

FACTORS UNDERLYING INDIVIDUAL AND GROUP DIFFERENCES IN UNCONTROLLED FERTILITY

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INTRODUCTION

RECENT studies of the contraceptive practices of American women indicate that "if it were not for the effect of contraceptive efforts and the practice of criminal abortion, together with correlated habits as to postponement of marriage, there would apparently be little or no significant differential fertility as between economic, educational, or religious classes of urban American married couples."² Pearl also found that in the absence of contraception the pregnancy rates of Negroes did not differ significantly from those of white women.³ In studies of patients of birth control clinics, it was found that there were no significant differences in the uncontrolled fertility of different religious groups or of different social and occupational classes.⁴

It may not be assumed, however, that, because no broad group differences were demonstrable, individual couples did not vary in reproductive capacity. Actually, wide individual differences were observed and it can be shown that couples with high native fertility were doubtless aware of their ability to reproduce rapidly and turned to the use of contraception early in order to curb their fertility.

¹ From the Milbank Memorial Fund.

² Pearl, Raymond: *THE NATURAL HISTORY OF POPULATION*. New York, Oxford University Press, 1939, p. 244.

³ *Op. cit.*, p. 224.

⁴ Stix, R. K. and Notestein, F. W.: Effectiveness of Birth Control. A Second Study. The Milbank Memorial Fund *Quarterly*, April, 1935, xiii, No. 2, pp. 170-171.

Stix, R. K. and Notestein, F. W.: *CONTROLLED FERTILITY: AN EVALUATION OF CLINIC SERVICE*. Baltimore, The Williams and Wilkins Co. In press. Chapter V, Tables 13, 14.

Stix, R. K.: Birth Control in a Midwestern City. The Milbank Memorial Fund *Quarterly*, January, 1939, xvii, No. 1, p. 81 and Table 4.

A number of factors may influence fertility in the absence of contraception.⁵ One is the presence of varying degrees of pelvic and endocrine pathology. Less is known of the influence of other pathological processes on the reproductive capacity of the individual or couple, but results of animal experiments suggest that certain nutritional deficiencies probably lower reproductive capacity.

Among couples who have no demonstrable pelvic or endocrine pathology there may be differences in the length of lactation and amenorrhea following pregnancy which may account for fairly wide differences in the rate at which all conceptions after the first take place, when no contraception is used. It is a matter of common knowledge that the period immediately following a pregnancy is relatively infertile; that there is probably an anovulatory period coincidental with postpartum amenorrhea and that there may be additional anovulatory cycles during lactation, even after menstruation has been resumed.⁶ There are no data showing the effect of these periods on the rate of conception.

In the course of the study of the controlled and uncontrolled fertility of the patients of two birth control clinics, information was secured on the length of amenorrhea and of lactation which followed each pregnancy occurring between the woman's first marriage and her initial visit to the clinic. It is almost impossible to elicit precise information of this sort, and it is probable that the length of lactation and amenorrhea reported for many individual pregnancies is inaccurate. It was felt, however, that a gross appraisal of the data might throw some light on the differences in mores in the two areas represented and on the influence of postpartum amenorrhea on fertility.

⁵ The frequency of coitus may influence fertility in the absence of contraceptive practice, but data on coital frequency are unreliable. On the basis of available data it may be concluded that observed differences in noncontraceptive rates are negligible. See Stix: Birth Control in a Midwestern City, p. 82 and Table 6; and Stix, R. K.: The Medical Aspects of Variations in Fertility. *American Journal of Obstetrics and Gynecology*, April, 1938, 35, No. 4, pp. 577-578 and Table IV.

⁶ Lass, Paul; Smelser, Jane; and Kurzrok, Raphael: Studies Relating to Time of Human Ovulation. *Endocrinology*, July, 1938, xxiii, No. 1, pp. 39-43.

