

Q. 11. 1

VITAL and HEALTH STATISTICS
DATA FROM THE NATIONAL VITAL STATISTICS SYSTEM

Educational Attainment of Mother and Family Income:

White Legitimate Births

United States - 1963

PROPERTY OF THE
PUBLICATIONS BRANCH
EDITORIAL LIBRARY

Statistics on educational attainment and family income of white married women who had births in 1963, by age, live-birth order, type of residence, and region.

Washington, D. C.

August 1968

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Wilbur J. Cohen
Secretary

Public Health Service
William H. Stewart
Surgeon General



Public Health Service Publication No. 1000-Series 22-No. 6

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C., 20402 - Price 40 cents

NATIONAL CENTER FOR HEALTH STATISTICS

THEODORE D. WOOLSEY, *Director*

PHILIP S. LAWRENCE, Sc.D., *Associate Director*

OSWALD K. SAGEN, Ph.D., *Assistant Director for Health Statistics Development*

WALT R. SIMMONS, M.A., *Assistant Director for Research and Scientific Development*

ALICE M. WATERHOUSE, M.D., *Medical Consultant*

JAMES E. KELLY, D.D.S., *Dental Advisor*

LOUIS R. STOLCIS, M.A., *Executive Officer*

MARGERY R. CUNNINGHAM, *Information Officer*

DIVISION OF VITAL STATISTICS

ROBERT D. GROVE, Ph.D., *Director*

ROBERT A. ISRAEL, M.S., *Deputy Director*

ARTHUR A. CAMPBELL, *Special Assistant to the Director*

ROBERT A. ISRAEL, M.S., *Acting Chief, Mortality Statistics Branch*

PATIENCE LAURIAT, M.A., *Acting Chief, Natality Statistics Branch*

ROBERT D. GROVE, Ph.D., *Acting Chief, Registration Methods Branch*

PATIENCE LAURIAT, M.A., *Chief, Marriage and Divorcé Statistics Branch*

ARNE B. NELSON, M.A., *Chief, Vital Records Survey Branch*

ALICE M. HETZEL, *Chief, Statistical Resources Section*

Public Health Service Publication No. 1000-Series 22-No. 6

Library of Congress Catalog Card Number 68-60075

CONTENTS

	Page
Introduction -----	1
Selected Findings-----	1
Sources and Qualifications of Data-----	2
Educational Attainment of Mother-----	3
Current Fertility-----	4
Live-Birth Order and Age of Mother-----	5
Metropolitan Status of Residence-----	9
Geographic Region-----	9
Family Income-----	9
Live-Birth Order and Age of Mother-----	11
Metropolitan Status of Residence-----	13
Geographic Region-----	13
Education of Wife-----	15
References -----	15
Detailed Tables -----	16
Appendix I. Technical Notes on Methods-----	37
Sample Design-----	37
The Birth Certificate and Questionnaire-----	38
Collection of Data-----	38
Processing of Data-----	38
Nonresponse and Imputation of Missing Data-----	39
Birth Records-----	40
Estimation-----	40
Reliability of Estimates-----	41
Rounding of Numbers-----	42
Appendix II. Definitions of Certain Terms Used in This Report-----	43
Information From the Certificate of Live Birth-----	43
Appendix III. Source Forms-----	44
Standard Certificate of Live Birth-----	44
Questionnaire for Mothers-----	45

IN THIS REPORT data are presented on the educational attainment and family income of mothers giving birth to white legitimate children in 1963. Mothers at different socioeconomic levels are studied in terms of their present and completed fertility. Variables presented in the report are live-birth order, age of mother, metropolitan status, and region of residence.

Fertility rates for the less educated are higher than those for the better educated women in each age group when they are based on the average number of children ever born to white married females. However, the fertility rates for 1963 show the opposite relationship and the age-specific birth rates show a mixed relationship in regard to higher fertility for the less educated. The explanation for this apparently relates to something other than an overstatement of educational attainment on the part of respondents. A comparison of the proportion of high order births in each age group substantiates the findings of an inverse relationship between education and fertility. The proportion of wives in higher education levels was greater in metropolitan than nonmetropolitan areas and this tendency was greater with increasing age of the mother. Within lower education levels a larger proportion of births occurred to wives in the South than in other regions.

Based on the proportion of births in higher birth orders, a strong inverse relationship is not shown for family income levels. However, when wives in each age group above 20 are compared, mothers in higher income families tended to some extent to have relatively fewer children than those in lower income families. As family income increased, wives in the North Central and Northeast Regions contributed a slightly larger proportion of high order births than in other regions. An inverse relationship prevailed between educational attainment and number of children ever born at each income level.

SYMBOLS

Data not available-----	---
Category not applicable-----	...
Quantity zero-----	-
Quantity more than 0 but less than 0.05----	0.0
Figure does not meet standards of reliability or precision-----	*

EDUCATIONAL ATTAINMENT OF MOTHER AND FAMILY INCOME: WHITE LEGITIMATE BIRTHS

Gooloo S. Wunderlich, *Office of the Deputy Secretary for Population and Family Planning*^a

INTRODUCTION

This report presents findings from the 1963 National Natality Survey. The 1963 survey represents the first year of data collection for a continuing program of sample surveys linked to birth records.

The content of the sample surveys is designed to meet the increasing needs for natality data in public health, demography, and related fields. The annual birth statistics for the United States derived from information reported on the birth record alone are not sufficient to meet the varied needs of consumers of these types of data. Data collected in the 1963 National Natality Survey permit preparation of estimates for characteristics related to the infant and family not previously available in national statistics.¹

This report presents estimates of selected socioeconomic characteristics of white families in which births occurred during 1963. The presentation is limited to a discussion of educational attainment and family income characteristics of the women who had these births.

The discussion of the data is divided into two sections: the first section deals with the educational attainment of the white married women who had births in 1963, and the second section deals with the income of the families in which the births occurred.

SELECTED FINDINGS

Data on the average number of children ever born to white married females through 1963 show that the less educated women had higher fertility rates in each age group than the better educated. Age-specific birth rates and current fertility rates were also computed, using different population bases to see if the inverse relationship of education and fertility also held for the year 1963. In this comparison, age-specific birth rates showed a mixed relationship and fertility rates, the opposite of the expected relationship. Apparently, overstatement of educational attainment was not a significant factor in the failure to show this expected relationship. Other possible explanations were (1) a failure to include illegitimate births, (2) the disproportionate numbers of maritally separated women, or (3) an overestimate of the number of less educated females in 1963.

A comparison of the proportion of high order births in each group substantiates the findings previously noted, that there is an inverse relationship between education and fertility.

In general, wives with only elementary education had already had more births than those who had completed high school and substantially more than those women whose education went beyond high school. Further, for each birth order the better educated wives had their children at a later age than the less educated wives. An excep-

^aFormerly with the National Center for Health Statistics.

tion to this was noted for wives who had some high school education, but did not complete 4 years of high school.

The proportion of wives residing in metropolitan areas increased with increasing levels of educational attainment. This pattern increased for all age groups, and with the exception of the 30-34 year age group, became more pronounced with increasing age of the wife. The relationship between metropolitan status and education was also observed in each live-birth-order group. The wives in metropolitan areas tended to be older and better educated.

The mothers in the South had less education than mothers in other geographic regions. This relationship between educational attainment and geographic region generally held for each age group. However, in age group 30-34 the proportion of wives who had finished high school was slightly higher in the South than in the West. Within the lower educational levels a much larger proportion of births occurred to women in the South than in other regions. This pattern was generally observed for each birth order.

The distribution of family income showed 44 percent of the births from families with incomes less than \$5,000, and 17 percent from family incomes less than \$3,000. Based on the proportion of births in higher birth orders, a strong inverse relationship is not indicated between family income and number of children ever born as it was in education. Wives in higher income families had actually borne slightly more children than those in lower income classes. The median age of mothers in families with incomes of \$10,000 or more was 30.3 years compared with 22.5 years for mothers in families with incomes of less than \$3,000. When wives in the same age groups above age 20 are compared, mothers in higher income families had relatively fewer children than those in lower income families.

About 65 percent of these women were living in metropolitan areas. This proportion increased with family income. Mothers in metropolitan areas had had somewhat fewer births by 1963 than those residing in nonmetropolitan areas.

A comparison of lower income classes shows that a larger proportion of births occurred to wives living in the South Region than in other

regions. As family income increased, wives in the North Central and Northeast Regions contributed a slightly larger proportion of high order births than those in the South and West. Families of comparable size are attained at younger ages in the South than in the North Central or Northeast.

An inverse relationship prevailed at each income level between educational attainment and number of children ever born and became more pronounced as family income increased.

SOURCES AND QUALIFICATIONS OF DATA

The statistics presented in this report are based on information collected in the 1963 National Natality Sample Survey conducted by the Division of Health Records Statistics in the National Center for Health Statistics. The data in this report are based on a probability sample of 3,218 white legitimate births selected from births occurring in 1963.

The restriction of the report to white married females having babies in 1963 imposes several limitations on the data. The most obvious limitation results from the fact that all mothers having illegitimate births are excluded from the report since queries were not sent to these mothers; in addition, data for nonwhite mothers are excluded. A further limitation is that this population does not include all married women. The survey design excludes automatically the women who had no children as well as mothers who have previously had children but did not have births in 1963. Thus, discussion is limited to particular segments of married women within each of the educational and income levels.

Survey procedures for collecting the statistics included questionnaires mailed to each mother of a child selected in the sample and questionnaires sent to physicians, dentists, and medical facilities from whom the mother received any care during the year prior to the birth of her child. However, the data in this report are based only on selected items from the birth record and the questionnaire sent to the mother. This report does not contain any data from the medical sources.

Illegitimate births were excluded in this survey to prevent any disclosure of the fact of illegitimacy. An additional 54 births selected in the sample were also excluded from the survey for reasons not related to characteristics of the mothers.

Data for nonwhite women are excluded from this report. The principal reason for this exclusion was that the data for family income were not considered to be within acceptable levels of reliability. Although the response to the education item was higher among nonwhite wives than the response for family income, further evaluation of the responses was thought necessary for inclusion of the data.

The sampling frame for the survey was the file of microfilm images of birth records received each month by the National Center for Health Statistics from the 54 birth registration areas of the United States.

Brief descriptions of the sample design of the survey, estimation techniques, and general qualifications of the data obtained in the survey are given in Appendix I. The statistics shown in this report are estimates based on a sample and are therefore subject to sampling errors. Although the sampling errors for most of the estimates are of relatively low magnitude, the error may be high when the numerator or denominator

of a percentage is small. Tables of approximate standard errors and instructions for use of these tables also appear in Appendix I.

Definitions of certain terms used in this report are given in Appendix II and facsimiles of the questionnaire used for mothers and of the birth certificate are shown in Appendix III.

EDUCATIONAL ATTAINMENT OF MOTHER

Evidence from a variety of sources indicates that less educated women generally have higher birth rates than better educated women. This relationship is affirmed in each age group by the data on average number of children ever born to white married women having births in 1963, shown in table A. These figures relate to completed or nearly completed fertility for women aged 35 and over and fertility experience through the birth of the present child for younger mothers. Data from the 1960 Census also show a similar pattern in the average numbers of children ever born to white women 35-44 years of age who were currently married and living with their husbands (table B).²

Although the census figures relate to completed or nearly completed fertility because of the age groups shown, similar data for younger women also show inverse relationships between educa-

Table A. Rates of children ever born to white married women having births in 1963, by years of school completed: United States

Age of mother	Years of school completed by mother					
	Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years
All ages-----	2,475	3,925	2,984	2,628	2,524	2,242
Under 20 years-----	1,353	1,861	1,418	1,103	*	-
20-24 years-----	2,037	2,915	2,585	1,875	1,633	1,294
25-29 years-----	3,093	4,059	3,927	2,866	2,642	1,907
30-34 years-----	4,005	4,812	4,259	3,966	3,840	3,121
35+ years-----	4,797	6,224	5,011	4,544	4,272	3,626

Table B. Years of school completed, by number of children ever born per 1,000 white women 35-44 years old: United States, 1960

Wife's education	Children ever born per 1,000 women
Less than 8 years-----	3,407
8 years-----	2,859
High school, 1-3 years---	2,650
High school, 4 years----	2,415
College, 1-3 years-----	2,435
College, 4+ years-----	2,345

SOURCE: U.S. Bureau of the Census: Women by number of children ever born, 1960. United States Census of Population, PC(2)-3A, Washington, D.C., March 1964.

tional attainment and number of children ever born.

Current Fertility

A modification of this inverse relationship is illustrated by data on current fertility, i.e., the

annual fertility rates for Puerto Rico.³ They show that variation in annual rates by educational class is small and inconsistent in age groups 20-24 and 25-29 years where the rates are highest, and average more than 200 births per 1,000 women. In younger and older age groups, however, the usual inverse pattern prevails.

It was thought that current fertility rates based on survey data would conform closely to rates based on number of children ever born. However, inasmuch as the level of annual rates depends not only on the number of births used as the numerator but also on the number of women used as the denominator, the rates were calculated in several ways to see whether different methods of estimating populations for the denominators would show different kinds of relationships to educational attainment.

First, age-specific birth rates were computed using population estimates based on a straight line interpolation of current population survey data for total white females between 1962 and 1964 (table C). At age group 20-24, the age-specific rates are highest among high school and college graduates. In contrast, in age group 25-

Table C. Age-specific birth rates for white married women who had births in 1963, by age and years of school completed: United States

Age of mother	Years of school completed by mother					
	Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years
All ages ¹ -----	94.6	90.0	88.7	102.4	98.5	92.2
14-19 years-----	49.3	78.8	46.2	102.4	55.0	-
20-24 years-----	217.7	127.6	186.1	215.1	185.1	223.8
25-29 years-----	176.5	209.3	179.6	165.1	190.0	176.0
30-34 years-----	98.9	99.0	97.0	83.0	139.4	134.6
35-44 years-----	30.2	29.1	29.4	29.5	29.8	39.6

¹The rates for each education group total were standardized against the age distribution of total white married women in 1963.

29, the age-specific rate is highest for the mothers in the elementary school level or below. In the upper age groups the rates favor the 1-3 year college and college graduate group at 30-34 years and the college graduates at 35-44 years. Birth rates standardized for the age distribution of all white females show a different pattern, with the highest rates emerging among high school graduates and mothers with 1-3 years of college.

Tables D and E contain fertility rates for broad age groups using population bases estimated by assuming the same distribution of ever-married white females by educational attainment in 1963 as in the 1960 census. Table D is based on a straight line projection of the ever-married female population by years of school completed. The resulting fertility rates also show generally rising fertility with increased education. The only exceptions were in the 25-34 years age group between elementary and 1-3 years of high school and in 35-44 years group for high school graduates and those with 1-3 years of college.

In table E the population base was derived from the proportion that each age-education group of ever-married white females was of total white females. The fertility rates in table E depart from those in table D, although they still are influenced substantially by the projection method. In the 14-24 age group the fertility rate declines between 1-3 years of high school and 4 years of high school. At 25-34 there is a declining rate through 4 years of high school. In 35-44 the rate is irregular through 1-3 years of college and then peaks at 4 years or more of college. On the basis of these experiments, the failure to show the expected inverse relationship does not appear to lie in the method of estimating numbers of married women by educational attainment.

Possible explanations for the failure of the present study to show an inverse relationship between educational attainment and annual fertility of white married females are:

1. Overstatement of educational attainment by respondents to the survey. Data previously shown in table A seem to indicate that this is not a significant factor;

2. Failure to include illegitimate births, which are probably more frequent among the less educated;
3. Inasmuch as marital separation is more common among the less educated, the married women among them are more likely to include women who are not currently living with a husband and who, therefore, are less likely to have a child. Estimates, however, are not available on the number of married, white females who were living with their husbands, by education for 1963.
4. Overestimates of the number of less educated married women as of 1963.

