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PREFACE

This bulletin continues the study of human fertility in Canada and is part of a series in which four bulletins have been published. The investigation has been based upon statistics collected for the first time in Canada at the Decennial Census of 1941, when the following questions were asked of all women who at the date of the Census, either were or had been married; (a) age at first marriage; (b) number of children born alive to the mother; (c) number of these children living at the date of the Census.

Like Bulletin F-2, the present report is based on an intensive study of statistical data concerning women between the ages of 45 and 54. The earlier report analyzed family size in relation to birthplace, religion, mother-tongue, years of schooling and place of residence. The analysis is now extended by taking into consideration information about occupation, earnings, and value of home.

This study is the work of Dr. Enid Charles, assisted by Miss P.F.E. Chrysler, Miss L.M. Podham and Miss P. Whelan. Acknowledgements are due to Dr. O.A. Lemieux, of the Census Branch, to Mr. Greenway, Prices Statistician, Mr. Robinson of the Vital Statistics Branch and also to Mr. A.E. Thornton and Mrs. Eva Anderson, who supervised the machine processes. The charts were drawn by Mr. J.W. Delisle.

Herbert Marshall,
Dominion Statistician.

C O N T E N T S

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Bulletin F-5.

ECONOMIC DIFFERENCES IN FAMILY SIZE, CANADA, 1941.

PART I. TEXT

1. INTRODUCTION

In Canada, as in all other countries of the Western world, the birth rate is declining, and the rate of natural increase is slowing down. Ultimately, unless trends are reversed or large-scale immigration occurs, a stationary or even declining population is to be expected. Previous reports in this series have studied various social characteristics, associated with large and small families respectively, in order to throw light on the causes of the declining birth rate. In Bulletin F-2, differences in family size were found to be associated with differences in religion, mother-tongue, educational level, and residence in urban as opposed to rural areas. Bulletin F-3 investigated occupational differences in family size and found these to be associated with differences in the educational status and average earnings characteristic of various occupations.

The present report is primarily concerned with differences in family size associated with differences in income. Total income is not recorded at the Census, but for wage-earners the greater part is known. All earnings, whether in the form of wages, salaries, commission, or piece-work remuneration, are recorded. For others than wage-earners much less information is available. The only clue to income is a much less satisfactory index, the value or rent of the home. Earnings and, to a less degree, value of home owned provide an approximate index of income levels that is adequate for the purposes of the study.

Numerous investigators have recorded differences in family size associated with differences in income. Some of the best known studies are those of Edin & Hutchinson in Stockholm and of Kiser in the United States.[x] Still other investigations have led to similar results indirectly by analysis of differential fertility according to social class. Among these the classical example is the English study of Stevenson.[xx] Nearly all have led to the same conclusion that the size of family becomes smaller as income rises and prosperity increases. Exceptions have occurred only where families are extremely small at every income level. Particularly small families among the well-to-do, contrasted with large families among the poor, are characteristic of a rather high but rapidly declining birth rate. In the course of time the small family pattern spreads to all classes and a uniform level of fertility is reached which is too low to avert a rapidly declining population in the future. The process of decline may even proceed further among the poorest.

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x Edin & Hutchinson, "Studies of Differential Fertility in Sweden."
Clyde V. Kiser, "Group Differences in Urban Fertility".

xx Stevenson, "The Fertility of Various Social Classes from the Middle of the Nineteenth Century to 1931." Journ. Roy. Stat. Soc. (1920).

The Canadian situation should be appraised in its period setting. The study is confined to families of women aged 45-54 years in June, 1941. Most of the births would have occurred in the years immediately following World War I. At this time, Canadian fertility was high compared with that of other countries at a similar stage of civilization, and was rapidly declining. So we can expect to find clear-cut social distinctions. The rate of reproduction recorded is not that of the present day. If a similar study is made ten or twenty years hence, there will be little change in family size among the social groups with low fertility, but the largest average family sizes may be greatly reduced. The study probably records Canadian differential fertility near its maximum and future studies will likely show much greater uniformity of behaviour among social groups.

The method adopted was to classify families successively by several characteristics known to affect family size. In this way we can observe the effect of income differences among families which are broadly similar with respect to ethnic origin,[x] educational level, and rural as opposed to urban residence. The data are described in more detail in Section 2. Sections 3 and 4 deal with family size among wage-earners and non wage-earners respectively. Section 5 discusses age at marriage in relation to family size, and some facts about the incidence of childless families are presented in Section 6. Section 7 deals with a selected low fertility group. A general discussion will be found in Section 8, and Section 9 contains a brief summary of the most important results.

Technical statistical tables are given in the appendix. The method of analysis has been described previously. The general reader only needs to know that the aim of statistical analysis is chiefly to eliminate random effects due to the small sizes of some groups. After several cross-classifications, some of the sub-groups contain very few individuals. The average size of the family in these small groups may vary widely as a result of random causes other than those with which the investigation is concerned. Statistical analysis enables us to distinguish between these random variations and differences which we might expect to see repeated in similar populations. The text tables present average family sizes and standardized means for a single characteristic with the effect of all the others equalized. Basic numerical data for Canada as a whole will be given in the Fertility Monograph.

2. DESCRIPTION OF DATA

Census data about earnings were recorded on punch cards made out for all male wage-earner heads of families. The card also recorded certain particulars about the wife and the family. This report is based mainly on the social characteristics of husbands in relation to the size of family and is thus confined to wives living with their husbands at the time of the Census. Such families are called in Census parlance "normal" families. The wives were all aged from 45 to 54 years. The total number of families included is 425,407, of whom 237,710 have wage-earner or salaried heads. The former number is 95 per cent of the total number of women in the age-group who were recorded as married at the Census, excluding widowed, separated or divorced. The missing 5 per cent includes cards rejected because some item of information essential to classification was not given. These made up $2\frac{1}{2}$ per cent of the total. In most of these cases earnings, tenure, or value of home were not stated. The average size of family of the rejected cases was slightly lower than that of the included families. The remaining $2\frac{1}{2}$ per cent omitted is made up of families in institutions and married women living apart from their husbands at the time of the Census but not recording themselves as separated.

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x The term "racial origin" in use up to the 1941 Census has now been changed to "ethnic origin". Groups classified according to "racial origin" are called "ethnic groups" in this report.

The average size of all the included families was 4.24 children ever-born. The average number of children born to all married women, including widowed, separated, and divorced, was 4.18. On the punch card used in this study family sizes larger than 5 are grouped as follows:- 6-7, 8-9, 10-12, 13-15, 16 and over. Total number of children born had thus to be estimated by using a figure for each of these groups derived from the known distribution for all Canada. Several tests were made to determine whether any appreciable error was introduced by using grouped data. The average size of the family is very slightly underestimated in those groups where the families are very large but the amount of the error is negligible. The error could be more serious in those few cases where the numbers in the groups are very small and the size of the family very large, but any such bias would not affect the conclusions. The earnings recorded at the Census are total earnings for the preceding twelve months. They do not include unearned income, pensions, military pay or value of board and lodging, etc. Possibly the recorded figures understate actual earnings somewhat, but the deficiency is probably not greater than 5 per cent. Even if such a deficiency exists and is biased, it would hardly affect the distinctions drawn between groups whose average earnings differ by about $1,000.

3. DIFFERENCES IN FAMILY SIZE ASSOCIATED WITH ETHNIC GROUP, EDUCATION, EARNINGS AND URBANIZATION. WAGE-EARNERS.

(a) Canada

In the present section, mean family size of wage-earner social groups is analyzed. Table I shows the results for the four principal variables with which this study is concerned. Because the differences between rural farm and rural non-farm wage-earners were not very consistent and were statistically insignificant, the two categories have been combined. This has the advantage of securing better representation in the high-income groups which are very poorly represented in rural parts. The standardized means shown at the foot of the table are those which would be obtained if all groups represented were of equal size. Thus the difference shown between the French and British ethnic groups is that which we would see if both groups had similar earnings, similar amounts of education, and were represented in the same proportions in rural and urban parts. The standardized mean for all Canada is less than the actual mean size of family observed, because there are far fewer persons in the less fertile upper income and advanced education groups.

The study of cultural differences in family size showed how differences in family size associated with a variety of social characteristics can accumulate to produce a wide range of family behaviour. The same thing is seen in Table I and is illustrated in Fig. 1. The calculated family sizes shown in the figure are obtained by cumulating the differences in group means given in Table I. The values were arranged in numerical order, and every other value, omitting "other ethnic origins", shown in the chart. The lower bar of each pair shows the observed mean size of family. Over the greater part of the field the correspondence between observed and calculated values is close. The hypothesis that such group differences can be added to yield observed sub-group means is not too far fetched an account of the phenomena. It cannot be entirely adequate since in general high fertility rates fall faster than low ones. As a corollary, differences in fertility rates are pronounced when families are large, and tend to become obliterated when families are small. Hence, as we would expect, actual family size is somewhat higher than that calculated at both ends of the scale. One or two other discrepancies will be referred to later.

A statistical analysis of the variance of Table I is given in Appendix Table IA. The effects of all four variables are highly significant. On account of

Table I. Family Size in relation to Earnings, Education, Urbanization and Ethnic Group of Husband

Average Number of Children ever-born to Married Women Aged 45-54 Years, in Wage-earner Normal Families.

Earnings of head and ethnic group	0-8 years schooling		9-12 years schooling		13 years schooling and over	
	Rural	Urban	Rural	Urban	Rural	Urban
Less than $950						
French ethnic group ..	7.47	6.44	6.27	5.52	5.87	4.83
Other ethnic groups ..	5.04	4.30	3.97	3.45	3.59	2.99
British ethnic group .	4.50	3.74	3.45	2.88	2.95	2.54
$950 - $1,949						
French ethnic group ..	7.26	6.28	5.73	4.97	5.71	4.34
Other ethnic groups ..	4.27	3.97	3.68	2.91	3.45	2.80
British ethnic group .	3.92	3.22	3.14	2.62	2.65	2.35
$1,950 - $2,949						
French ethnic group ..	6.30	5.80	4.92	4.69	3.28	4.28
Other ethnic groups ..	4.11	3.29	2.73	2.59	2.21	2.45
British ethnic group .	3.39	2.88	2.64	2.37	2.28	2.15
$2,950 and over						
French ethnic group ..	6.21	5.12	4.23	4.16	4.84	3.86
Other ethnic groups ..	3.13	2.91	2.42	2.38	2.91	2.08
British ethnic group .	3.21	2.72	2.60	2.24	2.33	2.10

Standardized Means

Ethnic group

French	5.35
Other	3.23
British	2.87

Earnings

Less than $950	4.43
$950 - $1,949	4.07
$1,950 - $2,949	3.46
$2,950 and over	3.30

Education

0-8 years schooling	4.56
9-12 years schooling	3.61
13 years schooling and over	3.28

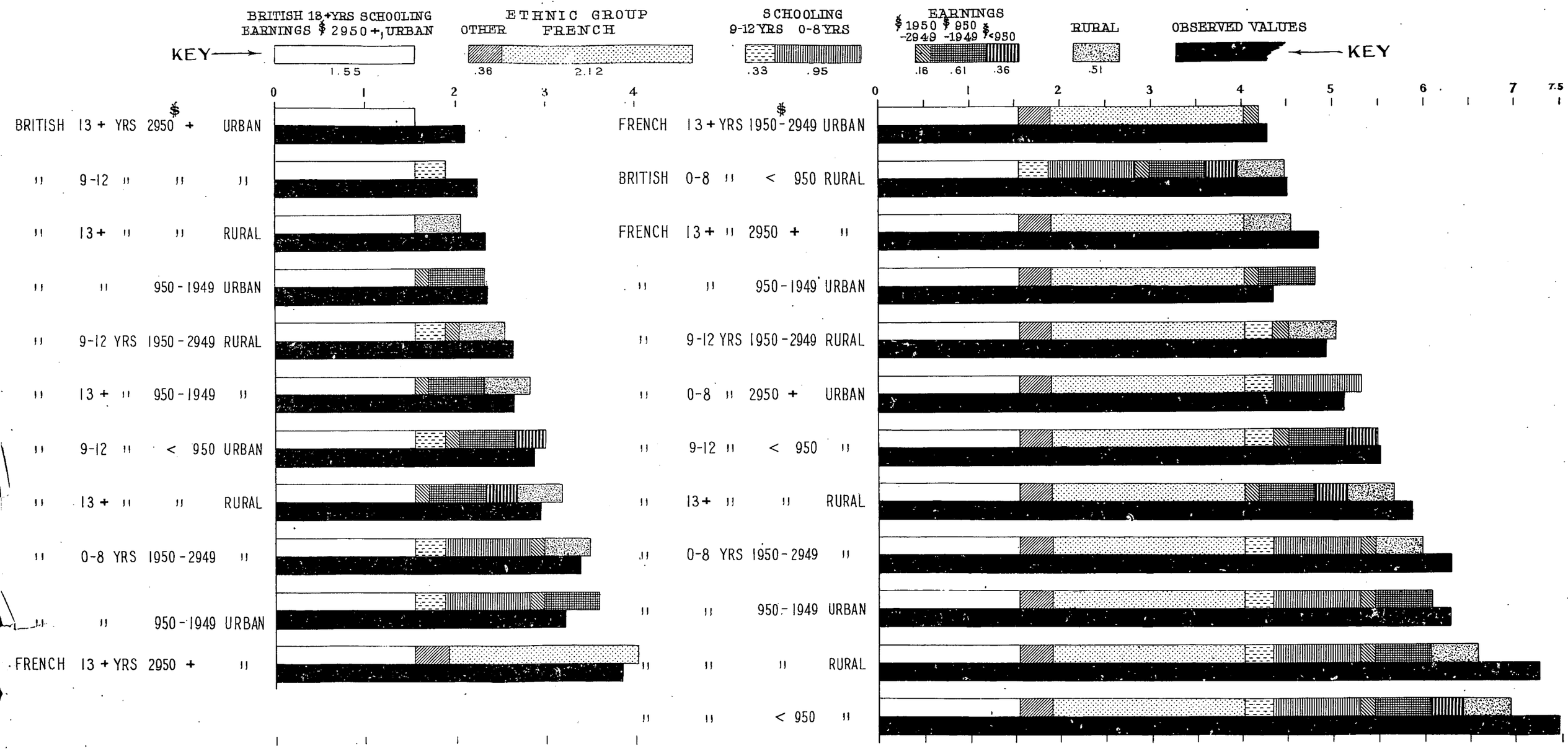
Urbanization

Rural	4.07
Urban	3.56

All ..... 3.82 ..... 3.82

Figure 1

AVERAGE SIZE OF FAMILY, CULTURAL AND ECONOMIC GROUPS, CALCULATED AND OBSERVED VALUES



the broad classifications used, the relative magnitude of the effects cannot be shown to be statistically significant on the basis of the present results alone. However, both the close correspondence with previous work and consistency through various arrangements are corroborative evidence that the relative importance of the different social variables is independent of the classificatory scheme.

It is perhaps rather surprising that the rural-urban difference should be so small, even though the fact of incorporation does not always draw the line where the sociologist would wish it drawn. Two considerations are relevant. In the first place, this section deals with wage-earners only, and agricultural wage-earners are relatively few in number. In the lowest earnings group, they amount to at most 30 per cent of the whole, and in all other earnings groups their numbers are negligible. At the higher income levels, most rural wage-earners are either in manufacturing, construction and transport occupations, or, at the highest educational level, white-collar workers. They are probably suburban rather than rural. In the second place, the rural-urban differences commonly observed seem to be in part a result of lower incomes. As already stated, high earnings are relatively far less frequent in rural districts.

