SOCIAL AND PSYCHOLOGICAL FACTORS AFFECTING FERTILITY[1]

II. VARIATIONS IN THE SIZE OF COMPLETED FAMILIES OF 6,551 NATIVE-WHITE COUPLES IN INDIANAPOLIS

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THE purpose, scope, and general method of the study undertaken by the Committee on Social and Psychological Factors Affecting Fertility have been described in a former report.[2] Suffice it to repeat that in order to locate couples meeting highly specific requirements for inclusion in a later intensive study, a short schedule was filled out for virtually every white household in Indianapolis during the summer of 1941. All native-white couples with wife under 45 were asked to supply a few items of information, including age of wife, years married, number of times married, number of children ever born, rental value of the dwelling unit, and religion, educational attainment, and state of birth of the husband and wife. These data were used in the preceding report for an analysis of differential fertility among native-white couples in Indianapolis. Age-specific birth rates and births to wives 15-44, standardized for age, were used as indices of fertility. Some special attention was given to the rates for wives 40-44, for these could be interpreted in terms of average requirements for population replacement. The present report deals with the distributions of wives 40-44 by number of children ever born. The analysis is restricted to native-white couples in which the husband and wife were married once only and is carried through by religion of the couple,

[1] This is the second of a series of reports on a study conducted by the Committee on Social and Psychological Factors Affecting Fertility, sponsored by the Milbank Memorial Fund with grants from the Carnegie Corporation of New York. The Committee consists of Lowell J. Reed, Chairman; Daniel Katz; E. Lowell Kelly; Clyde V. Kiser; Frank Lorimer; Frank W. Notestein; Frederick Osborn; S. A. Switzer; Warren S. Thompson; and P. K. Whelpton.

[2] Whelpton, P. K. and Kiser, Clyde V.: Social and Psychological Factors Affecting Fertility. I. Differential Fertility Among 41,498 Native-White Couples in Indianapolis. The Milbank Memorial Fund *Quarterly*, July, 1943, xxi, No. 3, pp. 221-280.

age of wife at marriage, rental value and tenure of the dwelling unit, educational attainment of the husband and wife, and birth region of the couple.

Despite certain manifest advantages, the fertility rates, being averages, conceal some of the operating elements that are matters of primary concern. One likes to know not only the average fertility rate of wives 40-44 but also the *distribution* of these wives by number of children ever born. Of particular interest are variations in proportions childless. The proportionate importance of the one-child family may attract those interested in the sociological and

Table 1. Distributions of native-white wives or ever-married white women 40-44 by number of live births. Indianapolis Household Survey of 1941. Indianapolis sample from 1910 Census and 1940 Census data.

Number of Children Ever Born	Indianapolis Household Survey, 1941 (Wives Aged 40–44)[1]				Indianapolis Census Sample 1910 (Wives 40–44)[2]	Total United States, 1940 (Ever-Married White Women 40–44)[3]
	Religion of Husband and Wife					
	All Religions	Both Protestant	Both Catholic	Prot.-Cath. Mixed		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total	100.0	100.1	100.0	100.1	100.1	100.0
0	18.8	18.8	14.8	25.6	13.8	15.2
1	23.2	24.0	16.6	22.4	18.9	18.7
2	23.6	24.2	20.6	20.5	19.4	21.9
3	14.7	14.4	19.3	13.0	16.2	15.3
4	8.1	7.7	11.6	7.5	12.6	10.1
5	4.5	4.3	6.8	3.6	5.6	6.4
6	2.6	2.4	4.0	3.2	4.6	4.2
7	1.6	1.5	2.7	1.0	3.4	2.9
8	1.0	1.0	1.1	1.0	2.4	2.0
9	.8	.8	.6	1.0	1.3	1.3
10 or More	1.1	1.0	1.9	1.3	1.9	2.0
Number of Wives	6,551	5,283	784	308	593	3,126,880

[1] In unbroken first marriages of native-white couples.
[2] In unbroken first marriages of white couples of native parentage. Special tabulations of punch cards from 1910 Census fertility sample.
[3] The number of ever-married white women 40–44 "reporting" on number of live births (3,126,880), as well as the distribution, is based on the experience observed in the five per cent random sample of the 1940 Census. *See:* U. S. Bureau of the Census: Population—Differential Fertility, 1940 and 1910, Washington, Government Printing Office, p. 7.

psychological problems attending the "only child." The extent to which large families are found in various socio-economic strata is of interest to those concerned with the relation of high fertility to level of living and maternal and child health. Finally, although the average fertility rates for wives 40-44 were discussed in terms of replacement requirements in the former report, students of population also like to know the approximate proportion of couples falling below these requirements.

Number of Live Births Among Native-White Couples in Indianapolis Household Survey

Among the total 6,551 native-white couples with wife 40-44 in the Indianapolis household survey, 18.8 per cent are childless (*see* column 2, Table 1). An additional 23.2 per cent have only one child and approximately the same proportion (23.6 per cent) have two children. Couples reporting three children comprise 14.7 per cent and those with four children 8.1 per cent. Approximately 12 per cent of the couples report five or more children.

It is of interest to note the proportion of wives having two or fewer, three, and four or more children, since these family sizes, in the order named, can be considered too small, approximately enough, and substantially above the average requirements for the replacement of population.[3]

Almost two-thirds (65.6 per cent) fall into the first category and

[3] As explained in the first report, with 1940 death rates, marriage rates, and divorce rates, the maintenance of a stationary population requires an average of from 245 to 315 births per 100 couples like those in the study, *i.e.*, couples in which the wife marries before age 45, her spouse was not married previously, and the marriage is not broken by death or divorce before the wife is 45. The estimates of 245 and 315 assume that women whose marriage is broken before age 45 have, respectively, *as many,* and *one-third as many* children as those whose marriage is not broken before that age. For Protestants an average of from 280 to 320 births per 100 couples probably is required, and for Catholics from 255 to 295 births. The figures are higher for Protestants than for Catholics, because the divorce rate is higher for the former. *See* Whelpton and Kiser, *ibid.*, pp. 230 and 248. (Reprint, pp. 10 and 28.)

The foregoing requirements for maintenance can be met with any one of several percentage distributions of wives by number of live births, among them the six shown below. Comparing these hypothetical distributions with those actually found in the population (shown in Tables 1 to 8) will indicate the magnitude of the changes which would

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do not come up to the average requirement for population maintenance. About 15 per cent have the three children required for maintenance and about 20 per cent have four or more, or enough to contribute to substantial population growth.

Comparison With 1940 Census Data. The distributions observed from the Indianapolis household survey may be compared with similar materials for ever-married white women 40-44 years of age in the United States as a whole. The latter, presented in column 7 of Table 1, were released recently by the Bureau of the Census, and they are based upon the experience observed in a 5 per cent random sample of the 1940 Census.[4]

Since the data for the total United States reflect a combination of rural and urban conditions, they reveal lower proportions of childless and small families than do the Indianapolis household survey data (compare columns 2 and 7 of Table 1). More specifically, the proportion of women reporting 0-2 children is lower in the

have to occur if the couples to which this report refers were to do their part in reproducing the group to which they belong.

Assumptions	Number of Live Births							Births per 100 Wives
	0	1	2	3	4	5–6	7+	
	Present proportion childless							
A	20	20	15	15	15	10	5	245
B	20	20	15	10	10	15	10	275
C	20	20	10	5	10	20	15	315
	Low proportion childless							
A	10	10	25	35	20	0	0	245
B	10	10	20	25	25	10	0	275
C	10	10	15	20	25	15	5	315

A. Assuming broken marriages are as fertile as unbroken.
B. Assuming broken marriages are two-thirds as fertile as unbroken.
C. Assuming broken marriages are one-third as fertile as unbroken.

[4] U. S. Bureau of the Census: Population—Differential Fertility, 1940 and 1910. Washington, Government Printing Office, 1943, p. 7.

1940 Census series than in the Indianapolis group. The differences run in the opposite direction in so far as proportion of women reporting any larger number of children is concerned. Among the ever-married white women 40-44 in the United States, only 15.2 per cent are reported as childless and only 55.8 per cent have 0-2 children. The corresponding figures for Indianapolis wives in unbroken marriages are 18.8 and 65.6 per cent, respectively. Among the United States women, 15.3 per cent report three children and 28.9 report four or more. The corresponding percentages for Indianapolis are 14.7 and 19.7. It should be noted that somewhat wider differences of the above character would be observed if the data for the total country were restricted to unbroken first marriages, as were the household survey data. The inclusion of broken marriages in the census series serves to lower the proportion with large families. Nevertheless, the comparison points up the relatively low fertility of the Indianapolis group.

Comparison With Indianapolis Sample Drawn From 1910 Census. For indication of trends in the size of families among native-white wives 40-44 in Indianapolis during the past thirty years, the results from the household survey may be compared with those from a sample drawn from 1910 Census records for the same city. It has been possible to extract from the 1910 urban fertility sample previously analyzed by Sydenstricker and Notestein[5] the punch cards for wives 40-44 in Indianapolis. These data are fairly comparable with those from the Indianapolis household survey. Both sets of data presented in Table 1 (columns 2 and 6) relate to children ever born to native-white couples with wife 40-44, and both are restricted to unbroken first marriages.[6]

[5] Sydenstricker, E. and Notestein, F. W.: Differential Fertility According to Social Class. *The Journal of the American Statistical Association,* March, 1930, xxv, No. 169, pp. 9-32.

[6] Perhaps the chief element of incomparability consists in the fact that whereas the household survey data relate to native-white couples, those of 1910 are further restricted to native-white couples of native parentage.

It should also be borne in mind that while the household survey represents a virtually complete coverage of all white households, except those in predominantly Negro census

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In general, comparison of the 1910 and 1941 materials indicates the expected increase in small families. Slightly over one-half of the couples in the 1910 sample, as compared with two-thirds of those in the 1941 survey, report 0-2 children. Only 13.8 per cent of the couples in the 1910 sample, as compared with 18.8 per cent in the 1941 survey, report no children. The proportion for the earlier year may be unduly low as a result of sampling deficiencies,[7] but

tracts, the 1910 data simply represent a sample drawn from the City of Indianapolis. The total number of native-white couples of native parentage in the original sample was 5,878. This is about 18 per cent of all native-white married women of native parentage reported in Indianapolis by the 1910 Census. Correction for a defined type of stratified sampling discussed below reduces the proportionate representation to about 17 per cent. On the other hand, even the former figure is itself probably below the true proportionate representation, for the sample should be compared not with the census number of native-white wives of native parentage but with the census number of unbroken first marriages in which both husband and wife were of native-white parentage. Unfortunately, this comparison is unavailable. Nevertheless, the above figures give an approximation to the sampling ratios, and these probably apply pretty closely to the wives 40-44 years of age represented in the last column of Table 1.

