	3.7	3.5	4.8	5.5
48-59 months	4.7	9.8	5.7	4.1	3.9	5.9	5.8
60 months and over	5.8	9.9	6.8	5.4	5.3	6.7	8.6
White							
All intervals	4.4	7.9	4.8	3.7	4.0	5.3	6.5
1-11 months	16.3	23.2	16.1	12.6	12.7	13.5	13.7
12-23 months	4.8	7.7	5.0	3.9	3.8	4.9	4.6
24-35 months	3.6	5.9	4.0	2.9	3.3	4.1	3.1
36-47 months	3.6	5.2	4.3	3.2	3.1	4.3	5.3
48-59 months	3.9	5.0	4.6	3.5	3.4	5.2	5.0
60 months and over	4.8	7.4	5.0	4.4	4.6	5.7	7.5
Black							
All intervals	10.9	15.5	11.2	9.4	9.0	10.8	12.2
1-11 months	28.1	33.7	27.8	23.7	19.7	16.2	11.1
12-23 months	12.1	15.2	11.9	9.7	9.7	10.4	11.5
24-35 months	9.9	12.7	9.8	8.8	8.5	8.3	9.0
36-47 months	9.4	12.9	9.8	8.2	7.7	8.2	8.3
48-59 months	9.1	14.2	9.6	8.0	8.5	9.8	8.1
60 months and over	9.9	12.3	11.0	9.3	8.8	11.4	13.5

¹Includes races other than white and black.

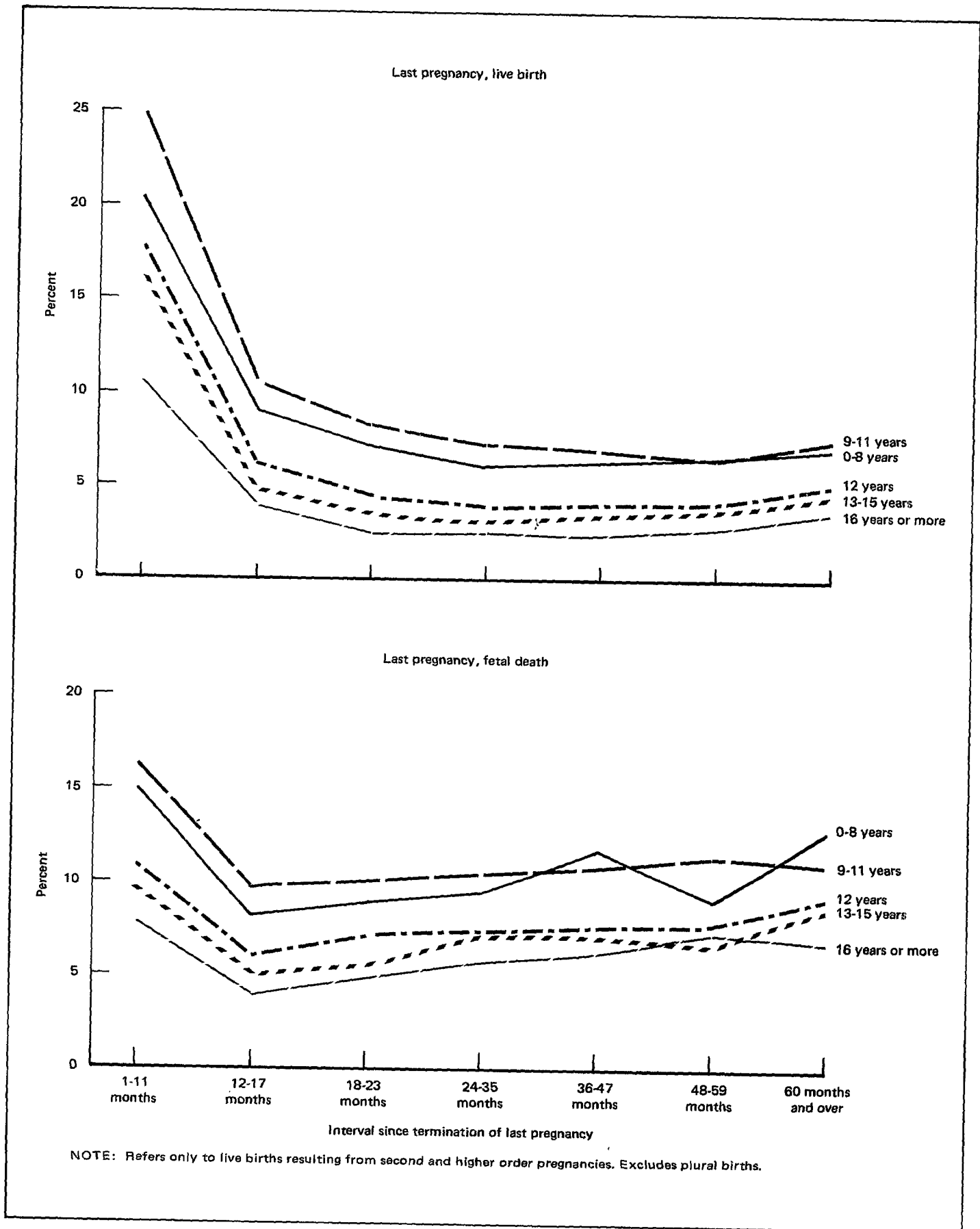


Figure 7. Percent of infants of low birth weight, by interval since termination of last live birth and last fetal death and educational attainment of mother: Total of 41 reporting States and the District of Columbia, 1977

References

- ¹Westoff, C. F.: Trends in contraceptive practice: 1965-1973. *Fam. Plann. Perspect.* 8(2): 54-57, Mar./Apr. 1976.
- ²Forrest, J. D., Sullivan, E., and Tietze, C.: Abortion in the United States, 1977-1978. *Fam. Plann. Perspect.* 11(6): 329-341, Nov./Dec. 1979.
- ³National Center for Health Statistics: Contraceptive utilization among currently married women 15-44 years of age: United States, 1973, by K. Ford. *Monthly Vital Statistics Report.* Vol. 25, No. 7, Supp. DHEW Pub. No. (HRA) 76-1120. Health Resources Administration. Rockville, Md., Oct. 4, 1976.
- ⁴Bumpass, L. L., Rindfuss, R. R., and Janosik, R. B.: Age and marital status at first birth and the pace of subsequent fertility. *Demography* 15(1): 75-86, Feb. 1978.
- ⁵Trussell, J., and Menken, J.: Early childbearing and subsequent fertility. *Fam. Plann. Perspect.* 10(4): 209-218, July/Aug. 1978.
- ⁶Freedman, R., and Coombs, L.: Childspacing and family economic position. *Amer. Sociol. Rev.* 31(5): 631-648, Oct. 1966.
- ⁷Holley, W. L., Rosenbaum, A. L., and Churchill, J. A.: Effect of rapid succession of pregnancy, in *Perinatal Factors Affecting Human Development.* Scientific Publication No. 185. Washington, D.C. Pan American Health Organization. Oct. 1969. pp. 41-44.
- ⁸Henry, L.: French statistical research in natural fertility, in M. C. Sheps and J. C. Ridley, eds., *Public Health and Population Change—Current Research Issues.* Pittsburgh. University of Pittsburgh Press, 1965. pp. 333-350.
- ⁹Potter, R. G., Jr.: Birth intervals: Structure and change. *Popul. Stud.* 17: 155-166, 1963.
- ¹⁰Grabill, W. H., and Davidson, M.: Recent trends in childspacing among American women. *Demography* 5(1): 212-225, 1968.
- ¹¹National Center for Health Statistics: Contraceptive utilization in the United States: 1973 and 1976, by K. Ford. *Advance Data from Vital and Health Statistics,* No. 36. DHEW Pub. No. (PHS) 78-1250. Public Health Service. Hyattsville, Md. Aug. 18, 1978.
- ¹²Tietze, C.: Induced abortion: 1977 supplement. *Reports on Population/Family Planning,* No. 14, Supp. The Population Council, Inc. New York, N.Y. Dec. 1977.
- ¹³Zelnick, M., and Kantner, J. F.: Sexual and contraceptive experience of young unmarried women in the United States, 1976 and 1971. *Fam. Plann. Perspect.* 9(2): 55-71, Mar./Apr. 1977.
- ¹⁴National Center for Health Statistics: Patterns of aggregate and individual changes in contraceptive practice, United States, 1965-1975, by C. F. Westoff and E. F. Jones. *Vital and Health Statistics.* Series 3-No. 17. DHEW Pub. No. (PHS) 79-1401. Public Health Service. Washington. U.S. Government Printing Office, June 1979.
- ¹⁵Whelpton, P. K., Campbell, A. A., and Patterson, J. E.: *Fertility and Family Planning in the United States.* Princeton, N.J. Princeton University Press, 1966. pp. 246.
- ¹⁶Goldscheider, C., and Uhlenberg, P.: Minority group status and fertility. *Amer. J. Sociol.* 74: 361-372, Jan. 1974.
- ¹⁷National Center for Health Statistics: Unpublished tabulation.
- ¹⁸Harper, P. A., and Wiener, G.: Sequelae of low birth weight. *Ann. Rev. Med.* 16: 405-420, 1965.
- ¹⁹Lubchenco, L. O., et. al.: Sequelae of premature birth. *Am. J. Dis. Child.* 106: 135-149, July 1963.
- ²⁰National Center for Health Statistics: Congenital anomalies and birth injuries among live births: United States, 1973-74, by S. Taffel. *Vital and Health Statistics.* Series 21-No. 31. DHEW Pub. No. (PHS) 79-1909. Public Health Service. Washington. U.S. Government Printing Office, Nov. 1978.
- ²¹National Center for Health Statistics: A study of infant mortality from linked records by birth weight, period of gestation, and other variables, United States, by R. J. Armstrong. *Vital and Health Statistics.* Series 20-No. 12. DHEW Pub. No. (HSM) 72-1055. Health Services and Mental Health Administration. Washington. U.S. Government Printing Office, May 1972.