Perhaps most interest attaches to the differences in family size associated with earnings, since these are introduced for the first time in this series. Although the differences are not very large, they are extremely consistent. With only three exceptions, an increase in average earnings is associated with a smaller average family in each ethnic group, at each educational level, and in both rural and urban areas. The exceptions are three rural ethnic groups with advanced schooling. In these groups families are larger in the highest earnings group than in the $2,300[x] group. While this is in part the result of exceptionally small families in the rural $2,300 group, the average family sizes in the highest income groups are somewhat larger than those calculated from the means. The numbers involved are small but other lines of evidence suggest that this is not a chance phenomenon. Possibly in rural parts, as opposed to towns and cities, the highest economic status does not carry with it the anticipated reduction in numbers of children. In so far as the groups here discussed are concerned, this finding loses much of its possible significance because the groups in question have still far too few children for replacement.

We may ask whether, within each earnings group, there is a difference in the average earnings of the various social groups. These differences do exist. British groups average higher than French, and the average wage rises as the educational level rises. Except in the highest earnings groups, these differences amount to less than $50 per year, and are consequently negligible compared with group differences of nearly $1,000. In the highest earnings group, the differences are more pronounced. Groups with 13 years schooling and over average about $400 per year more than those with 9-12 years, and this difference is about 10 per cent of the annual earnings. Family earnings are not proportional to earnings of head. The poorer groups add proportionately more to their earnings through the labour of wife or children than do the higher earnings groups. Usually the result of low wage levels, the family contribution cannot be regarded as a net addition to the standard of living. Earning mothers may sometimes, though not always, mean less good care for the younger children, and earnings of children between 16 and 24 years often implies restriction of educational opportunities. For these reasons, earnings of head have been regarded as the best index to the economic status of the family. Table II shows average earnings of head and average family earnings at each level.

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[x] Vide Table II.

We also need to remember that the earnings recorded at the Census do not tell us what the family income has been during the whole of the reproductive period. There is probably some correlation between economic status in middle age and that enjoyed previously, but against this is the fact that the highly-paid professions entail a long period of training without earnings and a further period when earnings are much lower than the maximum eventually reached. Seemingly many of the high income groups in our study could well afford larger families than they have, but we cannot know that this was true at the time when more children might have been born.

Table II. Average Earnings, Canada

Average earnings of wage-earner heads of normal families married to wives aged 45-54 years

	Earnings				
	All	Less than $950	$950 - $1,949	$1,950- $2,949	$2,950 and over
Number of wage-earner heads	232,247	77,241	109,250	29,461	16,295
Total earnings of heads . $	3,273,153	388,734	1,498,468	676,588	709,363
Mean earnings of head .. $	1,409	503	1,372	2,297	4,353
Number reporting family earnings	225,226	73,687	106,602	28,901	16,036
Total earnings of families ..... $	4,049,058	631,259	1,900,819	771,059	746,371
Mean earnings of families ..... $	1,798	857	1,783	2,668	4,654
Difference of means ... $	389	354	411	371	301

The biggest difference in family size occurs when we pass from the $1,400 to the $2,300 group. This is largely due to the exceptionally small families of rural wage-earners in the latter group. Among urban wage-earners, each step upwards in average earnings is responsible for about an equal reduction in family size. The numbers involved in the aberrant French and Other rural groups which show the largest drops are very small but the same tendency is apparent in the larger British group. While there is probably considerable sampling error in this part of the table, possibly the families of suburban wage-earners at the $2,300 level are exceptionally low for some reason which is not immediately obvious.

The educational effect previously noted persists even when income differences are equalized. It is in fact more pronounced than the latter. A later section will analyse the occupational differences associated with advanced education. Advanced education is associated with different ways of living and with the expectation of a higher standard of comfort and of ostentation. Both at the lowest and the highest income levels, the smaller families of the well-educated indicate that an ever-increasing standard of wants is the potent factor in reducing the size of the family.

The distinction between French and British ethnic groups reflects differences in both language and religion. These have been analyzed in a previous report. The remaining group is too hetereogeneous to be of much interest. It was included in order to cover the Census population at the required age as completely as possible. The cultural difference is striking. It is about equal in size to the combined effects of extreme poverty and lack of education. Both major culture groups, however, react in the same way to a rising standard of living. In fact, as Table III shows, income differences are considerably more pronounced in the French group, where increased prosperity acts on an initially higher fertility rate. We should then interpret these differences as indications of the presence of isolating factors which have tended to preserve family attitudes of a past era, and to retard adaptation to fashionable living patterns. Though some minor variations in pattern will emerge later, cultural distinctions are compatible with a basic similarity of response to economic environment. It is noteworthy that the cultural lag was still potent in Canada at the period to which this study refers.[x] Some workers in the United States have found that cultural differences are not apparent when economic and educational status are equalized. Although there are small differences in average earnings and years of schooling within the broad categories here used, the combined effect of the French language and the Roman Catholic religion appears to be operative at all economic and educational levels.

Table III. Comparison of Family Size in relation to Earnings, Education, Urbanization and Ethnic Group of Husband

Difference[(1)] in size of family between poorest and most prosperous earnings groups.

Education and urbanization	French ethnic group	British ethnic group
0 - 8 years schooling		
Rural	1.26	1.29
Urban	1.32	1.02
9 - 12 years schooling		
Rural	2.04	0.85
Urban	1.36	0.64
13 years schooling and over		
Rural	1.03	0.62
Urban	0.97	0.44

(1) Less than $950 group minus $2,950 and over group.

x The words "isolating" and "lag" are used as descriptions of an historical process. Nothing is implied as to the desirability or otherwise of the process.

The interactions between variables shown in Appendix Table IA indicate where sub-groups depart from the general rules described above. None of the interactions between three variables are significant, but three of those between two variables call for comment. Two interactions, that between education and ethnic group, and that between education and earnings, can be interpreted on the lines indicated earlier as illustrations of the tendency for differences to be more marked when fertility rates are high. The educational difference is greater among the French than among the British but is less marked in the highest earnings group than in any of the others. In previous work, we found that family size was greater than expectation among the rural French Catholics. The same thing can be seen to a smaller degree in the present study. This suggests that the effect previously noted was due in part to the greater poverty of rural French Catholics. Among British rural wage-earners with 0-8 years schooling, 57 per cent are in the $500 earnings group with average earnings of $471, but among the rural French with 0-8 years schooling, 73 per cent are in this earnings group with average earnings of $432. As we shall see later, this interaction is more significant among non wage-earners.

In Bulletin F-2, family size was related to social characteristics of the mother, and families of all women who had been married were included. In the present study we are dealing with the social characteristics of the father and are concerned only with families where the husband and wife are living together. Further, the categories of the two studies are not precisely comparable. Yet very close correspondence can be shown between the results of the two studies. In Table IV the results are shown in parallel. In view of the inevitable differences in the categories, the

Table IV. Comparison of Deviations from Mean Family Size Associated with Characteristics of Father and Mother

Father (Wage-earner normal families)	Deviation from Mean	Mother[1]	Deviation from Mean
Ethnic group			
French	+1.53	Catholic French mother tongue	+1.43
British	-0.95	Protestant English mother tongue	-1.17
Education and earnings			
0-8 years schooling Earnings less than $1,950	+1.17	0-8 years schooling	+1.04
9-12 years schooling Earnings $950-$1,949	+0.04	9-12 years schooling	-0.09
13 years schooling and over Earnings $1,950-$2,949	-0.90	13 years schooling and over	-0.95
Urbanization			
Rural	+0.25	Rural	+0.60
Urban	-0.26	City	-0.60

(1) Bulletin F-2. "Cultural Differences in Family Size, Canada, 1941". Table III.

correspondence could hardly be closer. The figures of the table are deviations from the standardized means of all families. The British ethnic group diverges less from the mean than does the group English-speaking Protestants because it includes a considerable Catholic minority. The rural-urban difference is less in the present study, because all incorporated places are treated together. Previously attention was confined to places with over 30,000 inhabitants, where family size is less than in the smaller towns and villages. Though the combined educational and earnings categories on the left of the table are quite rough attempts to obtain categories corresponding to those on the right, yet educational status of either parent is associated with similar effects on family size.

Another comparison can be made between the range of mean family sizes in Table III, Bulletin F-2, and the range in Table I in this bulletin. A more precise definition of cultural characteristics of the mother, together with a distinction between farm and non-farm birthplace, gave both a higher and a lower mean in the former than the extremes in the present table. On the other hand, the inclusion of an additional economic variable throws some light on the cultural differences previously reported.

(b) Regional Differences in Family Size

Striking differences between the various provinces of Canada have often been noted.[x] Quebec stands out sharply in comparison with Ontario and British Columbia. In a previous report[xx] we saw that the greater part of these regional variations was associated with differences in language, religion, and educational status. When these influences were allowed for, Quebec, the Prairies, and Ontario were all at about the same level of fertility, but the Maritimes and British Columbia differed significantly from the rest of Canada.

It was not possible to take account of all the variables of the present study in every region simultaneously on account of the unequal distribution of the highest income and educational groups. So regional variation will be presented in three parts:- (a) all urban wage-earners, (b) British rural wage-earners, (c) French and other rural wage-earners in the two lowest earnings and schooling groups only. Table V gives mean family size by regions for these three sets. The regional means shown are those that would be obtained if earnings, education, culture group, urbanization, and, in the case of (b), proportions farm and non-farm, were all equalized. A statistical analysis is shown in Appendix Table IIA. As before, little difference is seen between Quebec, the Prairies and Ontario. Family size is consistently smallest in British Columbia, and the difference between this province and the rest of Canada accounts for the greater part of the total regional variation. Though the difference is somewhat smaller, families are on the whole larger in the Maritimes. Exceptions are the rural French and Other ethnic groups. These have larger families in Quebec and in the Prairies respectively.

Though some of the numbers on which the means are based are very small, and it was necessary to interpolate three values, yet the effect of all the variables is highly significant. Based on means of separate regional rates, Table V confirms the results of the previous section, in respect of the relative importance of ethnic group, education, and earnings. In all three sets, (a), (b) and (c), regional variation accounts for less of the total variation than either ethnic group or educational

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x Bulletin F-1. passim.
xx Bulletin F-2. p. 13.

Table V. Regional Differences in Family Size in Relation to Earnings and Education of Husband

Standardized mean number of children ever-born to married women aged 45-54 years in wage-earner normal families.

Education and region	(a) All urban[1]				(b) British rural[2]				(c) French and Other rural[3]	
	Less than $950	$950-$1,949	$1,950-$2,949	$2,950 and over	Less than $950	$950-$1,949	$1,950-$2,949	$2,950 and over	Less than $950	$950-$1,949
0-8 years schooling										
Maritimes	5.73	5.69	4.79	3.60	5.33	4.88	4.28	4.25	6.69	6.26
Quebec	4.89	4.61	4.17	3.56	5.41	4.76	3.92	2.31	6.54	6.23
Prairies	4.80	4.17	3.09	2.91	4.42	4.06	4.02	2.82	6.43	5.36
Ontario	4.59	4.19	3.68	3.32	4.03	3.70	3.14	4.10	5.58	5.56
British Columbia	3.42	3.24	2.66	2.24	3.78	3.42	2.70	3.00	4.42	3.50
9-12 years schooling										
Maritimes	4.37	3.96	3.56	4.10	4.14	3.96	3.51	4.26	4.78	4.91
Quebec	3.95	3.51	3.30	2.94	3.60	3.10	2.43	3.34	5.42	(4.96)
Prairies	4.17	3.32	2.98	2.60	3.66	3.38	2.74	2.71	5.74	5.63
Ontario	3.72	3.19	2.86	2.69	3.14	3.02	2.66	2.57	4.46	4.12
British Columbia	3.02	2.71	2.35	1.94	2.75	2.70	2.14	3.12	4.04	(2.98)
13 years schooling and over										
Maritimes	2.76	4.51	3.00	4.21	3.51	2.44	3.40	2.54	-	-
Quebec	3.21	3.18	3.07	2.88	3.76	3.50	2.16	2.36	-	-
Prairies	4.18	2.95	3.25	2.45	2.94	2.87	2.72	2.69	-	-
Ontario	3.34	3.07	2.77	2.46	3.01	2.74	2.23	2.26	-	-
British Columbia	2.58	1.81	2.26	2.03	2.25	1.80	2.70	3.22	-	-

Standardized Means of Regions

Region	(a)[1]	(b)[2]	(c)[3]
Maritimes	4.19	3.88	5.66
Quebec	3.61	3.39	5.79
Ontario	3.40	3.25	5.79
Prairies	3.32	3.05	4.93
British Columbia	2.52	2.80	3.73
All	3.41	3.27	5.18

(1) Ethnic groups equalized.
(2) Rural farm and rural non-farm groups equalized.
(3) Ethnic groups equalized. Rural farm and rural non-farm groups equalized.

status, but is possibly more important than earnings. The farm and non-farm difference accounts for a small but significant part of the total variation among British rural groups, but is unimportant in (a) and (c).

The social and economic characteristics of regions vary widely, so that relations found in one part of the country do not necessarily hold in another. Hence we obtain several significant interactions involving regions. The most important of these is the considerably higher French fertility in the Maritimes and Quebec as compared with the Prairies and British Columbia. High French-Catholic fertility in the former regions was observed and discussed earlier.[x] Regional differences in fertility are exaggerated in the present instance by differences in religion and mother tongue within the French ethnic groups. In the West people of French origin are less characteristically Catholic and French-speaking. Two interactions are associated with earnings. Among urban wage-earners, family size varies least with income in the Maritimes and most in the Prairies. We have observed previously a tendency in the Maritimes towards greater uniformity of family attitudes at a high level of fertility. The small families of the more prosperous urban groups in the Prairies may be associated with the predominance of the metropolitan city of Winnipeg and the trading character of many of the other urban centres. Among British rural wage-earners, difference in family size is least in farm areas and greatest in rural non-farm areas. This pins down the tendency towards stabilization of the prosperous rural farm family to agricultural rather than suburban districts. The remaining interactions are a repetition of those found earlier.

Since the regional fertility characteristics of the Maritimes and British Columbia have appeared several times with different combinations of variables, we may now inquire whether any residual variation remains when we put together all the results. One important distinction neglected in the present study is the variation in the proportions Catholic of the different ethnic groups from province to province. The French and Other ethnic groups also vary in proportion speaking English, a characteristic associated with small families. From previous work, we can make an estimate of the effect of these cultural differences on the mean family sizes of Table V. The somewhat higher fertility of Quebec and the Prairies can be mostly accounted for in this way. The difference between British Columbia and the rest of Canada is only slightly affected. The cultural characteristics of the British and French in British Columbia are favourable to low fertility, but the reverse is true of other ethnic groups. For similar reasons, the higher fertility of the Maritimes is unaffected by cultural variations within ethnic groups.

There are some other features of provincial economy which can be noted in this connection. Previous studies and the subsequent section show low fertility of white-collar occupations. In most of the cells of Table V, the proportion of persons employed in trade, service and clerical occupations is highest in British Columbia and lowest in the Maritimes. This would account for a part, but only a small part, of the fertility differences in these regions. Within the educational groups described, the proportions of persons in the 0-8 years group with less than 5 years schooling is consistently less in British Columbia, but in the other educational groups no marked provincial difference exists. The small differences in the mean earnings of the earnings groups show no consistent provincial variation. In conclusion, we may say that the social characteristics studied in this and previous reports account for the greater part of the apparent differences in fertility between the provinces, and for all the significant differences between Quebec, Ontario and the Prairies. We are left, however, with a somewhat larger average family in the Maritimes and a decidedly smaller average family in British Columbia, and these differences cannot be explained by any of the social characteristics so far studied.