At present, there is no basis for judging the influence of the last three factors and for choosing any one of these explanations as the most likely.

Live-Birth Order and Age of Mother

Data collected in the National Natality Survey show that approximately 44 percent of the white married women who bore children in 1963 had completed high school and another 24 percent had 1-3 years of high school education. In addition, 21 percent had some college education (table F). The median number of years of school completed by these women was 12.3. Somewhat lower levels of education are observed as the live-birth order of the child increased. Some 75 percent of those having their first child, compared with 49 percent of those having their fifth child or more, were at least high school graduates.

This difference in the level of educational attainment of the wives by the number of children born by 1963 was greater among the younger than among the older wives. Among women under 25 years of age the median number of years of school completed was 12.5 for those having their first birth compared with 10.6 for those having their fifth or higher order birth. The comparable figures for wives 25 years or older were 12.8 and 12.0 years.

More than a fourth of the white legitimate births in 1963 were first births and just as many

Table D. Fertility rates for white married women who had births in 1963, by age and years of school completed: United States

Age of mother	Years of school completed by mother					
	Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years
All ages-----	134.3	82.1	131.8	140.8	163.8	183.8
14-24 years-----	334.6	234.7	319.4	343.3	406.7	549.0
25-34 years-----	148.4	127.7	120.4	147.6	185.8	231.7
35-44 years-----	32.0	24.6	27.6	34.7	34.2	52.9

NOTE: The population base was derived by applying the percent distribution of ever-married white females by age and years of school completed in the 1960 census against the estimated age distribution of ever-married white females interpolated between the 1962 and 1964 CPS distributions.

Table E. Fertility rates for white married women who had births in 1963, by age and years of school completed: United States

Age of mother	Years of school completed by mother					
	Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years
All ages-----	134.3	106.2	145.7	126.1	158.5	155.5
14-24 years-----	314.5	243.7	319.4	300.0	406.7	549.0
25-34 years-----	148.9	161.9	143.3	133.8	183.6	183.3
35-44 years-----	32.1	30.9	36.7	30.9	36.8	46.4

NOTE: The population base was derived by applying the percent that ever-married white females were of total white females in each age and education cell in 1960 against the estimated number of total white females interpolated for each age and education category between the 1962 and 1964 CPS distributions.

Table F. Number and percent distribution of white married women who had births in 1963, by live-birth order and years of school completed, and median years of school completed by age and live-birth order: United States

Years of school completed by mother	Live-birth order					
	Total	1	2	3	4	5+
	Number in thousands					
Number-----	3,264	893	810	632	421	508
	Percent distribution					
Total-----	100.0	100.0	100.0	100.0	100.0	100.0
None or elementary-----	11.5	4.8	8.2	13.8	13.4	24.1
High school:						
1-3 years-----	23.5	19.8	22.2	26.1	25.3	27.3
4 years-----	44.4	49.5	46.7	40.8	46.9	34.4
College:						
1-3 years-----	12.7	15.3	13.9	12.5	7.6	10.5
4+ years-----	7.9	10.7	9.0	6.8	6.8	3.7
	Median years of school completed					
All ages-----	12.3	12.5	12.4	12.2	12.2	11.8
Under 25 years-----	12.3	12.5	12.3	11.4	11.4	10.6
25+ years-----	12.4	12.8	12.4	12.4	12.3	12.0

were fourth or higher order births (table 1). As might be expected, the birth order was higher among older mothers than among younger mothers. The median age of the wives was 25.2 years and varied from 21.3 years for mothers having their first child to 32.4 years for those having their fifth or later child (table G).

Statistics dealing with fertility of the general population have characteristically shown the inverse relationship discussed previously between educational attainment of the wife and the number of children ever born by any specified age.⁴ When the married and reproducing population of women in this report are classified by educational attainment the proportion of higher order births in each age group reaffirms this expected inverse relationship (table 1). In general, among white married women having births in 1963, wives with only elementary education had already had more

births than those who had completed high school and substantially more than those whose education went beyond high school.

Figure 1 illustrates the inverse relationship between education of the wife and the parity for wives having a live-born child in 1963, for each age group.

Furthermore, table G shows that within each birth order the more educated wives had their children at a later age than their less educated counterparts. An exception to this pattern was noted for wives who had some high school education but did not complete 4 years of high school. These differences correspond closely to those found in a study of the general population.⁵ They are explainable principally in terms of the time period of exposure to fertility risk based on age at marriage. The higher fertility of women who have not completed high school may be due

Table G. Median age of white married women who had births in 1963, by years of school completed and live-birth order: United States

Live-birth order	Years of school completed by mother					
	Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years
Total-----	25.2	27.1	23.6	25.1	25.5	27.8
First child-----	21.3	20.3	19.2	21.0	22.2	24.6
Second child-----	23.6	22.1	21.7	23.8	24.7	27.3
Third child-----	26.5	24.6	24.7	26.9	28.1	31.2
Fourth child-----	28.5	28.4	26.5	28.4	30.0	31.9
Fifth child and over-----	32.4	31.6	30.6	33.3	32.3	34.6

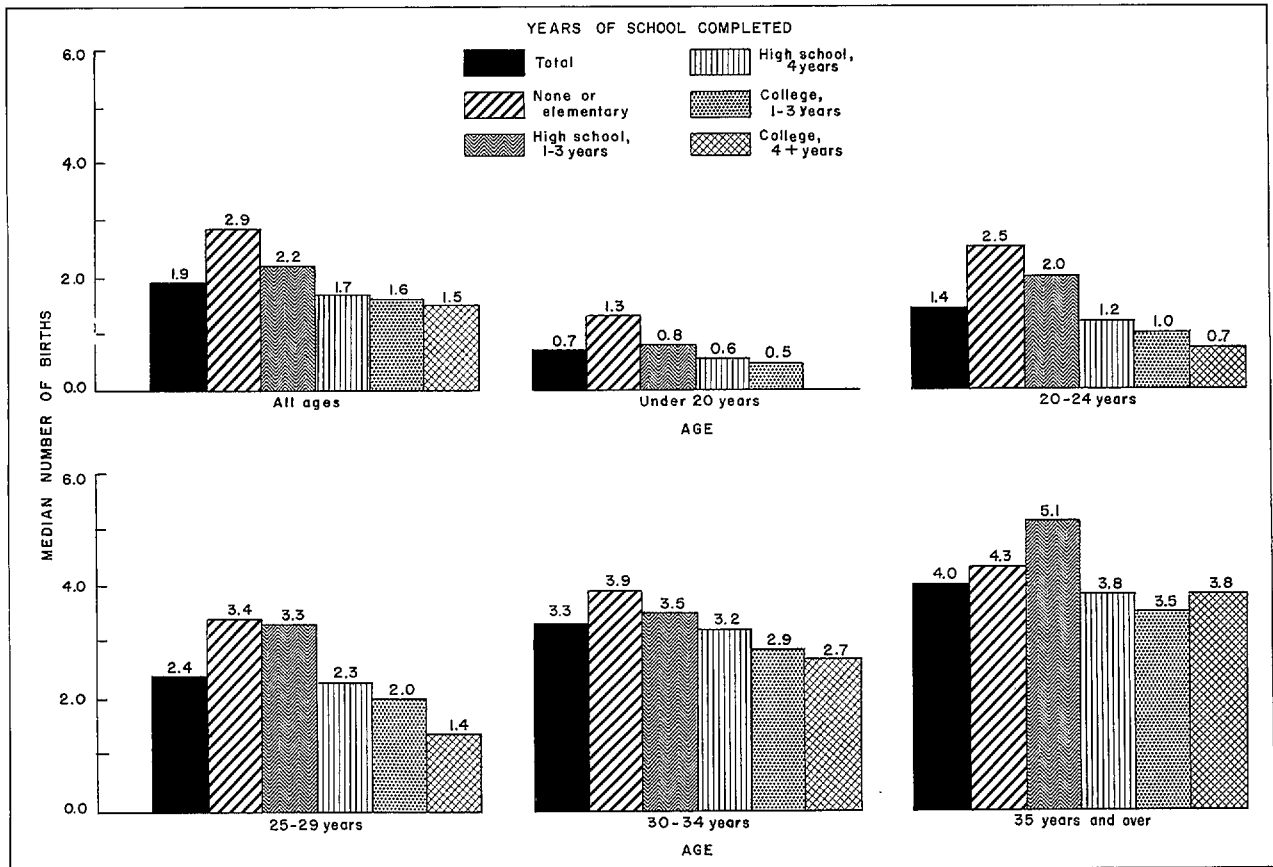


Figure 1. Median live-birth order of babies born to white married women in 1963, by age and years of school completed by mother.

to the fact that many girls who drop out of high school do so because they become pregnant.⁶

Metropolitan Status of Residence

About 65 percent of the total white legitimate births in 1963 occurred to wives residing in metropolitan areas of the United States (table 2). The proportion of the wives residing in metropolitan areas increased with increasing levels of educational attainment. Thus, 55 percent of the wives with only elementary education, as compared with 76 percent of those who had at least 4 years of college, were residing in metropolitan areas. This pattern prevailed for all age groups, and, with the exception of the 30-34 age group, became more pronounced with increasing age of the wife. The relationship between metropolitan status of residence and education of the white wives was also observed in each live-birth order group shown; however, it was not as pronounced among mothers having their first child as among the other mothers.

Among wives having births in 1963, those residing in metropolitan areas had slightly fewer births by 1963 than their counterparts in non-metropolitan areas (table 3). This pattern was observed within each of the educational classes. This difference may be partly explained by the fact that for each educational category shown, wives residing in metropolitan areas were having their first births at a later age than the wives in non-metropolitan areas. Also, the wives who resided in metropolitan areas were more likely to have attained a higher educational level than the wives in nonmetropolitan areas (table 4). However, none of these differences was large enough to be statistically significant.

Geographic Region

Among white females who gave birth in 1963, those in the South had a lower educational level than those living in the other three regions (table 5). Only 56 percent of the wives in the South, compared with 66 percent in the West and almost 70 percent in both the North Central Region and the Northeast, had completed high school (including those who had also attended college). Considerable regional variation was also observed at

the other end of the educational scale. The largest proportion of wives (17 percent) with only elementary education was in the South. The West had 11 percent and the Northeast and North Central Regions had 10 and 8 percent, respectively. This relationship between educational attainment of women and their region of residence generally prevailed for all age groups and all birth orders with the exception of the 30-34 age group, and those wives having their fourth child. In the 30-34 age group the proportion of wives who had completed high school was slightly lower in the West than in the South Region.

Not only was the educational level of the women who had births in 1963 lower in the South than in the other regions, but within the two lower educational levels a much larger proportion of the births than expected occurred to white wives living in the South than to those in the other regions (table 6). This pattern was generally observed for all ages and birth order groups shown. Wives who were college graduates in the North Central and Northeast Regions had a larger proportion of births than expected.

Figure 2, derived from table 7, illustrates the inverse relationship between the educational attainment of white wives and the number of children born to them as of 1963 for each geographic region. This relationship was most pronounced among wives in the North Central Region. Wives in the Northeast showed the least variation by educational attainment in number of births by 1963.

FAMILY INCOME

In this report the family income refers to the total of all money income received during 1962 by all persons related by blood, marriage, or adoption and living in the household when the baby was born. Income from all sources is included, such as wages, salaries, unemployment compensation, and help from relatives.

The distribution of white families in which births occurred during 1963 by their money income during the previous year is summarized in table H. Of the estimated 3,264,000 white married women who had births in 1963, approximately 44 percent were in families with less than \$5,000 income and 17 percent were in families with less

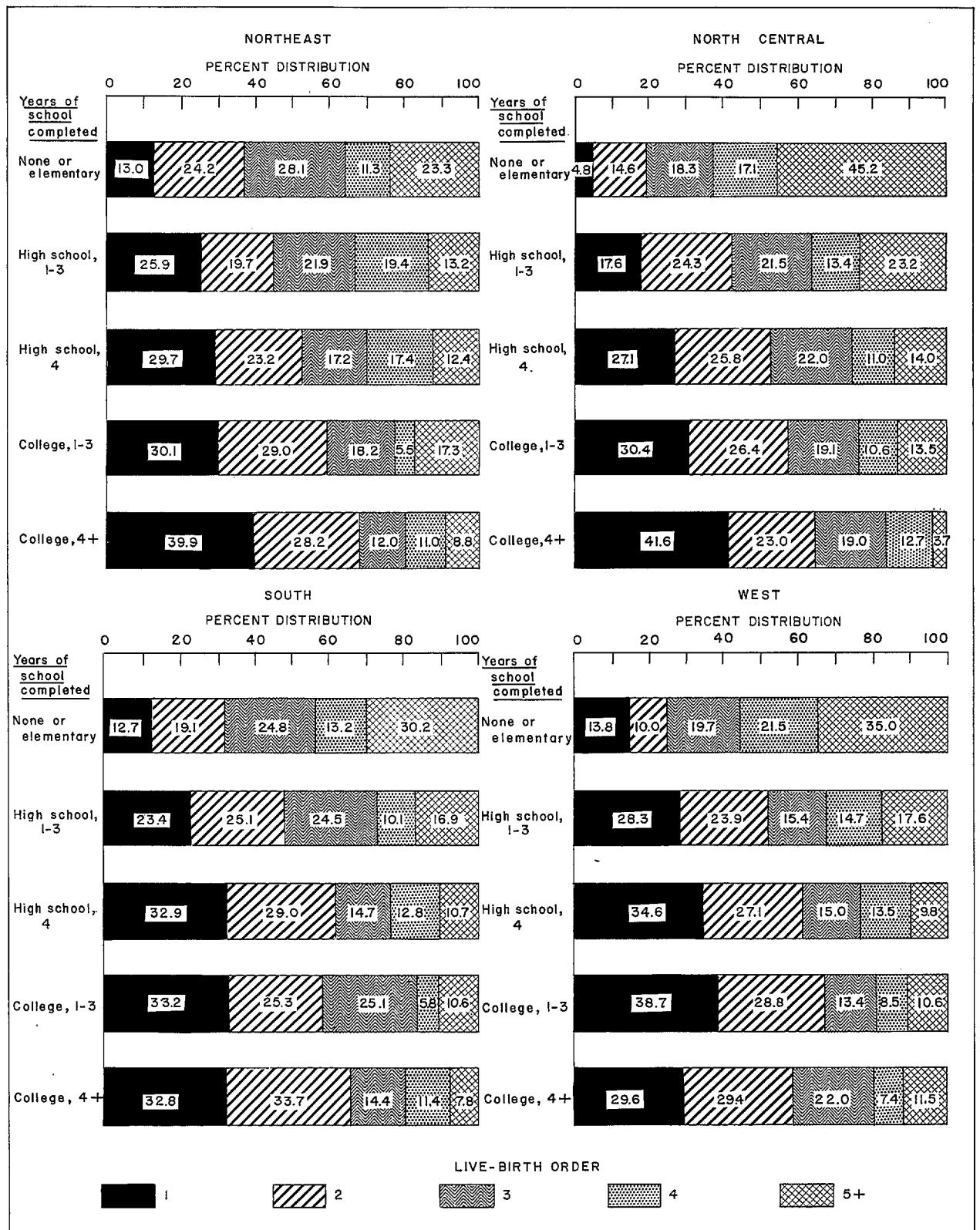


Figure 2. Percent distribution of white married women who had births in 1963, by years of school completed by mother according to live-birth order and geographic region.

