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THE CHANGING SIZE OF THE FAMILY IN CANADA

BY

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PREFACE

This monograph is a study of human fertility in Canada. The investigation is largely based on 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. By means of special tabulations the size of completed families is related to cultural and economic characteristics enumerated at the Census. Vital Statistics data are used to bring the record of current fertility up to date and to supplement census information about smaller localities.

The scope of the analysis in Part I is described in the Introduction. A brief general summary will be found at the close of Part I. Part II presents tables of basic data and is followed by the Appendices.

The monograph is the work of Dr. Enid Charles. Miss P. M. Chapell, Miss P. F. E. Chrysler, Miss L. M. Podham, Miss P. Whelan, Miss M. Fleming and her staff assisted on computations and clerical work. Acknowledgments are due to Dr. O. A. Lemieux, Mr. H. F. Greenway, Mr. A. H. LeNeveu, Mr. N. Keyfitz, Mr. L. Robinson, Mr. H. Roseborough, for advice and assistance, and to Mr. A. E. Thornton and Mrs. E. Anderson, who supervised the tabulations. The charts were drawn by Mr. J. W. Delisle.

HERBERT MARSHALL,
Dominion Statistician.

OTTAWA, July 3, 1947.

NOTE

The maps illustrating "Gross Reproduction Rates, 1941", and "Percentage Change in Gross Reproduction Rates, 1931-1941" are inserted at pages 146 and 162 respectively.

TABLE OF CONTENTS

PART I—TEXT

TABLE OF CONTENTS—Con.

Chapter II—Marriage Age and Fertility—Con.

Chapter III—A Cultural Approach to Differential Fertility

TABLE OF CONTENTS—Con.

Chapter III—A Cultural Approach to Differential Fertility—Con.

Chapter IV—Cultural Differences in Family Size

TABLE OF CONTENTS—Con.

Chapter IV—Cultural Differences in Family Size—Con.

Chapter V—Occupational Differences in Fertility

Chapter VI—Economic Differences in Family Size

TABLE OF CONTENTS—Con.

Chapter VI—Economic Differences in Family Size—Con.

TABLE OF CONTENTS—Con.

Chapter VI—Economic Differences in Family Size—Con.

Chapter VII—Urban and Rural Ecology

TABLE OF CONTENTS—Con.

Chapter VII—Urban and Rural Ecology—Con.

Chapter VIII—Social Characteristics of Cities and Towns

Chapter IX—Some General Considerations Concerning Population Problems

TABLE OF CONTENTS—Con.

PART II—BASIC TABLES

APPENDICES

A. Completeness of Birth Registration and Census Enumeration Under One Year, Canada, 1941

TABLE OF CONTENTS—Con.

APPENDICES—Con.

TABLE OF CONTENTS—Con.

APPENDICES—Con.

PART I

TEXT

INTRODUCTION

World Population Trends.—The decision to include data on family size in the Canadian Census of 1941 reflects a growing awareness of the social significance of population trends. The immediate impact of demographic changes on public policy has been expressed by Henry A. Wallace, speaking as Secretary of Agriculture on "Emerging Problems in Public Administration".

> "To understand broad policy, a man must know the social and economic trends that require the policy . . . First and foremost as a cause of policy shift, I would list the fact that we no longer have a land frontier. When the land frontier passed away, our rate of population growth rapidly slowed down. . . . . Today our land frontier is gone and our population frontier is nearly gone. Twenty years hence we shall have twice as many people above the age of 65 as we have today. But at the same time we shall have fewer young people under 20. After 1960 our population may begin slowly to decline unless, in the meantime, we have been successful in furnishing new frontiers to take the place of the vanishing frontiers."

The technological advances of the nineteenth century increased average length of life in those countries which were in the van of human progress. Although birth rates declined, the time lag was sufficient to permit a great expansion of population. Millions of European stock left their homelands to people the countries of the New World. Only in recent years has it become apparent that a surplus of population is likely to be replaced by a deficit if the decline in the birth rate continues unchecked.

The world of today presents striking demographic contrasts. In the great population masses of the Orient, Malthusian generalizations still have some validity. Limited public health measures, control of famine, and cessation of internal warfare, have been sufficient to reduce death rates. Since birth rates have so far been little affected, lower death rates have resulted in population increases. At the other extreme, birth rates have fallen so low in the highly industrialized countries of Western and Northern Europe that the present generation is not replacing itself, and no improvements in mortality rates can avert a declining population in the near future. In France and Austria the population has already begun to decline.

Eastern and Southern Europe, Central and South America, the U.S.S.R. and Japan are at intermediate stages of evolution. In Eastern and Southern Europe, the decline in fertility has been extremely rapid since World War I. Although population increase is still high in some countries, it is not likely to continue. Japan became industrialized at a late date and the social structure tended to conserve traditional family attitudes. The birth rate has begun to decline. Before World War II a long period seemed likely to elapse before fertility reached Western levels, but the process will probably be accelerated by military defeat, and the ensuing loss of prestige attaching to conservative institutions. The U.S.S.R., Central and South America are still areas of rapidly increasing population. While our statistical knowledge is very defective, there is no reason to think that trends will ultimately differ from those observed elsewhere. The universal interest of the demographic approach to human reproduction lies in the fact that all the knowledge we have indicates that the size of the family begins to decline whenever the standard of living leaves the majority with a margin above mere subsistence level.

Canada in a World Setting.—Canada illustrates both basic uniformity and individual national variation in demographic trends. As regards rate of natural increase, Canada occupies a median position among the larger countries of which we have reasonably accurate knowledge. Apart from migration, population growth is less rapid than in Central and South America and some countries of Eastern and Southern Europe, but greater than in Western and Northern Europe, the United States, Australia and New Zealand. Statistics of national income indicate that Canada is one of the richer countries of the world and enjoys a standard of living comparable to that in the United States, Britain, and the other British Dominions. The rate of natural increase has, however, been higher than in most countries at a roughly similar economic level. Several factors have contributed to maintain reproduction rates at a comparatively high level. At the present stage it will suffice to indicate one or two of the more outstanding. One is recent urbanization.

Not until the 1941 Census did the population in incorporated centres of over 1,000 population come to form more than half of the total. Interwoven with the predominance of rural living has been the persistence of culture patterns involving attitudes favourable to the large family. While the French Catholic culture is outstanding in this respect, it has been strongly reinforced during the present century by immigration from rural regions of Europe where the large family still persisted.

It will be one of the tasks of the present volume to indicate to what extent Canada is traversing the path already marked out for Western civilization as a whole. While special features of the Canadian scene make our country an especially suitable laboratory for the study of population trends, the recency of industrial development carries with it the penalty of lack of historical materials. Although Canada has the distinction of having taken the first modern census, uniform nation-wide vital statistics date only from 1926, and the 1941 Census was the first to record fertility data accurately. Against this, the great variety of culture patterns and of ways of getting a living enable us to take, as it were, a cross section of history.

Social Objective of Fertility Research.—The "ivory tower" school of sociology would disclaim any goal for research other than the disinterested quest for truth. While a completely objective attitude to the material is a paramount requirement, yet the present writer adheres to the view of the Invisible College, expressed by Boyle, "That values no knowledge but as it hath a tendency to use." Increase in human welfare and happiness can be a guiding post without predicating a grossly utilitarian view of every step of the road. From this standpoint of human welfare, mere increase in numbers has ceased to have any interest. Some of the nations generally thought to be most civilized are among the smallest in numbers. Even from a narrowly militaristic angle, size has lost much of its importance, now that one first-class physicist is of perhaps greater value than a million fighting men. The optimum relation of numbers of people to space and natural resources would be important in any economy that was planned on both a national and a global scale, though it would be always changing in response to technological changes. In our present economy, changes in numbers are of rather minor significance to human welfare compared with the vicissitudes that arise from wars, depressions, and continuous waste.

Yet the rate of growth or decline of a population is of some immediate general concern. A population growing very rapidly can cause great stresses if the economy cannot expand equally rapidly to take care of the excess. Such a situation is no longer probable in Canada. It is more likely that the population will ultimately begin to decline. Though the prospect is far distant, there are few who would regard it as a desirable outcome. It would mean a continually ageing population, with an ever increasing burden of dependency on active producers, and rapidly dwindling numbers in an already rather sparsely populated country.

Social control of reproduction rates is a vastly more complex problem than that of control of mortality. Better health and longer life is desired by everyone except those in whom the lack of desire to live and be well is itself recognized as a disease. But having children is by no means the only satisfying life open to women and we cannot imagine a free society in which there will not be a number of childless persons of reproductive age and in which there will not be a wide range of individual variation in family size. Recognition of the permanence of individual variation is not to say that the individual now exercises unfettered choice. Like every other aspect of human behaviour, the probable size of the family is largely moulded by social forces of which the individual is in general unaware. What we see is an uneasy compromise between the needs of two different individual personalities and the culture in which they live. A very large family can mean a glorious fulfilment or a woman dying before her time worn out by an intolerable burden of illness and poverty. The childless woman may be doing work which makes all humanity her debtor or may be an idle and frustrated bridge-player. What an understanding of the social forces at work can hope to give us is a society planned in conformity with biological needs where the proportion of parents who can enjoy having four or more children is large enough to prevent ultimate rapid decline.

Scope of Analysis.—The vast body of data related to family size which has currently become available has necessitated considerable selection. The analysis has been orientated round two main themes, first, the changing size of the family and second, a study of differential fertility intended to illumine the social characteristics associated with changing fertility. The 1931 mono-

graph on the same subject dealt perforce exclusively with vital statistics. The greater part of the present monograph is based on census data, now available for the first time. Historical information is somewhat scanty in Canada. For the period 1891 to 1921, a limited amount of information can be extracted from the 1941 Census record. From 1921 onwards vital statistics can be used to trace the course of current fertility. The analysis ends with the census period. The rising birth rate of the war years is a complex phenomenon, and the complete record is not yet available. Hence detailed study of the war period is outside the scope of the monograph. In the field of differential fertility, attention has been directed almost exclusively to census data, where both the range of material and the special facilities available in the Dominion Bureau of Statistics seemed to promise the richest yield.

The rate at which children are born is only one of the three determinants of population growth. The other two are deaths and migration. The latter has been important in the past history of Canada and may be so again. As mentioned earlier, an increased expectation of life has in the past been responsible for enormous increases in population. While still of paramount importance to the national welfare, further reduction in death rates at the present Canadian level is of little significance to the prospects of future growth or decline. This work is primarily a record of research into the social aspects of family size and hence both mortality and migration are treated only incidentally.

Chapter I gives the story of changes in family size as shown in both vital statistics data and in the main census tabulations of size of family by present age of mother and age at first marriage. Estimates of the future population show the effect of present trends in fertility and mortality. Chapter II continues the analysis of census tables with special reference to age at marriage. In Chapter III the study of differential fertility is introduced by a discussion of various ways of investigating the effect of cultural characteristics on family size. Chapters IV, V and VI present the results of special studies which relate size of family to several other social characteristics. Cultural distinctions, occupation and earnings are emphasized successively in these three chapters. Chapters VII and VIII consist of a series of studies of local areas which elaborate some of the themes of earlier chapters. A general discussion will be found in Chapter IX. The main points brought out in each chapter are summarized at the close of the chapter while a brief comprehensive summary is given at the close of Part I. Part II consists of tables of basic data and some lengthy tables of rates which are summarized more compactly in the text. In order to make the material more accessible to the general reader, tables requiring some statistical background have been relegated to an appendix.

Description of Data.—At the 1941 Census three questions were asked of all women who were or had been married at the census date: (a) age at first marriage; (b) total children born alive; (c) number of children living at the census date. Family size of married women given in Chapter I excludes women for whom particulars of age at marriage or number of children born were lacking. These amounted to one per cent of all women who had been married. Elsewhere unknown family sizes have been distributed in proportion to known sizes. The assumption made in both cases is that the family size of women for whom it was not enumerated was the same as that of similar women with known family size. In general no distinction is made between married, widowed, separated, and divorced, but in Chapter VI the analysis is confined to women living with their husbands at the time of the Census.

The census question on number of children born was intended to exclude stillborn children, adopted or step-children. A more detailed account of possible sources of error in both census and vital data will be found in Appendix A. It is possible that numbers of children born are underestimated in the Census, but the error is believed to be not more than one per cent at the outside. An investigation into the completeness of birth registration at the time of the 1931 Census led to an estimate of under-registration of about 6 p.c. As a result of a supplementary inquiry into conditions at the time of the 1941 Census, under-registration was then thought to be not more than 2 p.c.* Gross and net reproduction rates in Chapter I are adjusted for under-registration. No adjustment has been made in the reproduction rates of Chapters VII and VIII. These are based on unpublished tables of births by place of residence prepared by the Vital Statistics Branch.

* Vide Appendix A.

In this report duration of marriage is to be interpreted as the period elapsing between the date of first marriage and the census date. No account is taken of interruptions of marriage by separation, divorce or widowhood. In the case of some few older women, duration of marriage appeared to have been given in place of age at marriage and some revisions were made. Figures for women recorded as marrying at late ages may still be somewhat dubious but the effect of any such errors is of negligible importance in relation to the total picture.

Definitions and Methods.—The term "fertility" has already occurred and requires definition, since it is used by statisticians in a different sense from that of common speech. As a statistical term it denotes simply and solely the number of children born alive. It thus implies no knowledge about the capacity to bear children, for which the statistical term is "fecundity". To make for easier reading, "fertility" is frequently replaced in the text by "family size", but the latter term may also cause confusion. In census analysis, "family" most often means "resident family", that is, one or both parents together with the children living at home at the time of the Census. Information about the "resident family" has been recorded for several censuses, and forms the subject of a separate monograph. In the present monograph, "family", like "fertility", describes total number of children born alive.

The need for special statistical techniques in the analysis of fertility arises from the varying rates at which children are born during a woman's life-time. With negligible exceptions, women bear children only between 15 and 50 years of age. Within this period, reproduction rates are low at first, are at their maximum between 20 and 30 years of age, then fall off rapidly. If age composition is not taken into account, comparisons between populations can be very misleading. To overcome the difficulty, different techniques are used for census and vital data. In the case of census data, the simplest method is to consider only a particular age-group at a time. This is done in a large part of the analysis of differential fertility, where only women between 45 and 55 years of age are considered. After 45 the family is practically complete. Older women are excluded because a more extended age-group would introduce complications of a different sort, arising from selective mortality and secular changes in fertility.

When attention is confined to women within a fairly narrow age-group, fertility can be expressed quite simply as average number of children ever-born. Though the median is frequently used as a summarizing measure for this type of data, the arithmetic mean is used in the present report. Reasons for the choice are given in Appendix C.

When we desire to consider census data about women of all ages taken together, standardized rates are used. In brief, a standardized rate for Ontario is obtained by applying fertility rates for each successive age in Ontario to the numbers of women by age in the total population of Canada. We thus obtain a rate which tells the number of children who would have been born to Ontario women if the proportions of young and old had been the same as in Canada as a whole. We can compare the fertility shown by standardized numbers of children born in the different provinces without having to allow for the fact that there may be proportionally more young women in some provinces. Such comparisons are valid within Canada only. The rates cannot be compared with rates from another country standardized against a different population. The rates are heavily weighted by the reproductive characteristics of the older women and so relate to roughly the same period of time as do mean completed families. Less precisely defined than the latter, they have been used on account of the limitations of certain parts of the material. On the other hand, they have an advantage in the study of small groups in that the numbers of children involved are larger than when either a single age-group or current fertility only is studied and so random errors are less.

In dealing with current births, standardized fertility rates can also be used, but a somewhat different form of the same type of technique has in recent years proved more fruitful. The rates now most commonly used are gross and net reproduction rates. Like standardized fertility rates, both are based on fertility rates by age, but female births only are taken into account. To compute a gross reproduction rate, fertility rates for each year of age, using female births only, are simply added. The result tells us the average number of girl children who would be born at current rates to women, married and unmarried together, who live to the end of the reproductive period. We have again a measure of fertility which is independent of age distribution.

The significance of current fertility rates in terms of ultimate growth or decline of the population can be shown in a useful manner by an extension of the gross reproduction rate. The net reproduction rate takes account of the fact that population growth depends also on the number of babies who survive to reproduce in their turn. Age-specific fertility rates are multiplied by the proportion of female children born who survive to the age of the mother at current mortality rates. The net reproduction rate thus gives the rate at which the present generation of women of reproductive age would replace itself by a future generation if present rates of fertility and mortality were to continue indefinitely. A net reproduction rate of 1·0 means that the present generation is just replacing itself. A net rate less than unity means that, unless current rates change, the population must eventually decline. A gross rate of less than unity means that no improvements in mortality rates can avert a future decline.

To sum up, three ways of measuring fertility are used in the subsequent chapters: (a) mean size of family, from census data, a single age-group of women, births over a period of years, used in Chapters I, II; recently completed families only in Chapters IV and VI; (b) standardized fertility rates, from census data, women of all ages, births over a period of years, used in Chapters V, VII and VIII; (c) reproduction rates, from vital statistics, women of all ages, births of a given year or three-year period, used in Chapters I, VII and VIII. Choice of one rather than another is usually dictated by the nature of the available material. The reader should also remember that (a) and (b) refer to both male and female births while (c) records birth of female children only.

As analysis becomes more detailed, statistical techniques are necessary to assess the significance of averages or rates based on very small numbers of persons. Even within a social group in which the average size of the family is very small, occasional families with as many as ten or eleven children can be found, while in the more fertile groups family size ranges from 0 to 28. A small social group or locality may easily, for reasons which are irrelevant to the topics under investigation, contain an unusual proportion of childless or of very large families. The method most frequently adopted for dealing with the problem in this report is an analysis of variance. The object of this and similar techniques is to assess the probability that differences observed between groups could have arisen by chance. The lay reader can appreciate that, when a result is described as significant in the text, we mean that the distinction noted would be likely to persist if larger numbers could be observed. The reader is warned against attaching undue importance to figures for a single small social group or locality.

CHAPTER I

THE HISTORICAL RECORD

This chapter is concerned with the changing size of the Canadian family. In the first section, census data are used to estimate changes in family size before 1921. In the next section, the record is brought up to 1944 from vital statistics. In the third section, changes in nuptiality are related to changes in fertility. Section 4 analyses the events of the period 1931-1941 in greater detail. Section 5 illustrates the effect on the future population of a continuance of past trends in fertility and mortality.

In the census volumes, Table 51, Vol. III shows numbers of children ever-born by present age of mother and age at marriage for Canada, rural areas and urban size-groups. Table 52 gives the same data for the provinces, rural and urban, and Table 53 for cities with over 30,000 inhabitants. Tables 54 and 55 give numbers of children now living corresponding to Tables 51 and 52. These tables are summarized in the tabular section of Vol. I. Similar data for the four largest metropolitan areas and for marriages of the ten-year period preceding the Census are given in Tables 1 and 2, Part II of this monograph. Age at marriage in relation to other social characteristics is recorded in Table 60, Vol. II, Tables 56 and 57, Vol. III, and Tables 3 and 4, Part II. Bulletin F–1 shows averages and percentages in some detail.

1. The Historical Record from Census Data

Until the introduction of a Dominion-wide scheme of uniform Vital Statistics in 1921 (Quebec not included before 1926), knowledge of changes in family size was scanty. The only index of fertility available was the ratio of children to women obtained from successive decennial censuses (Table I). Especial interest, therefore, attaches to what the census can disclose about fertility changes before 1921. The 1941 Census tables show three groups of women who have completed their families or very nearly so and who form a consecutive time series. These groups consist of women, who at the census date were 45-54 years of age, 55-64 years, and 65 years and over, respectively. The size of family of married women decreased from the earlier to the later-born groups. For all Canada the average family size of the three groups of women was 4·84, 4·41 and 4·18. When the numbers of children were related to all women, both married and unmarried, the number of children per woman was successively, 4·30, 3·97, 3·73. The decline in total fertility from the oldest to the youngest of these three groups was 13 p.c.

Before interpreting these figures as index of secular change in family size, two questions have to be considered. The first question is the effect of differential rates of mortality. In a demographic universe, two aspects of time usually operate simultaneously. The three groups of women not only produced their children at different stages in the evolution of the family pattern, but are also themselves at different stages of the individual life cycle. Although individual families do not increase appreciably in size after the age of 45 of the mother, the average number of children born to a group of women enumerated at successive censuses can increase or decrease if mothers of large families are more or less apt to die than those with few or none. Differences are known to exist in the rates at which married and single women die. The England and Wales Life Table for 1901-10 showed higher rates of mortality among the married during the years of active childbearing, but from about 45 to 55 the position was reversed. Later in life there was no significant difference. In 1931, on the other hand, married women had lower rates of mortality than single women throughout adult life till about 60. Differential mortality rates distinguishing the more fertile from the less fertile are not so well-established. They can only be observed when

census data on family size are combined with the size of family of those dying in the census year. A study* of this type showed that in Germany, 1933, the size of family of women dying after a given duration of marriage was smaller than that of the living population of married women with the same duration of marriage. The selective effect was most pronounced at about 40 to 50 years of age, and after that was slight. Both the selective effects described vary according to the level of mortality and the type of population. We do not know how they operated in the Canadian period studied but there is a possibility that the decline in fertility may be exaggerated as a result of selective death rates.

The second question concerns the period of time during which the decline took place. Census data on total children born suffer from the defect of covering an extended and ill-defined period of time. Women can start reproducing at 15 and continue till 50, while even outside these limits births though rare are not unknown. Fertility varies throughout the reproductive period and reaches its maximum in the age period 20-30 years. Nearly 90 p.c. of all reproduction takes place between the ages of 20 and 40. The family history of women over 45 years living at the census date thus extends from about 1860 to the present time. If we limit the period to the years of maximum childbearing, the oldest group produced most of their families between 1890 and 1910, the next group between 1900 and 1920, and the women now 45-54 years between 1910 and 1930. The central years for each childbearing period are 1898, 1911 and 1921. The figure given of a 13 p.c. decline in family size is thus an estimate of decline over a period of time which can be approximately dated as from 1898 to 1921.

A more detailed way of looking at the problem of time changes is to consider marriages taking place at successive dates. In Figure 1 the size of family of women marrying at different ages is plotted on a time scale showing the dates at which the marriages took place. The scale is semilogarithmic so that the slopes of the lines indicate proportionate decreases. The relative rates of decline of different marriage-age groups will be referred to later. For present purposes it suffices to note that the figures show a fall in all marriage-age groups and that the decline appears to be greatest for those marriages which took place just before the first World War.

Table I shows the ratio of children to women of childbearing age observed at successive decennial censuses from 1851 to 1941. At first sight these figures seem to tell a different story. The ratio of children to women fell from 1891 to 1901, then rose between 1901 and 1911. It fell again between 1911 and 1921 but in the latter year was still above the 1901 level. The fall was pronounced in 1931 and 1941. There are two ways in which the census ratio of children to women can fail to reflect accurately the general trend of fertility. In the first place it includes the effect of changes in infant mortality, and thus understates the decline in fertility. The early part of the century saw elsewhere a very rapid decline in infant mortality. In England and Wales it was reduced by more than a third in about twenty years. If a change of such magnitude occurred at about the same time in Canada, it could have had the effect of converting the apparent rise between 1901 and 1921 into a decline. In the second place, heavy migration can affect comparisons between different periods. If some migrants, say in 1911, were women with larger families in part produced elsewhere, the effect would be that the fertility now recorded as having occurred in 1901 would be higher than that actually observed at the time. It still remains true that the picture presented by successive censuses is not consistent with a rapid decline in fertility from 1881 onwards and in fact the completed families recorded in the 1941 Census show a fall in fertility smaller than we would expect from the experience of other countries. In England and Wales, current fertility fell by 22 p.c. between 1901 and 1921, in spite of the fact that the latter year was one of exceptionally high fertility. In Australia current fertility fell by 28 p.c. between 1909 and 1929. The expectation derived from the total amount of information on the history of declining fertility is of a decline of about one p.c. per annum. The recorded decline in the period of Canadian history which we are describing is only about half this rate. The fact is all the more remarkable since there is a general tendency for high fertility rates to fall proportionately faster than low ones, and throughout the period Canadian families were and still are large compared with those in countries at a comparable level of prosperity.

* Dominion Bureau of Statistics. "A Statistical Note on Divorce". E. Charles.

Figure 1

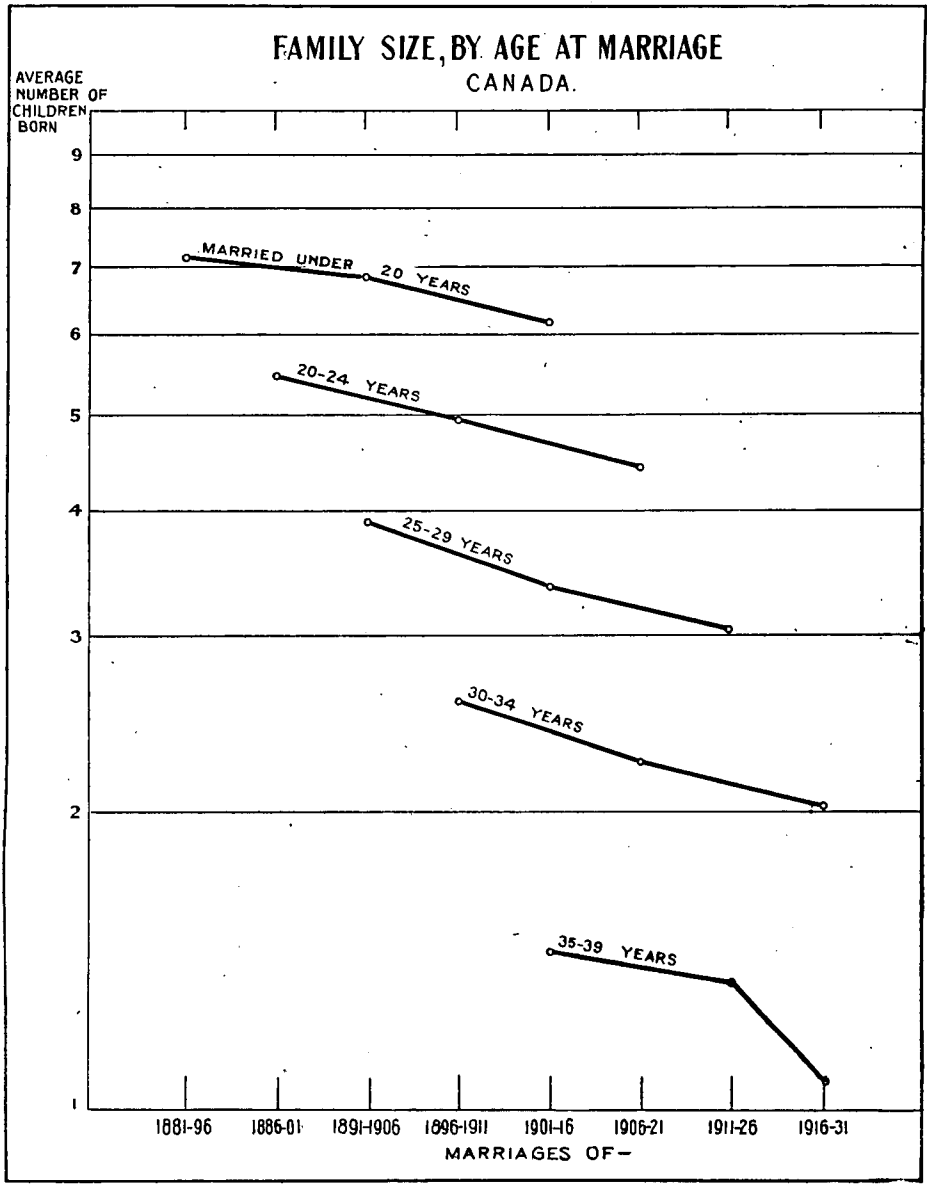


TABLE I.—CHILDREN 0-4 YEARS PER 1,000 WOMEN 15-44 YEARS, CANADA, 1851-1941

Census date	Children 0–4 per 1,000 women 15–44
1851	877
1861	775
1871	666
1881	614
1891	558
1901	536
1911	567
1921	546
1931	466
1941	397

The role of immigration from Europe in arresting the decline in fertility at the beginning of the century is a complex one. Hurd* in an analysis of the rising census ratio of children to women between 1901 and 1911 attributes it to "a tremendous increase in immigration including unusually large proportions of high fertility, early marrying settlers from Eastern and Central Europe". The large families and early marriages recorded in the Prairies substantiate this view but there remains the apparent paradox that between 1901 and 1911 the census ratio of children to women fell in the Prairies and rose in New Brunswick, Quebec and Ontario. The explanation seems to be that while a centre of immigration may attract immigrants at a higher fertility level, it is also the focus of most rapid change in family attitudes. This is especially true when urbanization is proceeding rapidly in the centre of immigration. Further, the European immigration movement must be set against the background of economic changes. The short-term effects of prosperity or depression are in an opposite direction to the long-term effects. From a long-term standpoint, increased prosperity and rising standards of living are almost invariably associated with smaller families. But over a short period, alternations of prosperity and depression, operating chiefly through changes in the marriage rate, produce superimposed short cycles in which the birth rate rises in prosperous times and falls during depressions. The opening of the West was in all probability associated with an expanding economy and temporarily increased fertility throughout Canada. For the immigrants it meant better conditions for early marriage and raising a family than they would have enjoyed elsewhere. At the same time, rising standards of living made inevitable an ultimate sharp decline in family size and the effect would be most marked among those coming from impoverished parts of Europe. The accentuated decline in Prairie fertility in the thirties, though in part a short-term effect of the depression, was in part a result of the preceding period of prosperity.