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x Bulletin F-2, p. 16.

(c) Occupational Differences in Family Size

Average family size varies widely between occupational groups. For example, families of those in professional and managerial occupations are on the whole much smaller than the families of farmers and unskilled labourers. A previous report in this series[x] gave total fertility rates by occupation and analyzed them in relation to the average earnings and educational level of the occupation. Occupational fertility was correlated with both remuneration and educational status, more especially with the latter. This result agrees with the findings of previous sections. The present material affords an opportunity to carry the analysis further. We can see whether occupational fertility is solely a matter of differences in earnings and education or whether within the same earnings and education groups there are also differences in fertility between occupations. Due to limitations of cost, the analysis is confined to French and British wage-earners in the two largest provinces, Quebec and Ontario. Occupations are grouped in five classes, (a) Agriculture, (b) Other Primary, (c) Manufacturing, Construction and Transport, (d) Trade and Finance, Service, Clerical (e) Unskilled Labourers not in primary occupations.

The five occupational groups mentioned cannot be studied over the whole field of variation of earnings and education, since unskilled labourers rarely, if ever, earn over $2,000, and seldom have had more than 12 years schooling. So the analysis falls into two parts. In the first part, unskilled labour has been omitted, and the groups - Agriculture and Other Primary - have been combined. Quebec and Ontario are combined, as are also farm and non-farm. In this way all earnings and educational groups are represented. In the second part, the five occupational groups mentioned above are treated separately, but the analysis is confined to earnings less than $2,000, and less than 13 years schooling.

Table VI shows mean family sizes for three large occupational groups classified according to earnings and education; French and British are distinguished. The occupational differences follow familiar lines. Families are largest among workers in primary occupations and smallest in white collar occupations. A statistical analysis is given in Appendix Table IIIA. The order of variables already mentioned is the same as before. Occupational differences appear to be less important than those associated with culture group and education. They are about as important as income differences within an occupation. When all the variables, education, earnings, urbanization, and occupation, are considered separately, each is still associated with significant differences in family size. When account is taken of occupational differences, the effects of the first three are somewhat reduced, and that of urbanization is considerably less.

As before, the biggest difference in family size associated with earnings is found as we pass from the groups with average earnings between $1,000 and $2,000 to those with average earnings between $2,000 and $3,000. On balance, no further fall in family size is seen in the groups with earnings over $3,000. A profound change in family attitudes occurs at the stage of emergence from acute poverty.[xx] The difference in family size between those earning about $2,300 and those around $4,400 appears to be due solely to the fact that high earnings are more frequently found in white collar occupations. Within each occupational group, no difference

x Bulletin F-3.

xx A pre-war Toronto Study ("The Cost of Living", Welfare Council, Toronto) gave $1,474 as the cost of a minimum subsistence budget for a family of five. Allowing for the war-time rise in the cost of living and ignoring family earnings, the $2,000 mark is near the level at which earnings are just adequate for a minimum subsistence standard for the urban family of Table I.

Table VI. Family Size in Relation to Earnings, Occupation, Education and Ethnic Group of Husband(1)

Average number of children ever-born to married women aged 45-54 years in wage-earner normal families, Quebec and Ontario

Earnings of head and occupation group	0-8 years schooling		9-12 years schooling		13 years schooling & over	
	French ethnic group	British ethnic group	French ethnic group	British ethnic group	French ethnic group	British ethnic group
Less than $950						
Primary	7.68	4.20	6.56	3.10	5.86	3.15
Manufacturing, construction, transportation	6.76	3.80	6.38	3.02	5.04	3.02
Trade and finance, service, clerical	6.19	3.22	5.32	2.71	5.47	2.58
$950-$1,949						
Primary	7.14	3.88	6.66	2.82	5.80	4.00
Manufacturing, construction, transportation	6.91	3.48	5.46	2.96	5.20	2.56
Trade and finance, service, clerical	6.03	3.02	5.24	2.51	4.72	2.42
$1,950-$2,949						
Primary	6.48	3.35	4.75	3.04	4.25	2.89
Manufacturing, construction, transportation	6.31	3.23	5.13	2.68	4.14	2.03
Trade and finance, service, clerical	5.46	2.57	4.72	2.11	3.86	2.06
$2,950 and over						
Primary	7.36	4.05	4.88	2.62	6.00	2.12
Manufacturing, construction, transportation	6.16	3.32	4.84	2.74	5.36	2.08
Trade and finance, service, clerical	4.45	2.47	3.74	2.10	4.20	2.10

Standardized Means

Ethnic group		Earnings	
French	5.57	Less than $950	4.67
British	2.89	$950 - $1,949	4.49
		$1,950 - $2,949	3.84
Education		$2,950 and over	3.92
0 - 8 years schooling	4.90		
9 - 12 years schooling	4.00	Urbanization	
13 years schooling and over	3.79	Rural	4.42
		Urban	4.04
Occupation			
Primary	4.69		
Manufacturing, construction, transportation	4.27	All	4.23
Trade and finance, service, clerical	3.72		

(1) Average rural and urban rates.

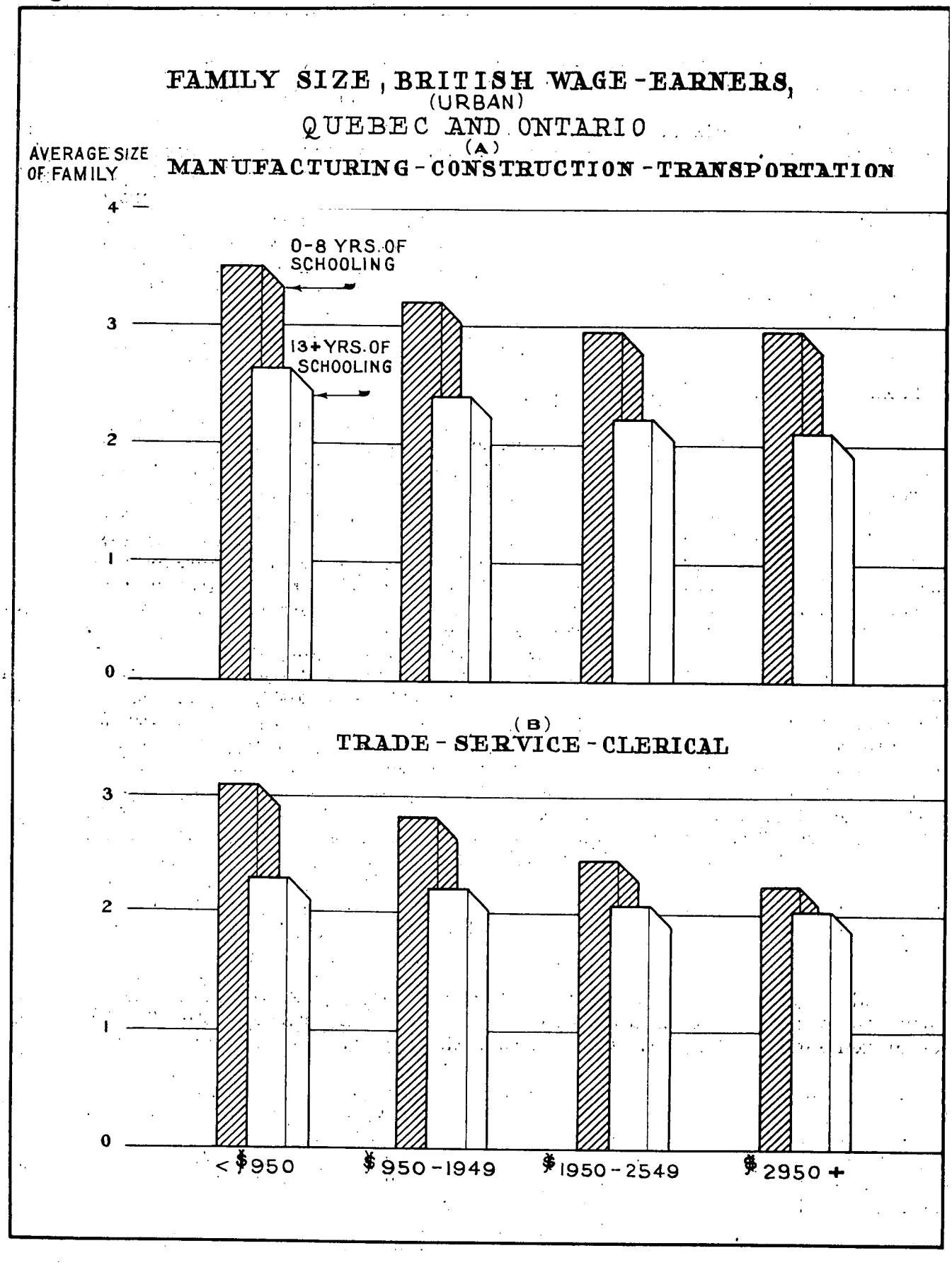
in family size associated with earnings is found among all those earning over $2,000. This is rather a striking result which prompts speculation, but the data for a definitive answer are lacking. We do not know the entire financial history of our families. Really high earnings are rare in Canada and perhaps do not characterize a conscious social group. It is possible that earnings may have been about the same early in life and that our high earnings group represents the more successful. If that were true it would be pleasant to know that the families of the successful are at least as large as those of the less successful, but the suggestion must remain purely speculative. Bearing in mind the facts that the earnings difference, is not very large and that there is a considerable amount of random variation, the most plausible suggestion seems to be that there are two distinct phenomena. On the one hand, in some of the British groups the size of family has already about reached bedrock in the $2,300 earnings group, so that not much further reduction is to be expected. On the other hand, among the French groups, there are some considerable falls in family size as we pass to the highest earnings group. Large actual rises in family size in this earnings group are found only among French wage-earners in primary and manufacturing, etc. occupations, and numbers are very small.

The difference in size of family between rural and urban areas is in large part the result of different occupations. Ethnic group differences remain the same. The proportions of French and British at different education and earnings levels are very different, but within a given earnings and education group, the occupational distribution of the two ethnic groups does not differ significantly. Income differences within a given occupational group are illustrated graphically in Fig. 2. In the upper part of the figure, family size at each earnings level is shown for wage-earners in manufacturing, construction, transport and communication. At each earnings level, those with more than 13 years schooling are contrasted with those having less than 9 years schooling. In the bottom half, the same thing is shown for wage-earners in trade, finance, service and clerical occupations. These two groups are fairly well represented at all earnings and educational levels. We see everywhere striking educational and occupational differences. We also see that, other things being equal, the size of family falls with increased earnings till the $2,300 level is reached, and that after this there is as a rule no further fall.

In Table VII unskilled labourers not in primary occupations are included, and primary workers are subdivided into those in agriculture and those in other primary occupations. Quebec and Ontario are distinguished. The high fertility of primary wage-earners turns out to be due to the larger families of miners, lumbermen and fishermen. Agricultural wage-earners show a rather small size of family, about the same as that of workers in manufacturing, transport and construction. This is especially true of French agricultural wage-earners. In Canada there are comparatively few hired workers in agriculture. The family basis of much of our agriculture suggests that the absence of sons to help work the farm may sometimes be responsible for an older man being a hired labourer rather than an independent farmer. As we should expect, the class of unskilled labourers other than primary turns out to have large families. The mean size of family is intermediate between that of miners, lumbermen, etc. and that of workers in manufacturing, etc. For the rest, Table VII confirms the results of previous sections.

With the fine subdivisions of this section, the numbers in many of the groups are very small and four figures were interpolated. So too much weight should not be attached to any individual mean. The statistical analysis indicates that there is a very high probability that the differences discussed are significant. There are a few significant interactions involving occupational differences.

Figure 2


FAMILY SIZE, BRITISH WAGE-EARNERS,
(URBAN)
QUEBEC AND ONTARIO
AVERAGE SIZE OF FAMILY
(A)
MANUFACTURING - CONSTRUCTION - TRANSPORTATION
4
3
2
1
0
0-8 YRS. OF SCHOOLING
13+ YRS. OF SCHOOLING
(B)
TRADE - SERVICE - CLERICAL
3
2
1
0
< $950
$950 - 1949
$1950 - 2549
$2950 +

The most important point is that the high fertility of lumbermen, etc. is more pronounced at the lowest earnings level, and less so when earnings are over $1,000. This relation is more marked among the British, though, of course, here the fertility level of all occupations is lower. The unexpectedly low fertility of agricultural wage-earners is most marked in Quebec. In Ontario the families of all unskilled and primary wage-earners tend to be more nearly the same.

Occupational differences have been shown to be in part responsible for some of the differences in family size associated with the variables discussed earlier. Table VIII shows the most extreme variations in occupational distribution. The high fertility occupational groups, primary occupations and unskilled labour, are associated with low earnings and low educational status and more particularly with the group that combines both of these. The low fertility white-collar occupational group, on the other hand, is associated with the opposite state and especially distinguishes urban from rural areas.

4. FAMILY SIZE AMONG NON WAGE-EARNERS

(a) Economic Status of Non wage-earners

Information about income or earnings is not available for the large class of gainfully occupied persons who are employers, working on own account, unpaid family workers, or retired. In the group of families selected for this study they amount to nearly half the total number (44 per cent). In order to make some analysis of family size which would parallel the earnings analysis of wage-earners, the value of owned homes was used as an index of economic status. This index is subject to many defects which do not apply in the case of earnings. The value placed on the home by the owner is supposed to represent the market value, but can, and does, vary very widely round this amount. There is no potential check on statements as there is in the case of wages or salaries, which are often a matter of public record. Then, even if correctly known, market value of the home is much less directly related to standards of living and cash resources than are the earnings of wage-earners. All such difficulties are most acute in the case of rural farm homes. Different standards of living in town and country complicate comparisons of income, and, much more so, comparisons of home values. Although rural housing is by no means good throughout Canada, it is easy to find in the older provinces farm homes which are better places to live in than urban homes valued at ten times the amount in dollars. For these and other reasons, the Census usually makes no attempt to analyse rural home values and it is the general policy not even to record the value of farm homes. This policy was not applied consistently however, and we do have the value recorded for some farm homes. In view of the ambiguous nature of the economic index used, the conclusions of the present section are somewhat tentative, and will turn out to be less clear cut than those of the previous section.

Although in general families have been rejected when any of the particulars required for this study were not stated, family size has been tabulated for the large class of non wage-earning farm home owners with value of home not stated. These amounted to 47 per cent of all non wage-earners in the group studied. Family size was also tabulated for tenants and lodgers, who together formed 20 per cent of the group. There remained available for classification by value of home owned 62,218 families, exactly a third of the whole non wage-earning group. These have been classified into four groups by value of home; (a) under $2,000, (b) $2,000-$2,999, (c) $3,000-$4,999, (d) $5,000 and over. These groups have been further cross-classified in the same way as in the previous section.

