

DIFFERENTIAL FERTILITY BY COLOR FOR COAL MINERS IN LOGAN COUNTY, WEST VIRGINIA¹

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ALTHOUGH differential fertility by color is widely recognized in the United States, the basis of the frequently lower fertility of Negroes has proved difficult to probe. Innate fecundity, acquired pathology, and contraceptive practice do not readily lend themselves to study, and representative sampling is not always feasible. While many students of the problem have stressed environmental as against innate factors, Pearl and Notestein have furnished perhaps the best evidence against the existence of important innate differences favoring whites. Restricting his comparison to noncontraceptors married once only, and without gynecological disease, Pearl² has shown for his selected group the absence of any reliable color difference in the chance of conception. Even this finding does not exclude the possibility of variation in the incidence of inherited sterility, for women gained access to the series only through admission to a hospital for obstetrical care. Notestein's important study³ of the 1930 population of the East North Central states shows a reversal of the usual color differences favoring whites within each residence group when comparison was restricted to mothers. In this study the factor of contraception could not be taken into account, but data such as those of Pearl have been accepted as evidence that the contraceptive practice of Negroes is neither so extensive nor so effective as that of whites.

In the light of the probable color incidence of venereal infection and its implications for reproduction, these findings have suggested

¹ From the Milbank Memorial Fund and the National Committee on Maternal Health.

² Pearl, R.: Third Progress Report on a Study of Family Limitation. The Milbank Memorial Fund *Quarterly*, July, 1936, xiv, No. 3, pp. 258-284.

³ Notestein, F. W.: Differential Fertility in the East North Central States. The Milbank Memorial Fund *Quarterly*, April, 1938, xvi, No. 2, pp. 173-191.

acquired sterility and pregnancy wastage as the source of the differential. They do not, however, entirely dispose of either innate differences or contraceptive practice. It is the purpose of this note to demonstrate the irrelevance of contraception in producing the very marked color difference observed for a fairly representative sample of bituminous coal miners in Logan County, West Virginia.

The sampling was conducted in 1939 in order to ascertain the proportion of rural-nonfarm women in the County who would accept a contraceptive service. The available time and funds prohibited a sampling procedure in accordance with the principle that each member of the universe be granted an equal chance of selection. However, it was thought practicable, if not entirely wise, to shift the sampling unit to residential areas, mainly coal camps in this instance. From a list of areas were excluded a few for the reason that the local physician did not favor the contraceptive project, and certain other very isolated areas difficult of access. It may be said of the final list that it was probably somewhat biased in the direction of accessibility. From the resulting list, amplified to 149 areas by the subdivision of large coal camps, fifteen were selected at random.

The survey of the fifteen areas was highly successful from the standpoint of completeness of enumeration and response of subjects. In all, 539 married women of reproductive age were interviewed, 30 per cent Negroes and 70 per cent whites. Each woman was offered contraceptive aid. Those who accepted furnished a full reproductive history. The women who rejected gave a brief one containing:

- Color
- Age at last birthday
- Age at first marriage
- Number of children ever born alive
- Occupation of the husband
- Employment status of the husband
- Whether or not contraception had ever been employed
- Reason for refusal of contraceptive aid

With the exclusion of four incomplete histories the sample consists

of 535 women and may be studied only with respect to the above factors.

The fertility difference is shown in Table 1 by age, the measure being births per 100 woman-years of married life for women under 45 living with their husbands when visited. This measure, of course, is not ideal, but is sufficiently precise for the present purpose. The rates are not age-specific, but represent the accumulated experience of women of specified age at interview. For each age group beyond the second the rates are significantly higher for whites than for Negroes, and the comparable total rates show the average fertility of the whites to be more than 50 per cent higher than that of the Negroes. If contraception played a role in this result, Negroes practiced contraception either more effectively or more of the time.

The untenability of either hypothesis, however, is clear from Table 2. Only 7 per cent of the Negroes reported contraceptive practice, in comparison with 33 per cent of the whites. The equivalent percentages of years of marriage are almost identical, being 6 and 34. Moreover, the rate for Negro contraceptors is actually higher than that for white contraceptors, although based upon an unreliably small number of women. The noncontraceptive experience presents the same pattern as Table 1. The experience of the whites is also striking in demonstrating the selection of contraceptors from

Table 1. Differential fertility by color and age, for married women under 45.

AGE	NEGROES				WHITES			
	Women	Years of Marriage	Live Births	Rate ¹	Women	Years of Marriage	Live Births	Rate ¹
15-19	11	21	9	*	49	91	46	*
20-24	36	173	65	38	99	418	180	43
25-29	31	255	58	23	76	702	254	36
30-34	28	402	83	21	64	863	272	32
35-39	33	629	86	14	53	1,003	254	25
40-44	16	385	51	13	39	913	216	24
TOTAL	155	1,865	352	19	380	3,990	1,222	31

¹ Live births per 100 woman-years of marriage.

* Less than 100 woman-years of marriage upon which to base a rate.

COLOR	WOMEN	YEARS OF MARRIAGE	LIVE BIRTHS	RATE ¹
A—CONTRACEPTORS				
Negro	11	107	57	53
White	127	1,364	486	36
B—NONCONTRACEPTORS				
Negro	144	1,758	295	17
White	253	2,626	736	28

¹ Live births per 100 woman-years of marriage.