Table II shows the average number of children born and now living related to (a) married women and (b) all women, both married and single, in the age group 55-64 years. This age group is of especial interest in connection with the true rate of population growth. Though data were not available for determining precisely the mean age of women in the age group or the mean length of a generation, approximate estimates are 59 years for mean age of women and 29 years for the mean length of a generation. Then, neglecting the families of women who have died earlier, the average number of living children per woman in this age group is an approximate measure of the rate at which the population was replacing itself in a generation. If the average number of living children per woman were a little over two, the population would have been stationary, while an average family of four would mean that it had nearly doubled itself. In this statement no account has been taken of the rate at which the sex ratio at birth approaches equality. Since the many elements of inexactitude make the rates only approximate measures of replacement, further refinement would be profitless.

TABLE II.—FAMILY SIZE, WOMEN AGED 55-64 YEARS, CANADA AND PROVINCES

Province	Children[1] per married[2] woman		Children[1] per woman	
	Ever-born	Now living	Ever-born	Now living
Saskatchewan	4·88	4·06	4·72	3·92
Quebec	6·19	4·40	5·43	3·86
New Brunswick	5·18	4·10	4·61	3·65
Alberta	4·30	3·58	4·14	3·44
Manitoba	4·47	3·66	4·17	3·42
Nova Scotia	4·70	3·81	4·18	3·39
Prince Edward Island	4·51	3·78	3·96	3·32
Canada	**4·41**	**3·49**	**3·97**	**3·14**
Ontario	3·50	2·93	3·08	2·58
British Columbia	2·96	2·52	2·76	2·35

[1] Children of unmarried women included. [2] Includes married, widowed, separated and divorced.

When comparing the figures of the present section with those of section 2, it must be emphasized that gross and net reproduction rates include all children, both legitimate and illegitimate, while the Census enumerates only the children of those women who are recorded as having

* W. B. Hurd. "The Decline in the Canadian Birth Rate", Can. Journ. Econ. and Pol. Sci., February, 1937.

been married. Fertility recorded in the Census is estimated to be about 98 p.c. of total fertility.* With the foregoing limitations in mind it appears that net reproduction declined between 1911 and 1931 by about 11 p.c. This is quite possible. It is clear from the ratio of children living to children born that mortality rates in Canada as elsewhere were high at the time when the older women were raising their families. There was a wide gap between the natural increase possible from the numbers of children born and that actually achieved. Continuously declining death rates have operated to reduce the gap and it is more than probable that over the whole period covered by this study, decline in net reproduction has been quite slow.

During the period covered by the table, the size of family in each province was more than sufficient for replacement. Women in Saskatchewan and Quebec had nearly doubled their numbers. The greatest net contribution to the population in proportion to size came from Saskatchewan. An earlier study† of 1931 data showed that higher fertility of married women in the Maritimes vis-à-vis the Prairies was counterbalanced by a smaller probability of marriage and by higher mortality. Table II shows that the same relation between fertility within marriage and total net fertility existed at the beginning of this century. The small size of family relative to the rest of Canada now characteristic of Ontario and British Columbia is seen equally well at this much earlier period. Size of family in the four largest metropolitan areas—Montreal, Toronto, Winnipeg, Vancouver—did not fall below replacement level until after the first World War.

Trends in the different provinces are greatly obscured by internal migration. Obviously women of 70 now living in Alberta and Saskatchewan could not have produced their families there since these provinces were largely uninhabited territory at the time. There are no means of estimating counterbalancing internal migration movements, which must have been considerable, but estimates can be made of net gain or loss through migration, and so of the extent to which the family sizes recorded under provincial labels represent families born in those provinces. Excluding counterbalancing movements, Ontario has seen least change in the numbers of women 45 and over apart from losses through deaths. In both Ontario and Quebec, the 1941 population probably represents the permanent populations of those provinces to within about 15 p.c. In Ontario the movement of women 15-24 years has been outwards, of older women inwards. In Quebec the movement was outwards at all ages. The Maritimes lost population heavily while the Prairies and British Columbia gained. In the Prairie Provinces the 1941 populations probably contained a majority of permanent residents, but even this would not be true of the oldest age group in the Prairies nor of any age group over 45 years in British Columbia. The corresponding entries are hence omitted from Table III, which shows percentage decline in family size for married women.

TABLE III.—PERCENTAGE CHANGE[1] IN FAMILY SIZE FOR MARRIED[2] WOMEN, CANADA AND PROVINCES

Province	Approximate period			
	1898–1911	1911–21		
	Total	Total	Rural	City
	p.c.	p.c.	p.c.	p.c.
Canada	**− 8·9**	**− 5·2**	**− 1·0**	**−10·4**
Prince Edward Island	− 8·3	+ 0·2	+ 0·4	-
Nova Scotia	− 3·5	− 3·2	− 0·4	−10·4
New Brunswick	− 1·1	− 0·6	+ 2·3	− 6·1
Quebec	− 2·8	− 7·4	− 0·3	−13·7
Ontario	−11·6	− 7·1	− 4·2	− 9·6
Manitoba	-	− 9·2	− 5·9	−15·4
Saskatchewan	-	− 3·3	− 1·1	− 9·2
Alberta	-	− 4·4	− 2·2	− 9·8

[1] Minus sign denotes decrease. [2] See footnote (2), Table II, page 11.

Even in its abbreviated form, Table III can only be understood in the light of internal migration movements. In the earlier period, urban development in the West was proceeding at an even faster pace than rural expansion, so that a typical movement of the time was from a farm in the Maritimes to a city in the Prairies as the ultimate destination. In the latter period,

* Vide Appendix A.

† E. Charles. "The Nuptiality Problem with special reference to Canadian Marriage Statistics", Can. Journ. Econ. and Pol. Sci., Vol. 7, No. 3, August, 1942.

urbanization proceeded faster in Ontario and Quebec. At the same time the cultural composition of some provinces was affected. The proportion of French-speaking persons rose in New Brunswick while the western provinces saw marked increases in proportions of persons of European origin. The movement outward from the Maritimes tended to be of English-speaking rather than French, and of Protestant rather than Catholic. The losing provinces tended to retain those elements with a conservative attitude towards the family, while types attracted by urban life moved to places which were expanding industrially. Apart from any selection of individuals, slower progress of urbanization in the Maritimes helped to conserve family patterns. The absence of change in Prince Edward Island in the latter period confirms an earlier study of fertility in that province.* The same trend towards social stability is seen in Nova Scotia in rather less degree. The four metropolitan areas must be regarded as made up in part of a sample of the migratory portion of the population. With the exception of Montreal in the earlier period, all showed larger declines in size of family than any of the provinces. In the latter period, Montreal showed the greatest decline of any region. The separate rates for rural and city populations in Table III also indicate a more rapid rate of decline in cities.

The different rates of decline in family size are reflected in some changes of rank between the provinces. In the three older age groups, married fertility was highest in Quebec throughout, and lowest in Ontario and British Columbia. The Prairie Provinces all lost rank while the Maritimes gained. Differences in the younger age groups are less clear cut, but the same trend towards reversal of position continues uninterruptedly, until in the youngest age group the largest size of family is found in the three Maritime Provinces. Among women under 40, Quebec no longer shows the largest families, and is fifth in rank in the youngest age group. While the last result probably exaggerates the decline in fertility in Quebec, the trend described above is seen again in marriages of the last ten years. For the latter, the largest size of family is found in Prince Edward Island and New Brunswick, followed by Quebec and Nova Scotia in that order. Current fertility in 1941 shows the same clear cut division between East and West, with little difference between the Maritimes and Quebec, in contrast to the outstanding position of the latter province in earlier years.

Although the populations of the metropolitan areas are continually changing and the older women may have had their families elsewhere, the picture is still of some interest. In all age groups four out of the five smallest sizes of family are found in the Province of British Columbia as a whole, and in the three metropolitan areas of Winnipeg, Toronto and Vancouver. In an earlier paper†, reasons were given for regarding the greater part of the population of British Columbia as metropolitan in character. The census data confirm that view. Among the women of 65 and over now resident in Montreal, families are larger than any provincial average except that of Quebec. In succeeding age groups the size of family gradually approaches a metropolitan level. Among women under 45, the average size of family in Montreal is lower than any provincial average except British Columbia, while among women under 30, if falls below the British Columbia level. This result suggests that the spread of urban ways of living in Quebec has markedly affected reproductive behaviour among the younger women only and that the full effects of urbanization on total fertility in that province have not yet shown themselves.

Data on incomplete families cannot give a precise measure of the rate of decline in family size. While the family is still being added to, each group of women observed shows the effects both of different durations of marriage and of secular changes in family size. It is impossible to separate the two effects. Yet the figures of incomplete families can yield information in two ways. In the first place, changes in rank have been interpreted as indicating varying rates of decline. This conclusion rests on the assumption that there have been no very marked changes in the relative rates of childbearing at different periods of married life. The rate at which children are produced is known to fall off fairly rapidly as duration of marriage increases. This fact enables us to draw a second conclusion. Examination of the census tables shows that the increase in family size with increased duration of marriage is much too great to be attributed solely to a longer period of childbearing. The data on incomplete marriages indicate that family size continued to decline between 1921 and 1941 and that the decline proceeded at an accelerated pace. In the next section the trend during this period will be seen more clearly from vital statistics.

* E. Charles. "The Trend of Fertility in Prince Edward Island", Can. Journ. Econ. and Pol. Sci., Vol. 8, No. 2, May, 1942.

† E. Charles. "Differential Fertility in Canada, 1931", Can. Journ. Econ. and Pol. Sci., Vol. 9, No. 2, 1943.

2. Gross and Net Reproduction Rates, 1921-1944

As indicated in the introductory chapter, the accepted method of measuring the rate at which children are being born is by means of gross and net reproduction rates* based on vital statistics of births and deaths. Uniform Dominion-wide vital statistics were not obtained until 1926. Hence the first official life table is that for 1930-32 and the earliest date for which we have a net reproduction rate is 1930-32. For the provinces other than Quebec, uniform birth statistics are available from 1921 onwards. The provincial statistics of Quebec have been used to complete the record from 1921 to 1926. The present section will summarize briefly the trend in reproduction rates up to 1942. Various aspects of recent changes in fertility are dealt with in greater detail in subsequent sections.

Gross and net reproduction rates hitherto published for Canada and the provinces have been based on births as registered. However, as in some other countries, deficiencies in birth registration have been found to exist. Sample surveys in 1931 and 1941 led to estimates of the amount of under-registration of births of 6 p.c. and 3 p.c., respectively. Since these estimates are only approximate, it has been the policy of the Bureau of Statistics to use a minimum estimate for under-registration in the calculation of Life Tables and reproduction rates. The estimates adopted for Canada as a whole were 5 p.c. in 1930-32 and 2 p.c. in 1940-42. The same estimate of 5 p.c. was used for years earlier than 1930. The amount of under-registration between 1932 and 1940 was obtained by interpolation between the figures for these years. In 1941 there was sufficient evidence to indicate a rather lower proportion of under-registration of births in Quebec than elsewhere in Canada. Hence the deficiency in births in this province was assumed to be 1 p.c. While there are other differences between provinces in respect of the completeness of birth-registration, they are not known with sufficient accuracy to permit of numerical estimates. All rates presented in this section have been corrected for under-registration of births. Reproduction rates for Quebec in 1920 and 1921 were based on births given in the provincial "Annuaire Statistique" and rates were calculated by the indirect method.

Table IV shows gross reproduction rates for Canada and the provinces for selected two-year periods from 1920 to 1939. The rates for 1928-29 and 1938-39 are based on the estimated age and sex distributions of the respective provinces in those years. The figures cover the period up to the start of World War II and form the basis for the population projections described in section 5.

* Vide Introduction, p. 7. A description of the method of calculating gross and net reproduction rates is given in the 1931 Census Monograph No. 3, "Fertility of the Population of Canada". See pages 82 and 84 of the separate Monograph or pages 284 and 286 of Volume XII of the Census of 1931, in which the Monograph is republished.

TABLE IV.—GROSS REPRODUCTION RATES (CORRECTED FOR UNDER-REGISTRATION OF BIRTHS), CANADA[1] AND PROVINCES, TWO-YEAR PERIODS, 1921-1939

Province	1921-22	1928-29	1931-32	1938-39
Canada	**2·003**	**1·683**	**1·604**	**1·336**
Prince Edward Island	1·971	1·634	1·792	1·659
Nova Scotia	1·799	1·607	1·716	1·460
New Brunswick	2·205	1·933	2·029	1·816
Quebec	2·686	2·121	2·006	1·586
Ontario	1·603	1·380	1·319	1·124
Manitoba	2·032	1·524	1·426	1·197
Saskatchewan	2·180	1·894	1·749	1·402
Alberta	1·979	1·806	1·676	1·399
British Columbia	1·351	1·185	1·095	1·029

[1] Excluding Yukon and the Northwest Territories.

Table V shows gross and net reproduction rates for Canada and the provinces for 1930-32 and 1940-42, that is, for the three-year periods normally used in relating vital occurrences to populations shown at the census.

TABLE V.—GROSS AND NET REPRODUCTION RATES (CORRECTED FOR UNDER-REGISTRATION OF BIRTHS), CANADA[1] AND PROVINCES, THREE-YEAR PERIODS, 1930-32, 1940-42

Province	1930-32		1940-42	
	Gross reproduction rate	Net reproduction rate	Gross reproduction rate	Net reproduction rate
Canada	**1·631**	**1·390**	**1·416**	**1·274**
Prince Edward Island	1·752	1·473	1·664	1·455
Nova Scotia	1·713	1·445	1·570	1·378
New Brunswick	2·029	1·707	1·833	1·604
Quebec	2·023	1·622	1·664	1·445
Ontario	1·355	1·194	1·210	1·124
Manitoba	1·442	1·274	1·279	1·168
Saskatchewan	1·784	1·576	1·411	1·287
Alberta	1·734	1·535	1·448	1·323
British Columbia	1·124	·994	1·161	1·073

[1] Excluding Yukon and the Northwest Territories.

Table VI shows gross reproduction rates for Canada as a whole by single years from 1926 to 1944. Figures for years other than census years are based upon estimated age and sex distributions.

TABLE VI.—GROSS REPRODUCTION RATES (CORRECTED FOR UNDER-REGISTRATION OF BIRTHS), CANADA[1], SINGLE YEARS, 1926-1944

Year	Gross reproduction rate	Year	Gross reproduction rate
1926	1·705	1936	1·356
1927	1·687	1937	1·323
1928	1·685	1938	1·349
1929	1·646	1939	1·324
1930	1·680	1940	1·373
1931	1·633	1941	1·405
1932	1·575	1942	1·463
1933	1·461	1943	1·506
1934	1·427	1944	1·484
1935	1·393		

[1] Excluding Yukon and the Northwest Territories.

During the period of eighteen years covered by Table IV, Canadian fertility fell by a third. The fall was particularly great, first, because the initial years saw numerous births resulting from marriages postponed during World War I and second, because the closing years were affected by postponement of marriages during the post-war depression. From 1936 onwards increase in employment opportunities led to an increase in the marriage rate and eventually to an increase in the numbers of first and second births. During the recent war years, not only did marriages take place which had been postponed during the depression, but also full employment and other effects of the war situation probably led to marriages of younger women taking place earlier than they otherwise would have done. The war-time rise in births continued through 1943. The rate of fall shown in the ten-year period of Table V is thus considerably less than that shown in Table IV since the former terminates with three war years. During the ten years, 1931 to 1941, gross fertility fell by 13 p.c. and net fertility by 8 p.c. The underlying trend would probably be represented by a figure lying between the rate of fall of Table IV and that of Table V.

The rate of fall varied greatly from province to province during the twenty-year period. Compared with European experience in the same period, Canadian fertility declined at a slightly less rapid rate. The rates of fall in Quebec and Ontario came nearest to expectation. As is usual, the higher fertility rates of Quebec fell faster and so the difference in fertility between the two provinces became less. The tendency seen in the previous section for slow decline in the Maritime Provinces in spite of their relatively high fertility rates is seen again in the reproduction rates of the last twenty years, while the rapid fall in fertility in the Prairie Provinces also continues. Previous work* suggested that in Prince Edward Island fertility remained remarkably stable over a period of 60 years. In so far as they apply, census and vital data confirm that view.

* E. Charles, op. cit.

3. Nuptiality and Fertility

For a long-term view of fertility trends, changes in marriage habits are of secondary importance. The reason is that while the size of the family has become consistently and rapidly smaller, no parallel trend is shown by marriage rates. The latter show fluctuations of various kinds in response to economic changes but the world picture does not indicate that marriage is becoming in general more or less frequent. For example, the probability of marriage in England and Wales was as high in 1935 as in 1851, but total fertility in 1935 was less than half that of the former year. But as the birth-rate declines, changes in marriage rates become increasingly important in the interpretation of short-term changes in total fertility. As families become smaller, first births form an increasingly large proportion of all births. Since the greater number of first births follow closely on marriage, annual birth rates fluctuate much more rapidly than in former times in response to fluctuations in the number of marriages. The relation between nuptiality and fertility in Canada has been analysed in some detail elsewhere*, so the present section will be merely a brief summary to preserve continuity. Since census material is particularly appropriate for the study of fertility in relation to age at marriage, this topic will form one of the main themes of Chapter II, and will be referred to in subsequent chapters.

Marriage Rates to 1941.—While there is no parallelism between secular changes in the probability of marriage and in total fertility, there is in general a correspondence between the proportion of women marrying at least once and the average size of family of married women. Countries with almost universal marriage tend also to have large families and vice versa, though there are some indications of a new phase in which marriage is becoming more disassociated from parenthood. Table VII shows percentages of males and females who had been married at least once at successive censuses. In the earliest period of which we know anything, viz:—about 1820 to 1840, Canada displayed the characteristics of a pioneer country with a great excess of male immigrants, and about 92 p.c. of Canadian women were married. Probability of marriage did not remain at such a high level but declined until it reached a minimum around 1881. It rose again with the wave of European immigration at the beginning of this century. In 1941 the highest proportions of married women were still to be found among the older women in the Prairies who had been born in Europe. The rapid decline in total fertility in the Prairies can be attributed in part to the dying out of this generation of immigrant women, practically all of whom were married.

* 1931 Census Monograph No. 3 "Fertility of the Population of Canada". "Nuptiality and Fertility in Canada", The Canada Year Book, 1942.

TABLE VII.—PERCENTAGES WHO WERE OR HAD BEEN MARRIED, BY AGE GROUPS AND SEX, CANADA, 1891-1941

Year	15-19	20-24	25-34	35-44	45-54	55-64	65 years and over
	MALES						
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1891	0·38	12·89	56·72	83·86	90·16	92·40	93·60
1911	1·37	17·35	54·27	77·90	86·02	89·81	92·41
1921	0·58	18·11	62·16	81·55	86·43	88·78	91·33
1931	0·36	14·48	58·79	82·45	86·36	87·60	89·54
1941	0·47	16·26	59·97	80·98	86·37	87·22	88·23
	FEMALES						
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1891	4·53	33·25	70·16	85·81	89·74	91·19	91·85
1911	7·11	40·48	73·19	85·33	88·17	89·35	90·34
1921	6·67	42·98	76·79	87·46	88·80	89·52	89·80
1931	5·10	36·87	74·15	87·50	89·58	89·05	89·14
1941	5·74	39·04	72·55	85·45	89·25	89·94	88·75

Since World War I, Canada has occupied a median position among the major countries of the World with respect to nuptiality corresponding to her median position with respect to total fertility. An accurate measure of the probability of marriage at some particular time is given by the true nuptiality rate. This gives the proportion of women who will marry at least once if the marriage rates for each year of age at the period in question were to continue. Nuptiality rates thus describe the proportions of women marrying at a given time, while the census record of proportions married records the cumulative effect of such rates over the whole period since the women in question reached marriageable age. For 1930-32, when the effects of the depression were being felt, the gross nuptiality rate was ·84 for Canada, the same as for England and Wales at that time. Analysis of the relation between nuptiality and fertility in 1930-32 showed that even if no further change in the size of the family of married women were to occur, the effect of the low marriage rates of the depression years would be to reduce gross and net reproduction rates by amounts varying from 16 p.c. in Quebec to 2 p.c. in Ontario. Marked differences in probability of marriage among the different provinces were found. Marriage rates were lowest in Catholic Quebec and postponement of marriage appeared to be more important as a means of family limitation in that province than elsewhere in Canada, where families were becoming smaller in spite of frequent and early marriage.

The effect of the war on marriage rates has been conspicuous because they are immediately sensitive to changes in employment opportunities. Fig. 2 shows the course of the crude marriage rate from 1931 to 1944. During this period marriages were at their lowest point in 1932-33. By 1937 they had regained their former level but there still remained a back log of postponed marriages. The war years saw the crude marriage rate rise to a peak of 10·9 in 1942. The net nuptiality rate, which was 0·82 in 1930-32, was 0·95 in 1940-42. Clearly marriage rates such as this figure represents are not likely to continue indefinitely. The true mean age at first marriage (net) was 25·3 years in 1930-32 and 23·8 in 1940-42. In the Census of 1941 there were slightly more married women under 25 years of age than in 1931, but the proportions were still below the 1921 level. The proportion married between 25 and 34 years of age was less than in 1931. By June, 1941, the effects of the extremely low marriage rates of 1931-36 on younger women had been wiped out but marriage was still at a low post-war level.

The crude marriage rate continued to rise up to about the middle of 1942. A rough estimate of the proportions married at June 1942 suggests that by then about as many women between 15 and 24 were married as in the peak years of 1911 and 1921. There was only a slight rise in the proportion married between 25 and 34. Probably the war came too late to affect the marriage prospects of women now over 30. It seems that by 1942 the maximum amount of marriage attainable under existing conditions had been reached, and that the recession in 1943 was a result of the elimination of the surplus of unmarried. This conclusion is tentative, since, even when it is most fashionable, marriage is still postponed in the majority of cases till long after biological maturity. At the time of writing, the latest available marriage rate was for 1944. At that time, while conditions were still favourable to early marriage, many young men were overseas. Their absence may have accentuated the decline in the marriage rate due to the disappearance of surplus unmarried, but a recovery should occur after demobilization, as after the last war.

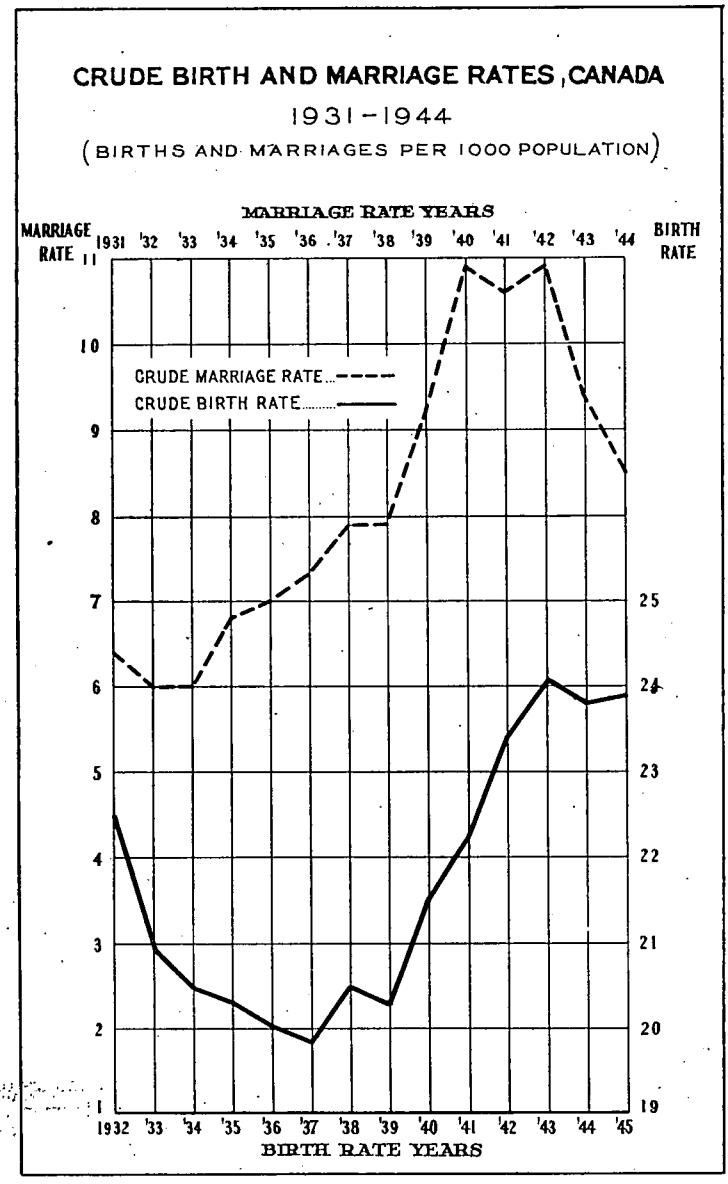
4. Recent Changes in Fertility

As indicated in the previous section, abrupt movements in reproduction rates have occurred from 1931 onwards. These have been greatly influenced by changes in the numbers of marriages in response first to the depression and later to improving conditions of employment. Since the record of the war period is not yet complete enough for final analysis, the present section is limited to a brief account of events in the inter-censal period.

The Canada Year Book for 1942 gives a chart which shows the close correspondence between the amount of unemployment, marriages, and births in Canada during the depression years. The chart also shows how the fluctuations in births are superimposed on a continuous and marked downward trend. Fig. 2 shows the crude birth rate up to 1945 in relation to the marriage rate. These rates have been scaled in such a way that the birth rate for each given year may be directly

compared with the marriage rate of the preceding year. As a result of the downward trend mentioned, the first effect of the rising marriage rate was to arrest the decline in births. A marked rise in the latter was not seen until 1940. The peak was reached towards the end of 1943, corresponding to the turning point in marriages in 1942.