Table VII. Family Size in Relation to Earnings, Occupation, Education and Ethnic Group of Husband

Average[1] number of children ever-born to married women aged 45-54 years in wage-earner normal families, Quebec and Ontario

Earnings of head and occupation group	0-8 years schooling				9-12 years schooling			
	French ethnic group		British ethnic group		French ethnic group		British ethnic group	
	Quebec	Ontario	Quebec	Ontario	Quebec	Ontario	Quebec	Ontario
Less than $950								
Other primary	8.20	7.42	6.86	4.83	7.22	6.80	8.50	4.03
Labourers[2]	7.33	7.06	4.78	4.20	6.84	6.48	4.00	3.40
Manufacturing, construction, transportation.	6.84	6.28	4.78	3.68	6.55	5.61	3.32	2.98
Agriculture	7.02	7.00	4.32	3.94	6.05	5.80	3.12	2.91
Trade and finance, service, clerical	6.24	5.78	4.15	3.10	5.46	4.66	2.92	2.68
$950-$1,949								
Other primary	7.50	6.64	5.18	3.83	7.74	4.84	1.92	3.02
Labourers[2]	7.76	6.80	3.58	3.80	5.98	3.88	4.76	3.25
Manufacturing, construction, transportation.	7.18	6.02	4.33	3.40	5.77	4.32	3.24	2.92
Agriculture	6.46	7.62	3.95	3.68	6.05	4.00	2.22	2.86
Trade and finance, service, clerical	6.16	5.61	3.68	2.95	5.24	5.15	2.51	2.50

Standardized Means

Ethnic group		Occupation	
French	6.28	Other primary	5.91
British	3.75	Labourers[2]	5.24
Education		Manufacturing, construction, transportation	4.83
0-8 years schooling	5.50	Agriculture	4.81
9-12 years schooling	4.54	Trade and finance, service, clerical	4.30
Province		Urbanization	
Quebec	5.39	Rural	5.26
Ontario	4.64	Urban	4.78
Earnings			
Less than $950	5.33	All	5.02
$950 - $1,949	4.71		

(1) Average of rural and urban rates.
(2) Not in primary occupations.

Table VIII. Differences in Occupational Distribution

Wage-earners

Description of group	Primary Occupations	Manufacturing Construction Transportation	Trade and Finance Service Clerical	Labourers(1)
Regions	p.c.	p.c.	p.c.	p.c.
French, Farm, 0-8 years, less than $950, Prairies	66.3	24.1	7.2	2.4
Others, Farm, " " " " Prairies	62.3	22.1	5.9	9.7
Others, Farm, " " " " British Columbia	63.8	24.3	2.2	9.7
British, Farm, " " " " Prairies	63.4	20.1	10.0	6.5
Others, Farm, " " " " Ontario	56.1	24.7	3.4	15.9
French, R.N.F., 0-8 years, $1,950-$2,949, Quebec	0.0	86.2	12.3	1.5
French, R.N.F., " " Ontario	3.3	91.7	3.3	1.7
French, Urban, " " Maritimes	7.0	84.2	8.8	0.0
Others, R.N.F., " $950-$1,949, British Columbia	33.5	50.0	4.0	12.4
French, Urban, 13 years & over, $2,950 & over, Quebec ..	0.6	10.0	89.4	0.0
French, Urban, " " Ontario ..	0.0	8.2	91.8	0.0
French, Urban, " $1,950-$2,949, Quebec ..	0.3	12.8	87.0	0.0
French, R.N.F., 0-8 years, less than $950, Ontario ..	22.4	36.2	9.4	32.0
Others, Urban " " Ontario ..	6.2	49.1	13.4	31.3
Others, " " " Prairies .	13.3	41.7	13.7	31.3
Canada				
Others, Farm, 0-8 years, less than $950	58.4	23.8	5.2	12.6
French, R.N.F., " $1,950-$2,949	3.3	88.1	7.3	1.3
French, Urban, 13 years and over, $2,950	0.4	9.8	89.7	0.0
French, R.N.F., 9-12 years, $1,950-$2,949	0.0	64.4	35.6	0.0
Others, Urban, 0-8 years, less than $950	9.3	46.8	14.3	29.7

(1) Not in primary occupations.

(b) Comparison Between Economic Groups of Wage-earners and Non wage-earners.

From what has been said, it will be obvious that we cannot directly compare occupiers of homes of a certain value with wage-earners at a given earnings level. Yet it is possible to make a rough comparison of the two economic scales. The basis for the comparison is a table prepared by the Housing Census Staff which shows the family earnings of the household for each group of values of homes owned by wage-earners. The data are for cities of 30,000 and over only. From the table we can estimate the average earnings of head corresponding to each group of home values. For cities of 30,000 and over, we estimate that the average earnings of heads of households who are wage-earners and home owners are about as follows:- values of home less than $2,000, c. $1,400; $2,000 - $2,999, c. $1,800; $3,000 - $4,999, c. $2,200; $5,000 and over, c. $3,200. If we refer to the earnings groups of the previous section as groups (1) to (4) in ascending order of earnings, then it appears that group (a) of home owners corresponds to group (2) of wage-earners, group (b) is about midway between groups (2) and (3), group (c) corresponds to group (3), group (d) is midway between groups (3) and (4).

Judging from the information obtained in cities we would say that the means of the two economic scales represent about the same economic level, but the intervals in the home-owners' scale represent a smaller economic difference. As a result, the two highest and lowest wage-earning groups represent greater extremes of poverty and prosperity than do the two corresponding groups of home-owners. It is quite doubtful to what extent this conclusion is relevant to the rural situation, but as a provisional hypothesis it is consistent with the results obtained and enables us to form some idea of the relative fertility of wage-earning and non wage-earning families. What may be called the gross average family size of non wage-earners, i.e., the total number of children born divided by the number of mothers without any sub-classification, is 4.74 as compared with 3.86 for wage-earners. The high gross average is chiefly due to the high fertility of farmers. While 17 per cent of wage-earners live in rural areas, 68 per cent of non wage-earners live in these areas. Of the latter, 56.5 live in farm areas as compared with 5.0 per cent of rural wage-earners.

If we pursue the comparison further and consider fertility at comparable economic levels, a rather interesting situation emerges. In what follows we disregard the large class of farmers whose economic status is not known. [x] Although more non wage-earners than wage-earners are found at the higher economic levels, [xx] at comparable levels, family size is on the whole larger among non wage-earners. This is almost entirely due to the large families of French non wage-earners in farm areas. In the British ethnic group and in urban areas generally families of non wage-earners tend to be smaller. The latter is the situation we should expect, since as a rule the ownership of property is regarded as conferring high economic and social status even though cash income may be low.

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x An enormous amount of economic information about farm families is available from the Census of Agriculture but this cannot be related directly to data obtained from the Population Census.

xx 36 per cent of non wage-earners with value of home owned stated live in homes valued at $3,000 and over as compared with 20 per cent of wage-earners with earnings of $2,000 and over.

(c) Family Size According to Ethnic Group, Urbanization, Education, and Value of Home Owned

Table IX shows average family sizes of non wage-earners classified according to the criteria previously described. Farm families with value of home not stated, tenants and lodgers are not included. Standardized means for each variable are shown in the table, and a statistical analysis is given in Appendix Table IVA. Differences in family size associated with ethnic group and educational level are very similar to those already noted for wage-earners. The rural-urban difference is more important. The rural farm and rural non-farm difference is now significant and reflects the preponderance of farmers with large families in farm areas. From what has been said of the ambiguities and blurred distinctions of an economic scale based on home values, it is natural to find that value of home is less important as a source of variation than any of the other variables. It is, however, still significant. Its most important aspect is the fall in family size which occurs when we pass from the class of homes valued at under $2,000 to those valued at $2,000 to $2,999. There is no significant change in family size associated with homes between $3,000 and $5,000 and those over the latter figure.

Only one interaction calls for comment, that between ethnic group and urbanization. Although its significance here is doubtful, it repeats the tendency noted elsewhere for French families to be larger than expectation in rural areas and correspondingly smaller in urban areas.

(d) Regional Variations in Family Size among Non wage-earners

Regional differences have been discussed so often that it would not be profitable to devote much space to them here, especially as the sub-groups of non wage-earners are often very small and hence subject to large sampling errors. Table X shows regional means classified in the same way as in Table V. The regional means exclude the effect of variations in earnings and educational status. The order of fertility among regions is the same as for wage-earners with one exception. The particularly high fertility of culture groups other than British and French living in Prairie rural areas is not seen among non wage-earners. Regional differences in family size are rather less important among non wage-earners. Differences associated with varying value of homes owned are most marked in the Prairies and least so in Quebec and the Maritimes.

Table X. Regional Standardized Mean Size of Family in Relation to Value of Home Owned and Education

Mean number of children ever-born to married women aged 45-54 years in non wage-earning home-owner normal families

Region	(a) All urban(1)	(b) British rural(2)	(c) French and other rural(3)
Canada	3.43	3.09	5.34
Maritimes	3.93	3.54	5.62
Quebec	3.74	3.27	5.87
Prairies	3.44	3.25	5.46
Ontario	3.22	2.93	5.13
British Columbia ..	2.82	2.47	4.64

(1) Ethnic groups equalized. (2) Rural farm and rural non-farm equalized.
(3) Ethnic groups and rural farm and rural non-farm equalized. Includes value of homes of less than $5,000 only and those who have less than 13 years schooling.

Table IX. Family Size in Relation to Value of Home Owned, Education, Urbanization and Ethnic Group of Husband

Average number of children ever-born to married women aged 45-54 years in non wage-earning home-owner normal families

Value of home owned and ethnic group	0-8 years schooling			9-12 years schooling			13 years schooling & over		
	Rural farm	Rural non-farm	Urban	Rural farm	Rural non-farm	Urban	Rural farm	Rural non-farm	Urban
Less than $2,000									
French ethnic group	8.33	7.26	6.16	7.73	6.33	4.93	6.42	5.23	4.17
Other ethnic groups	5.56	5.37	4.56	4.10	4.46	3.75	3.73	2.94	3.78
British ethnic group	4.54	4.27	3.57	3.56	3.37	2.95	2.40	2.47	2.38
$2,000-$2,999									
French ethnic group	7.78	6.45	5.91	6.18	6.33	4.43	10.25	4.88	4.43
Other ethnic groups	4.85	4.14	4.12	3.72	3.51	3.13	2.00	1.75	3.06
British ethnic group	3.50	3.12	2.90	3.02	2.66	2.64	4.06	2.21	2.20
$3,000-$4,999									
French ethnic group	6.38	6.82	5.73	6.33	4.46	5.24	5.50	5.24	4.30
Other ethnic groups	4.92	4.31	3.75	5.25	2.61	3.25	3.75	2.25	2.85
British ethnic group	3.47	2.92	2.60	3.22	2.44	2.35	2.76	2.08	2.20
$5,000 and over									
French ethnic group	6.89	5.97	5.77	6.00	5.57	5.03	(7.00)	4.95	4.73
Other ethnic groups	4.08	4.16	3.80	3.20	2.94	2.73	4.00	3.00	2.40
British ethnic group	3.35	3.00	2.34	2.52	2.18	2.19	2.45	2.12	2.20

Standardized Means

Ethnic group		Value of home owned	
French	5.98	Less than $2,000	4.60
Other	3.66	$2,000-$2,999	4.19
British	2.84	$3,000-$4,999	3.96
Education		$5,000 and over	3.87
0- 8 years schooling	4.80		
9- 12 years schooling	4.01		
13 years schooling and over	3.67	All	4.16
Urbanization			
Rural farm	4.80		
Rural non-farm	3.99		
Urban	3.69		

(e) Differences in Family Size Associated with Occupation

As before, non wage-earners in Quebec and Ontario have been analyzed by three main occupation groups. Nine unskilled labourers, apparently odd-job men in building and repair, have been omitted altogether. There is also a category of retired persons. These may have been either wage-earners or not before retirement and may have been of any occupation. They are omitted from the occupation tables, but their family size will be referred to later. Table XI shows family size by occupation group. Rural farm and non-farm have been combined. The statistical analysis is given in Appendix Table VA. For the most part the results repeat those already obtained for wage-earners, though here again the rural-urban difference seems more important. A difference associated with educational level is seen between the first two education groups but no further decline in family size is associated with over 13 years schooling. The one striking difference is that the economic differences observed cease to have any significance when occupational distribution is taken into account. This being so, Table XI has been simplified by excluding variation in home values. Family size differences among non wage-earners at different economic levels can be explained completely by differences between the family size of farmers on the one hand, and white collar occupations on the other, with employers in manufacturing etc. occupying an intermediate position. Our economic index is not sensitive enough to detect economic differences within a non wage-earning occupation group.

Table XI. Family Size in Relation to Occupation, Urbanization, Education and Ethnic Group of Husband(1)

Average number of children ever-born to married women aged 45-54 years in non wage-earning, home owner normal families, Quebec and Ontario

Urbanization and occupation group	0-8 years schooling		9-12 years schooling		13 years schooling and over	
	French ethnic group	British ethnic group	French ethnic group	British ethnic group	French ethnic group	British ethnic group
Rural						
Primary	7.64	3.55	6.15	2.72	7.23	2.85
Manufacturing(2) ..	7.20	3.24	6.17	2.91	6.91	2.00
Trade(3)	5.94	2.81	5.48	2.38	5.72	2.10
Urban						
Primary	6.89	2.97	5.91	2.88	6.88	2.24
Manufacturing(2) ..	6.48	2.97	5.33	2.72	4.51	2.25
Trade(3)	5.69	2.52	4.97	2.17	4.59	2.36

Standardized Means

Ethnic group		Education	
French	6.09	0- 8 years schooling	4.82
British	2.65	9-12 years schooling	4.15
Occupation		13 years schooling and over	4.14
Primary	4.83		
Manufacturing(2)	4.39		
Trade(3)	3.89	All	4.37
Urbanization			
Rural	4.61		
Urban	4.13		

(1) Value of home owned equalized. (2) Includes construction, transportation and communication occupations. (3) Includes finance, service and clerical occupations.

The above statement refers to the over-all picture. On closer examination, a novel and interesting feature emerges. Although differences associated with economic level are not on the whole important, one of the interactions involving economic level is possibly significant. The interaction in question is the one between ethnic group and economic level. Although some of the sub-groups are very small or missing, and the figures in consequence somewhat irregular, it appears that, when occupational distribution is adjusted, the French response to increased prosperity is different from the British. The British tends to follow the pattern previously established of decreasing size of family with increasing prosperity. Among the French, on the other hand, we find the smallest families in the group living in homes valued at $2,000-$2,999. The size of the family then increases and families are largest in the group living in homes valued at over $5,000. The French pattern is thus almost a complete reversal of the British. A distinction of this sort was suggested when wage-earners were being discussed, but it could not then be clearly demonstrated.

The situation can be described in another way by looking at the rank of the $5,000 and over groups. Among the French sub-groups, the $5,000 group has the largest families in both rural and urban areas, in all three occupational groups, and at all educational levels except that under 9 years. Among the British sub-groups, on the other hand, the $5,000 group has the smallest families in rural and urban areas, at all educational levels, and in the primary occupational group; but has next to the smallest family size in the manufacturing and white-collar groups. To see whether there was greater differentiation at the highest home values among British, the group in white-collar occupations with 13 years schooling and over was tabulated according to value of home, $5,000-$6,999, $7,000-$9,999, $10,000 and over. Between these three classes average family size rose slightly with value of home as a result of fewer childless in the two latter classes. The average size of family of those having at least one child was about the same throughout. Rather surprisingly the French pattern described is even more strongly marked in urban than in rural areas.

Two possibly significant interactions are both of the type which shows greater differentiation at high levels of fertility and have both been encountered before. French families are higher than expectation in rural and lower in urban areas, and the rural-urban difference is correspondingly less pronounced among the British. This distinction is accentuated by confining the data to the provinces of Quebec and Ontario, since French family size is particularly high in rural Quebec, while rural Ontario is much urbanized. The distinction between primary and white-collar occupations is also more marked among the French.