Examination of the distribution of the sample by enumeration districts indicated that all of the fourteen wards and virtually all of the predominantly white enumeration districts are represented in the 1910 sample for Indianapolis. The general sampling procedure for the thirty-three cities of 100,000-500,000 population in the urban fertility sample was that of beginning with the most native wards and progressing through increasingly foreign wards. This ruling, however, effected little in the way of geographic exclusion in the case of Indianapolis. In this connection, it may be noted that only 8.5 per cent of the population of Indianapolis was foreign white in 1910, and the proportion of native whites of native parentage (64.5 per cent) was higher than that of any other city of 100,000 population and over in this country in 1910. (U. S. Bureau of the Census: Thirteenth Census of the United States, 1910: POPULATION, Vol. I. Washington, Government Printing Office, 1913, pp. 177-178).

With correction for a defined type of stratified sampling, the 1910 sample is believed to be fairly representative of its universe in Indianapolis with respect to socio-economic characteristics. The stratification was simply a means of insuring an adequate sample of professional families. After records of qualifying families of any occupational status had been transcribed from one-third of the schedule pages for a given enumeration district, the remaining pages were searched for qualifying professional families only. Therefore, since the sample for the professional class was obtained from three times as many pages as that for any other class, it was given one-third its original weight in the computations for the total city presented in column 6 of Table 1. Mechanically, this was done by arranging the punch cards for the professional class (98 cases with wife 40-44 years of age) in order according to number of children ever born and selecting every third card for inclusion in the adjusted sample for Indianapolis. This reduced the total number of cards for wives 40-44 from an original 659 to 593.

[7] With regard to trends in the proportion of childlessness, however, it is pertinent to mention that according to a recent special report issued by the Bureau of the Census the proportion of ever-married white urban women 40-44 years of age reporting no children ever born was 12.8 per cent in 1910 and 17.6 per cent in 1940. (*See* U. S. Bureau of the Census: POPULATION—DIFFERENTIAL FERTILITY, 1940 AND 1910. Washington, Government Printing Office, 1943, pp. 8-11.)

there is little probability that the entire difference is due to this factor. Beyond question, there has been an increase in the proportion of small families in Indianapolis.

Comparison With a Gallup Poll of 1941. The Indianapolis household survey and the 1940 Census distributions may be compared with the results of a poll conducted by the American Institute of Public Opinion in 1941.[8] In this Gallup Poll the question was asked "What do you consider is the ideal size of family—a husband and wife and how many children?" The reported results are as follows:

1 Child	1 per cent
2 Children	31 " "
3 "	27 " "
4 "	27 " "
5 "	6 " "
6 or More "	8 " "

The above distribution shows none of the respondents considering the childless family ideal and only 1 per cent favoring the one-child family. Also striking, however, is the small proportion (only 14 per cent) of persons considering five or more children as ideal. The large majority (85 per cent) prefer the two, three, or four-child families. In contrast to this distribution of *attitudes* regarding ideal family size are those based upon the *performance* reported in the Indianapolis household survey and in the 1940 Census. The wide divergence comes from the actual incidence of childless and one-child families. Whereas only 1 per cent of the Gallup Poll respondents favor families with fewer than two children, approximately two-fifths of the native-white urban wives 40-44 years of age in the Indianapolis household survey and about one-third of all ever-married white women of this age in the 1940 Census report bearing either no child or only one child. In contrast with the 85 per cent of Gallup Poll respondents favoring 2-4 children, only 46 per cent of the household survey wives 40-44 years of age

[8] "Gallup and Fortune Polls." *Public Opinion Quarterly,* 1941, v, pp. 472-473.

and only 47 per cent of the ever-married women of this age in the 1940 Census sample report these numbers of children. The percentage of Gallup Poll respondents favoring five or more children is slightly higher than that of Indianapolis wives reporting similar numbers of live births. It is below the proportion of ever-married white women 40-44 reporting five or more live births in the 1940 Census.

Size of Family in Relation to Religion Alone

One classification available from the Indianapolis household survey, but not from the 1940 Census materials, concerns religion of the husband and wife. In this section the fertility distributions are shown by religion of the couple. In the subsequent sections the distributions are shown by other variables not only for the total population but also for the two major religious groups separately. To this extent the classification by religion runs through all the analyses. It should be emphasized, however, that the Protestant couples outnumber the others to such an extent that what is said about Protestant groups generally applies to the total population as well.

As indicated in Table 1 (columns 3-5) the lowest proportion of childlessness is that for the Catholic couples (14.8 per cent), and the highest proportion is that for the Protestant-Catholic mixed marriages (25.6 per cent).[9] The proportion for the numerically dominant group of Protestant couples is 18.8 per cent, the same as that for the total sample.[10]

The higher average fertility rate of Catholic than of Protestant couples of completed fertility (274 and 219 births per 100 wives,

[9] Of the fifty-nine Jewish couples with wife 40-44, 22.0 per cent were reported as childless. Although this sample is too small to yield statistically reliable results, the data are in line with previous findings regarding the relatively low fertility of Jewish couples at all ages of the childbearing period.

[10] Tests indicate differences of high statistical significance between the Protestant and Catholic couples and between the Protestant and Protestant-Catholic mixed marriages with

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respectively) results not only from a lower proportion of childless women, but also from lower proportions bearing only one and two children. The proportions of couples reporting three, four, and "five or more" children are consistently higher for the Catholic than for the Protestant couples. The average fertility rate of Protestant couples (219) is somewhat higher than that of couples of mixed marriages (206). In view of the conspicuously higher proportion of childlessness among the latter group, one might expect a wider difference in the fertility rates. In comparing column 3 with column 5 of Table 1, however, one notices certain compensating influences on the fertility rate. The proportions with one and two children are smaller among the mixed marriages, and the proportions with six and nine or more are larger. Whatever may be back of the unsystematic variations, the net result is only slightly lower fertility of the mixed marriages.

The religious differentials may be summarized in terms of average requirements for population replacement. The proportions of couples reporting 0-2 live births—too few to maintain a stationary population—are: Protestant, 67 per cent; Protestant-Catholic mixed marriages, 69 per cent; and Catholic, 52 per cent. Fourteen per cent of the Protestant couples, 13 per cent of the couples of mixed religion, and 19 per cent of the Catholic couples have three children, the approximate average requirement for replacement. Only 19 per cent of the Protestant and mixed unions, as compared with 29 per cent of the Catholic unions, have the four or more children required for substantial population growth.

respect to proportion childless. As noted below, the difference in each case is larger than 2.57 σ difference, a frequently used criterion of high statistical significance.

Classes Compared	Diff. $\pm$ σ Diff.	$\frac{\text{Diff.}}{\sigma \text{ Diff.}}$
Protestant-Catholic	4.0 $\pm$ 1.2	3.3
Protestant-Mixed Marriages	6.8 $\pm$ 2.1	3.2

Variations by Age at Marriage. Interesting evidence on the relation of age of wife at marriage to number of children is available from the cross-classifications of age at enumeration and year of marriage. The data are presented for the Protestant and Catholic couples in Table 2 and Figure 1. The number of mixed marriages is too small to withstand the required breakdowns.

Table 2. Per cent distribution of wives 40-44 years of age according to number of live births, by age of wife at marriage and religion of the couple. Indianapolis Household Survey, 1941.

Religion of Couple and Age of Wife at Marriage	Births per 100 Wives 40–44	Number Wives 40–44	Per Cent Distribution by Number of Children						
			Total	No Children	1 Child	2 Children	3 Children	4 Children	5 or More Children
All Religions:									
Total[1]	224	6,551	100.1	18.8	23.2	23.6	14.7	8.1	11.7
Under 17 Years	370	558	99.9	6.3	15.6	20.4	14.3	12.5	30.8
17–19 Years	282	1,787	99.9	9.3	20.5	24.3	17.4	10.8	17.6
20–22 Years	222	1,939	100.0	14.4	24.3	27.0	16.2	8.6	9.5
23–25 Years	179	1,214	100.0	22.3	27.0	24.9	14.0	5.5	6.3
26–28 Years	137	551	100.0	34.1	25.8	20.3	13.1	4.5	2.2
29–31 Years	88	248	99.9	47.6	30.2	14.1	4.4	2.4	1.2
32–34 Years	66	113	100.0	57.5	22.1	17.7	1.8	.9	—
35 Years and Over	28	132	100.1	78.0	18.2	2.3	.8	.8	—
Both Protestant:									
Total[1]	219	5,283	99.9	18.8	23.9	24.2	14.3	7.7	11.0
Under 17 Years	366	489	100.0	6.3	16.4	20.0	14.3	12.5	30.5
17–19 Years	276	1,529	99.9	9.5	20.5	25.2	17.6	10.6	16.5
20–22 Years	207	1,567	100.1	15.4	26.4	27.6	15.2	7.7	7.8
23–25 Years	169	925	100.0	23.4	28.1	25.3	13.5	4.4	5.3
26–28 Years	129	420	99.9	36.2	24.8	21.4	12.1	4.0	1.4
29–31 Years	69	179	100.1	53.1	31.3	12.3	1.1	1.7	.6
32–34 Years	72	78	100.0	55.1	23.1	17.9	2.6	1.3	—
35 Years and Over	34	92	100.0	73.9	21.7	2.2	1.1	1.1	—
Both Catholic:									
Total[1]	274	784	100.0	14.8	16.7	20.5	19.3	11.6	17.1
Under 17 Years	394	35	100.1	5.7	8.6	28.6	20.0	8.6	28.6
17–19 Years	351	160	100.2	8.8	10.6	18.8	18.8	13.8	29.4
20–22 Years	331	235	99.9	5.5	11.9	18.3	27.2	15.3	21.7
23–25 Years	227	183	100.0	16.4	21.3	27.3	14.2	10.4	10.4
26–28 Years	191	82	100.0	20.7	28.0	15.9	19.5	9.8	6.1
29–31 Years	165	48	99.9	22.9	31.2	18.7	16.7	6.2	4.2
32–34 Years	—	18	—	—	—	—	—	—	—
35 Years and Over	—	22	—	—	—	—	—	—	—

[1] Includes cases of unknown age at marriage.

