

DIFFERENTIAL FERTILITY IN THE EAST NORTH CENTRAL STATES¹

A PRELIMINARY ANALYSIS OF UNPUBLISHED TABULATIONS
FROM THE FAMILY CARDS OF THE 1930 CENSUS

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THE 1930 census gave promise of securing data on the fertility of marriage for the first time since 1910. At the censuses of 1890, 1900, and 1910 each married woman was asked the number of children she had borne but the answers, collected at considerable expense, were never presented in the census tabulations. It was not surprising, therefore, that the entire series of questions relating to fertility was dropped in 1920. As plans for the 1930 census developed it became evident that the newly designed family card would afford an opportunity to secure data on effective fertility at relatively small expense.

The data available on the family card were less satisfactory than those previously collected, because they related not to the total births but to the number of children under age 10 living in the census family. Obviously such information was far from ideal, but it had the advantage of simplicity. Only one new question was required on the schedule, that relating to age at marriage, and the tabulations needed were not particularly involved. In the light of the past experience it was entirely reasonable to prefer inadequate but useful data that could be tabulated to adequate data that had little chance of meeting the light of day.

The sixth count of the family card was accordingly designed. It dealt with unbroken families in which neither husband nor wife had been married more than once. For this group, classified by residence, color-nativity, and value of home, it gave the number of

¹ From the School of Public Affairs, Princeton University. This paper, substantially in its present form, was presented to the Division on Social Biology of the American Sociological Society on December 29, 1937.

children under age 10 living at home by single years of wife's age at marriage and at the census, hence also by single years of duration of marriage. The plans laid, history repeated itself. There were unexpectedly heavy drains on the budget and money ran out when the count had been completed for only the East North Central Division. The tabulation was not published.

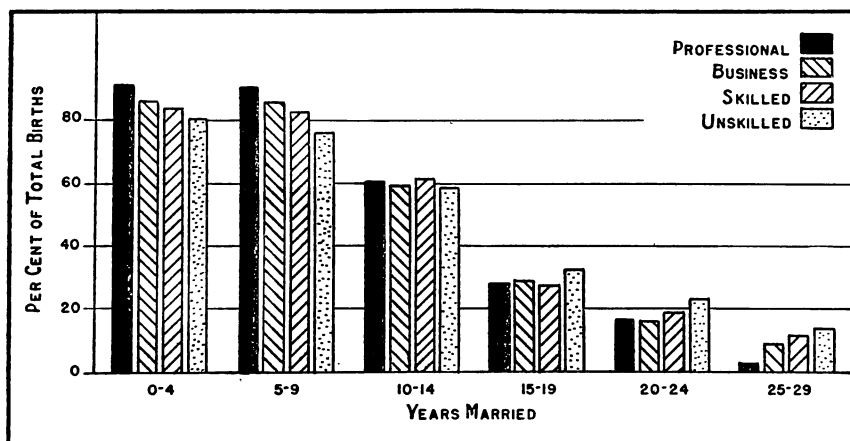
Through the cooperation of Director Austin and Dr. Truesdell, the consolidation sheets for this division have been made available to the School of Public Affairs for analysis and publication. The present study is a progress report on that analysis. It has a dual purpose. First, it aims to summarize the more important information yielded concerning fertility differentials. Second, in view of the imminence of planning for the 1940 census, it aims at a critical examination of the limitations and usefulness of this type of data as a substitute for those relating to actual births. To accomplish this dual purpose, it will be necessary to present the provisional results within the framework of a somewhat methodological report.

Before passing to a consideration of the 1930 material, it may be well to point out that the earlier census data relating to the fertility of marriage had two characteristics of great theoretical and practical importance. The first was that the data related not to annual births but to total births. This made it possible to study not only average fertility, but the distribution of fertility in any group; to determine, for example, the proportion of marriages that were childless and the proportion that were highly fertile. The second characteristic was that the data appeared on the regular census schedule and, therefore, could be related family by family to any other item on the schedule. This fact made possible a direct study of the relation of fertility to such attributes as occupation of the husband and color-nativity, and solved all problems of residence allocation.

The 1930 substitute for data on total fertility has the advantages of the second sort. The data collected can be associated directly with

any item on the family card. Its weakness lies in the fact that it deals not with total births, nor in fact with births at all, but with the number of children under age 10 living at home. The number of children under age 10 is less than the total births by the number of those who have died, of those who are over 10 years of age, and of those who are under 10 but living away from home. There is no way of estimating the aggregate differences accurately, but reference to a sample of the 1900 census data will serve to indicate their general nature. The 1900 sample was drawn from the census returns for native-white couples in the East North Central States.² In anticipation of the 1930 family card, the data obtained included children under 10 at home as well as the total number of children born to the wife. Figure 1 gives for this sample the percentage that children under 10 formed of total births, for married women classified by

Fig. 1. Children under age 10 living at home as percentage of total children born in urban families classified by occupation of husband and duration of marriage: 1900. (The data are from a sample of the 1900 census schedules for the native white population of selected cities in the East North Central States.)