The numbers of non wage-earners in primary occupations other than agriculture are very small at the higher educational and economic levels so that it is not possible to treat them separately in a systematic manner. The largest numbers are found in rural non-farm areas with 0-8 years schooling, value of home less than $2,000. Comparing agriculture with other primary occupations at this level, family size in both is higher than in the other occupational groups. Among the Quebec French, family size is larger in agriculture, but among the Ontario British it is larger in other primary occupations.

Retired persons have not been included in the foregoing analysis. Almost invariably their families are smaller than those of either wage-earners or active non wage-earners in the same economic and cultural categories. This difference is associated with a considerably higher proportion of childless families among the retired.

(f) Other Categories of Non wage-earners

(i) Farm home owners with value of home not stated.

As stated earlier, there are a large number of homes of unstated value in farm areas. From 89 per cent to 98 per cent of the owners are occupied in agriculture so that this category can be described as farm homes. Though nothing is known directly about economic level, the numerical importance of this group makes it worth while to tabulate the family sizes. Table XII shows family sizes of farm homes with value not stated, classified by educational level and region. The figures given for family size agree with those for non wage-earners in farm areas living in homes valued at less than $2,000. Of the latter, the great majority, except at the highest educational level, are occupied in agriculture. The figures also agree with the family size for agriculture at this economic level in Quebec and Ontario. For Quebec French farm homes with value unstated, the size of family is slightly larger than for those in homes under $2,000. In fact, the mean size of family in this group, 8.60, is the second largest recorded in this study except for some sub-groups with very small numbers. The largest is found among French rural non-farm wage-earners in Quebec in primary occupations other than agriculture. It is probable that the majority of farm homes, if valued, would in fact fall into the lowest value category.

The educational and regional differences are of the same kind as those reported earlier. They are somewhat exaggerated because of the low economic level and consequent high fertility throughout. As before, French families are largest in Quebec, British in the Maritimes, and those of other ethnic groups in the Prairies. British Columbia is not quite so consistently in the lowest place though it still has on the average the smallest family size. It is worthy of note, in view of the small size of British families generally, that most British farm families are of a size more than adequate to maintain a stationary population. Those at the highest educational level in Ontario are just at the turning point, and those in British Columbia are just below it.

(ii) Tenants and Lodgers.

Table XIII shows average family sizes of tenant and lodging families who are not wage-earners. Sizes of tenant families on the whole agree with those of families living in homes valued at less than $2,000. This suggests that they are at a rather low economic level. French tenant families, however, are smaller than those of any home owners. This is in line with the tendency noted earlier of French families to be larger as the value of the home increases. Lodging families are uniformly small, usually much smaller than those of either home owners or tenants. They yield the lowest stable rates recorded in this study. Associated with the small average size of lodging families is a much higher proportion of childless families. We have, of course, no means of knowing whether the status of tenant or lodger was temporary or of long duration.

Table XII. Family Size in Farm Homes with Value of Home Not Stated in Relation to Ethnic Group, Religion and Education of Husband

Average number of children ever-born to married women aged 45-54 years, in non wage-earning, home-owner normal families, rural farm, value of home not stated.

Ethnic group and region	0-8 years schooling	9-12 years schooling	13 years schooling and over
French ethnic group			
Quebec	8.60	7.42	7.07
Prairies	6.71	5.45	6.18
Maritimes	8.06	6.77	4.71
Ontario	7.27	5.91	4.31
British Columbia	4.14	4.50	1.50
CANADA	8.29	6.90	6.23
Other ethnic groups			
Quebec	5.57	2.86	3.50
Prairies	6.37	4.87	4.13
Maritimes	4.72	4.26	4.00
Ontario	4.22	3.24	2.70
British Columbia	5.21	4.04	3.79
CANADA	5.94	4.54	3.82
British ethnic group			
Quebec	4.66	3.43	2.71
Prairies	4.14	3.62	3.41
Maritimes	4.87	3.90	3.08
Ontario	3.52	2.98	2.38
British Columbia	3.73	2.82	2.16
CANADA	3.94	3.44	2.98

Standardized Means, Canada

Ethnic group		Education	
French	7.14	0- 8 years schooling	6.06
Other	4.77	9-12 years schooling	4.96
British	3.45	13 years schooling and over	4.34

All 5.12

Table XIII. Family Size of Tenant and Lodging Families in Relation to Ethnic Group, Education and Urbanization

Average number of children ever-born to married women aged 45-54 years in non wage-earner normal families, tenants and lodgers.

Tenants, lodgers, and ethnic group	0-8 years schooling			9-12 years schooling			13 years schooling and over		
	Rural		Urban	Rural		Urban	Rural		Urban
	Farm	Non-farm		Farm	Non-farm		Farm	Non-farm	
Tenants									
French ethnic group ..	7.44	6.25	5.73	5.70	5.55	4.45	3.44	5.37	3.76
Other ethnic groups ..	6.04	4.70	3.97	5.05	3.57	2.92	3.69	3.19	2.60
British ethnic group ..	4.47	3.95	3.37	3.82	3.14	2.65	3.26	2.35	2.16
Lodgers									
French ethnic group ..	5.73	5.37	3.34	4.71	3.64	2.04	6.00	0.00	1.33
Other ethnic groups ..	3.76	3.24	2.37	5.61	2.44	1.67	-	-	0.83
British ethnic group ..	2.66	2.59	1.95	2.00	1.53	1.26	1.62	2.00	1.20

5. AGE AT MARRIAGE

The first in this series of studies[x] showed a very striking association between age at marriage and size of family. The topic was again mentioned in relation to cultural differences in family size.[xx] In the present study we have for each group the number of women who married for the first time under 25 years. This gives a clue to the way in which age at marriage varies with economic status.

(a) Wage-earner families.

Table XIV shows proportions married under 25 years for the sub-groups of Table I. On the whole, frequency of early marriage goes with large size of family but there are some striking departures from the rule. In particular, though families are much larger in the former, there are fewer married under 25 years in the French ethnic group than in the British. Over the whole table, the correlation between proportion married young and family size is +0.54, but for each ethnic group taken separately it is considerably larger. The correlation coefficients are:- French, +0.83; Others, +0.68; British, +0.87. Figure 3 is a scatter diagram in which proportions married under 25 years are plotted against the mean family sizes of Table I. The regression lines of family size on proportion married young are shown separately for each ethnic group. Family size falls off with increasing age at marriage to about the same degree in each ethnic group, but at a much higher level in the case of the French.

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x Bulletin F-1, p. 21.

xx Bulletin F-2, p. 29.

Table XIV. Age at Marriage in Relation to Earnings, Ethnic Group, Education, and Urbanization

Percentage marrying for the first time under 25 years among married women aged 45-54 years in wage-earner normal families

Earnings of head and ethnic group	0-8 years schooling		9-12 years schooling		13 years schooling and over	
	Rural	Urban	Rural	Urban	Rural	Urban
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Less than $950						
French ethnic group	77	73	68	66	59	60
Other ethnic groups	74	77	72	69	53	60
British ethnic group	69	66	62	60	60	57
$950-$1,949						
French ethnic group	76	72	67	62	71	54
Other ethnic groups	75	77	70	66	53	64
British ethnic group	69	63	60	57	51	51
$1,950-$2,949						
French ethnic group	73	70	63	59	39	52
Other ethnic groups	73	74	63	62	63	52
British ethnic group	67	63	56	55	52	46
$2,950 and over						
French ethnic group	62	68	60	61	44	50
Other ethnic groups	61	72	61	61	61	46
British ethnic group	68	62	54	53	44	44

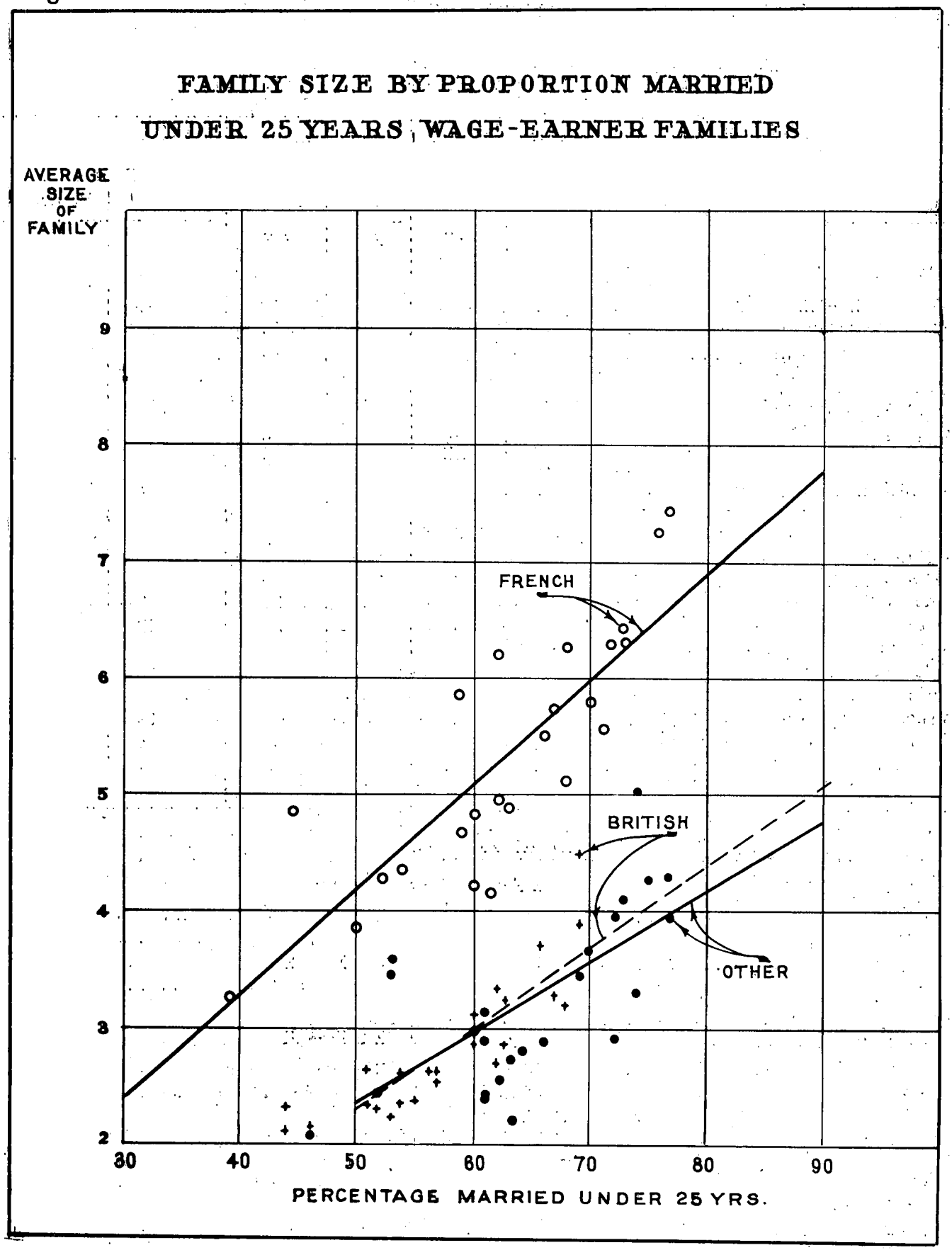
Standardized Means

Ethnic group	p.c.	Earnings	p.c.
French	62.8	Less than $950	65.7
Other	65.0	$950-$1,949	64.3
British	57.9	$1,950-$2,949	60.1
		$2,950 and over	57.3

Education		Urbanization	
0-8 years schooling	70.0	Rural	62.5
9-12 years schooling	62.0	Urban	61.2
13 years schooling and over ..	53.6		

All ..... 61.9 p.c.

Figure 3


FAMILY SIZE BY PROPORTION MARRIED
UNDER 25 YEARS, WAGE-EARNER FAMILIES
AVERAGE SIZE OF FAMILY
9
8
7
6
5
4
3
2
FRENCH
BRITISH
OTHER
30
40
50
60
70
80
90
PERCENTAGE MARRIED UNDER 25 YRS.

We found earlier that educational status of women was perhaps the most important circumstance affecting age at marriage. We now see that the association between age of wife at marriage and educational status of husband is almost as pronounced. This is hardly surprising since all these phenomena are closely connected. Husbands tend to marry wives with educational status corresponding to their own, and the ages of brides and bridegrooms are highly correlated. While a lengthy period of training tends of itself to postpone marriage, the higher standard of life acquired as a result of advanced education is probably the most important factor in the later marriages of the more highly educated.

Tables XV and XVI show proportions married under 25 years by occupational groups. They correspond to Tables VI and VII. Again, early marriage is on the whole associated with large size of family, and the educational difference is still conspicuous. Wives of workers in all primary occupations taken together have rather fewer marrying early than those in manufacturing, etc. From Table XVI we see that this is due to the late marriages of wage-earners in agriculture. Wives of workers in other primary occupations, i.e., mining, lumbering, fishing, marry exceptionally early. Wage-earners in manufacturing, etc., have small families in spite of marrying rather young. Otherwise the occupational order of Table XVI agrees with that of Table VII.

(b) Non wage-earner families.

Proportions married young among non wage-earner families parallel very closely the rates among comparable groups of wage-earners. Tables are not presented since they contain little that is new. Again the proportion marrying young in the French ethnic group is lower than among other ethnic origins and higher than among the British. The proportion marrying young in urban areas is higher than in rural non-farm areas but very slightly lower than in rural farm areas. The only noticeable difference between wage-earners and non wage-earners is that the early marriage rate is slightly higher for the group living in homes valued at over $5,000 than for those living in homes valued at $3,000-$5,000. This is also true when occupational distribution is taken into account.

Proportions married early among the group living in farm homes with value not stated are high, and like family size are about on the same level as the lowest home value group. This is also true of tenants. Lodgers show low proportions married young but the difference between them and the rest of the population is not great. The low fertility of this group is chiefly attributable to the large number of childless marriages.

(c) Selected groups

The points discussed above can be illustrated by more precise information about three selected groups. The groups were all Ontario urban wage-earners in white-collar occupations with 13 years schooling or over. Two were British, earning (b) $2,950 and over, (c) less than $950. The mean family sizes were 2.00 and 2.31, respectively. The third group (a) consisted of French workers earning over $2,950 with a mean family size of 3.98.[x] Figure 4 shows average family size at successive ages, while Figure 5 shows cumulative percentages married at successive ages. Family size in the two British groups differs by only a small amount. The difference can be attributed in part to rather more marrying before 23 years of age in the poorer group and in part to larger families among those marrying at these young ages. In the poorer group there is a considerably higher proportion of

x These figures differ insignificantly from those given elsewhere because unknown ages and unknown numbers of children have not been distributed.

Table XV. Age at Marriage in Relation to Earnings, Occupation, Education and Ethnic Group of Husband(1)

Percentage who married for the first time under 25 years among married women aged 45-54 years in wage-earner normal families, Quebec and Ontario.

Earnings of head and occupation group	0-8 years schooling		9-12 years schooling		13 yrs. schooling and over	
	French ethnic group	British ethnic group	French ethnic group	British ethnic group	French ethnic group	British ethnic group
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Less than $950						
Primary	80	67	69	55	30	54
Manufacturing, construction, transportation	73	69	68	63	59	66
Trade and finance, service, clerical	70	64	61	56	64	51
$950-$1,949						
Primary	79	66	65	56	78	67
Manufacturing, construction, transportation	75	68	69	63	66	61
Trade and finance, service, clerical	71	61	58	53	62	47
$1,950-$2,949						
Primary	70	57	67	69	-	45
Manufacturing, construction, transportation	76	67	69	59	53	58
Trade and finance, service, clerical	66	62	53	49	43	42
$2,950 and over						
Primary	63	64	75	58	75	43
Manufacturing, construction, transportation	67	68	70	61	56	45
Trade and finance, service, clerical	66	60	52	48	49	42

Standardized Means

Ethnic group	p.c.
French	64.8
British	57.9
Education	
0- 8 years schooling	67.9
9-12 years schooling	61.1
13 years schooling and over	54.6
Occupation	
Primary	63.1
Manufacturing, construction, transportation	64.5
Trade and finance, service clerical	56.2

Earnings	p.c.
Less than $950	62.2
$950-$1,949	64.7
$1,950-$2,949	59.1
$2,950 and over	59.0
All	61.3

(1) Average of rural and urban rates.