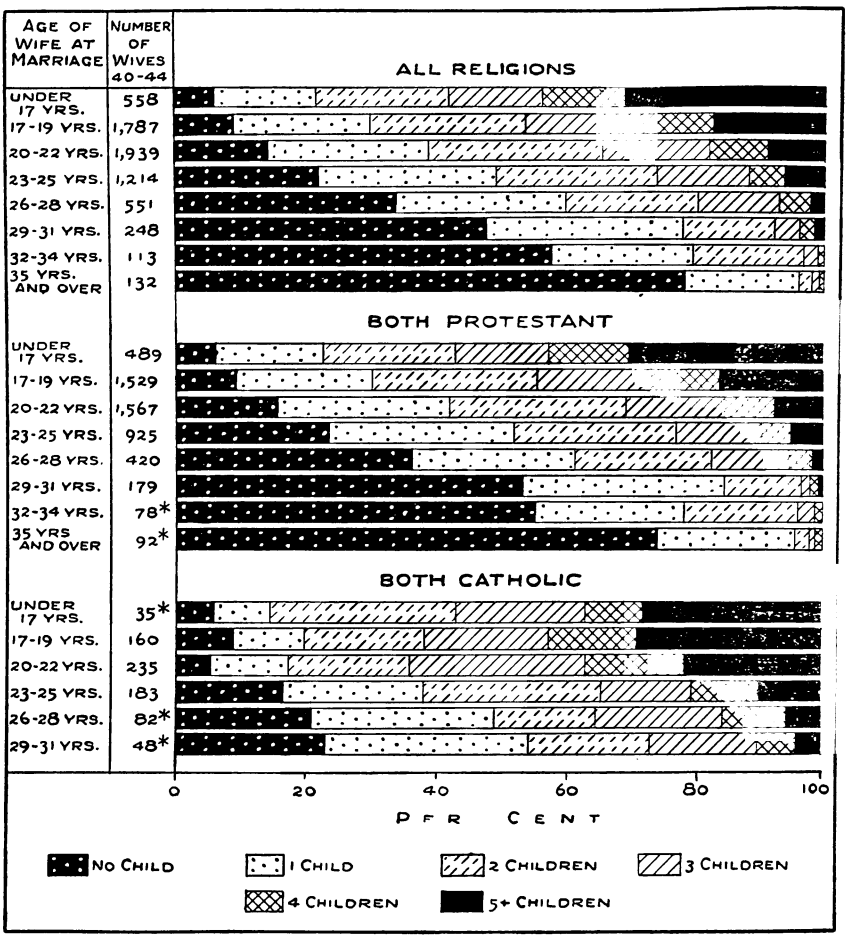


Fig. 1. Per cent of wives 40-44 years of age reporting specified numbers of live births, by age of wife at marriage and by religion of the couple. Native-white couples in the Indianapolis Household Survey. *See* Table 2.

In the total sample the proportion childless *rises* sharply with advancing age at marriage. There is an equally striking *decline* with advancing age at marriage in the proportion of families reporting five or more children. By religion, the above types of relationship are more pronounced among the Protestant than among the Catholic unions. For instance, at youngest ages at marriage, under 17, there is not much difference between the Protestant and Catholic groups with respect to proportions childless, approximately

6 per cent of each being childless. Among those marrying at ages 29-31, however, the proportion reported as childless is 53 per cent for the Protestants and 23 per cent for the Catholics.[11] In other words, among the Protestants the proportion childless is almost nine times as high at bridal ages 29-31 as at bridal ages under 17. Among the Catholics it is only about four times as high.

It should be emphasized, however, that for adequate comparisons of the above character, larger samples of Catholic couples in the specific age-at-marriage groups are needed. It should also be stated that as bridal age approaches the end of the childbearing span one would expect a diminution of religious differentials in proportion childless. The data are very inadequate for Catholic wives marrying at ages later than 32, however, so Figure 1 affords no religious comparison at these late bridal ages.[12]

Within each religious group the proportion of couples reporting five children or more declines sharply with advancing age at marriage, as would be expected. Perhaps of chief interest in this connection is the higher proportion of Catholics than of Protestants reporting five or more children when both age and age at marriage are controlled. The proportion for the Catholics is roughly two to three times as large as that for the Protestants in each age-at-marriage group with 100 or more wives.

Size of Family in Relation to Religion and Other Socio-Economic Characteristics

Variations by Rental Value of the Home. The distributions of completed families by size within successive rental classes are shown

[11] The higher proportion of childlessness among the Protestants than among the Catholics was highly significant in a statistical sense within each of the four bridal-age groups represented in the 20-31 span. In these cases the differences were two to four times as high as the σ of the difference.

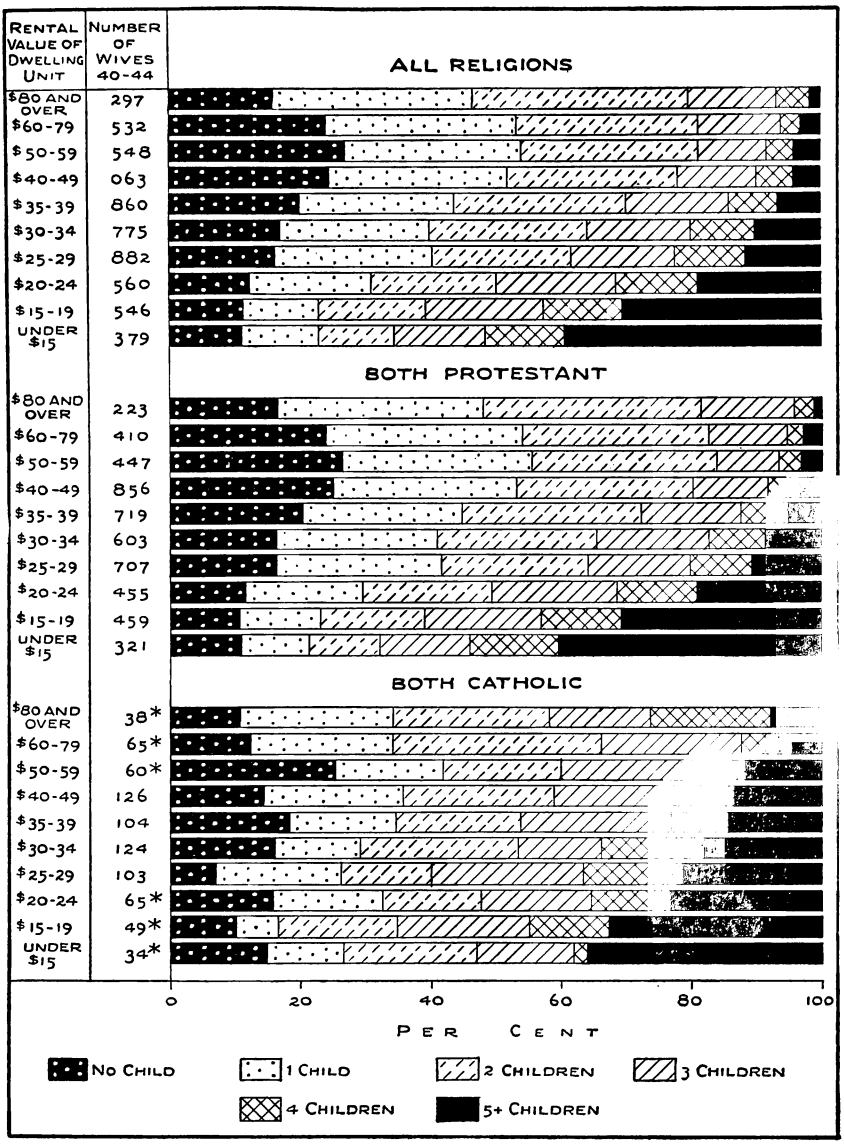
[12] It should be pointed out, however, that of the eighteen Catholic wives marrying at ages 32-34, 56 per cent are childless. Of twenty-two marrying at ages 35 and over, 86 per cent are childless. The above proportions childless are as high as or higher than those for Protestant couples of comparable bridal age, but the samples of Catholic wives are obviously much too small to afford reliable distributions.

in Table 3 and Figure 2. With respect to childlessness, it will be noted that among the Protestant couples the proportions childless follow a regular pattern complementary with the fertility differen-

Table 3. Per cent distribution of wives 40-44 years of age according to number of live births, by monthly rental value of the dwelling unit and religion of the couple. Indianapolis Household Survey, 1941.

Religion of Couple and Rental Value of Dwelling Unit	Births per 100 Wives 40–44	Number Wives 40–44	Per Cent Distribution by Number of Children						
			Total	No Children	1 Child	2 Children	3 Children	4 Children	5 or More Children
All Religions:									
Total[1]	224	6,551	100.1	18.8	23.2	23.6	14.7	8.1	11.7
$80 and Over	167	297	100.0	15.8	30.6	33.3	13.5	5.1	1.7
60–79	155	532	100.0	23.9	29.1	28.2	12.6	3.0	3.2
50–59	154	548	100.0	26.6	27.2	27.6	10.0	4.4	4.2
40–49	166	1,063	100.1	24.2	27.5	26.1	12.3	5.3	4.7
35–39	193	860	99.9	19.9	23.7	26.4	15.9	7.3	6.7
30–34	222	775	100.0	16.8	22.8	24.4	16.0	9.7	10.3
25–29	232	882	100.0	16.0	24.1	21.4	16.0	10.7	11.8
20–24	284	560	100.0	12.3	18.4	19.5	18.2	12.5	19.1
15–19	363	546	100.0	11.2	11.5	16.5	17.9	12.3	30.6
Under $15	419	379	99.9	11.1	11.6	11.6	14.2	12.1	39.3
Both Protestant:									
Total[1]	219	5,283	99.9	18.8	23.9	24.2	14.3	7.7	11.0
$80 and Over	159	223	99.9	16.6	31.4	33.6	14.3	3.1	.9
60–79	150	410	100.0	23.9	30.2	28.8	12.0	2.2	2.9
50–59	146	447	100.0	26.4	29.1	28.6	9.4	3.4	3.1
40–49	155	856	100.0	25.0	28.4	27.2	11.2	5.0	3.2
35–39	183	719	99.9	20.3	24.5	27.8	15.0	7.2	5.1
30–34	212	603	99.9	16.4	24.5	24.7	17.1	8.6	8.6
25–29	224	707	100.0	16.4	25.2	22.5	15.3	9.9	10.7
20–24	284	455	99.9	11.4	18.2	19.8	19.1	12.3	19.1
15–19	362	459	100.0	10.7	12.4	15.9	17.9	12.2	30.9
Under $15	431	321	100.0	10.9	10.3	10.9	14.0	13.4	40.5
Both Catholic:									
Total[1]	274	784	100.1	14.8	16.7	20.5	19.3	11.6	17.1
$80 and Over	237	38	100.0	10.5	23.7	23.7	15.8	18.4	7.9
60–79	212	65	99.9	12.3	21.5	32.3	21.5	7.7	4.6
50–59	212	60	100.0	25.0	16.7	18.3	18.3	10.0	11.7
40–49	244	126	100.0	14.3	21.4	23.0	18.3	9.5	13.5
35–39	252	104	100.0	18.3	16.3	19.2	23.1	8.7	14.4
30–34	277	124	99.9	16.1	12.9	24.2	12.9	16.1	17.7
25–29	312	103	100.0	6.8	19.4	13.6	23.3	15.5	21.4
20–24	317	65	100.0	15.4	16.9	15.4	16.9	12.3	23.1
15–19	390	49	100.0	10.2	6.1	18.4	20.4	12.2	32.7
Under $15	347	34	100.0	14.7	11.8	20.6	14.7	2.9	35.3

[1] Includes cases of unknown rental status.