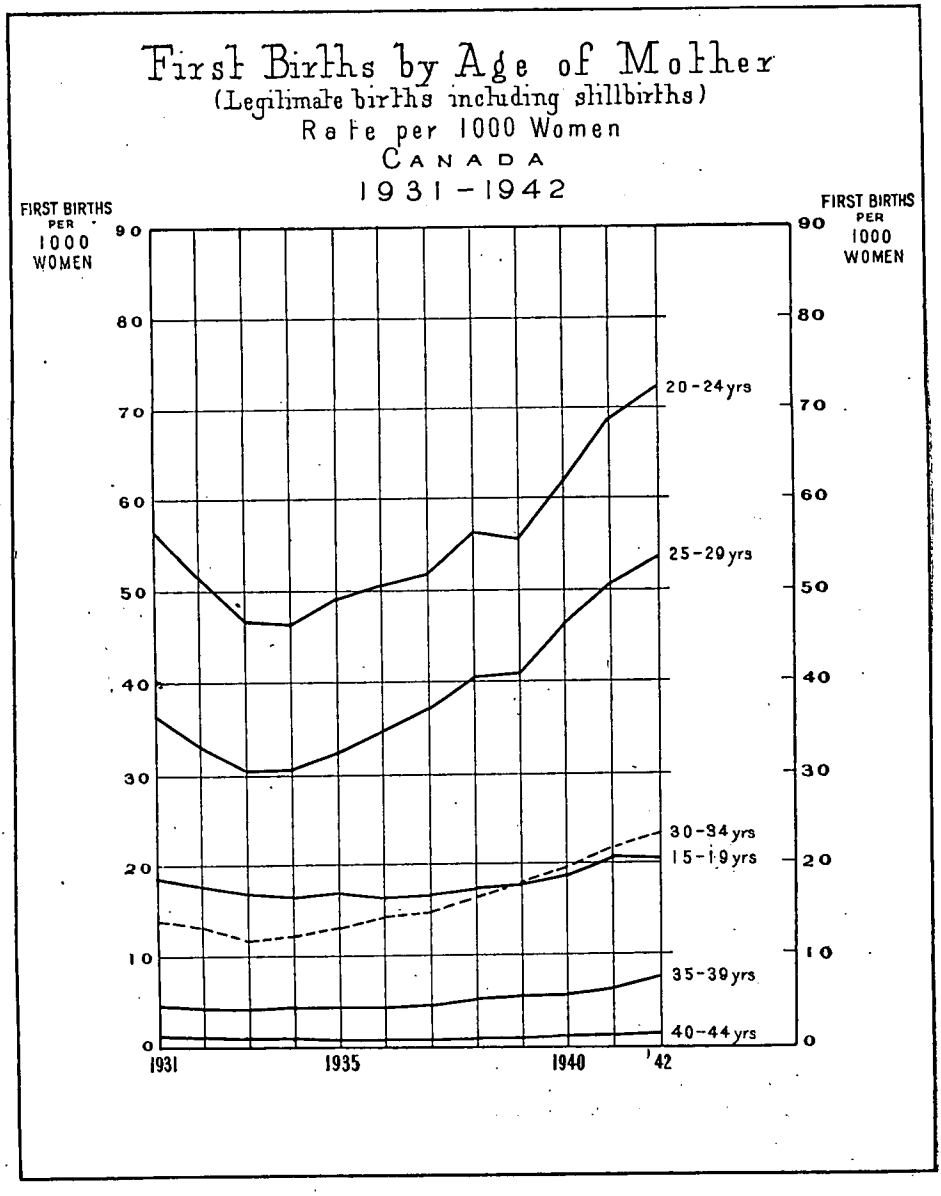
Figure 2



The gross reproduction rate, though unaffected by changes in age and sex composition, is as much affected as the crude birth rate by violent fluctuations in marriages and subsequent births. In the last few years it has followed the same course as the crude birth rate. The correspondence between marriages and subsequent births is best seen in reproduction rates by order of birth. Order of birth for a series of years is only available in Canada for legitimate births including stillbirths, but these figures are perhaps sufficient to illustrate the trend. Figs. 3, 4 and 5 show

the rates at which first, fourth and tenth births have occurred to women of specific ages. We see that first births follow marriages fairly closely with a lag of about one year, and that the rise has been very marked. The effect of rising marriage rates is still visible in fourth births after a longer interval, but is here seen as an arrest of the downward trend rather than an actual rise. No effect at all is seen in tenth births. The different orders of births form a continuous series.

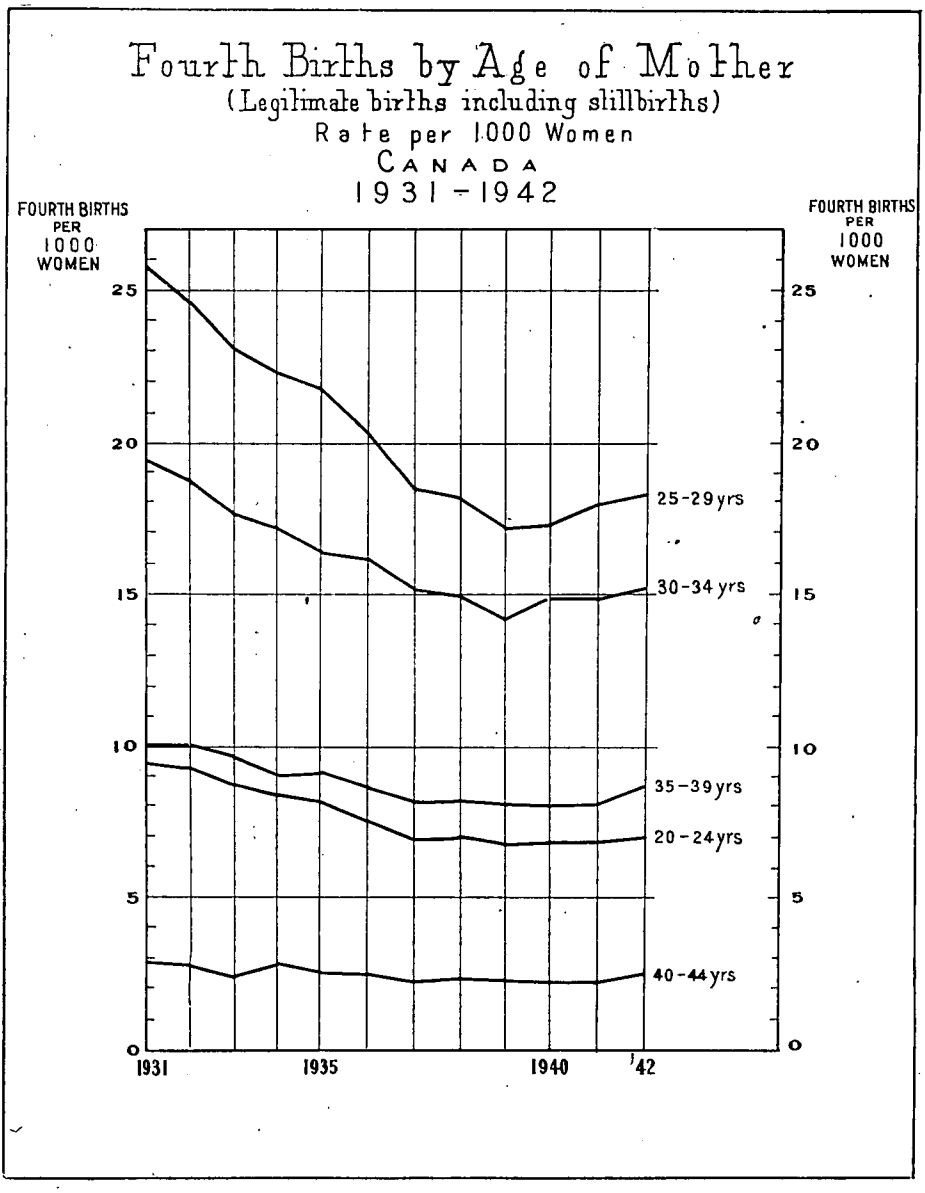
Figure 3



We can see more clearly what is happening in countries where the duration of marriage is recorded at the registration of births. In New Zealand, where the war-time increase in births has been spectacular, a large number of births were postponed during the depression. The war-time rise was mainly in first and second births. Rises in births of these orders were greatest in marriages of three or more years' duration. Up to the end of 1941, the net result in total numbers of children

born was to wipe out the effects of the worst years of the depression, and current fertility was probably about equal to what it was in 1932. As in Canada, an arrest of the downward trend was seen up to fourth births, but higher orders of births resulting from earlier marriages have continued to decrease. While the duration of marriage in relation to births is not known in Canada, a rather hypothetical estimate has been made of the relation of births to the marriages that produced them. This suggests that in general marriages have resulted in continuously fewer and fewer births, with a slight superimposed fall and compensatory rise in the last few years.

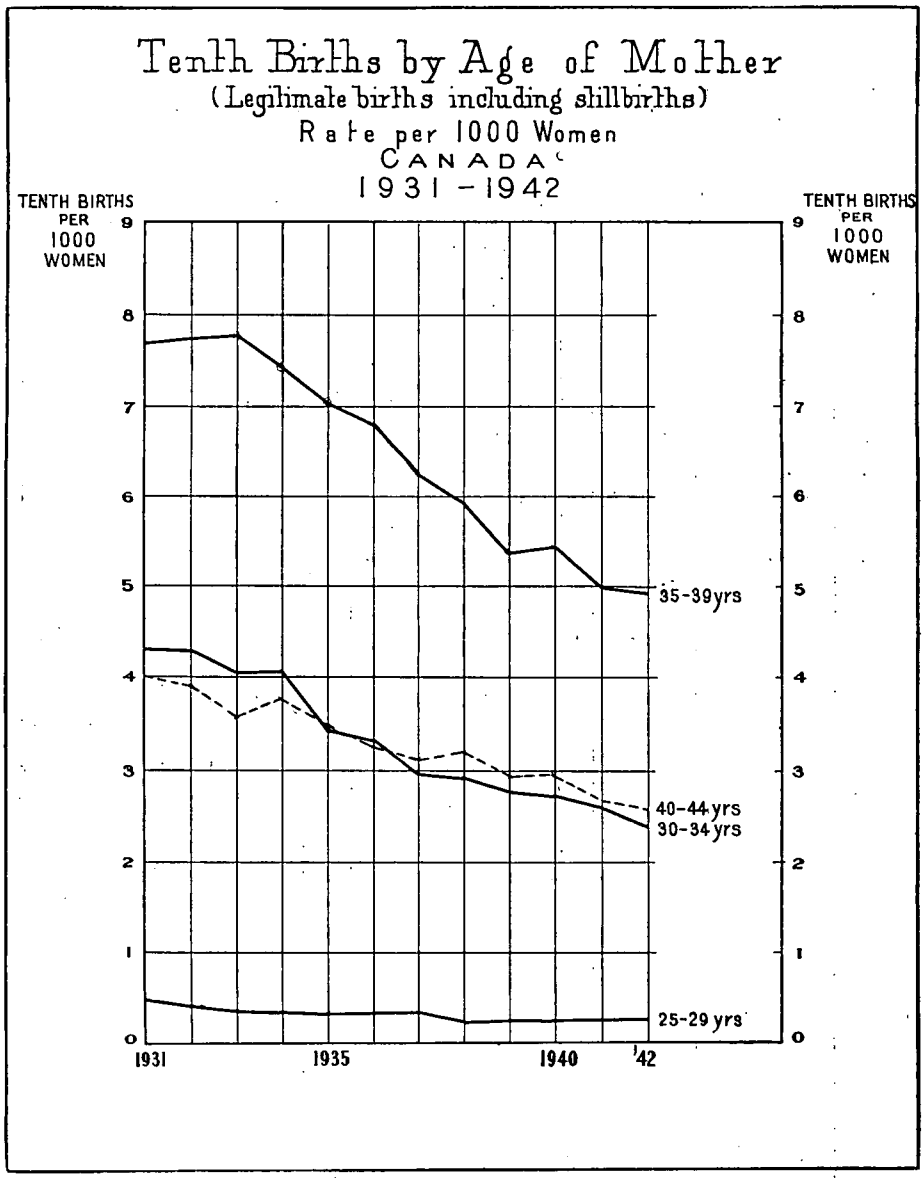
Figure 4



The charts of order of birth in relation to age corroborate the suggestion that some births which were postponed during the depression occurred later. We see that, for each order of birth, more are occurring to older women. For example, the curve of first births to women of 30-34

crosses that for women 15-19. A striking feature of the New Zealand situation appears to be that there has been only a negligible rise in the rate at which children are born during the first year of marriage. This remains at a much lower level than in any year before 1939.

Figure 5

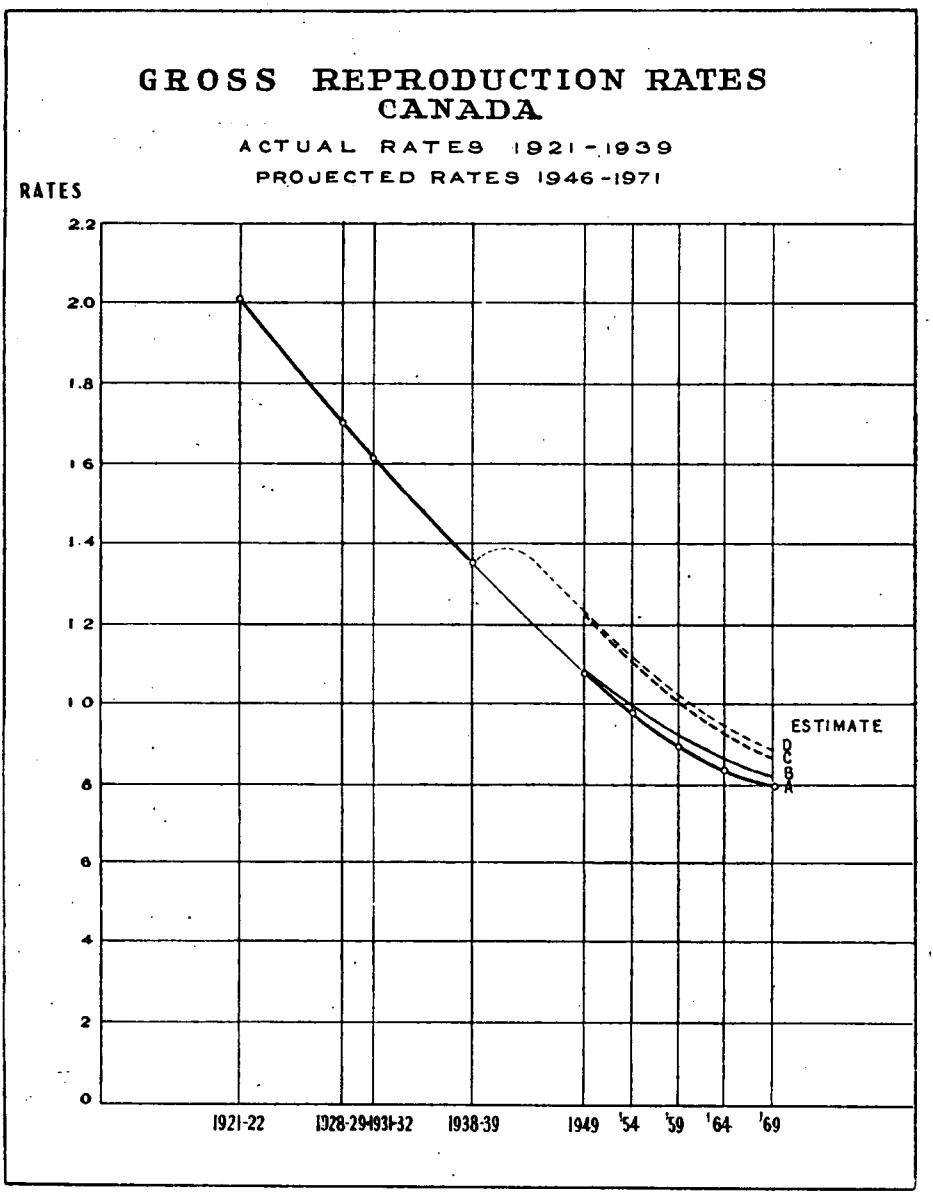


5. The Projected Population of Canada

In the past 50 years, the problem of population size has assumed a position of considerable significance. This interest has resulted in an intensive study of trends of fertility and mortality in many countries and an attempt, on the basis of past experience, to project particular populations 30-50 years into the future. The value of population projections lies, not in their prophetic qualities, for it cannot be too strongly emphasized that no attempt is made to predict what the total population of a community will be at some future date, but in their examination of what consequences must ensue if no unforeseen agencies intervene to change current trends.

From this examination, it is possible to suggest the general factors which must be taken into account before any attempts are made to change the size of the population—either through migration or by alteration of birth or death rates. At the same time, the projections of past trends are valuable in that they suggest possible population changes which will affect legislation in the fields of housing, educational policy and pensions. Strictly speaking then, the population processes to be studied here are useful mainly as a frame of reference within which population problems may be studied profitably.

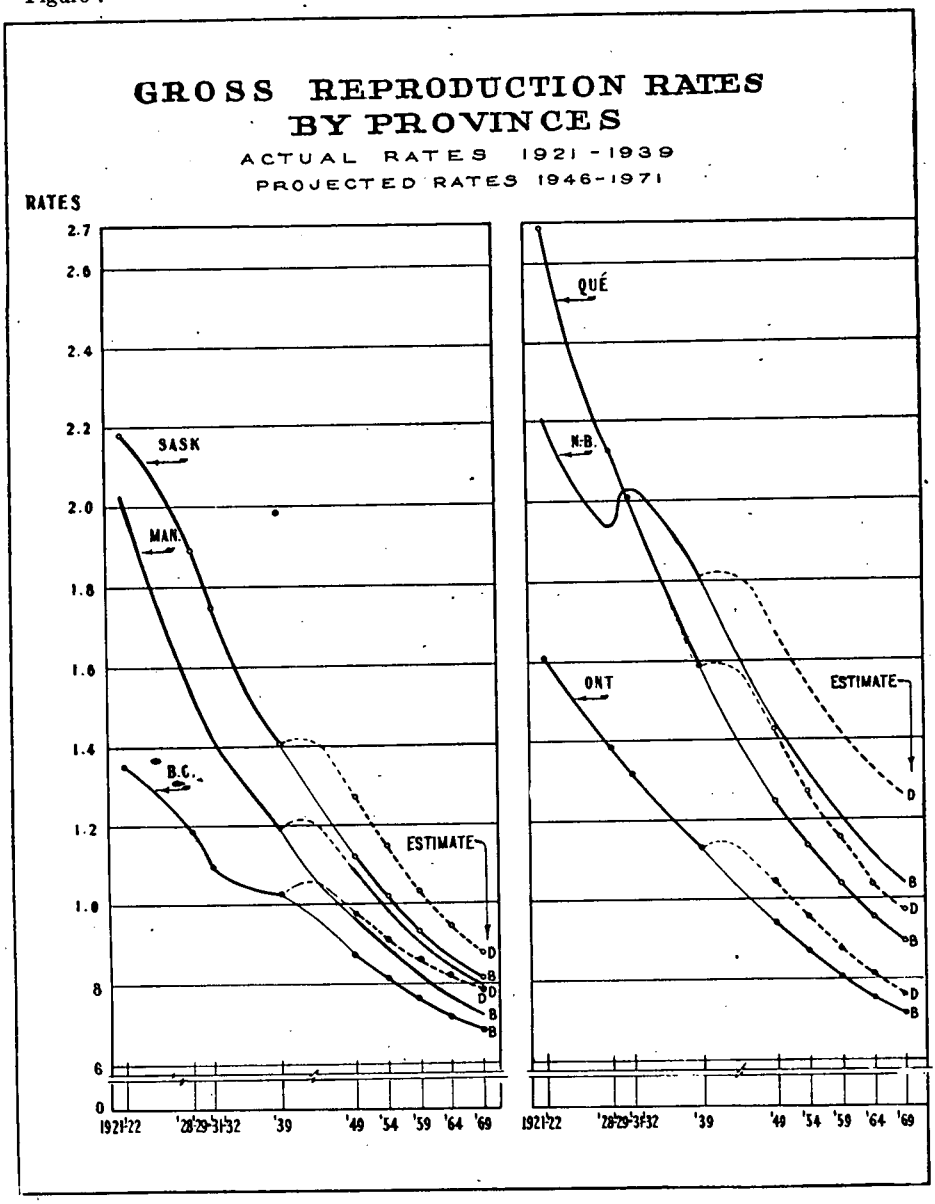
Figure 6



The most usually acceptable way of making population projections is to take the nearest accurately known population and to apply to each age group a given set of fertility and mortality rates. These can be selected in two ways. We can use the fertility and mortality rates of the time at which the projection is made, or we can assume that these rates change in the future in a

way which is logically related to their past history. The first of these ways gives a dramatic picture of the effects of current fertility and mortality on population growth, but it is unlikely that such estimates will correspond at all closely to actual future populations. Modern history affords us no large-scale example of stability over a lengthy period. Although short-term fluctuations are increasingly common, the history of all countries of which we have statistical knowledge is on the whole one of continuous decline in both fertility and mortality over the past 100 years. While historical information is scanty in Canada, there is sufficient evidence to

Figure 7



indicate that our history conforms to the general pattern. The trend in fertility before the period covered by vital statistics was discussed in Section 2. Gross reproduction rates from 1921 to 1939 were given in Table IV and are shown graphically in Figs. 6 and 7. Our knowledge of changes in mortality is also scanty, but what little we know of conditions in earlier years and the

changes between 1931 and 1941* indicate that the improvement in mortality has followed much the same course as elsewhere. Hence all the present projections are made in the second of the two ways described above, i.e., they all assume that both fertility and mortality rates will continue to decline in some way.

Projections have been made which show the population of Canada from 1940 to 1971, not as it will be, but as it would be under two sets of assumptions. Four estimates have been computed: Estimates A and B are based on one set of assumptions, Estimates C and D on the other. Both sets have one assumption in common, i.e. that during the period no migration takes place over the Canadian border or between provinces. This is necessary because past experience gives no basis for assuming any consistent trend. The rapid influx of population to Canada ceased before the first World War and was followed by a period of loss to the United States and some gain from Europe.

With respect to vital rates, the assumptions for the estimates diverge. For Estimates A and B the method devised by F. W. Notestein and colleagues for the projection of European populations was used.† Estimate A is the result of the application of the hyperbolic curves drawn by Dr. Notestein for Europe to Canadian fertility and mortality rates. The assumption made is that both mortality and fertility in Canada will fall and that their fall will be at the rate shown by the various countries of Europe when they were at the levels at which we now stand. Canadian experience over the past twenty years shows a moderately close correspondence with the rates of fall derived from European data. Mortality rates between 1921 and 1941 fell somewhat faster than Dr. Notestein's curves would indicate, while fertility rates fell somewhat more slowly. Because of this, the rates used are different from those which would have been predicted on the basis of Canadian experience alone, and the population projected in Estimate A may be considered a minimum limit. The justification for such a projection lies in the fact that it makes possible a comparison of Canadian results with those which Dr. Notestein shows for European countries. In Estimate B the same process is applied to each province individually. The Canadian total of Estimate B differs from that of Estimate A in that it is a total of the results of provincial projections. It is slightly higher than that obtained by treating Canada as a unit.

In Estimates C and D the same assumptions were made about mortality as in Estimates A and B, since the difference between Canadian and European experience was slight over all age groups taken together and would have little effect on total population size. Future fertility rates in these assumptions were based solely on Canadian experience from 1931 to 1939. Since this was a period of rapid decline in fertility, projected gross reproduction rates for Canada as a whole were identical with that obtained from Estimate A but there were considerable differences in provincial rates of fall. However, a second difference in assumptions resulted in a larger future population in Estimates C and D. The Notestein projections ignored the effect of World War II on demographic trends. The course of Canadian vital trends in wartime makes it probable that this procedure would under-estimate the numbers of future births. Hence we assumed that fertility rates would decline from their wartime peak until they reach the 1939 level in about 1946. Thereafter, they would decline in the manner just described. According to Estimates C and D, therefore, the effect of World War II in Canada would be a net gain in births. At the same time, Estimates C and D consider the effects of internal migration trends during the war period because in both the projection is based on the estimated population of June 1, 1944.

Though, as far as we know, nothing has occurred to reverse the trend towards smaller families, temporary fluctuations of great magnitude in the number of births are seen in response to short-term changes in economic conditions. The smaller the family gets, the more pronounced are these fluctuations, since first and second births form an increasing proportion of the total and these follow pretty closely the marriage rate, which in turn follows the trade cycle. Consequently, predicting the most probable number of future births involves predicting, among other things, the amount of unemployment. Estimates of the probable population in the near future require continual revision in the light of events which have actually occurred. It is already apparent that births have remained at a high level for a longer period than seemed probable at the time these estimates were made. Unless, however, the events of World War II

* 1931 Census, Vol. XII, Canadian Life Tables, 1931; Canadian Life Tables, 1941; Bulletin F-1.

† "The Future Population of Europe and the Soviet Union" (League of Nations, Geneva, 1944), ch. 1 and Appendix I.

have brought about fundamental changes in Canadian family attitudes, the continued high birth rate is likely to be followed by a compensatory decline of great magnitude and there is so far no reason to think that in the long run, the future population will lie much beyond the limits set by the two sets of assumptions chosen.

From the standpoint of this monograph, population projections are relevant on two counts. In the first place, they illustrate the effects of a demographic situation which has actually occurred. In so doing they emphasize the need for the investigations which form the subject of later chapters. In the second place, they permit comparisons with other countries where similar processes have been at work. The present section will summarize these aspects of the study which are of most general interest. For a more complete account the reader is referred to Census Bulletin F-4.

Past Trend and Projected Growth of Population in Canada

Past Trend.—The population of Canada began to increase rapidly after 1900 with the impetus given it by European migration. After 1931, with the restrictions placed upon immigration, the population has continued to grow, but at a rate which is becoming progressively smaller. Thus the decennial rate of increase which was 34 p.c. and 22 p.c. in the expanding periods 1901-1911 and 1911-1921, respectively, was less than 11 p.c. in the last census period 1931-1941*.

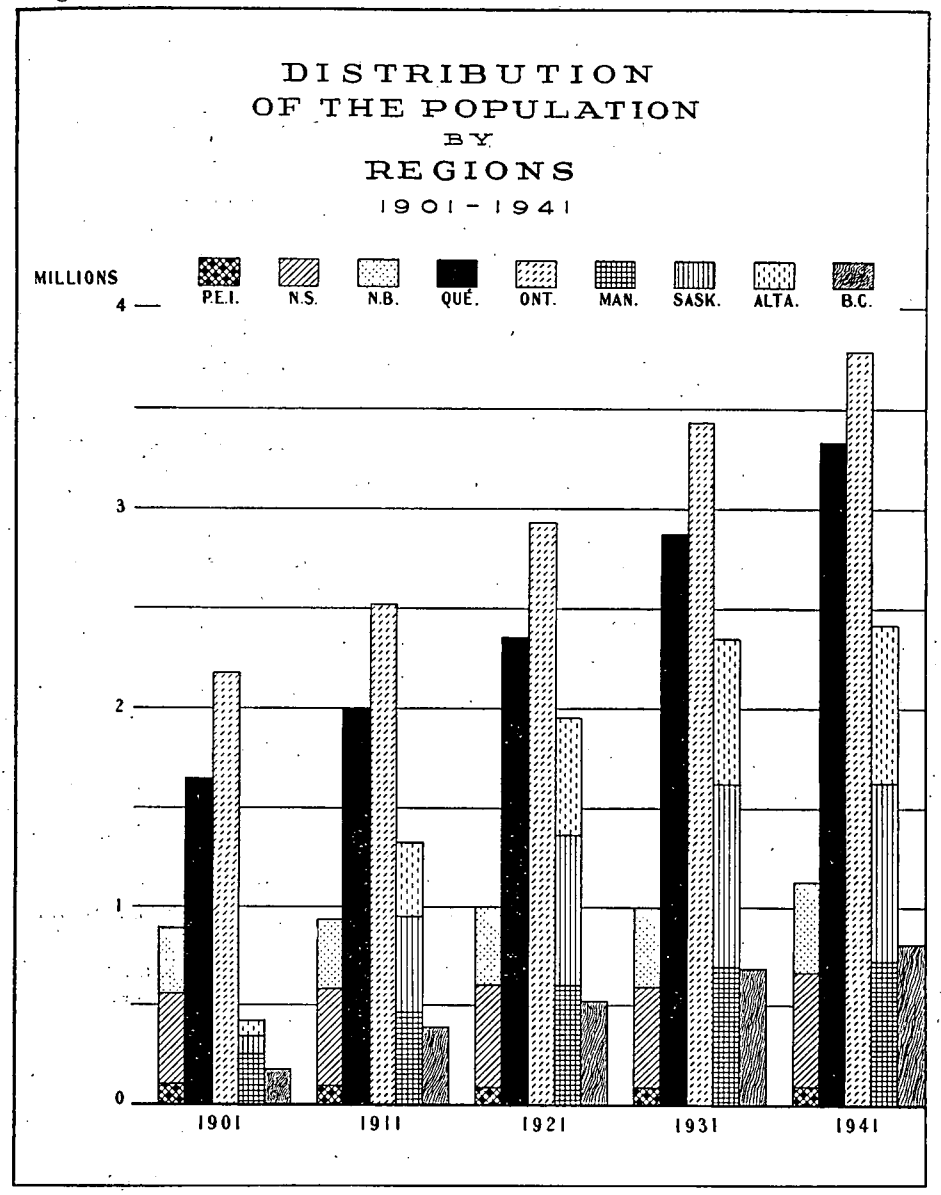
The rate of increase in numbers for Canada as a whole does not represent the trend in the provinces separately. Differences in economic and cultural conditions influence birth and death rates and the resultant populations vary in size and age structure. The proximity of the frontier period in Canadian history has affected the trends in population for the various provinces. Nevertheless, by 1941 the decennial increase was fairly similar for all†. In the older regions, growth since 1901 has been reasonably consistent although the Maritime region has fluctuated considerably. Before 1931, Prince Edward Island shows an undulatory trend with a decrease in population which reached its largest amount between 1901 and 1911. Nova Scotia shows a growth which became progressively smaller until 1901, and then rose in the subsequent two decades. In the 1921-1931 period it shows a loss. The New Brunswick trend has been similar to that in Nova Scotia, although in no decade does it show population loss. The region as a whole shows a population increase in the 1931-1941 period which may have been due to lack of inducement to migrate during the depression years‡. The population of Quebec, 1901-1931, increased at a fairly constant rate, and the same was true for Ontario. The greater increase occurred in Quebec. In the 1931-1941 period, both show a smaller increase, that in Ontario falling off faster than that in Quebec.