THE SOURCE OF THE MATERIAL

Detailed fertility records, covering the period from marriage to the date of the initial contact with a birth control clinic, were secured from 1,621 white women in Cincinnati, Ohio, who had attended the clinics of the Cincinnati Committee on Maternal Health. Similar records were obtained from 533 white women and 457 Negro women who were referred to the Maternal Health Clinic of the Spartanburg County Health Department, in Spartanburg, South Carolina.⁷ In both areas the women came mainly from low-income families and families on relief and were almost all native-born Protestants.⁸ About 60 per cent of the Spartanburg patients, both white and Negro, were the wives of manual workers in the city of Spartanburg or in the cotton-mill towns in the County. The remaining 40 per cent of each group were the wives of sharecroppers, tenant farmers, or farm laborers in the rural sections of Spartanburg County.

The clinic patients in both Cincinnati and Spartanburg were unusually fertile women. The average wife of a manual laborer in Cincinnati had had 5.0 pregnancies and 4.0 live births when she first came to the clinic for contraceptive advice. Spartanburg white patients were even more fertile, with a preclinic average of 5.0 pregnancies and 4.3 live births for the urban women and 5.7 pregnancies and 5.1 live births for those from rural areas. The Negro urban women averaged 6.0 pregnancies and 5.0 live births and those from the farms 6.6 pregnancies and 5.7 live births.⁹

⁷ The record of each Spartanburg patient contained a medical history, the digest of a medical examination, the record of a complete pelvic examination, and laboratory reports on urine, smears, and serological tests for syphilis. Each Cincinnati patient was given the routine pelvic examination necessary for fitting a contraceptive diaphragm and selected patients were referred for special gynecologic care. The gynecologic records of these patients were available for study.

⁸ For a more detailed description of the Cincinnati group, *see*: Stix: Birth Control in a Midwestern City, pp. 72-74.

⁹ All averages were standardized to the age distribution of all women 15-45 years of age in the 1930 census.

Only the records of women for whom there was no evidence of gross pelvic or endocrine pathology were included in the present study. All Spartanburg women who had positive evidence of syphilis or whose husbands had syphilis were also excluded, as were a small number of cases in which either the husband or wife had pellagra. The records were, therefore, those of women who had no pathology that might be presumed to affect their fertility. There were 1,208 such cases in Cincinnati and 353 white and 260 Negro cases in Spartanburg.

UNCONTROLLED FERTILITY

When all cases with gross pathology were excluded from the tabulations, it was found that the Cincinnati women and the Spartanburg Negroes had slightly but significantly higher pregnancy rates, when no contraception was used, than did the white women in Spartanburg.¹⁰

The noncontraceptive pregnancy rates for the three groups of women are shown in Table I. The rates for first pregnancies did not differ significantly in the three groups.¹¹ For all pregnancies after the first, however, the Spartanburg white women had significantly lower rates than either of the other groups. The rates for the Negro women in Spartanburg did not differ significantly from those for white women in Cincinnati, but they were higher than those for white women in the Spartanburg area.¹² In neither the

¹⁰ The pregnancy rates used in this study are expressed in terms of the number of pregnancies occurring in 100 person-years of exposure to the risk of pregnancy when no contraception was used. Exposure to pregnancy is that period of a woman's married life between menarche and menopause during which she is living with her husband and not pregnant or in the puerperium, and during which she is, therefore, more or less regularly exposed to the risk of becoming pregnant. See Stix, R. K. and Notestein, F. W.: *The Effectiveness of Birth Control*. The Milbank Memorial Fund *Quarterly*, January, 1934, xii, No. 1, pp. 59-64, for a detailed explanation of the method of calculating pregnancy rates.

¹¹ The t test was used to test the differences between the arithmetic means of the distributions of exposures to first pregnancies. Values of p lower than .05 were considered to indicate significant differences.