List of Detailed Tables

1. Mean interval since last live birth, by live-birth order, age of mother, and race: Total of reporting areas, 1970-77	25
2. Percent distribution of live births by interval since last live birth, according to educational attainment of mother, age of mother, and race: Total of reporting areas, 1970 and 1977	29
3. Mean interval since termination of last pregnancy by outcome of last pregnancy, age of mother, live-birth order, and race: Total of 43 reporting States and the District of Columbia, 1977	34
4. Percent distribution of live births by interval since termination of last pregnancy, according to outcome of last pregnancy, age of mother, and race: Total of reporting areas, 1970 and 1977	35
5. Percent of infants of low birth weight, by educational attainment of mother, outcome of last pregnancy, interval since termination of last pregnancy, and race: Total of 41 reporting States and the District of Columbia, 1977	40

Table 1. Mean interval since last live birth, by live-birth order, age of mother, and race: Total of reporting areas, 1970-77
 [Refers only to second and higher order live births]

<i>Live-birth order, age of mother, and race</i>	<i>1977</i>	<i>1976</i>	<i>1975</i>	<i>1974</i>	<i>1973</i>	<i>1972</i>	<i>1971</i>	<i>1970</i>
All races¹		Mean interval (in months)						
All second and higher order births								
All ages	45.5	45.1	44.6	43.9	43.3	42.6	41.8	41.8
Under 20 years	23.2	22.9	22.7	22.5	21.9	21.2	20.7	21.1
20-24 years	33.9	33.7	33.3	32.8	31.8	30.8	30.1	30.0
25-29 years	45.4	45.3	44.6	43.7	42.7	42.0	41.5	41.2
30-34 years	58.4	58.5	58.1	57.5	57.0	56.5	55.7	54.9
35-39 years	76.9	76.7	76.1	74.9	73.7	72.3	69.9	69.1
40-44 years	95.7	92.9	92.0	88.2	86.6	85.6	82.8	82.6
45-49 years	109.0	109.6	101.9	104.5	101.5	101.4	97.2	94.5
Second births								
All ages	43.0	42.3	41.2	40.2	39.2	38.1	37.0	36.7
Under 20 years	23.6	23.3	23.0	22.7	22.2	21.5	20.9	21.3
20-24 years	35.7	35.4	34.8	34.1	33.1	32.0	31.3	31.0
25-29 years	47.6	47.1	46.1	44.9	43.7	43.0	42.5	42.0
30-34 years	59.0	58.8	57.7	57.0	57.0	57.7	57.9	57.8
35-39 years	78.0	77.7	77.5	77.8	79.2	81.2	80.0	79.9
40-44 years	105.6	102.2	107.9	98.4	102.2	104.0	104.1	104.3
45-49 years	149.1	131.2	135.4	138.8	132.5	133.7	121.4	132.0
Third births								
All ages	48.1	47.8	47.4	47.0	46.5	45.9	44.9	45.0
Under 20 years	20.7	20.7	20.6	20.9	20.2	19.8	19.5	19.9
20-24 years	30.8	30.8	30.7	30.5	29.9	29.2	28.8	29.0
25-29 years	45.8	45.9	45.5	45.2	44.7	44.6	44.2	43.9
30-34 years	63.8	64.1	64.2	63.6	63.7	64.0	63.4	62.8
35-39 years	89.4	90.2	90.5	89.8	90.0	89.9	89.2	89.3
40-44 years	123.3	121.7	121.6	119.4	115.5	119.7	115.1	117.4
45-49 years	156.9	147.7	146.9	147.8	157.5	138.5	140.1	141.8
Fourth births								
All ages	49.3	49.8	50.1	50.1	49.6	48.5	47.7	47.7
Under 20 years	18.8	19.1	19.0	19.6	19.7	18.3	18.7	19.5
20-24 years	26.4	26.7	26.8	27.3	26.8	26.1	26.0	26.3
25-29 years	39.2	40.1	40.2	40.2	39.7	39.2	39.5	39.6
30-34 years	57.5	58.8	59.1	59.2	59.1	58.6	57.9	57.4
35-39 years	85.3	86.3	85.9	85.2	84.2	82.8	80.3	79.5
40-44 years	117.6	115.3	115.2	111.1	109.9	110.7	106.8	105.2
45-49 years	140.5	141.4	128.9	141.1	123.3	138.6	124.6	125.4
Fifth births								
All ages	51.3	52.1	52.5	51.9	51.2	49.8	48.6	48.4
Under 20 years	18.5	20.0	20.1	18.9	21.1	18.3	19.1	20.0
20-24 years	24.0	24.3	24.6	24.5	24.8	23.5	23.6	24.8
25-29 years	34.7	35.8	36.1	36.1	35.8	35.4	35.5	36.0
30-34 years	52.0	53.5	54.0	54.0	53.4	52.8	52.4	51.4
35-39 years	77.7	78.1	78.1	77.1	75.0	74.3	71.9	70.5
40-44 years	107.3	105.7	102.9	102.7	100.2	93.6	92.5	91.1
45-49 years	119.2	141.3	125.2	122.5	125.1	127.5	125.0	109.3
Sixth births								
All ages	49.8	51.2	51.4	50.9	49.8	48.6	47.1	46.2
Under 20 years	*16.3	*18.8	*15.1	*24.6	*16.4	25.4	*19.4	22.7
20-24 years	22.5	22.1	23.0	23.6	22.5	22.6	21.9	22.7
25-29 years	30.2	31.3	32.2	31.5	31.7	31.1	31.4	31.7
30-34 years	44.4	46.5	46.4	47.4	47.3	46.5	46.1	44.8
35-39 years	66.3	67.9	68.0	67.4	65.6	64.1	61.6	60.3
40-44 years	93.6	96.3	91.4	87.2	83.8	84.5	80.8	80.0
45-49 years	120.7	120.6	117.7	121.6	111.8	107.8	107.5	103.2

¹Includes races other than white and black.

Table 1. Mean interval since last live birth, by live-birth order, age of mother, and race: Total of reporting areas, 1970-77—Con.
 [Refers only to second and higher order live births]

<i>Live-birth order, age of mother, and race</i>	1977	1976	1975	1974	1973	1972	1971	1970
All races—Con. ¹								
Seventh births								
All ages	49.3	49.3	49.7	49.1	48.4	47.0	45.2	43.8
Under 20 years	*23.8	*20.0	*18.3	*20.5	*20.6	*22.4	*20.7	*55.3
20-24 years	22.0	22.1	22.3	23.2	21.8	22.1	22.1	24.3
25-29 years	27.6	27.7	29.6	28.9	29.2	28.8	28.4	28.3
30-34 years	39.9	41.3	41.5	41.0	41.4	41.0	40.9	39.7
35-39 years	58.1	59.0	59.3	60.5	59.7	56.7	55.0	53.4
40-44 years	85.5	82.1	82.5	79.0	76.0	75.4	70.9	66.8
45-49 years	115.3	103.0	92.7	93.5	97.4	99.7	87.2	92.4
Eighth and higher order births								
All ages	43.9	44.3	44.5	43.4	42.6	41.3	39.9	39.0
Under 20 years	*21.3	*23.0	*32.8	*22.2	*26.6	*23.8	*13.0	*21.3
20-24 years	26.5	26.7	29.2	28.5	26.7	29.1	29.5	27.6
25-29 years	26.8	26.4	26.3	27.1	26.0	25.7	26.0	26.1
30-34 years	32.0	33.0	34.4	34.4	33.4	33.5	33.4	32.9
35-39 years	44.2	45.3	45.5	44.4	43.9	42.7	41.7	40.7
40-44 years	60.1	58.5	57.9	55.8	55.8	53.4	51.1	50.9
45-49 years	78.1	80.9	75.7	75.7	72.3	71.4	66.4	61.1
White								
All birth orders								
All ages	45.2	45.1	44.6	44.0	43.6	43.0	42.2	42.3
Under 20 years	22.8	22.6	22.4	22.1	21.7	21.2	20.6	21.2
20-24 years	33.4	33.3	32.9	32.5	31.7	30.7	30.1	30.1
25-29 years	44.4	44.4	43.9	43.2	42.3	41.7	41.3	41.1
30-34 years	57.4	57.7	57.5	57.0	56.7	56.5	55.9	55.2
35-39 years	76.7	76.7	76.6	75.5	74.6	73.4	71.2	70.4
40-44 years	97.4	94.7	93.4	90.4	88.1	87.5	85.1	84.8
45-49 years	112.3	111.7	104.3	106.8	105.5	104.9	101.1	98.4
Second births								
All ages	42.4	41.9	41.0	40.0	39.2	38.1	37.1	36.9
Under 20 years	23.1	22.9	22.7	22.3	21.9	21.4	20.8	21.3
20-24 years	34.8	34.6	34.2	33.6	32.8	31.7	31.1	30.9
25-29 years	46.1	45.9	45.1	44.0	42.9	42.3	41.9	41.4
30-34 years	57.5	57.3	56.5	55.8	55.9	56.7	56.9	57.0
35-39 years	76.2	75.7	76.7	76.4	77.7	79.5	79.0	79.3
40-44 years	104.3	100.9	105.4	98.2	98.1	102.0	100.7	104.0
45-49 years	137.0	139.4	140.4	137.8	123.2	133.3	130.0	144.5
Third births								
All ages	48.3	48.3	48.0	47.7	47.3	46.7	45.7	45.9
Under 20 years	20.3	20.2	20.2	20.7	19.9	19.6	19.1	19.7
20-24 years	30.1	30.2	30.2	30.0	29.6	29.0	28.7	29.1
25-29 years	44.8	45.0	44.7	44.6	44.2	44.2	44.0	43.7
30-34 years	62.9	63.5	63.8	63.2	63.4	63.7	63.4	62.7
35-39 years	89.6	90.3	91.1	90.4	90.8	91.2	89.7	89.8
40-44 years	125.6	123.0	122.4	121.1	115.7	120.7	117.4	118.5
45-49 years	166.6	153.2	155.4	151.3	160.9	140.6	141.3	148.8
Fourth births								
All ages	50.0	50.7	51.1	51.1	50.7	49.6	48.7	48.9
Under 20 years	19.0	19.1	18.9	19.7	20.6	19.0	18.3	22.3
20-24 years	25.8	26.1	26.2	26.8	26.4	25.8	25.8	26.4
25-29 years	37.9	38.9	39.2	39.3	39.1	38.5	39.1	39.4
30-34 years	56.0	57.7	58.1	58.5	58.5	58.2	57.5	57.2
35-39 years	85.0	86.1	86.2	85.3	84.3	83.1	80.5	79.8
40-44 years	118.8	116.2	115.9	111.8	111.0	111.5	107.7	106.4
45-49 years	138.9	140.2	130.3	145.2	129.0	139.5	128.9	127.8

¹ Includes races other than white and black.

Table 1. Mean interval since last live birth, by live-birth order, age of mother, and race: Total of reporting areas, 1970-77—Con.
 [Refers only to second and higher order live births]