Table H. Number and percent distribution of white married women who had births in 1963, by family income during 1962 according to age: United States

Age of mother	Number	1962 family income						Median
		Total	Under \$3,000	\$3,000-\$4,999	\$5,000-\$6,999	\$7,000-\$9,999	\$10,000+	
All ages--	3,264,137	100.0	17.5	26.9	26.8	19.8	9.0	\$5,400
Under 20 years-----	398,851	100.0	44.6	35.3	14.4	4.7	1.0	\$3,360
20-24 years--	1,173,550	100.0	18.2	32.5	28.5	15.9	4.9	\$4,960
25-29 years--	853,348	100.0	10.6	23.1	30.8	26.0	9.5	\$5,520
30-34 years--	501,405	100.0	8.5	21.2	27.6	26.4	16.3	\$5,730
35+ years----	336,983	100.0	13.6	15.7	24.4	25.3	21.0	\$5,840
Median age in years----	25.3	...	22.5	23.9	25.9	27.6	30.3	...

than \$3,000 income. Only 9 percent of the families had an income of \$10,000 or more. The median family income during 1962 was \$5,400.

Live-Birth Order and Age of Mother

Survey data for the white married women having births in 1963 do not indicate a strong in-

verse relationship between family income and the number of children born by 1963 (tables 8 and J). Furthermore, most of the differences between the number of children born in the various family income groups were not large enough to be statistically significant. In fact, the wives in higher income families had borne slightly more children than the wives in lower income classes. However,

Table J. Median income in 1962 of families in which births occurred in 1963, by age and live-birth order: United States

Age of mother	Live-birth order					
	Total	1	2	3	4	5+
All ages-----	\$5,400	\$4,840	\$5,240	\$5,340	\$5,340	\$5,290
Under 25 years-----	4,560	5,400	4,890	4,410	4,590	3,000
Under 20 years-----	3,360	3,510	3,110	2,710	---	---
20-24 years-----	4,960	5,050	5,130	4,610	4,610	---
25 years and over-----	5,640	6,240	5,800	5,700	5,500	5,370
25-29 years-----	5,520	6,170	5,730	5,430	5,380	5,110
30-34 years-----	5,730	6,110	6,100	5,950	5,570	5,460
35+ years-----	5,840	8,230	5,720	6,180	5,950	5,550

this can be attributed primarily to differences in age. As shown in table H, the women in the higher income families were, on the average, older than the women in lower income families, and had therefore had more time in which to have children.

From a historical viewpoint it has been pointed out that "Couples in the lower-income groups have probably been having more children than couples in the higher-income groups ever since the process of industrialization and urbanization began in the United States. However, the negative association between income and fertility has diminished considerably since the depression years of the 1930's..."⁷ Data available from the Bureau of the Census as well as other surveys have also shown a similar pattern of relationship between family income and fertility.^{4,8}

When wives who were in the same age groups are compared, an inverse relationship is generally observed between family income and the number of children born by 1963. As illustrated in figure 3, in each age group except under 20, white women in the higher income families had relatively fewer children by 1963 than those in the lower income families. Furthermore, for each birth order group, white wives in the upper income families were, on the average, older than their counterparts in the lower income families who bore children in 1963.

The inverse relationship between income and parity generally holds for each age group. Notable exceptions to this pattern were in age groups 30-34 where little difference existed in income levels among the first, second, and third parity

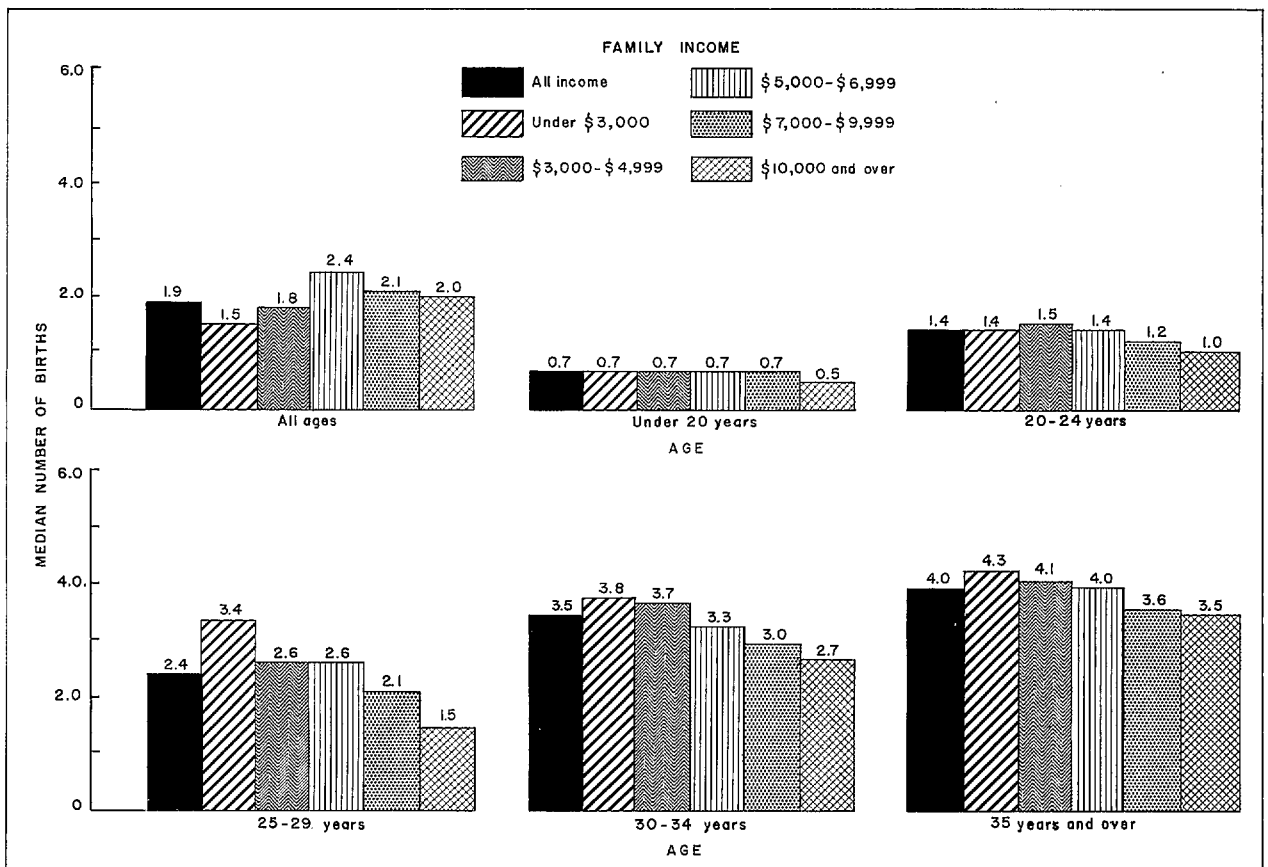


Figure 3. Median live-birth order of babies born to white married women 1963, by age and family income in 1962.

Table K. Number and percent distribution of white married women who had births in 1963, by family income during 1962 according to residence: United States

1962 family income	Residence		
	All areas	Metro-politan	Non-metro-politan
Number in thousands-----	3,264	2,106	1,158
Total-----	Percent		
	100.0	100.0	100.0
Under \$3,000-----	17.5	13.5	24.7
\$3,000-\$4,999-----	26.9	24.0	32.2
\$5,000-\$6,999-----	28.8	28.1	24.5
\$7,000-\$9,999-----	19.8	23.1	13.7
\$10,000 or more-----	9.0	11.3	4.8
Median-----	\$5,400	\$5,880	\$4,560

mothers and in 35 years and over where the same was true among the second, third, and fourth parity mothers. An extreme difference exists between the median family income of the first and fifth or higher birth orders in age groups 35 years and over where the median incomes were \$8,230 and \$5,550, respectively (table J).

Metropolitan Status of Residence

Metropolitan status of residence of white married women who had births in 1963 was associated with their family income of the previous year. Families in metropolitan areas were more likely to have higher incomes than those living in nonmetropolitan areas (table K). The median income was \$5,880 for families in metropolitan areas compared with \$4,560 for those living in nonmetropolitan areas.

The proportion of white women living in metropolitan areas and having live births in 1963 increased with increasing family income (table 9). Approximately 50 percent of the wives in families with incomes less than \$3,000, as compared with 81 percent of those in families with incomes of \$10,000 or more, were living in metropolitan areas. This relationship prevailed for all age groups and birth order groups shown.

Survey data indicate that among wives having births in 1963, especially in the lower income families, those residing in metropolitan areas had had somewhat fewer births by that year than their counterparts in nonmetropolitan areas (table 10).

Geographic Region

The 1962 income of white families in which legitimate births occurred in 1963 was lower in the South than in the other three regions (table L). The median income was \$4,560 for families in the South compared with \$5,660 for those in the North Central Region and \$5,900 for those in the West and the Northeast. About 21 percent of the wives in the South compared with 29 percent in the North Central Region, 32 percent in the West and 35 in the Northeast were in families that had an income of \$7,000 or more in the previous calendar year.

A comparison of income classes shows that a larger proportion of the births in lower income families occurred to wives living in the South than to those in the other regions and both the South and West had lower proportions of births in the upper income classes (table 11). This pattern generally prevailed for all age groups and all birth orders.

Table 12 shows the relationship between family income and the number of children born by 1963 for each geographic region. The wives in the lower income families living in the South and West had contributed somewhat more children as of 1963 than their counterparts in the North Central and Northeast Regions. As family income increased, wives in the North Central and Northeast contributed a slightly larger proportion of higher order births than those in the South and the West. However, the differences were not large.

These regional differences in the number of children born combined with the slightly younger age of the wives in higher income families living in the South and West Regions as compared with their counterparts in the North Central and Northeast Regions indicated that large families in the South have a low income relationship whereas the large families in the North, a high income relationship. Further, families of comparable size are attained at younger ages by wives in the South than in the North.

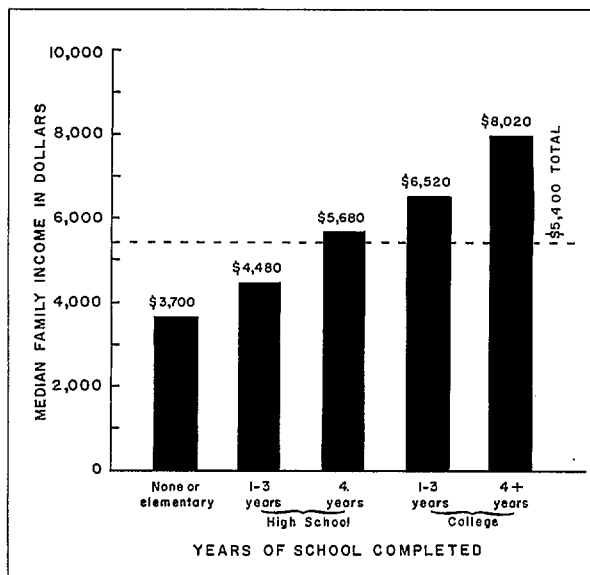


Figure 4. Median family income in 1962 of families in which births occurred in 1963, by years of school completed by mother.

Table L. Number and percent distribution of white married women who had births in 1963, by family income during 1962 according to geographic region: United States

1962 family income	Region				
	All regions	North-east	North Central	South	West
Number in thousands					
Total-----	3,264	794	971	921	578
Percent distribution					
Total-----	100.0	100.0	100.0	100.0	100.0
Under \$3,000-----	17.5	13.1	15.8	21.9	19.2
\$3,000-\$4,999-----	26.9	23.8	24.0	36.1	21.6
\$5,000-\$6,999-----	26.8	28.4	30.7	21.1	27.3
\$7,000+-----	28.8	34.6	29.4	21.0	31.9
Median-----	\$5,400	\$5,900	\$5,660	\$4,560	\$5,900

Education of Wife

Among white married women who had births in 1963, a strong relationship was observed between their educational attainment and family income. The median income of families in which wives were college graduates was \$8,020 compared with \$3,700 for families in which wives had only an elementary education (fig. 4 and table 13). The proportion of families in which wives had a college background was smallest in the lowest income level (9.5 percent). This proportion increased progressively to 46 percent in families with incomes of \$10,000 or more. At the other end of the educational scale, the proportion of families in which wives had only 8 years of

school or less was highest at the lowest income level (26 percent) and comprised only 6 percent of the families with incomes of \$10,000 or more. This relationship between family income and educational attainment of the wives prevailed for all birth order groups as well as for all ages of the wives and was more pronounced among wives 25 years of age or older than among the younger wives.

As previously observed for white married women who had births in 1963, an inverse relationship prevailed between the educational attainment of the mothers and the number of children born to them by 1963 at each income level and became more pronounced as the family income increased (table 14).

REFERENCES

DETAILED TABLES

		Page
Table	1. Number and percent distribution of white married women who had births in 1963, by years of school completed according to age and live-birth order: United States--	17
	2. Number and percent distribution of white married women who had births in 1963, by residence, age, and live-birth order according to years of school completed: United States-----	18
	3. Number and percent distribution of white married women who had births in 1963, by residence, live-birth order, and age according to years of school completed: United States-----	19
	4. Number and percent distribution of white married women who had births in 1963, by years of school completed according to residence, age, and live-birth order: United States-----	20
	5. Number and percent distribution of white married women who had births in 1963, by years of school completed according to geographic region, age, and live-birth	

Table 1. Number and percent distribution of white married women who had births in 1963, by years of school completed according to age and live-birth order: United States

Age of mother and live-birth order	Years of school completed by mother						Years of school completed by mother					
	Total	None or elementary	High school		College		Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years			1-3 years	4 years	1-3 years	4+ years
<u>All ages</u>	Number in thousands						Percent distribution					
Total-----	3,264	375	767	1,450	414	259	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	893	43	177	442	136	96	27.4	11.4	23.0	30.5	33.0	36.9
Second child-----	810	66	180	378	113	73	24.8	17.6	23.5	26.1	27.2	28.1
Third child-----	632	87	165	258	79	43	19.3	23.3	21.5	17.8	19.1	16.5
Fourth child-----	421	56	106	197	32	29	12.9	15.0	13.9	13.6	7.7	11.0
Fifth child and over-----	508	122	139	175	54	19	15.6	32.6	18.1	12.1	13.0	7.4
<u>Under 20 years of age</u>												
Total-----	399	56	188	139	*	-	100.0	100.0	100.0	100.0	*	-
First child-----	285	20	123	125	*	-	71.4	36.2	65.3	90.4	*	-
Second child-----	90	24	54	12	-	-	22.6	43.0	28.5	9.0	-	-
Third child-----	21	11	10	1	-	-	5.4	19.1	5.2	0.6	-	-
Fourth child-----	1	1	-	-	-	-	0.2	1.6	-	-	-	-
Fifth child and over-----	2	-	2	-	-	-	0.4	-	1.0	-	-	-
<u>20-24 years of age</u>												
Total-----	1,174	87	263	571	175	77	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	429	11	40	234	91	54	36.5	12.3	15.1	40.9	52.1	69.2
Second child-----	415	17	96	220	60	21	35.4	19.9	36.6	38.5	34.5	27.8
Third child-----	210	35	77	77	20	1	17.9	39.9	29.2	13.4	11.3	1.5
Fourth child-----	90	17	35	34	2	1	7.6	20.0	13.3	5.9	1.3	1.5
Fifth child and over-----	30	7	15	7	1	-	2.6	8.0	5.8	1.2	0.7	-
<u>25-29 years of age</u>												
Total-----	853	108	160	394	106	85	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	117	7	3	59	20	28	13.8	6.5	2.0	15.0	18.5	33.5
Second child-----	218	18	23	105	34	38	25.5	16.6	14.2	26.6	32.0	44.7
Third child-----	213	23	41	107	30	13	24.9	20.6	25.5	27.1	28.3	14.9
Fourth child-----	168	17	45	88	14	5	19.7	15.2	28.0	22.4	12.8	5.7
Fifth child and over-----	137	44	48	35	9	1	16.1	41.0	30.3	8.8	8.4	1.2
<u>30-34 years of age</u>												
Total-----	501	66	93	199	80	63	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	46	3	9	15	8	10	9.3	5.3	10.0	7.6	10.1	16.5
Second child-----	60	3	5	29	15	8	12.1	5.3	5.0	14.6	18.8	12.8
Third child-----	117	12	24	44	18	19	23.4	17.9	25.4	22.2	22.8	30.5
Fourth child-----	105	16	17	46	10	16	21.0	24.4	18.5	23.3	12.1	25.4
Fifth child and over-----	172	31	38	64	29	9	34.3	47.1	41.2	32.3	36.2	14.7
<u>35+ years of age</u>												
Total-----	337	57	64	147	36	33	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	16	1	2	9	1	3	4.8	1.9	3.4	5.8	3.0	9.6
Second child-----	27	3	3	12	3	5	7.9	5.6	5.0	8.0	8.9	16.0
Third child-----	71	7	14	29	11	10	20.9	13.1	21.8	19.6	29.7	28.9
Fourth child-----	57	5	10	29	6	6	16.8	9.4	15.1	19.6	17.8	19.2
Fifth child and over-----	167	40	35	69	15	9	49.6	69.9	54.8	46.9	40.5	26.2