* Distribution based on 25–99 wives.

Fig. 2. Per cent of wives 40-44 years of age reporting specified numbers of live births, by monthly rental value of the dwelling unit and by religion of the couple. Native-white couples in the Indianapolis Household Survey. *See* Table 3.

tials. Childless couples are relatively least numerous at lowest rental levels, they increase fairly consistently with rise of rental value up

through the $50-59 class, but above that rental level they again decrease in relative numbers.[13]

The proportions reporting other specific numbers of children also bear an interesting relation to rental. Among the Protestants there are fairly consistent increases with rising rental in the proportions reporting one or two live births and decreases in the proportions reporting four or "five or more" live births. The increase in the proportion of families with five or more children with lowering of rental status is especially striking. They are of negligible importance (less than 4 per cent) above the $40 rental level, and form only 10.7 per cent of the families at the $25-29 rental level, but include over 40 per cent of the families at rental levels of under $15 per month. Couples reporting three children, unlike those with

[13] An indication of the statistical significance of the differences between given rental-value classes with respect to proportions childless is afforded in the table below. The upper right section is used for Protestant couples; the lower left for Catholic couples. The symbols may be interpreted as follows:

Symbol	$\frac{\textit{Difference}}{\sigma\ \textit{Difference}}$	*P Equivalent*
VS (Very Significant)	> 2.57	$P < .01$
S (Moderately Significant)	1.96-2.57	$P = .01$-$.05$
N (Not Significant)	< 1.96	$P > .05$

To illustrate concretely, among Protestant couples the proportion childless is 23.9 per cent in the $60-79 class and 16.4 per cent in the $30-34 class. The difference is 7.5 and the computed σ of the difference is 2.2. Therefore, *difference/σ difference* is 3.41 well above the minimum requirement for VS rating. Hence, VS appears in the appropriate cell in the upper right section of the table.

Significance of differences between rental-value classes with respect to proportion childless among Protestants (upper right) and among Catholics (lower left).

	$80+	$60-79	$50-59	$40-49	$35-39	$30-34	$25-29	$20-24	$15-19	Under $15
$80+		S	VS	VS	N	N	N	S	S	S
60-79	N		N	N	N	VS	VS	VS	VS	VS
50-59	N	N		N	VS	VS	VS	VS	VS	VS
40-49	N	N	N		S	VS	VS	VS	VS	VS
35-39	N	N	N	N		N	S	VS	VS	VS
30-34	N	N	N	N	N		N	S	VS	S
25-29	N	N	VS	N	S	S		VS	VS	S
20-24	N	N	N	N	N	N	N		N	N
15-19	N	N	S	N	N	N	N	N		N
Under $15	N	N	N	N	N	N	N	N	N	

more or fewer, vary little in relative numbers as rent varies. The three-child family therefore forms a transitional group, in that proportions with fewer than that number increase with rising rental, whereas proportions with four or "five or more" children decrease with rising rental.

For comparisons by religion at comparable rental levels, attention may first be called to the generally lower proportions of Catholics than of Protestants reporting no children,[14] one child, and two children, *except at lowest economic levels.* Correspondingly, the proportions with four or "five or more" children are higher for Catholics than for Protestants, again except at lowest economic levels.

Attention has been called to the systematic variations with rental in the proportions of Protestants with specific numbers of children. This is not matched among Catholic couples except in so far as proportions with "five or more" children are concerned. There is, for instance, not much in the way of systematic relation of proportion childless to rental value of the home. It is possible that small numbers of Catholic couples in given rental classes account for irregularities in these proportions. On the other hand, these same samples yield a systematic variation in proportions reporting five children or more. These percentages extend from about 5 per cent in the $60-79 rental group to 35 per cent in the "under $15" group.

Variations by Tenure and Rental Value. The distribution of Protestant couples by number of live births is shown for tenure and rental-value groups in Table 4 and Figure 3. The *direct* association between the proportion childless and rental value is manifested somewhat more consistently by the renters than by the owners. The *direct* association between the proportion of one-child families and rental value is likewise a little sharper among the renters than

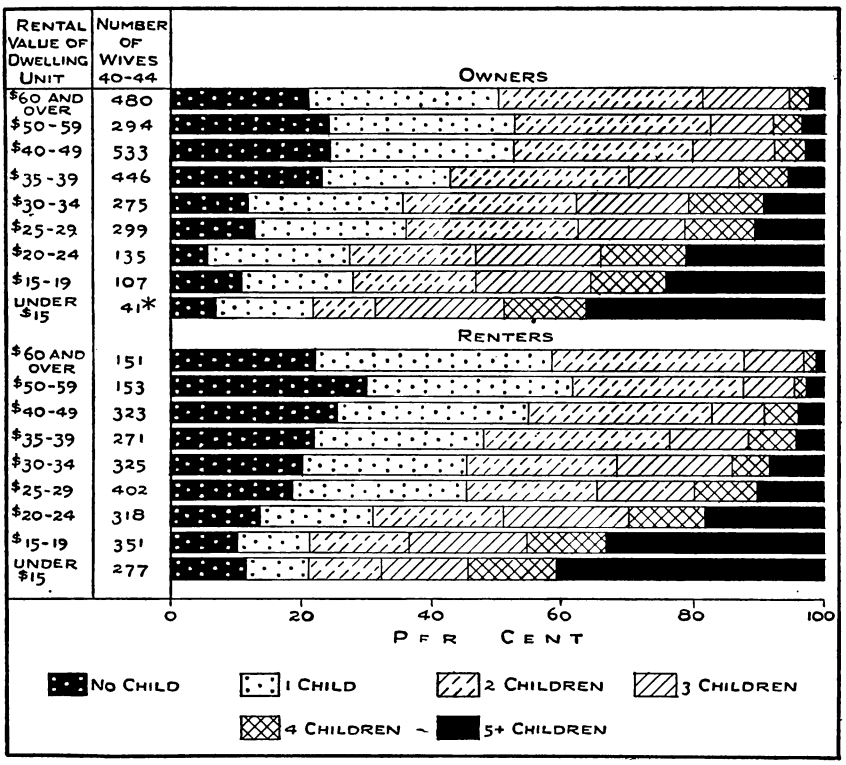
[14] Only within three rental-value groups, however, was the difference between the Protestant and Catholic couples with respect to proportions childless greater than 2 σ of the difference. These were $60-79, $40-49, and $25-29. Within some of the remaining groups, of course, lack of significance simply reflects too small a universe.

among the owners. The *inverse* relation of the proportion of larger families (five or more children) to rental value is prominent for the owners and renters, but the range of the variations is somewhat wider for the latter.

If the 480 Protestant owners in the "$60 and Over" group of Table 4 are subdivided into the 291 and 189 with rental values of "$60-79" and "$80 and Over," respectively, the differences previously observed in Table 3 for all tenure groups are found in greater degree. The proportion childless is 14.3 for the top group compared with 25.4 for the second. The striking contrast probably is due in part to selection, home-owning couples without children being less likely to have a dwelling with a rental value of $80 or over than

Table 4. Per cent distribution of Protestant couples with wife 40-44 years of age according to number of live births, by tenure and rental value of the dwelling unit. Indianapolis Household Survey, 1941.

Tenure and Rental Value of Dwelling Unit	Births per 100 Wives 40–44	Number Wives 40–44	Per Cent Distribution by Number of Children						
			Total	No Children	1 Child	2 Children	3 Children	4 Children	5 or More Children
Owners:									
Total	197	2,621	100.0	18.6	25.4	26.9	15.0	6.9	7.2
$60 and Over	157	480	100.0	21.0	29.2	30.8	14.0	2.5	2.5
50–59	153	294	100.0	24.5	27.9	29.9	10.2	4.1	3.4
40–49	157	533	100.0	24.6	28.0	26.8	13.1	4.9	2.6
35–39	191	446	100.0	19.3	23.3	27.6	16.8	7.4	5.6
30–34	228	275	99.9	12.0	23.6	26.5	17.1	11.6	9.1
25–29	234	299	100.0	13.0	23.4	26.1	16.1	10.4	11.0
20–24	304	135	100.1	5.9	21.5	19.3	19.3	12.6	21.5
15–19	326	107	100.0	11.2	16.8	18.7	17.8	11.2	24.3
Under $15	378	41	100.0	7.3	14.6	9.8	19.5	12.2	36.6
Renters:									
Total	243	2,593	99.9	18.7	22.1	21.6	14.0	8.5	15.0
$60 and Over	137	151	100.0	22.5	35.8	29.1	9.3	2.0	1.3
50–59	132	153	100.0	30.1	31.4	26.1	7.8	2.0	2.6
40–49	152	323	100.0	25.7	29.1	27.9	8.0	5.3	4.0
35–39	170	271	99.9	22.1	25.8	28.4	12.2	7.0	4.4
30–34	198	325	99.9	20.3	24.9	23.4	17.2	5.8	8.3
25–29	216	402	100.0	18.9	26.4	19.7	14.9	9.7	10.4
20–24	275	318	99.9	13.8	17.0	20.1	18.9	11.9	18.2
15–19	373	351	99.8	10.5	10.8	15.1	17.9	12.5	33.0
Under $15	435	277	100.2	11.6	9.4	11.2	13.4	13.4	41.2



* Distribution based on 25–99 wives.