² The data were secured by the President's Research Committee on Social Trends in cooperation with the Milbank Memorial Fund. For further description of the sample and analysis of the data see:

Kiser, Clyde V.: Fertility of Social Classes in Various Types of Communities of the East North Central States in 1900. *Journal of the American Statistical Association*, December, 1932, xxvii, 180, pp. 371-382.

Kiser, Clyde V.: Trends in the Fertility of Social Classes from 1900 to 1910. *Human Biology*, May, 1933, v, No. 2, pp. 256-273.

occupation of the husband in each five-year duration of marriage group.

The figure brings out three facts of importance in the interpretation of the 1930 data. First, children under 10 represented rapidly decreasing proportions of the total births after the tenth year of married life, because of the increasing number of children who had passed their tenth year. To avoid the difficulties of attempting to take account of unknown proportions of children over age 10, the analysis of the 1930 material had to be limited to marriages of less than ten years' duration. In the present report it is further limited to those of five to nine years' duration.

The second point worthy of note is that among marriages of five to nine years' duration children under 10 represented a larger proportion of total births in the upper than in the lower occupational classes. The difference was due to the higher rates of child survival in the upper classes. This differential was much more important in 1900 than in 1930. Life tables for males in Michigan showed only 83 per cent of those born surviving to the tenth year in 1901, compared with 91 per cent in 1930.³ During the interval class differences also have narrowed. Nevertheless, they still exist to some extent. The number of living children will differ most from the number of births in the classes with the highest child mortality.

Third, class differences in the ratio of children to births disappeared by duration group 10-14 and reversed thereafter. The reversal can be due only to the fact that class differences in survival were more than canceled by increased differences in fertility. In other words the relative differences in the fertility of the classes increased substantially after the first ten years of married life. The differences observed for marriages of 5-9 years' duration in 1930 must not, therefore, be confused with those for completed families.

³ Glover, James G.: *United States Life Tables 1890, 1901, 1910, and 1901-1910*. Washington, D. C., Government Printing Office, 1921, p. 144.

National Resources Committee: *Population Statistics, 2. State Data*. Washington, D. C., United States Government Printing Office, October, 1937, p. 39. (White population only.)

Figure 2 illustrates the effect of differences in survival on the relative class differences in the number of children per wife in 1900. In it the mean number of children under age 10 and the mean number of births per wife in each occupational class are expressed

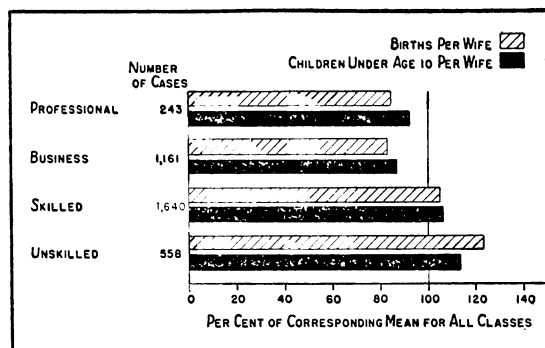


Fig. 2. Relative differentials in fertility of urban occupational classes as measured by mean number of children born and as approximated by mean number of children under 10 per wife for marriages of five to nine years' duration: 1900. (The means for each class are expressed as percentages of the corresponding mean for all classes. Source of the data is the same as in Fig. 1.)

as percentages of the corresponding mean for all classes combined. It is apparent that the average numbers of living children under-estimated the true differences in fertility. However, they did show the true order of the classes with respect to fertility. Since the mortality selection was much less severe in 1930 than in 1900, comparisons of the average number of children living in 1930 should yield reasonably accurate estimates of relative differences in fertility.

Figure 3 further illustrates the importance of remembering that class differences in fertility during the first ten years of married life are not the same as those at the end of the childbearing period. The figure, which is based on a sample drawn from the census of 1910,⁴ compares the mean numbers of children born per wife for two groups; one comprises wives married five to nine years, the other, wives 40 to 44 years of age. Within each of these groups, the mean for each occupational class is expressed as a percentage of that for all occupations combined. The greater spread of the means

⁴ For a description of this sample see:

Sydenstricker, Edgar and Notestein, Frank W.: Differential Fertility According to Social Class. *Journal of the American Statistical Association*, March, 1930, xxv, No. 169, pp. 9-32.

for women of virtually completed fertility than for those married five to nine years is evident. In this case, moreover, even the order of the business and professional classes differed.