Table 2. Differential fertility by color and prior contraceptive practice, for married women under 45.

among the most fertile women, for the selection is evident at each age-interval and as a pattern is highly significant in the statistical sense.

The marked selective influence of the offer of contraceptive aid is demonstrated in Table 3 which contrasts women who accepted and women who rejected, preserving the division of prior contra-

Table 3. Fertility comparison according to acceptance or rejection of contraceptive aid, by color and prior contraceptive practice for married women under 45.

COLOR	ACCEPTED				REJECTED			
	Women	Years of Marriage	Live Births	Rate ¹	Women	Years of Marriage	Live Births	Rate ¹
A—CONTRACEPTORS								
Negro	9	92	47	*	2	15	10	*
White	56	526	226	43	71	838	260	31
B—NONCONTRACEPTORS								
Negro	27	185	80	43	117	1,573	215	14
White	74	608	291	48	179	2,018	445	22
C—ALL WOMEN								
Negro	36	277	127	46	119	1,588	225	14
White	130	1,134	517	46	250	2,856	705	25

¹ Live births per 100 woman-years of marriage.

* Less than 100 woman-years of marriage.

REASON	NEGRO				WHITE			
	Women	Years of Marriage	Live Births	Rate ¹	Women	Years of Marriage	Live Births	Rate ¹
Pregnancy Desired	24	147	9	6	20	81	8	*
"No Need"	68	1,192	118	10	45	743	103	14
Other	25	234	88	38	114	1,194	334	28
TOTAL	117	1,573	215	14	179	2,018	445	22

¹ Live births per 100 woman-years of marriage.
 * Less than 100 years upon which to base a rate.

Table 4. Fertility of noncontraceptors refusing aid, by reason for refusal and color, for married women under 45.

ceptive practice. In each instance the group accepting the service had the higher fertility. This is apparently a large factor in the lower service acceptance of the Negroes.

The validity of this difference is strengthened by the distribution of reasons for rejection by color and prior contraceptive practice. The Negroes are heavily overweighted with women desiring pregnancy and with women manifesting "no need." They are underweighted with women giving as reasons for refusal apathy, religious or other prejudice, sterilization, and pregnancy or abstinence. The inference seems justified that the Negroes as a group have an involuntary basis for their lower fertility. The point is brought home forcibly in Table 4 which gives relative fertility according to reason for refusal. It is evident that reasons suggesting low fertility are in fact accompanied by substandard reproduction and go far to explain the general differential observed.

For the State of West Virginia the National Resources Committee⁴ report gives average annual age-specific live birth rates for married women for the years 1918-1921 and 1929-1931. These fertility schedules, showing large color differentials for these years, may be applied to the present body of data for the computation of expected rates comparable with those observed for the sample. This has been

⁴ National Resources Committee: POPULATION STATISTICS. 2. STATE DATA. Washington, Government Printing Office, 1937.

done in Table 5 which shows fair agreement between observed and expected in this sense. For the Census year 1930 the crude birth rate for Negroes in Logan County approximated the State rates for rural and for all Negroes. The crude rates of Logan County whites, on the other hand, have consistently exceeded those of the white rural population of the State. While the observed rate of 31 is significantly above that of 26 for 1929-1931, it matches the corresponding rate for 1918-1921 and is perhaps lower than the crude differentials would lead one to expect. However, it is difficult to assign a specific point in time to the observed rates since they represent the accumulated experience of women of varying duration of marriage. Should the suggestion be correct that the whites in the sample are slightly below the whites of Logan County in average fertility, it would follow that the color differential observed within the sample may slightly understate the case. Since the argument here is concerned not with the estimation of the size of the differential but with the explanation of its existence, the comparison supports the extension of the argument from the sample to the universe, especially in view of the consistent color differentials in the age-specific rates published by the National Resources Committee for the State.

Table 5. Comparison of observed fertility with that expected from West Virginia state schedules for 1918-1921, and 1929-1931, by color, for married women under 45.

RATE ¹	Negro	White
Observed	19	31
Expected ²		
1918-1921	21	31
1929-1931	19	26

¹ Live births per 100 woman-years of marriage.
² Computed by applying West Virginia annual average age-specific live birth rates to the duration of marriage distribution within each age-at-interview group.

Notestein⁵ has shown the color differential for the 1930 population of the East North Central states to be attributable to a high incidence of childlessness among Negroes. This valuable contribution has been followed up with the present data. Among the Negro non-

⁵ *Op. cit.*

contraceptors the percentage reporting no live births is 31 and significantly above the percentage of 18 for the whites. Rates based upon fertile women reduce the differential between 17 and 28 (*see* Table 2) to one between 22 and 31, the latter also being well outside the chance range. In other words, while the Negroes do exhibit markedly higher childlessness, this fact alone by no means accounts for their lower fertility in the present sample.

The observations reported here provide additional evidence in favor of an involuntary basis for the established color differential in fertility. The data show that contraception cannot be assumed to play a part, but furnish no ground for choosing between the two remaining and compatible alternatives, viz:

1. that absolute and involuntary sterility is more prevalent among Negroes; and
2. that pregnancy wastage, either voluntary or involuntary, is reliably higher for Negroes.

With reference to the latter it may be said of the women who accepted the service that the pregnancy wastage of Negroes was not appreciably different from that of whites and that in neither group was voluntary pregnancy wastage of real consequence.