<i>Live-birth order, age of mother, and race</i>	1977	1976	1975	1974	1973	1972	1971	1970
White—Con.								
Fifth births								
All ages	52.2	53.1	53.6	53.3	52.6	51.2	49.9	49.7
Under 20 years	20.3	21.7	21.9	*23.8	28.0	19.5	19.1	24.4
20-24 years	23.6	23.8	23.9	24.2	24.6	23.5	23.5	25.4
25-29 years	33.4	34.8	35.1	35.2	35.4	34.8	35.1	35.8
30-34 years	50.2	52.0	52.7	53.2	52.6	52.2	52.0	51.2
35-39 years	76.6	77.1	77.5	77.1	74.6	74.2	71.7	70.4
40-44 years	108.1	105.5	103.0	103.4	102.3	94.2	93.4	91.4
45-49 years	122.3	146.3	121.1	126.6	129.3	123.7	128.6	106.9
Sixth births								
All ages	50.3	51.9	52.0	51.7	51.0	49.8	48.3	47.4
Under 20 years	*18.4	*15.3	*19.3	*14.0	*14.4	*14.0	*29.0	*33.0
20-24 years	22.1	22.3	23.9	23.2	22.9	23.1	22.6	23.5
25-29 years	29.3	30.3	31.5	30.8	30.9	30.4	30.8	31.5
30-34 years	42.6	44.5	44.4	45.7	45.9	45.6	45.5	44.3
35-39 years	64.3	66.6	67.0	66.3	65.5	63.7	61.2	59.9
40-44 years	92.4	95.5	92.0	87.9	83.8	84.7	80.6	80.1
45-49 years	122.3	117.0	115.7	119.0	118.0	107.9	106.6	106.6
Seventh births								
All ages	49.1	49.2	49.6	49.4	49.1	47.8	45.7	44.8
Under 20 years	*24.5	-	-	*24.0	*29.0	*35.5	-	*47.0
20-24 years	25.0	26.0	24.7	22.5	24.1	22.8	22.2	25.2
25-29 years	26.6	26.9	28.8	28.1	28.3	28.1	27.7	28.5
30-34 years	37.5	38.7	39.9	38.7	40.0	39.9	39.8	39.1
35-39 years	55.4	57.6	57.1	58.9	58.9	55.5	54.1	52.5
40-44 years	85.5	80.8	81.1	78.1	74.8	74.3	69.5	66.6
45-49 years	113.4	100.2	93.2	91.9	98.0	103.0	86.1	92.7
Eighth and higher order births								
All ages	42.8	43.5	44.2	43.2	42.9	42.0	40.6	39.9
Under 20 years	*21.3	*23.0	*27.6	*23.7	*28.3	*27.0	*12.0	*20.0
20-24 years	26.1	30.4	30.4	33.1	28.8	24.7	35.4	34.1
25-29 years	28.5	26.8	26.3	27.9	26.4	26.0	26.9	26.7
30-34 years	30.0	31.6	32.9	33.7	32.6	33.1	32.7	32.8
35-39 years	41.9	42.8	43.9	42.8	42.8	42.3	41.7	40.7
40-44 years	58.0	57.4	57.0	55.4	55.5	53.5	51.4	50.6
45-49 years	75.5	80.8	76.4	75.3	73.6	72.7	66.6	61.3
Black								
All birth orders								
All ages	47.3	46.2	45.1	43.7	42.4	41.0	39.8	38.9
Under 20 years	23.9	23.6	23.3	23.1	22.3	21.4	21.0	21.0
20-24 years	36.6	35.9	35.4	34.3	32.8	31.4	30.3	29.6
25-29 years	53.4	52.4	51.2	49.5	47.8	46.2	44.3	43.2
30-34 years	68.0	67.2	65.7	63.8	61.9	59.4	57.1	55.2
35-39 years	81.6	80.1	77.6	75.0	72.0	68.8	65.5	63.3
40-44 years	92.4	88.7	88.2	81.1	81.0	78.0	73.4	71.9
45-49 years	102.8	105.3	96.4	97.7	86.9	87.9	80.3	75.4
Second births								
All ages	46.8	45.0	43.2	41.5	39.8	38.4	36.8	35.8
Under 20 years	24.7	24.2	23.8	23.6	22.8	21.9	21.3	21.4
20-24 years	40.8	39.8	39.0	37.5	35.9	34.5	33.1	32.1
25-29 years	62.7	60.7	59.2	57.4	56.2	55.5	54.0	53.2
30-34 years	79.0	79.3	76.9	76.0	77.0	76.4	75.9	74.0
35-39 years	98.6	101.8	97.3	97.7	102.6	107.2	101.7	92.4
40-44 years	127.3	121.0	131.9	109.3	138.8	123.7	136.7	124.2
45-49 years	*214.4	126.4	*113.1	*138.7	*208.1	*126.0	*60.6	*57.3

Table 1. Mean interval since last live birth, by live-birth order, age of mother, and race: Total of reporting areas, 1970-77—Con.
[Refers only to second and higher order live births]

<i>Live-birth order, age of mother, and race</i>	1977	1976	1975	1974	1973	1972	1971	1970
Black—Con.		Mean interval (in months)						
Third births								
All ages	47.4	46.4	45.5	44.0	43.0	41.6	40.3	39.8
Under 20 years	21.2	21.4	21.1	21.2	20.6	20.0	20.0	20.0
20-24 years	33.1	32.9	32.7	32.1	31.2	30.2	29.4	29.0
25-29 years	53.5	53.4	52.6	51.3	50.8	50.2	47.8	47.4
30-34 years	75.0	74.0	73.8	72.8	73.1	72.5	68.8	70.2
35-39 years	98.2	97.5	96.0	95.2	93.5	88.5	92.4	92.2
40-44 years	119.7	123.1	128.3	118.1	125.3	123.1	105.4	112.9
45-49 years	*96.4	132.2	*112.5	*154.8	*150.7	*144.1	131.2	106.6
Fourth births								
All ages	47.7	47.4	47.1	46.3	44.9	43.6	42.7	41.7
Under 20 years	18.7	19.1	19.2	19.6	19.0	17.9	18.9	17.8
20-24 years	27.5	27.7	27.9	28.3	27.6	26.9	26.4	26.0
25-29 years	44.5	45.8	45.2	44.9	43.7	43.3	42.9	41.8
30-34 years	67.8	68.1	68.7	66.6	66.0	64.2	63.8	61.9
35-39 years	90.9	91.2	90.1	89.1	87.2	84.4	81.4	82.4
40-44 years	121.1	112.0	116.6	114.3	108.4	110.3	108.9	97.9
45-49 years	*159.4	141.8	126.1	*129.4	*99.4	*166.6	*99.1	*82.7
Fifth births								
All ages	49.4	49.7	49.5	47.8	46.4	44.8	43.5	42.8
Under 20 years	17.2	18.4	19.2	17.1	18.4	17.4	18.9	16.6
20-24 years	24.5	25.2	25.3	25.1	25.2	23.6	23.9	24.0
25-29 years	38.0	39.0	39.2	39.3	37.9	37.8	37.3	37.1
30-34 years	60.6	61.3	61.4	59.7	58.9	57.3	55.9	54.3
35-39 years	85.3	85.4	84.8	79.6	79.5	78.2	75.6	72.0
40-44 years	107.4	108.2	107.0	103.1	88.9	92.2	88.1	92.0
45-49 years	*111.8	114.5	*146.2	*101.6	*94.9	144.2	97.0	131.3
Sixth births								
All ages	48.9	50.2	50.0	48.9	46.8	45.4	43.5	42.4
Under 20 years	*14.9	*19.9	*13.8	*27.6	*17.2	*28.1	*12.3	17.9
20-24 years	22.4	22.0	22.3	24.1	22.0	22.1	21.5	22.2
25-29 years	32.2	33.4	33.8	33.2	33.8	32.9	32.7	32.4
30-34 years	50.6	53.9	53.6	54.3	53.1	51.0	49.3	48.2
35-39 years	74.1	74.9	73.3	73.9	67.9	67.2	65.4	64.5
40-44 years	100.9	100.9	90.9	85.7	84.3	86.8	83.3	79.8
45-49 years	*140.6	136.1	130.6	*126.4	*78.5	*117.0	*105.0	71.9
Seventh births								
All ages	50.4	49.9	50.4	48.8	47.2	45.6	44.1	41.3
Under 20 years	*23.0	*20.0	*18.3	*19.3	*15.0	*12.0	*20.7	*58.0
20-24 years	20.6	19.8	20.8	23.7	20.4	21.8	22.2	24.1
25-29 years	28.8	28.6	31.4	30.3	30.8	29.7	29.3	28.3
30-34 years	46.6	47.9	46.2	47.2	45.4	44.8	44.7	42.3
35-39 years	68.1	65.3	66.7	66.4	63.8	62.4	59.2	58.2
40-44 years	87.1	88.4	90.1	81.6	83.7	82.1	78.3	68.2
45-49 years	*118.9	110.0	*90.9	*102.4	98.4	83.5	94.1	92.2
Eighth and higher order births								
All ages	46.4	46.3	45.7	44.3	42.6	40.1	39.0	38.0
Under 20 years	-	-	*38.8	*20.0	*13.0	*20.0	*14.3	*25.0
20-24 years	27.7	23.0	29.2	23.5	24.1	25.5	23.7	22.3
25-29 years	25.2	26.1	26.5	26.6	25.8	25.0	25.2	25.5
30-34 years	35.0	35.6	36.8	36.2	35.1	34.2	35.1	33.3
35-39 years	49.2	50.7	49.4	48.3	46.9	43.9	42.6	41.2
40-44 years	66.0	61.9	60.8	58.0	57.2	53.7	50.8	52.1
45-49 years	86.8	84.1	77.6	79.8	70.0	68.8	66.7	63.4

Table 2. Percent distribution of live births by interval since last live birth, according to educational attainment of mother, age of mother, and race:
Total of reporting areas, 1970 and 1977

[Refers only to second and higher order live births]

Age of mother, interval, and race	1977						1970					
	Years of school completed by mother						Years of school completed by mother					
	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more
All races ²												
All ages												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4	1.1	1.3	1.3	1.5	1.6 } 0.6 }	3.3	4.2	4.2	2.9	2.6	2.2
1-11 months	1.6	3.1	2.6	1.3	0.9	0.6 }	28.4	31.8	31.5	26.3	27.7	28.9
12-23 months	23.0	27.9	28.0	21.0	21.6	21.3	23.5	20.9	21.7	23.5	25.7	28.3
24-35 months	23.1	19.7	21.3	22.6	24.4	28.5	15.4	12.8	13.8	16.2	16.5	16.8
36-47 months	16.3	12.9	14.2	16.7	17.0	19.2	16.2	15.2	15.4	17.3	15.9	14.5
48-71 months	18.4	16.7	16.9	19.6	18.6	16.8	13.2	15.1	13.5	13.8	11.6	9.2
72 months and over	16.3	18.6	15.7	17.5	16.1	11.9						
Under 20 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	2.5	1.5	2.2	3.7	6.8	- } *8.3 }	10.8	9.9	10.4	12.7	15.1	7.4
1-11 months	6.0	6.6	6.0	5.8	3.7	*41.7 }	59.8	57.6	60.4	60.1	52.1	37.0
12-23 months	52.4	50.8	53.7	50.8	37.4	*25.0 }	22.3	22.9	22.8	19.7	23.5	25.9
24-35 months	26.9	25.9	27.3	26.5	27.8	*25.0 }	5.5	7.2	5.0	5.4	7.0	14.8
36-47 months	9.2	10.7	8.5	9.7	16.3	- }	1.3	2.0	1.1	1.5	2.0	14.8
48-71 months	2.8	4.3	2.1	3.4	7.3	- }	0.3	0.3	0.3	0.6	0.3	-
72 months and over	0.1	0.2	0.1	0.1	0.7	- }						
20-24 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4	1.0	1.0	1.4	2.2	4.3 } 2.3 }	4.3	5.3	4.1	4.2	4.3	5.9
1-11 months	2.1	3.6	2.3	1.8	1.9	43.0 }	37.7	40.0	34.9	37.5	42.5	49.1
12-23 months	30.0	32.2	28.0	29.3	36.0	26.1	29.4	25.6	27.3	30.8	31.3	27.3
24-35 months	28.1	24.0	25.4	29.9	29.4	10.8	16.5	14.0	17.5	16.9	14.6	10.5
36-47 months	18.3	15.9	18.9	19.1	15.5	10.8	10.4	12.0	13.6	9.5	6.4	5.9
48-71 months	16.5	17.8	19.6	15.7	12.1	10.0	1.7	3.1	2.6	1.2	1.0	1.3
72 months and over	3.6	5.4	4.8	2.8	3.0	3.5						
25-29 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.2	0.9	1.0	1.1	1.2	1.9 } 0.7 }	2.2	3.4	2.5	2.0	2.1	2.3
1-11 months	1.0	2.5	1.4	0.9	0.7	25.5 }	23.9	28.7	22.0	21.4	25.4	33.4
12-23 months	18.9	23.3	16.9	16.4	20.0	34.4 }	24.1	21.0	18.8	23.0	27.8	33.7
24-35 months	23.4	18.4	15.4	21.1	26.7	19.4 }	18.0	15.0	15.3	18.9	19.8	17.4
36-47 months	17.7	13.9	13.2	18.0	19.2	12.4 }	20.6	18.9	23.2	23.1	18.1	10.4
48-71 months	21.6	21.5	24.2	24.4	20.1	5.7 }	11.1	13.0	18.1	11.6	6.8	2.9
72 months and over	16.2	19.4	27.8	18.0	12.1							
30-34 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.2	1.0	1.3	1.1	1.2	1.2 } 0.5 }	1.9	2.8	2.3	1.8	1.6	1.5
1-11 months	0.7	1.6	1.2	0.7	0.6	16.3 }	17.9	23.5	18.2	16.0	16.9	21.3
12-23 months	14.1	18.8	13.6	12.4	13.9	25.0 }	17.2	17.9	14.6	15.5	18.3	24.3
24-35 months	17.3	14.8	11.9	14.3	17.8	21.2 }	13.8	12.4	11.8	13.4	14.7	18.4
36-47 months	14.8	10.6	9.4	12.7	15.4	21.8 }	21.9	18.7	20.3	22.9	23.4	21.5
48-71 months	21.2	18.5	18.2	21.3	22.4	14.1 }	27.3	24.7	32.9	30.5	25.1	13.0
72 months and over	30.8	34.6	44.3	37.6	28.6							

See footnotes at end of table.