Table XVI. Age at Marriage in Relation to Earnings, Occupation, Education and Ethnic Group of Husband[1]

Percentage who married for the first time under 25 years among married women aged 45-54 years in wage-earner normal families, Quebec and Ontario

Earnings of head and occupation group	0-8 years schooling				9-12 years schooling			
	French ethnic group		British ethnic group		French ethnic group		British ethnic group	
	Quebec	Ontario	Quebec	Ontario	Quebec	Ontario	Quebec	Ontario
Less than $950	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Other primary	83	77	76	73	76	90	67	63
Labourers[2]	75	82	68	68	71	69	63	64
Manufacturing, construction, transportation	72	80	67	69	68	71	57	64
Agriculture	74	83	61	66	62	53	57	53
Trade and finance, service, clerical	69	76	64	64	60	68	48	56
$950-$1,949								
Other primary	82	78	63	66	61	75	58	59
Labourers[2]	73	75	64	68	72	50	59	62
Manufacturing, construction, transportation	74	79	64	68	69	69	56	64
Agriculture	66	90	74	65	86	60	55	53
Trade and finance, service, clerical	69	77	58	62	57	66	51	53

Standardized Means

	p.c.
Ethnic group	
French	72.2
British	62.2
Education	
0- 8 years schooling	71.6
9-12 years schooling	62.9
Province	
Quebec	66.2
Ontario	68.2
Earnings	
Less than $950	68.2
$950-$1,949	66.2
Occupation	
Other primary	71.7
Labourers[2]	67.7
Manufacturing, construction, transportation	68.2
Agriculture	66.1
Trade and finance, service, clerical	62.4
All	67.2

(1) Average of rural and urban rates.
(2) Not in primary occupations.

Figure 4

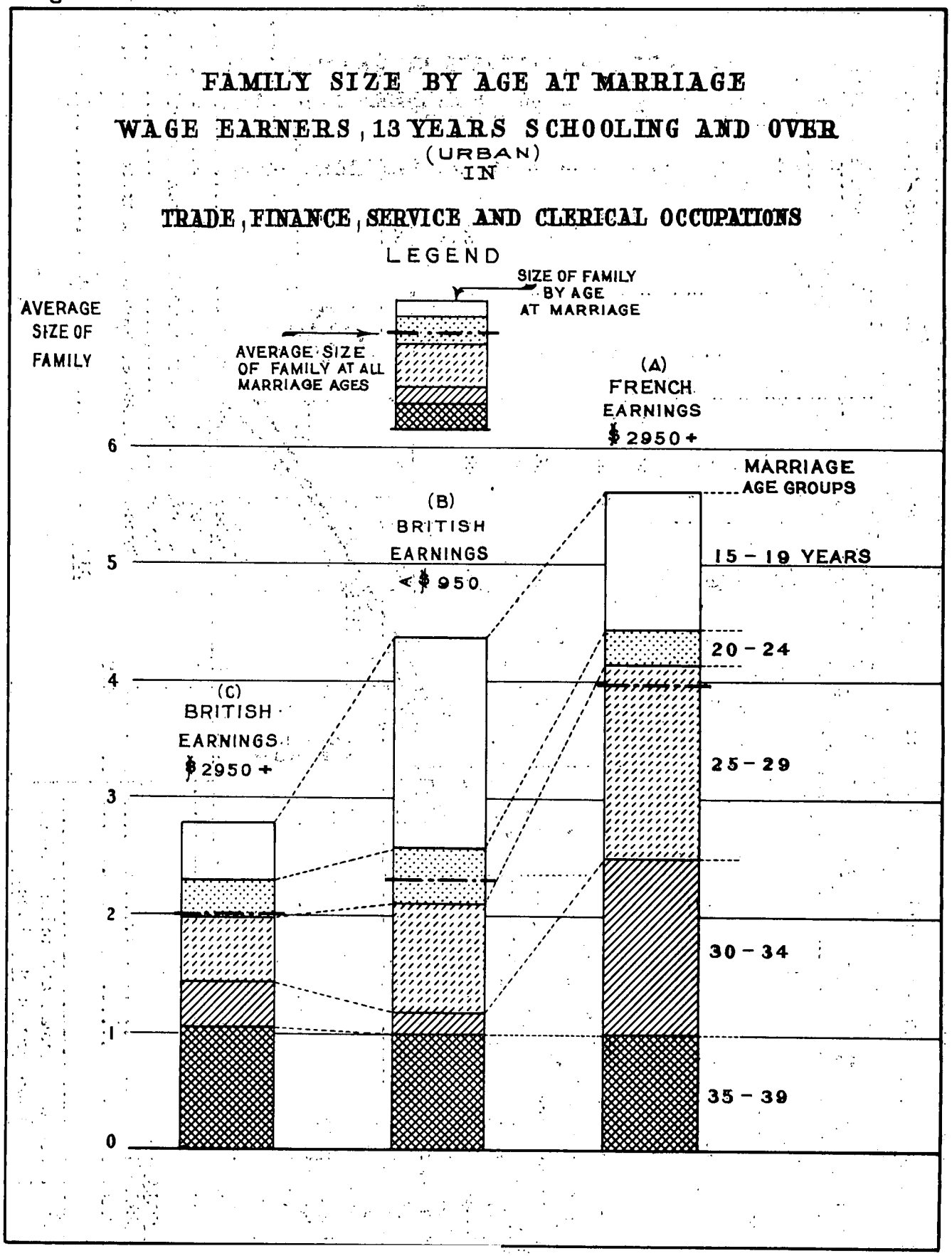
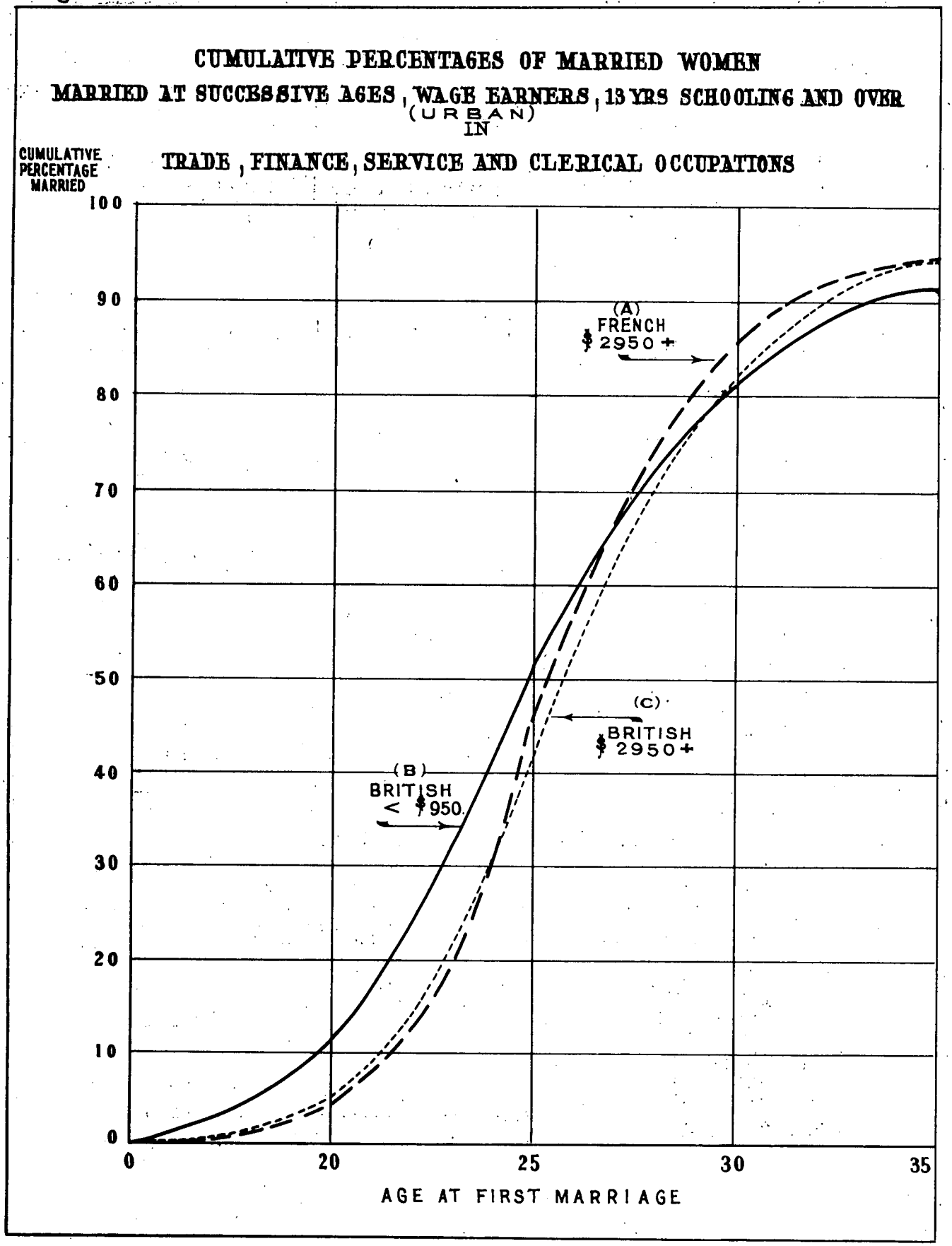

FAMILY SIZE BY AGE AT MARRIAGE
WAGE EARNERS, 13 YEARS SCHOOLING AND OVER
(URBAN)
IN
TRADE, FINANCE, SERVICE AND CLERICAL OCCUPATIONS
LEGEND
SIZE OF FAMILY BY AGE AT MARRIAGE
AVERAGE SIZE OF FAMILY AT ALL MARRIAGE AGES
AVERAGE SIZE OF FAMILY
(A) FRENCH EARNINGS $2950+
(B) BRITISH EARNINGS <$950
(C) BRITISH EARNINGS $2950+
MARRIAGE AGE GROUPS
15 - 19 YEARS
20 - 24
25 - 29
30 - 34
35 - 39
0
1
2
3
4
5
6

Figure 5


CUMULATIVE PERCENTAGES OF MARRIED WOMEN
MARRIED AT SUCCESSIVE AGES, WAGE EARNERS, 13 YRS SCHOOLING AND OVER
(URBAN)
IN
TRADE, FINANCE, SERVICE AND CLERICAL OCCUPATIONS
CUMULATIVE PERCENTAGE MARRIED
100
90
80
70
60
50
40
30
20
10
0
(A) FRENCH $2950+
(B) BRITISH < $950
(C) BRITISH $2950+
0
20
25
30
35
AGE AT FIRST MARRIAGE

very large families among those marrying early. As we have seen elsewhere, the tendency for large families to disappear with increasing prosperity is clear even among women who marry very young.

Proportions married at different ages among the French are intermediate between the two British groups, but the size of family is considerably larger at each marriage age up to 35. At this age the number of children born becomes negligible in all social groups. All three groups show the effect of high educational status in the large proportion of women marrying after they are 25 years old. These charts can be compared with Figs. 4 and 5, in Bulletin F-2.

6. CHILDLESS MARRIAGES

(a) Wage-earner families

Table XVII shows proportions of childless families and average size of family of those having at least one child in the sub-groups of Tables I and XIV. Mean proportions childless agree on the whole with total mean size of family. The most interesting exception is the lack of difference between income levels. The proportion childless is on the whole the same at all income levels, and the difference in total size of family is due to a reduction in the proportion of large families. Figure 6 illustrates this point. It shows the distribution of family sizes among British urban wage-earners with 9-12 years schooling in the Maritimes at two earnings levels. In the high income group, the proportion of childless families is slightly less as compared with the low income group. There is an increase in the proportion of one and two-child families and a reduction in the proportion of families with more than five children.

In the last section we saw that age of marriage was correlated with size of family in all ethnic groups, but at a much higher level in the French ethnic group. When this effect is split up into the association with proportions childless on the one hand and average size of family of the fertile on the other, we see that proportions childless vary with age at marriage in the same way in all ethnic groups. The deviations appear to be random and the result of small numbers in some of the sub-groups. Different ethnic patterns are seen only in the size of family of those who have at least one child. x

Although Table XVII shows considerable variations in proportions childless, the role played by the differences in total size of family is small. Even when the most extreme variations in proportions childless are considered, much the larger part of the difference in total size of family is due to preference for one or two child families rather than for those with more than four or five children. While this was true of the age-group with which this study is concerned, there are some indications that more of the younger women were likely to remain childless. We cannot infer that an increase in the proportion of sterile families may not become important in the future.

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x cf. Bulletin F-2, p. 35.

Figure 6

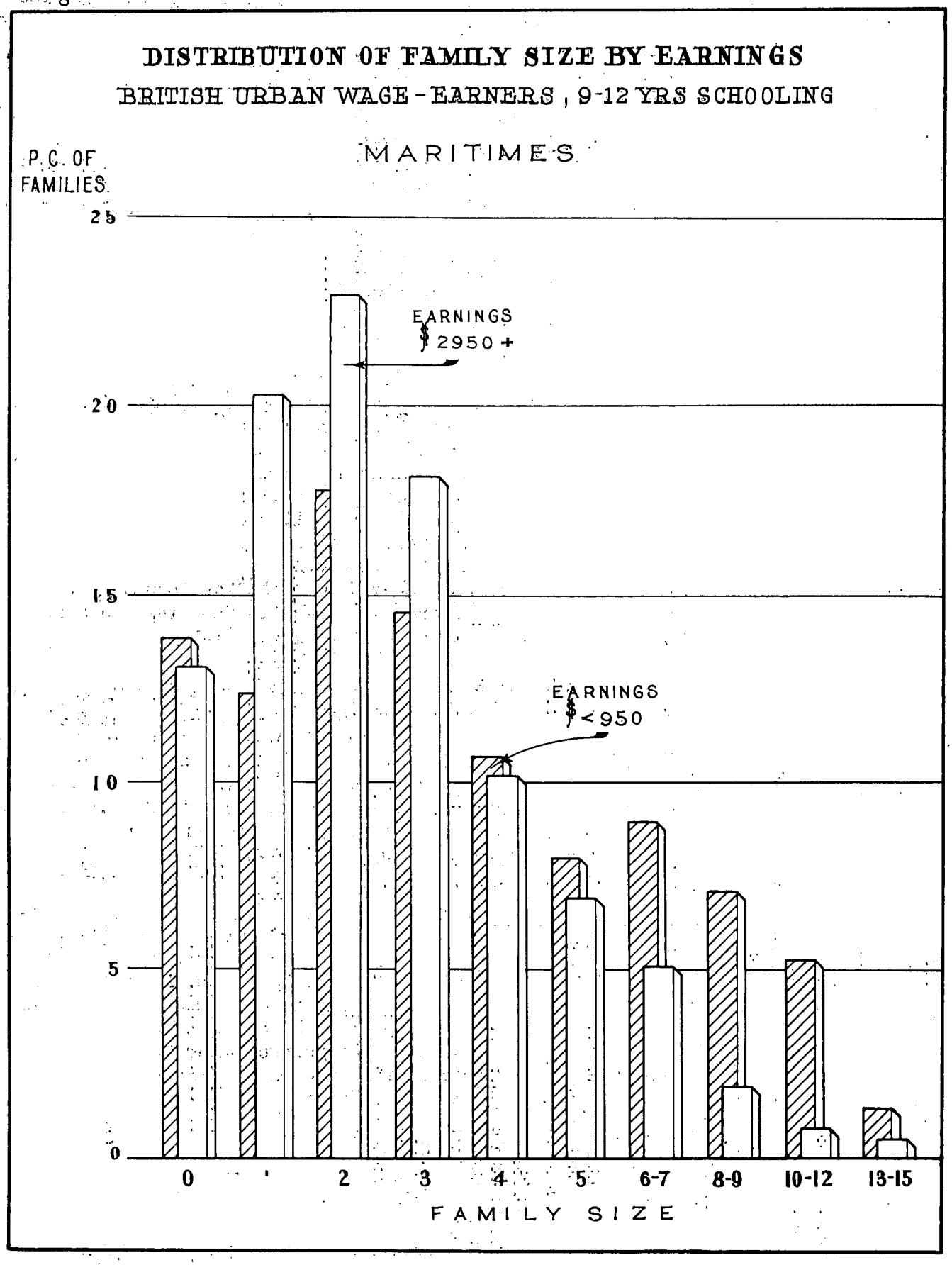
DISTRIBUTION OF FAMILY SIZE BY EARNINGS
BRITISH URBAN WAGE-EARNERS, 9-12 YRS SCHOOLING
MARITIMES
P.C. OF FAMILIES
25
20
15
10
5
0
EARNINGS $2950+
EARNINGS $<950
0
2
3
4
5
6-7
8-9
10-12
13-15
FAMILY SIZE

Table XVII. Childless Families in Relation to Earnings, Ethnic Group, Education and Urbanization

Percentage of married women aged 45-54 years with no children and average size of family of fertile in wage-earner normal families.