Fig. 3. Per cent of wives 40-44 years of age in Protestant unions reporting specified numbers of live births, by tenure and monthly rental value of the dwelling unit. Native-white Protestant couples in the Indianapolis Household Survey. *See* Table 4.

similar couples with children. Another explanation might be dissimilar proportions of sterile couples, but a difference between the groups in this respect is not likely except as a result of the selective factor just mentioned. It is also probable that people who can afford to own homes worth $80 or more either have a greater desire for children than those owning less expensive homes, or are less constrained by financial reasons to be childless. Any greater desire for children, or willingness to meet the cost of rearing a family, appears to be easily satisfied, however, for the "$80 and Over" owners exceed other groups only in proportions with one or two children. They stand at or near the bottom of the lists of rental-

value groups ranked according to proportions with three, four, and "five or more" children.

At each rental-value level except $15-19 the renters surpass the owners with respect to proportion childless; they fall below the owners with respect to proportion with five or more children except in the two lowest rental groups and at $40-49. This means that when rental value is held constant the owners tend to have higher average fertility rates. Selective factors may be partially responsible, however. Among couples of similar economic status, those without children are perhaps least likely to purchase a home.

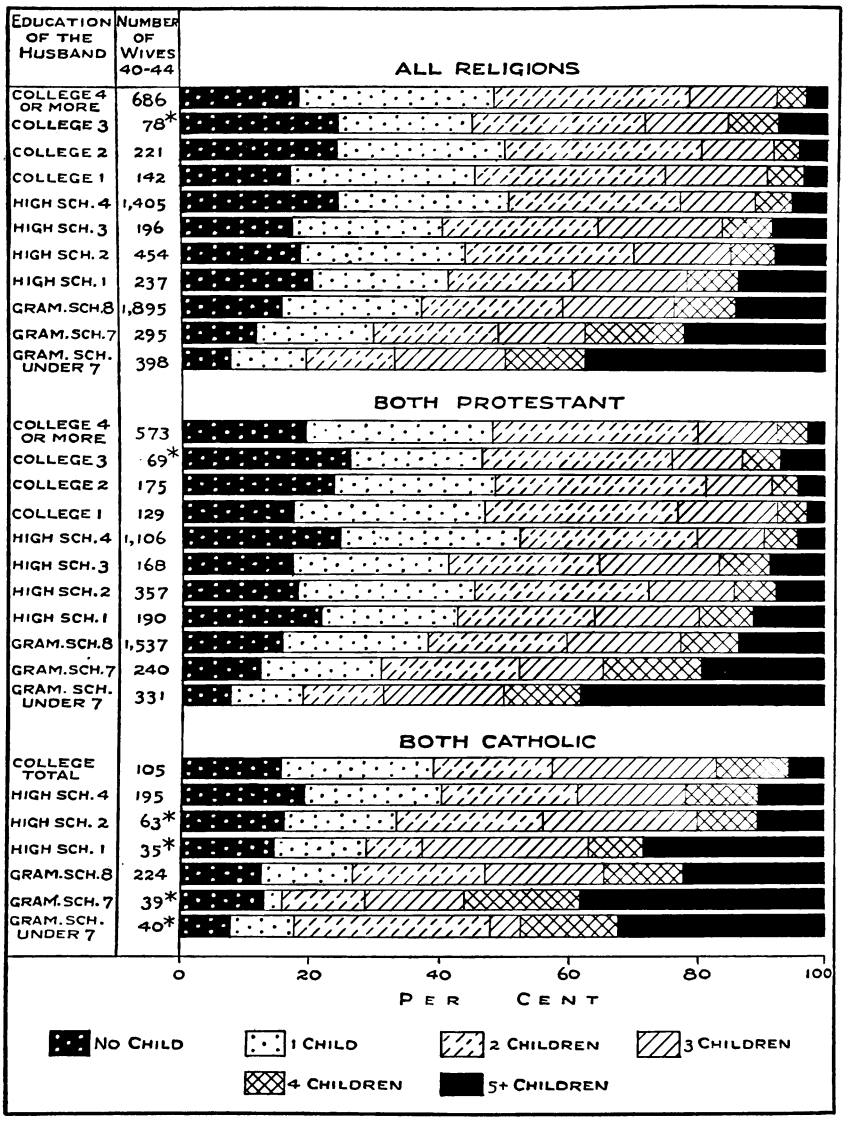
Among the owners, only those in the three lowest rental-value groups (under $25) have a sufficiently high proportion of large families to maintain a stationary population. In higher rental-value groups small families are much too numerous, and large families much too rare. Among the renters, those in the $20-24 group are on the borderline, while those paying higher rents include far too many small families and too few large ones for replacement requirements.

Variations by Educational Attainment. In the detailed classification by education of the husband or the wife, there is a tendency for fertility rates to rise with lowering of educational attainment. Among Protestants this inverse relation is most pronounced below the high school level. There are wide differences with respect to fertility between "Under 7th Grade" and 7th grade groups and between the 7th and 8th grade groups. The interclass differences in fertility are of slighter magnitude at higher levels of educational attainment. This type of contrast holds true when the education of either the husband or the wife is considered. The High School 1, 2, and 3 groups are seen to be more fertile than the High School 4 and College groups, but within each of these two combinations the interclass differences in fertility are of small magnitude. The position of the "High School 4" group is noteworthy in this connection. With respect to fertility, it ranks with the college groups

Table 5. Per cent distribution of wives 40-44 years of age according to number of live births, by educational attainment of the husband and religion of the couple. Indianapolis Household Survey, 1941.

Religion of Couple and Education of Husband	Births per 100 Wives 40–44	Number Wives 40–44	Per Cent Distribution by Number of Children						
			Total	No Children	1 Child	2 Children	3 Children	4 Children	5 or More Children
All Religions:									
Total[1]	224	6,551	100.1	18.8	23.2	23.6	14.7	8.1	11.7
College Total[2]	170	1,164	100.1	20.3	28.2	29.4	13.3	5.0	3.9
College 4 or More	170	686	100.1	18.5	29.9	30.0	13.6	4.7	3.4
College 3	183	78	100.0	24.4	20.5	26.9	12.8	7.7	7.7
College 2	163	221	100.0	24.0	26.2	30.3	10.9	4.1	4.5
College 1	179	142	100.0	16.9	28.2	29.6	16.2	5.6	3.5
High School Total[2]	185	2,506	100.0	22.9	24.9	25.2	13.4	6.5	7.1
High School 4	171	1,405	100.1	24.5	26.0	26.7	11.5	5.8	5.6
High School 3	210	196	100.1	17.3	23.0	24.0	19.4	7.7	8.7
High School 2	201	454	100.0	18.3	25.6	26.0	15.0	7.0	8.1
High School 1	236	237	100.0	20.3	20.7	19.4	17.7	8.0	13.9
Grammar School Total[2]	284	2,725	100.1	14.2	19.2	19.9	16.7	10.9	19.2
Grammar School 8	250	1,895	100.1	15.7	21.5	21.5	17.3	9.7	14.4
Grammar School 7	314	295	100.1	11.5	18.0	19.3	13.6	15.3	22.4
Grammar School Under 7	411	398	100.0	7.8	11.3	13.8	17.3	12.1	37.7
Both Protestant:									
Total[1]	219	5,283	99.9	18.8	23.9	24.2	14.3	7.7	11.0
College Total[2]	166	968	100.0	20.7	27.4	31.3	12.6	4.4	3.6
College 4 or More	166	573	100.0	19.2	28.8	31.9	12.7	4.4	3.0
College 3	172	69	100.0	26.1	20.3	29.0	11.6	5.8	7.2
College 2	164	175	100.0	23.4	25.1	32.6	10.3	4.0	4.6
College 1	174	129	100.1	17.1	29.5	30.2	15.5	4.7	3.1
High School Total[2]	177	1,976	100.0	22.9	26.5	25.8	12.6	6.1	6.1
High School 4	162	1,106	100.1	24.7	27.7	27.5	10.6	5.1	4.5
High School 3	211	168	99.9	17.3	23.8	23.2	19.0	7.7	8.9
High School 2	194	357	100.0	17.9	27.5	26.9	13.4	6.7	7.6
High School 1	223	190	100.1	21.6	21.1	21.1	16.3	8.4	11.6
Grammar School Total[2]	279	2,216	100.0	14.3	19.8	20.0	17.0	10.4	18.5
Grammar School 8	245	1,537	100.0	15.9	22.3	21.5	17.4	9.2	13.7
Grammar School 7	298	240	100.1	12.1	18.8	21.3	12.9	15.4	19.6
Grammar School Under 7	412	331	100.1	7.6	11.2	12.4	18.7	11.8	38.4
Both Catholic:									
Total[1]	274	784	100.0	14.8	16.7	20.5	19.3	11.6	17.1
College Total[2]	221	105	99.9	15.2	23.8	18.1	25.7	11.4	5.7
College 4 or More	221	61	100.0	11.5	29.5	18.0	26.2	8.2	6.6
College 3	—	4	—	—	—	—	—	—	—
College 2	—	24	—	—	—	—	—	—	—
College 1	—	9	—	—	—	—	—	—	—
High School Total[2]	239	350	100.1	17.7	18.9	20.9	19.7	10.3	12.6
High School 4	224	195	100.0	19.0	21.0	21.0	16.9	11.3	10.8
High School 3	—	17	—	—	—	—	—	—	—
High School 2	248	63	100.0	15.9	17.5	22.2	23.8	9.5	11.1
High School 1	323	35	100.1	14.3	14.3	8.6	25.7	8.6	28.6
Grammar School Total[2]	330	315	99.9	11.7	12.1	20.6	16.2	13.3	26.0
Grammar School 8	304	224	99.9	12.5	13.8	20.5	18.3	12.5	22.3
Grammar School 7	423	39	100.0	12.8	2.6	12.8	15.4	17.9	38.5
Grammar School Under 7	378	40	100.0	7.5	10.0	30.0	5.0	15.0	32.5

[1] Includes cases of unknown educational attainment.
[2] Includes cases that could be coded only with reference to given broad educational class.



* Distribution based on 25–99 wives. Distributions based on fewer cases are not shown.

Fig. 4. Per cent of wives 40-44 years of age reporting specified numbers of live births, by educational attainment of the husband and by religion of the couple. Native-white couples in the Indianapolis Household Survey. *See* Table 5.