Table 2. Percent distribution of live births by interval since last live birth, according to educational attainment of mother, age of mother, and race: Total of reporting areas, 1970 and 1977—Con.

[Refers only to second and higher order live births]

Age of mother, interval, and race	1977						1970					
	Years of school completed by mother						Years of school completed by mother					
	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more
All races ² —Con.												
35-39 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.3	1.3	1.5	1.2	1.2	1.3	1.6	2.2	1.8	1.4	1.3	1.5
1-11 months	0.7	1.6	1.0	0.5	0.4	0.4						
12-23 months	12.4	16.1	11.8	10.9	12.1	14.2	14.7	19.3	14.9	12.8	14.2	16.1
24-35 months	12.6	13.1	10.2	10.9	13.1	17.6	13.7	15.9	13.3	12.6	13.6	16.5
36-47 months	9.9	10.3	8.1	8.7	10.3	13.5	11.2	11.6	10.2	10.8	10.6	14.7
48-71 months	16.3	15.7	14.0	15.5	16.9	19.9	19.0	18.4	17.7	19.2	20.4	20.6
72 months and over	47.0	41.9	53.4	52.3	46.0	33.1	39.8	32.6	42.0	43.2	39.8	30.6
40-49 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.0	1.1	1.5	0.9	0.5	0.9	1.2	1.5	1.0	1.2	0.8	1.0
1-11 months	0.5	0.8	0.7	0.3	0.1	0.5						
12-23 months	8.5	11.1	8.8	7.2	7.7	9.4	10.2	13.9	9.6	8.8	9.1	10.4
24-35 months	10.3	11.8	9.1	9.3	10.7	13.6	12.3	14.7	12.2	10.9	12.1	12.9
36-47 months	7.7	9.3	5.8	6.9	8.5	11.3	9.9	12.2	9.6	8.8	9.3	11.4
48-71 months	14.3	16.0	14.0	13.2	14.0	16.3	17.9	19.6	17.0	16.9	18.3	21.4
72 months and over	57.6	50.0	60.0	62.2	58.6	48.1	48.5	38.2	50.5	53.4	50.3	42.8
White												
All ages												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.3	1.0	1.2	1.3	1.4	1.6	2.8	3.7	3.5	2.7	2.5	2.1
1-11 months	1.3	2.8	2.1	1.1	0.8	0.6						
12-23 months	22.3	27.0	26.1	20.6	22.0	21.7	27.1	29.9	28.7	25.5	27.7	29.0
24-35 months	24.1	20.0	21.6	23.4	25.5	29.6	24.0	20.8	21.9	23.9	26.3	28.8
36-47 months	16.8	13.2	14.6	17.1	17.4	19.6	15.9	13.3	14.5	16.5	16.7	16.9
48-71 months	18.3	17.3	17.8	19.4	18.0	16.2	16.7	16.0	16.5	17.6	15.7	14.3
72 months and over	15.8	18.7	16.4	17.0	14.8	10.8	13.5	16.3	14.8	14.0	11.3	8.9
Under 20 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	2.7	1.4	2.3	4.4	9.9	*	10.3	8.7	9.5	13.5	16.2	5.3
1-11 months	5.7	6.1	5.4	6.0	4.6	*12.5						
12-23 months	53.3	49.6	54.3	53.6	42.9	*37.5	59.7	56.8	60.3	61.6	48.6	31.6
24-35 months	27.8	27.4	28.4	26.2	28.1	*37.5	23.2	24.7	24.2	18.3	27.1	31.6
36-47 months	8.4	11.2	8.0	7.6	8.4	*12.5	5.3	7.6	4.9	4.5	6.2	15.8
48-71 months	2.1	4.1	1.5	2.1	5.2	*	1.1	1.8	0.8	1.3	1.4	15.8
72 months and over	0.1	0.2	0.1	0.1	0.9	*-	0.4	0.3	0.3	0.7	0.5	
20-24 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4	1.0	1.0	1.4	2.2	4.3	3.9	5.0	3.5	3.9	4.1	5.9
1-11 months	1.8	3.4	1.9	1.6	1.7	2.2						
12-23 months	30.1	31.4	26.7	29.6	38.4	46.4	36.9	38.8	32.7	37.0	42.8	49.5
24-35 months	29.6	24.5	26.3	31.5	31.4	27.4	30.3	26.0	28.1	31.6	32.1	27.6
36-47 months	18.7	16.3	19.7	19.3	15.0	9.9	16.9	14.7	18.6	17.2	14.5	10.0
48-71 months	15.5	18.2	20.0	14.5	9.5	7.6	10.4	12.5	14.5	9.3	5.8	5.7
72 months and over	2.9	5.2	4.4	2.1	1.9	2.2	1.6	3.0	2.6	1.0	0.8	1.4

See footnotes at end of table.

Table 2. Percent distribution of live births by interval since last live birth, according to educational attainment of mother, age of mother, and race:
Total of reporting areas, 1970 and 1977—Con.
[Refers only to second and higher order live births]

Age of mother, interval, and race	1977						1970					
	Years of school completed by mother						Years of school completed by mother					
	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more
White—Con.												
25-29 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.2	0.9	0.9	1.1	1.2	1.9 } 0.6 }	2.0	2.9	2.1	1.8	2.0	2.1
1-11 months	0.8	2.2	1.2	0.8	0.7	0.6 }						
12-23 months	19.0	22.3	15.5	16.4	20.6	26.0	23.5	26.8	20.2	21.0	25.5	33.5
24-35 months	24.7	18.5	15.1	22.1	28.0	35.7	24.7	21.0	18.6	23.4	28.4	34.2
36-47 months	18.4	14.2	13.4	18.8	19.9	19.7	18.4	15.5	15.8	19.2	20.0	17.5
48-71 months	21.2	22.5	25.5	24.3	19.3	11.5	20.6	20.0	24.3	23.2	17.7	10.0
72 months and over	14.6	19.5	28.4	16.5	10.3	4.6	10.7	13.8	19.1	11.3	6.3	2.7
30-34 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.1	1.0	1.2	1.0	1.2	1.2 } 0.4 }	1.7	2.4	1.8	1.6	1.5	1.4
1-11 months	0.6	1.4	1.0	0.6	0.5	0.4 }						
12-23 months	14.0	18.0	12.1	12.3	14.1	16.5	17.1	21.6	15.8	15.6	17.0	21.2
24-35 months	17.9	14.3	11.5	14.7	18.5	25.7	17.2	17.1	13.9	15.6	18.5	24.6
36-47 months	15.4	10.6	9.2	13.1	16.0	21.6	14.1	12.6	11.7	13.5	15.0	18.7
48-71 months	21.4	19.0	18.3	21.5	22.8	21.5	22.3	19.4	20.7	23.2	23.5	21.5
72 months and over	29.6	35.7	46.7	36.8	26.9	13.0	27.6	26.8	36.0	30.5	24.5	12.6
35-39 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.2	1.2	1.3	1.2	1.2	1.3 } 0.4 }	1.5	1.9	1.7	1.3	1.2	1.4
1-11 months	0.5	1.3	0.8	0.5	0.4	0.4 }						
12-23 months	12.0	14.8	9.8	10.9	12.3	14.4	13.7	17.0	13.0	12.4	14.1	16.3
24-35 months	12.8	12.7	9.4	11.1	13.5	18.1	13.2	14.4	12.0	12.4	13.8	16.5
36-47 months	10.0	10.2	7.6	8.7	10.8	13.7	11.2	11.4	9.8	10.8	10.6	14.9
48-71 months	16.3	16.4	13.5	15.3	17.3	19.6	19.1	18.9	17.4	19.3	20.4	20.6
72 months and over	47.1	43.6	57.7	52.4	44.5	32.5	41.3	36.3	46.2	43.7	39.9	30.3
40-49 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.0	1.0	1.3	0.8	0.5	1.0 } 0.5 }	1.1	1.3	0.8	1.2	0.8	1.0
1-11 months	0.4	0.9	0.5	0.3	-	0.5 }						
12-23 months	7.9	10.4	7.2	6.9	7.5	9.3	9.5	12.5	8.2	8.5	9.2	10.8
24-35 months	10.1	10.9	8.4	9.1	10.8	14.1	11.8	13.8	11.1	10.9	12.1	12.8
36-47 months	7.7	8.6	5.7	6.9	8.4	11.1	9.5	11.5	8.4	8.9	9.2	11.2
48-71 months	14.2	16.1	12.7	13.2	14.3	16.9	17.8	20.2	16.3	16.8	18.3	21.6
72 months and over	58.8	52.0	64.3	62.8	58.4	47.2	50.3	40.7	55.2	53.7	50.4	42.7
Black												
All ages												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.5	1.4	1.4	1.5	1.9	1.9 } 1.3 }	5.7	6.1	6.5	5.0	4.2	4.0
1-11 months	2.7	4.2	3.7	2.2	1.6	1.3 }						
12-23 months	25.3	30.6	31.8	22.1	18.4	16.2	35.1	38.2	39.4	31.8	27.0	22.0
24-35 months	19.0	18.5	20.5	18.7	17.0	17.2	20.8	20.5	20.9	21.1	20.1	19.2
36-47 months	13.8	11.6	13.1	14.4	14.3	14.3	12.6	11.3	11.4	13.9	14.4	15.8
48-71 months	18.7	14.4	15.0	20.8	22.5	23.4	14.0	12.1	12.2	15.4	18.5	20.2
72 months and over	19.0	19.2	14.5	20.3	24.4	25.8	11.8	11.8	9.7	12.7	15.8	18.9

See footnotes at end of table.