Earnings of head and ethnic group	0-8 years schooling				9-12 years schooling				13 years schooling and over			
	Rural		Urban		Rural		Urban		Rural		Urban	
	Per cent childless	Average family size of fertile	Per cent childless	Average family size of fertile	Per cent childless	Average family size of fertile	Per cent childless	Average family size of fertile	Per cent childless	Average family size of fertile	Per cent childless	Average family size of fertile
Less than $950												
French ethnic group	8.3	8.15	11.6	7.28	12.2	7.14	13.0	6.34	5.6	6.22	18.7	5.95
Other ethnic groups	8.8	5.53	9.5	4.75	11.6	4.49	13.7	4.00	19.0	4.43	18.6	3.68
British ethnic group	11.0	5.05	12.8	4.29	14.6	4.04	16.9	3.46	16.1	3.52	20.4	3.19
$950-$1,949												
French ethnic group	7.3	7.83	10.3	7.00	12.5	6.56	14.1	5.79	8.6	6.25	17.0	5.23
Other ethnic groups	7.8	4.64	8.3	4.33	11.3	4.15	15.2	3.43	13.3	3.98	17.1	3.37
British ethnic group	10.3	4.37	12.0	3.66	13.0	3.61	14.6	3.07	16.2	3.16	17.6	2.85
$1,950-$2,949												
French ethnic group	12.8	7.23	11.1	6.53	13.2	5.67	13.8	5.44	5.6	3.47	14.2	4.99
Other ethnic groups	10.2	4.58	10.0	3.66	18.1	3.34	14.3	3.02	15.8	2.62	10.9	2.75
British ethnic group	11.7	3.83	13.2	3.31	13.1	3.04	15.1	2.79	19.9	2.85	17.3	2.60
$2,950 and over												
French ethnic group	0.0	6.21	12.6	5.86	14.3	4.93	14.0	4.84	16.0	5.76	14.1	4.49
Other ethnic groups	13.0	3.60	10.5	3.25	18.2	2.96	17.0	2.87	8.7	3.19	13.7	2.42
British ethnic group	12.4	3.62	12.9	3.12	14.7	3.05	15.4	2.64	15.4	2.76	16.4	2.52

Standardized Means

	Per cent childless	Average family size of fertile
Ethnic group		
French	11.7	6.05
Other	13.1	3.71
British	14.7	3.35
Education		
0-8 years schooling	10.4	5.07
9-12 years schooling	14.3	4.19
13 years schooling and over	14.8	3.84

	Per cent childless	Average family size of fertile
Earnings		
Less than $950	13.5	5.08
$950-$1,949	12.6	4.63
$1,950-$2,949	13.4	3.98
$2,950 and over	13.3	3.78
Urbanization		
Rural	12.2	4.61
Urban	14.1	4.13
All	13.2	4.37

Table XVIII. Childless Families in Relation to Earnings, Occupation, Education and Ethnic Group of Husband(1)

Percentage of married women aged 45-54 years with no children in wage-earner normal families, Quebec and Ontario.

Earnings of head and occupation group	0-8 years schooling		9-12 years schooling		13 years schooling and over	
	French ethnic group	British ethnic group	French ethnic group	British ethnic group	French ethnic group	British ethnic group
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Less than $950						
Primary	9.0	11.8	10.9	15.8	10.0	18.2
Manufacturing, construction, transportation	10.1	12.2	10.6	16.8	13.0	14.1
Trade and finance, service, clerical	14.0	16.1	16.2	18.9	17.5	19.2
$950-$1,949						
Primary	6.4	9.2	13.0	15.7	(13.0)	6.1
Manufacturing, construction, transportation	8.7	11.4	13.5	12.6	13.3	16.0
Trade and finance, service, clerical	10.1	13.0	14.8	17.6	13.4	16.8
$1,950-$2,949						
Primary	13.3	12.8	(14.0)	14.3	(15.0)	18.2
Manufacturing, construction, transportation	11.8	11.4	12.4	13.4	7.2	23.1
Trade and finance, service, clerical	13.4	15.2	13.5	15.4	12.4	20.9
$2,950 and over						
Primary	12.5	19.0	(13.0)	15.4	(15.0)	21.4
Manufacturing, construction, transportation	11.9	12.9	13.0	16.0	16.7	13.8
Trade and finance, service, clerical	10.5	12.2	13.8	17.6	17.9	18.0

Standardized Means

Ethnic group	p.c.
French	12.6
British	15.3
Education	
0- 8 years schooling	12.0
9-12 years schooling	14.5
13 years schooling and over	15.4
Occupation	
Primary	13.5
Manufacturing, construction, transportation	13.2
Trade and finance, service, clerical	15.4

Earnings	p.c.
Less than $950	14.1
$950-$1,949	12.5
$1,950-$2,949	14.3
$2,950 and over	15.0
All	14.0

(1) Average of rural and urban rates.

Table XVIII shows proportions childless by occupation groups for the sub-groups of Table VI. It follows the same lines as the table of mean size of family. The most noticeable feature is the large proportion childless among wage-earners in white-collar occupations. As in the previous table, there is no difference between proportions childless in the highest and lowest earnings groups when occupational distributions are equalized, but somewhat inexplicably, the fewest childless are found in the group earning from $950-$1,949. When individual sub-groups are considered, the highest proportion of childless families is found among British urban wage-earners in white-collar occupations with over 13 years schooling and earning less than $950. Of these families, 25 per cent were childless. The larger proportion of childless families in this group compared with a similar group with high earnings appears to be associated with a different type of non-manual occupation. The proportions in trade and finance and in clerical work are about the same in both earnings groups but in the low income group there are few in the professions and 18 per cent in personal service where the proportion childless is particularly high. Proportions childless are low among low-paid workers in primary occupations, but are high among the few more highly-paid. This suggests a wide gulf in family attitudes between the unskilled and semi-skilled on the one hand and the managerial staff on the other in these occupations.

(b) Non wage-earner families

Table XIX shows proportions childless for non wage-earning families. Rural farm and rural non-farm groups have been combined. As among wage-earner families, a striking difference associated with educational level is seen. The proportions characteristic of the various ethnic groups are what would be expected from the age at marriage rather than from the total size of family. There are particularly few childless among the ethnic groups other than French and British. Elsewhere we have noted the early marriages and few childless among those having a European mother tongue, particularly in the Prairies. This is evidently most marked among the independent farmers, who in fact comprise practically the whole of the rural population corresponding to the above description. Over all, there is no significant rural-urban difference in proportions childless and the proportions do not vary in any systematic manner with value of home owned.

Some of the non wage-earning sub-groups show very high proportions childless and this points to a difference in the association with age at marriage for wage-earners and non wage-earners, respectively. Late marriage is associated with rather more childless among non wage-earners. In urban areas total family size is in consequence rather smaller for similar proportions marrying young, but in rural areas, the size of family of the fertile is greater. The difference in pattern helps to account for the greater rural-urban differential among non wage-earners.

There are few childless among families living in farm homes with value not stated. The proportion rises with higher educational status. The lowest values are found among ethnic groups other than British and French, where we find that among 21,096 families of this type with 0-8 years schooling there are only 5.3 per cent childless families. There are also few childless among tenants in all areas but very many among lodging families. From a third to a half of all urban lodging families in this study were childless. Analysis by occupational groups would add nothing new to what has gone before, but we can note the uniformly high proportions childless among retired heads of families.

Table XIX. Childless Families in Relation to Value of Home Owned, Ethnic Group, Education and Urbanization

Percentage of married women aged 45-54 years with no children in non wage-earning home-owner, normal families

Value of home owned and ethnic group	0-8 years schooling		9-12 years schooling		13 years schooling and over	
	Rural	Urban	Rural	Urban	Rural	Urban
Less than $2,000	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
French ethnic group ...	10.0	15.5	12.7	17.2	14.3	21.4
Other ethnic groups ..	8.7	9.1	12.4	11.9	20.0	8.1
British ethnic group ..	11.9	12.8	15.0	15.5	21.1	20.6
$2,000-$2,999						
French ethnic group ...	14.5	15.4	16.8	20.2	14.3	13.9
Other ethnic groups ..	11.0	8.8	12.2	11.6	30.8	17.3
British ethnic group ..	16.8	16.7	18.8	16.7	25.0	20.6
$3,000-$4,999						
French ethnic group ...	10.7	16.6	19.1	13.7	4.3	23.1
Other ethnic groups ...	10.9	8.5	13.0	8.2	12.5	15.4
British ethnic group ..	16.6	17.9	20.9	17.9	22.4	19.8
$5,000 and over						
French ethnic group ...	11.8	15.5	12.1	13.9	9.1	11.2
Other ethnic groups ...	8.4	5.9	7.9	14.3	0.0	14.3
British ethnic group ..	11.8	18.5	22.6	15.8	22.9	15.9

Standardized Means

Ethnic group	p.c.
French	14.5
Other	11.7
British	18.1

Education	
0- 8 years schooling	12.7
9-12 years schooling	15.0
13 years schooling and over ..	16.6

Urbanization	p.c.
Rural	14.5
Urban	15.0

Value of home owned	
Less than $2,000	14.3
$2,000-$2,999	16.7
$3,000-$4,999	15.1
$5,000 and over	12.9

All ..... 14.8 p.c.

7. STUDY OF A SOCIAL GROUP WITH LOW FERTILITY

The object of the present section is chiefly of a negative character. We shall underline some previous conclusions and also indicate some of the limitations of the Census approach to the problem of the declining birth rate. Concentration on average size of family tends to obscure the wide range of individual variation. There are many childless families in some social groups where the average family is very large, and conversely, in the social groups with the lowest level of fertility recorded in this study, families with as many as ten or eleven children are to be found. In order to discover whether Census data shed any light on individual variation, a special study was made of one of the social groups at the lowest level of fertility. The group consists of British urban wage-earners in Ontario with 13 years schooling, earning over $2,950 and in white-collar occupations. The average size of family in this group is 2.00 children. Attention was confined in the first instance to four family sizes: (a) the sterile family, (b) the fashionable family of 2 children, (c) families of 4 children, (d) families with 5 or more children. In (a), (b), and (c), a strictly random sample of 100 families was taken. In (d) all the families with more than 5 children together with a random sample of the 5-child families were included to make up 100 families. Every fact recorded at the Census was tabulated for the 400 families.

Table XX shows some of the characteristics of the families studied. Only the differences shown in the first part of the table are statistically significant, and all of these but one have been investigated in the earlier part of this report. The most important is age at marriage. Size of family by age at marriage for the whole group was shown graphically in Fig. 4. A complete tabulation is given in Table XXI. Similar tables showing size of family decreasing as age at marriage increases have been presented several times. The interest of the present one is that it relates to a socially homogeneous group with exceptionally low fertility. Though early marriage obviously increases the probability of a large family, there is still much variation and families as large as five occur to marriages as late as 30 or 31 years. We can also note that among wives marrying under 25 years the size of family was adequate to maintain a stationary population. If population trends could have been stabilized at this point in time, we might possibly look to greater frequency of early marriage as an answer to the problem of the too small family. But while the evidence indicates that at such a low level further decline will be slow, there is no reason to believe it has ceased, nor can we assume, if early marriage was more frequent, that the extra marriages would be equally fertile.

When attention has been directed towards the importance of early marriage, only one step further has been taken into largely unexplored territory. We must next ask what determines age at marriage. Again, we know a good deal about characteristics of social groups who marry early or late, but little about individual variations within a group. In the present homogeneous group, the Census data do not yield any significant difference in other respects between those marrying at an early age and at a late age.

Table XX. Characteristics of Families of Specified Sizes

British urban wage-earners, Ontario, 13 years schooling and over, earnings $2,950 and over, in Trade, Finance, Service, and Clerical Occupations.

	Number of children ever-born			
	0	2	4	5 and over
Number of families	100	100	100	100
(i) Significant Differences				
Average age of wife at first marriage	30.2 yrs.	26.9 yrs.	25.2 yrs.	23.6 yrs.
Number of families in cities less than 30,000 population .	14	16	25	25
Number of Catholic husbands ..	9	4	10	17
Number of Catholic wives	5	5	12	17
Number of wives born on farm .	5	4	13	15
(ii) No Significant Differences				
Average age of husband	53.2 yrs.	52.0 yrs.	52.3 yrs.	53.9 yrs.
Average age of wife	49.1 yrs.	49.1 yrs.	49.5 yrs.	50.2 yrs.
Average difference in age	4.1 yrs.	2.9 yrs.	2.8 yrs.	3.7 yrs.
Average number of years schooling of husband	15.8 yrs.	15.6 yrs.	15.9 yrs.	16.3 yrs.
Average number of years schooling of wife	12.2 yrs.	12.9 yrs.	12.8 yrs.	12.0 yrs.
Number of wives with 13 years schooling and over	38	54	49	37
Average earnings	$4,378	$4,704	$4,371	$4,471

Table XXI. Family Size in Relation to Age at Marriage

British Urban Wage-earners, 13 years schooling and over, earnings $2,950 and over, Trade, etc. occupations.
Total and average number of children ever-born to married women aged 45-54 years.

