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VITAL STATISTICS REPORT

National Natality Survey Statistics

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NATIONAL CENTER FOR HEALTH STATISTICS

# Educational Attainment of Mothers Having Live Legitimate Births in the United States, 1964-66

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In 1953 the National Natality Survey started collecting data from a sample of all live births registered in the United States. From the certificates which are microfilmed and sent to the National Center for Health Statistics, a sample is selected in such a manner that every State and independent birthregistration area is represented, every birth in the United States has an equal chance of being included, and national estimates can be presented for certain demographic, geographic, and personal characteristics of the mothers.

Although the sample is selected from all births registered in the United States, only mothers having births which are reported as legitimate (if legitimacy is recorded on the certificate) or inferred to be legitimate (if legitimacy is not recorded on the certificate) are asked to furnish information in the survey. Thus the data presented here are only for mothers having legitimate births.

Illegitimacy rates tend to be high where educational levels are low, i.e., among women under 20 years of age and among nonwhite women. Of the 11,331 birth certificates selected in the sample, 936 births (8 percent) were either reported or inferred to be illegitimate. Of the 1,875 births to women under 20, 409 (22 percent) were illegitimate; of the 1,829 births to nonwhite women, 530 (29 percent) were illegitimate. The exclusion of mothers having illegitimate births probably makes the estimates of educational levels presented in this report higher than they would be were all births included.

However, in groups where illegitimacy rates are low—among women aged 20 years and over and among white women—estimates of the educational level of mothers having legitimate births may be in close agreement with the levels based on all registered births. A detailed analysis of the levels of educational attainment of white married mothers of infants born in 1963 has been presented in a previous report (PHS Pub. No. 1000-Series 22-No. 6). Selected data from the 1963 survey have been included here so that 4 years of births will be available for analysis of trends. In this report the data for 1964-66 are presented with special emphasis on geographic detail rather than giving a detailed analysis of national data by personal characteristics of the mother.

#### Trends in Level of Education

Although the differences are too small to have statistical significance, there appears to be a slight increase in the level of education of married women having babies from 1963 through 1966. In 1963, 13 percent of the mothers had not gone beyond elementary school; in 1966, less than 12 percent were in the lowest educational class (tables 1 and 2). Conversely, approximately 62 percent of the mothers had completed high school in 1963 and more than 63 percent had finished high school in 1966.

Approximately 65 percent of the white mothers of legitimate babies in 1963 were high school graduates and 20 percent had completed 1 year or more beyond high school. By 1966 about 67 percent of the white mothers had finished high school and 21 percent had finished at least 1 additional year of school. Among the nonwhite mothers having legitimate births, the proportion of mothers in the various classes of educational attainment varied from one year to the next without any evidence of a possible trend. The variations were such that they could be ascribed to sampling variability as the number of nonwhite women in the sample was low compared with the number of white women.



#### Differentials in Level of Education

When the 3 years of the 1964-66 National Natality Survey are combined, it is feasible to make a detailed study. The increase in the sample size effected by combining the data years brings about a corresponding decrease in the size of the sampling variability and an increase in the reliability of the data.

An estimated annual average of 3,482,000 married women had babies each year from 1964 through 1966 (table 3). Approximately 12 percent of these women had no schooling beyond elementary school. Onefourth of them had attended high school but had not graduated. Therefore approximately 37 percent of these mothers of legitimate babies had not completed 12 years of school. Almost 44 percent had graduated from high school but had not gone to college, 12 percent had attended college but had not graduated, and 7 percent had completed 4 or more years of college education.

The mothers in the lowest and the highest age groups at the time of the child's birth had the least education. Of the estimated annual average of 475,000 married women who were under 20 years of age at the time of the child's birth, 15 percent had not gone beyond elementary school and 50 percent had attended high school but not graduated. Only 35 percent of these young mothers had completed high school. Among women who were 35 years of age or older at the time of the child's birth, 21 percent had not gone beyond elementary school and another 21 percent had not graduated from high school.