Two further limitations of the 1930 data should be mentioned. First, the children counted included not simply children of the married couple but any related or connected child in the home. Since the families under consideration had been established less than ten years by persons who had not been married before, the number of children of other marriages in their homes was probably small. The second limitation is more important. The material presented in this report relates only to those families in which the husband was the head of the house and the wife the home-maker. This limitation excludes, for example, couples otherwise qualifying who were living in the homes of their parents. Such secondary families are characteristically small and include large proportions of childless couples. Because of their exclusion, the average numbers of children presented in this report are somewhat too high. The bias is smallest for the foreign-born white, and largest for the Negroes. In each color-nativity group, it is largest for the rural-farm population, but within urban communities it increases with size of community. In the final report it may be possible to take the secondary families into consideration.

With these qualifications in mind, we can proceed to a discussion of the data for 1930 presented in Figure 4 and the top panel

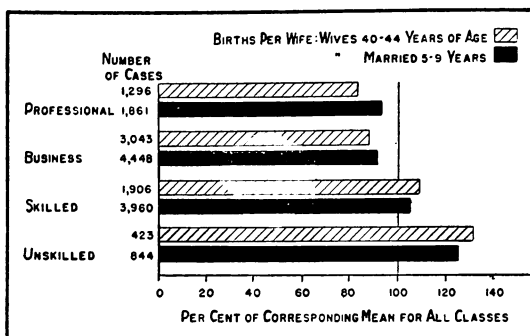


Fig. 3. Relative differentials in fertility of urban occupational classes for marriages of virtually completed fertility and for those of five to nine years' duration: 1910. (The average number of births per wife in each class is expressed as a percentage of the corresponding mean for all classes. The data are from a sample of the 1910 census schedules for the native white population of selected Northern cities.)

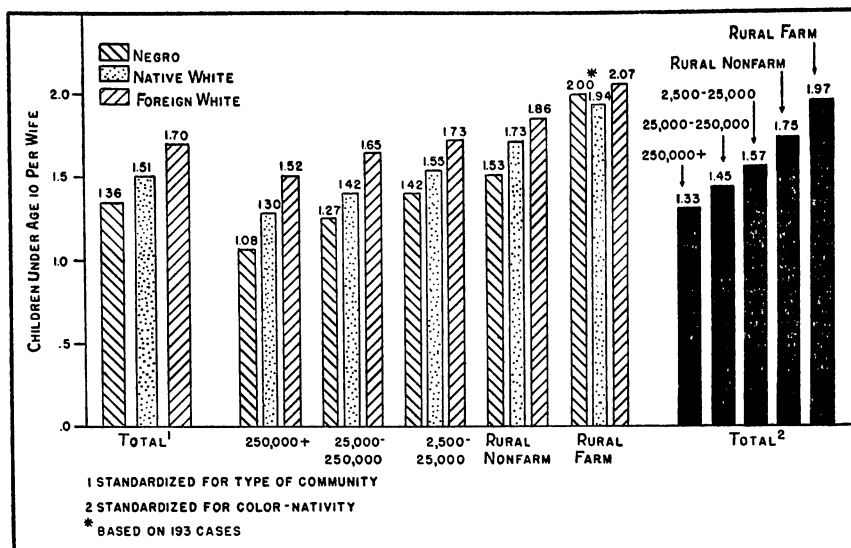


Fig. 4. Relation of color-nativity and type of community to the mean number of children under age 10 per wife for marriages of five to nine years' duration: East North Central States, 1930.

of Table 1. (The data from which the ratios presented in Table 1 were obtained are given in Table 2.) The table and chart show the average number of children under age 10 per wife for three color-nativity classes in five types of communities. Three points should be noted. First, the means for each color-nativity class without exception rose progressively from large cities to small and from urban communities to the rural-nonfarm and rural-farm groups. This rise was largest for Negroes, intermediate for native whites, and smallest for foreign-born whites. The bars at the right of the chart summarize the trends by presenting means for all color-nativity classes combined. The mean for small urban communities was 31 per cent higher, and that for the rural-farm group was 48 per cent higher than the mean for large cities. If secondary families had been included the differences, with one exception, probably would have been even larger. The difference between the rural-nonfarm and the rural-farm groups would have been reduced by the large proportion of secondary families in the farm population. In general,