The western provinces, which were affected most by the immigrant surge after 1901, show trends similar to the older regions in the 1931-41 period. Manitoba received its greatest increment of growth in the late nineteenth century, and since then the population increase has fallen until in 1931-41 its numbers increased only 4·2 p.c.§ Saskatchewan and Alberta show an even more precipitous decline, the total population in Saskatchewan having decreased in the 1931-41 period by nearly 3 p.c. Both Manitoba and Alberta show increases in population which are lower than their natural increase. In all three the declining growth appears to be the result of the depression, the prolonged drought, and immigration to Ontario and British Columbia. Though British Columbia, like the rest of the West, shows both a numerical and percentage increase in 1931-41 lower than that for the preceding decade, its percentage increase is larger than any other region in Canada. This is mostly due to migration from the Prairies.

As has been said, the Canadian population appears to have been growing less rapidly in every decade after 1911. With the exception of the Maritimes, the separate regions have shown a similar trend. And although the Maritime Provinces show a percentage increase in the 1931-41 period higher than for any period after 1901, the increases are lower than the natural increase would allow††. The regional comparison of population growth over the period 1901-1941 is shown in Fig. 8.

* The Canada Year Book, 1943-44 (Ottawa, 1944), p. 78.
† Vide Canada Year Book, 1943-44. Ch. IV, Section 1.
‡ O. A. Lemieux, "Population Changes Revealed by the 1941 Census", Canadian Journal of Public Health, Vol. 35, No. 3, pp. 120-131.
§ Canada Year Book, 1943-44, p. 81, for percentage changes of population 1871-1941.
†† O. A. Lemieux, op. cit., pp. 123-124.

Figure 8

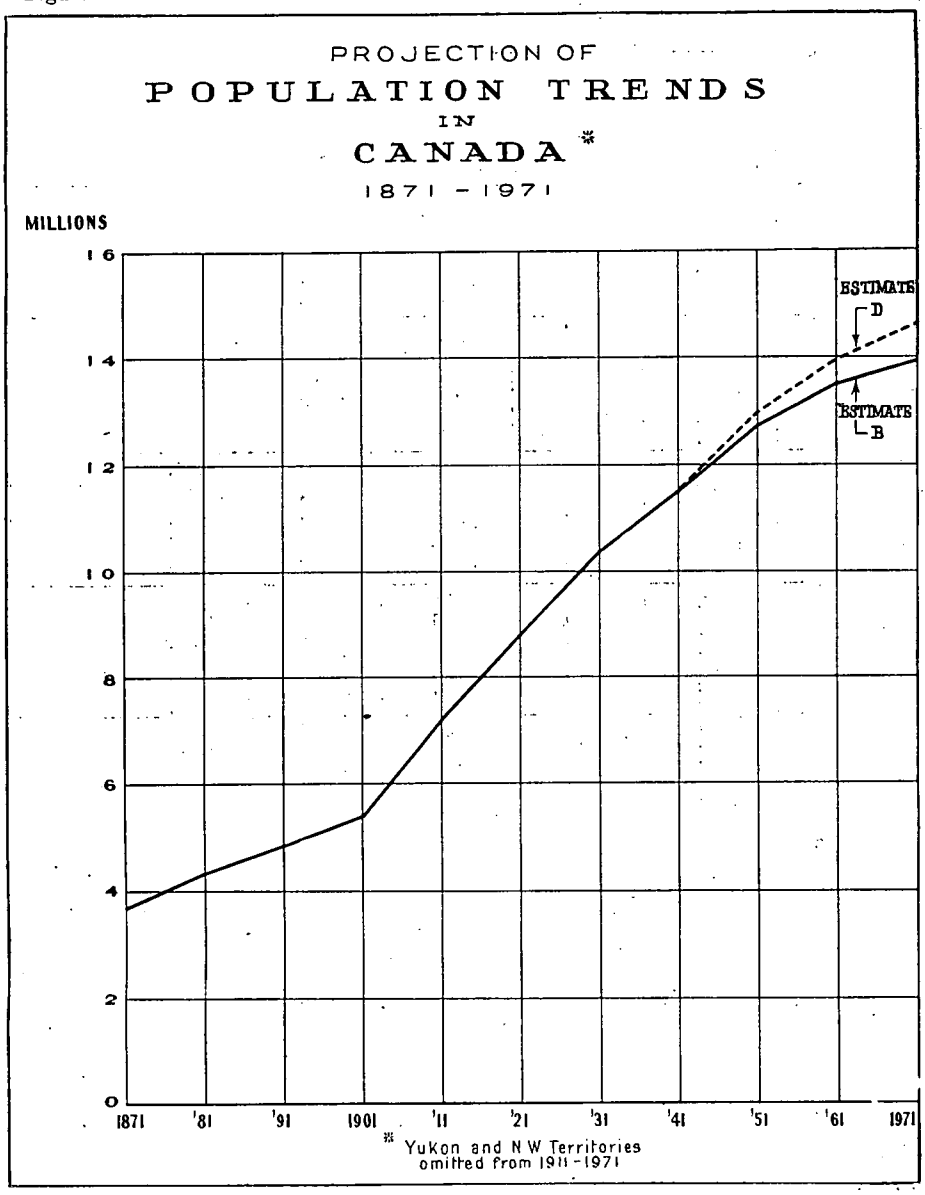


Projected Growth of Population of Canada.—Estimate B yields the same rate of increase in 1941-51 as in 1931-41 and Estimate D a slightly higher rate, but with both the assumed trends in fertility and mortality the rate of increase will continue to decline and the population will reach a maximum by the end of the century. Thereafter it will decline slowly. On the basis of Estimate C, assuming fertility and mortality remain unchanged after 1970, the population would reach its maximum of 15 million around 1990.

The total populations according to Estimates B and D are shown in Fig. 9 and in Table VIII. When war-time trends are taken into account, Estimate D shows a continued upward trend of numbers which should reach an upper limit in the last decade of the century. Estimate B, on the other hand, shows an upward trend that begins to flatten out rather perceptibly after 1961. The increase of population will continue to become progressively smaller in the near future even without any further decline in fertility, for the population is ageing as a result of declining fertility

in the past and this means more deaths and fewer births. Fig. 10 illustrates the change in age structure of the population between 1941 and 1971 for Estimate B. Estimate D would show an age structure similar in the older ages but with larger numbers in the ages 0-29. Both show a decrease in the number of births and in the number of children under 15 years. In spite of a favourable age structure, a continuation of past trends would lead to a net reproduction rate falling below unity about 1950 to 1955, and hence to an ultimately declining population. This suggests that social action directed to stabilizing family size at a level adequate for a stationary or moderately increasing population would have more chance of success in the next ten to fifteen years than at a later period when fertility rates may have fallen below the desired level.

Figure 9



Population projections for individual provinces would be of a highly tentative nature, for it is impossible to make any probable estimate of the extent of internal migration in the post-war period. Hence no provincial projections of the population are presented in this section.

Figure 10

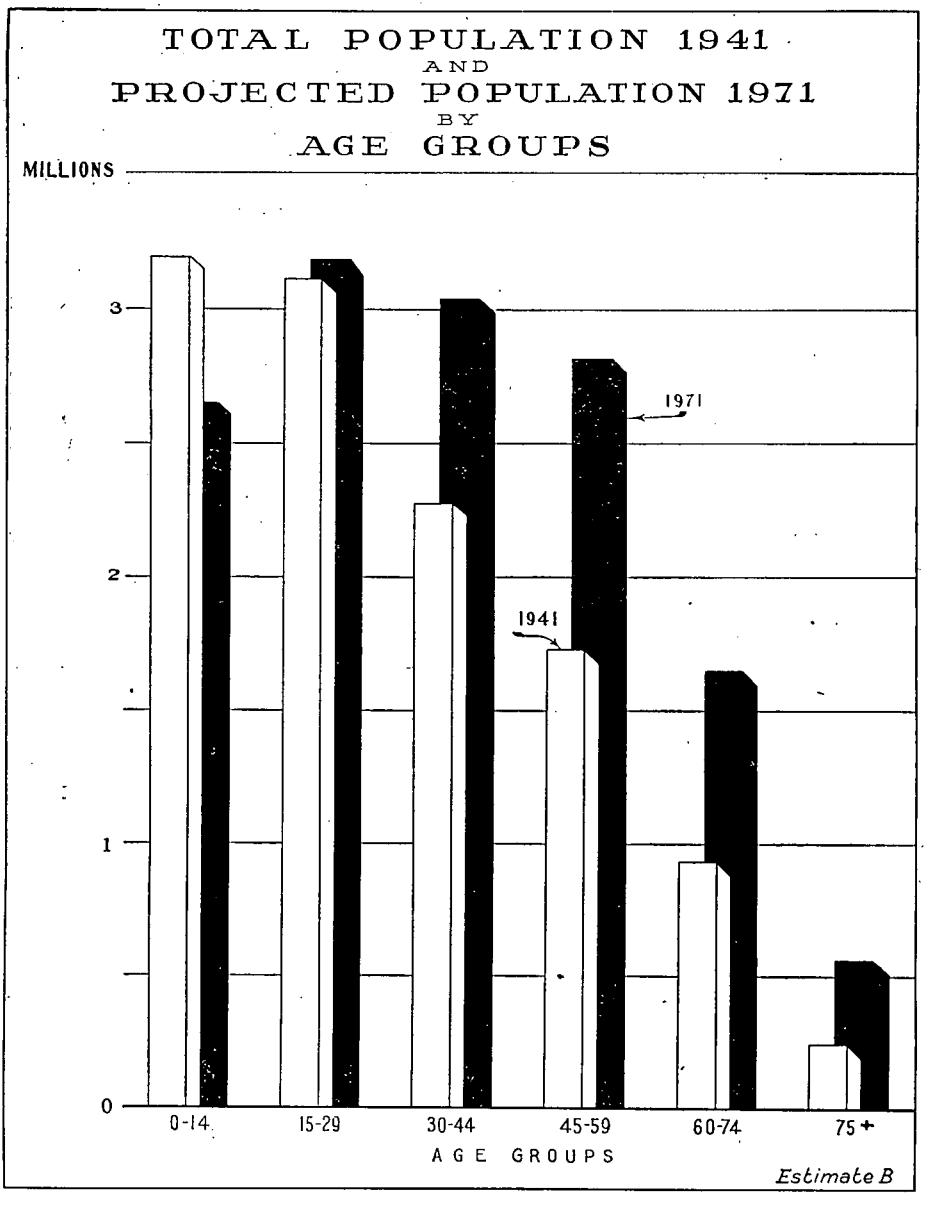


TABLE VIII.—POPULATION PROJECTIONS FOR CANADA[1] AT TEN-YEAR INTERVALS, 1941-1971

(000's omitted)

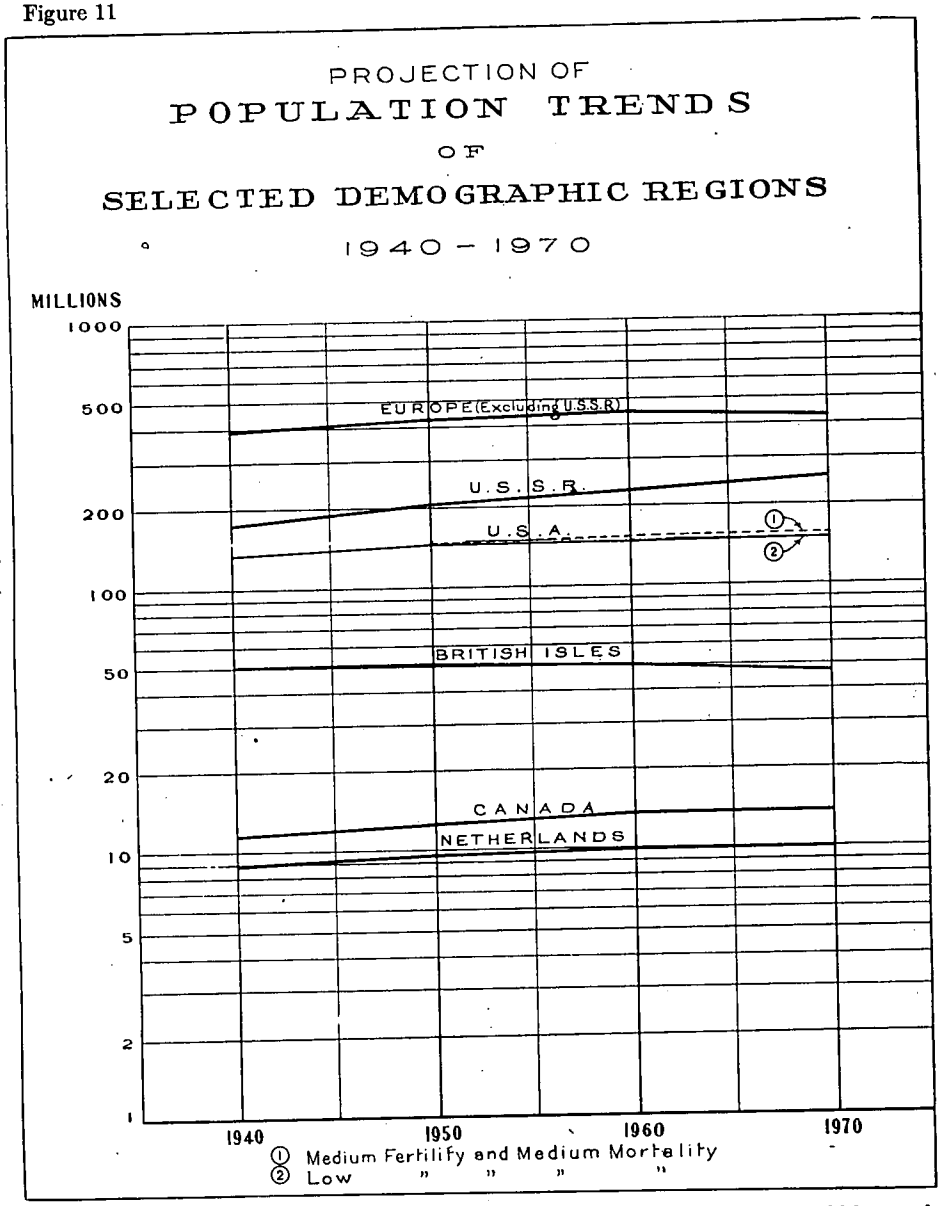
Year	1941 Census	Estimate B	Estimate D
1941	11,490	.....	.....
1951	.....	12,722	12,943
1961	.....	13,504	13,963
1971	.....	13,917	14,606

[1] Yukon and Northwest Territories omitted.

Comparison of Canadian Population Trends with Europe and the United States

As has been said above, Estimate A was computed to allow comparison with population trends in Europe and the Soviet Union. The trends of Canada, Europe, some selected European countries, and the United States, projected for 1940-1970, are shown in Fig. 11. The absolute and per cent change for the period in projected total populations is illustrated in Fig. 12. In Europe,* the general conclusion may be drawn that the trend is toward slower growth and

Figure 11



ultimate decline within a generation.† A maximum population of 421 million would be reached about 1960, and a constant population of about 420 million would continue over the period 1955-1970 with a variation of less than 2 p.c.‡ (Table IX).

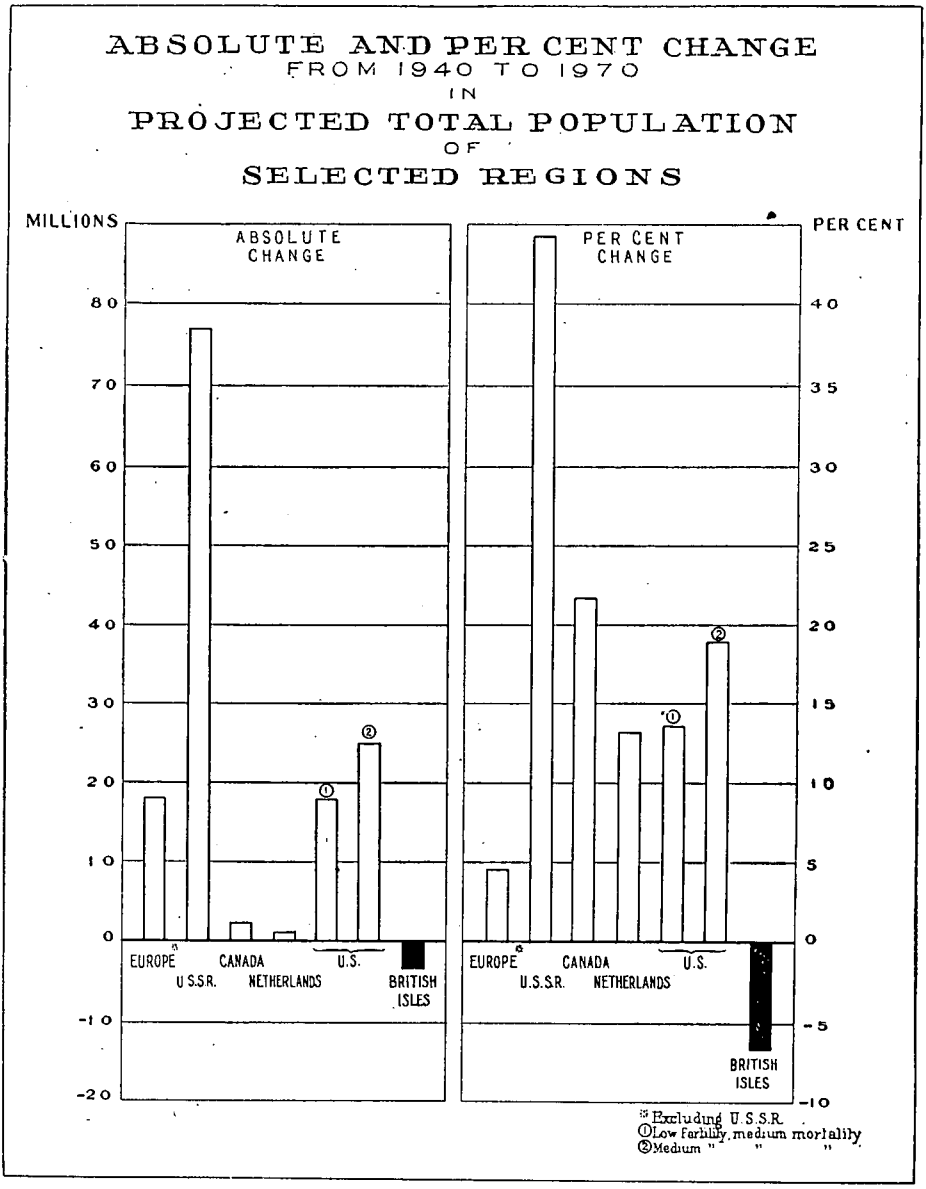
* Europe in the sense used here includes that part of the continent west of the 1937 boundaries of the Soviet Union. Vide: F. W. Notestein et al., op. cit., pp. 20–21.

† I. B. Taeuber. "The Development of Population Predictions in Europe and the Americas". Estadistica, September, 1944, p. 333.

‡ F. W. Notestein et al., op. cit., p. 46.

The various parts of Europe are not all at the same stage of development. The United Kingdom and Ireland reach a maximum population first—about 1945.* In the 1940-1970 period the population decreases by about 7 p.c. The Netherlands, which is demographically somewhat similar to Canada, (i.e., has relatively high fertility and low mortality rates) reaches a maximum population by 1965, and maintains a constant position in the subsequent five-year period. The regions in southern and eastern Europe, on the other hand, continue to grow throughout the period, although at reduced rates.

Figure 12



The U.S.S.R., unlike Europe, shows enormous potentialities for growth. The increase in population for the period 1940-70 of 77 million is an increase of over 44 p.c. of the 1940 population.† It is the only country in the Western World which, on the basis of past trends, indicates possibilities for continued growth.

* Ibid., p. 60. † Ibid., p. 68.

TABLE IX.—PROJECTED TOTAL POPULATION FOR SELECTED REGIONS AT TEN-YEAR INTERVALS, 1940-1970

(000's omitted)

Country	1940	1950	1960	1970
Europe[1]	399,000	415,000	421,000	417,000
U.S.S.R.[1]	174,000	203,000	228,000	251,000
Netherlands[1]	8,840	9,550	9,950	10,000
United Kingdom and Ireland[1]	50,200	50,600	49,400	46,800
United States[2] (1)	132,532	143,896	151,646	157,442
(2)	–	143,148	148,393	150,476
Canada (A)	11,363	12,576	13,393	13,821

[1] F. W. Notestein et al. "The Future Population of Europe and the Soviet Union".
[2] W. S. Thompson and P. K. Whelpton. "Estimates of Future Population of the United States", (1) medium fertility, medium mortality, no immigration, (2) low fertility, medium mortality, no immigration.

Both Canada and the United States appear to be following the trends evident in Europe. Canada continues to grow throughout the period but at a decreasing rate. It is demographically less advanced than the United States. The two estimates shown for the United States are not computed in the same manner as those for Europe and Canada. The estimate based on low fertility, medium mortality, no immigration, and that based on medium fertility and mortality, no immigration, seem to be most nearly comparable to those of Europe, the U.S.S.R. and Canada.* Like Europe and Canada, both these estimates suggest a maximum population for the United States before the end of the century. The low fertility estimate suggests that the maximum will be reached by 1970; the assumption of medium fertility pushes the turning point forward to 1985.† Confining our comparisons to Europe, where the assumptions are the same, we see that in the period 1940-1970, Canada increases proportionately faster than any European country except the U.S.S.R., Roumania and Yugo-Slavia.

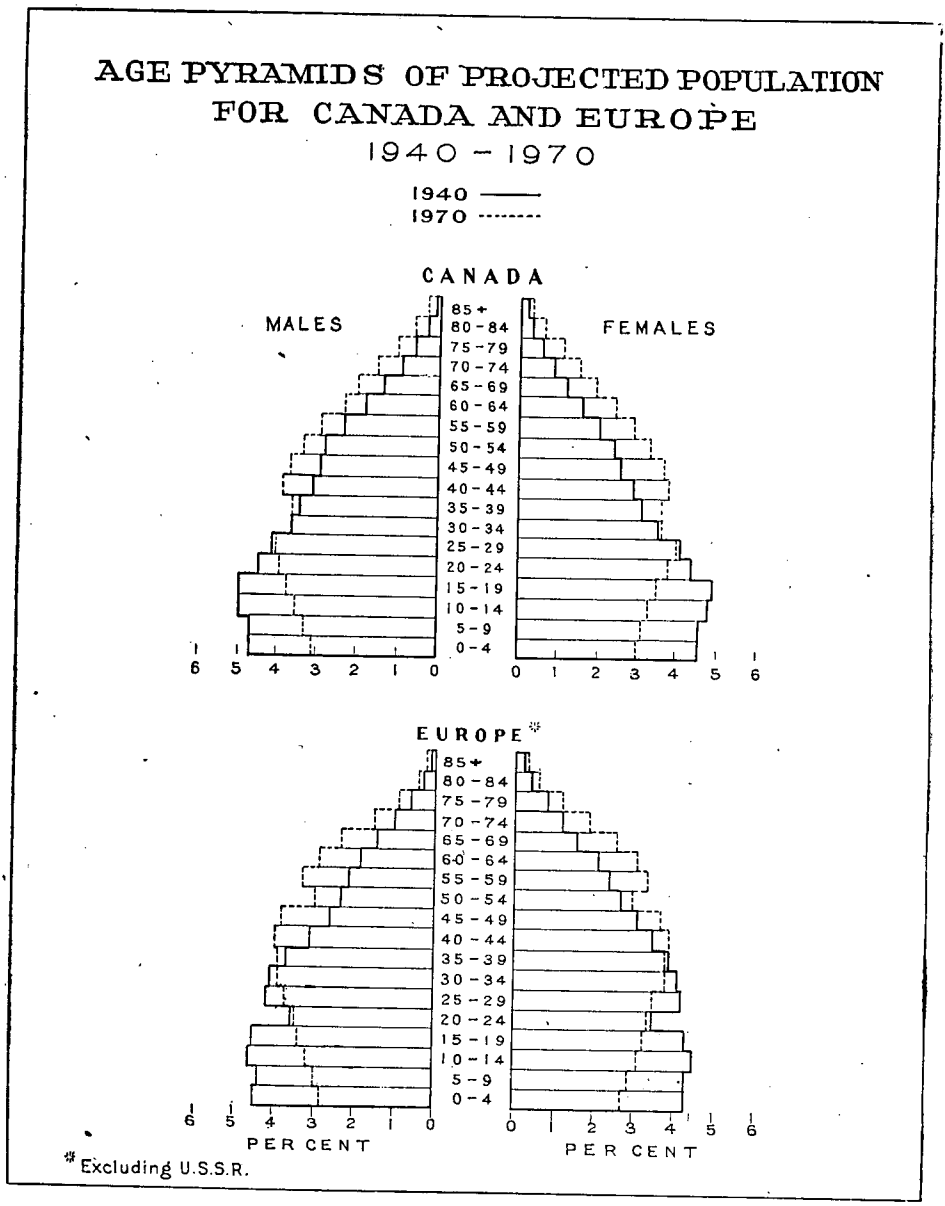
The difference in the stages of demographic development may be seen in the age structure. Europe in 1940 (Fig. 13) shows a population at the turning point. The population is concentrated in the age groups below age 35 but the earliest age groups are no larger than their predecessors. The age structure of the U.S.S.R., which reveals the great gashes caused by war, civil disorder, famine and abortion,‡ nevertheless, shows potentialities for continued population growth. The Netherlands has an age profile similar to that of Europe as a whole but shows the possibility of some further growth. Canada shows more potentialities of growth for some time in the future. Even though the population under 5 is smaller than the population 15-19 years of age, the weight is definitely based on the younger ages.

The age pyramids for the 1970 projections are superimposed in outline on those of 1940. Except for the U.S.S.R., which continues to show potentialities for continued growth, the age structures show an ageing process which suggest the possibilities of decline. This is most advanced in Europe, where the largest concentration of population has moved to ages above 30 years. Canada follows inevitably along the same path with a shift in size to years above 25.

The implications of these projected age structures in relation to social conditions are illustrated when the population is divided into children, the aged, and the possible working group. The projections for all areas show decreasing proportions of children and increasing proportions of old people. For Europe this trend reaches a stage of minimum dependency about 1960 when for every 2 dependents there are between 4 and 5 persons of working age. From 1960 to 1970 the projections show a constant proportion of people in the productive ages, a declining proportion of children, but an increasing proportion of the aged. These conditions suggest that after 1970, assuming a continuation of the projected trends, each productive worker will have to support directly or indirectly an increasing number of aged persons.

* W. S. Thompson and P. K. Whelpton, "Estimates of Future Population of the United States". National Resources Planning Board, Washington, 1943.
† Ibid., p. 29. ‡ F. W. Notestein, et al., op. cit., p. 114.

Figure 13



The U.S.S.R. and Canada, on the other hand, both continue to show an increasing proportion of people in the productive ages to 1970. In the U.S.S.R. nearly 36 p.c. of the 1940 population was under 15 years of age and only 4 p.c. was over 65, which means that nine-tenths of all dependents were children.* By 1970 the projections show a decrease of nearly 10 p.c. in the proportion of children and a rise of 2 p.c. in the proportion of old people, i.e., a trend toward lighter dependency. Canada, which is demographically more advanced than the U.S.S.R., also shows a trend toward lighter dependency. In 1940, 28 p.c. of the population was under 15 years of age and 6 p.c. over 65. By 1970 the proportion of children falls to 19 p.c. and the proportion of aged rises only to 11 p.c.†

* F. W. Notestein, et al., op. cit., p. 155.