Table 2. Percent distribution of live births by interval since last live birth, according to educational attainment of mother, age of mother, and race:
Total of reporting areas, 1970 and 1977—Con.
[Refers only to second and higher order live births]

Age of mother, interval, and race	1977						1970					
	Years of school completed by mother						Years of school completed by mother					
	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more
Black—Con.												
Under 20 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	2.3	2.2	2.0	2.7	4.9	-	11.7	12.4	11.6	11.5	13.0	16.7
1-11 months	6.5	8.0	6.8	5.6	3.3	-	11.7	12.4	11.6	11.5	13.0	16.7
12-23 months	50.8	53.5	52.6	47.1	33.2	*50.0	59.6	58.9	60.4	57.8	57.5	50.0
24-35 months	25.7	21.5	25.8	26.7	27.4	-	20.9	19.5	21.0	21.8	18.5	16.7
36-47 months	10.7	9.6	9.6	12.5	21.6	*50.0	5.8	6.4	5.3	6.9	8.2	-
48-71 months	3.9	5.1	3.1	5.2	8.8	-	1.7	2.5	1.5	1.7	2.7	16.7
72 months and over	0.1	0.2	0.1	0.1	0.7	-	0.2	0.3	0.2	0.4	-	-
20-24 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4	1.1	1.0	1.6	2.2	3.9	6.2	6.2	6.4	6.0	5.6	6.5
1-11 months	3.0	4.7	3.3	2.7	2.3	3.2	6.2	6.2	6.4	6.0	5.6	6.5
12-23 months	28.8	33.4	30.6	27.2	26.9	27.3	41.0	44.7	41.7	39.9	39.5	41.3
24-35 months	23.0	22.0	22.9	23.5	21.8	20.5	25.2	23.4	24.3	26.2	25.8	24.7
36-47 months	17.4	14.0	17.0	18.2	17.4	14.6	14.4	11.9	14.0	15.1	14.9	17.4
48-71 months	20.3	17.3	19.1	21.0	22.4	20.9	10.8	10.2	10.8	10.8	11.6	9.3
72 months and over	6.2	7.4	6.2	5.8	7.0	9.6	2.5	3.7	2.7	2.0	2.6	0.8
25-29 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4	1.3	1.3	1.3	1.7	2.0	3.9	5.5	3.9	3.5	3.6	5.0
1-11 months	1.7	3.8	2.2	1.4	1.2	1.5	3.9	5.5	3.9	3.5	3.6	5.0
12-23 months	17.1	26.6	20.3	15.5	14.4	17.9	26.3	35.3	28.4	23.8	21.0	24.2
24-35 months	15.7	17.6	15.7	14.9	16.0	18.8	19.4	20.8	19.3	18.9	19.1	21.5
36-47 months	13.4	12.2	12.6	13.3	13.8	15.7	15.0	13.0	13.5	15.9	17.0	18.1
48-71 months	24.0	17.1	20.5	25.7	25.8	24.0	21.1	14.7	19.8	23.1	23.9	22.0
72 months and over	26.7	21.3	27.3	28.0	27.1	20.2	14.4	10.7	15.1	14.8	15.4	9.2
30-34 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4	1.2	1.6	1.3	1.5	1.5	3.3	4.2	3.7	2.8	2.3	2.4
1-11 months	1.2	2.4	1.5	1.1	1.0	0.7	3.3	4.2	3.7	2.8	2.3	2.4
12-23 months	14.2	20.5	17.2	12.4	11.6	12.7	21.9	29.8	24.5	18.7	14.4	16.0
24-35 months	12.4	15.4	12.4	11.5	10.6	16.0	16.1	19.9	16.4	14.5	14.6	16.6
36-47 months	10.4	10.2	9.7	9.7	10.4	14.1	12.0	11.7	11.8	12.3	11.5	14.3
48-71 months	19.6	16.8	17.4	20.0	19.5	24.4	19.7	15.6	19.3	20.4	23.3	23.4
72 months and over	40.9	33.5	40.2	44.1	45.4	30.6	27.0	19.0	24.2	31.3	33.7	27.3
35-39 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4	1.7	1.8	1.2	1.4	1.0	2.5	3.2	2.5	1.9	2.5	2.3
1-11 months	1.1	2.3	1.6	0.6	0.7	0.8	2.5	3.2	2.5	1.9	2.5	2.3
12-23 months	13.1	18.1	15.4	10.9	9.4	10.8	19.6	25.2	21.1	15.3	14.5	12.9
24-35 months	11.2	14.5	11.7	10.2	9.4	11.9	16.0	18.8	17.0	14.0	11.4	14.1
36-47 months	8.6	10.6	8.9	7.8	7.3	9.2	11.0	12.3	11.0	10.8	9.8	10.3
48-71 months	15.5	13.2	15.1	16.1	14.0	20.7	18.1	16.8	18.4	18.0	21.8	17.5
72 months and over	49.0	39.7	45.5	53.2	57.7	45.7	32.9	23.7	29.9	40.0	40.0	43.0

See footnotes at end of table.

Table 2. Percent distribution of live births by interval since last live birth, according to educational attainment of mother, age of mother, and race:
 Total of reporting areas, 1970 and 1977—Con.
 [Refers only to second and higher order live births]

Age of mother, interval, and race	1977						1970					
	Years of school completed by mother						Years of school completed by mother					
	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more
Black—Con.												
40-49 years												
All intervals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.1	1.3	1.7	0.7	0.5	- } -	1.7	2.0	1.5	1.8	1.0	1.6
1-11 months	0.6	0.5	1.1	0.2	0.5	- }	1.7	2.0	1.5	1.8	1.0	1.6
12-23 months	10.4	12.4	11.4	8.5	9.4	5.4	13.8	17.1	13.5	11.1	7.7	8.2
24-35 months	10.5	13.0	10.1	10.7	8.5	6.8	14.3	16.8	15.5	10.2	11.5	11.5
36-47 months	7.4	10.5	6.0	6.6	8.0	9.5	11.7	13.4	13.1	8.1	9.6	16.4
48-71 months	14.6	15.9	16.2	12.7	12.7	14.2	18.3	17.9	19.2	17.4	19.2	19.7
72 months and over	55.5	46.3	53.5	60.7	60.6	64.2	40.2	32.9	37.2	51.4	51.0	42.6

¹Includes births to mothers with years of school not stated.

²Includes races other than white and black.

Table 3. Mean interval since termination of last pregnancy by outcome of last pregnancy, age of mother, live-birth order, and race:
Total of 43 reporting States and the District of Columbia, 1977

[Refers only to live births resulting from second and higher order pregnancies]

Age of mother and live birth order	All previous pregnancies ¹			Last pregnancy, live birth			Last pregnancy, fetal death		
	All races ²	White	Black	All races ²	White	Black	All races ²	White	Black
All ages									
Mean interval (in months)									
All birth orders	42.1	41.8	43.7	44.0	43.8	45.7	25.4	25.2	26.8
First births	27.7	27.5	29.1	...	...	...	27.7	27.5	29.1
Second births	40.5	40.0	44.0	41.7	41.2	45.3	22.1	21.8	24.6
Third births	45.3	45.6	44.3	46.6	47.0	45.6	24.8	24.9	25.1
Fourth births	46.3	46.9	44.6	47.7	48.4	45.8	25.4	25.5	25.5
Fifth and higher order births	46.8	47.3	46.2	48.0	48.5	47.2	26.6	26.7	26.7
Under 20 years									
All birth orders	22.3	22.0	23.2	22.8	22.5	23.5	19.7	19.4	20.8
First births	20.5	20.1	22.0	...	...	...	20.5	20.1	22.0
Second births	23.0	22.6	24.0	23.3	22.8	24.3	15.9	15.6	16.7
Third births	20.2	19.8	20.7	20.3	19.9	20.9	15.4	15.0	16.0
Fourth births	18.4	18.3	18.4	18.5	18.5	18.5	14.7	*14.8	*15.0
Fifth and higher order births	17.7	18.7	16.9	17.6	18.7	16.8	*24.0	*21.0	*27.0
20-24 years									
All birth orders	32.2	31.6	34.6	33.3	32.8	35.9	23.3	23.0	24.6
First births	26.4	25.9	29.2	...	...	...	26.4	25.9	29.2
Second births	34.2	33.4	38.9	35.0	34.2	40.0	19.3	18.8	21.7
Third births	29.6	29.0	31.5	30.2	29.5	32.3	18.4	17.9	19.7
Fourth births	25.5	25.0	26.5	25.9	25.4	27.0	17.4	17.0	17.9
Fifth and higher order births	23.1	23.0	23.2	23.3	23.2	23.5	16.1	16.3	16.2
25-29 years									
All birth orders	42.6	41.7	50.0	44.5	43.5	52.2	25.6	25.2	29.0
First births	30.8	30.3	36.2	...	...	...	30.8	30.3	36.2
Second births	44.9	43.5	58.9	46.4	45.1	61.4	22.4	21.7	28.1
Third births	43.6	42.7	50.5	44.9	44.0	52.3	22.9	22.3	25.9
Fourth births	37.3	36.2	42.3	38.3	37.1	43.6	21.1	20.7	23.3
Fifth and higher order births	31.3	30.6	32.9	31.9	31.2	33.6	20.1	19.5	21.0
30-34 years									
All birth orders	54.3	53.5	63.3	56.9	56.0	66.1	29.0	28.6	33.4
First births	36.2	35.8	42.5	...	...	...	36.2	35.8	42.5
Second births	54.8	53.4	73.5	57.2	55.8	76.9	26.4	26.0	32.5
Third births	59.9	59.2	70.1	62.3	61.6	73.1	28.5	28.1	32.8
Fourth births	54.0	52.7	63.7	56.1	54.8	66.3	25.9	25.3	30.9
Fifth and higher order births	43.8	42.6	48.2	44.9	43.7	49.4	24.6	24.0	27.0
35-39 years									
All birth orders	71.1	70.8	75.7	74.5	74.4	78.5	37.1	36.4	42.4
First births	44.1	42.1	55.6	...	...	...	44.1	42.1	55.6
Second births	71.0	69.4	90.4	74.7	73.1	95.8	35.4	34.9	40.9
Third births	82.8	82.9	91.4	87.1	87.4	95.7	39.7	39.6	44.4
Fourth births	79.3	79.1	84.0	83.3	83.1	88.2	36.4	36.3	37.8
Fifth and higher order births	60.3	59.6	63.9	62.0	61.5	65.0	31.6	30.8	37.4
40-49 years									
All birth orders	88.9	90.3	86.4	92.6	94.5	88.4	45.7	45.7	49.6
First births	52.7	51.8	*70.7	...	...	...	52.7	51.8	*70.7
Second births	95.9	94.0	119.8	102.6	100.7	127.9	43.5	43.2	55.3
Third births	113.8	116.5	108.1	121.9	124.7	114.4	50.2	52.5	45.9
Fourth births	110.9	111.9	112.1	116.2	117.7	115.4	51.9	50.0	*68.1
Fifth and higher order births	78.0	78.6	78.1	80.1	81.1	79.4	40.4	40.4	41.8

¹Includes births for which the outcome of the mother's last pregnancy is unknown.

²Includes races other than white and black.