Table 2. Number and percent distribution of white married women who had births in 1963, by residence, age, and live-birth order according to years of school completed: United States

Residence, age of mother, and live-birth order	Years of school completed by mother					
	Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years
	Number in thousands					
All areas-----	3,264	375	767	1,450	414	259
Metropolitan-----	2,107	207	485	951	265	198
Nonmetropolitan-----	1,158	167	282	499	148	61
	Percent distribution					
All areas-----	100.0	100.0	100.0	100.0	100.0	100.0
Metropolitan-----	64.5	55.4	63.2	65.6	64.2	76.4
Nonmetropolitan-----	35.5	44.6	36.8	34.4	35.8	23.6
	<u>Under 20 years of age</u>					
Metropolitan-----	57.6	45.9	60.6	58.8	52.9	-
Nonmetropolitan-----	42.4	54.1	39.4	41.2	47.1	-
	<u>20-24 years of age</u>					
Metropolitan-----	64.0	59.8	63.5	64.5	61.6	72.6
Nonmetropolitan-----	36.0	40.2	36.5	35.5	38.4	27.4
	<u>25-29 years of age</u>					
Metropolitan-----	65.3	56.4	61.8	65.9	66.0	79.8
Nonmetropolitan-----	34.7	43.6	38.2	34.1	34.0	20.2
	<u>30-34 years of age</u>					
Metropolitan-----	66.8	54.9	73.6	67.6	63.9	70.6
Nonmetropolitan-----	33.2	45.1	26.4	32.4	36.1	29.4
	<u>35+ years of age</u>					
Metropolitan-----	69.2	56.3	57.8	73.0	77.0	87.8
Nonmetropolitan-----	30.8	43.7	42.2	27.0	23.0	12.2
	<u>First child</u>					
Metropolitan-----	68.2	64.5	65.5	68.1	68.2	74.7
Nonmetropolitan-----	31.8	35.5	34.5	31.9	31.8	25.3
	<u>Second child</u>					
Metropolitan-----	65.5	55.1	64.7	65.5	65.1	77.9
Nonmetropolitan-----	34.5	44.9	35.3	34.5	34.9	22.1
	<u>Third child</u>					
Metropolitan-----	63.4	55.3	63.8	64.8	59.9	75.9
Nonmetropolitan-----	36.6	44.7	36.2	35.2	40.1	24.1
	<u>Fourth child</u>					
Metropolitan-----	61.5	54.6	68.7	60.0	45.0	*
Nonmetropolitan-----	38.5	45.4	31.3	40.0	55.0	*
	<u>Fifth child and over</u>					
Metropolitan-----	60.5	52.7	53.3	67.0	69.7	*
Nonmetropolitan-----	39.5	47.3	46.7	33.0	30.3	*

Table 3. Number and percent distribution of white married women who had births in 1963, by residence, live-birth order, and age according to years of school completed: United States

Residence, live-birth order, and age of mother	Years of school completed by mother					
	Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years
	Number in thousands					
All areas-----	3,264	375	767	1,450	414	259
Metropolitan-----	2,107	207	485	951	265	198
Nonmetropolitan-----	1,158	167	282	499	148	61
	Percent distribution					
Total-----	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	27.4	11.4	23.0	30.5	33.0	36.9
Second child-----	24.8	17.6	23.5	26.1	27.2	28.1
Third child-----	19.3	23.3	21.5	17.8	19.1	16.5
Fourth child-----	12.9	15.0	13.9	13.6	7.7	11.0
Fifth child and over-----	15.6	32.6	18.1	12.1	13.0	7.4
<u>Metropolitan</u>						
First child-----	28.9	13.3	23.9	31.7	35.0	36.1
Second child-----	25.2	17.6	24.1	26.0	27.6	28.7
Third child-----	19.0	23.3	21.7	17.6	17.8	16.4
Fourth child-----	12.3	14.8	15.1	12.4	5.4	11.2
Fifth child and over-----	14.6	31.0	15.2	12.3	14.1	7.6
<u>Nonmetropolitan</u>						
First child-----	24.6	9.0	21.6	28.2	29.3	39.6
Second child-----	24.1	17.7	22.5	26.2	26.6	26.3
Third child-----	20.0	23.3	21.2	18.2	21.3	16.9
Fourth child-----	14.0	15.3	11.8	15.8	11.9	10.6
Fifth child and over-----	17.3	34.6	22.9	11.6	11.0	6.6
<u>All areas</u>						
Under 20 years of age-----	12.2	14.9	24.5	9.6	4.0	-
20-24 years of age-----	36.0	23.3	34.2	39.4	42.2	29.9
25-29 years of age-----	26.1	28.9	20.8	27.2	25.7	32.7
30-34 years of age-----	15.4	17.6	12.1	13.7	19.4	24.5
35+ years of age-----	10.3	15.2	8.3	10.1	8.7	12.9
<u>Metropolitan</u>						
Under 20 years of age-----	10.9	12.4	23.5	8.6	3.3	-
20-24 years of age-----	35.7	25.2	34.4	38.7	40.5	28.4
25-29 years of age-----	26.5	29.5	20.4	27.3	26.5	34.2
30-34 years of age-----	15.9	17.5	14.1	14.1	19.3	22.6
35+ years of age-----	11.1	15.4	7.6	11.3	10.4	14.8
<u>Nonmetropolitan</u>						
Under 20 years of age-----	14.6	18.1	26.2	11.5	5.2	-
20-24 years of age-----	36.5	21.0	34.0	40.7	45.3	34.8
25-29 years of age-----	25.6	28.2	21.6	27.0	24.4	28.0
30-34 years of age-----	14.4	17.8	8.7	12.9	19.5	30.5
35+ years of age-----	9.0	14.9	9.5	8.0	5.6	6.7

Table 4. Number and percent distribution of white married women who had births in 1963, by years of school completed according to residence, age, and live-birth order: United States

Residence, age of mother, and live-birth order	Number in thousands	Years of school completed by mother					
		Total	None or elementary	High school		College	
				1-3 years	4 years	1-3 years	4+ years
		Percent distribution					
All areas-----	3,264	100.0	11.5	23.5	44.4	12.7	7.9
Metropolitan-----	2,107	100.0	9.8	23.0	45.2	12.6	9.4
Nonmetropolitan-----	1,158	100.0	14.5	24.4	43.1	12.8	5.3
Under 20 years of age-----	399	100.0	14.0	47.1	34.8	4.1	---
Metropolitan-----	230	100.0	11.2	49.5	35.5	3.8	---
Nonmetropolitan-----	169	100.0	17.9	43.7	33.8	4.6	---
20-24 years of age-----	1,174	100.0	7.5	22.4	48.7	14.9	6.6
Metropolitan-----	751	100.0	7.0	22.2	49.0	14.3	7.5
Nonmetropolitan-----	423	100.0	8.3	22.7	48.0	15.9	5.0
25-29 years of age-----	853	100.0	12.7	18.7	46.2	12.5	9.9
Metropolitan-----	557	100.0	11.0	17.7	46.6	12.6	12.1
Nonmetropolitan-----	296	100.0	16.0	20.6	45.4	12.2	5.8
30-34 years of age-----	501	100.0	13.2	18.6	39.6	16.0	12.6
Metropolitan-----	335	100.0	10.8	20.5	40.1	15.3	13.4
Nonmetropolitan-----	166	100.0	17.9	14.8	38.7	17.4	11.2
35+ years of age-----	337	100.0	16.9	18.9	43.6	10.7	9.9
Metropolitan-----	233	100.0	13.7	15.8	46.0	11.9	12.5
Nonmetropolitan-----	104	100.0	24.0	25.9	38.2	8.0	3.9
First child-----	893	100.0	4.8	19.8	49.5	15.3	10.7
Metropolitan-----	609	100.0	4.5	19.0	49.4	15.3	11.7
Nonmetropolitan-----	284	100.0	5.3	21.4	49.5	15.3	8.5
Second child-----	810	100.0	8.2	22.2	46.7	13.9	9.0
Metropolitan-----	531	100.0	6.9	22.0	46.7	13.8	10.7
Nonmetropolitan-----	279	100.0	10.6	22.8	46.7	14.1	5.8
Third child-----	632	100.0	13.8	26.1	40.8	12.5	6.8
Metropolitan-----	400	100.0	12.1	26.3	41.7	11.8	8.1
Nonmetropolitan-----	231	100.0	16.9	25.8	39.2	13.7	4.5
Fourth child-----	421	100.0	13.4	25.3	46.9	7.6	6.8
Metropolitan-----	259	100.0	11.9	28.3	45.8	5.6	8.5
Nonmetropolitan-----	162	100.0	15.8	20.6	48.7	10.9	4.0
Fifth child and over-----	508	100.0	24.1	27.3	34.4	10.5	3.7
Metropolitan-----	308	100.0	20.9	24.0	38.0	12.2	4.9
Nonmetropolitan-----	201	100.0	28.9	32.3	28.8	8.1	2.0

Table 5. Number and percent distribution of white married women who had births in 1963, by years of school completed according to geographic region, age, and live-birth order: United States

Region, age of mother, and live-birth order	Number in thousands	Years of school completed by mother					
		Total	None or elementary	High school		College	
				1-3 years	4 years	1-3 years	4+ years
Percent distribution							
All regions-----	3,264	100.0	11.5	23.5	44.4	12.7	7.9
Northeast-----	794	100.0	9.5	21.2	48.9	11.8	8.6
North Central-----	971	100.0	7.7	23.4	48.1	12.3	8.5
South-----	921	100.0	17.2	26.3	37.9	11.4	7.1
West-----	578	100.0	11.3	22.3	42.5	16.5	7.5
Under 20 years of age-----	399	100.0	14.0	47.1	34.8	4.1	-
Northeast-----	70	100.0	14.4	45.7	35.7	4.1	-
North Central-----	97	100.0	4.7	47.0	43.4	5.0	-
South-----	156	100.0	21.9	45.8	28.0	4.3	-
West-----	76	100.0	9.6	51.0	36.9	2.5	-
20-24 years of age-----	1,174	100.0	7.5	22.4	48.7	14.9	6.6
Northeast-----	262	100.0	6.3	21.1	51.9	13.0	7.7
North Central-----	355	100.0	3.7	23.1	50.8	14.4	8.0
South-----	336	100.0	12.1	24.2	45.0	13.3	5.4
West-----	220	100.0	7.7	20.0	47.1	20.3	4.8
25-29 years of age-----	853	100.0	12.7	18.7	46.2	12.5	9.9
Northeast-----	214	100.0	11.1	16.7	49.6	11.9	10.8
North Central-----	251	100.0	8.0	17.0	52.1	12.6	10.2
South-----	232	100.0	19.5	23.9	37.8	10.1	8.7
West-----	156	100.0	12.2	16.6	44.5	16.5	10.1
30-34 years of age-----	501	100.0	13.2	18.6	39.6	16.0	12.6
Northeast-----	150	100.0	9.1	19.4	49.1	12.9	9.6
North Central-----	156	100.0	12.9	18.6	42.1	13.1	13.3
South-----	112	100.0	16.2	16.1	31.6	20.5	15.6
West-----	83	100.0	16.8	20.4	28.8	21.0	12.9
35+ years of age-----	337	100.0	16.9	18.9	43.6	10.7	9.9
Northeast-----	98	100.0	11.7	16.7	48.4	12.6	10.6
North Central-----	111	100.0	15.2	25.3	42.8	10.1	6.6
South-----	85	100.0	24.3	19.1	37.1	8.4	11.1
West-----	43	100.0	18.4	7.3	48.0	12.0	14.3

Table 5. Number and percent distribution of white married women who had births in 1963, by years of school completed according to geographic region, age, and live-birth order: United States—Con.