¹² In testing the significance of the differences in rates for pregnancies after the first, the χ^2 test was used. The test is not ideally suited to the data, but is the best available for the

PERIOD OF MARRIED LIFE	CINCINNATI	SPARTANBURG				
		White	Negro			
PREGNANCIES PER 100 YEARS OF EXPOSURE						
First Pregnancies	189	194	200			
All Later Pregnancies Years Since Marriage	96	75	91			
0-4	102	83	99			
5-9	99	77	90			
10-14	82	64	76			
15-29	71	60	72			
NUMBER OF YEARS OF EXPOSURE AND NUMBER OF PREGNANCIES						
	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.
First Pregnancies	434.8	821	144.6	280	99.7	199
All Later Pregnancies Years Since Marriage	1,277.5	1,229	969.2	730	818.2	741
0-4	733.2	747	390.9	323	376.7	372
5-9	284.7	282	313.2	242	257.3	232
10-14	150.6	123	168.2	107	118.9	90
15-29	108.9	77	96.9	58	65.2	47

¹All cases with known pathology were excluded from this tabulation and from the ones following.

Table 1. Pregnancy rates for three groups of women when no contraception was used.¹

white nor the Negro Spartanburg group did the rates for urban women differ significantly from those for women from the rural areas.

In Cincinnati, the women who turned to the use of contraception before the tenth year of married life had significantly higher pregnancy rates than did those women who had exposure without contraception after the tenth year of married life.

The same type of selection appears to have been present in both Spartanburg groups, but to a much less marked degree (Table 2). The first pregnancy rates for both whites and Negroes who used

purpose. Values of *p* lower than .02 were considered to indicate significant differences; those higher than .10 to show no significant differences. Values of *p* falling between .02 and .10 were considered to be of doubtful significance and will be given in footnotes.

PERIOD OF MARRIED LIFE	CINCINNATI		SPARTANBURG									
	Group A	Group B	White		Negro							
			Group A	Group B	Group A	Group B						
PREGNANCIES PER 100 YEARS OF EXPOSURE												
First Pregnancies	144	194	140	227	131	242						
All Later Pregnancies Years Since Marriage												
0-4	82	107	78	86	97	100						
5-9	81	130	76	79	80	108						
10-14	82		64		76							
15-29	71		60		72							
NUMBER OF YEARS OF EXPOSURE AND NUMBER OF PREGNANCIES												
	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.
First Pregnancies	46.5	67	388.3	754	55.0	77	89.6	203	38.2	50	61.5	149
All Later Pregnancies Years Since Marriage												
0-4	153.2	125	580.0	622	172.1	135	218.8	188	116.6	113	260.2	259
5-9	179.2	145	105.6	137	219.7	168	93.4	74	161.7	129	95.6	103
10-14	150.6	123			168.2	107			118.9	90		
15-29	108.9	77			96.9	58			65.2	47		

Table 2. Noncontraceptive pregnancy rates for women who had exposure without contraception *after* the tenth year of married life (Group A), and for those who turned to the exclusive use of contraception or attended a birth control clinic *before* they had been married ten years (Group B).

contraception early were significantly higher than those for women who had exposure without contraception after the tenth year of married life, but the differences in the rates for later pregnancies were not significant.¹³ Both Spartanburg white groups, however,

¹³ In both Cincinnati and Spartanburg, women who attended the clinic before the tenth year of married life were included as having no exposure without contraception after the tenth year of married life. Although almost no women in Cincinnati had exposure without contraception after clinic attendance, this was not true of either white or Negro women in Spartanburg, many of whom continued to use no contraception even after contraception had been made available to them. This doubtless accounts for the small amount of selection shown in the Spartanburg sample.

had pregnancy rates significantly lower than those of the corresponding Negro groups.¹⁴ The rates for white women who had exposure without contraception after the tenth year of married life were not significantly different from those for the Cincinnati women. The rates for the group who turned to contraception early were, however, significantly lower than those for the parallel group of Cincinnati women, while in neither case did the rates for the Negro and the Cincinnati groups differ significantly.