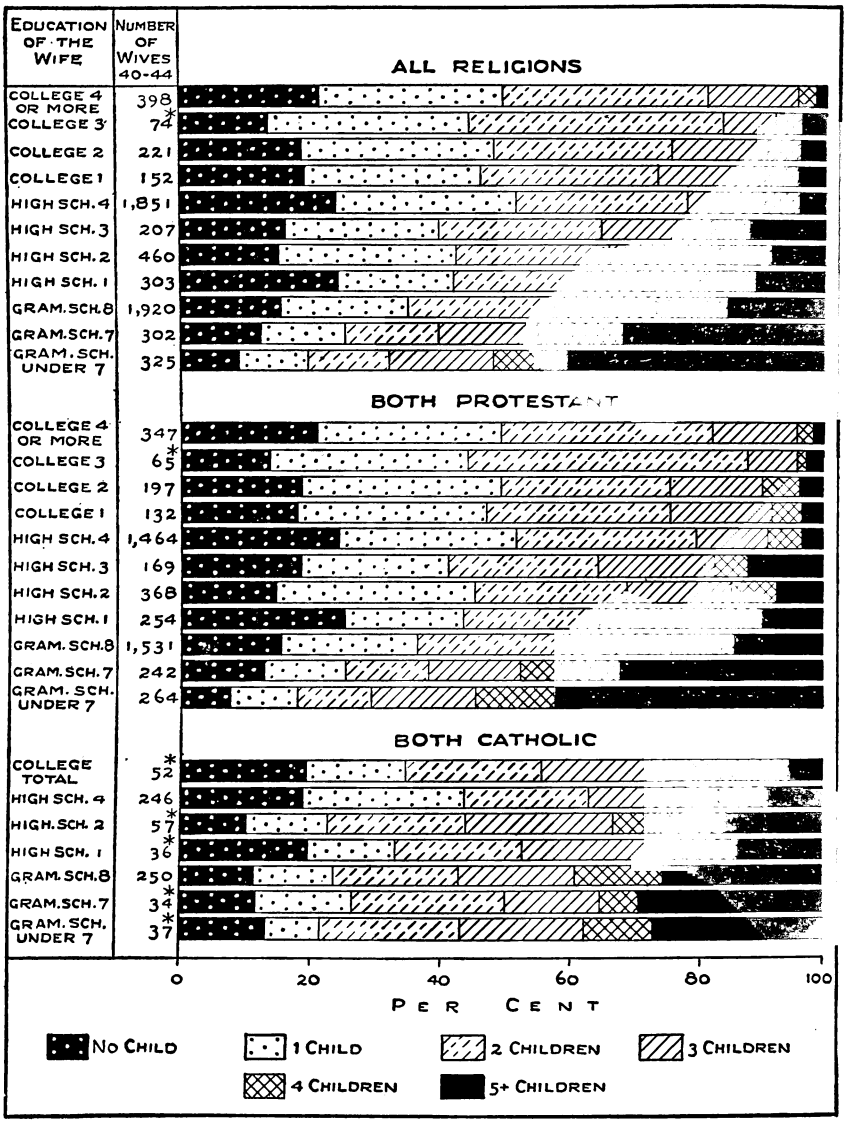
rather than with the remaining high school groups, again on the basis of educational attainment of either the husband or the wife.

The distributions of couples by number of live births, of course,

Table 6. Per cent distribution of wives 40-44 years of age according to number of live births, by educational attainment of the wife and religion of the couple. Indianapolis Household Survey, 1941.

Religion of Couple and Education of Wife	Births per 100 Wives 40–44	Number Wives 40–44	Per Cent Distribution by Number of Children						
			Total	No Children	1 Child	2 Children	3 Children	4 Children	5 or More Children
All Religions:									
Total[1]	224	6,551	100.1	18.8	23.2	23.6	14.7	8.1	11.7
College Total[2]	166	878	99.8	19.9	28.2	30.4	14.1	4.4	2.8
College 4 or More	156	398	100.0	21.4	28.1	31.9	14.1	3.0	1.5
College 3	170	74	100.1	13.5	31.1	39.2	8.1	4.1	4.1
College 2	174	221	100.0	18.6	29.9	27.1	14.9	5.4	4.1
College 1	182	152	100.0	19.1	27.0	27.6	16.4	5.3	4.6
High School Total[2]	183	2,997	100.0	22.3	26.1	25.0	13.6	6.5	6.5
High School 4	165	1,851	99.9	24.0	27.5	26.2	12.1	5.7	4.4
High School 3	225	207	100.0	16.4	23.2	25.1	16.9	6.3	12.1
High School 2	213	460	100.1	15.0	27.4	23.5	17.0	8.3	8.9
High School 1	221	303	100.0	24.1	17.8	20.5	17.2	9.2	11.2
Grammar School Total[2]	292	2,596	100.1	14.3	17.8	19.8	16.3	11.2	20.7
Grammar School 8	260	1,920	100.0	15.5	19.7	21.8	16.5	10.7	15.8
Grammar School 7	353	302	100.0	12.3	12.9	14.6	15.2	13.2	31.8
Grammar School Under 7	430	325	100.0	8.9	10.8	12.3	16.0	11.7	40.3
Both Protestant:									
Total[1]	219	5,283	99.9	18.8	23.9	24.2	14.3	7.7	11.0
College Total[2]	165	764	100.0	19.5	28.8	31.2	13.7	3.9	2.9
College 4 or More	156	347	99.9	21.0	28.2	32.6	13.8	2.6	1.7
College 3	162	65	100.0	13.8	30.8	43.1	7.7	1.5	3.1
College 2	174	197	100.1	18.8	30.5	26.4	14.2	5.6	4.6
College 1	174	132	100.0	18.2	28.8	28.8	15.9	4.5	3.8
High School Total[2]	176	2,366	100.0	22.6	26.9	25.7	13.0	6.0	5.8
High School 4	160	1,464	100.0	24.2	27.7	27.8	11.2	5.3	3.8
High School 3	223	169	100.0	18.3	23.1	23.1	17.8	5.3	12.4
High School 2	203	368	100.0	14.7	30.4	23.6	16.3	7.1	7.9
High School 1	212	254	100.0	25.2	18.1	20.9	16.5	9.1	10.2
Grammar School Total[2]	289	2,075	99.9	14.2	18.4	20.0	16.3	11.0	20.0
Grammar School 8	251	1,531	100.0	15.6	20.8	22.6	16.6	10.1	14.3
Grammar School 7	361	242	100.0	12.8	12.4	12.8	14.5	14.9	32.6
Grammar School Under 7	446	264	100.0	7.6	10.2	11.4	15.9	12.5	42.4
Both Catholic:									
Total[1]	274	784	100.0	14.8	16.7	20.5	19.3	11.6	17.1
College Total[2]	227	52	100.1	19.2	15.4	21.2	23.1	15.4	5.8
College 4 or More	—	24	—	—	—	—	—	—	—
College 3	—	5	—	—	—	—	—	—	—
College 2	—	7	—	—	—	—	—	—	—
College 1	—	10	—	—	—	—	—	—	—
High School Total[2]	234	396	100.0	17.2	21.2	20.5	19.9	10.1	11.1
High School 4	212	246	99.9	18.7	25.2	19.1	19.9	8.1	8.9
High School 3	—	22	—	—	—	—	—	—	—
High School 2	298	57	100.0	10.5	12.3	21.1	22.8	17.5	15.8
High School 1	264	36	99.9	19.4	13.9	19.4	25.0	8.3	13.9
Grammar School Total[2]	329	326	100.1	11.7	11.7	19.9	17.8	12.9	26.1
Grammar School 8	326	250	100.0	11.6	12.0	19.2	18.0	13.6	25.6
Grammar School 7	315	34	100.0	11.8	14.7	23.5	14.7	5.9	29.4
Grammar School Under 7	351	37	99.9	13.5	8.1	21.6	18.9	10.8	27.0

[1] Includes cases of unknown educational attainment.
[2] Includes cases that could be coded only with reference to given broad educational class.



* Distribution based on 25–99 wives. Distributions based on fewer cases are not shown.

Fig. 5. Per cent of wives 40-44 years of age reporting specified numbers of live births, by educational attainment of the wife and by religion of the couple. Native-white couples in the Indianapolis Household Survey. *See* Table 6.

underlie the general pattern described above. These are shown by detailed educational attainment of the husband in Table 5 and Figure 4, by detailed educational attainment of the wife in Table 6

and Figure 5, and by broad educational attainment of the couple in Table 7 and Figure 6. Attention may first be given to the distributions within detailed educational classes of each spouse, Figures 4 and 5. In the group of Protestant couples (middle panels) there are sharp declines in proportions childless, and sharp rises in proportions of large families with decreasing amount of educational attainment *below the high school level.* Above this level there is little in the way of systematic increase in proportion childless with improvement of educational attainment.[15] The highest frequency of childlessness, for instance, is not found for the "College 4" groups on the basis of the educational attainment of either the husband or wife. Furthermore, although not always highest, the frequency of childlessness among the "High School 4" groups surpasses that for the "College 4" groups regardless of whether the

[15] The significance of the difference between given educational classes of Protestant couples with respect to childlessness is summarized in the following table by the use of symbols, VS (Very Significant), S (Significant), and N (Not Significant). The criteria for these ratings are described in footnote 13.

The cells in the upper right section relate to husband's education; those below to wife's education. A similar table for Catholics would contain N in all cells except H.S.4-G.S.8 (wife's education), which would be S.

Significance of differences between educational classes of Protestant couples with respect to proportion childless, shown on the basis of the husband's education (upper right) and on the basis of the wife's education (lower left).

	College				High School				Grammar School		
	4+	3	2	1	4	3	2	1	8	7	Under 7
College 4+		N	N	N	S	N	N	N	N	S	VS
College 3	N		N	N	N	N	N	N	S	VS	VS
College 2	N	N		N	N	N	N	N	S	VS	VS
College 1	N	N	N		N	N	N	N	N	N	VS
H. S. 4	N	N	N	N		S	S	N	VS	VS	VS
H. S. 3	N	N	N	N	N		N	N	N	N	VS
H. S. 2	S	N	N	N	VS	N		N	N	N	VS
H. S. 1	N	S	N	N	N	N	VS		S	VS	VS
G. S. 8	S	N	N	N	VS	N	N	VS		N	VS
G. S. 7	S	N	N	N	VS	N	N	VS	N		N
G. S. Under 7	N	N	VS	VS	VS	VS	VS	VS	VS	N	

education of the husband or wife is considered.[16] It may be that differences of the above character reflect less inclination of the college graduates to remain childless altogether. Whatever the explanation may be, the difference is compensated by a slightly higher proportion reporting five or more children in the "High School 4" than in the "College 4" groups.