† These general trends are similar in both Estimates B and D. The differences lie only in the degree of change.

Two major developments in specific age groups emerge from the projection of future population. First, the potential labour force continues to increase throughout the period for which the projections are made, but the increase occurs at a decreasing rate which raises the possibility of an eventual decline. Secondly, the proportion of children in the population begins to decline in the period 1941-1971 while the proportion of old people continues to rise. The former decreases more rapidly than the latter increases so that the trend for the period is toward a state of lighter dependency. This trend, together with the larger proportion of productive workers, suggests that the burden of dependency will be spread over a greater number of people. Hence the effect of an increase in the aged population with the heavier burden which it entails, will not be so costly a problem per capita.

6. Summary

Census data on family size and marriage age illuminate the trend towards smaller families in two ways, first, by a comparison of completed family size of women of different ages and marriages of different periods, and, second, by a comparison of regions where stages in the evolution of the small family pattern reflect varying social traditions and varying economic environments. Completed families recorded in the 1941 Census were at a high level of fertility. The average number of children now living to each woman aged 55-64 years, including both married and single, is a rough measure of the rate at which the female population has been replacing itself in a generation. In Canada as a whole this group of women had just over three living children apiece at the time of the Census. In the different provinces the average number ranged from 3·9 in Saskatchewan to 2·4 in British Columbia.

Comparing two groups of women, those over 65 years at the time of the Census and those aged 45-54 years, the average number of legitimate children born to all women was 4·30 for the older women, and 3·73 for the younger women, a fall of 13·3 p.c. The rate of fall was slow compared with that observed in other countries over a similar period of time. The rate of fall in the families of married women was slightly higher, 13·7 p.c., and for a given age at marriage was higher still. The reduction in married fertility was to some extent masked by fewer spinsters and earlier marriage in Canada as a whole. Although women under 45 years at the time of the Census had not completed their families, the data indicate sufficiently clearly that the decline in size of family proceeded at an accelerated pace during the years between the two World Wars.

Gross and net reproduction rates for the period 1921 to 1944 show that fertility continued to decline. From 1921 to 1939 total fertility fell by a third. The decline was particularly rapid during the depression years. Recovery from the depression saw an increase in marriages and eventually in births. The wartime rise in the birth rate was mainly composed of increases in the numbers of first and second births. Births of children of a higher order than the fourth continued to decline uninterruptedly.

A projection of the fertility and mortality trends of 1921-1939 into the future indicates that the rate of natural increase will decline. If the trend towards smaller families continues, and no large-scale immigration occurs, the population will reach a maximum of about 15 million towards the end of the century, and thereafter will begin to decline.

CHAPTER II

MARRIAGE AGE AND FERTILITY

Although the belief that later marriage is in large part responsible for the decline in the birth rate is erroneous, age at marriage clearly plays a major role in determining the ultimate size of the family. Census tables show considerable differences in family size corresponding to different ages at marriage. Only the earlier marrying groups are of much significance in the study of population trends. Even in the most fertile regions, women marrying after 35 do not have enough children to replace themselves. On the other hand, it is unlikely that any significant proportion of the female population would ever postpone marriage to such a late age. In Sweden, a country of very late marriages, 94 p.c. of all women marrying in 1933 were married for the first time before the age of 35, about the same proportion as among the older Prince Edward Island women.

1. Family Size in Relation to Marriage Age

Figures 14 and 15 summarize in graphical form some of the data on age at first marriage. In Canada as a whole, for women marrying after 20, postponement of marriage for about five years meant about one child less in the average family. But among those marrying under 20, the difference in size of family between those marrying under and over 18 is more than 1·5 children. The differences in family size between women marrying at different ages are perhaps seen most clearly in Figure 15, where both rural and urban variations and marriage-age variations are compared in the most prolific and the least prolific provinces. The difference between rural and city is somewhat greater than the difference between successive marriage-age groups in Quebec and about the same in British Columbia. The regional difference between the two provinces stands out as of greater importance than either rural-city or marriage-age differences because two extreme regional types are depicted. The relative contributions of different components to observed differences in size can be given greater precision by an analysis of variance. When the three components, age at marriage, province, rural and urban size groups, are compared for women 45-54 years, age at marriage stands out as the most important source of variation. This is true even if the very small families at older marriage ages are excluded. Over the whole field, rural-urban variation is greater than provincial variation, but the difference is not statistically significant.

From Table 2 (Part II) the same analysis is possible for marriages of the last ten years. The result is rather different. Rural-urban differences now become the most important and are significantly more so than provincial differences. Comparison between completed and recent marriages is susceptible of more than one interpretation. Possibly reproduction in the first few years of married life is at much the same rate whatever the age at marriage and the difference in completed families results simply from the longer effective duration of very early marriages. A comparison of women of different marriage ages who have been married for approximately the same length of time shows that this is not so. Since the data are arranged by five-year age groups, the family sizes for very short durations are affected by the fact that those marrying under 20 years are married towards the end of the five-year period. So for marriages lasting less than ten years, family size of those marrying under 20 is less than that of those marrying between 20 and 25. After five years of marriage the slight difference in average duration ceases to be significant and for each separate duration the size of family decreases as the age at marriage increases. The older marriage ages show this even for marriages of less than ten years' duration, since the advantage in length of time married is with the later marriages. Table X compares family size of selected groups of women who were married at different ages and who have been married for approximately the same length of time.

Figures 14 and 15

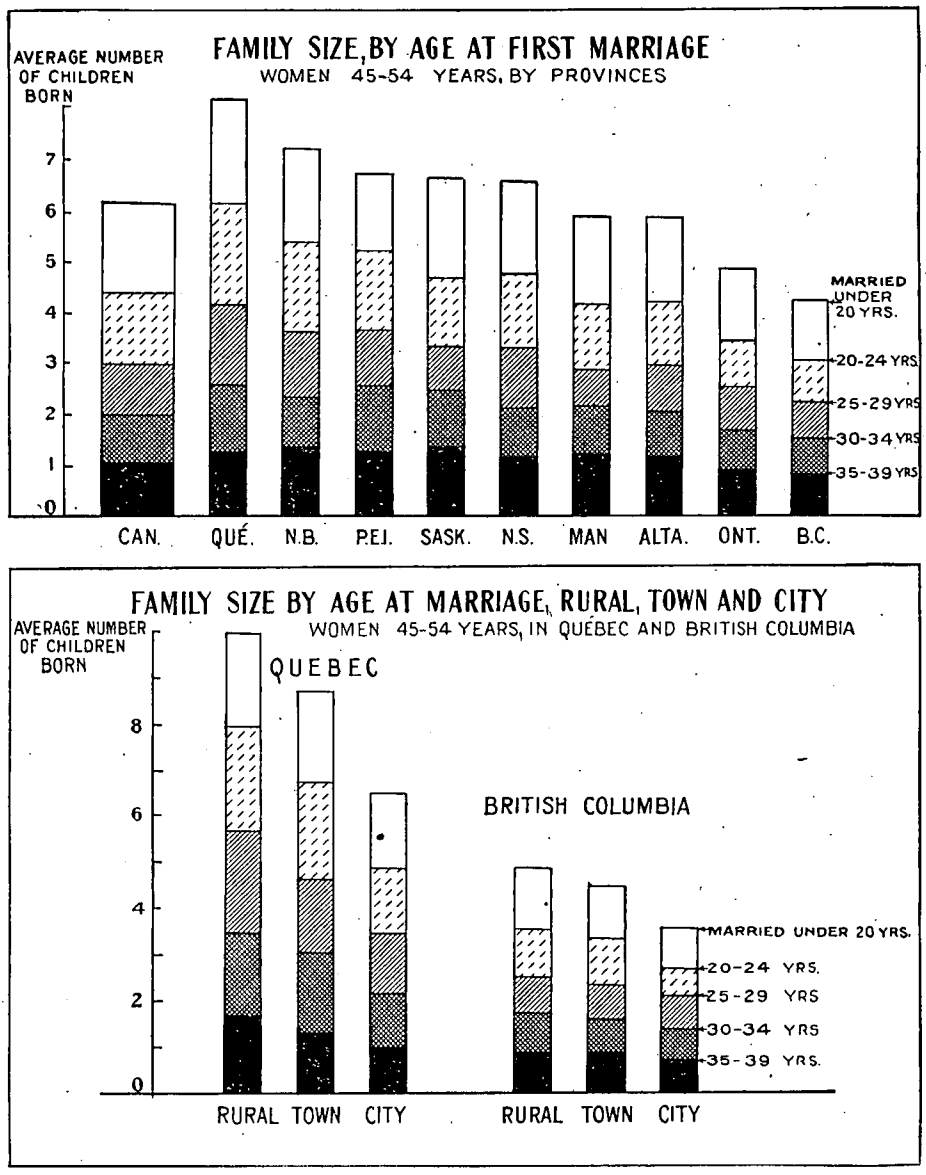


TABLE X.—FAMILY SIZE BY AGE AT FIRST MARRIAGE, WOMEN WITH AVERAGE DURATION OF MARRIAGE 10 YEARS, CANADA

Age at first marriage	Average number of children ever-born
Under 20 years	2·85
20-24 years	2·59
25-29 "	2·14
30-34 "	1·62

With the exceptions noted above, differences of the above order of magnitude are seen in all the provinces and for all durations of marriage. They are smaller than those seen in all completed marriages taken together. Table X shows that while part of the difference in completed marriages is due to the longer effective period of childbearing available to the women marrying young, a part is due to the fact that, in the same period of married life, women marrying young produce children at a faster rate.

A comparison of provinces and metropolitan areas reveals one or two points of interest. When women marrying at the same age and married for the same length of time are compared, the largest size of family among marriages of less than twenty years' duration is most often found in Prince Edward Island. The smallest size of family is usually found in Toronto, but for similar age at marriage and duration of marriage, family size is practically the same in the three metropolitan areas of Toronto, Winnipeg, and Vancouver. In the Montreal metropolitan area it is somewhat higher but is still smaller than most of the provincial figures.

Differences in marriage age are of especial importance in relation to declining family size because of the possibility that women marrying very young may be less influenced by social attitudes favouring the very small family. The present data indicate that decline in family size affected women marrying at all ages. Table XI shows absolute and percentage changes between women now 45-54 years and those now over 65 years for different ages at marriage. If the effect of shifting populations is ignored, the table indicates that within each province the absolute decrease in family size is about the same for all marriage groups up to 25 or 30 years. The proportional decline increases with increasing marriage age since the families of women marrying young are much larger. In very late marriages, the absolute differences in numbers of children become smaller, but proportionately the differences are much greater. During this period the total change in family size was not great. If a wider gap, that between Quebec and British Columbia in the same period, is looked upon as a reflection of historical change, we see that the differences between these two provinces are absolutely greater in the earlier marrying groups, and the proportionate difference is about the same at all marriage ages. Putting these two items of information together, we may conclude that women marrying young are less apt than those marrying at older ages to limit their families severely, but ultimately even in early marriage large families will tend to disappear. Whether a community in which early marriage was the general rule would always produce children in sufficient numbers for replacement is a question which the Canadian material does not answer. Such a situation cannot be envisaged without accompanying social changes of a far reaching nature. The results of this section do, however, warrant the suggestion that in a community where the size of the family is falling more rapidly than is thought desirable, social changes calculated to remove obstacles to early marriage are at least likely to retard a further fall.

TABLE XI.—ABSOLUTE AND PERCENTAGE DIFFERENCE IN NUMBER OF CHILDREN BORN, WOMEN AGED 45-54 YEARS COMPARED WITH WOMEN AGED 65 YEARS AND OVER, BY AGE AT FIRST MARRIAGE, CANADA AND PROVINCES

Province	Age at first marriage									
	Under 18 years		18–19 years		20–24 years		25–29 years		30–34 years	
	Difference	Percentage difference	Difference	Percentage difference	Difference	Percentage difference	Difference	Percentage difference	Difference	Percentage difference
Canada	**1·07**	**13·5**	**1·05**	**15·2**	**1·05**	**19·2**	**0·86**	**22·1**	**0·58**	**22·3**
Prince Edward Island	1·41	16·9	0·68	9·3	0·87	14·4	0·85	18·9	0·32	11·0
Nova Scotia	0·63	8·2	0·64	9·2	0·71	13·0	0·87	20·8	0·59	21·4
New Brunswick	0·09	1·1	0·41	5·7	0·60	10·0	0·78	17·4	0·44	15·9
Quebec	0·89	9·3	0·87	10·0	0·88	12·6	0·92	18·2	0·76	22·8
Ontario	1·13	17·2	1·09	19·2	1·04	23·1	0·80	24·2	0·54	24·2
Manitoba	1·63	20·0	1·59	22·3	1·61	28·0	1·29	31·1	0·74	25·6
Saskatchewan	0·70	8·8	1·21	16·1	1·34	22·2	0·92	21·6	0·49	16·7
Alberta	1·19	15·2	1·42	20·7	1·38	24·9	1·00	25·3	0·70	25·7
British Columbia	1·30	21·7	1·33	24·9	1·21	28·2	0·85	27·2	0·56	26·4

2. Incidence of Childlessness among Married Women.

Discussion has been confined so far to average size of family. Such a figure summarizes family sizes varying from no children to 28 children. From the standpoint of declining fertility it is important to know whether a decline is associated mainly with an increase in the number of women having no children at all or whether it is mainly a result of a reduction in the number of very large families. From the standpoint of a national minimum of social welfare, the changing proportions of families of varying sizes are important because the burdens of poverty fall much more heavily on the members of large families.

Analysis of variance in the proportions of married women who have never had a child reveals one outstanding source of variation, age at marriage. Considering women now 45-54 years of age, distinguished according to age at marriage, province, and rural and urban size group, 94 p.c. of the variation in childlessness is associated with different ages at marriage. While rural-urban and provincial differences were found to be nearly as important as marriage age in determining the average size of family, both are of minor significance in determining proportions childless. Yet these latter sources of variation, though small, are statistically significant. Provincial differences are the least important. The Prairie Provinces show the smallest proportions of childless at each marriage age, next the Maritimes and Quebec. Ontario and British Columbia have the largest proportions childless. The rural-urban difference is a little larger than the provincial. Table XII shows percentage childless among recently completed families by rural and urban size groups for each marriage age. As before, the village group is not clearly differentiated from rural on the one hand and urban over 1,000 on the other, and has been omitted. The proportions childless rise with increasing intensity of urbanization.

TABLE XII.—PERCENTAGE CHILDLESS OF MARRIED[1] WOMEN AGED 45-54 YEARS, BY AGE AT FIRST MARRIAGE, RURAL AND URBAN SIZE GROUPS, CANADA

Age at first marriage	Rural	Urban	
		1,000–29,999	30,000 and over
	p.c.	p.c.	p.c.
Under 20 years	3	4	6
20–24 years	7	8	9
25–29 "	12	14	16
30–34 "	22	27	31
35–39 "	43	49	53
40–44 "	80	82	85
45 years and over	95	96	96

[1] See footnote to Table II, p. 11.

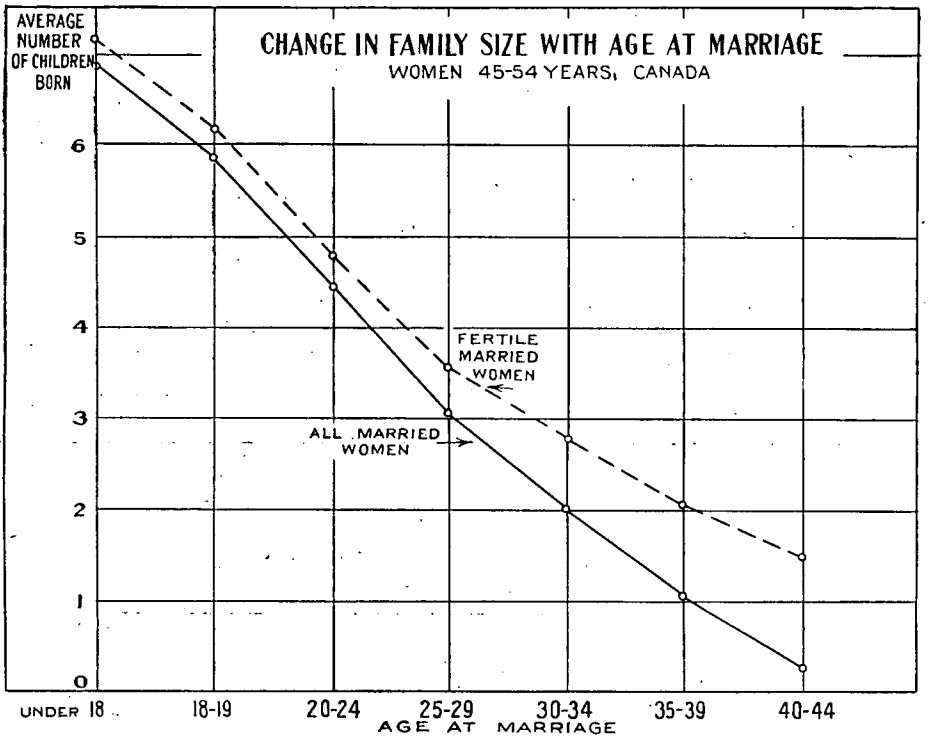
The historical record shows a small increase in percentage childless. The change is consistent for each marriage group except those marrying under 18 years. Increasing incidence of childlessness is slight in the younger marrying groups but becomes progressively more marked with increasing marriage age up to 40 years. Table XIII shows these figures for Canada. Recent studies in other countries of changes in proportions of childless women have shown very marked increases. Apparently in Canada up to 1921 voluntary childlessness was still comparatively rare except in late marriages. There is evidence that in more recent marriages the proportion of childless women increased rapidly. This can be seen when the percentages are tabulated by age of marriage and duration of marriage. As a rule less than one per cent of first births occur after ten years of married life. The increase in percentage childless among marriages of short duration is greater than could be accounted for by the first children still to be born to these marriages. For example, in Canada as a whole, among women marrying under 20 and with average duration of marriage 25 years the percentage childless was 4·6. Among women marrying under 20 and with average duration of marriage 10 years, the percentage childless was 6·3. Almost certainly more than 5 p.c. of the younger women are going to remain childless.

TABLE XIII.—PERCENTAGE CHILDLESS OF MARRIED[1] WOMEN 40 YEARS AND OVER, BY PRESENT AGE AND AGE AT FIRST MARRIAGE, CANADA

Age at first marriage	Present age			
	40–44 years	45–54 years	55–64 years	65 years and over
	p.c.	p.c.	p.c.	p.c.
Under 18 years	4	4	4	4
18–19 years	5	5	5	4
20–24 "	9	8	8	7
25–29 "	17	14	13	12
30–34 "	32	27	24	21
35–39 "	59	48	41	39
40–44 "	89	82	76	73
45 years and over	-	96	96	93

[1] See footnote to Table II, p. 11.

Figures 16 and 17



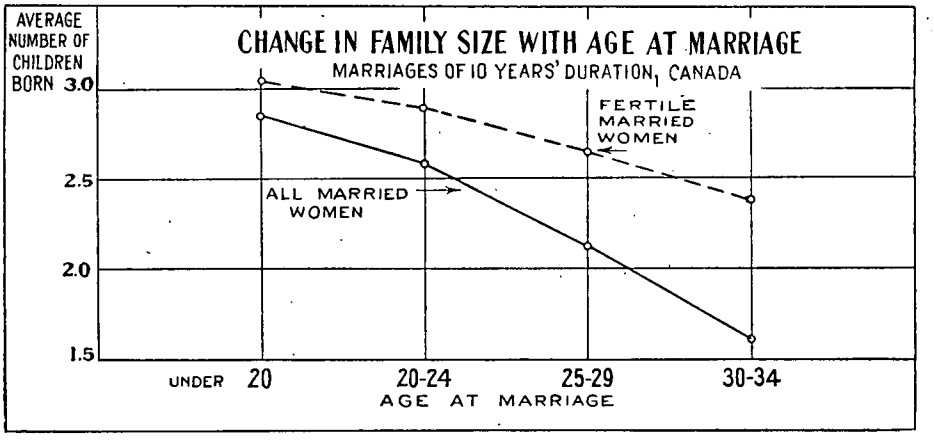
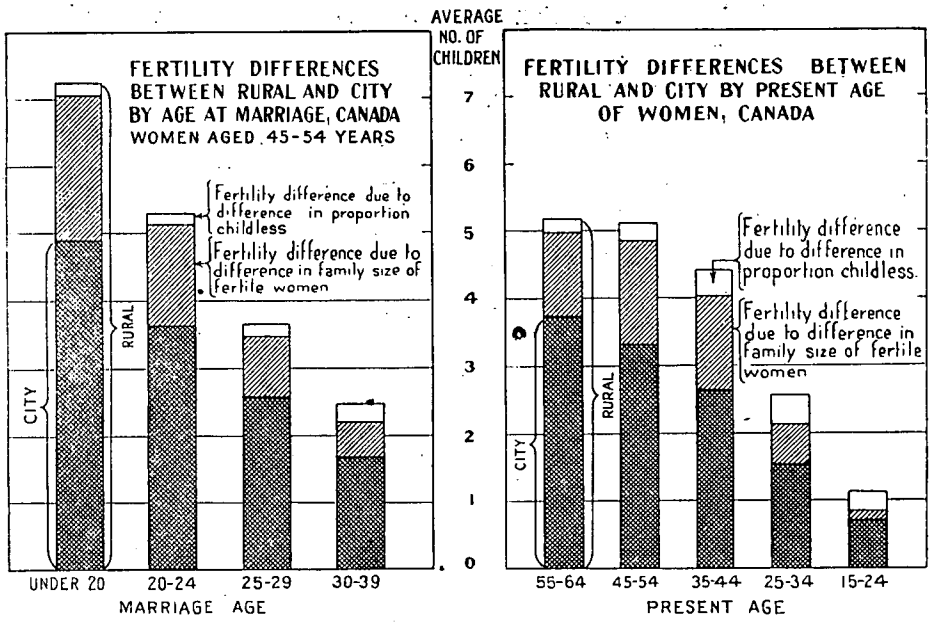


Table 2. (Part II) gives data on proportions childless in recent marriages. The marriage-age groups tabulated are not suitable for making comparisons between different marriage ages. They contain too many very recent marriages and more of these in the youngest age group. But within each age group the same differentials appear as were noted above. With the increase of voluntary childlessness a closer relation appears between proportions childless and level of total fertility. As with size of family, the relative position of the Prairies and the Maritimes becomes reversed. The lowest percentages childless among the younger recently married women are found in the Maritimes and Quebec. Childless families occur as often in Manitoba as in Ontario and British Columbia. Among the cities of 30,000 and over, strikingly high percentages childless are found in Toronto, Winnipeg, Victoria and among the youngest women in Outremont.

In view of the influence of age at marriage on the probability of remaining childless, it is natural to ask whether differences in size of family according to age at marriage can be explained solely by varying proportions childless. Turning first to the historical record and comparing women now 65 years and over with those now 45-54 years, the average family of married women who had borne at least one child declined by about the same proportionate amount in all marriage-age groups. Among the women marrying young, changes in the number of childless had little effect on the average size of family, but among older women, the great reduction that took place in this period in family size was mainly due to increased numbers childless.

Figure 16 shows change in size of family with marriage age for women who had at least one child. In the early marriage ages the rate of fall is almost as steep as when the average includes childless women. In the later ages average family size falls off less rapidly. Of necessity the average family of fertile women cannot be less than one. Figure 17 makes the same comparison for marriages of approximately equal duration. When both duration of marriage and percentage childless are allowed for, the difference in size of family among women marrying under 25 is small, but in the later marrying ages it is still considerable. The effect of early marriage on size of family can now be analysed into three components in the probable order of their importance: (a) longer reproductive period; (b) fewer childless marriages; (c) more children born in a given period of married life.

Figures 18 and 19



Since there were few childless marriages among older women, it follows that provincial and community size differences in completed families are in the main associated with differences in the size of family of the fertile. Figure 18 shows completed rural and city families for selected marriage-age groups. The difference between the rural and the city family is divided into two

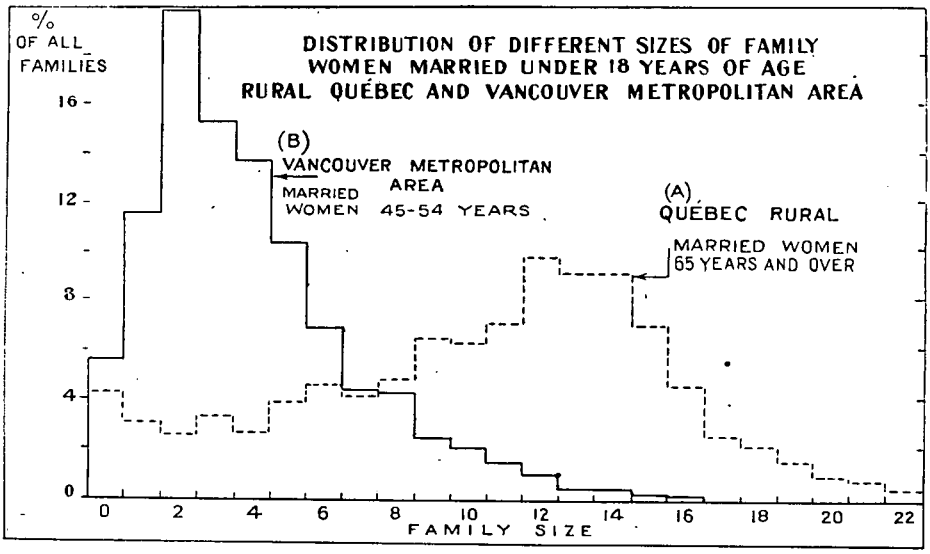
parts. The upper part shows the reduction in family size that would result if the percentage childless were as great as in the city, while the lower part shows the reduction due to difference in family size of the fertile. Figure 19 shows rural-city differences for successive age groups of women in the same way. The latter figure combines the effects of differing age at marriage and differing percentages childless within each age group. Although the position is ill-defined as a result of the large number of very recent marriages among the younger women, Figure 19 suggests again that the effect of increasing childlessness is becoming more marked among younger and more recently married women.

3. Distribution of Different Family Sizes

The pattern of family sizes recorded in the Census is interesting to the student of human reproductive behaviour because of the variety of types shown. Some groups of women appear to be free from any social taboos adverse to the very large family. Other groups show increasing degrees of family limitation. In Figure 20 two extreme types of family patterns are shown. Both show families of women marrying under 18 years of age. Histogram A shows families of women now over 65 years in rural-Quebec. Histogram B shows families of women now 45-54 years in the Vancouver metropolitan area. The A curve is not typical of the whole of rural Quebec, but only of a selected group of highly fertile women belonging to a vanishing generation. It merits attention chiefly because in a census taken thirty years hence, such a picture would be found, if at all, only in small and isolated sections of the province. In seventeenth century French Canada the family pattern of the whole country must have resembled the one shown.

Figure 20 brings out one small point of some interest. A preference for certain numbers in statements of age is well known. Examination of several distributions similar to type A reveals a preference for a family size of 12 children. Probably the actual numbers of families with 12,

Figure 20



13 and 14 children were very nearly equal and the mode may have been nearer 13 than 12. The mean of the rural Quebec distribution is 10·25. The mean of the Vancouver distribution is 3·98. The sources of variability in the two distributions are very different. The different family sizes in the rural Quebec group probably represent individual variations operating in a fairly uniform social environment favourable to the large family. The variability of the Vancouver distribution is greater and is that of a socially more heterogeneous population. Evidently a considerable part even of this selected group of women marrying very young conforms to the metropolitan two-child family standard but the long tail reveals another part who are not limiting their families in this way.

Changes in the modal size of family reflect changing social attitudes in a more significant way than do changes in either the mean or the median. The most fashionable family size in a community sets a pattern to which more and more people feel a compulsion to conform. Where the two-child family is the most common size, housing and standards of living tend to adapt themselves to the needs of this type of family even though average fertility may be still high. From the shape of the Vancouver distribution, it is probable that the right hand tail will be rapidly truncated and that, in the absence of drastic change in family attitudes, the distribution will become one with a very pronounced mode at two children and few families with more than four. A population which reproduced according to this predicted pattern would not be replacing itself and would eventually decline in numbers.