Table 4. Percent distribution of live births by interval since termination of last pregnancy, according to outcome of last pregnancy, age of mother, and race: Total of reporting areas, 1970 and 1977

[Refers only to live births resulting from second and higher order pregnancies]

Age of mother, interval, and race	All previous pregnancies ¹		Last pregnancy, live birth		Last pregnancy, fetal death	
	1977	1970	1977	1970	1977	1970
All races²						
All ages						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.3 }	4.4	1.5 }	3.5	0.2 }	14.8
1-11 months	3.0 }		1.7 }		14.1 }	
12-17 months	13.6	16.3	11.1	14.8	34.6	35.1
18-23 months	13.8	15.1	13.5	14.9	16.3	17.2
24-35 months	22.9	23.4	23.7	24.0	16.0	16.1
36-47 months	15.1	14.5	16.0	15.2	7.5	6.5
48-59 months	9.8	8.9	10.5	9.3	4.4	3.8
60 months and over	20.5	17.4	22.1	18.3	7.0	6.5
Under 20 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	2.2 }	12.2	2.6 }	11.0	0.3 }	25.8
1-11 months	8.1 }		6.3 }		17.6 }	
12-17 months	31.0	36.7	29.8	36.0	37.6	44.0
18-23 months	23.1	23.6	24.0	24.2	18.3	16.9
24-35 months	24.8	21.0	26.1	22.0	17.5	9.9
36-47 months	8.2	5.1	8.6	5.3	6.2	2.7
48-59 months	2.1	0.9	2.2	1.0	1.8	0.3
60 months and over	0.5	0.5	0.5	0.5	0.6	0.4
20-24 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4 }	5.5	1.5 }	4.5	0.2 }	18.0
1-11 months	3.7 }		2.2 }		15.1 }	
12-17 months	17.0	20.9	14.7	19.3	34.8	39.3
18-23 months	16.9	18.8	16.9	18.9	16.2	17.9
24-35 months	27.0	28.5	28.3	29.6	16.8	15.9
36-47 months	16.6	15.3	17.6	16.1	8.2	5.2
48-59 months	9.6	6.7	10.3	7.1	4.6	2.2
60 months and over	7.9	4.2	8.4	4.4	4.1	1.5
25-29 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.2 }	3.3	1.3 }	2.4	0.2 }	13.7
1-11 months	2.3 }		1.1 }		13.9 }	
12-17 months	10.9	13.3	8.2	11.4	35.6	35.3
18-23 months	12.3	13.6	11.9	13.3	16.0	17.7
24-35 months	23.2	23.8	24.1	24.5	14.8	16.3
36-47 months	16.5	16.9	17.5	17.8	6.9	6.8
48-59 months	11.2	11.3	12.0	11.8	4.5	4.2
60 months and over	22.4	17.8	24.0	18.8	8.2	6.1
30-34 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.2 }	2.7	1.3 }	2.1	0.2 }	10.0
1-11 months	1.8 }		0.8 }		11.9 }	
12-17 months	8.7	10.3	6.3	8.9	33.2	28.3
18-23 months	9.7	10.6	9.1	10.1	16.2	16.4
24-35 months	18.0	17.7	18.2	17.7	15.7	17.8
36-47 months	14.3	13.4	14.9	13.7	7.5	8.7
48-59 months	10.8	11.1	11.4	11.5	4.5	6.0
60 months and over	35.5	34.2	38.0	35.9	10.8	12.9

See footnotes at end of table.

Table 4. Percent distribution of live births by interval since termination of last pregnancy, according to outcome of last pregnancy, age of mother, and race: Total of reporting areas, 1970 and 1977—Con.

[Refers only to live births resulting from second and higher order pregnancies]

Age of mother, interval, and race	All previous pregnancies ¹		Last pregnancy, live birth		Last pregnancy, fetal death	
	1977	1970	1977	1970	1977	1970
All races ² —Con.						
35-39 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.3	2.2	1.4	1.8	0.2	7.1
1-11 months	1.5		0.8		8.7	
12-17 months	8.0	8.5	6.1	7.3	27.5	23.5
18-23 months	8.5	9.0	7.8	8.6	15.3	14.2
24-35 months	13.8	14.6	13.5	14.2	16.7	19.1
36-47 months	9.9	11.1	10.1	11.3	7.9	9.3
48-59 months	8.3	9.7	8.6	9.9	5.7	6.6
60 months and over	48.6	44.9	51.6	46.8	17.9	20.0
40-49 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.1	1.6	1.1	1.3	0.5	4.6
1-11 months	1.0		0.5		7.0	
12-17 months	5.2	5.9	4.1	4.8	18.5	20.4
18-23 months	6.7	7.3	5.7	6.8	17.4	13.2
24-35 months	11.8	13.1	11.5	12.9	15.7	16.3
36-47 months	8.6	10.4	8.4	10.4	10.5	10.9
48-59 months	7.4	9.7	7.5	9.8	6.1	8.7
60 months and over	58.2	52.1	61.1	54.1	24.3	25.9
White						
All ages						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months	1.3	4.1	1.4	3.1	0.2	14.9
1-11 months	2.8		1.4		14.4	
12-17 months	13.1	15.5	10.5	13.8	35.4	35.5
18-23 months	13.8	14.9	13.6	14.7	16.0	17.2
24-35 months	23.7	23.8	24.6	24.5	15.6	15.9
36-47 months	15.5	14.9	16.5	15.7	7.3	6.4
48-59 months	9.8	9.1	10.5	9.6	4.2	3.8
60 months and over	19.9	17.7	21.5	18.6	7.0	6.3
Under 20 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months	2.2	12.1	2.7	10.5	0.3	26.7
1-11 months	8.1		6.0		18.3	
12-17 months	31.5	36.5	30.0	35.5	38.6	45.5
18-23 months	23.5	23.8	24.7	24.6	17.8	16.3
24-35 months	25.0	21.5	26.7	22.9	17.0	8.7
36-47 months	7.6	4.9	7.9	5.2	5.9	2.2
48-59 months	1.7	0.8	1.7	0.8	1.6	0.3
60 months and over	0.4	0.5	0.3	0.5	0.6	0.3
20-24 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.3	5.3	1.5	4.1	0.1	18.2
1-11 months	3.6		2.0		15.6	
12-17 months	16.9	20.3	14.4	18.6	35.6	39.9
18-23 months	17.2	18.8	17.4	18.9	15.8	18.1
24-35 months	28.0	29.2	29.6	30.5	16.3	15.3
36-47 months	16.7	15.6	17.9	16.5	8.0	5.0
48-59 months	9.3	6.7	9.9	7.1	4.6	2.2
60 months and over	7.0	4.0	7.4	4.3	4.0	1.4

See footnotes at end of table.

Table 4. Percent distribution of live births by interval since termination of last pregnancy, according to outcome of last pregnancy, age of mother, and race: Total of reporting areas, 1970 and 1977—Con.
 [Refers only to live births resulting from second and higher order pregnancies]

Age of mother, interval, and race	All previous pregnancies ¹		Last pregnancy, live birth		Last pregnancy, fetal death	
	1977	1970	1977	1970	1977	1970
White—Con.						
25-29 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.2	3.1	1.3	2.2	0.2	13.8
1-11 months	2.2		0.9		14.3	
12-17 months	10.7	12.9	8.0	10.9	36.4	35.9
18-23 months	12.6	13.7	12.3	13.4	15.8	17.7
24-35 months	24.2	24.3	25.2	25.0	14.4	16.2
36-47 months	17.0	17.3	18.1	18.1	6.7	6.7
48-59 months	11.2	11.3	11.9	11.9	4.2	4.1
60 months and over	20.9	17.4	22.3	18.4	8.0	5.5
30-34 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.2	2.5	1.3	1.9	0.2	10.2
1-11 months	1.8		0.7		12.0	
12-17 months	8.6	9.8	6.0	8.3	34.0	28.2
18-23 months	9.9	10.4	9.2	9.9	16.1	16.5
24-35 months	18.5	17.8	18.8	17.8	15.4	17.8
36-47 months	14.7	13.6	15.4	14.0	7.3	8.6
48-59 months	10.9	11.3	11.6	11.7	4.4	6.0
60 months and over	34.5	34.6	36.9	36.4	10.6	12.6
35-39 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.3	2.1	1.4	1.7	0.2	7.3
1-11 months	1.4		0.7		8.9	
12-17 months	7.8	8.1	5.7	6.8	28.1	23.6
18-23 months	8.7	8.7	8.0	8.3	15.7	14.1
24-35 months	14.1	14.1	13.8	13.6	16.3	19.2
36-47 months	10.0	11.1	10.2	11.2	7.8	9.2
48-59 months	8.3	9.7	8.6	9.9	5.6	6.6
60 months and over	48.4	46.2	51.6	48.5	17.4	20.0
40-49 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.0	1.5	1.0	1.3	0.6	4.7
1-11 months	1.0		0.4		6.7	
12-17 months	5.0	5.6	3.6	4.4	19.0	20.0
18-23 months	6.5	7.0	5.5	6.5	16.7	13.4
24-35 months	11.8	12.7	11.4	12.3	16.0	16.4
36-47 months	8.6	10.0	8.5	10.0	10.6	10.7
48-59 months	7.5	9.7	7.7	9.7	6.1	8.9
60 months and over	58.7	53.6	62.0	55.9	24.4	25.8
Black						
All ages						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.6	6.3	1.7	5.9	0.3	14.1
1-11 months	3.8		2.9		12.2	
12-17 months	15.5	21.0	13.9	20.3	30.6	31.5
18-23 months	13.2	15.9	12.7	15.9	17.6	16.8
24-35 months	19.2	20.8	19.3	21.0	18.3	17.8
36-47 months	13.2	12.2	13.7	12.4	8.7	7.6
48-59 months	9.8	7.9	10.3	8.1	5.2	3.8
60 months and over	23.7	15.9	25.6	16.4	7.3	8.4

See footnotes at end of table.

Table 4. Percent distribution of live births by interval since termination of last pregnancy, according to outcome of last pregnancy, age of mother, and race: Total of reporting areas, 1970 and 1977—Con.

[Refers only to live births resulting from second and higher order pregnancies]

Age of mother, interval, and race	All previous pregnancies ¹		Last pregnancy, live birth		Last pregnancy, fetal death	
	1977	1970	1977	1970	1977	1970
Black—Con.						
Under 20 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	2.2	12.4	2.5	11.8	0.3	22.6
1-11 months	7.8		6.7		15.0	
12-17 months	29.7	36.9	28.9	36.8	35.1	38.9
18-23 months	22.4	23.0	22.8	23.3	19.7	18.6
24-35 months	24.6	20.3	25.3	20.6	19.5	14.3
36-47 months	9.7	5.6	10.0	5.7	7.1	4.6
48-59 months	3.0	1.2	3.1	1.3	2.5	0.4
60 months and over	0.7	0.6	0.7	0.6	0.7	0.6
20-24 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.5	6.9	1.6	6.3	0.3	16.6
1-11 months	4.2		3.1		12.9	
12-17 months	16.9	23.7	15.2	23.0	31.3	34.8
18-23 months	15.1	18.5	14.7	18.7	17.9	16.5
24-35 months	22.6	24.9	23.1	25.2	18.6	19.9
36-47 months	16.2	13.8	17.0	14.2	9.3	6.9
48-59 months	11.4	7.0	12.2	7.3	5.1	2.5
60 months and over	12.1	5.3	13.0	5.4	4.6	2.7
25-29 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4	4.5	1.6	4.0	0.2	12.1
1-11 months	2.7		1.8		11.3	
12-17 months	10.9	15.6	9.1	14.7	29.2	28.7
18-23 months	9.5	12.3	8.8	12.0	16.7	17.3
24-35 months	16.1	19.2	16.0	19.3	17.3	16.6
36-47 months	13.2	14.5	13.7	15.0	8.4	8.1
48-59 months	11.7	11.6	12.2	12.1	6.5	5.0
60 months and over	34.4	22.2	36.9	22.9	10.4	12.3
30-34 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.4	3.7	1.5	3.5	0.1	7.2
1-11 months	1.9		1.3		8.9	
12-17 months	9.2	12.5	7.6	11.7	26.9	26.8
18-23 months	8.4	11.2	7.6	11.0	16.0	15.3
24-35 months	13.2	16.5	12.8	16.4	17.8	17.8
36-47 months	10.4	11.4	10.5	11.5	9.9	9.7
48-59 months	9.3	10.0	9.5	10.2	6.3	6.6
60 months and over	46.2	34.6	49.2	35.7	14.1	16.5
35-39 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.5	2.9	1.6	2.7	0.2	5.7
1-11 months	1.7		1.3		6.6	
12-17 months	8.7	10.9	7.5	10.4	23.3	19.8
18-23 months	7.0	10.4	6.5	10.1	13.1	16.4
24-35 months	12.4	16.7	11.9	16.6	18.3	19.0
36-47 months	8.9	11.3	8.9	11.3	8.7	11.3
48-59 months	7.7	9.4	7.8	9.6	6.6	7.1
60 months and over	52.2	38.3	54.5	39.3	23.2	20.7

See footnotes at end of table.