Region, age of mother, and live-birth order	Number in thousands	Years of school completed by mother					
		Total	None or elementary	High school		College	
				1-3 years	4 years	1-3 years	4+ years
Percent distribution							
First child-----	893	100.0	4.8	19.8	49.5	15.3	10.7
Northeast-----	224	100.0	4.4	19.4	51.5	12.6	12.1
North Central-----	241	100.0	1.5	16.6	52.6	15.1	14.2
South-----	248	100.0	8.1	22.9	46.3	14.1	8.6
West-----	180	100.0	5.0	20.2	47.1	20.5	7.1
Second child-----	810	100.0	8.2	22.2	46.7	13.9	9.0
Northeast-----	188	100.0	9.7	17.6	48.0	14.5	10.2
North Central-----	237	100.0	4.6	23.3	50.8	13.3	8.0
South-----	241	100.0	12.6	25.3	42.0	11.0	9.1
West-----	144	100.0	4.5	21.4	46.1	19.1	8.8
Third child-----	632	100.0	13.8	26.1	40.8	12.5	6.8
Northeast-----	150	100.0	14.2	24.6	44.5	11.3	5.4
North Central-----	204	100.0	6.7	24.0	50.4	11.2	7.7
South-----	186	100.0	21.2	32.0	27.6	14.2	5.0
West-----	92	100.0	14.0	21.6	40.2	13.9	10.4
Fourth child-----	421	100.0	13.4	25.3	46.9	7.6	6.8
Northeast-----	121	100.0	7.1	26.9	55.6	4.3	6.2
North Central-----	118	100.0	10.9	25.8	43.8	10.7	8.8
South-----	103	100.0	20.2	23.6	43.1	5.9	7.2
West-----	78	100.0	18.1	24.4	42.9	10.4	4.2
Fifth child and over-----	508	100.0	24.1	27.3	34.4	10.5	3.7
Northeast-----	110	100.0	16.0	20.1	43.7	14.7	5.4
North Central-----	171	100.0	19.8	30.8	38.2	9.4	1.8
South-----	142	100.0	33.7	28.8	26.1	7.8	3.5
West-----	85	100.0	27.0	26.8	28.4	12.0	5.9

Table 6. Number and percent distribution of white married women who had births in 1963, by geographic region, age, and live-birth order according to years of school completed: United States

Region, age of mother, and live-birth order	Years of school completed by mother					
	Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years
	Number in thousands					
All regions-----	3,264	375	767	1,450	414	259
Northeast-----	794	76	168	388	94	68
North Central-----	971	75	227	467	119	82
South-----	921	159	243	349	105	65
West-----	578	65	129	246	95	43
	Percent distribution					
All regions-----	100.0	100.0	100.0	100.0	100.0	100.0
Northeast-----	24.3	20.2	21.9	26.8	22.7	26.3
North Central-----	29.7	20.0	29.6	32.2	28.9	31.8
South-----	28.2	42.4	31.6	24.1	25.4	25.2
West-----	17.7	17.4	16.8	16.9	23.0	16.7
	<u>Under 20 years of age</u>					
Northeast-----	17.5	17.9	17.0	18.0	*	-
North Central-----	24.4	8.1	24.3	30.4	*	-
South-----	39.1	61.0	38.1	31.5	*	-
West-----	19.0	13.0	20.6	20.1	*	-
	<u>20-24 years of age</u>					
Northeast-----	22.4	18.9	21.1	23.8	19.5	26.1
North Central-----	30.3	15.2	31.2	31.6	29.3	36.9
South-----	28.6	46.4	31.0	26.4	25.6	23.3
West-----	18.8	19.5	16.8	18.1	25.6	13.7
	<u>25-29 years of age</u>					
Northeast-----	25.0	21.9	22.2	26.8	23.8	27.2
North Central-----	29.4	18.6	26.7	33.2	29.8	30.4
South-----	27.2	41.8	34.7	22.3	22.0	23.8
West-----	18.3	17.7	16.3	17.7	24.3	18.7
	<u>30-34 years of age</u>					
Northeast-----	30.0	20.8	31.3	37.1	24.1	22.7
North Central-----	31.1	30.6	31.0	33.0	25.5	32.6
South-----	22.3	27.5	19.4	17.8	28.6	27.6
West-----	16.6	21.1	18.2	12.0	21.8	17.0

Table 6. Number and percent distribution of white married women who had births in 1963, by geographic region, age, and live-birth order according to years of school completed: United States—Con.

Region, age of mother, and live-birth order	Years of school completed by mother						
	Total	None or elementary	High school		College		
			1-3 years	4 years	1-3 years	4+ years	
<u>35+ years of age</u>		Percent distribution					
Northeast-----	29.0	20.1	25.6	32.2	34.3	31.2	
North Central-----	33.0	29.7	44.1	32.4	31.4	22.2	
South-----	25.3	36.3	25.4	21.5	20.0	28.3	
West-----	12.7	13.8	4.9	13.9	14.3	18.4	
<u>First child</u>							
Northeast-----	25.1	23.1	24.6	26.1	20.7	28.4	
North Central-----	27.0	8.5	22.6	28.7	26.6	35.9	
South-----	27.8	47.3	32.1	26.0	25.6	22.3	
West-----	20.2	21.2	20.6	19.2	27.0	13.4	
<u>Second child</u>							
Northeast-----	23.2	27.6	18.4	23.9	24.1	26.4	
North Central-----	29.3	16.6	30.7	31.8	27.9	26.0	
South-----	29.7	45.9	33.8	26.8	23.6	30.1	
West-----	17.8	9.9	17.1	17.6	24.4	17.5	
<u>Third child</u>							
Northeast-----	23.8	24.3	22.4	25.9	21.6	19.1	
North Central-----	32.2	15.7	29.6	39.8	28.8	36.7	
South-----	29.4	45.2	36.0	19.9	33.4	21.9	
West-----	14.6	14.7	12.0	14.3	16.2	22.3	
<u>Fourth child</u>							
Northeast-----	28.9	15.2	30.6	34.2	16.1	*	
North Central-----	28.1	22.8	28.7	26.3	39.5	*	
South-----	24.6	37.1	22.9	22.6	19.2	*	
West-----	18.4	24.9	17.8	16.9	25.2	*	
<u>Fifth child and over</u>							
Northeast-----	21.7	14.4	16.0	27.6	30.3	*	
North Central-----	33.7	27.7	38.0	37.4	30.1	*	
South-----	28.0	39.2	29.6	21.3	20.7	*	
West-----	16.7	18.7	16.4	13.7	18.9	*	

Table 7. Number and percent distribution of white married women who had births in 1963, by geographic region and live-birth order according to years of school completed: United States

Region and live-birth order	Years of school completed by mother					
	Total	None or elementary	High school		College	
			1-3 years	4 years	1-3 years	4+ years
	Number in thousands					
All regions-----	3,264	375	767	1,450	414	259
Northeast-----	794	76	168	388	94	68
North Central-----	971	75	227	467	119	82
South-----	921	159	243	349	105	65
West-----	578	65	129	246	95	43
	Percent distribution					
Total-----	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	27.4	11.4	23.0	30.5	33.0	36.9
Second child-----	24.8	17.6	23.5	26.1	27.2	28.1
Third child-----	19.3	23.3	21.5	17.8	19.1	16.5
Fourth child-----	12.9	15.0	13.9	13.6	7.7	11.0
Fifth child and over-----	15.6	32.6	18.1	12.1	13.0	7.4
<u>Northeast</u>						
First child-----	28.2	13.0	25.9	29.7	30.1	39.9
Second child-----	23.7	24.2	19.7	23.2	29.0	28.2
Third child-----	18.9	28.1	21.9	17.2	18.2	12.0
Fourth child-----	15.3	11.3	19.4	17.4	5.5	11.0
Fifth child and over-----	13.9	23.3	13.2	12.4	17.3	8.8
<u>North Central</u>						
First child-----	24.8	4.8	17.6	27.1	30.4	41.6
Second child-----	24.4	14.6	24.3	25.8	26.4	23.0
Third child-----	21.0	18.3	21.5	22.0	19.1	19.0
Fourth child-----	12.2	17.1	13.4	11.1	10.6	12.7
Fifth child and over-----	17.6	45.2	23.2	14.0	13.5	3.7
<u>South</u>						
First child-----	27.0	12.7	23.4	32.9	33.2	32.8
Second child-----	26.2	19.1	25.1	29.0	25.3	33.7
Third child-----	20.2	24.8	24.5	14.7	25.1	14.4
Fourth child-----	11.2	13.2	10.1	12.8	5.8	11.4
Fifth child and over-----	15.5	30.2	16.9	10.7	10.6	7.8
<u>West</u>						
First child-----	31.1	13.8	28.3	34.6	38.7	29.6
Second child-----	24.9	10.0	23.9	27.1	28.8	29.4
Third child-----	15.9	19.7	15.4	15.0	13.4	22.0
Fourth child-----	13.4	21.5	14.7	13.5	8.5	7.4
Fifth child and over-----	14.6	35.0	17.6	9.8	10.6	11.5

Table 8. Number and percent distribution of white married women who had births in 1963, by age and live-birth order according to family income during 1962: United States

Age of mother and live-birth order	1962 family income						1962 family income					
	Total	Under \$3,000	\$3,000-\$4,999	\$5,000-\$6,999	\$7,000-\$9,999	\$10,000+	Total	Under \$3,000	\$3,000-\$4,999	\$5,000-\$6,999	\$7,000-\$9,999	\$10,000+
<u>All ages</u>	Number in thousands						Percent distribution					
Total-----	3,264	570	879	876	645	294	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	893	217	252	194	148	83	27.4	38.0	28.6	22.1	23.0	28.3
Second child-----	810	125	222	238	161	65	24.8	21.8	25.3	27.2	24.9	22.0
Third child-----	632	88	165	181	144	54	19.3	15.4	18.7	20.6	22.3	18.5
Fourth child-----	421	49	120	120	99	32	12.9	8.7	13.6	13.7	15.4	10.8
Fifth child and over----	508	92	121	143	93	60	15.6	16.1	13.7	16.4	14.4	20.3
<u>Under 20 years of age</u>												
Total-----	399	178	141	58	*	*	100.0	100.0	100.0	100.0	*	*
First child-----	285	121	103	42	*	*	71.4	67.9	73.4	73.7	*	*
Second child-----	90	44	29	13	*	-	22.6	24.6	20.9	23.2	*	-
Third child-----	21	12	7	1	*	-	5.4	7.0	5.1	1.5	*	-
Fourth child-----	1	1	-	-	-	-	0.2	0.5	-	-	-	-
Fifth child and over----	2	-	1	1	-	-	0.4	-	0.6	1.5	-	-
<u>20-24 years of age</u>												
Total-----	1,174	213	382	334	187	57	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	429	83	125	110	83	28	36.5	38.7	32.8	33.0	44.1	49.0
Second child-----	415	57	132	140	60	26	35.4	26.9	34.6	41.9	32.3	44.9
Third child-----	210	51	69	57	31	1	17.9	24.0	18.0	17.1	16.8	2.0
Fourth child-----	90	13	40	23	12	2	7.6	6.0	10.4	7.0	6.2	4.1
Fifth child and over----	30	9	16	3	1	-	2.6	4.4	4.3	1.0	0.6	-
<u>25-29 years of age</u>												
Total-----	853	91	197	263	222	81	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	117	8	13	32	39	27	13.8	8.7	6.4	12.0	17.4	33.2
Second child-----	218	17	48	60	67	26	25.5	18.8	24.4	22.7	30.3	31.7
Third child-----	213	14	63	68	53	15	24.9	15.0	32.0	25.9	24.1	18.1
Fourth child-----	168	18	44	57	43	6	19.7	20.4	22.2	21.8	19.3	7.2
Fifth child and over----	137	34	30	46	20	8	16.1	37.1	15.0	17.7	8.9	9.8
<u>30-34 years of age</u>												
Total-----	501	43	106	139	132	82	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	46	3	9	9	10	14	9.3	8.2	8.7	6.7	7.9	17.1
Second child-----	60	1	12	15	22	10	12.1	2.7	10.9	10.9	16.7	12.8
Third child-----	117	8	17	35	34	23	23.4	17.6	16.2	25.6	26.0	27.7
Fourth child-----	105	14	23	28	28	13	21.0	32.7	21.2	20.2	21.1	15.8
Fifth child and over----	172	17	46	51	37	22	34.3	38.8	42.9	36.6	28.2	26.7
<u>35+ years of age</u>												
Total-----	337	46	53	82	85	71	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	16	2	1	-	2	11	4.8	4.7	2.0	-	2.5	15.1
Second child-----	27	5	1	10	7	3	7.9	11.6	2.0	11.7	8.8	4.5
Third child-----	71	3	9	19	24	16	20.9	7.0	16.2	23.4	27.6	22.7
Fourth child-----	57	3	14	12	17	11	16.8	7.0	26.3	14.3	20.1	15.1
Fifth child and over----	167	32	28	42	35	30	49.6	69.7	53.4	50.7	41.0	42.6

Table 9. Number and percent distribution of white married women who had births in 1963, by residence, age, and live-birth order according to family income during 1962: United States

Residence, age of mother, and live-birth order	1962 family income					
	Total	Under \$3,000	\$3,000-\$4,999	\$5,000-\$6,999	\$7,000-\$9,999	\$10,000+
	Number in thousands					
All areas-----	3,264	570	879	876	645	294
Metropolitan areas-----	2,107	284	507	592	486	238
Nonmetropolitan areas-----	1,158	286	373	284	159	56
	Percent distribution					
All areas-----	100.0	100.0	100.0	100.0	100.0	100.0
Metropolitan areas-----	64.5	49.8	57.6	67.6	75.4	81.0
Nonmetropolitan areas-----	35.5	50.2	42.4	32.4	24.6	19.0
	<u>Under 20 years of age</u>					
Metropolitan areas-----	57.6	53.2	58.4	60.9	*	*
Nonmetropolitan areas-----	42.4	46.8	41.6	39.1	*	*
	<u>20-24 years of age</u>					
Metropolitan areas-----	64.0	52.0	59.1	64.2	82.9	78.1
Nonmetropolitan areas-----	36.0	48.0	40.9	35.8	17.1	21.9
	<u>25-29 years of age</u>					
Metropolitan areas-----	65.3	45.2	53.0	70.7	72.6	80.4
Nonmetropolitan areas-----	34.7	54.8	47.0	29.3	27.4	19.6
	<u>30-34 years of age</u>					
Metropolitan areas-----	66.8	45.2	60.7	68.5	69.5	79.0
Nonmetropolitan areas-----	33.2	54.8	39.3	31.5	30.5	21.0
	<u>35+ years of age</u>					
Metropolitan areas-----	69.2	39.5	56.0	74.4	73.8	86.8
Nonmetropolitan areas-----	30.8	60.5	44.0	25.6	26.2	13.2
	<u>First child</u>					
Metropolitan areas-----	68.2	56.7	61.8	70.6	81.4	88.2
Nonmetropolitan areas-----	31.8	43.3	38.2	29.4	18.6	11.8
	<u>Second child</u>					
Metropolitan areas-----	65.5	49.2	59.7	69.3	76.6	75.4
Nonmetropolitan areas-----	34.5	50.8	40.3	30.7	23.4	24.6
	<u>Third child</u>					
Metropolitan areas-----	63.4	49.2	56.1	65.9	71.4	78.6
Nonmetropolitan areas-----	36.6	50.8	43.9	34.1	28.6	21.4
	<u>Fourth child</u>					
Metropolitan areas-----	61.5	33.9	51.4	65.9	77.1	77.3
Nonmetropolitan areas-----	38.5	66.1	48.6	34.1	22.9	22.7
	<u>Fifth child and over</u>					
Metropolitan areas-----	60.5	43.1	53.3	64.2	67.9	81.4
Nonmetropolitan areas-----	39.5	56.9	46.7	35.8	32.1	18.6

Table 10. Number and percent distribution of white married women who had births in 1963, by residence and live-birth order according to family income during 1962: United States

Residence and live-birth order	1962 family income					
	Total	Under \$3,000	\$3,000-\$4,999	\$5,000-\$6,999	\$7,000-\$9,999	\$10,000+
	Number in thousands					
All areas-----	3,264	570	879	876	645	294
Metropolitan-----	2,107	284	507	592	486	238
Nonmetropolitan-----	1,158	286	373	284	159	56
	Percent distribution					
<u>All areas</u>						
Total-----	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	27.4	38.0	28.6	22.1	23.0	28.3
Second child-----	24.8	21.8	25.3	27.2	24.9	22.0
Third child-----	19.3	15.4	18.7	20.6	22.3	18.5
Fourth child-----	12.9	8.7	13.6	13.7	15.4	10.8
Fifth child and over-----	15.6	16.1	13.7	16.4	14.4	20.3
<u>Metropolitan</u>						
Total-----	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	28.9	43.3	30.7	23.1	24.8	30.8
Second child-----	25.2	21.6	26.2	27.8	25.3	20.5
Third child-----	19.0	15.3	18.3	20.1	21.1	18.0
Fourth child-----	12.3	5.9	12.1	13.4	15.8	10.3
Fifth child and over-----	14.6	13.9	12.7	15.6	13.0	20.4
<u>Nonmetropolitan</u>						
Total-----	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	24.6	32.7	25.8	20.1	17.4	17.7
Second child-----	24.1	22.1	24.0	25.7	23.6	28.7
Third child-----	20.0	15.6	19.4	21.7	25.9	20.8
Fourth child-----	14.0	11.4	15.6	14.5	14.3	12.9
Fifth child and over-----	17.3	18.2	15.1	18.1	18.8	19.9

Table 11. Number and percent distribution of white married women who had births in 1963, by geographic region, age, and live-birth order according to family income during 1962: United States

Region, age of mother, and live-birth order	1962 family income					
	Total	Under \$3,000	\$3,000-\$4,999	\$5,000-\$6,999	\$7,000-\$9,999	\$10,000+
	Number in thousands					
All regions-----	3,264	570	879	876	645	294
Northeast-----	794	104	189	225	195	80
North Central-----	971	153	233	298	201	85
South-----	921	201	332	194	126	67
West-----	578	111	125	158	123	61
	Percent distribution					
All regions-----	100.0	100.0	100.0	100.0	100.0	100.0
Northeast-----	24.3	18.3	21.5	25.7	30.2	27.4
North Central-----	29.7	26.9	26.5	34.1	31.2	28.9
South-----	28.2	35.3	37.8	22.2	19.5	23.0
West-----	17.7	19.5	14.2	18.1	19.1	20.8
	<u>Under 20 years of age</u>					
Northeast-----	17.5	18.0	15.5	21.3	*	-
North Central-----	24.4	24.9	21.6	27.7	*	*
South-----	39.1	38.0	46.8	27.8	*	*
West-----	19.0	19.1	16.1	23.2	*	*
	<u>20-24 years of age</u>					
Northeast-----	22.4	17.8	21.6	25.8	24.2	18.3
North Central-----	30.3	28.8	30.9	31.5	31.5	20.4
South-----	28.6	33.5	32.5	23.7	23.0	31.2
West-----	18.8	19.9	15.0	19.0	21.3	30.1
	<u>25-29 years of age</u>					
Northeast-----	25.0	21.8	21.8	22.8	30.7	28.2
North Central-----	29.4	22.2	22.6	38.3	29.4	25.6
South-----	27.2	36.2	40.2	20.8	18.9	28.7
West-----	18.3	19.8	15.4	18.0	21.0	17.5
	<u>30-34 years of age</u>					
Northeast-----	30.0	19.9	24.3	33.8	36.9	25.1
North Central-----	31.1	27.4	27.1	31.6	30.3	38.7
South-----	22.3	25.3	38.5	19.2	17.3	13.4
West-----	16.6	27.4	10.1	15.5	15.6	22.8

Table 11. Number and percent distribution of white married women who had births in 1963, by geographic region, age, and live-birth order according to family income during 1962: United States—Con.