The exclusion of all cases with known pathology from the sample studied eliminates one important factor affecting uncontrolled fertility.¹⁵ Differences in length of lactation and associated puerperal amenorrhea probably account for some of the remaining disparity in rates.

LACTATION AND AMENORRHEA

The length of lactation reported by different individuals for individual pregnancies varied widely both in Cincinnati and in Spartanburg. Because of the unreliability of this type of reporting, little confidence can be placed in any except gross figures. The mean number of months of lactation per live birth and the mean number of months of amenorrhea per pregnancy are probably fairly accurate for the experience of a large number of women,¹⁶ inasmuch as in the assembled data errors in one direction are counterbalanced by errors in the opposite direction.

In both Cincinnati and Spartanburg, the average length of lactation per live birth was longer for women who came to the clinic

¹⁴ In the comparison of the rates for white and Negro women with noncontraceptive exposure after the tenth year of married life, the value of *p* was between .02 and .05.

¹⁵ Pregnancy rates, without contraception, of cases with pelvic and/or endocrine pathology were found to be significantly lower than the rates of the nonpathological cases. See Stix: *Birth Control in a Midwestern City*, p. 79, Table 4 and footnote 14; and *The Medical Aspects of Variations in Fertility*, pp. 572-593 and Table 1.

¹⁶ The number of months of lactation per live birth and the number of months of amenorrhea per pregnancy were found to be about the same for pregnancies occurring when contraception was used as for those occurring when none was used. Since the lactation and amenorrhea following a pregnancy conceived before contraception was used may coincide with exposure during which contraceptives were used, the means were computed for all pregnancies, whether preceded by the use of contraception or not.

after they had been married for ten years or more than for younger women who came to the clinic earlier in their married lives. There was little variation in the mean length of lactation per live birth in

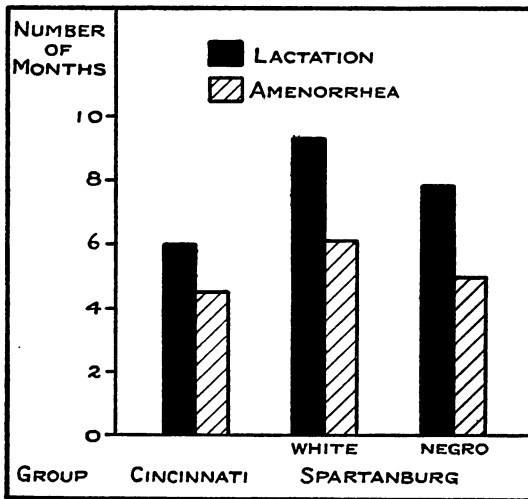


Fig. 1. Mean number of months of lactation per live birth and mean number of months of amenorrhea per pregnancy for three groups of women.

the three social class groups in Cincinnati, for women married approximately the same length of time.

In Spartanburg, the mean length of lactation per live birth was consistently higher among both whites and Negroes than in Cincinnati (Table 3 and Fig. 1). The average for white women in Spartanburg was consistently

higher than the average for Negroes. Wives of farmers nursed their babies longer than wives of city-employed workers: 8.4 months per live birth for white women in the urban areas as compared with 10.5 months for white women in the rural areas.

Table 3. Mean number of months of lactation per live birth and mean number of months of amenorrhea per pregnancy for three groups of women.¹

	CINCINNATI	SPARTANBURG	
		White	Negro
Mean Number of Months of: Lactation per Live Birth	6.0	9.3	7.8
Amenorrhea per Pregnancy	4.5	6.1	4.9
Number of: Live Births	3,946	1,218	913
Pregnancies	4,808	1,390	1,047

¹Includes experience for all pregnancies, whether conception was preceded by exposure with contraception or without.

On the whole, these are the findings to be expected, for it is a matter of common knowledge that in the poorer economic groups living in the South prolonged nursing is the rule rather than the exception. A few women in the Spartanburg group nursed their children for three years or longer, doubtless because they believed that in this way they might be protected against further pregnancy.