TYPE OF COMMUNITY	TOTAL (Standardized ¹)	NEGRO	WHITE	
			Native	Foreign-Born
	CHILDREN PER WIFE			
TOTAL (Standardized ¹)	1.54	1.36	1.51	1.70
250,000+	1.33	1.08	1.30	1.52
25,000—250,000	1.45	1.27	1.42	1.65
2,500— 25,000	1.57	1.42	1.55	1.73
Rural Nonfarm	1.75	1.53	1.73	1.86
Rural Farm	1.97	2.00	1.94	2.07
CHILDREN PER "MOTHER"				
TOTAL (Standardized ¹)	1.98	2.45	1.95	2.07
250,000+	1.83	2.28	1.80	1.91
25,000—250,000	1.91	2.33	1.88	2.02
2,500— 25,000	1.98	2.46	1.95	2.08
Rural Nonfarm	2.12	2.57	2.10	2.20
Rural Farm	2.30	2.80	2.27	2.42
PERCENTAGE OF HOMES WITH NO CHILDREN				
TOTAL (Standardized ¹)	22.5	44.7	22.7	18.0
250,000+	27.6	52.5	28.0	20.5
25,000—250,000	24.1	45.8	24.3	18.6
2,500— 25,000	20.6	42.2	20.4	17.0
Rural Nonfarm	17.8	40.5	17.4	15.5
Rural Farm	14.7	28.5	14.1	14.4

¹ The standardized average numbers of children per wife and percentages of homes with no children were obtained as follows:

(1) The specific ratios for each color-nativity group were applied to the distribution of wives by type of community in the entire sample.

(2) The specific ratios for each type-of-community group were applied to the color-nativity distribution of the entire sample.

The standardized average numbers of children per "mother" (M_i) were obtained directly from the other two standardized ratios from the relation $M_i = \frac{W_i}{1 - K_i}$ where W_i is the corresponding standardized average number of children per wife and K_i the corresponding standardized percentage of homes with no children. The resulting standardized average numbers of children per "mother" differ inconsequentially from those that are obtained by using the appropriate distributions of "mother" as the standards.

Table 1. Average number of children under age 10 living at home per wife, and per "mother," and percentage of homes with no children, for marriages of five to nine years' duration classified by color-nativity and type of community: East North Central States, 1930.

TYPE OF COMMUNITY	TOTAL	NEGRO	WHITE	
			Native	Foreign-Born
	WIVES MARRIED 5-9 YEARS			
TOTAL	687,732	22,334	556,336	109,062
250,000+	244,434	15,239	163,070	66,125
25,000—250,000	141,014	4,319	116,519	20,176
2,500—25,000	111,963	1,591	98,934	11,438
Rural Nonfarm	106,464	992	97,790	7,682
Rural Farm	83,857	193	80,023	3,641
HOMES WITH NO CHILDREN				
TOTAL	154,572	11,107	122,486	20,979
250,000+	67,182	8,001	45,605	13,576
25,000—250,000	34,071	1,977	28,346	3,748
2,500—25,000	22,823	672	20,212	1,939
Rural Nonfarm	18,594	402	17,002	1,190
Rural Farm	11,902	55	11,321	526
CHILDREN UNDER AGE 10 LIVING AT HOME				
TOTAL	1,056,422	26,102	855,126	175,194
250,000+	328,467	16,475	211,614	100,378
25,000—250,000	204,045	5,467	165,353	33,225
2,500—25,000	175,193	2,259	153,160	19,774
Rural Nonfarm	185,182	1,515	169,395	14,272
Rural Farm	163,535	386	155,604	7,545

¹ The data relate to unbroken marriages in which:

- (1) Neither the husband nor the wife had been married more than once.
- (2) The wife was the home-maker.
- (3) The husband was under 61 and the wife under 51 years of age and contracted her marriage between the ages of 15 and 40.

Table 2. Number of wives, number of homes with no children under age 10, and number of children under age 10 living at home for couples married five to nine years, classified by color-nativity of the household head and type of community: East North Central States, 1930.¹ (Data from which the ratios given in Table 1 are derived.)

however, the relationships shown reflect primarily true differences in fertility during the period 1920 to 1930.

Second, in each type of community, with one exception, the means were lowest for the Negroes, intermediate for native whites,

and highest for foreign-born whites. The exception was the Negro farm group for which the sample was too small to yield a reliable average. The bars at the left of the chart summarize the color-nativity differentials for all types of communities combined. The means for the native whites were 11 per cent higher and those for the foreign-born whites 25 per cent higher than the average for the Negro group. In the case of Negroes the low means were accounted for in part by low survival rates, but had the large proportion of secondary families been included the means would have been even lower. In the foreign-born white families low survival rates and low proportions of secondary families both contributed to a reduction of the means. Actual fertility data would have shown larger excesses over the native population than the present data indicate.