The lack of education among young mothers is particularly important. Illegitimacy rates are high in the age group under 20 years, and if, as seems reasonable, mothers of illegitimate babies have even less education than mothers having legitimate births, then the educational level of mothers under 20 is very low indeed. Since on the average women who have their first births early in life produce more children than those who have their first births later, these inadequately educated young women may produce many children over the next few years. If their children are to receive adequate care, it is important that the teaching of proper child care be presented in terms which are easy to understand. Their low level of education must also be taken into account by demographers and public health and welfare officials who are working in the area of family planning.

Among mothers having legitimate births who were under 20 years old when their babies were born, 63 percent of the white mothers and 72 percent of the nonwhite mothers had not completed 12 years of school. Among women aged 20-24, 29 percent of the white mothers and 48 percent of the nonwhite mothers had not finished 12 years of school. For women aged 25-29, the comparable figures were 27 and 54 percent; for those aged 30-34, 32 and 60 percent; and for those aged 35 years and over at the time of the child's birth, 38 and 64 percent. Conversely, more white mothers than nonwhite mothers in each age group had attended college.

The differences in the age of the mother at the time the child was born among women in the different educational classes is worth noting. Of the estimated 423,000 babies born to women who had not gone beyond elementary school, 47 percent were born to women aged 20-29. Of those born to women who had attended high school but not finished, 53 percent were born to women aged 20-29. Of the estimated annual average of 1,525,000 babies born to women who had completed 12 years of school but no more, 68 percent were born to women aged 20-29; of those born to women who had attended college but not graduated, 71 percent were born to women aged 20-29; and of those born to college graduates, 66 percent were born to women aged 20-29 (table A).

Women having their first or second live births had achieved higher educational levels than women having higher order births (table 4). Among women having their first live births, 6 percent had not gone beyond elementary school and 22 percent had not completed high school, while almost 23 percent had completed at least 1 year of college. Among women having their fifth or higher order births, 28 percent had not gone beyond eighth grade, 28 percent had not completed high school, and only 11 percent had completed 1 year or more of college.

In part the differences in level of education among mothers by birth order is a reflection of the age of the mothers. Women having a fifth order birth are on the average older than women having their first live births. However, far more women who had only an elementary school education were having higher order births than women in any of the other educational classes. Approximately 38 percent of the births to the women who had elementary educations were fifth or higher order. Approximately 6 percent of the births to college graduates were fifth or higher order births. The proportion of first order births was higher in each of the higher levels of educational attainment considered in this report; the proportion of births which were fifth or higher order was lower in each of the higher levels of education (table B).

Differences in levels of educational attainment between white and nonwhite mothers are not as great for mothers having their first live births as for those having higher order births. Several factors may be operating here. One is the unknown effect of excluding illegitimate births from the survey. We



| •  | Level of education                   |                                      |                                     |                                     |                                    |                                     |  |  |  |
|--|--------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|--|--|--|
| Age  |                                      |                                      | High sc                             | hool                                | College                            |                                     |  |  |  |
|  | Total                                | Elementary<br>school                 | 1-3 years                           | 4 years                             | 1-3 years                          | 4 years<br>or more                  |  |  |  |
| Number of mothers<br>in thousands            | 3,482                                | 423                                  | 868                                 | 1,525                               | 425                                | 241                                 |  |  |  |
| All ages                                     | 100.0                                | 100.0                                | 100.0                               | 100.0                               | 100.0                              | 100.0                               |  |  |  |
| Under 20 years<br>20-24 years<br>25-29 years | 13.6<br>36.1<br>25.7<br>14.5<br>10.0 | 16.4<br>23.9<br>22.9<br>19.9<br>16.9 | 27.3<br>33.1<br>19.8<br>11.3<br>8.4 | 10.1<br>42.0<br>25.9<br>13.0<br>9.1 | 3.4<br>40.3<br>30.2<br>16.9<br>9.1 | 0.1<br>23.9<br>42.2<br>22.5<br>11.2 |  |  |  |