Table 4. Percent distribution of live births by interval since termination of last pregnancy, according to outcome of last pregnancy, age of mother, and race: Total of reporting areas, 1970 and 1977—Con.

[Refers only to live births resulting from second and higher order pregnancies]

<i>Age of mother, interval, and race</i>	<i>All previous pregnancies¹</i>		<i>Last pregnancy, live birth</i>		<i>Last pregnancy, fetal death</i>	
	<i>1977</i>	<i>1970</i>	<i>1977</i>	<i>1970</i>	<i>1977</i>	<i>1970</i>
Black—Con.						
40-49 years						
All intervals	100.0	100.0	100.0	100.0	100.0	100.0
0 months (plural births)	1.3	1.7	1.4	1.7	-	3.2
1-11 months	1.2		0.7		9.9	
12-17 months	5.4	7.3	5.0	6.5	12.7	23.4
18-23 months	7.1	8.4	6.6	8.4	16.2	9.6
24-35 months	11.7	15.2	11.4	15.2	17.6	14.9
36-47 months	8.0	12.1	7.9	12.1	9.2	12.8
48-59 months	7.1	9.7	7.1	9.8	7.0	7.4
60 months and over	58.2	45.6	59.8	46.3	27.5	28.7

¹Includes births for which the outcome of the mother's last pregnancy is unknown.

²Includes races other than white and black.

Table 5. Percent of infants of low birth weight, by educational attainment of mother, outcome of last pregnancy, interval since termination of last pregnancy, and race: Total of 41 reporting States and the District of Columbia, 1977
 [Refers only to live births resulting from second and higher order pregnancies. Excludes plural births]

Outcome of last pregnancy, interval since termination of last pregnancy, and race	Years of school completed by mother					
	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more
All previous pregnancies ²						
All races ³						
All intervals	5.6	7.7	8.7	5.1	4.2	3.2
1-11 months	15.6	18.8	21.6	14.0	11.8	8.6
12-17 months	7.1	8.9	10.5	6.3	5.0	4.0
18-23 months	5.4	7.3	8.5	4.9	3.7	2.9
24-35 months	4.6	6.4	7.5	4.2	3.3	2.7
36-47 months	4.5	6.5	7.1	4.2	3.6	2.5
48-59 months	4.6	6.6	6.7	4.3	3.9	3.0
60 months and over	5.6	7.0	7.6	5.3	4.7	4.0
White						
All intervals	4.5	6.8	6.9	4.2	3.5	2.9
1-11 months	12.8	17.0	17.9	11.6	9.9	7.8
12-17 months	5.6	7.5	8.4	5.0	4.2	3.7
18-23 months	4.3	6.3	6.8	4.0	3.1	2.7
24-35 months	3.7	5.8	6.1	3.5	2.8	2.5
36-47 months	3.7	6.1	5.8	3.5	3.1	2.3
48-59 months	3.8	5.8	5.5	3.5	3.2	2.5
60 months and over	4.7	6.3	6.4	4.4	3.9	3.5
Black						
All intervals	10.9	12.0	13.1	10.0	8.9	6.7
1-11 months	25.8	24.7	28.9	23.9	22.4	16.1
12-17 months	13.2	14.9	15.3	11.9	10.0	7.1
18-23 months	11.0	12.2	12.7	9.9	9.1	5.9
24-35 months	9.9	9.7	11.6	9.3	8.0	6.5
36-47 months	9.2	8.6	11.1	8.7	7.5	5.3
48-59 months	8.8	10.6	9.9	8.3	8.2	7.2
60 months and over	9.5	10.5	11.2	9.2	8.3	6.6
Last pregnancy, live birth						
All races ³						
All intervals	5.3	7.5	8.3	4.8	3.8	2.9
1-11 months	20.2	20.4	25.0	17.8	16.3	10.9
12-17 months	7.4	9.1	10.7	6.3	4.9	4.0
18-23 months	5.1	7.2	8.2	4.6	3.4	2.5
24-35 months	4.3	6.1	7.2	4.0	3.0	2.5
36-47 months	4.3	6.3	6.9	4.0	3.4	2.4
48-59 months	4.5	6.5	6.4	4.1	3.7	2.7
60 months and over	5.5	6.9	7.5	5.1	4.5	3.7
White						
All intervals	4.2	6.5	6.6	3.8	3.2	2.6
1-11 months	16.9	18.4	21.5	14.7	13.7	10.8
12-17 months	5.7	7.6	8.4	5.0	4.1	3.7
18-23 months	4.0	6.2	6.6	3.7	2.9	2.4
24-35 months	3.5	5.5	5.8	3.2	2.5	2.3
36-47 months	3.5	5.8	5.5	3.3	2.9	2.2
48-59 months	3.6	5.8	5.4	3.4	3.1	2.3
60 months and over	4.6	6.1	6.3	4.2	3.8	3.3

See footnotes at end of table.

Table 5. Percent of infants of low birth weight, by educational attainment of mother, outcome of last pregnancy, interval since termination of last pregnancy, and race: Total of 41 reporting States and the District of Columbia, 1977—Con.

[Refers only to live births resulting from second and higher order pregnancies. Excludes plural births]

Outcome of last pregnancy, interval since termination of last pregnancy, and race	Years of school completed by mother					
	All years of school ¹	0-8 years	9-11 years	12 years	13-15 years	16 years or more
Last pregnancy, live birth—Con.						
Black						
All intervals	10.5	11.7	12.7	9.6	8.2	5.9
1-11 months	27.7	26.2	30.2	26.0	23.4	15.3
12-17 months	13.3	14.7	15.4	11.7	9.8	5.7
18-23 months	10.6	12.1	12.3	9.5	8.5	4.3
24-35 months	9.6	9.4	11.3	9.0	7.3	5.7
36-47 months	8.9	8.2	10.9	8.4	7.3	4.4
48-59 months	8.5	10.4	9.5	8.0	7.7	6.6
60 months and over	9.3	10.6	11.1	9.0	7.8	6.4
Last pregnancy, fetal death						
All races ³						
All intervals	7.9	10.2	11.1	7.5	6.6	5.4
1-11 months	11.6	14.9	16.4	11.0	9.7	7.9
12-17 months	6.4	8.2	9.8	6.1	5.1	4.0
18-23 months	7.2	8.9	10.1	7.1	5.5	4.9
24-35 months	7.8	9.5	10.4	7.2	7.1	5.8
36-47 months	8.1	11.8	10.9	7.5	7.1	6.3
48-59 months	8.0	9.1	11.4	7.5	6.6	7.2
60 months and over	9.1	12.9	11.2	9.2	8.5	6.9
White						
All intervals	6.7	9.5	9.3	6.5	5.6	4.8
1-11 months	9.9	14.4	13.6	9.6	8.3	7.0
12-17 months	5.4	6.9	8.4	5.1	4.5	3.7
18-23 months	5.9	8.0	7.9	6.1	4.4	4.2
24-35 months	6.7	9.3	8.7	6.3	6.3	5.2
36-47 months	7.1	11.6	9.6	6.5	6.7	5.1
48-59 months	6.4	7.3	9.1	6.3	4.9	5.7
60 months and over	7.9	13.6	9.2	8.2	6.6	6.5
Black						
All intervals	14.4	15.6	16.9	13.5	12.8	11.5
1-11 months	21.9	18.9	25.1	20.2	21.3	16.7
12-17 months	12.8	16.8	14.4	12.5	10.4	9.3
18-23 months	13.5	13.3	16.4	12.2	11.5	11.8
24-35 months	13.1	14.4	15.8	11.9	11.2	11.5
36-47 months	12.9	16.1	15.3	12.7	9.7	13.5
48-59 months	14.4	13.8	17.9	13.2	13.9	13.8
60 months and over	15.5	10.0	17.0	15.2	18.4	9.4

¹Includes births to mothers with years of school not stated.
²Includes births for which the outcome of the mother's last pregnancy is unknown.
³Includes races other than white and black.

Appendix

Contents

Technical notes	43
List of appendix tables	
I. Areas reporting dates of last live birth and last fetal death, 1970-77	44
II. Percent of records with information missing for interval since last live birth, interval since termination of last pregnancy, and outcome of last pregnancy, by race: Total of reporting areas, 1970-77	45
III. States with data based on 100 percent of births received through the Cooperative Health Statistics System, 1972-77	46

Technical notes

Sources of data

Data presented in this report were obtained from information reported on the birth certificates filed in each of the registration areas of the United States that requested the dates of the mother's last live birth and last fetal death. Additional birth statistics are published annually by the National Center for Health Statistics in Volume I of *Vital Statistics of the United States*. The Technical appendix of these volumes provides a complete discussion of the derivation of these statistics.

Reporting areas

The dates of the last live birth and the last fetal death (which are used to compute the interbirth intervals) were added to the U.S. Standard Certificate of Live Birth in 1968. Tabulations of data from these items were first presented in 1969. However, because the focus of this report is on changing interbirth intervals during the 1970's, data for 1969 are not included in this report.

In 1970, information was obtained from 38 States on the date of the last live birth and from 37 States on the date of the last fetal death. By 1977, the number of areas reporting these items had expanded to include 43 States and the District of Columbia (see table I).

When birth intervals are tabulated in conjunction with other characteristics (such as mother's educational attainment and period of gestation) that are not reported on the birth certificates of all States, the size of the reporting area may be reduced. This occurs because although the dates of the last live birth and the last fetal death are requested on the birth certificates, information on the other variables is not. Therefore, statistics may vary slightly from one table to another as a result of variations in the reporting areas. For example, the mean interval since the last live birth is 45.5 for the 43 States and the District of Columbia reporting the date of the last live birth and

45.6 for the 41 States and the District of Columbia reporting the date of the last live birth and educational attainment of mother.

Changes in composition of reporting areas.—Comparisons of data for 1970 and 1977 can be made although statistics for these years are based on a different number of reporting States. The percent distribution of births by interval since the last live birth in 1977 is virtually the same as the distribution that would have prevailed if the States in the reporting area had not changed since 1970.

Completeness of reporting

Data used to compute interbirth intervals were more fully reported in 1977 than in 1970 as shown in table II. Levels of reporting were also higher for white than for black births.

Births for which interval information is missing and for which birth order is not stated are excluded from the computation of means and percent distributions.

Computation of intervals

Intervals since the last live birth and the last fetal death are computed from the date of birth, the date of the last live birth, and the date of the last fetal death. The interval since the mother's last live birth is the difference in months between the date of the last live birth and the date of the present birth. The interval since the last fetal death is the difference in months between the date of the last fetal death and the present birth. Both the month and year of the last live birth or fetal death must be valid for an interval to be computed.

Data on the interval since the termination of the last pregnancy are derived from the computed intervals since the last live birth and the last fetal death.