Irregular and almost rectangular distributions like that in Quebec often do not show a distinct mode, but in spite of this limitation it is possible to trace the movements of the mode in space and time through a large number of distributions. Women of 40-45 can be included in the survey since the size pattern does not change much after that age. Among women marrying later than 30 years the mode is at no children, rarely with a secondary mode at two children. For women marrying under 30 years, the tables show 262 distributions. In just over half of these (135) the modal size of family is two. Among women 65 years and over, marrying under 18 years, all provinces and metropolitan areas show modes greater than two, and everywhere except in Ontario, British Columbia and the metropolitan areas of these provinces, the modal family was seven or over. At the other extreme, among women now 40-44 years, marrying when over 25 years of age, the modal family of two is the rule in every region. The change in time is best seen by looking at the group marrying between 20 and 24 years, the age period during which the largest proportion of women marry. Among women 65 years and over in this marriage-age group, the modal family was over two in all areas except Toronto and Vancouver, ranging from three in Prince Edward Island, Ontario and British Columbia to over seven in Quebec. In the 55-64 age group, the modal family of two appears in Montreal and in the Provinces of Ontario and British Columbia. In the 45-54 age group, a mode of three occurred only in Prince Edward Island, Manitoba and Saskatchewan, while in the 40-44 age group, the two-child family was the mode in every province and metropolitan area except Saskatchewan. Rural and city subdivisions were available only for women of 45-54 years. In this age group, Quebec rural women had a modal family of seven or over in all marriage-age groups up to 30. The Quebec city groups, on the other hand, have a mode of three and are the only city groups, except Saskatchewan women marrying under 20, in which a mode of two is not found.

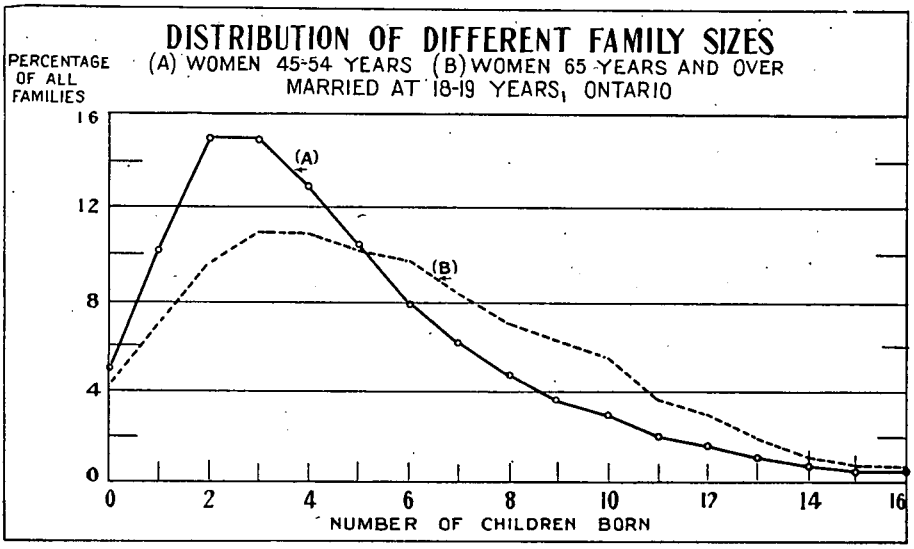
Figures 21 to 26 show the change in the pattern of family sizes as between women now 65 years and over and those now 45-54 years for the two largest provinces and the three most common marriage-age groups. In each figure the greatest reduction is in the proportion of moderately large families. What constitutes a moderately large family differs in each province and in each marriage-age group. In each figure the relative persistence of extremely large families can be seen. Table XIV shows that these very large families are predominantly rural.

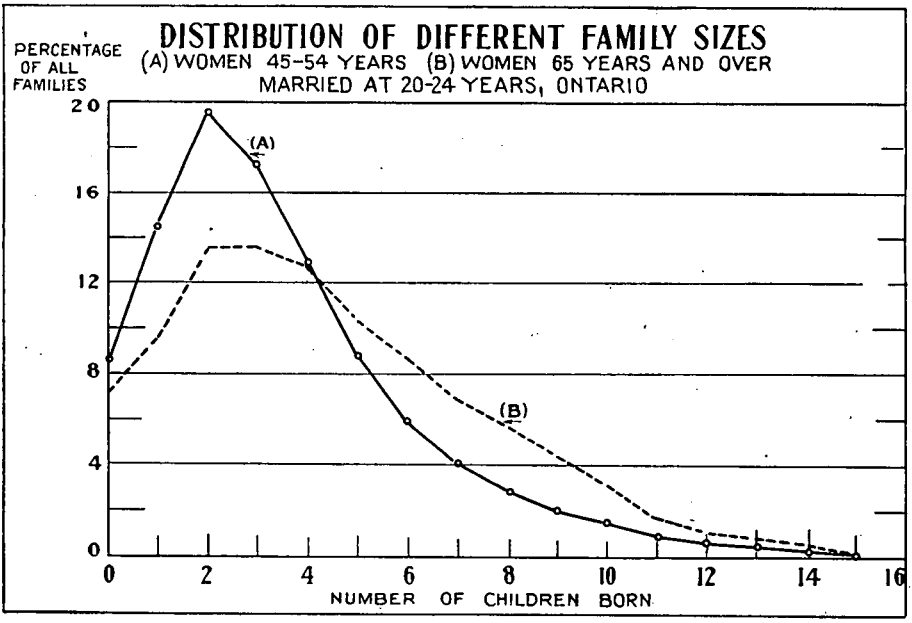
TABLE XIV.—PERCENTAGE OF FAMILIES[1] WITH ELEVEN OR MORE CHILDREN, WOMEN AGED 45-54 YEARS, MARRIED AT 20-24 YEARS, RURAL AND CITY, CANADA AND PROVINCES

Province	Rural	City (over 30,000 population)
	p.c.	p.c.
Canada	**11·1**	**3·8**
Prince Edward Island	10·0	–
Nova Scotia	7·9	2·7
New Brunswick	16·6	3·4
Quebec	31·4	9·9
Ontario	3·9	1·2
Manitoba	7·3	0·6
Saskatchewan	7·4	1·2
Alberta	5·2	0·7
British Columbia	2·0	0·4

[1] All children born to a mother before the census date included, living and dead, current and previous marriages.

Figures 21 and 22



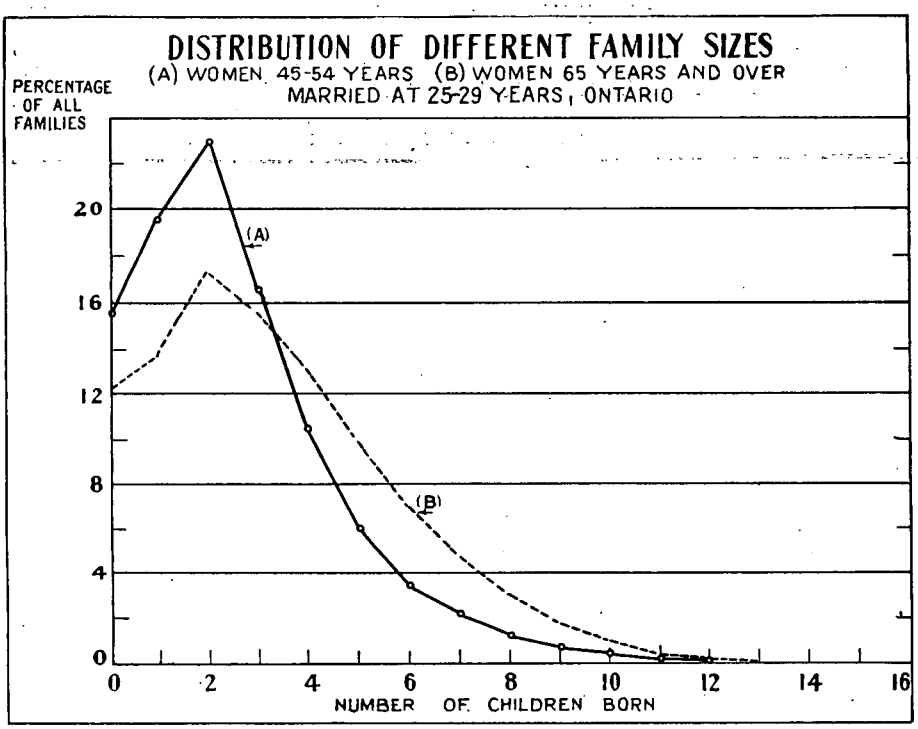


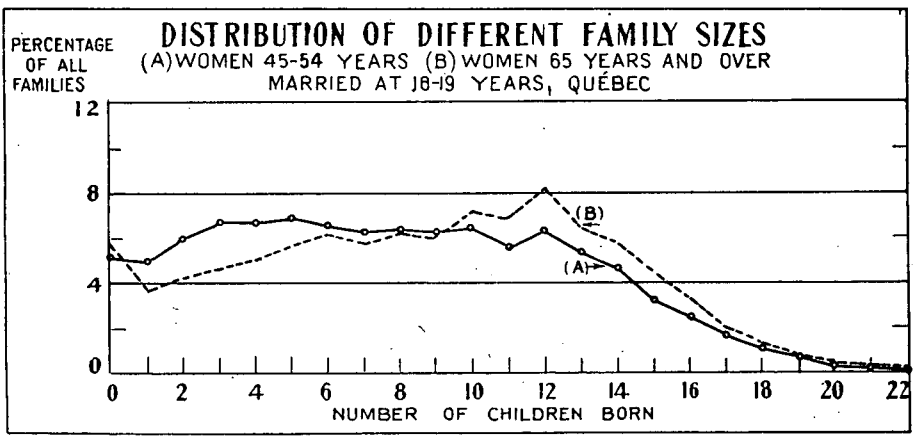
Where the relative rates of decline in fertility of rural and urban populations are taken into consideration, the backlog of very large families which contributes materially to Canada's high birth rate is seen to be a consequence of the economic and cultural isolation of certain rural sections. Since these large families are not likely to persist in the face of the continued spread of urban modes of living, the situation is a highly unstable one. Family sizes in incomplete marriages indicate that the rate of disappearance of the very large family is being greatly accelerated.

Increasing interest in social security focuses attention on family sizes from the standpoint of the child who suffers from the economic handicap of belonging to a large family. Census data on the resident family give valuable information on the number of living children resident

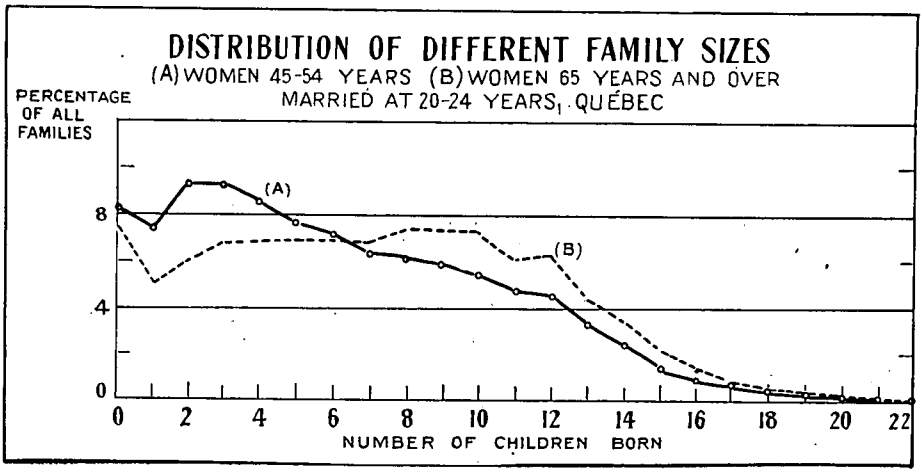
at home at the time of the Census. Fertility data supplement these figures by giving the total family size. On account of the immediate practical interest of the question, one of the younger groups of women will be described. Women aged 35-39 years in 1941 had not then completed their families but not many more children would have been added after that date. In these families there are still young children, while the older ones are at the stage when the need for higher education may have to be sacrificed to the economic necessities of the large family. Table XV shows the proportion of children born to families of different sizes among this group of women. The table differs from previous ones. Up till now we have examined the distribution of different sizes of family, whereas now we have the distribution of children according to the size of family in which they are found.

Figures 23 and 24





Figures 25 and 26



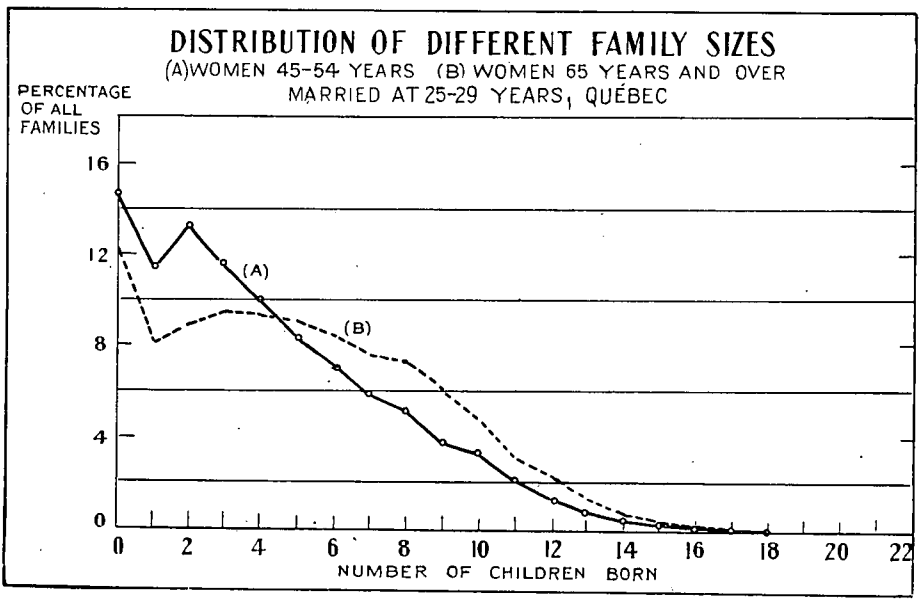


TABLE XV.—PERCENTAGES WHICH CHILDREN BORN TO FAMILIES[1] OF DIFFERENT SIZES FORM OF ALL CHILDREN BORN, MARRIED WOMEN AGED 35-39 YEARS, CANADA

Family size	Percentage of all children born
	p.c.
1	5·2
2	12·2
3	13·3
4	12·5
5	10·7
6	9·6
7	8·4
8- 9	13·5
10-14	13·5
15 and over	0·9

[1] Families with at least one child born. See also footnote to Table XIV.

The modal size of family was two, but more children belonged to three-child families than to any other single size. The rapid disappearance of extremely large families is shown by the fact that less than one per cent of the children were born to families of 15 or more children. Yet at this stage, Canada was still a country of large families. Of all the children born to these mothers, 28 p.c. belonged to families of eight or more children, while more than half came from families of five or more children.

4. Changes in Marriage Age

Previous Canadian censuses have recorded conjugal condition, and ages of brides are known from 1921 onwards. Current census data provide mean and median ages at marriage for earlier periods. Table XVI gives the median age at first marriage of women in different age groups for Canada and provinces. At all ages, first marriages can still take place but the number of such marriages after 55 years is negligible. In the age group 45-54 the addition of later first marriages would not alter the trend shown. The table shows an increasing number of early marriages among the younger women. In Canada as a whole, half of the married women aged 65 years and over were married by the time they were 23·7 years old, while in the age group 45-54, half were married by the age of 23·1 years. The trend was most pronounced in the three provinces of late marriage, Ontario, British Columbia and Prince Edward Island, so that provincial differences are less marked in the younger age groups. Table XVII shows median ages at first marriage of women 45-54 years for rural and urban size groups. Provincial differences are seen in both rural and urban marriage ages but there is greater uniformity in urban areas.

TABLE XVI.—MEDIAN AGE OF WOMEN AT FIRST MARRIAGE, CANADA AND PROVINCES

Province	Present age of women		
	45-54 years	55-64 years	65 years and over
Canada	**23·1**	**23·7**	**23·7**
Prince Edward Island	23·9	24·7	24·9
Nova Scotia	22·9	23·5	23·8
New Brunswick	22·7	23·3	23·7
Quebec	22·9	23·0	23·1
Ontario	23·4	24·0	23·9
Manitoba	22·8	23·7	23·4
Saskatchewan	22·5	23·6	23·1
Alberta	22·7	23·8	23·3
British Columbia	23·6	24·9	24·4

TABLE XVII.—MEDIAN AGE AT FIRST MARRIAGE FOR WOMEN AGED 45-54 YEARS, RURAL AND URBAN SIZE GROUPS, CANADA AND PROVINCES

Province	Rural	Urban		
		Under 1,000	1,000–29,999	30,000 and over
	years	years	years	years
Canada	**22·7**	**23·1**	**23·1**	**23·4**
Prince Edward Island	23·9	23·8	23·9	–
Nova Scotia	22·8	23·3	22·8	23·4
New Brunswick	22·4	23·0	23·1	23·3
Quebec	22·3	23·0	22·7	23·2
Ontario	23·2	23·7	23·2	23·5
Manitoba	22·3	23·1	23·1	23·1
Saskatchewan	22·2	22·8	23·2	23·4
Alberta	22·3	22·9	22·9	23·5
British Columbia	23·4	23·4	23·3	23·7

The same data on age at marriage can be presented in another way. Figures 27 and 28 show for all married women the cumulative percentages married at successive ages. The earliest and latest marrying provinces, Saskatchewan and Prince Edward Island, are shown, also Ontario and Quebec. British Columbia is similar to Prince Edward Island, while Saskatchewan represents all three Prairie Provinces. If instead of considering married women only, the proportions of all living women who were married at different ages are recorded, the result is a picture of the marital history of a group of women corresponding to a nuptiality table. Table XVIII gives for the group of women both married and single, aged 45-54 years at the Census, the proportion who were married at successive five-year age intervals. For all women now 45-54 years, married before the age of 45, mean and modal ages at marriage were computed by fitting graduated and adjusted curves to the data. The mean age at first marriage for this age group was 24 years, and the modal age 20·6 years.

Figures 27 and 28

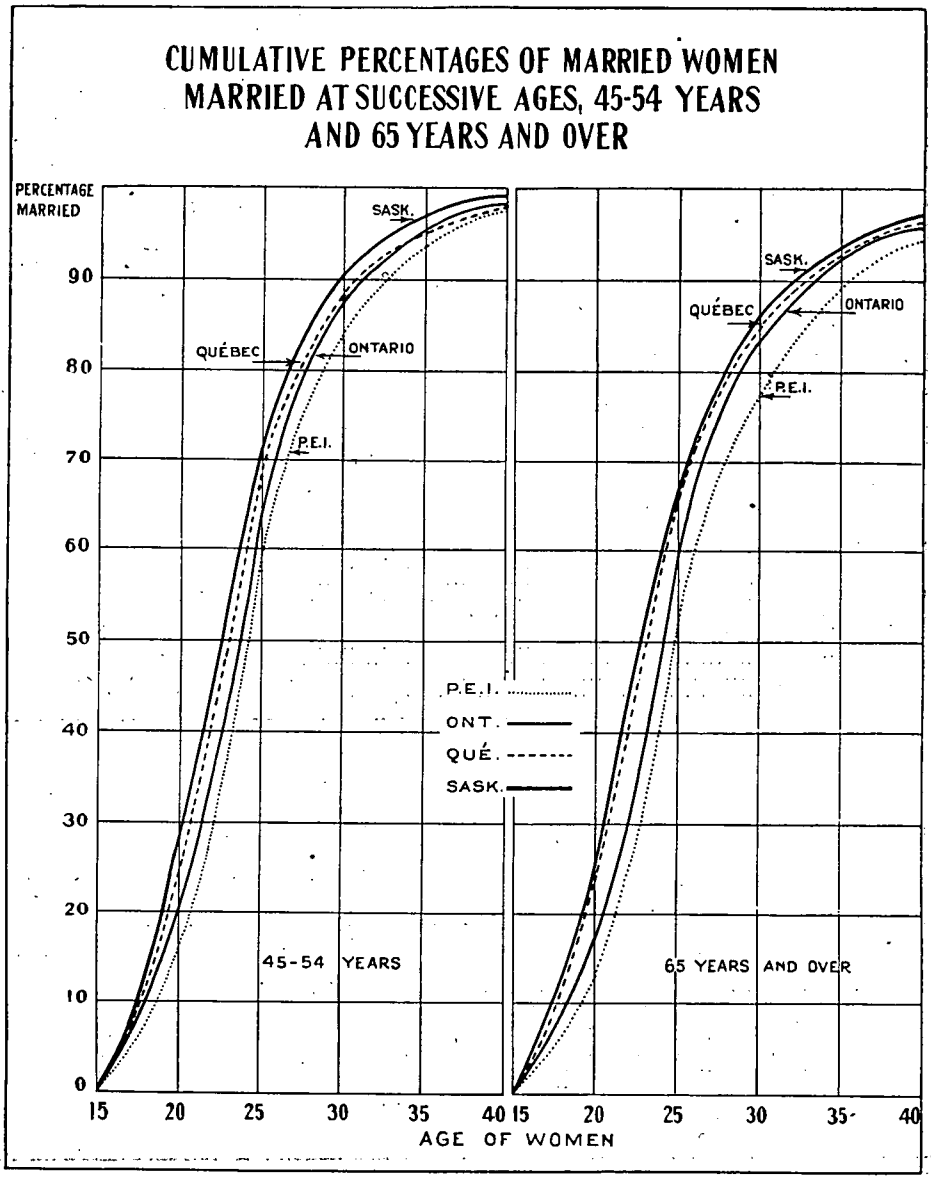


TABLE XVIII.—CUMULATIVE PERCENTAGES OF ALL WOMEN AGED 45-54 YEARS WHO WERE MARRIED AT SUCCESSIVE AGES, CANADA AND PROVINCES

Province	Age at first marriage						
	20 years	25 years	30 years	35 years	40 years	45 years	50 years
Canada	**20·5**	**59·4**	**79·0**	**85·3**	**87·7**	**88·7**	**89·3**
Prince Edward Island	14·3	51·7	73·4	81·5	85·2	86·6	87·3
Nova Scotia	22·5	60·2	78·6	84·6	87·2	88·3	88·9
New Brunswick	24·1	62·2	79·8	85·8	87·9	88·8	89·4
Quebec	20·7	59·0	75·9	81·4	83·7	84·8	85·4
Ontario	17·6	56·4	77·5	84·1	86·6	87·7	88·2
Manitoba	23·8	63·1	82·9	88·9	90·8	91·7	92·1
Saskatchewan	27·2	68·3	87·2	93·2	95·2	95·9	96·2
Alberta	25·8	66·3	86·0	92·4	94·6	95·5	95·8
British Columbia	18·1	57·4	80·1	88·0	90·9	92·2	92·9

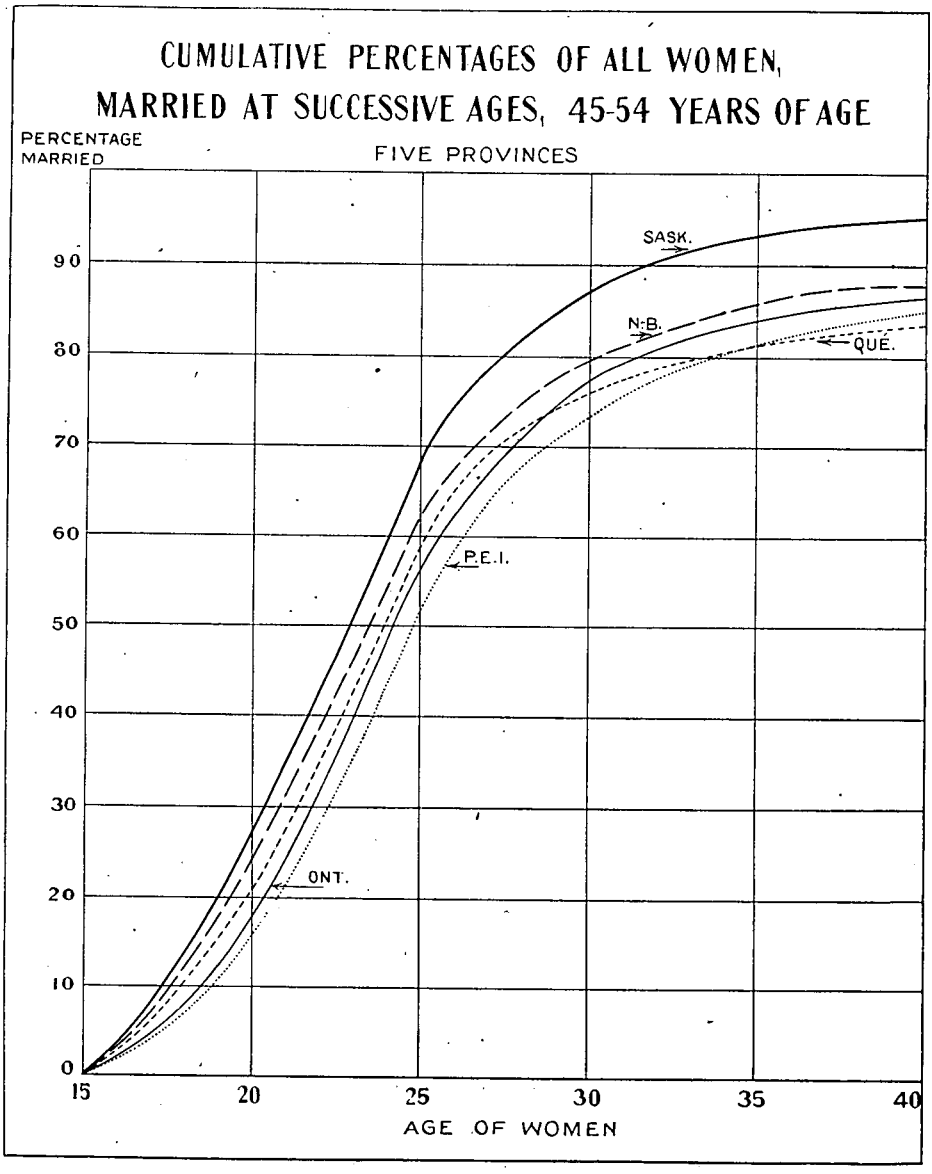
Figure 29 shows the data of Table XVIII in graphical form for selected provinces. Three types can be discerned. The three Prairie Provinces, of which Saskatchewan only is shown in the figure, all have early marriage and high proportion of married women. Of the same type, though with rather fewer married at each age, are New Brunswick and Nova Scotia. The remaining four provinces show a diversity of pattern. Age at marriage in Quebec is about the same as in New Brunswick and Nova Scotia but more women remain spinsters. In the remaining three provinces, Ontario, British Columbia and Prince Edward Island, the age at marriage is much later but many women marry at later ages so that the curves of proportions married cross those of Quebec. British Columbia is an extreme example of this sort of pattern. Age at marriage is very late but the proportion of women ever married at 50 is one of the highest. From the standpoint of total fertility, the years before 30 are the most significant. Figure 29 shows that Quebec has an advantage over the last three provinces mentioned in the years of most frequent childbearing in spite of the high proportion of spinsters. The effect of the termination of marriages by separation and divorce has been neglected.

When the less fertile marriages taking place after 30 are excluded, the history of changes in marriage age can be brought nearer to the present time. Mean or median marriage ages for the younger age groups cannot be computed from census data, but two ratios can be observed, the ratio of women marrying under 20 to those marrying between 20 and 25, and the ratio of women marrying between 20 and 25 to those marrying between 25 and 30. These ratios are not free from ambiguities, since movements towards early or late marriages may affect different age groups with different intensities and so give rise to contradictory movements in the ratios observed. But in spite of this the picture tells a consistent story. Over the whole period from about 1890 to the end of the depression of the thirties, fluctuations in age at marriage are seen but no consistent trend is clearly discernible. Up to World War I, women were tending to marry for the first time at later ages. The war period represented by the age group 45-54 years, saw earlier marriages. The trend towards earlier marriage continued until the onset of the post-war depression. The depression years saw much postponement of marriages. While no general trend can be discerned with certainty, it seems that on the whole the ratio of marriages under 20 to those between 20 and 24 remained unchanged, while there was a tendency for marriages between 25 and 29 to increase proportionately.