Table A. Number of mothers and percent distribution by level of education and age: Live legitimate births, United States, 1964-66 National Natality Survey

know that illegitimacy rates are higher for nonwhite women than for white women and that the illegitimacy rates are particularly high for first births. It is possible that were the mothers of illegitimate births to be included in the survey, the educational levels of nonwhite women having first births would be considerably lower. A second factor is that the increasingly higher levels of education in the general population are having more influence on the young nonwhite women than on the young white

Table B. Number of mothers and percent distribution by level of education and live-birth order: Live legitimate births, United States, 1964-66 National Natality Survey

|                                   |       | Level of education   |           |         |           |                    |  |  |  |  |
|-----------------------------------|-------|----------------------|-----------|---------|-----------|--------------------|--|--|--|--|
| Live-birth order                  |       |                      | High sc   | hool    | College   |                    |  |  |  |  |
|                                   | Total | Elementary<br>school | 1-3 years | 4 years | 1-3 years | 4 years<br>or more |  |  |  |  |
| Number of mothers<br>in thousands | 3,482 | 423                  | 868       | 1,525   | 425       | 241                |  |  |  |  |
| All birth orders                  | 100.0 | 100.0                | 100.0     | 100.0   | 100.0     | 100.0              |  |  |  |  |
| First child                       | 29.0  | 14.5                 | 25.8      | 32.3    | 32.7      | 38.2               |  |  |  |  |
| Second child                      | 25.1  | 17.8                 | 23.4      | 26.3    | 28.6      | 29.3               |  |  |  |  |
| Third child                       | 17.8  | 15.6                 | 19.5      | 17.8    | 16.4      | 18.0               |  |  |  |  |
| Fourth child                      | 11.5  | 13.8                 | 12.5      | 11.0    | 10.9      | 8.1                |  |  |  |  |
| Fifth child and over              | 16.6  | 38.3                 | 18.7      | 12.5    | 11.4      | 6.3                |  |  |  |  |

women. A third possibility is the effect of differential fertility by level of education. There is evidence from other surveys that fertility differentials between women of different levels of education are more pronounced among nonwhite women than among white women. If highly educated nonwhite women are having fewer children than less educated nonwhite women while white women are having the same number of children regardless of education, the effect would show up in comparisons by live birth order.

There were wide variations in the levels of educational attainment among the four geographic regions. The North Central Region had the highest proportion of women who had gone beyond elementary school and the highest proportion who had graduated from high school. The West had the highest proportion who had attended college, and the Northeast had the highest proportion who had graduated from college. The South had the lowest levels of educational attainment. In part the regional variation may be the result of differences in public education. Where elementary schools are composed of only seven grades, high school graduates will have completed only 11 grades and these graduates will be classified as having attended high school but not as having graduated. Where public junior colleges are prevalent, there will be many graduates from them who are classified as having attended college but not graduated. Such variability in educational systems must be taken into account when interpreting the data by geographic regions. However, these differences explain only part of the regional differences (table 5).

The differing racial composition of the four regions also explains part of the variation. In all four regions nonwhite mothers had lower levels of educational attainment than white mothers. Therefore the proportion of nonwhite mothers in the region affected the totals for the entire region. However, the regional differences persist even when the educational levels are examined separately for white and nonwhite mothers. For example, in the Northeast Region 9 percent of the white mothers had not completed any school after elementary school; in the North Central, 7 percent; in the West, 9 percent; and in the South, 17 percent of the white mothers had not gone beyond elementary school. The comparable figures for nonwhite mothers in the four regions are 14 percent, 16 percent, 18 percent, and 29 percent.

Differences were also apparent between groups of States within the regions (table 6). In the Northeast Region there was little difference in the proportion of mothers who had not gone beyond elementary school, but approximately 23 percent of the mothers of legitimate babies in New England had attended college, as contrasted with 18 percent in the Middle Atlantic States. In the East South Central States approximately 24 percent of the mothers had no more than an eighth grade education, as contrasted with 17 percent in the South Atlantic States and 20 percent in the West South Central States. However, in these three groups of States which make up the South Region, the proportions of mothers who had graduated from the 12th grade or attended college were of the same magnitude. In the Mountain States a higher proportion of the mothers (11 percent) had failed to go beyond elementary school and a higher proportion had finished at least 1 year of college (25 percent) than in the Pacific States (5 percent and 22 percent, respectively).