Third, although with one exception the color-nativity differentials took the same order in each type of community they were largest in the large cities and decreased rapidly with declining size of community. They were smallest of all in the rural-farm population. There the mean for Negroes, based on only 193 cases, did not differ from the means for the other two groups.

The relations just discussed have been shown from other types of data. They appear, for example, in the ratios of children under age 5 to women of childbearing age computed by Thompson and Whelpton.⁵ The data presented in Figure 5 and the second panel of Table 1, however, are unique and to some extent surprising. They give the mean number of children not per wife but per "mother," or, more precisely per wife in whose home there was at least one child under age 10.

The inverse relation between fertility and size of community noted before holds without exception. But the shift in the relation

⁵ National Resources Committee: Population Statistics, 1. National Data. Washington, D. C., United States Government Printing Office, 1937, Table 13, pp. 40-50.

In the East North Central States the ratios of children to women for Negroes were lower than those for native whites only in cities with 100,000 or more inhabitants and in the rural nonfarm population. It must be remembered that the averages given in the present study relate only to a defined group of unbroken marriages contracted between 1920 and 1925.

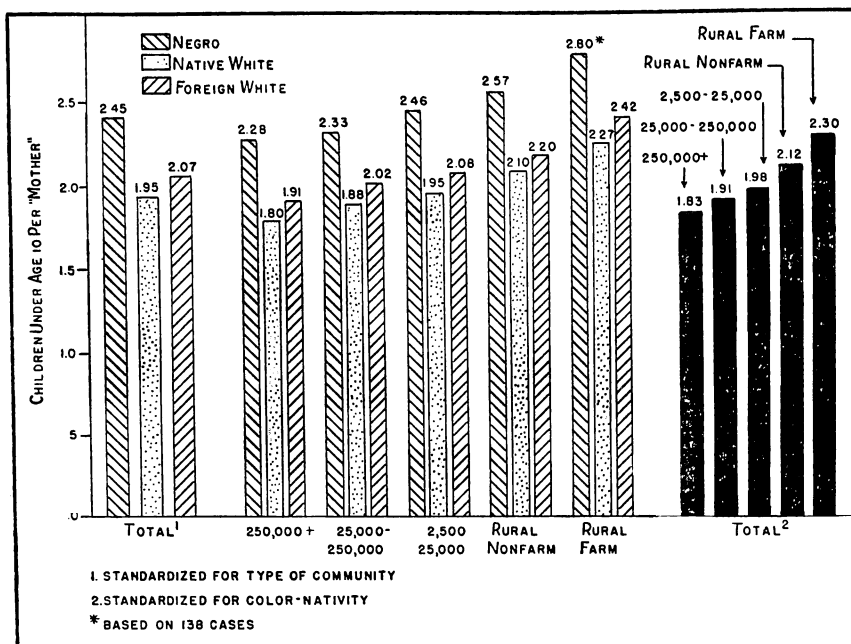


Fig. 5. Relation of color-nativity and type of community to the mean number of children under age 10 per "mother" for marriages of five to nine years' duration: East North Central States, 1930.

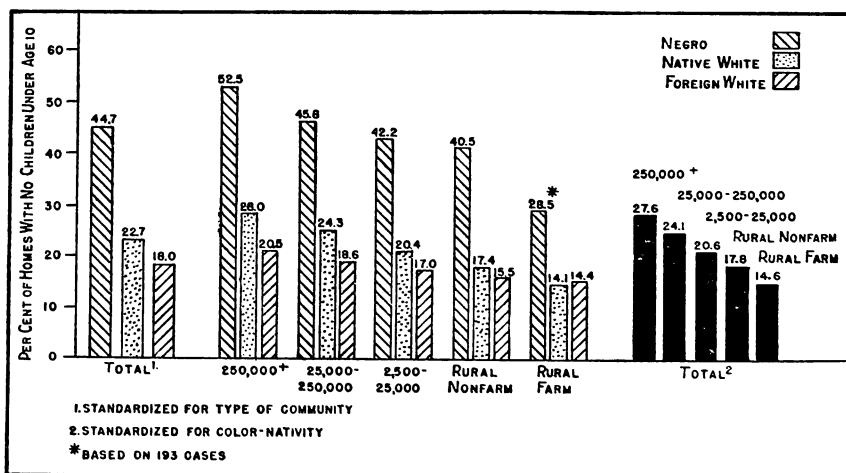
of the means for Negroes to those for the native and foreign-born white populations is most striking. In each type of community the average number of children per "mother" was higher for Negroes not only than that for the native whites, but also than that for the foreign-born whites; and the differences were large. For all communities combined the Negro mean exceeded that for the foreign-born whites by 18 per cent and that for the native whites by 26 per cent.