Information about married fertility, age at marriage, and proportion of women ever marrying can now be combined to get a picture of the relative weight of each component in total fertility. Through successive periods of completed marriages, married fertility declined by a slightly greater amount than total fertility, and the effect of smaller families was partially counteracted by

earlier marriages and fewer spinsters. At the earliest period recorded, very early and almost universal marriage in the Prairie Provinces was accompanied by very large families. As these pioneer conditions disappeared, total fertility declined rapidly. In the Maritime Provinces, less favourable marriage conditions were balanced by a less rapid fall in total fertility. In Quebec still larger families have sufficed to give the province the highest fertility until very recently in spite of many unmarried women and an increasing tendency to later marriage. In Ontario and British Columbia late marriage is associated with smaller families than elsewhere. It is unlikely that any change in marriage conditions in these two provinces could raise materially the level of total fertility. Prince Edward Island is rather exceptional in that, though the age at marriage is characteristic of an urbanized province rather than of one almost entirely rural, fertility of late marriages is exceptionally high so that postponement of marriage has less effect on total fertility.

Figure 29



5. Characteristics of Early and Late Marriages

Census Tables and Tables 3 and 4, (Part II)* give some of the more outstanding characteristics of women marrying at different ages. The descriptions tabulated are all interdependent. For example, women of French racial origin are nearly all Catholic, while women of Protestant religion are more often urban and more frequently have had advanced education. The part played by each of the above factors in affecting marriage habits will be seen more clearly in later chapters. This chapter merely presents the data in a crude form without attempting to draw very definite conclusions. A summary view of the basic tables is given in Table XIX in the form of median ages at marriage of women aged 45-54 years at the time of the Census. Slavonic and Teutonic mother-tongue groups are classified on a linguistic basis.

TABLE XIX.—CULTURAL DIFFERENCES IN MEDIAN AGE AT FIRST MARRIAGE, WOMEN AGED 45-54 YEARS, CANADA

Birthplace	Median age at first marriage	Mother-tongue	Median age at first marriage	Religion	Median age at first marriage	Ethnic group	Median age at first marriage
	years		years		years		years
Europe	21·4	Slavonic	19·9	Greek Orthodox	19·4	French	22·5
United States	22·4	Teutonic	22·3	Jewish	21·9	European	21·8
Canada	23·1	French	22·5	Roman Catholic	22·5	British	23·7
British countries	24·0	English	23·6	Protestant	23·5		

European birthplace, Slavonic mother-tongue and Greek Orthodox religion are all associated with early marriage, while British birthplace and Protestant religion are associated with relatively late marriage. French-Canadian born and those of the Jewish religion occupy an intermediate place. Farm birthplace is associated with earlier marriage than urban birthplace. The latter difference is less striking than those previously noted. Median age at marriage among those born in rural non-farm localities is in general intermediate between the median ages of those born on farms and those born in urban communities. Exceptions are Nova Scotia and Ontario, explained by early marriage among the mining populations of those provinces. Cultural differences between marriage-age groups are most marked in the Prairies and British Columbia and least so in Ontario and the Maritimes. This suggests that it is mainly the fact of recent immigration from European countries with a tradition of early marriage, perhaps combined with the stimulus of migration, that is mainly responsible for the differences noted. At the same time, women of British origin, living in cities and more highly educated, will probably be found to marry relatively late, irrespective of length of settlement. Regions showing extremes of early and late marriage also have concentrations of types in which linguistic and religious differences in marriage habits are reinforced by differences associated with birthplace.

Age at marriage is associated in a striking manner with differences in educational level. Table XX gives the median age at marriage of different educational groups in three periods. Those of the younger women with primary school education only, married earlier in the later period but little change is apparent in age at marriage of those with high school or advanced education. Table XXI shows for each marriage-age group the proportions at each educational level. The latter table also brings out the rise in educational level in recent years. Although women under 35 are not included in Table XXI because some of them will marry later, clearly only a small and rapidly disappearing proportion have received less than five years' schooling. Putting together the data of both tables, it can be seen that although women with least schooling still marry earlier than others, the length of school life of the whole population is being increased without any consequent increase in the average age at marriage. From the standpoint of family environment, the late marriage age of the most highly educated women presents rather an unfavourable picture. Completion of a university education is not as a rule compatible with

* The total number of married women in Tables 3 and 4 (Part II) is slightly larger than in previous basic tables because of the inclusion of women with size of family not stated.

marriage at a very early age, but the educational group with 13 years or more of schooling soon includes many who have senior matriculation only. More than half of the older women with senior matriculation or better marry at ages when the proportion of childless women is high and the chances of more than one or two children being born are small.

TABLE XX.—MEDIAN AGE AT MARRIAGE BY PRESENT AGE OF WOMEN, EDUCATIONAL GROUPS, CANADA

Years of schooling	Present age		
	45-54 years	55-64 years	65 years and over
0- 4	20·9	21·7	22·3
5- 8	22·7	23·5	23·6
9-12	24·0	24·8	24·5
13 and over	25·6	26·6	25·7

TABLE XXI.—PERCENTAGES MARRIED IN EACH EDUCATIONAL GROUP ACCORDING TO AGE AT MARRIAGE AND PRESENT AGE OF WOMEN, CANADA

Present age and years of schooling	Age at first marriage						
	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45 years and over
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Women aged 35-44 years—							
Years of schooling—							
0- 4	19·5	9·6	7·3	6·5	-	-	-
5- 8	55·6	48·5	39·7	37·9	-	-	-
9-12	23·6	37·1	43·5	44·7	-	-	-
13 and over	1·4	4·8	9·4	10·9	-	-	-
Women aged 45-54 years—							
Years of schooling—							
0- 4	22·8	10·9	6·7	6·6	7·2	7·6	-
5- 8	53·4	48·6	41·7	40·9	41·2	40·7	-
9-12	22·3	35·9	43·2	43·1	42·4	42·2	-
13 and over	1·6	4·7	8·4	9·4	9·3	9·4	-
Women aged 55-64 years—							
Years of schooling—							
0- 4	25·1	13·6	7·7	7·1	7·3	8·0	8·1
5- 8	53·2	51·9	46·9	45·6	44·8	44·6	45·2
9-12	20·0	30·8	38·6	39·3	39·8	38·7	38·6
13 and over	1·6	3·8	6·8	8·0	8·1	8·6	8·1
Women aged 65 years and over—							
Years of schooling—							
0- 4	29·8	18·8	13·4	12·7	12·2	12·9	13·1
5- 8	50·3	52·1	50·4	48·9	49·1	47·9	47·8
9-12	18·3	25·6	31·0	32·2	32·1	32·2	32·4
13 and over	1·6	3·6	5·2	6·8	6·6	7·1	6·7

In discussing the size of family in relation to age at marriage in earlier sections, no mention was made of the selective nature of early marriage. Canadian vital statistics do not disclose the length of time elapsing between marriage and the birth of a child. The experience of other countries, e.g., Scotland and Australia, is that a considerable proportion of all first births are ante-nuptial conceptions. How many of these there are in Canada is unknown but there are undoubtedly some. To this extent, then, women marrying at early ages are selected for fertility. While appraisal of the weight of this factor in the absence of the necessary data would be fruitless, examination of cultural differences in marriage age and more especially of fluctuations corresponding to the trade cycle suggest that it is at least an incomplete explanation of the phenomenon of early marriage. If the effect of selection of the fertile were outstanding, fertility differences should be most marked in social groups where few women marry at an early age, but this does not appear to be the case. Irrespective of the mechanisms of sexual response involved, differences in social tradition are associated with different marriage habits.

6. Summary

Age at marriage is associated with large differences in size of completed families. For those marrying over 20, postponement of marriage for five years meant on the average about one child less. The difference was even greater between those marrying under and over the age of 18 years. While family size has declined among women marrying at all ages, there is some reason to believe that women marrying young are less disposed to limit their families severely than those marrying at older ages. The influence of early marriage age on size of family appears to be exerted in three ways, in order of importance: (a) longer reproductive period; (b) fewer childless marriages; (c) more rapid production of children within a given period of married life.

Canada is still a country of large families. Among women 35-39 years at the time of the Census, more than half of the children had been born into families which eventually reached a size of five or more children. Childless marriages were on the increase before 1921 but were still comparatively infrequent except in the metropolitan areas of Toronto, Winnipeg and Vancouver. Examination of incomplete families suggests (a) that the proportion of childless marriages is rapidly increasing, and (b) that the two-child family is becoming the modal family over a wide area. Changes in the modal size of the family in all marriage-age groups and all regions indicate the rapid spread of family attitudes favouring the small family.

Provincial differences in family size, in the probability of marriage, and in age at marriage have emerged in the foregoing chapters. They are a result of a wide range of social traditions and of differences in the economy of different parts of Canada. Some of these characteristics have been mentioned in relation to age at marriage. Detailed cultural and economic analysis of variations in family size will form the subject of ensuing chapters and regional variations will be explained in terms of other more meaningful social characteristics.

CHAPTER III

A CULTURAL APPROACH TO DIFFERENTIAL FERTILITY

Introduction

A fruitful way of studying the problem of the declining birth-rate has proved to be the investigation of variations in size of family between groups of people who are recognizably different in their attitudes to the family and in their occupations, standards of living and so on. The principal social characteristics associated with differences in size of family are well known. Rising standards of living, higher money incomes, concentration in large urban communities, transference of labour from primary production to white-collar occupations, are all found to be associated with a reduction in the average size of the family. Yet the social environment of parents during their adult life does not account completely for the size of their family. Habits of living and modes of thought, the social heritage of many generations, are also powerful determinants of reproductive behaviour. Canada is a particularly rich field for studying differences of this kind.

Man shares with all other animals a chromosomal mechanism for the transmission and recombination of ancestral characteristics. Unlike any other animal, man possesses well-developed means of communication. With these he is able to transcend the limits of gene transmission and to inherit that complex of attitudes and information or misinformation called the social heritage. Nor need man inherit only from his biological ancestors. Potentially, if not actually, each child born is co-heir of all the previous achievements of the human species. No sharp dividing line can be drawn between the two modes of transmission. Few genes, if any, exhibit their effects independently of the social environment in which the human organism is found. Socially-acquired tradition is continuously modified by the hereditary make-up of the individuals receiving it.

The waves of immigration, some of them quite recent, by which Canada has been settled by peoples of very diverse origin have focussed much attention on the diversity of social tradition still to be found. Without distinguishing the type of transmission, differences of inherited equipment are the subject of demographic study under such headings as "race", "racial origin", "colour", "ethnic stock" etc. Perhaps few words in human speech have a heavier loading of passion and prejudice. The Nordic myth is a notorious but not an isolated example of concepts which are the proper subject matter of folklore studies rather than the apparatus of scientific investigation. It is imperative to adopt a rigorously semantic approach in order to study the real group differences often obscured rather than revealed by emotionally coloured terminology.

1. The "Racial Origin" Classification

The 1941 Census instructions to enumerators on the subject of racial origin began:—"What is racial origin? The word 'race' signifies 'descendants of a common ancestor' ".* It is evident that we cannot take statements about "descendants of common ancestor" literally. In 250 years, seven human generations elapse, genetically speaking, a very brief period. As Huxley and Haddon† have pointed out, to trace the ancestry of any individual for such a period would require the knowledge of 255 matings, information which few possess. Admittedly some probability of ancestral relationship can be established without precise knowledge of pedigrees. For instance, blonde individuals in Sweden share more common ancestors with each other than with two dark-skinned individuals in Basutoland. In less extreme cases there is a greater element of doubt. Though seldom proved, the fact of common ancestry is surmised from a variety of considerations with a greater or less degree of probability. It is important to remember that closeness of relationship is not necessarily the same thing as similarity of genes. A consideration of the biological aspects of race will be found in Appendix B. Our first concern is with criteria employed for isolating groups supposed to have some degree of kinship.

* Eighth Census of Canada 1941. "Instructions to Commissioners and Enumerators". Ottawa, 1941.
† J. S. Huxley and A. G. Haddon. "We Europeans". London, 1945.

According to Hurd* "the term 'racial origin' has a combined biological, cultural and geographical significance. In some cases all three criteria are employed, in others only one." The choice of criteria appears to be largely based on the classification of the United States Bureau of Immigration.† Anthropological classifications are based on physical signs, e.g., skin colour, hair form. Unfortunately, there is no general agreement among anthropologists about even the broad outline of such a classification, and subsequent discussion will show that it is not likely that unanimity on these lines will ever be reached. The United States classification separates Caucasian, Ethiopian, Mongolian, Malay, and American, roughly corresponding to white, black, yellow, brown and red peoples, the first two respectively with wavy and curly, the last three with straight hair. Thus emphasis is chiefly on skin colour and hair form. The great majority, however, of the inhabitants of Canada, as of the United States immigrants, are indistinguishable by somatological criteria. Accordingly, the United States classification bases sub-division of European peoples mainly on linguistic grounds. While the linguistic criterion seems to underlie the Canadian system, it has become partially superseded by geographical origin. For example, Austrian is admitted as a racial origin, though there is no Austrian language. In the Census Monograph referred to below, Austrians are distributed among other racial origins, and other corrections are made having the effect of making the final groupings linguistic rather than geographical. Where the linguistic distinction is employed, it is mainly a key to relationship, since it does not necessarily give the mother-tongue of the present generation of people long settled in Canada. Clearly the geographical and linguistic criteria are not mutually exclusive and it is often hard to say on which the emphasis should be placed. Some of the descriptions which are apparently geographical could equally well be regarded as linguistic, e.g., Norwegian.

The racial origin enumerated is that of a male ancestor. Up to 1941 an exception was made in the case of colour criteria. Canadian, American and Australian are not regarded as racial origins. The relative importance of the different types of criteria is indicated from the following list of racial origins. Since the basis of classification is nowhere clearly defined, a different way of grouping might seem equally plausible. Many of the designations have only methodological interest in the Canadian scene since they refer to very few individuals. In 1941, four racial origins only, French, English, Scottish, Irish, in that order, each comprised more than 10 p.c. of the population and together accounted for 79 p.c. Another six formed 1 p.c. or more. All the foregoing are italicized in the subsequent list. There are 36 other racial origins coded and of these 16 have less than 0·1 p.c. of the population each.

* Census Monograph No. 4. "Racial Origin and Nativity of the Canadian People". Ottawa, 1937.
† "Dictionary of Races or Peoples". Washington, 1911.

TABLE XXII.—"RACIAL ORIGIN" ATTRIBUTES

A. PRIMARILY COLOUR—
1. *Indian*
2. Eskimo
3. Half breed[1]
4. Negro
5. Hindu

B. PRIMARILY COLOUR AND LANGUAGE—
6. Chinese
7. Japanese

C. PRIMARILY LINGUISTIC—
8. *French*
9. *Ukrainian*
10. *Dutch* (Netherland)
11. *Polish*
12. Czech-Slovak
13. Belg. Flemish
14. Belg. Walloon
15. Other European (Spanish American; classed as Other European)

D. PRIMARILY GEOGRAPHICAL—
16. *English*
17. *Scottish*
18. *Irish*
19. *German*
20. Italian
21. Norwegian
22. Swedish
23. Russian
24. Welsh
25. Hungarian
26. Finnish
27. Austrian
28. Danish
29. Roumanian
30. Yougoslavic
31. Icelandic
32. Syrian
33. Greek
34. Lithuanian
35. Bulgarian
36. Spanish
37. Armenian
38. Other British
39. Lettish
40. Portuguese
41. Other Asiatic
42. Luxembourger
43. Turkish
44. Albanian
45. Mexican
x. (Swiss)[2]

E. PRIMARILY RELIGIOUS—
46. *Jewish*

[1] Abolished in 1946.
[2] Swiss were classed in 1941 by language as French, German, Italian and Other European. A Swiss ethnic origin is now accepted.

2. The Cultural Significance of Racial or Ethnic Classifications

We have seen that the biological aspects of "racial origin" are a myth. There is no French "race", Jewish "race", Welsh "race". The fact that information collected under these headings is in great demand indicates that its usefulness lies in another field. It is believed to identify groups having a distinctive culture. The word "culture" has already been used frequently in the present discussion and it seems appropriate to attempt to clarify somewhat what we are talking about lest we avoid a semantic Scylla to be wrecked on a semantic Charybdis. Many definitions of culture exist. One of the most explicit is—"by culture we mean all those historically created designs for living, explicit and implicit, rational, irrational, and nonrational which exist at any given time as potential guides for the behaviour of men".* The concept has been developed largely with reference to peoples which were until recently isolated and preliterate. While the anthropologist from another culture may perhaps over-simplify the lives of such people, he has been able to describe their cultures as integrated wholes. The anthropological approach to western civilization is still comparatively recent but it does not seem likely that it will be possible to describe our lives within the framework of a single culture or a series of separate cultures. At one level, most of the inhabitants of Europe and America participate in a common social tradition, while at another, a village or rural neighourhood may have its own distinctive pattern. Attitudes associated with a particular religion or occupation may interweave or conflict at either level.

The use of the word "cultural" in the present work is much looser than a precise definition would require. It is used frankly as a portmanteau word to describe collectively those social attributes supposed to be more specifically associated with the transmission of particular types of social heritage. Similarly under the heading "economic" are subsumed those attributes more directly related to ways of getting and spending a living. Since the objective is the limited one of interpreting a particular facet of human behaviour, the approach has been particularistic. No comprehensive synthesis of specific cultural attributes into integrated culture patterns has been attempted, though it may be hoped that the material may assist such a synthesis.

Regarded as an index to cultural resemblance, some of the inconsistencies in the ethnic origin classification appear less glaring and its utility more apparent than before. We can profitably inquire to what extent the groups so formed are homogeneous with respect to observable characteristics and in what way they differ from the population as a whole. Table XXIII groups various clues to cultural homogeneity. Column (a) is an approximate measure of intermarriage. It is the percentage of fathers of legitimate children born in the given year married to mothers of the same racial origin. As an index of continuity and uniformity, the percentage of like fertile parents is actually preferable to a direct estimate of intermarriage since infertile marriages do not affect the cultural makeup of the next generation. The table shows that only the first five racial origin groups, Japanese, Jewish, Indian, French, Negro form compactly closed groups; though the percentage of intermarriage is still high among Ukrainian and Chinese. Among the five most homogeneous groups, we can also note that the percentage of intermarriage shows no signs of decreasing. In contrast, the percentage of intermarriage among all the other racial origin groups has been decreasing quite rapidly from 1921 up to the present time. While the index still expresses a strong tendency for like to marry like, only the five leading racial origins appear likely to remain a closed kinship group in the immediate future.

Column (d) of Table XXIII is an indication of consistency of description. The figures are obtained from a comparison of descriptions of fathers in the 1941 Census with descriptions of the same individual on his child's birth certificate at some time during the previous year and a half.† Since only selected areas of the country were covered, the numbers are in many cases very small and should be taken as a rough indication only and not as an accurate measurement. If mixed racial origins of ancestors were the prime cause of inconsistency, a rather closer correspondence with the intermarriage figures might be expected. Intermarriage probably operates to confuse the various British origins. For European origins showing low percentages of consistency, the principal cause would seem rather to be confusion between linguistic and geographical criteria.

* Kluckhorn & Keely, "The Science of Man in the World Crisis", ed. R. Linton.
† Appendix A.

TABLE XXIII.—CULTURAL HOMOGENEITY OF "RACIAL ORIGINS"

Racial origin	(a) Index of percentage intermarriage 1941	(b) Percentage same mother-tongue 1941	(c) Percentage same religion 1941	(d) Descriptive consistency 1941
	p.c.	p.c.	p.c.	p.c.
1. Japanese	99	97	–	100
2. Jewish	95	76	99	93
3. Indian	95	–	50	100
4. French	93	94	97	96
5. Negro	90	–	85[2,3]	75
6. Ukrainian	80	92	62	87
7. Chinese	75	97	–	100
8. Hungarian	68	80	70	100
9. Finnish	64	88	97[3]	96
10. Czech and Slovak	62	72	75	85
11. Yugoslavic	59	58[2]	76[2]	–
12. English	59	99	90[3]	83
13. German	58	53	72[3]	80
14. Russian	56	55	44[3]	83
15. Italian	55	71	91	100
16. Netherland	53	61[1]	90[3]	75
17. Polish	51	71	81	69
18. Greek	50	73[2]	65[2]	–
19. Syrian	49	–	–	100
20. Icelandic	42	81[2]	92[2,3]	89
21. Roumanian	41	60	47	71
22. Belgian	36	47	85	100
23. Austrian	35	26[1]	58	57
24. Scottish	34	97	88[3]	87
25. Irish	34	98	66[3]	89
26. Norwegian	27	66[2]	96[2,3]	97
27. Swedish	22	67[2]	94[2,3]	97
28. Danish	17	61[2]	91[2,3]	94
29. Welsh	6	–	–	63

[1] English. [2] 1931. [3] Protestant.

The remaining columns (b), (c) indicate the proportions of each racial origin having the same mother-tongue and the same religion in 1931. The Scandinavian languages are separated although they might be regarded as dialects of a common language. All Protestant religions are combined. In each case the figures relate to the religion having the largest number of adherents. In 1941 the majority of most racial origins were Canadian-born. Of the two cultural aspects tabulated, mother-tongue shows more homogeneity and also closest correspondence with the intermarriage figures. To the five closed groups already mentioned, we can add two linguistically homogeneous groups, the Chinese and Ukrainian, both with a high percentage of intermarriage. Lack of uniformity in the other groups indicates either that a geographical criterion has confused the linguistic one, or that the original mother-tongue has been superseded by English. Both with respect to language and to religion the majority of the groups are more homogeneous than a random sample of the population would be. Perhaps this is least true of the Russian and German groups.

We thus see that "racial" labels isolate groups most of whom show some degree of cultural homogeneity. Of these the largest numerically, the French, is at the same time one of the most homogeneous. This is perhaps one reason why the classification has proved so useful, since it is an adequate means of studying the main cultural division in the Canadian social scene. Complete homogeneity is not to be expected of an index which attempts to include under one heading the most significant cultural variations. We can apply another test by asking whether groups so isolated differ significantly with respect to their social behaviour. That they do so is abundantly shown both by studies of the characteristics of racial groups and by studies on differential fertility.* In the present work, data on racial origin are used in Chapter VI in association with data on occupation and earnings, but in the light of the foregoing discussion, attention has been confined to the most homogeneous of the larger groups, the French, and to the British. The latter is a less homogeneous group, but it shares a common mother-tongue, and probably some elements of social tradition derived from a common geographical origin. In other parts of the work two alternative methods have been adopted and will be introduced in the following sections.

* Census Monograph No. 4, 1931. Charles, "Differential Fertility in Canada, 1931." Can. Journ. Econ. & Pol. Sci., May, 1943.

3. A Classification by Cultural Attributes

In the study of the cultural aspects of differential fertility, the first method adopted was to sort individuals successively by the cultural attributes of religion, mother-tongue and birthplace, and so to obtain groups which were homogeneous in respect of all three attributes. The sort was confined to women aged 45-54 years at the time of the Census. The classifications adopted were very broad but some attention has been given to certain minority groups. The results are presented in Chapter IV. As a preliminary, some account of the distribution and characteristics of the culture groups so formed will be given here. The numerical distribution of religions, mother-tongues and birthplaces is given separately by the main census tabulations but for the age-group in question the distribution of combinations of these was obtained in the course of the work and is of some general interest.

Numerical Distribution of Cultural Characteristics

Table XXIV shows the population of rural districts and of cities with over 30,000 inhabitants classified both by religion and mother-tongue. As explained in Chapter IV, some sections of the population of lesser numerical importance are omitted. The principal omission is of United States born. The table shows the concentration of French-speaking Catholics in Quebec and in the rural parts of the Maritimes (mainly New Brunswick). When the Canadian-born and British-born English-speaking Protestants are combined, British Columbia is seen to be the most predominantly English-speaking Protestant region. English-speaking Catholics are numerically important only in the Maritimes and there chiefly in the towns.

TABLE XXIV.—REGIONAL DISTRIBUTION OF RELIGION-MOTHER-TONGUE GROUPS, WOMEN AGED 45-54 YEARS

Region	All	Canadian-born				Canadian and foreign-born		British-born	
		French mother-tongue		English mother-tongue		European mother-tongue			
		Roman Catholic	Protestant	Roman Catholic	Protestant	Roman Catholic	Protestant	Roman Catholic	Protestant
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Rural—									
Maritime Provinces	100	19·1	0·1	12·2	63·2	0·3	0·5	0·4	4·2
Quebec	100	88·8	0·3	2·6	6·5	0·2	0·2	0·2	1·2
Ontario	100	7·4	0·2	6·6	64·9	4·0	5·5	0·5	10·9
Prairie Provinces	100	5·0	0·1	1·7	29·4	19·0	22·2	1·0	21·7
British Columbia	100	1·2	0·1	2·7	29·8	5·2	12·6	2·0	46·5
City—									
Maritime Provinces	100	3·8	0·2	29·7	57·5	0·2	0·2	1·7	6·7
Quebec	100	70·1	0·5	6·0	8·6	2·7	0·7	1·7	9·6
Ontario	100	4·6	0·2	9·0	46·4	4·1	2·4	2·1	31·2
Prairie Provinces	100	1·8	0·2	3·7	36·0	9·7	7·4	2·0	39·2
British Columbia	100	0·8	0·1	3·2	35·3	2·3	4·1	2·7	51·6

Table XXV shows how the religion-mother-tongue groups are distributed between rural parts and cities and between the different educational levels. It should be remembered that there have been great changes in educational facilities during the past thirty years, so that Table XXV does not represent the current educational standing of the different regions. European mother-tongue groups are predominantly rural and at the primary education level. The distributions shown in the table are relevant to the interpretation of some of the differences in family size which will be noted later. Since educational level is in part an index of occupation and income differences, greater diffusion of advanced education suggests that in the more prosperous culture

group, the economic level of the primary school groups may be on the whole higher than that of groups where very few attain advanced education. We shall see later that educational differences in fertility are most pronounced in the latter instance. Similarly, the predominantly rural character of the European language groups indicates that they were at this time fairly well isolated from urban patterns of living.

TABLE XXV.—RURAL-CITY AND EDUCATIONAL DISTRIBUTION OF RELIGION-MOTHER-TONGUE GROUPS—WOMEN AGED 45-54 YEARS

Mother-tongue and religion	Rural and city	Rural				City			
		Years schooling				Years schooling			
	All	0-8	9-12	13+	All	0-8	9-12	13+	All
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
French mother-tongue—									
Roman Catholic	100	39·3	9·8	0·7	49·8	32·8	15·8	1·6	50·2
Protestant	100	29·5	7·8	1·8	39·1	40·2	17·4	3·3	60·9
English mother-tongue—									
Canadian-born—									
Roman Catholic	100	25·7	11·7	1·4	38·8	28·0	27·8	5·4	61·2
Protestant	100	33·8	18·0	2·5	54·3	17·6	22·1	6·0	45·7
European mother-tongue—									
Roman Catholic	100	56·9	2·5	0·2	59·6	37·6	2·4	0·3	40·3
Protestant	100	69·0	5·5	0·5	75·0	20·0	4·3	0·7	25·0
English mother-tongue—									
British-born—									
Roman Catholic	100	10·9	10·4	1·7	23·0	37·4	34·3	5·3	77·0
Protestant	100	13·7	15·8	2·1	31·6	26·8	36·6	5·0	68·4

Description of Foreign Language Groups

The foreign language population as a whole is very heterogeneous. So more detailed information about the groups of Chapter IV is of some interest. Table XXVI shows the distribution of individual mother-tongues of the foreign language group classified by religion and residence. All these have 0-8 years schooling only. Nearly all the groups include a great variety of mother-tongues but, for the sake of simplicity, only those spoken by at least 10 p.c. of the population of the group are shown in Table XXVI. We see that in general the Roman Catholic and Protestant groups have different mother-tongues. German mother-tongue is prominent in both religions but relatively more so in the Protestant groups. There is a lesser degree of overlap in Italian and Magyar mother-tongues. The largest mother-tongue group is italicized in each case.

Mother-tongues also vary regionally. Among Roman Catholics, Ukrainian, Polish and Italian languages are well represented throughout, but Italian is more common in Ontario, Quebec, British Columbia, and in cities rather than in the country, while Ukrainian predominates in the Prairies. Among Protestants who have a foreign mother-tongue, the Eastern Provinces are more predominantly German-speaking and have also many Finnish-speaking persons, while the Prairies and British Columbia are mainly German and Scandinavian-speaking.