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| Color of mother and level of   | Year of birth of child |             |             |             | Color of mother and level of         | Year of birth of child |              |              |              |
|--------------------------------|------------------------|-------------|-------------|-------------|--------------------------------------|------------------------|--------------|--------------|--------------|
| education                      | 1963                   | 1964        | 1965        | 1966        | education                            | 1963                   | 1964         | 1965         | 1966         |
| TOTAL                          |                        |             |             |             | WHITECon.                            |                        |              |              |              |
| Number of mothers in thousands | 3,742                  | 3,743       | 3,400       | 3,303       | High school:<br>1-3 years<br>4 years | 23.5<br>44.4           | 23.3<br>45.1 | 23.7<br>45.4 | 23.4<br>46.0 |
| All levels of education        | 100.0                  | 100.0       | 100.0       | 100.0       | College:<br>1-3 years                |                        |              |              |              |
| Elementary school              | 13.0                   | 13.0        | 11.8        | 11.5        | 4 years or more                      | 12.7<br>7.9            | 12.8<br>7.6  | 12.6<br>7.4  | 13.6<br>7.3  |
| High school:<br>1-3 years      | 24.8                   | 24.9        | 24.8        | 25.1        | NONWHITE                             |                        |              |              |              |
| 4 yearsCollege:                | 42.7                   | 42.9        | 44.5        | 44.0        | Number of mothers in thousands       | 478                    | 492          | 439          | 433          |
| 1-3 years<br>4 years or more   | 12.3<br>7.2            | 11.9<br>7.2 | 12.1<br>6.7 | 12.6<br>6.8 | All levels of education              | 100.0                  | 100.0        | 100.0        | 100.0        |
| WHITE                          |                        |             |             |             | Elementary school                    | 23.6                   | 24.7         | 18.3         | 23.7         |
| Number of mothers in thousands | 3,264                  | 3,251       | 2,961       | 2,870       | High school:<br>1-3 years<br>4 years | 33.6<br>30.7           | 35.7<br>28.9 | 32.6<br>38.3 | 36.0<br>30.8 |
| All levels of education        | 100.0                  | 100.0       | 100.0       | 100.0       | College:                             | 50.7                   | 20.9         |              | 50.0         |
| Elementary school              | 11.5                   | 11.3        | 10.9        | 9.7         | 1-3 years<br>4 years or more         | 9.8<br>2.3             | 6.0<br>4.7   | 8.7<br>2.1   | 6.1<br>3.5   |

Table 1. Number of mothers and percent distribution by color and level of education of mother and year of birth of child: Live legitimate births, United States, 1963-66 National Natality Survey

Table 2. Number of mothers and percent distribution by age and level of education of mother and year of birth of child: Live legitimate births, United States, 1963-66 National Natality Survey