Region, age of mother, and live-birth order	1962 family income					
	Total	Under \$3,000	\$3,000-\$4,999	\$5,000-\$6,999	\$7,000-\$9,999	\$10,000+
<u>35+ years of age</u>		Percent distribution				
Northeast-----	29.0	13.5	29.8	24.5	34.0	37.8
North Central-----	33.0	34.7	21.2	39.5	38.2	27.1
South-----	25.3	40.8	41.6	21.0	14.6	20.7
West-----	12.7	11.0	7.4	15.0	13.2	14.4
<u>First child</u>						
Northeast-----	25.1	18.3	23.0	31.3	29.6	26.7
North Central-----	27.0	28.4	26.4	24.9	30.7	22.8
South-----	27.8	33.6	34.1	21.6	19.3	23.0
West-----	20.2	19.7	16.4	22.2	20.5	27.6
<u>Second child</u>						
Northeast-----	23.2	22.8	17.7	26.0	26.4	24.6
North Central-----	29.3	26.3	28.4	32.9	30.0	22.8
South-----	29.7	32.3	38.4	24.2	23.1	32.3
West-----	17.8	18.6	15.5	16.9	20.5	20.3
<u>Third child</u>						
Northeast-----	23.8	18.9	22.5	25.5	24.0	29.2
North Central-----	32.2	25.5	23.2	39.8	34.9	38.4
South-----	29.4	40.7	44.6	20.3	21.5	16.8
West-----	14.6	14.8	9.7	14.4	19.7	15.6
<u>Fourth child</u>						
Northeast-----	28.9	19.0	26.3	19.9	47.3	30.1
North Central-----	28.1	25.4	25.8	36.4	23.8	23.3
South-----	24.6	32.0	34.6	21.4	12.3	26.0
West-----	18.4	23.7	13.3	22.3	16.6	20.5
<u>Fifth child and over</u>						
Northeast-----	21.7	11.3	19.1	22.9	29.1	28.1
North Central-----	33.7	26.1	28.4	39.1	36.5	38.3
South-----	28.0	40.2	38.2	22.5	18.4	16.8
West-----	16.7	22.4	14.3	15.4	16.1	16.7

Table 12. Number and percent distribution of white married women who had births in 1963, by geographic region, live-birth order, and age according to family income during 1962: United States

Region, live-birth order, and age of mother	1962 family income					
	Total	Under \$3,000	\$3,000- \$4,999	\$5,000- \$6,999	\$7,000- \$9,999	\$10,000+
	Number in thousands					
All regions-----	3,264	570	879	876	645	294
Northeast-----	794	104	189	225	195	80
North Central-----	971	153	233	298	201	85
South-----	921	201	332	194	126	67
West-----	578	111	125	158	123	61
	Percent distribution					
Total-----	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	27.4	38.0	28.6	22.1	23.0	28.3
Second child-----	24.8	21.8	25.3	27.2	24.9	22.0
Third child-----	19.3	15.4	18.7	20.6	22.3	18.5
Fourth child-----	12.9	8.7	13.6	13.7	15.4	10.8
Fifth child and over-----	15.6	16.1	13.7	16.4	14.4	20.3
<u>Northeast</u>						
First child-----	28.2	37.9	30.7	26.9	22.5	27.6
Second child-----	23.7	27.2	20.8	27.5	21.8	19.8
Third child-----	18.9	16.0	19.6	20.4	17.7	19.8
Fourth child-----	15.3	9.0	16.7	10.6	24.1	11.9
Fifth child and over-----	13.9	9.9	12.2	14.6	13.9	20.9
<u>North Central</u>						
First child-----	24.8	40.2	28.5	16.2	22.6	22.3
Second child-----	24.4	21.4	27.1	26.2	23.9	17.4
Third child-----	21.0	14.7	16.4	24.1	24.9	24.6
Fourth child-----	12.2	8.2	13.3	14.7	11.7	8.7
Fifth child and over-----	17.6	15.6	14.7	18.8	16.9	27.0
<u>South</u>						
First child-----	27.0	36.2	25.9	21.6	22.7	28.3
Second child-----	26.2	20.0	25.7	29.6	29.5	31.0
Third child-----	20.2	17.8	22.1	18.9	24.5	13.5
Fourth child-----	11.2	7.8	12.5	13.3	9.7	12.2
Fifth child and over-----	15.5	18.3	13.9	16.6	13.6	14.9

Table 12. Number and percent distribution of white married women who had births in 1963, by geographic region, live-birth order, and age according to family income during 1962: United States—Con.

Region, live-birth order, and age of mother	1962 family income					
	Total	Under \$3,000	\$3,000- \$4,999	\$5,000- \$6,999	\$7,000- \$9,999	\$10,000+
<u>West</u>						
	Percent distribution					
First child-----	31.1	38.4	33.0	27.1	24.7	37.5
Second child-----	24.9	20.9	27.6	25.5	26.7	21.6
Third child-----	15.9	11.8	12.8	16.5	23.0	13.9
Fourth child-----	13.4	10.5	12.8	17.0	13.4	10.7
Fifth child and over-----	14.6	18.4	13.8	14.0	12.2	16.4
<u>All regions</u>						
Under 20 years of age-----	12.2	31.2	16.0	6.6	2.9	1.3
20-24 years of age-----	36.0	37.4	43.4	38.2	29.0	19.4
25-29 years of age-----	26.1	15.9	22.5	30.0	34.4	27.5
30-34 years of age-----	15.4	7.5	12.1	15.8	20.5	27.8
35+ years of age-----	10.3	8.1	6.0	9.4	13.2	24.1
<u>Northeast</u>						
Under 20 years of age-----	8.8	30.7	11.5	5.4	1.9	-
20-24 years of age-----	33.0	36.3	43.7	38.2	23.3	13.0
25-29 years of age-----	26.9	18.9	22.8	26.6	34.9	28.2
30-34 years of age-----	18.9	8.1	13.7	20.8	25.0	25.5
35+ years of age-----	12.3	6.0	8.3	9.0	14.9	33.2
<u>North Central</u>						
Under 20 years of age-----	10.0	28.8	13.1	5.4	2.4	2.3
20-24 years of age-----	36.6	40.1	50.6	35.3	29.3	13.7
25-29 years of age-----	25.9	13.1	19.2	33.8	32.3	24.4
30-34 years of age-----	16.0	7.6	12.3	14.7	19.9	37.2
35+ years of age-----	11.5	10.4	4.8	10.9	16.2	22.5
<u>South</u>						
Under 20 years of age-----	16.9	33.6	19.8	8.3	4.5	1.4
20-24 years of age-----	36.5	35.5	37.4	40.9	34.2	26.4
25-29 years of age-----	25.2	16.3	23.9	28.3	33.3	34.3
30-34 years of age-----	12.2	5.4	12.3	13.7	18.1	16.2
35+ years of age-----	9.2	9.3	6.6	8.9	9.9	21.7
<u>West</u>						
Under 20 years of age-----	13.1	30.6	18.2	8.4	3.9	1.6
20-24 years of age-----	38.1	38.2	45.8	40.2	32.4	28.1
25-29 years of age-----	27.1	16.2	24.3	30.0	37.9	23.1
30-34 years of age-----	14.4	10.5	8.6	13.6	16.7	30.5
35+ years of age-----	7.4	4.5	3.1	7.8	9.2	16.7

Table 13. Number and percent distribution of white married women who had births in 1963, by years of school completed, age, and live-birth order according to family income during 1962: United States

Years of school completed, age of mother, and live-birth order	1962 family income					
	Total	Under \$3,000	\$3,000- \$4,999	\$5,000- \$6,999	\$7,000- \$9,999	\$10,000+
	Number in thousands					
All educational groups-----	3,264	570	879	876	645	294
None or elementary-----	375	147	114	72	*	*
High school, 1-3 years-----	767	193	255	192	108	*
High school, 4 years-----	1,450	176	391	452	307	123
College, 1-3 years-----	414	39	88	105	122	60
College, 4+ years-----	259	*	30	55	83	75
	Percent distribution					
All educational groups-----	100.0	100.0	100.0	100.0	100.0	100.0
None or elementary-----	11.5	25.8	13.0	8.2	3.8	5.9
High school, 1-3 years-----	23.5	33.8	29.0	21.9	16.7	6.6
High school, 4 years-----	44.4	30.8	44.5	51.7	47.6	41.9
College, 1-3 years-----	12.7	6.8	10.0	12.0	19.0	20.3
College, 4+ years-----	7.9	2.7	3.5	6.3	12.9	25.4
	<u>Under 20 years of age</u>					
None or elementary-----	14.0	22.2	9.1	6.4	-	-
High school, 1-3 years-----	47.1	49.8	43.3	45.2	*	*
High school, 4 years-----	34.8	25.3	42.8	43.3	*	*
College, 1-3 years-----	4.1	2.7	4.8	5.0	-	*
College, 4+ years-----	-	-	-	-	-	-
	<u>20-24 years of age</u>					
None or elementary-----	7.5	13.0	6.2	5.8	4.0	16.5
High school, 1-3 years-----	22.4	27.8	27.0	19.1	18.0	5.4
High school, 4 years-----	48.7	40.8	50.8	51.1	50.1	44.8
College, 1-3 years-----	14.9	11.9	12.4	17.5	17.6	18.6
College, 4+ years-----	6.6	6.5	3.6	6.6	10.3	14.7
	<u>25-29 years of age</u>					
None or elementary-----	12.7	37.2	20.0	8.8	3.3	6.0
High school, 1-3 years-----	18.7	31.8	27.5	15.9	14.4	3.6
High school, 4 years-----	46.2	21.6	42.8	58.1	45.6	44.8
College, 1-3 years-----	12.5	7.5	5.6	9.7	21.4	19.2
College, 4+ years-----	9.9	1.9	4.1	7.5	15.3	26.5
	<u>30-34 years of age</u>					
None or elementary-----	13.2	47.5	22.1	10.0	5.5	1.3
High school, 1-3 years-----	18.6	17.6	20.2	31.7	11.3	6.5
High school, 4 years-----	39.6	34.9	33.0	41.3	44.4	40.3
College, 1-3 years-----	16.0	-	18.6	9.9	24.6	17.2
College, 4+ years-----	12.6	-	6.2	7.1	14.2	34.6

Table 13. Number and percent distribution of white married women who had births in 1963, by years of school completed, age, and live-birth order according to family income during 1962: United States—Con.

Years of school completed, age of mother, and live-birth order	1962 family income					
	Total	Under \$3,000	\$3,000- \$4,999	\$5,000- \$6,999	\$7,000- \$9,999	\$10,000+
<u>35+ years of age</u>		Percent distribution				
None or elementary-----	16.9	56.7	28.2	14.5	2.5	2.7
High school, 1-3 years-----	18.9	19.2	29.5	19.8	18.9	9.9
High school, 4 years-----	43.6	19.9	33.0	56.8	54.2	38.9
College, 1-3 years-----	10.7	4.2	5.7	5.0	10.9	24.9
College, 4+ years-----	9.9	-	3.7	3.9	13.5	23.6
<u>First child</u>						
None or elementary-----	4.8	9.8	3.9	3.5	2.5	1.3
High school, 1-3 years-----	19.8	35.2	21.2	14.9	9.5	5.1
High school, 4 years-----	49.5	38.5	56.4	54.5	47.5	48.7
College, 1-3 years-----	15.3	9.6	13.7	16.6	23.3	17.4
College, 4+ years-----	10.7	6.8	4.8	10.5	17.2	27.5
<u>Second child</u>						
None or elementary-----	8.2	20.0	9.1	2.9	3.1	14.0
High school, 1-3 years-----	22.2	38.1	30.0	20.4	9.0	4.7
High school, 4 years-----	46.7	32.2	45.4	54.6	51.6	37.5
College, 1-3 years-----	13.9	8.9	11.1	13.2	20.1	20.5
College, 4+ years-----	9.0	0.8	4.4	8.9	16.1	23.2
<u>Third child</u>						
None or elementary-----	13.8	39.8	15.4	11.9	2.3	3.8
High school, 1-3 years-----	26.1	31.5	36.8	22.7	23.4	3.6
High school, 4 years-----	40.8	27.6	37.1	48.1	43.3	42.3
College, 1-3 years-----	12.5	1.1	8.6	13.4	19.5	21.1
College, 4+ years-----	6.8	-	2.0	3.9	11.5	29.2
<u>Fourth child</u>						
None or elementary-----	13.4	38.9	17.7	7.9	5.3	3.7
High school, 1-3 years-----	25.3	30.4	31.3	27.7	19.7	3.1
High school, 4 years-----	46.9	22.9	44.5	56.7	56.3	26.7
College, 1-3 years-----	7.6	7.9	3.7	5.0	7.2	32.8
College, 4+ years-----	6.8	-	2.8	2.6	11.5	33.8
<u>Fifth child and over</u>						
None or elementary-----	24.1	51.0	31.1	18.9	7.7	6.6
High school, 1-3 years-----	27.3	28.8	30.7	28.1	27.9	15.1
High school, 4 years-----	34.4	18.1	28.0	43.1	38.5	44.8
College, 1-3 years-----	10.5	2.1	8.6	7.8	21.7	16.7
College, 4+ years-----	3.7	-	1.6	2.1	4.2	16.9

Table 14. Number and percent distribution of white married women who had births in 1963, by years of school completed and live-birth order according to family income during 1962: United States