Two main points may be made regarding comparisons by religion in Figures 4 and 5. In the first place, it will be noted that at each educational level except the lowest, the Catholic couples tend to surpass the Protestant couples with respect to proportions with four or "five or more" live births and to fall below with respect to proportions reporting no children,[17] one child, and two children. In the second place, the relation between educational attainment and number of children appears to be a little more systematic among Protestant than among Catholic couples. To some extent, of course, this is due to erratic results derived from small numbers of Catholic wives 40-44. On the other hand, the more adequate numbers of wives 15-44 also indicate that the range of variations of standardized fertility rates by education of the husband or wife is not nearly so wide among Catholic as among Protestant couples.[18]

The data for each spouse separately may be summarized in terms of three broad educational classes (total college, total high school, and total grammar school), given in Tables 5 and 6. On the basis of the husband's education, Table 5, the proportion childless is lowest, and the proportion with five or more children is highest for the grammar school group. The highest proportions of child-

[16] As mentioned earlier, the proportion of Protestant couples among those studied is so high that what is said about them applies almost equally well to all religious groups combined.

[17] Within none of the educational groups listed for Catholics in Figures 4 and 5, however, was the difference between Protestant and Catholic couples with respect to proportions childless as high as 2 σ difference. Within the "High School 4" group (husband's education), however, the Protestant-Catholic difference attained a moderate degree of significance of 5.7 $\pm$ 3.3 σ difference. At this same educational level, on the basis of the wife's schooling, the Protestant-Catholic difference in proportion childless was 5.5 $\pm$ 3.0 σ difference.

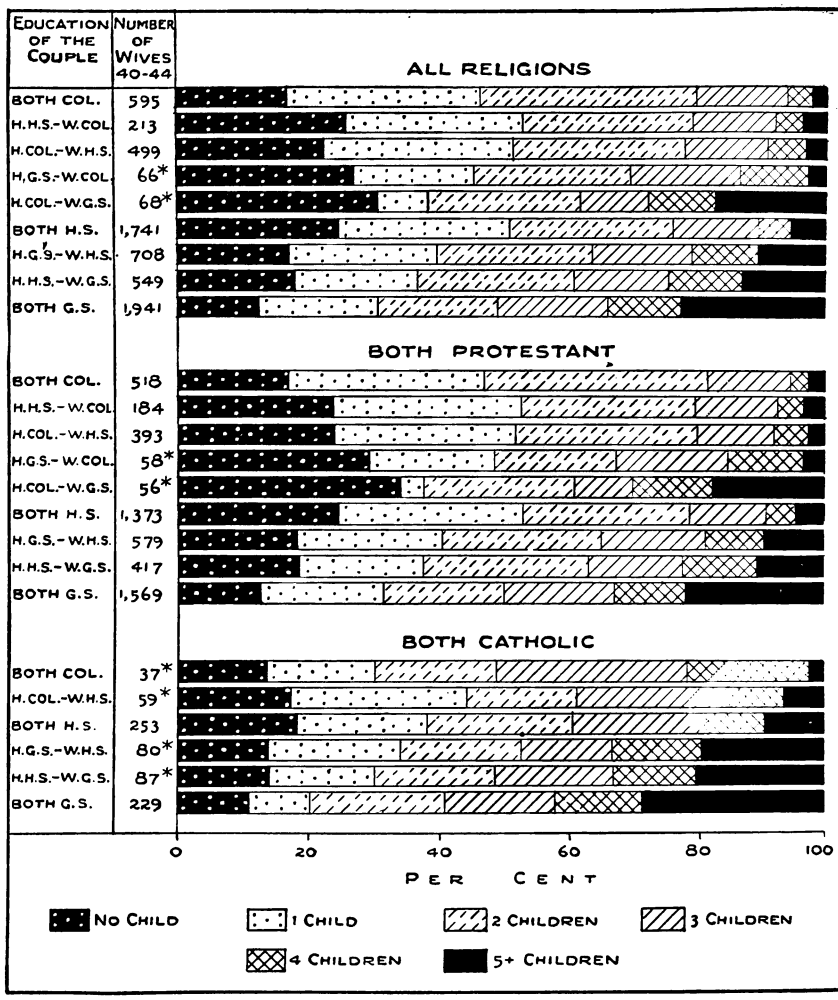
[18] Whelpton and Kiser, *op. cit.*, pp. 262-263. (Reprint, pp. 42-43.)

lessness are not found for the groups of college status, but for those of high school attainment. The high school groups, however, also surpass those of college attainment with respect to proportions having five or more children. The above generalizations hold true for the Catholic as well as for the Protestant unions. With one

Table 7. Per cent distribution of wives 40-44 years of age according to number of live births, by educational attainment and religion of the couple. Indianapolis Household Survey, 1941.

Religion and Education of Couple	Births per 100 Wives 40–44	Number Wives 40–44	Per Cent Distribution by Number of Children						
			Total	No Children	1 Child	2 Children	3 Children	4 Children	5 or More Children
All Religions:									
Total[1]	224	6,551	100.1	18.8	23.2	23.6	14.7	8.1	11.7
Both College	168	595	100.0	17.0	29.7	32.8	14.1	3.9	2.5
H. H.S.—W. Col.	156	213	100.0	25.8	27.2	26.3	12.7	4.2	3.8
H. Col.—W. H.S.	164	499	100.0	22.8	29.1	26.1	12.8	5.6	3.6
H. G.S.—W. Col.	183	66	100.0	27.3	18.2	24.2	16.7	10.6	3.0
H. Col.—W. G.S.	231	68	100.0	30.9	7.4	23.5	10.3	10.3	17.6
Both High School	171	1,741	100.0	24.2	26.4	25.4	13.2	5.3	5.5
H. G.S.—W. H.S.	226	708	99.9	16.9	23.0	23.6	15.4	10.0	11.0
H. H.S.—W. G.S.	241	549	100.1	17.9	18.9	23.9	14.8	11.1	13.5
Both Grammar School	308	1,941	100.0	12.7	17.8	18.4	17.1	11.2	22.8
Both Protestant:									
Total[1]	219	5,283	99.9	18.8	23.9	24.2	14.3	7.7	11.0
Both College	166	518	100.0	16.8	29.9	34.4	13.3	2.9	2.7
H. H.S.—W. Col.	155	184	99.9	23.9	28.8	26.6	13.0	4.3	3.3
H. Col.—W. H.S.	157	393	99.9	23.9	27.5	28.2	12.2	5.3	2.8
H. G.S.—W. Col.	185	58	100.0	29.3	19.0	19.0	17.2	12.1	3.4
H. Col.—W. G.S.	236	56	100.0	33.9	3.6	23.2	8.9	12.5	17.9
Both High School	164	1,373	100.1	24.2	28.5	25.8	11.9	4.7	5.0
H. G.S.—W. H.S.	219	579	100.0	17.8	22.6	24.4	16.1	9.3	9.8
H. H.S.—W. G.S.	232	417	99.9	18.2	19.2	25.4	14.6	11.5	11.0
Both Grammar School	305	1,569	100.0	12.4	18.8	18.5	17.2	10.8	22.3
Both Catholic:									
Total[1]	274	784	100.1	14.8	16.7	20.5	19.3	11.6	17.1
Both College	232	37	99.9	13.5	16.2	18.9	29.7	18.9	2.7
H. H.S.—W. Col.	—	9	—	—	—	—	—	—	—
H. Col.—W. H.S.	217	59	99.9	16.9	27.1	16.9	23.7	8.5	6.8
H. G.S.—W. Col.	—	6	—	—	—	—	—	—	—
H. Col.—W. G.S.	—	9	—	—	—	—	—	—	—
Both High School	224	253	100.0	18.2	19.8	22.1	20.9	9.5	9.5
H. G.S.—W. H.S.	284	80	100.2	13.8	20.0	18.8	13.8	13.8	20.0
H. H.S.—W. G.S.	284	87	100.0	13.8	16.1	18.4	18.4	12.6	20.7
Both Grammar School	351	229	99.9	10.9	9.2	20.5	17.0	13.5	28.8

[1] Includes cases of unknown educational attainment of the husband or wife.



* Distribution based on 25–99 wives. Distributions based on fewer cases are not shown.

Fig. 6. Per cent of wives 40-44 years of age reporting specified numbers of live births, by educational attainment and religion of the couple. Native-white couples in the Indianapolis Household Survey. *See* Table 7.

exception, due possibly to chance variations,[19] they can be made for each religious group in so far as educational attainment of the wife is concerned.

The summary just given in terms of broad educational attainment of the husband can be made on the basis of the joint classifica-

[19] The proportion childless was a little higher for the Catholic wives reporting college attendance than for those of high school status.

tion if the comparison is restricted to the "Both College," "Both High School," and "Both Grammar School" groups (Table 7 and Figure 6). Among Protestants and Catholics, the "Both Grammar School" group exhibits the lowest proportion childless and the highest proportion with five or more children. Likewise, the "Both High School" group surpasses the "Both College" group with respect to proportion childless and also proportion with five or more children. In the total sample the proportions childless for the three educational groups are "Both College," 17.0 per cent; "Both High School," 24.2 per cent; and "Both Grammar School," 12.7 per cent. The proportions with five or more children in these three groups are 2.5, 5.5, and 22.8 per cent, respectively.

There are several further points of interest in the data based upon the joint classification. It will be noted that the proportion childless among the college-high school marriage combinations is higher than that for the "Both College" group and about the same as that for the "Both High School" group. The proportion childless among the high school-grammar school combinations falls about midway between that for the "Both High School" and that for the "Both Grammar School" couples. Among Protestants the proportions childless are highest of all for the two college-grammar school combinations shown in Figure 6, but chance variations associated with small numbers are doubtless involved.[20]

The one and two-child families are proportionately more important within the "Both College" than within the "Both High School" groups. Families of this size include 63 per cent of the "Both College," 52 per cent of the "Both High School," and 36 per cent of the "Both Grammar School" couples, all religions combined.

The religious differentials exhibited in Figure 6 lead to approxi-

[20] The excesses in proportions childless among the "H.G.S.-W.C." and "H.C.-W.G.S." groups over that of other groups are found to be significant to the extent of being greater than 2 σ difference only in comparisons with the "Both College," "H.G.S.-W.H.S.," "H.H.S.-W.G.S.," and "Both G.S." groups.

mately the same generalization that was made on the basis of Figures 4 and 5. In the joint classification, however, at each educational level except one, the Catholic couples surpass the Protestant couples with respect to the proportion reporting five or more live births and fall below with respect to the proportion childless.[21] The exception is the "Both College" group, represented by 37 Catholic couples.