| Age of mother and level of               | Yea          | r of bir     | th of ch     | ild          | Age of mother and level of               | Year         | of birt      | h of chi     | .1d          |
|--|--------------|--------------|--------------|--------------|--|--------------|--------------|--------------|--------------|
| education                                | 1963         | 1964         | 1965         | 1966         | education                                | 1963         | 1964         | 1965         | 1966         |
| ALL AGES                                 |              |              |              |              | 25-29 YEARS                              |              |              |              |              |
| Number of mothers in thousands           | 3,742        | 3,743        | 3,400        | 3,303        | Number of mothers in thousands           | 981          | 969          | 875          | 836          |
| All levels of education                  | 100.0        | 100.0        | 100.0        | 100.0        | All levels of education                  | 100.0        | 100.0        | 100.0        | 100.0        |
| Elementary school                        | 13.0         | 13.0         | 11.8         | 11.5         | Elementary school                        | 14.1         | 11.9         | 10.7         | 9.8          |
| High school:<br>1-3 years<br>4 years     | 24.8<br>42.7 | 24.9<br>42.9 | 24.8<br>44.5 | 25.1<br>44.0 | High school:<br>1-3 years<br>4 years     | 20.1<br>44.7 | 21.4<br>41.6 | 17.1<br>47.2 | 19.0<br>43.9 |
| College:<br>1-3 years<br>4 years or more | 12.3<br>7.2  | 11.9<br>7.2  | 12.1<br>6.7  | 12.6<br>6.8  | College:<br>1-3 years<br>4 years or more | 11.7<br>9.4  | 13.0<br>12.1 | 14.1<br>10.9 | 16.1<br>11.2 |
| UNDER 20 YEARS                           |              |              |              |              | 30-34 YEARS                              |              |              |              |              |
| Number of mothers in thousands           | 458          | 466          | 460          | 499          | Number of mothers in thousands           | 580          | 562          | 501          | 457          |
| All levels of education                  | 100.0        | 100.0        | 100.0        | 100.0        | All levels of education                  | 100.0        | 100.0        | 100.0        | 100.0        |
| Elementary school                        | 15.3         | 15.6         | 14.2         | 14.1         | Elementary school                        | 16.3         | 16.3         | 17.1         | 16.7         |
| High school:<br>1-3 years<br>4 years     | 47.1<br>33.9 | 46.2<br>34.3 | 56.0<br>27.1 | 47.6<br>35.5 | High school:<br>1-3 years<br>4 years     | 19.6<br>37.7 | 17.1<br>39.9 | 20.0<br>38.3 | 21.6<br>38.7 |
| College:<br>1-3 years<br>4 years or more | 3.7          | 3.9          | 2.6<br>0.2   | 2.8          | College:<br>1-3 years<br>4 years or more | 15.3<br>11.1 | 14.5<br>12.2 | 14.6<br>9.9  | 13.3<br>9.7  |
| 20-24 YEARS                              |              |              |              |              | 35 YEARS AND OVER                        |              |              |              |              |
| Number of mothers in thousands           | 1,330        | 1,355        | 1,225        | 1,192        | Number of mothers in thousands           | 394          | 391          | 340          | 318          |
| All levels of education                  | 100.0        | 100.0        | 100.0        | 100.0        | All levels of education                  | 100.0        | 100.0        | 100.0        | 100.0        |
| Elementary school                        | 7.8          | 8.9          | 7.8          | 7.3          | Elementary school                        | 20.6         | 22.6         | 18.4         | 20.1         |
| High school:<br>1-3 years<br>4 years     | 23.9<br>47.3 | 24.1<br>49.6 | 22.4<br>52.2 | 21.9<br>51.0 | High school:<br>1-3 years<br>4 years     | 20.9<br>39.7 | 22.1<br>37.6 | 18.5<br>42.7 | 22.1<br>39.4 |
| College:<br>1-3 years<br>4 years or more | 15.0<br>6.0  | 13.3<br>4.1  | 13.1<br>4.6  | 14.6<br>5.2  | College:<br>1-3 years<br>4 years or more | 10.3<br>8.5  | 10.2<br>7.5  | 12.7<br>7.7  | 10.3         |

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Table 3. Average annual number of mothers and percent distribution by level of education and color of mother and age: Live legitimate births, United States, 1964-66 National Natality Survey