Number of children ever-born	Number of Mothers									
	All marriage ages	Age at first marriage								
		Under 19 years	20-21 years	22 years	23-24 years	25-26 years	27-29 years	30-34 years	35-39 years	40 years and over
0 children	351	8	24	12	47	54	74	66	29	37
1 child	408	19	44	24	69	79	94	60	16	3
2 children	567	26	50	48	114	126	117	70	15	1
3 children	362	13	40	32	90	72	75	34	6	0
4 children	175	13	14	18	39	55	25	9	2	0
5 children	74	9	8	8	24	16	7	2	0	0
6 - 7 children	22	2	5	3	5	3	4	0	0	0
8 - 9 children	9	4	2	1	1	0	1	0	0	0
10 - 12 children	2	1	0	1	0	0	0	0	0	0
All Families	1,970	95	187	147	389	405	397	241	68	41
Total children ever-born ...	3,936	264	409	366	884	866	722	348	72	5
Mean number of children ever-born	2.00	2.78	2.19	2.49	2.27	2.14	1.82	1.44	1.06	0.12

Reverting to Table XX, we find among mothers of larger families significantly higher numbers of Catholics, of persons living in small towns, and of wives born on a farm, all points brought out in earlier work. The last of these is of great interest, but its meaning is difficult to elucidate from Census data. In Bulletin F-2, farm birthplace was shown to be significantly associated with larger size of family, but the differences were small and not consistent. For adequate interpretation we should know the whole life history. The relevant Census data have not proved very satisfactory and in any case are not complete enough. Out of the present group of 37 wives born on a farm 15 appeared to have spent all their married lives in their present municipality. We do not know at what stage the other 22 migrated to an urban place. It is in fact possible for a person to be born on a farm and later to be resident in an incorporated place without ever having moved. Though indefinite in meaning at present, the facts brought out with reference to farm birthplace suggest the importance of research into childhood environment as a significant determinant of attitudes towards reproduction. Two wives among the selected 400 families were gainfully occupied. Both had no children.

Following up the clues obtained from the samples, size of family by age at marriage was tabulated for all the wives in the selected group corresponding to the following descriptions: (a) Roman Catholic; (b) living in towns with less than 30,000 inhabitants; (c) born on farm; (d) having 13 or more years schooling; (e) gainfully employed in 1941; (f) gainfully employed in 1931, but not in 1941. Only the last two classes are mutually exclusive, so a woman could appear more than once in the table.

Table XXII. Family Size of Selected Types of Wives

Husbands British Urban wage-earners, Ontario 13 years schooling and over, earnings $2,950 and over, in Trade, etc.

Average number of children ever-born and average number of children born standardized for age at marriage.

	(a) Wives Roman Catholic	(b) Resident Urban less than 30,000	(c) Wives born farm	(d) Wives 13 years schooling and over	(e) Wives gainfully occupied 1941	(f) Wives gainfully occupied 1931
Average number of children born	2.62	2.32	2.22	2.00	1.30	0.41
Standardized* average number of children born	2.61	2.27	2.22	2.01	-	-

x Standardized for age at marriage.

Only two of the differences in the type means are statistically significant. Families with Catholic mothers and those in the smaller urban centres are definitely larger than in the group as a whole, but even the former are still below replacement level. There were 178 wives born on a farm. The numbers are insufficient to demonstrate that the small difference in family size is not a random effect. Nearly half the wives (870) had 13 or more years schooling and there is clearly no difference in average family size between them and those with less than 13 years schooling. Among all the above groups, the standardized family size does not differ significantly from the crude family size.

In view of the striking educational differential found for all women in Bulletin F-2, it is noteworthy that the difference disappears within a group which is rather precisely defined by the social characteristics of the husband. The two results can be easily reconciled numerically by taking into account the fact that the representation of wives with advanced education in this infertile group is vastly greater than it is in the general population. The results of this section corroborate the suggestion made previously that the socio-economic status associated with higher education is the determining factor responsible for the small families of the highly educated.

There are very few wives who were working in either 1941 or 1931, 10 and 22, respectively. While it is highly probable that the families of such women are very small, the fact cannot be demonstrated from the small number available. The group working in 1931 is augmented by women who married between 1931 and 1941, and three-quarters were 40 years or over at marriage.

8. CONCLUSION

In conclusion attention will be directed to a few of the highlights of the investigation. When income differences have been taken into account, the more specifically cultural agencies of religion and mother tongue still stand out as important determinants of family size. At the period in question, French-Catholic families were considerably larger in all circumstances than Protestant English-speaking families. Reference has been made to the isolating effect of the French-Catholic culture. The description contains no value implications nor does it even refer to the numerical proportions of different cultures. It simply records the fact that in the Canadian setting, English-speaking Protestants are the pace-makers in adopting the small family pattern, while French-speaking Catholic families have tended to retain the family attitudes more characteristic of an earlier epoch. As the standard of living rises, and urbanization increases, the way of life of the latter comes to resemble that of the generally more prosperous English-speaking families, and the birth rate declines. This and earlier studies have shown that the French-Catholic family varies in the same way in response to the factors which are associated elsewhere with small families, and that cultural factors are responsible for a time lag but not a change in direction. The situation described in the study was a highly unstable one and the subsequent rapid decline in the birth rate was to be expected.

Though the basic similarity of response of all ethnic groups has been stressed, certain differences in pattern between British and French ethnic groups have emerged. Decline in size of family with more advanced educational status is uniform throughout. Within a group which is homogeneous with respect to educational status and type of occupation, there is a significant difference between the size of family of those below subsistence level and those above it, and this is equally true of French and British wage-earners. With respect to others than wage-earners, differences between ethnic groups emerge. British non wage-earners appear to have smaller families than wage-earners at comparable economic levels, and within the same occupational group there is a small but significant fall in the size of the family with increased prosperity. Among the French, on the other hand, family size appears to be larger among non wage-earners, and the usual economic pattern is reversed. Families are larger among the more prosperous. It would be inadvisable to build too much on this result. Value of home is admittedly an inadequate index to money income, and the number of French families at higher economic levels is very small. The facts permit the suggestion that value and type of home is better

adjusted to the needs of the family among the French, whereas, among the British, the purchase of a house is often a piece of ostentatious expenditure, and the more expensive it is the more inappropriate is a family of more than one or two children.

In Bulletin F-2 it was noted that the French Catholic rural family with primary education only was considerably larger than would be expected from addition of the differences in family size associated with these characteristics singly. The analysis of the present study elucidates this point. The effect can be separated into three parts. (a) The primary school level, French-Catholic incomes are on the whole lower than those of British Protestants. (b) Independent farmers of the culture-type in question have very large families and constitute the greater part of the rural primary school group. (c) When allowance is made for earnings and occupation, the rural French-Catholic family with less education is still somewhat larger than expectation, though to a smaller degree than appeared in the previous study.

The occupational report (Bulletin F-3) suggested that educational level was more important than amount of earnings in determining differences in family size. While the present report does not conclusively determine the relative importance of these two factors, there is no doubt about the significance of educational status. At each income level, the families of those with primary school education only are definitely larger than those with advanced education, and this difference is seen also even within the same broad occupational group. We have seen that the difference is in part attributable to later marriage among the more highly educated. Advanced training postpones the period of self-support. On account of steep earnings gradient associated with highly skilled occupations, the standard of living attainable in early life is regarded as inadequate for the support of a family. Insofar as conscious awareness of economic conditions plays a part in determining the number of children born, it is the standard of life expected rather than cash resources which comes into play. Among the majority of the Canadian urban population, resources are insufficient to support more than two children (if any at all) at a standard of life which would be acceptable to the more prosperous minority. The report has drawn attention to the need for research into those determinants of family attitudes which underly the obviously misleading rationalizations usually put forward as reasons for family limitation.

The general trend of this and similar investigations carries serious implications for population policy. It is generally the rule that in the most advanced countries families large enough to result in a stationary population are only found in conditions of great poverty. Where resources appear to be adequate to maintain more children, the two-child family is the fashion. Population policies have been largely concerned with improving the economic welfare of the family and especially of the larger family. Better housing, family allowances, more domestic help, free medical services and many other similar schemes have been advocated and often put into practise. Welfare measures of this type are part of a national minimum standard of life, and, as Alva Myrdal has pointed out in her book "Nation and Family", are an indispensable prerequisite of any population policy. The encouragement of larger families cannot be an acceptable goal unless all children born have reasonable assurance of health and equality of opportunity. But even a far-reaching welfare programme leaves untouched the problem of finding adequate incentives to parenthood.

Though the facts of the population situation warrant pessimism, research would be futile if it could not suggest some constructive lines of thought. In one or two directions, policies likely to arrest the trend towards too small families

would not be incompatible with a rising standard of living. The encouragement of early marriage is likely to increase the probability of families of four or five children. Metropolitan cities do not provide a propitious environment for children and it is doubtful whether their continued existence can be justified on more general grounds. The continued advance of agricultural technology and the demand for more than a subsistence living on farms put out of court any unplanned programme of rural settlement. But development of the small community and decentralization of industry and culture need not necessarily involve any loss of efficiency. This is especially true in a country like Canada which is abundantly supplied with hydro-electric power and could be true everywhere if the resources of the atomic age are intelligently applied to increase the happiness of mankind.

9. SUMMARY

1. The average family size of wage-earner normal families with wives aged 45-54 years was found to be significantly associated with differences in earnings, as well as with differences in ethnic origin, educational status, and urbanization.

2. With very few exceptions, families were largest in the groups with lowest earnings, and decreased consistently as earnings rose.

3. While part of the difference in family size is associated with the occupational characteristics of groups at different earnings levels, low and high earnings within the same broad occupational group were still found to be associated with differences in family size.

4. When the effects of ethnic group, educational status, earnings and urbanization were equalized, the largest families were found among those employed in primary occupations and the smallest in trade, finance, service and clerical work.

5. Among those with low earnings and low educational status, the largest families were found among workers in lumbering and mining. The small class of agricultural wage-earners had rather small families. Families of unskilled labourers were also large.

6. Owing to the high proportion of independent farmers with large families among non wage-earners, family size as a whole appeared to be at least as large as among wage-earners at roughly comparable economic levels.

7. Family size among non wage-earners varied on the whole in the same way as among wage-earners. Owing in part to inadequacy of value of home as an index to economic status, the differences in size of family associated with this characteristic were not so clear cut as the differences in family size at different earnings levels.

PART II

APPENDIX

Appendix Tables IA to VA present an analysis of variance for the more important text tables. All variances are shown which are above the .05 level of significance. Variances indicated as doubtfully significant are above this level when tested against the residual interactions, but below it when tested against the within-class error estimated from the distribution of individual families. A brief account of the method and references will be found in Bulletin F-2, p. 9.

Table IA. Analysis of Variance - Family Size in Relation to Ethnic Group, Education, Earnings, Urbanization.

(Data of Table I)

Source of variation	Sum of Squares	Degrees of freedom	Mean square variance	F(1)
(a) Factors				
1. Ethnic group	86.0242	2	43.0121	650.260
2. Education	21.1630	2	10.5815	159.972
3. Earnings	14.9918	3	4.9973	75.550
4. Urbanization	4.7227	1	4.7227	71.398
(b) Interactions between two factors				
1. Ethnic group - Education ..	1.4127	4	.3532	5.340
2. Earnings - Urbanization ..	.9420	3	.3140	4.747
3. Education - Earnings	.9091	6	.1516	2.292
4. Ethnic group - Earnings ...	.8243	6	.1374	2.077 x
5. Education - Urbanization ..	.2502	2	.1251	1.891 x
6. Ethnic group - Urbanization.	.1712	2	.0856	1.294 x
(c) Residual interactions	2.6081	40	.0652	
(d) Estimate of within-class error .		232,170	.0661	

(1) Ratio of mean square variance to estimated within-class error.

x Not significant.

Table IIA. Analysis of Variance - Regional Differences in Family Size.

(Significant sources of variation only)

(Data of Table V)

Source of variation	(a) Mean square variance	(a) F(1)	(b) Mean square variance	(b) F(1)	(c) Mean square variance	(c) F(1)
(a) Factors						
1. Ethnic group	48.6499	188.5	-	-	55.8114	63.8
2. Education	15.0204	58.2	14.0200	20.0	18.2214	20.8
3. Region	12.9955	50.4	3.8996	5.6	12.5106	14.3
4. Earnings	8.6209	33.4	3.4262	4.9	4.1860	4.8
5. Rural farm v. Rural non-farm ...	-	-	3.7560	5.4	Not significant	
(b) Interactions between two factors						
1. Ethnic group - Region	4.5667	17.7	-	-	4.4766	5.1
2. Earnings - Rural farm v. Rural non-farm	-	-	1.8567	2.6	Not significant	
3. Earnings - Education	1.1028	4.3	.8064	doubtfully significant	Not significant	
4. Earnings - Region	.5701	2.2	Not significant		Not significant	
(c) Triple interactions						
1. Earnings - Ethnic group - Region .	.5942	2.3	-	-	Not significant	
2. Earnings - Education - Region ..	.4097	1.6	Not significant		Not significant	
(d) Estimate of within-class error	.2580		.7016		.8746	

(1) Ratio of mean square variance to estimate of within-class error.

Table IIIA. Analysis of Variance - Occupational Differences in Family Size

(Significant sources of variation only)

(Data of Tables VI and VII)

Source of variation	(a) Labourers omitted, Agriculture and other primary combined		(b) 2 educational groups, 2 income groups only	
	Mean square variance	F (Within-class error)	Mean square variance	F (Residual interactions)
(a) Factors				
1. Ethnic group	258.7220	366.1	256.5673	397.077
2. Education	16.5875	23.5	36.9113	57.126
3. Province	-	-	22.5073	34.833
4. Occupation	11.4205	16.2	11.5043	17.805
5. Earnings	6.1292	8.7	15.5183	24.017
6. Urbanization	5.0400	7.1	9.2683	14.344
(b) Interactions between two factors				
1. Occupation - Earnings	Not significant		2.8088	4.347
2. Occupation - Province	Not significant		1.8452	2.856
3. Ethnic group - Education	1.2075	Doubtfully significant	Not significant	
(c) Triple interactions				
1. Ethnic group - Earnings - Province	Not significant		4.8613	7.524
2. Ethnic group - Earnings - Occupation	Not significant		1.7874	2.766
3. Ethnic group - Earnings - Urbanization	1.8217	Doubtfully significant	Not significant	
(d) Residual interactions	.3157		.6461	
(e) Estimate of within-class error	.7067		-	

Analysis of Variance - Family Size in Relation to Ethnic Group, Education, Urbanization, Value of Home Owned.

(Data of Table IX)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance	F(1)
(a) Factors				
1. Ethnic group	190.4137	2	95.2068	123.477
2. Education	24.0030	2	12.0015	15.565
3. Urbanization	23.9884	2	11.9942	15.556
4. Value of home owned	8.6443	3	2.8814	3.737
(b) Interactions between two factors				
1. Ethnic group - Urbanization ..	7.0506	4	1.7626	Doubtfully significant
(c) Triple interactions and Remainder.	26.1195	68	.3841	
(d) Estimate of within-class error ..		62,110	.7710	

(1) Ratio of mean square variance to estimate of within-class error.

Table VA. Analysis of Variance - Family Size in Relation to Ethnic Group, Urbanization, Education, and Value of Home Owned

(Data of Table XI)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance	F(1)
(a) Factors				
1. Ethnic group	427.4894	1	427.4894	428.2
2. Occupation	20.8984	2	10.4492	10.5
3. Urbanization	8.3664	1	8.3664	8.4
4. Education	14.8724	2	7.4362	7.4
5. Value of home owned	4.1370	3	1.3790	Not significant
(b) Interactions between two factors				
1. Ethnic group - Urbanization ...	3.6266	1	3.6266)	Doubtfully significant
2. Ethnic group - Occupation	4.9468	2	2.4734)	
3. Ethnic group - Value of home owned	5.6377	3	1.8792)	
(c) Triple and higher order interactions.	52.4526	103	.5092	
(d) Estimate of within-class error		24,665	.9983	

uare variance to estimate of within-class error.