Distributions by Birth Region of the Couple. As in the previous report,[22] the state of birth data obtained in the household survey were utilized for establishing the following classes:

Husband and wife born in North
Husband born in North—wife born in South
Husband born in South—wife born in North
Husband and wife born in South

Owing to the small number of non-Protestants of southern origin, however, the full classification was adaptable only to the "Both Protestant" couples.

It will be noted that among Protestant couples the average fertility rate by birth region is lowest for the "Both North" group and highest for the "Both South" group (Table 8). The marriages of mixed regional nativity fall in intermediate position, but the "Husband North-Wife South" marriages are substantially less fertile than the "Husband South-Wife North" unions. (Figure 7).

On the basis of distribution by number of live births, it is seen that the lower average fertility rate of the "Both North" than of the "Husband North-Wife South" or "Husband South-Wife North" groups arises from larger proportions of families with one or two children and smaller proportions with four or more. Contrary to expectations the proportion childless is lower in the "Both North" group than in the "Husband North-Wife South"[23] group and prac-

[21] Only for the "Both H.S." groups, however, is the Protestant-Catholic difference in proportion childless as much as 2 σ difference. For these groups the difference is $6.0 \pm 2.9\ \sigma$.

[22] Whelpton and Kiser, *op. cit.*, p. 264. (Reprint, p. 44.)

[23] The difference between the "Both North" and "Husband North-Wife South" groups

(Continued on page 101)

Religion and Birth Region of Couple	Births per 100 Wives 40–44	Number Wives 40–44	Per Cent Distribution by Number of Children						
			Total	No Children	1 Child	2 Children	3 Children	4 Children	5 or More Children
All Religions:									
Total[1]	224	6,551	100.1	18.8	23.2	23.6	14.7	8.1	11.7
Both North	216	5,173	100.1	19.0	23.8	24.3	14.7	7.7	10.6
H. North—W. South	234	358	100.0	22.3	20.4	20.1	13.1	10.1	14.0
H. South—W. North	254	387	100.0	19.4	17.3	20.9	18.1	10.9	13.4
Both South	308	430	100.1	11.2	19.3	19.8	14.2	10.7	24.9
Both Protestant:									
Total[1]	219	5,283	99.9	18.8	23.9	24.2	14.3	7.7	11.0
Both North	209	4,121	99.9	19.1	24.9	25.1	14.1	7.2	9.5
H. North—W. South	223	297	100.0	23.2	20.2	20.9	13.8	9.1	12.8
H. South—W. North	255	326	100.0	19.0	17.2	21.5	18.1	10.7	13.5
Both South	316	387	100.0	10.6	18.6	19.6	15.0	10.1	26.1
Both Catholic:									
Total[1]	274	784	100.0	14.8	16.7	20.5	19.3	11.6	17.1
Both North	272	672	100.0	14.9	17.0	19.9	19.9	11.0	17.3
H. North—W. South	332	34	100.1	5.9	20.6	26.5	11.8	14.7	20.6
H. South—W. North	250	30	100.0	20.0	16.7	20.0	13.3	20.0	10.0
Both South	—	16	—	—	—	—	—	—	—

[1] Includes cases of unknown region of birth of the husband or wife.

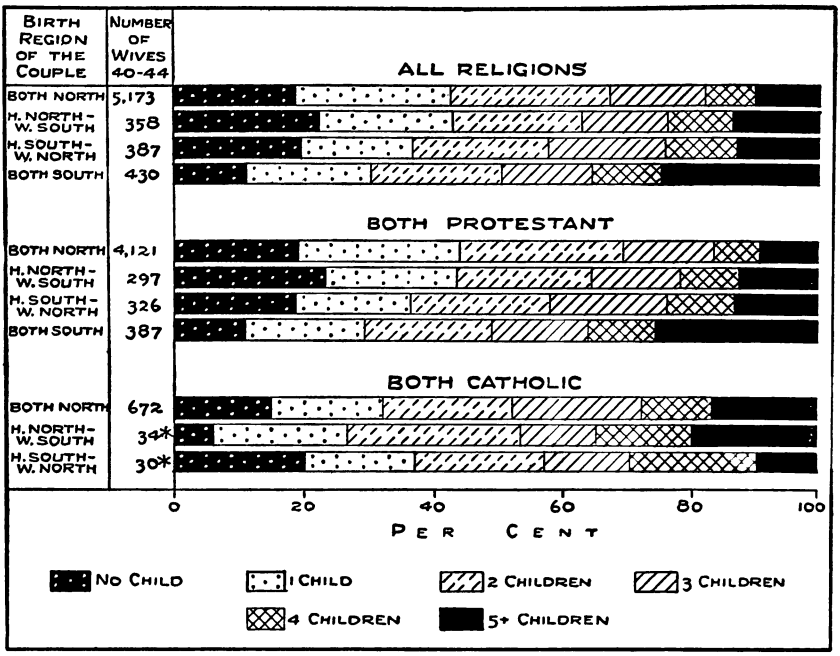
Table 8. Per cent distribution of wives 40-44 years of age according to number of live births, by birth region and religion of the couple. Indianapolis Household Survey, 1941.

tically the same as that in the "Husband South-Wife North" group.

In the comparisons by region of birth the "Both South" group is conspicuous for its low proportion childless[24] and high proportion with five or more children. The northern-born Catholic couples rank about midway between the northern-born and southern-born

with respect to proportion childless is almost twice the σ of the difference, 4.1 $\pm$ 2.2 σ difference. Virtually the same difference, but a much lower degree of reliability, is found in the "Husband North-Wife South" and "Husband South-Wife North" comparison (4.2 $\pm$ 3.2 σ difference).

[24] The lower proportion of childless families among the "Both South" group than among any other birth-region group of Protestant couples is statistically significant to a high degree. The following differences $\pm$ σ difference are found in the comparisons with the "Both South" group: "Both North," 8.5 $\pm$ 2.2 σ; "Husband North-Wife South," 12.6 $\pm$ 2.8 σ; "Husband South-Wife North," 8.4 $\pm$ 2.7 σ. The lower proportion of childlessness among the "Both South" Protestant group than among all Catholic couples in the sample is smaller in magnitude and in degree of significance (4.2 $\pm$ 2.2 σ difference), but it is almost twice the σ of the difference.



* Distribution based on 25–99 wives. Distributions based on fewer cases are not shown.

Fig. 7. Per cent of wives 40-44 years of age reporting specified numbers of live births, by birth region and religion of the couple. *See* Table 8.

Protestant couples with respect to proportion childless and proportion with five or more children.

Relation to Subsequent Reports

The data presented above show that there are wide variations in size of family within population groups, and that these variations differ greatly from group to group. The important question is why do they occur. Is the physiological ability to reproduce (fecundity) substantially higher among some groups than others? Or are there wide differences in the extent and effectiveness of the use of contraceptives? If such differences exist, what proportion of the pregnancies are accidental, and how much of a reduction in size of family is to be expected if more effective contraceptives are used? If variations in size of family occur among couples practicing contraception effectively (as is undoubtedly the case), what are

the reasons for them? To what extent does it seem likely that the size of these families could be influenced by measures designed to encourage population growth, perhaps like those in Sweden?

So far, the preliminary analysis of the data from the intensive study permits a tentative answer to only one of these questions. Of the Protestant couples in the detailed study, almost all had practiced some form of contraception. Information relating to the other questions, together with an analysis of the effectiveness of the contraceptive methods tried, will be presented in subsequent reports.

Summary

The household survey conducted in Indianapolis in the summer of 1941, as a necessary prelude to a more intensive investigation of social and psychological factors affecting fertility, affords demographic data for virtually all native-white couples with wife 15-44. The average fertility rates standardized for age were presented in a former report for subdivisions by religion and socio-economic status. In that report some special attention was given to fertility rates for wives 40-44, for such indices could be interpreted in terms of requirements for permanent maintenance of the population through births.

The present report is concerned with distributions of 6,551 native-white couples of virtually completed fertility (wife 40-44) according to number of live births. The analysis is carried through for Protestant and for Catholic groups separately by age of wife at marriage, monthly rental value of the dwelling unit, educational attainment, and birth region of the couple.

In the total sample, 18.8 per cent of the wives are childless and almost one-half (46.8 per cent) have one or two children, numbers below the average requirement for population maintenance. About 15 per cent have three children and 20 per cent have four or more.

The trend toward decreasing frequency of the large family is apparent from comparisons of the 1941 data with a somewhat

similar sample previously extracted from the 1910 Census returns for Indianapolis.

By religion, the proportion childless is lowest (14.8 per cent) for the Catholic couples and highest (25.6 per cent) for the Protestant-Catholic mixed marriages. The proportion for the numerically predominant group of Protestant couples is 18.8 per cent, the same as that for the total group. The proportion of Catholic couples with five or more children is 17.1 per cent, as compared with 11.0 per cent for the Protestant couples and Protestant-Catholic mixed marriages.

With advancing age at marriage there is a sharp rise in the proportion of childless couples and an equally striking decline in the proportion with five or more children. Within the limits of the data available, however, this type of relation appears to be more pronounced among the Protestant than among the Catholic couples.

The relationship of family size to rental value and educational attainment is also sharper and somewhat more systematic among Protestant than among Catholic couples. With certain exceptions discussed in the report, however, the distributions exhibit the expected decreasing frequency of the large family with rising rental or educational status within each religious group considered.

At each rental and educational level where the number of Catholic couples is large enough to give a fairly reliable percentage distribution, the Catholic couples surpass the Protestant couples with respect to proportion with five or more children, and to fall below with respect to proportion childless.

In the classification of Protestant couples by birth region of the husband and wife, the "Both South" group is conspicuous for its lowest proportion of childlessness and for its highest proportion of families with five or more children. The average fertility rate of this group of Protestants surpasses that of all Catholics in the present study. Although the highest proportion of childless families

is that observed for the relatively small group of Protestant "Husband North-Wife South" unions, the lowest average fertility rate and the lowest proportion of families with five or more children are those for the numerically important Protestant "Both North" couples.

Erratum

Please make the following correction in Table 1 of Whelpton, P. K. and Kiser, Clyde V.: Social and Psychological Factors Affecting Fertility. I. Differential Fertility Among 41,498 Native-White Couples in Indianapolis. The Milbank Memorial Fund *Quarterly,* July, 1943, xxi, No. 3, p. 226. (Reprint p.6.):

Change "Husband Catholic-Wife Protestant" to "Husband Protestant-Wife Catholic." Change "Husband Protestant-Wife Catholic" to "Husband Catholic-Wife Protestant."

This erroneous interchange appeared only in the stub of Table 1. The text discussion of these two classes is correct as it stands.