|                               |                                      | Level of education                        |                                      |                                      |                                      |                                     |                                   |
|-------------------------------|--------------------------------------|---|--------------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|-----------------------------------|
| Color of mother and age       | Number of<br>mothers in<br>thousands | -   | 77                                   | High s                               | chool                                | College                             |                                   |
|                               |                                      | Elementary<br>school                      | 1-3 years                            | 4 years                              | 1-3 years                            | 4 years<br>or more                  |                                   |
| TOTAL                         |                                      |   |                                      |                                      |                                      |                                     |                                   |
| All ages                      | 3,482                                | 100.0                                     | 12.2                                 | 24.9                                 | 43.8                                 | 12.2                                | 6.9                               |
| Under 20 years<br>20-24 years | 475<br>1,258<br>893<br>507<br>350    | 100.0<br>100.0<br>100.0<br>100.0<br>100.0 | 14.6<br>8.0<br>10.8<br>16.7<br>20.5  | 49.9<br>22.9<br>19.3<br>19.4<br>20.9 | 32.4<br>50.9<br>44.1<br>39.0<br>39.8 | 3.1<br>13.6<br>14.3<br>14.2<br>11.0 | 0.1<br>4.6<br>11.4<br>10.7<br>7.7 |
| WHITE                         |                                      |   |                                      |                                      |                                      |                                     |                                   |
| All ages                      | 3,027                                | 100.0                                     | 10.6                                 | 23.4                                 | 45.5                                 | 13.0                                | 7.4                               |
| Under 20 years                | 399<br>1,105<br>787<br>438<br>299    | 100.0<br>100.0<br>100.0<br>100.0<br>100.0 | 13.9<br>7.1<br>9.0<br>14.3<br>18.4   | 49.1<br>21.4<br>18.0<br>18.1<br>19.2 | 34.1<br>52.3<br>45.4<br>40.8<br>42.6 | 2.8<br>14.3<br>15.3<br>15.6<br>11.7 | 0.1<br>4.9<br>12.5<br>11.2<br>8.1 |
| NONWHITE                      |                                      |   |                                      |                                      |                                      |                                     |                                   |
| All ages                      | 455                                  | 100.0                                     | 22.3                                 | 34.8                                 | 32.5                                 | 6.9                                 | 3.5                               |
| Under 20 years                | 76<br>152<br>107<br>69<br>51         | 100.0<br>100.0<br>100.0<br>100.0<br>100.0 | 18.3<br>14.7<br>24.7<br>32.0<br>32.6 | 54.1<br>33.6<br>28.9<br>27.7<br>31.4 | 23.2<br>40.7<br>35.2<br>27.5<br>23.2 | 4.3<br>8.4<br>7.5<br>5.4<br>7.0     | 2.6<br>3.6<br>7.5<br>5.7          |

Table 4. Average annual number of mothers and percent distribution by level of education and color of mother and live-birth order: Live legitimate births, United States, 1964-66 National Natality Survey

|  |                                      | Level of education                        |                                     |                                      |                                      |                                      |                                 |  |
|--|--------------------------------------|---|-------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------|--|
| Color of mother and live-birth order   | Number of<br>mothers in<br>thousands | in  | Elementary                          | High s                               | chool                                | College                              |                                 |  |
|  | chousands                            | Total                                     | school                              | 1-3 years                            | 4 years                              | 1-3 years                            | 4 years<br>or more              |  |
| TOTAL  |                                      |   |                                     |                                      |                                      |                                      |                                 |  |
| All birth orders   | 3,482                                | 100.0                                     | 12.2                                | 24.9                                 | 43.8                                 | 12.2                                 | 6.9                             |  |
| First child<br>Second child<br>Third child<br>Fourth child<br>Fifth child and over | 1,010<br>873<br>620<br>401<br>579    | 100.0<br>100.0<br>100.0<br>100.0<br>100.0 | 6.1<br>8.6<br>10.7<br>14.6<br>28.0  | 22.2<br>23.3<br>27.3<br>27.1<br>28.0 | 48.8<br>46.0<br>43.8<br>41.9<br>33.0 | 13.7<br>13.9<br>11.2<br>11.5<br>8.4  | 9.1<br>8.1<br>7.0<br>4.9<br>2.6 |  |
| WHITE  |                                      |   |                                     |                                      |                                      |                                      |                                 |  |
| All birth orders   | 3,027                                | 100.0                                     | 10.6                                | 23.4                                 | 45.5                                 | 13.0                                 | 7.4                             |  |
| First child<br>Second child<br>Third child<br>Fourth child<br>Fifth child and over | 917<br>775<br>546<br>352<br>437      | 100.0<br>100.0<br>100.0<br>100.0<br>100.0 | 6.1<br>7.9<br>10.3<br>13.2<br>23.4  | 21.4<br>21.8<br>26.7<br>25.4<br>25.0 | 49.3<br>47.4<br>43.8<br>43.5<br>37.8 | 13.8<br>14.5<br>11.7<br>12.7<br>10.4 | 9.5<br>8.4<br>7.5<br>5.1<br>3.4 |  |
| NONWHITE   |                                      |   |                                     |                                      |                                      |                                      |                                 |  |
| All birth orders   | 455                                  | 100.0                                     | 22.3                                | 34.8                                 | 32.5                                 | 6.9                                  | 3.5                             |  |
| First child  | 93<br>98<br>73<br>49<br>142          | 100.0<br>100.0<br>100.0<br>100.0<br>100.0 | 6.3<br>14.5<br>13.6<br>24.0<br>42.2 | 30.5<br>35.1<br>31.8<br>39.4<br>37.4 | 44.2<br>35.1<br>43.3<br>30.6<br>18.2 | 13.2<br>9.2<br>7.8<br>2.9<br>2.1     | 5.9<br>6.1<br>3.5<br>3.1<br>0.2 |  |