Length of lactation, when lactation is physiologically possible, is to a great extent a matter of voluntary control on the part of the mother. In urban areas, especially in the industrialized North, the mother's attitude may be modified by the advice of a clinic or personal physician. Since most pediatricians regard six or seven months as the optimal length of time for breast feeding, the mean length of lactation is shorter for groups of women to whom such advice is available than for women who feed their infants without the benefit of medical direction.

In the South, especially in the rural areas, medical supervision throughout infancy is not usual. The rural families had little or no cash income, and it is not surprising that the rural mother found the breast the simplest as well as the most economical and dependable source of food for her baby.

The difference between the average length of lactation among white and among colored women is more difficult to explain. Many of the Negro women were domestic servants, working by the day, and in order to continue as wage-earners it may have been necessary for them to wean their babies relatively early.

The mean length of amenorrhea per pregnancy differed less in the three groups than did the mean length of lactation per live birth (Table 3 and Fig. 1). The group relationships were in the same direction, however; and amenorrhea, like lactation, was somewhat more prolonged in the experience of older women than it was in the experience of younger ones. It is probable that the length of the postpartum period of amenorrhea depends to a great extent on the associated length of lactation.

THE INFLUENCE OF POSTPARTUM AMENORRHEA ON THE
RISK OF CONCEPTION

Between 37 and 40 per cent of the noncontraceptive exposure of each group of women coincided with periods of postpartum amenorrhea. If such periods were anovulatory, they would be expected to constitute a very effective protection against further pregnancy. That they actually did do so may be seen by comparing the rates, for pregnancies after the first, in Table 4 with those in Table 1.¹⁷

Table 4. Noncontraceptive pregnancy rates for three groups of women, with all exposure and pregnancies occurring during periods of amenorrhea excluded.

PERIOD OF MARRIED LIFE	CINCINNATI	SPARTANBURG				
		White	Negro			
PREGNANCIES PER 100 YEARS OF EXPOSURE						
First Pregnancies ¹	189	194	200			
All Later Pregnancies	140	122	140			
Years Since Marriage						
0-4	150	143	159			
5-9	139	122	137			
10-14	103	93	115			
15-29	102	95	99			
NUMBER OF YEARS OF EXPOSURE AND NUMBER OF PREGNANCIES						
	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.
First Pregnancies ¹	434.8	821	144.6	280	99.7	199
All Later Pregnancies	801.8	1,123	580.5	706	517.4	723
Years Since Marriage						
0-4	448.0	671	218.6	312	228.2	362
5-9	188.2	262	192.7	235	166.9	228
10-14	94.2	117	109.2	102	76.7	88
15-29	71.4	73	60.0	57	45.6	45

¹Rates of first pregnancies are identical with those in Table 1, since there can be no period of puerperal amenorrhea until there has been at least one pregnancy.

¹⁷The rates in Table 4 were derived by subtracting from the noncontraceptive exposure and pregnancies in each five-year period of married life, after the first pregnancy, the exposure coinciding with periods of postpartum amenorrhea and the pregnancies conceived before menstruation was reestablished. When the reported length of amenorrhea exceeded the exposure between pregnancies, it was assumed that menstruation was resumed one month before conception took place, unless the conception was reported to have occurred before menstruation was reestablished.

The rates in Table 4 are those which would have occurred if there had been no postpartum amenorrhea in the noncontraceptive exposure to pregnancy of the three groups of women. In the Cincinnati group the estimated rates are about 45 per cent higher than the observed rates, while the estimated rates for the Spartanburg white women are about 63 per cent higher and those for the Spartanburg Negro women about 54 per cent higher than the observed rates of the same groups.