Years of school completed by mother and live-birth order	1962 family income					
	Total	Under \$3,000	\$3,000- \$4,999	\$5,000- \$6,999	\$7,000- \$9,999	\$10,000+
	Number in thousands					
All educational groups-----	3,264	570	879	876	645	294
None or elementary-----	375	147	114	72	*	*
High school, 1-3 years-----	767	193	255	192	108	*
High school, 4 years-----	1,450	176	391	452	307	123
College, 1-3 years-----	414	39	88	105	122	60
College, 4+ years-----	259	*	30	55	83	75
	Percent distribution					
Total-----	100.0	100.0	100.0	100.0	100.0	100.0
First child-----	27.4	38.0	28.6	22.1	23.0	28.3
Second child-----	24.8	21.8	25.3	27.2	24.9	22.0
Third child-----	19.3	15.4	18.7	20.6	22.3	18.5
Fourth child-----	12.9	8.7	13.6	13.7	15.4	10.8
Fifth child and over-----	15.6	16.1	13.7	16.4	14.4	20.3
<u>None or elementary</u>						
First child-----	11.4	14.5	8.5	9.5	*	*
Second child-----	17.6	17.0	17.7	9.7	*	*
Third child-----	23.3	23.8	22.3	29.9	*	*
Fourth child-----	15.0	13.0	18.6	13.3	*	*
Fifth child and over-----	32.6	31.7	32.9	37.7	*	*
<u>High school, 1-3 years</u>						
First child-----	23.0	39.6	20.9	15.0	13.1	*
Second child-----	23.5	24.6	26.1	25.3	13.4	*
Third child-----	21.5	14.4	23.8	21.3	31.2	*
Fourth child-----	13.9	7.8	14.7	17.4	18.2	*
Fifth child and over-----	18.1	13.7	14.5	21.0	24.1	*
<u>High school, 4 years</u>						
First child-----	30.5	47.5	36.3	23.3	22.9	32.9
Second child-----	26.1	22.8	25.8	28.7	27.0	19.8
Third child-----	17.8	13.8	15.6	19.2	20.2	18.7
Fourth child-----	13.6	6.4	13.6	15.1	18.2	6.9
Fifth child and over-----	12.1	9.4	8.6	13.6	11.7	21.8
<u>College, 1-3 years</u>						
First child-----	33.0	53.9	39.1	30.6	28.3	24.2
Second child-----	27.2	28.0	28.0	29.9	26.4	22.3
Third child-----	19.1	2.5	16.1	23.1	22.9	19.3
Fourth child-----	7.7	10.0	5.1	5.8	5.9	17.5
Fifth child and over-----	13.0	5.0	11.8	10.7	16.5	16.7
<u>College, 4+ years</u>						
First child-----	36.9	*	39.9	37.3	30.6	30.7
Second child-----	28.1	*	32.2	38.5	31.1	20.2
Third child-----	16.5	-	10.6	13.0	19.9	21.3
Fourth child-----	11.0	-	10.9	5.7	13.7	14.4
Fifth child and over-----	7.4	-	6.4	5.6	4.7	13.5

Table 15. Years of school completed by white females, 14-44 years of age, by age: United States, March 1962¹

Age	Total	Years of school completed					
		None or elementary	High school		College		
			1-3 years	4 years	1-3 years	4 years or more	
Number in thousands							
All ages, 14-44 years-----	34,006	6,101	8,807	13,433	3,583	2,082	
14-19 years-----	7,824	2,367	3,788	1,385	282	...	
20-24 years-----	5,125	464	997	2,463	902	299	
25-29 years-----	4,788	547	922	2,283	555	481	
30-34 years-----	5,161	706	977	2,409	601	468	
35-44 years-----	11,108	2,017	2,123	4,893	1,243	832	

¹U.S. Bureau of the Census: Educational Attainment, March 1962. Current Population Reports. Series P-20, No. 121. Washington, D.C., Feb. 1963.

Table 16. Years of school completed by white females, 14-44 years of age, by age: United States, March 1964¹

Age	Total	Years of school completed					
		None or elementary	High school		College		
			1-3 years	4 years	1-3 years	4 years or more	
Number in thousands							
All ages, 14-44 years-----	35,027	5,822	9,401	14,060	3,566	2,178	
14-19 years-----	8,376	2,402	4,347	1,328	299	...	
20-24 years-----	5,659	414	1,023	2,846	987	389	
25-29 years-----	4,880	485	860	2,489	560	485	
30-34 years-----	4,970	628	940	2,386	546	469	
35-44 years-----	11,142	1,893	2,231	5,011	1,174	833	

¹The March 1964 survey includes 1,037,000 members of the Armed Forces in the United States living off post or with their families on post, but excludes all other members of the Armed Forces.

SOURCE: U.S. Bureau of the Census: Educational Attainment, March 1964. Current Population Reports. Series P-20, No. 138. Washington, D.C., May 1965.

APPENDIX I

TECHNICAL NOTES ON METHODS

This report presents estimates of white legitimate births for 1963 in relation to socioeconomic characteristics of the infants' families. It is based on data collected in the 1963 National Natality Survey. The survey, which was conducted by the Division of Health Records Statistics of the National Center for Health Statistics (in part under contract with the Division of Radiological Health, Public Health Service), was designed primarily to provide national estimates of the amount and type of exposure to ionizing radiation experienced by women during pregnancy. In addition to obtaining radiation data from physicians and medical facilities, certain socioeconomic and demographic data which were thought to be relevant to the study were obtained from the mothers. All of the information contained in this report was obtained from the certificates of live birth and from the mothers' responses. Various kinds of information from physicians and medical facilities are being published in separate reports in this series.

The basic source of information was the birth certificate; a questionnaire asking for more information was mailed to each mother. Additional mailings were made when the original was not returned or was returned incomplete. Finally, when there was no response after three mailings, a personal interview was attempted by Bureau of the Census interviewers if the mother was a resident of a primary sampling unit of the Bureau of the Census.

Sample Design

The sampling frame for the 1963 National Natality Survey was the file of microfilms of birth records received each month by the National Center for Health Statistics from the 54 birth registration areas of the United States. As a general rule, for each registration area these microfilm images are assigned a number prior to or during filming of the birth record. Each thousand consecutive images are defined as a "reel" and assigned a reel number starting from zero. Within each reel, the images are numbered from 1 to 1,000.

The sampling for the survey was based on a probability design which made use of these preassigned

reel and image numbers on the birth records. Each reel of the microfilm copies of the birth certificates constituted a primary sampling unit. Within each reel one record was chosen at random. Thus, a sample of one out of 1,000 births was selected from the monthly shipment of records from the registration areas.

The national sample included a total of 4,096 births for the year 1963. Of these 4,096 births, 214 were reported as illegitimate on the birth record. However, legitimacy is reported on only 35 of the 54 registration areas in the United States. Hence, a procedure was developed to infer legitimacy on the basis of indirect evidence on the birth certificate for the 19 registration areas not reporting this item. If the surname of the father on the birth record was different from the surname of the child or if the surname of the father was not reported, the birth was imputed to be illegitimate. On the basis of this procedure, 102 births in the sample were inferred to be illegitimate in addition to those mentioned above.

The mothers of these 316 illegitimate births plus the mothers of an additional 54 births were not queried. The State of Missouri withdrew from the survey after June 1963, so that the 45 births selected in the sample

Table I. Total number of births in the United States and the number in the survey of mothers: 1963 National Natality Survey

Item	Size
Total count of births in the United States-----	4,098,000
Number of births selected in the sample-----	4,096
Number of births excluded from survey:	
Number of illegitimate births-----	316
Number of births from Missouri:	
July-December 1963-----	45
Other-----	9
Number of births included for the survey of mothers-----	3,726

Table II. Response received from mothers by mailing waves: 1963 National Natality Survey

Response status	Mothers
Total included in survey---	3,726
	Percent
Total response-----	86.4
Response to original mail-----	45.3
Response to second mail (certified)-----	29.0
Response to third mail-----	6.8
Response to interview-----	5.1
Total nonresponse-----	13.6

from Missouri for the period July through December 1963 were excluded from the survey. Nine additional births were excluded from the survey either because residence was outside the United States or because no usable mailing address was available. Thus, the final sample of mothers to whom questionnaires were mailed was 3,726. Table I shows the size of the original sample drawn from the birth records and the final sample of mothers to whom questionnaires were mailed.

The Birth Certificate and Questionnaire

Facsimiles of the Standard Certificate of Live Birth and of the questionnaire used in the survey are shown in Appendix III.

Although not all States use the standard certificate, most do include the basic information used in this report. The major exception is legitimacy (item 23) which is not reported in 19 States. The procedure which was developed to overcome this omission is discussed under sample design.

The questionnaire sent to the mother was designed primarily to obtain names and addresses of any physicians and medical facilities which she visited during the year in addition to those named on the birth certificate. In addition, there were six questions concerning the family income during 1962 (the last calendar year before the birth), the educational attainment of the parents, the father's employment status at the time of the birth, and the mother's employment at any time during her pregnancy.

Collection of Data

Data for the 1963 National Natality Survey were collected primarily by mail. Using the addresses given on the birth certificate, questionnaires were sent to the mother, the physician who delivered the baby, and the medical facility where the baby was born.

For these mothers, followup procedures consisted of a certified mailing 2 weeks after the initial mailing and a regular first-class mailing 3 weeks after the certified mail. Telephone or personal interviews were conducted by Bureau of the Census interviewers with mothers who did not respond after all three mailings and who lived in one of the field survey areas of the Current Population Survey program of the Bureau of the Census. These procedures resulted in a response rate of 86.4 percent from mothers included in the survey (table II).

Processing of Data

The completed questionnaires were edited and coded in accordance with predetermined specifications. The questionnaires were checked both for completeness and for consistency of response. If the reported data were inadequate for certain essential items, further mail inquiries were made to obtain them.

After the edited and coded data had been transcribed onto punchcards the data were processed on electronic computers. The computer processing included con-

Table III. Number and percent distribution of survey mothers, by age for respondents and nonrespondents to the survey: 1963 National Natality Survey

Age of mother	Total		Respondents		Nonrespondents	
	Number	Percent	Number	Percent	Number	Percent
All ages-----	3,726	100.0	3,218	100.0	508	100.0
Under 20 years-----	488	13.1	373	11.6	115	22.6
20-24 years-----	1,252	33.6	1,074	33.4	178	35.0
25-29 years-----	1,056	28.3	948	29.5	108	21.3
30-34 years-----	549	14.7	486	15.1	63	12.4
35 years and over-----	381	10.2	337	10.4	44	8.7

sistency checks, interval edits, assignment of weights, and imputation for missing data.⁹

Nonresponse and Imputation of Missing Data

Failure to obtain response represents one of the main sources of error in a survey. The extent of nonresponse and imputation of missing data in the 1963 natality survey are discussed below.

A total of 508 mothers, or 13.6 percent, had not responded after all followup procedures were completed. Included among the 508 are 28 respondents who returned the questionnaires substantially incomplete; for the purposes of processing the data, these respondents were treated in the same manner as the women who did not respond at all. A large proportion of this nonresponse was accounted for by mothers in the younger ages. Almost 57.6 percent of the 508 mothers not responding, compared with 45.0 percent of the respondents, were less than 25 years of age (table III).

Besides these mothers who did not respond at all by mail or interview ("unit nonresponse"), those who returned questionnaires but omitted part of the information also affect the quality of data derived from the survey. Nonresponse to items on questionnaires returned by mothers was minimal in most instances and accounted for no more than 3.1 percent of the respondents for any single item. Table IV shows the percent not ascertained for specified items by age of mother

and live-birth order. The principal problem of incompleteness in the returned questionnaires arose from failure to obtain information about the total income of the family, a problem which was found disproportionately among mothers under 25 years of age and among mothers who were having their first birth or fifth or later birth.

Statistics derived from the survey of mothers were adjusted for unit nonresponse by imputing to nonrespondents the characteristics of similar respondents. Similar respondents were mothers who responded to later mailings within each of the 24 age-of-mother, color, and live-birth-order groups. Two assumptions are inherent in this imputation procedure. First the three birth record characteristics—age of mother, color, and live-birth order—which are available for responding as well as nonresponding mothers are related to the socioeconomic characteristics. Second the nonrespondents are more like those who responded to the later mailings than those who responded to the first mail. The latter assumption is based on the pattern of response by mailing waves observed in relation to the educational and income level of the respondents.

Thus, an array of known values was established in the computer using the respondents to later mailings within the 24 age, color, and birth-order groups as the population from which values were imputed to the nonrespondents. Values in the cells of the array were continually replaced by successive known values as the file of records was processed; as a nonresponse record

Table IV. Number and percent of respondents for whom specified items were not ascertained, by age of mother and live-birth order: 1963 National Natality Survey

Age of mother and live-birth order	Total number of respondents	Family income	Education of mother	Education of father
		Percent not ascertained		
Total-----	3,218	3.1	0.2	0.8
<u>Age of mother</u>				
Under 20 years-----	373	6.2	-	0.3
20-24 years-----	1,074	3.0	0.1	0.6
25-29 years-----	948	1.8	0.3	0.8
30-34 years-----	486	3.3	0.6	1.0
35 years and over-----	337	3.9	0.3	1.2
<u>Live-birth order</u>				
First child-----	864	4.2	-	0.2
Second child-----	777	2.1	-	0.4
Third child-----	595	2.4	0.2	1.3
Fourth child-----	409	2.2	0.5	1.0
Fifth child and over-----	573	4.5	0.9	1.4

was read, values from the last known record in the appropriate cell of the array were imputed to the non-response record.

Data are also adjusted for item nonresponse. Imputation procedures for missing data on questionnaires returned by mothers were based on the premise that the presence of several correlated variables permits a reasonably good prediction of the missing variable.⁹

Thus, missing data for items on employment of father, education of father, and family income were imputed on the computer on the same principle as for unit nonresponse, that is, imputation was made by assigning within homogeneous groups the characteristics of respondents to later mailings with known data to those respondents with missing data. Age, color, and birth order used for imputation of unit nonresponse was also used for imputation of missing data on employment of father. Missing information on education of father was imputed using age of father and education of mother. Missing information on family income was imputed using age and education of father.

Missing data on the employment status of mother during pregnancy for three cases and on the education of mother for eight cases were imputed arbitrarily.

Birth Records

With the exception of color of child for births selected from New Jersey, age of father, and completed weeks of pregnancy, the information on the birth record was in most cases complete. During 1962 the item on color of child was removed from the New Jersey birth record. Although this item was replaced in late 1962, almost all births occurring during 1963 were registered on birth records not containing the question on color. Thus, information on color of child was missing on approximately 100 records from New Jersey selected in the sample. Imputation for color of child was carried out by means of a procedure using detailed geographic information on place of residence of mother and proportion of nonwhite population in that location according to the 1960 census.

In addition, information on completed weeks of pregnancy was unknown on 214 birth records; number of previous fetal deaths was unknown for 92 records; and age of father was missing on 255 records. Imputation for these items was also carried out on the computer by substituting known values from the age, color, and birth-order array described earlier. For items such as birth weight, sex of child, and birthplace of mother, where the number of unknown cases was small, imputation was made arbitrarily.