A calculated interval of 0 months since the last live birth indicates the second born of a set of twins,

Table I. Areas reporting dates of last live birth and last fetal death, 1970-77

[Unless otherwise noted, areas also reported educational attainment of mother and date of last normal menstrual period]

State	1977	1976	1975	1974	1973	1972	1971	1970
Alabama	X	X						
Alaska	X	X	X	X	X	X	X	X
Arizona	X	X	X	X	X	X	X	X
Arkansas								
California	1X	1X	1X	1X	1X	1X	1X	1X
Colorado	X	X	X	X	X	X	X	X
Connecticut	2X	2X	2X	2X	2X			
Delaware	X	X	X	X	X	X		
District of Columbia	X	X	X	X	X			
Florida	X	X	X	X	X	X	X	X
Georgia	X	X	X	X				
Hawaii	X	X	X	X	X	X	X	X
Idaho								
Illinois	X	X	X	X	X	X	X	X
Indiana	X	X	X	X	X	X	X	X
Iowa	X	X	X	X	X	X	X	X
Kansas	X	X	X	X	X	X	X	X
Kentucky	X	X	X	X	X	X	X	X
Louisiana								
Maine	X	X	X	X	X	X	X	X
Maryland	X	X	X	X				
Massachusetts	X	X	2,3X	2,3X	2,3X	2,3X	2,3X	2,3X
Michigan	X	X	X	X	X	X	X	X
Minnesota	X	X	X	X	X	X	X	X
Mississippi	X	X	X	X	X	X	X	X
Missouri	X	X	X	X	X	X	X	X
Montana	X	X	X	X	X	X	X	X
Nebraska	X	X	X	X	X	X	X	X
Nevada	X	X	X	X	X	X	X	X
New Hampshire	X	X	X	X	X	X	X	X
New Jersey	X	X	X	X	X	X	X	X
New Mexico								
New York	X	X	X	X	X	X	X	X
North Carolina	X	X	X	X	X	X	X	X
North Dakota	X	X	X	X	X	X	X	X
Ohio	X	X	X	X	X	X	X	X
Oklahoma	X	X	X	X	X	X	X	X
Oregon	X	X	X	X	X	X	X	X
Pennsylvania								
Rhode Island	X	X	X	X	X	X	X	X
South Carolina	X	X	X	X	X	X	X	X
South Dakota	X	X	X	X	X	X	X	X
Tennessee	X	X	X	X	X	X	X	X
Texas								
Utah	X	X	X	X	X	X	X	X
Vermont	X	X	X	X	X	X	X	X
Virginia								
Washington	1X	1X	1X	1X	1X	1X	1X	1X
West Virginia	X	X	X	X	X	X	X	X
Wisconsin	2X	2X	2X	2X	2X	2X	2X	2X
Wyoming	X	X	X	X	X	X	X	X

1Did not report educational attainment of parents.

2Did not report date of last menstrual period.

3Certificate requested only date of last live birth.

Table II. Percent of records with information missing for interval since last live birth, interval since termination of last pregnancy, and outcome of last pregnancy, by race: Total of reporting areas, 1970-77
 [Refers only to live births resulting from second and higher order pregnancies]

Year	Interval since last live birth			Interval since termination of last pregnancy			Outcome of last pregnancy		
	All races ¹	White	Black	All races ¹	White	Black	All races ¹	White	Black
1977	5.1	4.8	6.5	11.4	10.5	15.5	5.7	5.1	8.2
1976	5.3	5.0	6.9	11.3	10.5	15.1	5.5	5.1	7.7
1975	5.6	5.2	7.6	11.2	10.4	15.0	5.1	4.7	7.0
1974	5.5	5.2	7.1	10.7	10.1	13.8	4.9	4.6	6.3
1973	5.8	5.5	7.9	11.2	10.6	14.7	5.2	4.9	6.7
1972	5.9	5.6	7.6	11.1	10.6	14.2	5.2	5.0	6.7
1971	5.9	5.6	7.9	10.9	10.4	13.8	5.2	5.0	6.4
1970	6.6	6.1	9.7	11.5	10.8	15.3	5.2	5.0	6.3

¹Includes races other than white and black.

or the second or third born of a set of triplets, and so forth. Births with an interval of 0 months are excluded from the computation of mean intervals. Because of coding problems involving births in plural deliveries in 1970, information on births with an interval of 0 months for that year are not available separately, but are included with births having an interval of 1-11 months.

Residence classification

All data included in this report are categorized by place of residence. Births to U.S. residents occurring outside this country are not reallocated to the United States and births to nonresidents of the United States are excluded from tabulations by place of residence.

Data shown in this report refer only to births occurring within areas reporting dates of last live birth and last fetal death to residents of these areas. In tables showing intervals cross-classified with educational attainment of mother or period of gestation, the data are limited to births occurring in areas reporting both items to residents of these areas.

Race classification

In all cases, race refers to the child's race. Because the race of the mother and child are identical for most births, for ease and clarity in writing this report, the racial identification given to the mother is that of the child. Thus the term "white mothers" actually refers to white births. The category "white" comprises births reported as white, Mexican, Puerto Rican, and Cuban.

Sample size

For the years 1970-71, birth statistics are based on a 50-percent sample of birth certificates. Information for the years 1972-77 are based on 100 percent of birth certificates from States participating in the Cooperative Health Statistics System (CHSS) and on a

50-percent sample of births from all other States. States providing data through CHSS in 1972-77 are shown in table III.

Standardization of mean interval since last live birth

The direct method of standardization was used to eliminate the effect of maternal age changes within each birth order between 1970 and 1977 on the differences observed in the mean intervals during this period (text figure 2). The 1970 distribution of births by maternal age within each birth order was used as the standard population. The following formula was used to perform the standardization

$$M_s = \frac{\sum N_i M_i}{N}$$

where

- M_s = standardized mean interval
- N_i = number of births in the i th category of the standard population
- M_i = the mean interval in 1977 for births in the i th category in the given population
- N = total number of births in the standard population

In a similar manner, the effects of birth-order changes within each maternal age group between 1970 and 1977 were eliminated (text table F); the 1970 distribution of births by birth order within each maternal age group served as the standard population. To eliminate racial differences in maternal age distributions for each birth order (text table G), the distributions of white births by maternal age within each birth order were used as the standard population, and the preceding procedure was followed.

The direct method of standardization was also used to eliminate the effect of differences in the age distributions of black and white mothers within

Table III. States with data based on 100 percent of births received through the Cooperative Health Statistics System, 1972-77

State	1977	1976	1975	1974	1973	1972
Alabama	X	X				
Alaska	X					
Arizona						
Arkansas						
California						
Colorado	X	X	X	X	X	
Connecticut						
Delaware						
District of Columbia						
Florida	X	X	X	X	X	X
Georgia						
Hawaii						
Idaho	X					
Illinois	X	X	X	X		
Indiana						
Iowa	X	X	X	X		
Kansas	X	X	X	X		
Kentucky	X	X				
Louisiana	X	X	X			
Maine	X	X	X	X	X	X
Maryland	X	X	X			
Massachusetts	X					
Michigan	X	X	X	X	X	
Minnesota	X	X				
Mississippi						
Missouri	X	X	X	X	X	X
Montana	X	X	X	X		
Nebraska	X	X	X	X		
Nevada	X	X				
New Hampshire	X	X	X	X	X	X
New Jersey						
New Mexico						
New York (State only)	X	X	X	X	X	
North Carolina	X	X	X			
North Dakota						
Ohio	X					
Oklahoma	X	X	X			
Oregon	X	X	X	X		
Pennsylvania						
Rhode Island	X	X	X	X	X	X
South Carolina	X	X	X	X		
South Dakota						
Tennessee	X	X	X			
Texas	X	X				
Utah						
Vermont	X	X	X	X	X	X
Virginia	X	X	X			
Washington						
West Virginia	X	X				
Wisconsin	X	X	X			
Wyoming						

educational levels (using the distribution by age of white mothers as the standard population) and to adjust for the changing age distribution of mothers between 1970 and 1977 when comparing mean

intervals by educational attainment for these years (using the 1970 age distribution as the standard population).

Vital and Health Statistics series descriptions

- SERIES 1. Programs and Collection Procedures.**—Reports describing the general programs of the National Center for Health Statistics and its offices and divisions and the data collection methods used. They also include definitions and other material necessary for understanding the data.
- SERIES 2. Data Evaluation and Methods Research.**—Studies of new statistical methodology including experimental tests of new survey methods, studies of vital statistics collection methods, new analytical techniques, objective evaluations of reliability of collected data, and contributions to statistical theory.
- SERIES 3. Analytical and Epidemiological Studies.**—Reports presenting analytical or interpretive studies based on vital and health statistics, carrying the analysis further than the expository types of reports in the other series.
- SERIES 4. Documents and Committee Reports.**—Final reports of major committees concerned with vital and health statistics and documents such as recommended model vital registration laws and revised birth and death certificates.
- SERIES 10. Data From the National Health Interview Survey.**—Statistics on illness, accidental injuries, disability, use of hospital, medical, dental, and other services, and other health-related topics, all based on data collected in the continuing national household interview survey.
- SERIES 11. Data From the National Health Examination Survey and the National Health and Nutrition Examination Survey.**—Data from direct examination, testing, and measurement of national samples of the civilian noninstitutionalized population provide the basis for (1) estimates of the medically defined prevalence of specific diseases in the United States and the distributions of the population with respect to physical, physiological, and psychological characteristics and (2) analysis of relationships among the various measurements without reference to an explicit finite universe of persons.
- SERIES 12. Data From the Institutionalized Population Surveys.**—Discontinued in 1975. Reports from these surveys are included in Series 13.
- SERIES 13. Data on Health Resources Utilization.**—Statistics on the utilization of health manpower and facilities providing long-term care, ambulatory care, hospital care, and family planning services.
- SERIES 14. Data on Health Resources: Manpower and Facilities.**—Statistics on the numbers, geographic distribution, and characteristics of health resources including physicians, dentists, nurses, other health occupations, hospitals, nursing homes, and outpatient facilities.
- SERIES 15. Data From Special Surveys.**—Statistics on health and health-related topics collected in special surveys that are not a part of the continuing data systems of the National Center for Health Statistics.
- SERIES 20. Data on Mortality.**—Various statistics on mortality other than as included in regular annual or monthly reports. Special analyses by cause of death, age, and other demographic variables; geographic and time series analyses; and statistics on characteristics of deaths not available from the vital records based on sample surveys of those records.
- SERIES 21. Data on Natality, Marriage, and Divorce.**—Various statistics on natality, marriage, and divorce other than as included in regular annual or monthly reports. Special analyses by demographic variables; geographic and time series analyses; studies of fertility; and statistics on characteristics of births not available from the vital records based on sample surveys of those records.
- SERIES 22. Data From the National Mortality and Natality Surveys.**—Discontinued in 1975. Reports from these sample surveys based on vital records are included in Series 20 and 21, respectively.
- SERIES 23. Data From the National Survey of Family Growth.**—Statistics on fertility, family formation and dissolution, family planning, and related maternal and infant health topics derived from a periodic survey of a nationwide probability sample of ever-married women 15-44 years of age.

For a list of titles of reports published in these series, write to:

Scientific and Technical Information Branch
National Center for Health Statistics
Public Health Service
Hyattsville, Md. 20782

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Office of Health Research, Statistics, and Technology
National Center for Health Statistics
3700 East-West Highway
Hyattsville, Maryland 20782

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF HHS
HHS 396

Third Class



HRST

from the Office of Health Research, Statistics, and Technology
DHHS Publication No. (PHS) 81-1917, Series 21, No. 39

for a listing of publications in the VITAL AND HEALTH STATISTICS SERIES call 301-436-NCHS