The major part of the difference between the rates for Spartanburg white women and for Cincinnati women may be ascribed to the fact that, because of prolonged lactation, the proportion of exposure which coincided with postpartum amenorrhea and in which the risk of pregnancy was, therefore, reduced, was greater in the Spartanburg white group than in the Cincinnati group. The Cincinnati rates remained slightly, but probably not significantly, higher after this factor was taken into account.¹⁸ The reduction of the differences between the two sets of rates when the amenorrheic exposure and pregnancies were excluded from both is depicted graphically in Figure 2A. The noncontraceptive rates for the Cincinnati women were 28 per cent higher than those for the Spartanburg white women, but if neither group had had any postpartum amenorrhea the rates for the Cincinnati women would have exceeded those for the Spartanburg white women by less than 15 per cent.

The rates for Negro women in Spartanburg were almost identical with those for the Cincinnati white women, when the amenorrheic pregnancies and exposure were excluded. The Negro rates remained slightly but significantly higher than those for Spartanburg white women, however, even with amenorrhea held constant.¹⁹

¹⁸ The value of *p* for the comparison of rates for all pregnancies after the first, with amenorrhea excluded, was between .02 and .05.

¹⁹ The value of *p* for the comparison of rates for all pregnancies after the first was about .02.

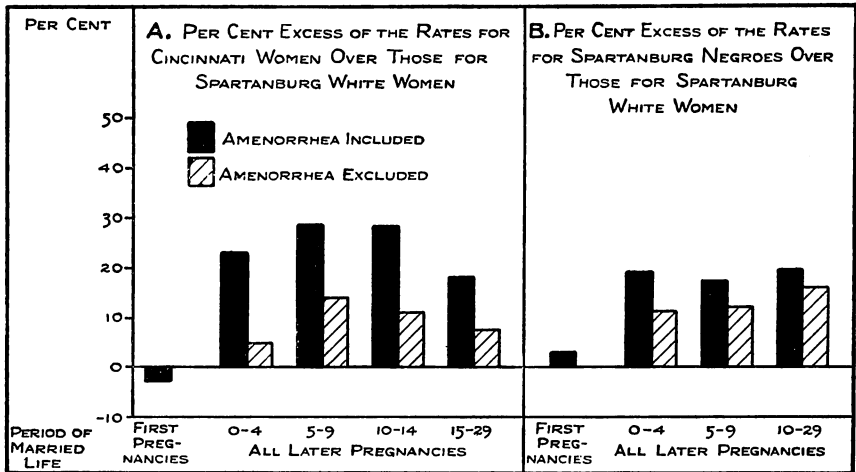


Fig. 2. Per cent excess of the nonconceptive pregnancy rates for Cincinnati women and for Spartanburg Negro women over the corresponding rates for Spartanburg white women when exposure and pregnancies occurring during periods of amenorrhea were included and when they were excluded.

Had neither Spartanburg group had any postpartum amenorrhea the rates for Negro women would have exceeded the rates for white women by about 15 per cent, while for the observed rates the difference was about 21 per cent (Fig. 2B).

Differences were less, however, when the rates of women who had exposure without contraception after the tenth year of married life and those of women who turned to contraception early, in each group, were compared with those of women with parallel experience in the other groups (Table 5 and Fig. 3). There were no significant differences in the rates for the three groups of women with a similar attitude toward contraception, when the exposure and pregnancies occurring during amenorrhea were excluded from the rates.²⁰

After the first pregnancy, the differences in the nonconceptive pregnancy rates,²¹ for women who did and did not have exposure

²⁰ The value of *p* for the comparison of rates for white and Negro women in Spartanburg, who turned to contraception early, for all pregnancies after the first, was between .05 and .10. Values of *p* for all other comparisons were higher than .10.

²¹ For the first ten years of marriage.