This shift in relationships when the base is changed from wives to "mothers" resolves the difficulties presented in reconciling the evidence given by studies by birth rates and by those of contraceptive practice. In Northern cities the general fertility rate for married women is lower for Negroes than for whites. On the other hand, virtually every study of birth control has shown that contraceptive practice is both less prevalent and less effective among Negroes

than among whites.⁶ The point is that studies of contraceptive practice deal almost entirely with women who have had at least one child. They therefore picture a situation similar to that shown in Figure 5 rather than to that shown in Figure 4.

The apparent conflict results entirely from differences in the proportions of childless families. This fact is clearly shown in Figure 6 and the bottom panel of Table 1, which presents, for the same groups considered in Figures 4 and 5, the per cent of couples married five to nine years having no children in the home. The proportions of Negro families childless were startlingly high. They ranged from about 30 per cent for the few cases of rural-farm families to more than 50 per cent in large cities. For all types of communities combined about 45 per cent of the Negro families were childless. This figure is nearly twice as large as that for native whites and almost two and one-half times as large as that for foreign-born whites. The proportion of Negro homes without children was increased by the low survival rates of the children, but the bias was canceled in part by the exclusion of secondary families. Undoubt-

Fig. 6. Relation of color-nativity and type of community to percentage of homes with no children under age 10, for marriages of five to nine years' duration: East North Central States, 1930.



⁶ See for example Pearl, Raymond: Contraception and Fertility in 4,945 Married Women. *Human Biology*, May, 1934, vi, No. 2, pp. 355-401.

edly the high proportion of young Negro couples without any children was due primarily to actual childlessness. Unpublished results somewhat similar to those presented here for the East North Central States have also been obtained from Harlem by the Milbank Memorial Fund from a special sampling census which dealt with children born rather than with those living at home.⁷

Neither of these studies yields direct evidence of the causes of childlessness among Negroes. It seems likely that much actual sterility is involved, but the large proportion of women who go outside of the home to work may also be a factor. Such explanations will remain speculative until special studies are directed to the problem. Meantime, it is no speculation to say that the low fertility of young Negro marriages comes entirely from the high proportion of childlessness, and that apart from the childless, Negro couples are more fertile than those of either the native or foreign-born white population. Moreover, it is worth noting that this fact can be shown directly only by census data on the fertility of marriage.

The differences in the proportion of childless families by type of community ran about as would be expected. For all color-nativity classes combined childless families formed about 15 per cent of the total in the rural-farm group and about 28 per cent of the total in large cities. Since these data exclude secondary families and children who have died, include related children not borne by the wife, and deal with marriages of less than ten years' duration, the ratios must not be interpreted as indicating the proportion of marriages which remained permanently childless.

In Figure 7 and Table 3 the average numbers of children per wife are given for each of the groups previously considered, further subdivided by value of the home. Averages based on fewer than 200 cases are not shown. Two points about value-of-home data should be noted. First, values of rented homes were roughly estimated as

⁷ Kiser, Clyde V.: Fertility of Harlem Negroes. The Milbank Memorial Fund *Quarterly*, July, 1935, xiii, No. 3, pp. 273-285. Data concerning childlessness are not yet published.