Estimation

Statistics based on the survey are estimates prepared by the use of a post-stratified ratio estimation procedure. The purpose of ratio estimation is to take into

account available relevant information in the estimation process, thereby reducing the variability of the estimate. This procedure was carried out for each of the following 24 groups:

Group	Age	Live-birth order
<u>White</u>		
1	Under 20 years	1
2	Under 20 years	2+
3	20-24 years	1
4	20-24 years	2
5	20-24 years	3+
6	25-29 years	1
7	25-29 years	2
8	25-29 years	3-4
9	25-29 years	5+
10	30-34 years	1-2
11	30-34 years	3-4
12	30-34 years	5+
13	35 years or more	1-4
14	35 years or more	5+
<u>Nonwhite</u>		
15	Under 20 years	1
16	Under 20 years	2+
17	20-24 years	1-2
18	20-24 years	3+
19	25-29 years	1-2
20	25-29 years	3-4
21	25-29 years	5+
22	30-34 years	1-4
23	30-34 years	5+
24	35 years or more	ALL

For each group, the ratio of the number of births in the United States in 1963 (based on a 50-percent sample) to the number of births in the sample was determined.¹⁰ These 24 ratios comprised the sample weights used in estimating national totals for each of the 24 groups. The effect of this ratio adjustment was to make the estimates from the sample consistent with the complete count of births for each of the groups used in the estimation procedure.

Thus estimates of characteristics from the sample are produced using the following formula:

$$X' = \sum_{i=1}^{24} \frac{x_i}{y_i} Y_i$$

where

X' is the estimate of the number of births with a particular group i ,

x_i is the count of sample births with the characteristic in group i ,

y_i is the count of all sample births in group i , and

Y_i is the total number of births in group i , based on the 50-percent sample.

Reliability of Estimates

Since the statistics derived from this survey are estimates based on a sample, they may differ from the figures that would have been obtained had a count of all births in 1963 been conducted using the same questionnaires and procedures. In addition to sampling errors, survey results are subject to errors in conceptual formulation, ambiguities in definitions and in the questionnaire construction, coding errors, biases due to non-response or incomplete response, mistakes in editing, and tabulation errors.

The probability design of the sample for the survey makes possible the calculation of sampling errors. The standard error is a measure of the sampling variation that occurs by chance because only a sample rather than the entire population is surveyed. The chances are about 68 out of 100 that an estimate from the sample differs from the value for the entire population by less than the standard error. The chances are about 95 out of 100 that the difference is less than twice the standard error. The standard error of a difference between two sample estimates is approximately the square root of the sum of squares of each standard error considered separately.

Estimates of sampling variability for the statistics derived from this survey were based on 20 random half-sample replications. This technique yields overall variability through observation of variability among random subsamples of the total sample. It reflects both the error that arises from sampling and a part of the measurement error, but it does not measure any systematic biases in the data. A general discussion of the development and evaluation of a replication technique for estimating variance has been published elsewhere.¹¹ However, the procedures and computations required to estimate variances by this method in the 1963 natality survey are briefly described below.

For this survey, each record from the entire file of records was assigned systematically to a random group between 1 and 40. Twenty pairs of random groups were created from these groups. A half sample was formed by randomly selecting one group from each of the 20 pairs. This process was repeated until 20 "replicate half samples" were formed from which variance estimates were derived. The composition of the 20 half samples was determined by an orthogonal plan.

Table V. Approximate standard errors for estimated numbers shown in this report

Size of estimate	Relative standard error	Standard error
25,000-----	16.8	4,200
50,000-----	12.0	6,000
75,000-----	9.8	7,350
100,000-----	8.5	8,500
250,000-----	5.0	12,500
500,000-----	3.3	16,500
750,000-----	2.5	18,750
1,000,000-----	2.0	20,000
1,500,000-----	1.5	22,500

After the composition of each of the half samples was determined, all the estimation procedures used to produce the final estimates from the entire sample were applied separately to each of the resulting half samples.

An estimated variance $S_{x'}^2$ of an estimated statistic x' of the parameter X is obtained by applying the following formula:

$$S_{x'}^2 = \frac{1}{20} \sum_{i=1}^{20} (x_i'' - x')^2$$

where

x is the estimate of X based on the entire sample, and x_i'' is the estimate of X based on half sample i .

Rules to determine the approximate standard errors for estimates presented in this report are as follows:

1. *Estimates of aggregates:* Approximate standard errors of estimates of aggregates, such as the number of births with a given characteristic are given in table V.
2. *Estimates of percentages in a percent distribution:* Approximate standard errors for percentages are determined in one of the two following ways, depending upon the source of the base of the percentages:
 - a. Where both numerator and denominator are estimates from the sample data, such as the percentage of wives in the Northeast Region who had their third child in 1963, the approximate standard errors are given in table VI.
 - b. Where the denominator is a value found in one of the 24 ratio estimates cells shown on page 40 and is therefore not subject to sampling error, the relative standard error of the percent is equivalent to the relative standard error of the numerator, which can be obtained directly from table V.

Table VI. Approximate standard error for estimated percents shown in this report

Base of percent	Estimated percent					
	2 or 98	5 or 95	10 or 90	20 or 80	30 or 70	50
	Standard expressed in percentage points					
30,000-----	2.0	3.1	4.2	5.6	6.4	7.0
50,000-----	1.5	2.4	3.3	4.3	5.0	5.4
100,000-----	1.1	1.7	2.3	3.1	3.5	3.8
250,000-----	0.7	1.1	1.5	1.9	2.2	2.4
500,000-----	0.5	0.7	1.0	1.4	1.6	1.7
1,000,000-----	0.3	0.5	0.7	1.0	1.1	1.2
2,000,000-----	0.2	0.4	0.5	0.7	0.8	0.9
3,000,000-----	0.2	0.3	0.4	0.6	0.6	0.7
4,000,000-----	0.2	0.3	0.4	0.5	0.5	0.6

3. *Difference between two sample estimates:* The standard error of a difference is approximately the square root of the sum of the squares of each standard error considered separately. This formula will represent the actual standard error quite accurately for the difference between separate and uncorrelated characteristics, although it is only a rough approximation in most cases.
4. *Estimate of a median:* The medians shown in this report were calculated from grouped data. Ap-

proximate confidence intervals for these estimated medians can be computed as follows:

- a. Determine the standard error of a 50-percent characteristic whose denominator is equal to the estimated number of persons in the frequency distribution on which the median is based.
- b. Apply this standard error to the cumulative frequency distribution to obtain the confidence interval around the median.

It is possible to investigate whether an observed difference between two estimated medians can be attributed to sampling error alone by obtaining the upper 68 percent confidence limit, U'_1 , of the smaller observed median, M'_1 , and the lower 68 percent confidence limit, L'_2 , of the larger median M'_2 . The square root of the sum of the squared differences between M'_1 and U'_1 and M'_2 and L'_2 is the standard error of the difference between M'_1 and M'_2 ; that is

$$S_{(M'_1 - M'_2)} = \sqrt{(M'_1 - U'_1)^2 + (M'_2 - L'_2)^2}$$

Rounding of Numbers

The original tabulations on which the data in this report are based show figures to the nearest whole unit. In the published tables, estimates of aggregates are rounded to the nearest thousand although they are not necessarily accurate to that detail. All percentages, ratios, and averages were computed using unrounded figures.



APPENDIX II

DEFINITIONS OF CERTAIN TERMS USED IN THIS REPORT

Information From the Certificate of Live Birth

Legitimacy status.—For States reporting legitimacy on the birth record, it is recorded from the entry on the birth certificate. For States not reporting legitimacy on the birth record, it is inferred from other evidence on the certificate. The following 16 States did not report legitimacy on the birth record in 1963: Arizona, Arkansas, California, Colorado, Connecticut, Georgia, Idaho, Maryland, Massachusetts, Montana, Nebraska, New Hampshire, New Mexico, New York, Oklahoma, and Vermont.

Live-birth order.—Live-birth order is derived from entries on the birth certificate and refers to the number of children born alive to the mother, including the sample child.

Color.—Color is recorded or derived from entries on the birth certificate. The category "white" includes births to parents classified as white, Mexican, or Puerto Rican. Nonwhite births include births to parents classified as Negro, American Indian, Chinese, Japanese, Aleut, Eskimo, Hawaiian, or part-Hawaiian.

Age of mother.—Age of mother is recorded or derived from entries on the birth certificate.

Residence.—The place of residence of a member of the civilian, noninstitutional population is classified as inside a standard metropolitan statistical area (SMSA) or outside an SMSA according to farm or non-farm residence.

Educational attainment.—Educational attainment in this report refers to the highest grade of regular school completed. Regular school consists of elementary, high school, and college or university and does not include trade or business schools. Data are derived from the answers to questions concerning the highest

grade of school attended by the person and whether or not that grade was completed.

Family income.—Family income refers to the total of all income received during the preceding year by all persons related to each other by blood, marriage, or adoption and living in the household when the baby was born. Income from all sources is included, such as wages, salaries, unemployment compensation, and help from relatives.

Region.—For the purpose of classifying the population by geographic area, the States are grouped into four regions. These regions, which correspond to those used by the Bureau of the Census, are as follows:

<i>Region</i>	<i>States Included</i>
Northeast -----	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania
North Central-----	Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas
South -----	Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas
West-----	Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Alaska, Washington, Oregon, California, Hawaii



APPENDIX III

SOURCE FORMS

Standard Certificate of Live Birth

Form approved.
Budget Bureau No. 68-R374.2.

CERTIFICATE OF LIVE BIRTH

STATE OF _____ BIRTH No. _____

1. PLACE OF BIRTH a. COUNTY b. CITY, TOWN, OR LOCATION c. NAME OF HOSPITAL OR INSTITUTION <i>(If not in hospital, give street address)</i> d. IS PLACE OF BIRTH INSIDE CITY LIMITS? YES <input type="checkbox"/> NO <input type="checkbox"/>		2. USUAL RESIDENCE OF MOTHER <i>(Where does mother live?)</i> a. STATE b. COUNTY c. CITY, TOWN, OR LOCATION d. STREET ADDRESS e. IS RESIDENCE INSIDE CITY LIMITS? YES <input type="checkbox"/> NO <input type="checkbox"/>	
3. NAME <i>(Type or print)</i> First _____ Middle _____ Last _____		6. DATE OF BIRTH Month _____ Day _____ Year _____	
CHILD	4. SEX SINGLE <input type="checkbox"/> TWIN <input type="checkbox"/> TRIPLET <input type="checkbox"/>	5a. THIS BIRTH SINGLE <input type="checkbox"/> TWIN <input type="checkbox"/> TRIPLET <input type="checkbox"/>	5b. IF TWIN OR TRIPLET, WAS CHILD BORN 1ST <input type="checkbox"/> 2D <input type="checkbox"/> 3D <input type="checkbox"/>
FATHER	7. NAME First _____ Middle _____ Last _____	8. COLOR OR RACE	
MOTHER	9. AGE <i>(At time of this birth)</i> YEARS _____	10. BIRTHPLACE <i>(State or foreign country)</i>	11a. USUAL OCCUPATION 11b. KIND OF BUSINESS OR INDUSTRY
MOTHER	12. MAIDEN NAME First _____ Middle _____ Last _____	13. COLOR OR RACE	
MOTHER	14. AGE <i>(At time of this birth)</i> YEARS _____	15. BIRTHPLACE <i>(State or foreign country)</i>	16. PREVIOUS DELIVERIES TO MOTHER <i>(Do NOT include this birth)</i> a. How many OTHER children are now living? _____ b. How many OTHER children were born alive but are now dead? _____ c. How many fetal deaths (fetuses born dead at ANY time after conception)? _____
17. INFORMANT			
18. MOTHER'S MAILING ADDRESS			
I hereby certify that this child was born alive on the date stated above.		18a. SIGNATURE 18b. ADDRESS	18c. ATTENDANT AT BIRTH M. D. <input type="checkbox"/> D. O. <input type="checkbox"/> MIDWIFE <input type="checkbox"/> OTHER (Specify) _____ 18d. DATE SIGNED
19. DATE RECD. BY LOCAL REG.	20. REGISTRAR'S SIGNATURE	21. DATE ON WHICH GIVEN NAME ADDED BY _____ (Registrar)	
FOR MEDICAL AND HEALTH USE ONLY <i>(This section MUST be filled out)</i>			
22a. LENGTH OF PREGNANCY COMPLETED WEEKS _____	22b. WEIGHT AT BIRTH LB. _____ OZ. _____	23. LEGITIMATE YES <input type="checkbox"/> NO <input type="checkbox"/>	
(SPACE FOR ADDITION OF MEDICAL AND HEALTH ITEMS BY INDIVIDUAL STATES)			

1956 REVISION OF STANDARD CERTIFICATE

PHS-706 REV. 11-54

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE—PUBLIC HEALTH SERVICE



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

WASHINGTON 25, D. C.

Γ

L

The U. S. Public Health Service is doing a national study to find out how much and what kinds of medical and dental care women are receiving during the year before the birth of a child. Nothing is known about the extent of the care received by expectant mothers, even though such care is of the greatest importance for the future health of both mother and baby. A knowledge of what is actually happening throughout the Nation will go a long way in helping to improve the health of mothers and babies.

The information needed for this study will be based on the experience of the mothers of 4,000 babies out of the 4 million born during 1963. These mothers were selected as a random sample of all mothers who have a baby, and you are one of those so selected. We are therefore asking you to answer the questions on the following pages of this form, and to return it to us in the enclosed envelope which requires no postage.

Please notice that in the first part of the form the questions ask about every doctor, dentist, hospital, or clinic from which you received any care during the entire year before your baby was born. Your answers should not be just for the care connected with pregnancy, but for any and all medical and dental care or checkups during these 12 months.

All information about you and your baby will be kept completely confidential. Your answers will be used for health research only and for no other purpose. As you might expect, it is particularly important that we receive your answers and those of all the other 4,000 mothers, since each of you really represents 1,000 mothers.

Your cooperation in this study is deeply appreciated.

Sincerely yours,

O. K. Sagen, Ph. D., Chief
National Vital Statistics Division
National Center for Health Statistics

Name of Child	
Date of Birth	File Number

M

OUTLINE OF REPORT SERIES FOR VITAL AND HEALTH STATISTICS

Public Health Service Publication No. 1000

- Series 1. Programs and collection procedures.*—Reports which describe the general programs of the National Center for Health Statistics and its offices and divisions, data collection methods used, 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, contributions to statistical theory.
- Series 3. Analytical 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 Health Interview Survey.*—Statistics on illness, accidental injuries, disability, use of hospital, medical, dental, and other services, and other health-related topics, based on data collected in a continuing national household interview survey.
- Series 11. Data from the Health Examination Survey.*—Data from direct examination, testing, and measurement of national samples of the population provide the basis for two types of reports: (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 Institutional Population Surveys.*—Statistics relating to the health characteristics of persons in institutions, and on medical, nursing, and personal care received, based on national samples of establishments providing these services and samples of the residents or patients.
- Series 13. Data from the Hospital Discharge Survey.*—Statistics relating to discharged patients in short-stay hospitals, based on a sample of patient records in a national sample of hospitals.
- Series 20. Data on mortality.*—Various statistics on mortality other than as included in annual or monthly reports—special analyses by cause of death, age, and other demographic variables, also geographic and time series analyses.
- Series 21. Data on natality, marriage, and divorce.*—Various statistics on natality, marriage, and divorce other than as included in annual or monthly reports—special analyses by demographic variables, also geographic and time series analyses, studies of fertility.
- Series 22. Data from the National Natality and Mortality Surveys.*—Statistics on characteristics of births and deaths not available from the vital records, based on sample surveys stemming from these records, including such topics as mortality by socioeconomic class, medical experience in the last year of life, characteristics of pregnancy, etc.

For a list of titles of reports published in these series, write to: Office of Information
National Center for Health Statistics
U.S. Public Health Service
Washington, D.C. 20201