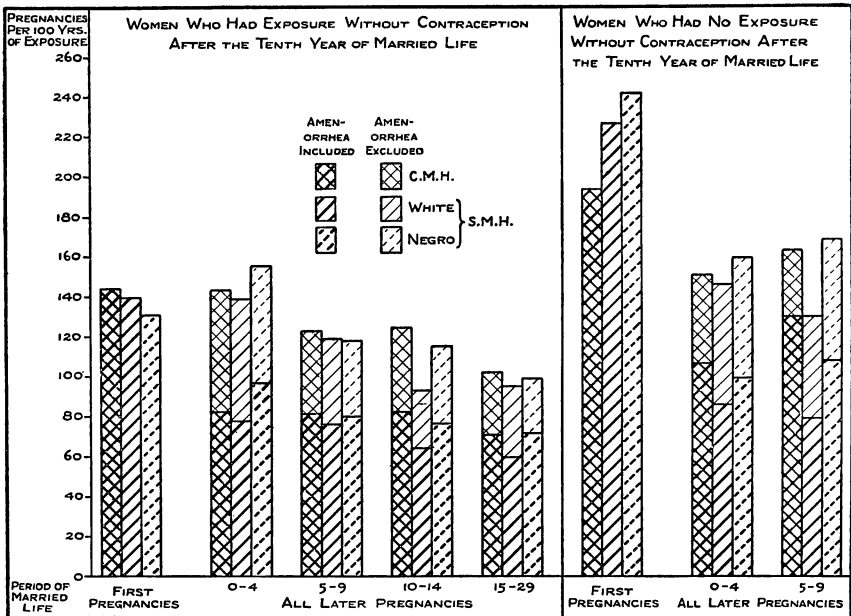


Fig. 3. Noncontraceptive pregnancy rates of women who did and did not have exposure without contraception after the tenth year of married life, when exposure and pregnancies occurring during periods of amenorrhea were included and when they were excluded.

sets of rates left only a borderline difference between them.²² The rates for the Spartanburg white women who turned to contraception early were not significantly different from those for women who delayed its use. In other words, the women who delayed the use of contraception depended to a great extent on prolonged nursing and associated amenorrhea to protect themselves against further pregnancy.

The protection afforded by amenorrhea may be estimated with some precision in terms of the per cent of excess pregnancies which would have occurred had there been no amenorrhea in the exposure to the risk of pregnancy. If the Cincinnati women had had no amenorrhea, they would have had about 20 per cent more pregnancies than they actually did have, while the two groups of

²² In each case the value of p was between .05 and .10.

Spartanburg women, under similar circumstances, would have had about 30 per cent more (Table 6).

In all three groups, the women who delayed the use of contra-

Table 6. Per cent of pregnancies prevented by the presence of amenorrhea in the noncontraceptive exposure to pregnancy of three groups of women.

Group of Women	Per Cent of Pregnancies Prevented by Amenorrhea	
	Per Cent of All Pregnancies	Per Cent of All Pregnancies After the First
Cincinnati	20.6	30.2
Spartanburg		
White	31.3	38.7
Negro	30.5	35.7

ception would have had about 33 per cent more pregnancies had they had no puerperal amenorrhea. Those who turned to contraception early, in Cincinnati, would have had about 16 per cent more pregnancies, and the two Spartanburg groups between 28 and 30 per

cent more pregnancies than they actually had.

It is possible that some women who continued to nurse their babies after menstruation was reestablished had additional periods of partial protection against pregnancy associated with lactation.²⁸ The exact measurement of the effects of lactation and amenorrhea on the rate of conception must await more accurate data than are at present available.

RESIDUAL DIFFERENCES IN UNCONTROLLED FERTILITY

Even after the exposure and pregnancies of all pathological cases were excluded from the tabulations and the differences in amount of amenorrhea in the three groups were held constant, by estimating for each group the rates which would have obtained had there been no amenorrhea, certain minor residual differences in uncontrolled fertility remained. The rates of the Spartanburg white women were consistently lower in all durations of marriage than those of the Negro women or of white women in the Cincinnati area

²⁸ See: Lass, *et al*: *op. cit.*

(Tables 1 and 4). In addition, the first pregnancy rates of women in all three groups, who turned to contraception early, were significantly higher than those of women who delayed the use of contraception.²⁴

We may only speculate about the reasons for these differences, since there are no data available to elucidate them. It is possible that differences in nutrition may play some part in them. The prevalence of nutritional deficiency is high in the South, and although much has been done in Spartanburg to treat frank cases of pellagra, diets remain extremely low in the protective foods. Recent clinical research has shown the widespread prevalence of multiple nutritional deficiencies.