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Table 5. Average annual number of mothers and percent distribution by level of education and color of mother and geographic region: Live legitimate births, United States, 1964-66 National Natality Survey

|                                       |                                      | Level of education |            |           |         |           |                    |  |
|---------------------------------------|--------------------------------------|--------------------|------------|-----------|---------|-----------|--------------------|--|
| Color of mother and geographic region | Number of<br>mothers in<br>thousands | 1 1                | Elementary | High s    | chool   | College   |                    |  |
|                                       | enousences                           | Total              | school     | 1-3 years | 4 years | 1-3 years | 4 years<br>or more |  |
| TOTAL                                 |                                      |                    |            |           |         |           |                    |  |
| United States                         | 3,482                                | 100.0              | 12.2       | 24.9      | 43.8    | 12.2      | 6.9                |  |
| Northeast                             | 816                                  | 100.0              | 9.4        | 23.5      | 48.2    | 10.7      | 8.1                |  |
| North Central                         | 992                                  | 100.0              | 8.1        | 23.5      | 49.6    | 12.1      | 6.6                |  |
| South                                 | 1,092                                | 100.0              | 19.2       | 28.2      | 35.6    | 10.8      | 6.3                |  |
| West                                  | 581                                  | 100.0              | 9.8        | 23.2      | 43.1    | 16.9      | 7.0                |  |
| WHITE                                 |                                      |                    |            |           |         |           |                    |  |
| United States                         | 3,027                                | 100.0              | 10.6       | 23.4      | 45.5    | 13.0      | 7.4                |  |
| Northeast                             | 738                                  | 100.0              | 9.0        | 22.1      | 49.0    | 11.3      | 8.6                |  |
| North Central                         | 913                                  | 100.0              | 7.4        | 22.1      | 51.1    | 12.3      | 7.0                |  |
| South                                 | 858                                  | 100.0              | 16.6       | 26.2      | 37.7    | 12.5      | 7.0                |  |
| West                                  | 519                                  | 100.0              | 8.8        | 23.1      | 43.5    | 17.4      | 7.3                |  |
| NONWHITE                              |                                      |                    |            |           |         |           |                    |  |
| United States                         | 455                                  | 100.0              | 22.3       | 34.8      | 32.5    | 6.9       | 3.5                |  |
| Northeast                             | 79                                   | 100.0              | 13.7       | 36.8      | 41.1    | 5.4       | 3.0                |  |
| North Central                         | 79                                   | 100.0              | 15.7       | 40.0      | 32.6    | 9.6       | 2.1                |  |
| South                                 | 234                                  | 100.0              | 28.6       | 35.2      | 27.7    | 4.8       | 3.7                |  |
| West                                  | 63                                   | 100.0              | 17.6       | 24.3      | 39.7    | 13.3      | 5.0                |  |