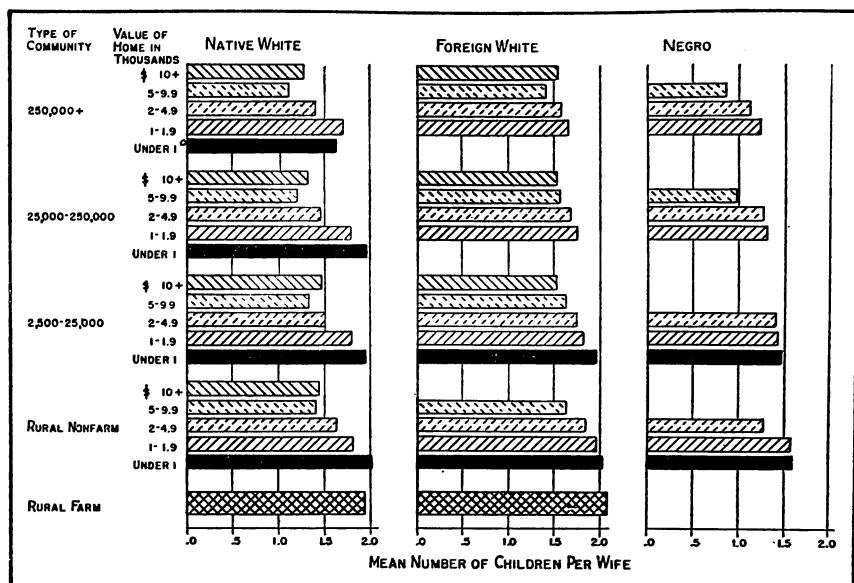


Fig. 7. Relation in each color-nativity group of value of home and type of community to mean number of children under age 10 per wife, for marriages of five to nine years' duration: East North Central States, 1930. (Classes with less than 200 cases omitted.)

one hundred times the monthly rent. Second, similar value groups do not distinguish similar standard-of-living groups in different types of communities and in different color-nativity classes. Negroes, for example, probably pay more than white persons for similar property in Northern communities.

The chief relations shown by the figure are clear enough. In spite of the biases noted above, the average number of children in comparable value groups was in general smallest in the large cities and largest in the rural-nonfarm group. In general, also, the averages for comparable value classes were lowest for the Negroes, intermediate for the native whites, and highest for the foreign-born whites.

Particular interest attaches to the association between value of home and average number of children because of the information it yields on the association between fertility and economic status. The present material presents the only large body of data available

TYPE OF COMMUNITY AND VALUE OF HOME	CHILDREN UNDER AGE 10 PER WIFE			NUMBER OF WIVES		
	White		Negro	White		Negro
	Native	Foreign-Born		Native	Foreign-Born	
250,000+						
\$10,000+	1.29	1.54	—	13,528	4,684	168
5,000—9,999	1.13	1.42	.86	67,671	25,177	3,060
2,000—4,999	1.41	1.57	1.12	72,423	31,456	9,440
1,000—1,999	1.70	1.67	1.25	9,005	4,669	2,422
Under \$1,000	1.63	—	—	413	128	145
25,000—250,000						
\$10,000+	1.33	1.54	—	6,585	1,135	28
5,000—9,999	1.22	1.56	.97	35,364	6,249	202
2,000—4,999	1.46	1.69	1.27	61,862	10,896	2,413
1,000—1,999	1.80	1.75	1.29	11,506	1,797	1,514
Under \$1,000	1.96	—	—	1,113	92	161
2,500—25,000						
\$10,000+	1.47	1.52	—	6,318	669	7
5,000—9,999	1.34	1.63	—	19,135	2,868	48
2,000—4,999	1.50	1.76	1.41	48,291	5,659	577
1,000—1,999	1.79	1.80	1.44	20,777	1,812	714
Under \$1,000	1.96	1.96	1.47	4,144	396	244
Rural Nonfarm						
\$10,000+	1.45	—	—	1,758	175	3
5,000—9,999	1.40	1.62	—	9,709	1,084	11
2,000—4,999	1.62	1.84	1.28	35,655	3,209	207
1,000—1,999	1.81	1.96	1.58	31,982	1,975	421
Under \$1,000	2.01	2.01	1.59	18,686	1,239	350
Rural Farm	1.94	2.07	—	80,023	3,641	193

Table 3. Average number of children under age 10 living at home per wife for marriages of five to nine years' duration classified by color-nativity, type of community, and value of home: East North Central States, 1930.

since 1910 that permits a relatively direct study of this relation. It is clear from Figure 7 that in general fertility and economic status continued to be inversely associated in marriages of less than ten years' duration of each color-nativity group in each type of community. Lack of comparability of the value classes makes compari-

sons of the strength of this inverse association between communities and color-nativity classes a doubtful procedure.

The exceptions to the inverse association between fertility and economic status are more interesting than the rule. In one case, that of the native white families in large cities, the average number of children was smaller in families with homes valued at less than \$1,000 than in those whose homes were worth from \$1,000 to \$2,000. Examination of the data shows a very large proportion of childless families in the poorest group, which suggests that in this instance the absence of children made the small home of low value possible.

At the other end of the scale the average numbers of children were frequently larger in families with homes valued at \$10,000 or more than in those of the \$5,000 to \$10,000 class. This relation existed among the native-white families of each type of community and among the foreign-born white families of the large cities. Similar results have been obtained from other studies. For example, Whelpton has shown that in the most expensive census tracts of certain cities the ratio of children to women of childbearing age tended to increase with the median rental.⁸ In a recent article Kiser has shown on the basis of data for five cities gathered by the National Health Survey, that the annual birth rate was higher in the professional than in the business class and higher in the class with incomes of \$3,000 or more than in that with incomes of between \$2,000 and \$3,000.⁹ The fact of a direct association between fertility and economic status in some of the upper economic groups is becoming clear.