In 1915, Siler and his associates found that in Spartanburg County, township by township, pellagra was about three times as prevalent among whites as among Negroes.²⁵ It is probable that pellagra is less prevalent now than it was in 1915, but there is no reason to believe that the difference between the white and the Negro morbidity has been greatly altered.

Negro nutrition may be slightly better than that of whites in similar economic circumstances, because many Negroes are domestic workers in the homes of economically well-to-do people in the community. It is an accepted custom in the South for domestic workers to carry food home with them. Thus, the Negro domestic worker and her family are probably better fed than white or Negro workers in the same economic circumstances, who have no access to supplementary food sources.

An indirect test of the influence of nutrition on fertility was made by comparing the pregnancy rates of Negro domestic workers with

²⁴ It was thought that the difference in rates for first pregnancies might be associated with differences in coital frequency. In all three groups, however, for each reported frequency of coitus the rates for women who turned to contraception early were consistently—and, in most instances, significantly—higher than those of women who delayed its use.

²⁵ Siler, J. F.; Garrison, P. E.; and MacNeal, W. J.: Statistics of Pellagra in Spartanburg County, South Carolina. *Archives of Internal Medicine*, January, 1915, xv, pp. 98-120.

PERIOD OF MARRIED LIFE	DOMESTIC WORKERS		OTHER NEGROES	
	PREGNANCIES PER 100 YEARS OF EXPOSURE			
First Pregnancies	204		197	
All Later Pregnancies	95		88	
Years Since Marriage				
0-4	103		96	
5-9	97		87	
10-14	72		77	
15-29	71		73	
	NUMBER OF YEARS OF EXPOSURE AND NUMBER OF PREGNANCIES			
	Exp. Yrs.	No. Preg.	Exp. Yrs.	No. Preg.
First Pregnancies	38.8	79	60.8	120
All Later Pregnancies	274.4	260	543.7	481
Years Since Marriage				
0-4	133.7	138	243.1	234
5-9	82.2	80	175.2	152
10-14	38.7	28	80.2	62
15-29	19.8	14	45.3	33

Table 7. Pregnancy rates for Negro domestic workers and those for all other Negroes, when no contraception was used.

those of other Negroes (Table 7) and of white women in Spartanburg. When amenorrheic exposure and pregnancies were included, the rates for the Negro domestic workers were slightly but not significantly higher than those for other Negroes and significantly higher than those for the white women. The rates for the Negroes who were not domestic workers were slightly but significantly higher than the rates for the Spartanburg white women. When amenorrheic exposure and pregnancies were excluded, however, the rates of the Negroes who were not domestic workers did not differ significantly from those for the white women, but the rates for Negro domestic workers remained significantly higher than those for the white women from the same areas. The data are insufficient for any definite conclusions, but they suggest that nutrition may play a part in fertility.

SUMMARY AND CONCLUSIONS

Recent studies have shown that group differences in uncontrolled fertility are so small as to be negligible. There are, however, individual differences within groups which may be traced to the differential prevalence of certain physiological and pathological factors.

A study of the uncontrolled fertility of a group of white women in Cincinnati, Ohio, and a group of white and one of Negro women in Spartanburg, South Carolina, yielded the following results:

1. It has been shown in previous publications that the pregnancy rates for the exposure without contraception for women who had pelvic and/or endocrine pathology were significantly lower than those for women with no demonstrable pathology.

2. Differences in the length of periods of amenorrhea associated with lactation were responsible for significant differences in the noncontraceptive rates for selected groups of women.

3. It is possible that nutritional deficiency may effect some reduction in fertility.