Table 6. Average annual number of mothers and percent distribution by level of education of mother and geographic division: Live Legitimate births, United States, 1964-66 National Natality Survey

|                     |                                      |        |                      | Level of e | ducation |           |                    |
|---------------------|--------------------------------------|--------|----------------------|------------|----------|-----------|--------------------|
| Geographic division | Number of<br>mothers in<br>thousands | ers in | Elementary<br>school | High s     | chool    | College   |                    |
|                     |                                      |        |                      | 1-3 years  | 4 years  | 1-3 years | 4 years<br>or more |
| United States       | 3,482                                | 100.0  | 12.2                 | 24.9       | 43.8     | 12.2      | 6.9                |
| New England         | 198                                  | 100.0  | 10.1                 | 20.3       | 46.7     | 14.1      | 8.8                |
| Middle Atlantic     | 619                                  | 100.0  | 9.2                  | 24.5       | 48.7     | 9.7       | 7.9                |
| East North Central  | 710                                  | 100.0  | 7.7                  | 25.0       | 49.1     | 11.4      | 6.8                |
| West North Central  | 282                                  | 100.0  | 9.0                  | 19.9       | 50.8     | 13.9      | 6.3                |
| South Atlantic      | 518                                  | 100.0  | 16.8                 | 29.4       | 35.5     | 11.2      | 7.1                |
| East South Central- | 232                                  | 100.0  | 23.9                 | 26.3       | 35.2     | 10.2      | 4.5                |
| West South Central  | 343                                  | 100.0  | 19.5                 | 27.6       | 36.1     | 10.6      | 6.3                |
| Mountain            | 481                                  | 100.0  | 10.7                 | 22.3       | 42.5     | 17.8      | 6.7                |
| Pacific             | 100                                  | 100.0  | 5.1                  | 27.6       | 45.7     | 12.8      | 8.8                |

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## **Technical Notes**

The data presented here were collected in the 1964-66 National Natality Survey. The survey, which was conducted by the National Center for Health Statistics, was designed to provide information about certain demographic and socioeconomic characteristics of the mother in addition to those recorded on the birth certificate and information on past and expected future childbearing.

The sampling frame for the survey was the file of microfilms of birth records received each month from the 54 registration areas of the United States. A sample of 1 out of 1,000 births was selected from these monthly shipments of records. The national sample included 4,025 births in 1964, 3,702 births in 1965, and 3,604 births in 1966. The total sample size for 1964-66 was 11,331 births. Of these, 936 (8.3 percent) were reported or inferred to be illegitimate. No attempts to obtain information from mothers of illegitimate infants were made.

RESPONSE. Data were collected primarily by mail. Using the address given on the birth certificate, questionnaires were sent to the mothers. About 89 percent of the mothers having legitimate births were respondents. Counted as nonrespondents were mothers who did not return questionnaires and those who were not sent questionnaires because they resided in States which did not participate in the survey or outside the United States and those without a valid mailing address. The information on nonrespondents was imputed by using the characteristics of respondents in similar age, color, and birth order classes.

RELIABILITY. The probability design of 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 of births is surveyed. Approximate standard errors for estimated numbers are shown in table I; approximate standard errors for percentages are shown in table II. The standard error for 3 years of data would be approximately 60 percent of the figures shown for single years. A detailed discussion of standard errors is published in PHS Pub. No. 1000-Series 22-No. 3.

DEFINITION OF TERMS. Except for level of education and legitimacy status, information used in this report is taken from birth certificates, and definitions are the same as in *Vital Statistics of* the United States.

Level of education.—Level of education refers to the highest grade of regular school completed, Regular school consists of elementary and high schools and college or university and does not include trade or business school. Data are derived from the answers to questions concerning the highest grade of school attended by the mother and whether or not the grade was completed.

Legitimacy status.—For States reporting legitimacy status, it is recorded from the entry on the birth certificate. For States not reporting legitimacy status, it is inferred from other evidence on the certificate.

| Table I. | APPROXIMATE STANDARD | ERRORS FOR | ESTIMATED | NUM- |
|----------|----------------------|------------|-----------|------|
|          | BERS FOR SING        | LE YEARS   |           |      |

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

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Table II. APPROXIMATE STANDARD ERRORS, EXPRESSED IN PER-CENTAGE POINTS, FOR ESTIMATED PERCENTAGES FOR SINGLE YEARS

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

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