The interpretation of this direct association is less certain. The facts are not incompatible with two different views. One is that the greater fertility of couples with homes worth \$10,000 or more than

⁸ Whelpton, P. K.: Geographic and Economic Differentials in Fertility. *The Annals of the American Academy of Political and Social Science*, November, 1936, 188, pp. 37-55.

⁹ Kiser, Clyde V.: Variations in Birth Rates According to Occupational Status, Family Income, and Educational Attainment. *The Milbank Memorial Fund Quarterly*, January, 1938, xvi, No. 1, pp. 39-56.

of those with homes worth from \$5,000 to \$10,000 is merely another illustration of the direct association of fertility and income within similar broad social groups. There is some evidence suggesting this type of direct association as early as 1910.¹⁰ The writer is not inclined to accept this interpretation because the economic difference of the two groups was large, and because the pattern did not extend to the foreign-born outside of large cities.

The other interpretation is that the direct association of fertility and economic status among families with homes worth \$5,000 or more represents the beginning of a reversal in the established inverse association, similar to that which has been reported in several European cities.¹¹ This is the view that the writer is inclined to accept provisionally. The established inverse relation between fertility and social-economic status has been to a large extent the by-product of a transition from high to low levels of fertility, brought about chiefly through the gradual acceptance of birth control. Apparently the downward trend got under way sooner in the upper economic groups than in the lower, in the native-white population than in the foreign-born, and in the large cities than in the small cities and rural communities. As the practice of family limitation becomes generally accepted, one would expect fertility differentials to narrow. Perhaps, in some instances, they will reverse so that the number of children varies directly with the ability of the parents to support them. One would expect such a reversal to appear first in those groups where the trend has most nearly run its course. This pattern is the one presented in Figure 7. The direct association of fertility and economic status appeared only in the upper economic groups and in them was confined to the native-white population and the least fertile section of the foreign-born population. The beginning of a reversal in the standard inverse association between fertility and economic status is strongly suggested. How-

¹⁰ Sydenstricker, Edgar and Notestein, Frank W.: *op. cit.*

¹¹ Edin, Karl Arvid and Hutchinson, Edward P.: *STUDIES OF DIFFERENTIAL FERTILITY IN SWEDEN*. London. P. S. King and Son, Ltd. 1935.

ever, two facts must be remembered. First, the evidence relates to marriages of less than ten years' duration and not to completed families. Second, the interpretation of the evidence is speculative and will remain so until new evidence makes the direct study of time trends possible.

The more important results of this preliminary study of differential fertility, based on the number of children under age 10 living in the homes of couples married five to nine years and resident in the East North Central States in 1930, may be summarized as follows:

(1) In each group examined fertility was inversely associated with size of community. The variation by type of community was strongest among Negroes and weakest among foreign-born whites.

(2) In each type of community, with the doubtful exception of the rural-farm group, Negroes exhibited lower average fertility than native whites who in turn were less fertile than foreign-born whites.

(3) The lower average fertility of Negroes was due entirely to the startlingly high proportion of childless Negro families. When the comparison was limited to "mothers" the Negroes were found to be more fertile than either the native or the foreign-born whites.

(4) In general, fertility and economic status were inversely associated, but exceptions were found in the highest value-of-home groups for the native white families of each type of community and for the foreign-born white families of large cities. The direct association in the latter groups is interpreted tentatively as the beginning of a reversal in the standard inverse association of fertility and economic status.

The data afforded by the 1930 family card are clearly of value. However, for the analysis of differential fertility they suffer from serious defects. They limit the major analysis to marriages of less than ten years' duration; they fail to take account of differences in child survival; they make extremely difficult the inclusion of secon-

dary families, which are characteristically small. They fail to permit an adequate study of the incidence of childlessness and of large families. It is the writer's opinion that data relating directly to the fertility of the natural family, even if collected only for selected areas, would be more useful than material of the 1930 type secured for the entire country. Such samples would fill the more important needs at a considerable saving of expense. It is the writer's further opinion that if such samples are taken in 1940, every effort should be made, probably by private groups, to set up within the sample areas a series of coordinated intensive studies directed to the specific causes underlying fertility differentials. Only by some such procedure of integrated and increasingly penetrating research will the causal sequences that are bringing sweeping changes in our population ever be understood.