The Scandinavian mother-tongues are shown separately in the table. Collectively they are important in all Protestant groups in the Prairies and British Columbia, where they form from 15 p.c. to 40 p.c. of the foreign language population. They are proportionately most strongly represented in British Columbia.

The foreign-born are naturally in the majority in all foreign-language groups except for Quebec and Ontario Protestants, where there is a large native-born German-speaking group. Very few of the Ukrainian-speaking give the Ukraine as their birthplace. Their birthplaces were Poland, Russia (which may include the Ukraine), Austria, Czechoslovakia. The birthplaces of many of the German-speaking were Russia and other parts of Eastern Europe. So the birthplace of the foreign-born Catholics can be described as Eastern and Southern Europe and of the foreign-born Protestants as Northern and Eastern Europe.

The religious characteristics of the foreign-language groups are more obviously related to their relative fertility rates.* Among the Protestants, the majority are either Lutheran or Mennonite. The proportions belonging to these two religions are greater in rural parts than in cities. The cultural significance of the two is rather different. The Lutheran religion is the orthodox religion in the country of origin, whereas the Mennonite religion is a minority belief wherever found. It is significant that the Mennonites are largely confined to the Prairies where their religion appears to act as an isolating influence. Among the Catholics the proportions of Greek Catholics are greater in the Prairies, again indicating the persistence of European traditions. Mormons and Doukhobors constitute negligible minorities in the groups of Chapter IV, except in the case of British Columbia rural farm-born Protestants, 0-8 years schooling, where Doukhobors form 22 p.c. of the foreign-language population.

TABLE XXVI.—DISTRIBUTION OF EUROPEAN[1] MOTHER-TONGUES, WOMEN 45-54 YEARS, 0-8 YEARS SCHOOLING, BY RELIGION AND RESIDENCE

Religion, present residence and type of birthplace	Ukrainian	Polish	Lithuanian	Flemish	Italian	German[2]	Magyar	Slovak	Finnish	Swedish	Norwegian	Icelandic	Dutch[2]	Russian
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Roman Catholic rural, born farm—														
Quebec	23	*29*	13	–	–	12	–	–	–	–	–	–	–	–
Ontario	20	*25*	–	–	–	16	–	–	–	–	–	–	–	–
Prairie Provinces	*52*	18	–	–	–	16	–	–	–	–	–	–	–	–
British Columbia	16	14	–	–	*20*	15	–	–	–	–	–	–	–	–
Roman Catholic rural, born non-farm—														
Quebec	–	*31*	–	–	12	–	19	–	–	–	–	–	–	–
Ontario	16	18	–	14	*19*	–	12	–	–	–	–	–	–	–
Prairie Provinces	*39*	16	–	–	–	21	–	–	–	–	–	–	–	–
British Columbia	–	16	–	–	*29*	21	–	–	–	–	–	–	–	–
Roman Catholic urban, born farm—														
Quebec	21	21	16	–	*29*	–	–	–	–	–	–	–	–	–
Ontario	27	*55*	–	–	18	–	–	–	–	–	–	–	–	–
Prairie Provinces	*59*	22	–	–	–	11	–	–	–	–	–	–	–	–
British Columbia	10	24	–	–	*33*	–	–	–	–	–	–	–	–	–
Roman Catholic urban, born non-farm—														
Quebec	–	12	–	–	*61*	–	–	–	–	–	–	–	–	–
Ontario	15	21	–	–	*42*	–	–	–	–	–	–	–	–	–
Prairie Provinces	*45*	29	–	–	–	12	–	–	–	–	–	–	–	–
British Columbia	–	14	–	–	*47*	–	–	–	–	–	–	–	–	–
Protestant rural, born farm—														
Quebec	–	–	–	–	–	*75*	–	–	–	–	–	–	–	–
Ontario	–	–	–	–	–	*59*	–	–	22	–	–	–	–	–
Prairie Provinces	–	–	–	–	–	*48*	–	–	–	–	10	–	11	–
British Columbia	–	–	–	–	–	*25*	–	–	10	16	10	–	–	26
Protestant rural, born non-farm—														
Quebec	–	–	–	–	–	*56*	–	–	29	–	–	–	–	–
Ontario	–	–	–	–	–	*39*	–	–	25	–	–	–	–	–
Prairie Provinces	–	–	–	–	–	*41*	–	–	–	12	12	–	–	–
British Columbia	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Protestant urban, born farm—														
Quebec	–	–	–	–	15	–	11	11	*19*	–	–	–	–	–
Ontario	–	–	–	–	–	*57*	–	–	30	–	–	–	–	–
Prairie Provinces	–	–	–	–	–	*49*	–	–	–	–	–	10	–	–
British Columbia	–	–	–	–	–	14	–	–	11	*25*	20	–	–	–
Protestant urban, born non-farm—														
Quebec	–	–	–	–	*23*	16	–	–	11	–	–	–	–	–
Ontario	–	–	–	–	–	*41*	–	–	17	–	–	–	–	–
Prairie Provinces	–	–	–	–	–	*44*	–	–	–	11	–	11	–	–
British Columbia	–	–	–	–	–	11	–	–	11	19	*23*	–	–	–

[1] Includes only those mother-tongues spoken by 10 p.c. or more of their respective populations.
[2] "German" and "Dutch" often describe the same Teutonic dialect "Plattdeutsch".

Since the numbers of foreign-language speaking persons at higher educational levels are so small, a detailed description has been given of the primary school group only; but it is of interest to note that the linguistic composition of the higher education group differs from that of the primary group. The change is not very great among the Protestants. The largest groups with 13 years or more schooling are German and Scandinavian, as in the primary school groups, but

*c.f. Chapter IV.

there are relatively more Scandinavians with higher education, and a much smaller language group—the Dutch—is also well represented. Among the Roman Catholics, the linguistic composition changes completely. Among the few with 13 years or more schooling, the most frequent languages are, Flemish, German, and Dutch, in that order. The first and last of these three are very small minorities among the Roman Catholic primary school population. For Roman Catholic women 45-54 years old, especially with those of Slavonic or Italian mother-tongues, the opportunities for advanced education were very slight, and in rural parts could be described as non-existent. For the foreign-born, this reflects conditions in the country of origin, but as far as the small numbers permit of generalization, conditions do not seem to have been much better for the Canadian-born. The situation has probably changed greatly in recent years.

4. Local Culture-Types

The usefulness of the method described in the foregoing section is limited because it involves special sorting of the material. An alternative way of arriving at a cultural description of localities can be applied to the census material as it stands. The local units to which the scheme was initially applied were (a) cities and towns of 5,000 and over, and (b) remaining parts of counties. These are the local units used in tabulating vital statistics data. When local units are described by the percentage of the population with a given mother-tongue, religion, or birthplace it is possible for the number of descriptive categories to be almost as great as the number of local units, and so to be too unwieldy for analysis. The task is, however, simplified by two circumstances. One is that many religions and mother-tongues occur only in numerically insignificant minorities. The other is that there is a high degree of correlation between the different attributes. Thus combinations such as 90 p.c. French mother-tongue and 90 p.c. Protestant do not occur. In the classificatory scheme which follows, the individual mother-tongues, religions, and birthplaces are combined in broad groups and each group is assigned a literal symbol. English and French mother-tongues appear as separate items; the remaining languages were grouped in linguistic families, e.g. Slavonic, Teutonic, Romance, etc. (see Appendix E). In grouping religions, there is no evidence that the varieties of Protestantism, other than Mennonite, Mormon and Doukhobor, differ significantly in their relation to fertility, so we have two principal religious groups, Catholic and Protestant. The other religious groups noted are Mormons and Mennonites. The latter constitute the largest religious group in one locality and forms a sizable minority in a few others. Doukhobor and Jewish minorities have been ignored in this scheme, since size of family among persons professing these religions does not differ greatly from that of others in similar economic circumstances. A substantial proportion belonging to the Greek Orthodox Church only occurs in conjunction with a majority having a Slavonic mother-tongue. Canadian-born form the largest birthplace group in all the local units studied. Minorities have been classified as British-born, European-born, or mixed foreign-born. The symbols used are shown in Table XXVII.

TABLE XXVII.—SYMBOLS USED IN DESCRIBING CULTURE-TYPES

Mother-Tongue	Religion	Birthplace
E. English	ϵ. Protestant	b. Britain
F. French	φ. Roman Catholic	a. Europe
T. Teutonic	v. Mennonite	m. Mixed
S. Slavonic	μ. Mormon	
I. Indian and Eskimo		
X. Any other than English		

Each locality can be described for each of the three variables by (a) the largest group (b) other groups comprising over 15 p.c. of the population. Since the largest birthplace group, viz:—Canada, is the same for all localities, it is only necessary to note the minority birthplace groups. In general, each locality will thus be described by a five letter symbol, e.g. E S φ ϵ a, denoting respectively, majority English mother-tongue, minority Slavonic mother-tongue, majority Catholic, minority Protestant, minority European-born. Where the largest group makes up less than 70 p.c. of the population, the symbol can be modified accordingly. For many units, only two symbols are required, because in them over 85 p.c. of the population share a common mother-tongue and a common religion. On the other hand, some localities have more than one distinct minority of over 15 p.c. For the units studied, and disregarding the effect of other

variables, all other mother-tongues were associated with higher fertility than English. Those local units having a majority with Slavonic or Teutonic mother-tongue had varying religious and birthplace compositions, including Greek Orthodox; but their fertility seemed to indicate that they constituted relatively homogeneous groups. Birthplaces were more difficult to group, since British-born and European-born deviate in opposite directions from the Canadian-born. The symbol m denotes less than 70 p.c. Canadian-born, the minority being of mixed British, United States and European birthplace. The number of units in the principal groups are given in Table XXVIII.

TABLE XXVIII.—CLASSIFICATION OF LOCAL UNITS BY CULTURE-TYPES

Symbol	Remaining parts of counties	Cities and towns of 5,000 and over
	Number of localities	Number of localities
1. Eϵb	–	20
2. E (χ) ϵ (φ) b	–	20
3. Eϵ	42	13
4. E ϵ φ	17	27
5. E χ ϵ φ m	12	–
6. E χ ϵ φ	27	11
7. E χ ϵ φ α	11	–
8. E χ φ ϵ	12	13
9. F E φ ϵ	17	7
10. S	6	–
11. F E φ	5	–
12. F φ	59	31
	208	142

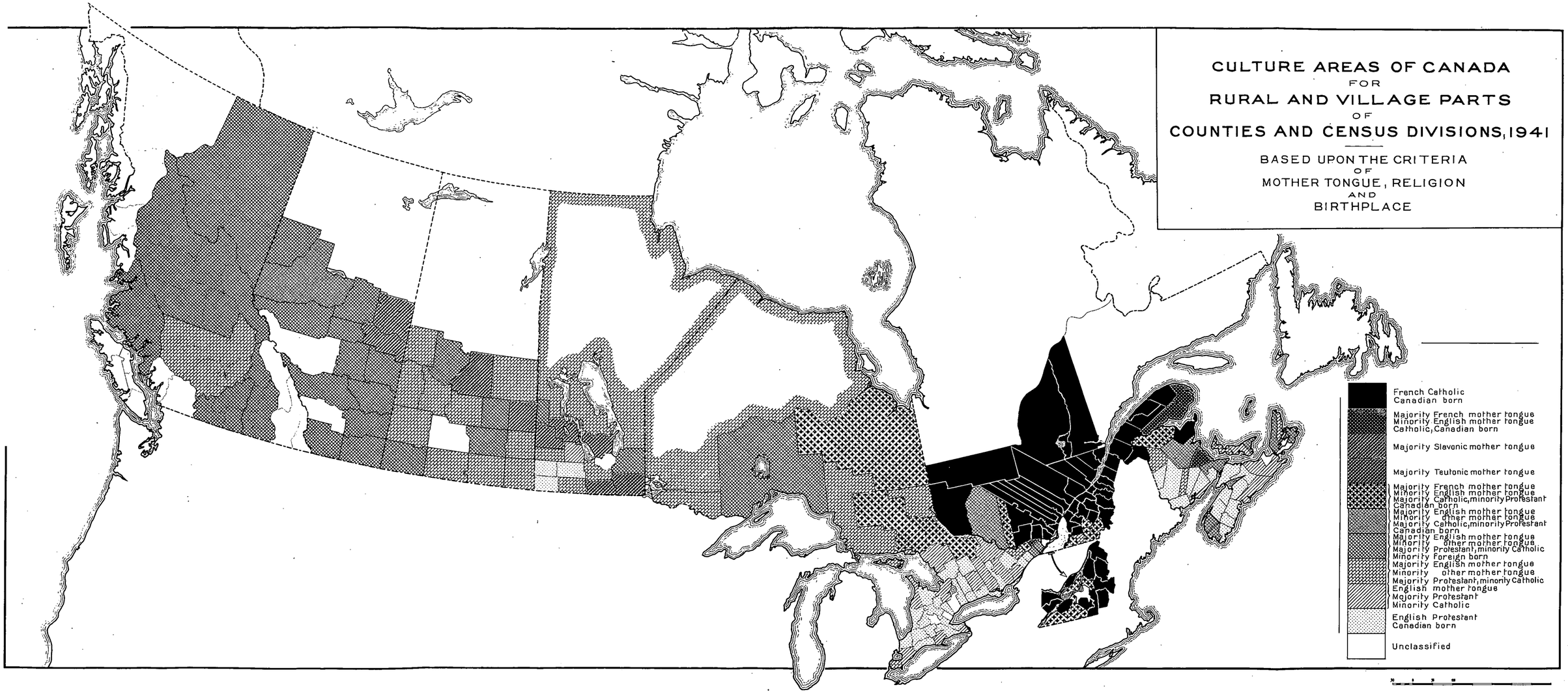
There remain outside Table XXVIII, 15 localities forming groups of less than five, and 14 localities not described by the symbols of the table. Thus a culture-type classification can be constructed which will cover 92 p.c. of the local divisions used in vital statistics in 12 clearly defined culture-types. Some reasons have been given for preferring this type of classification to that by racial origin. We can now see whether any statistical grounds exist to support this contention.

A preliminary analysis was carried out before 1941 fertility data were available and hence 1931 gross reproduction rates were studied. For the limited purpose in view it is legitimate to assume that cultural characteristics remain sufficiently stable between 1931 and 1941. Obviously, the cultural variables under discussion include only one of several sets of agencies influencing the size of the family. In order to compare the effect of classification by several different methods, an analysis of variance was carried out on the rural and village districts. Eight culture groups were used. The smallest group F E φ with only 5 units was omitted and groups 5 and 7 were combined. Later work has shown that birthplace distinctions have little significance when other variables are controlled. The same regional units were also classified in three other ways: (a) by percentage English mother-tongue; (b) by percentage Protestant; (c) by percentage British racial origin. Each of these three classifications was arranged to give 8 groups. At the high fertility end, group 8 was the same in all four classifications, since group F φ includes all those localities with less than 15 p.c. Protestant, and less than 15 p.c. British racial origin. At the low fertility end, group 1, E ϵ b in the culture-type classification was identical with group 1 in the religious classification. All other groups embraced different localities. We can thus compare the variability with respect to fertility resulting from four different but roughly parallel systems of classification.

If one system led to groups more homogeneous in respect of their fertility levels than the others, that would furnish a sufficiently conclusive argument for preferring it; but no such decisive result was obtained. With each classification, the inter-group variances were significantly greater than the intra-group variance; but no significant differences between the different inter-group variances were found. The analysis thus indicates (a) that any system of cultural differentiation is highly significant from the standpoint of fertility; (b) that no one system results in more homogeneous groups than another. In spite of this inconclusive result, two arguments of a statistical nature favour a composite culture-type classification. In the first place, it would seem desirable

CULTURE AREAS OF CANADA
FOR
RURAL AND VILLAGE PARTS
OF
COUNTIES AND CENSUS DIVISIONS, 1941

BASED UPON THE CRITERIA
OF
MOTHER TONGUE, RELIGION
AND
BIRTHPLACE



to maximize the range of group fertility levels. In the systems adopted, the upper limit is set by the group of French-speaking Canadian-born Catholics. The lower limit, however, varies. Among remaining parts of counties the lowest group level is found in the group E ϵ, which is also the most Protestant group. It is slightly below the extreme racial origin or mother-tongue groups. In the case of cities and towns, the combination of British birthplace with English-speaking and Protestant defines a group of cities with a mean 1931 gross reproduction rate of 1·05 compared with 1·24 for majority British racial origin. While this difference is small compared with that between English-speaking Protestant and French Catholic, it occurs at the critical region of the curve of gross reproduction rates. It is interesting to note that no group of predominantly Canadian-born communities showed fertility below replacement level.

The other reason for preferring a composite classification is that in 1931 the culture-types enumerated in Table XXVIII corresponded to a regularly increasing series of mean gross reproduction rates, each increase corresponding to some cultural change making for higher fertility. While the general run of the figures was the same for the other systems, the sequence was broken in one or more places. For example, localities having from 77 p.c. to 88 p.c. British racial origin showed a lower fertility than those with 89 p.c. and over and so on. Too much significance should not be attached to this fact. Differences between successive members of any series are insignificant compared with their standard deviations, and a reversal of the expected order could easily occur by chance. The term "chance" in this connection covers the effects of all variables other than those observed. In addition the descriptions employed are more precise. Accordingly the culture-type method seems to have some advantages as an alternative tool for social analysis.

Map 1 shows the cultural geography of rural and village areas, i.e. the population outside cities and towns with more than 5,000 inhabitants. Solid black indicates almost pure French-speaking, Catholic, Canadian-born communities, comprising the greater part of Quebec and two counties in New Brunswick. Red hatchings indicate a majority with a mother-tongue other than English, while black hatchings indicate a majority with English mother-tongue. It should be added that many of the French can speak English, while only an insignificant number of those with mother-tongues other than French and English are unable to speak one or other of the two official languages of Canada. More detailed descriptions appear in the key. Density of hatching corresponds to magnitude of mean gross reproduction rate for the group of counties described. Some combinations of birthplace types have been made, and the areas with a majority having a Teutonic mother-tongue are shown. The map can be compared with the corresponding maps (Maps 5, 7, Chapter VII) which show 1941 gross reproduction rates for the same areas and percentage change between 1931 and 1941.

With one modification, the cultural description of localities described above has been used as a background for the study of local differences in fertility in Chapter VII. The modification arises from the fact that the three attributes, religion, mother-tongue, and birthplace, come to acquire varying importance in the light of more detailed analysis. When socio-economic status is taken into account, religion and mother-tongue are still associated with significant differences in fertility, but birthplace ceases to be significant. The birthplace distinction serves to establish a fertility gradient between localities when no other information is available, but is less meaningful when the economic characteristics of different parts can be taken into consideration. Hence in Chapter VII, the culture-types differing only in respect to birthplace have been combined and the resulting simplified types have been used in a study of local variations in rural fertility.

5. Summary

The census category of "racial" or "ethnic" origin has been discussed. It has been shown to have no biological significance. It has been useful because it attempts to group together people who share a common culture. Two alternative ways of investigating the cultural aspects of the Canadian population are described. The first method is applicable to individuals. Each person is classified successively according to religion, birthplace, and mother-tongue. We thus obtain groups which are homogeneous in respect to these three attributes. The second method is applicable to localities, which are classified according to culture-types based on majority and minority religions, mother-tongues and birthplace.

In Chapter IV the first method is applied to women aged 45 to 54 years of age at the Census. The effect of religion, mother-tongue, and birthplace, separately and jointly, on family size is analysed in conjunction with educational status and residence. In Chapter VI, where variations in economic status are the topic of primary interest, ethnic origin was the only cultural attribute known. Attention is confined to the French and British ethnic groups and an attempt is made to relate the results of this chapter to those of Chapter IV. In Chapter VII the culture-types described in this chapter are used in a study of local differences in rural fertility. In Chapter VIII differences in the fertility of cities and towns of over 5,000 are studied in relation to a number of cultural and economic attributes.

CHAPTER IV

CULTURAL DIFFERENCES IN FAMILY SIZE

Introduction

The group differences which form the subject of the present chapter fall into two classes. The first comprises differences in religion, mother-tongue and birthplace. These all indicate varying group traditions which an individual acquires at birth or early in life. The second group comprises differences in residential location, either in rural districts or in a large city, and differences in the educational level attained. The latter describe the social environment during youth and adult life. Educational differences are perhaps the most liable to misinterpretation and need some introductory explanation. While differences in behaviour between groups of women having varying amounts of education can be attributed in part to the direct effect of the educational process, the educational level attained is probably far more important as an indication of higher social status, larger incomes, and a greater probability that the husbands will be found in occupations connected with trade, commerce, or service. All the latter are characteristics associated with smaller families.

We can look at the influences determining family attitudes from another point of view. Some are recognized as the proper sphere of individual choice while others are more directly subject to social control. In a democratic state, religion is held to be the concern of the individual conscience and no state interference, either direct or indirect, is tolerated. Technically, mother-tongue occupies the same position, but in Canada different mother-tongues are in practice differentially subject to change. Both French and English are official languages, spoken by large numbers, and both used as educational media. Manitoba recognized schools in a foreign language medium up to 1916, but, apart from this minor exception, education has to be in either French or English to comply with the legal requirements of compulsory primary education. High school and advanced education is available in both official languages. Thus, while there is no direct interference with the use of other mother-tongues, the necessity for learning French or English in addition does not encourage the perpetuation of foreign mother-tongues. On the other hand, the distribution of the population as between farms, rural communities, small towns and cities, the admission as residents of persons born in another country, the length of the educational period, and the extent of opportunities for higher education, are all recognized as legitimate objects of public interest.

The present study is confined to women between the ages of 45 to 54 years at the Census of 1941. While the period of child-bearing of these women extended over a number of years, it probably had its peak years immediately after the last war. We are thus observing a transition period between the expanding economy of the early years of the century, with heavy immigration and slow decline in the birth rate, and the later post-war years when the population had become more stable and the birth rate was declining rapidly. Group differences are very clearly seen in this period and illustrate the process of development leading to the lower fertility of the present day with probably less well-marked differences between social groups.

The process of reducing to order the infinite complexities of man's social behaviour necessarily involves a considerable degree of over-simplification. Just as we have seen that educational level should be regarded as primarily a clue to economic status, so also differences in religion and mother-tongue not only have their roots in different economic backgrounds but are associated with such differences at the present time. Later chapters will deal with economic and occupational differences and will relate them to the subject matter of the present chapter. Qualifications cannot be continually reiterated without obscuring any sort of conclusion, but, having established that such a background exists, we can state the main purpose of this chapter in broad outline. We shall try to show how the average size of family associated with varying types of social heritage becomes modified in response to a changing social environment.

1. Description of Data

The data analysed in this chapter consist of facts enumerated on a single punch card—the Population Card. Present age, conjugal condition, children ever born and now living of those who had been married, and a number of other particulars were recorded for every woman. The attributes selected for study in relation to size of family were: birthplace, religion, mother-tongue, years of schooling, and place of residence. Earnings and occupation are not recorded on the population card. They form the main topics dealt with on the Family and Occupation card and will be the subject of later chapters.

In classifying the female population, the aim was to obtain groups homogeneous in respect of all the variables studied, and arranged in a scheme which would not be too unwieldy for subsequent analysis. This involved omitting certain defined classes.[1] The grouping was as follows:—Residence—(i) rural; (ii) cities with over 30,000 inhabitants. Birthplace and mother-tongue—(i) Canadian-born having French, English, or European mother-tongue, (in this study European denotes countries of Europe, including the U.S.S.R., other than the British Isles and France); (ii) European-born, European mother-tongue; (iii) British born, English mother-tongue. Religion*—(i) Roman Catholic; (ii) Protestant. Birthplace—(i) farm or rural non-farm; (ii) urban. Years of schooling—(i) less than 9 years; (ii) 9 through 12 years; (iii) 13 years and over.

The classes formed require some explanation. The population living in villages, towns, cities with less than 30,000 inhabitants, and rural parts of metropolitan areas was omitted. In general, fertility decreases fairly regularly as we pass from rural districts, through incorporated places of increasing size, to the largest cities, but the classification is somewhat confused by the necessarily arbitrary nature of urban boundaries. The two groups retained show a clear-cut rural-city difference, uncomplicated by the heterogeneous character of the smaller incorporated places. The effect of urbanization may be somewhat exaggerated in comparison with variables where the whole field is covered. The rather large group of United States-born were omitted. Other omissions are:—Asiatic mother-tongues and birthplaces, Indian and Eskimo mother-tongues, Jewish and Greek Orthodox religions. Cases omitted also include those in which particulars for religion, birthplace, etc. were not given. There were none with present age not stated, since the unstated ages were distributed before the cards were punched. Unstated ages at marriage and unstated number of children born and living (very few in number) were distributed after the sorting was done. A few cases which did not fit into the classificatory scheme, e.g. born in Sweden, English mother-tongue, born in Britain, Gaelic mother-tongue, were excluded. The number of women included was 372,732. This is 64 p.c. of the total female population of the specified ages enumerated at the Census. The average size of family of all women in the chosen age group who had been married was 4·18. Children born to single women are excluded.

Among the excluded groups, the fertility of the United States-born would resemble that of the Canadian-born in similar categories. Supplementary data will be presented about other important excluded groups and will show that, when classified in the same way, they lie within the limits of high and low fertility exhibited by the population in the primary classification. The age group 45-54 was selected because families of women over 45 are, except for negligible exceptions, complete, and, by excluding older women over 54, most of the effect of secular changes in fertility is eliminated. This study assumes that the decline in fertility during the period does not affect comparisons of social groups in the selected age group.

2. Differences in Size of Family of Married Women

The present section deals with average number of children ever-born to women who are or have been married. The classificatory scheme employed is not symmetrical with respect to country of birth, since all the mother-tongue groups are not represented in each country of birth. The first part of the analysis will show that, when classified according to educational level, religion, etc., no significant differences were found between Canadian and foreign-born. The main part of the analysis will then discuss the effect of all the variables studied in a mainly Canadian-born population. Finally regional variations and differences between provinces and individual cities will be presented in so far as sufficient numbers are available.

* Roman Catholic includes Greek Catholic. A list of religious denominations included under the rubric "Protestant" is given in Appendix E.

Differences Associated with Country of Birth

Canadian and European-born.—The European-born in Canada fall into only one mother-tongue category. Table XXIX shows average number of children born to women reporting a European mother-tongue, according to whether Canadian or European-born, by religion, years of schooling, type of residence, and farm or non-farm birthplace. There were no individuals in one cell of the table, viz., Canadian-born Roman Catholic, 13 years schooling, rural, born non-farm. The tabulated value for this cell was obtained by interpolation.

We can think of the figures shown in Table XXIX and similar tables as giving the size of typical families of different kinds. For example the typical Canadian-born Catholic married woman of the given age, speaking a foreign mother-tongue, born on a farm but resident in a city, and with 9 to 12 years' schooling, would have had three children; while the European-born Protestant woman, in similar circumstances, would have had 2·73 children, and so on. The standardized means shown at the foot of Table XXIX and similar tables are averages of typical family sizes shown above. So they indicate the differences associated with a single factor when the proportions in other categories are equalized. The difference between the Roman Catholic and Protestant means is the difference that we would see if equal numbers of both religions lived in rural districts and if adherents of both religions had equal amounts of schooling and so on. Actual average family size associated with these religious groups would be quite different from the means shown, since in fact different proportions are rural, are English-speaking, etc. Table XXIX, XXX, and similar tables show the results of the investigation sufficiently clearly for those readers who do not wish to follow the statistical analysis in detail. The analytical tables D. I, etc., (Appendix D) are useful in two ways.—(a) They show which of the differences between means could have arisen by chance. We can thus distinguish between those variables associated with important differences in family size and those where no such difference is shown in the present study. (b) The statistical analysis reveals interactions between the variables not otherwise easily detectable. For example, we shall see later that religious differences have affected family size in different ways among the Canadian-born and among the foreign-born.

TABLE XXIX.—EUROPEAN MOTHER-TONGUE ACCORDING TO BIRTHPLACE

AVERAGE NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN AGED 45-54 YEARS, REPORTING A EUROPEAN[1] MOTHER-TONGUE

Schooling, present residence and type of birthplace	Canadian-born		European-born	
	Roman Catholic	Protestant	Roman Catholic	Protestant
0-8 years schooling—				
Rural—				
Born farm	7·15	5·86	6·41	5·51
Born non-farm	5·67	4·46	5·55	4·66
City—				
Born farm	4·93	3·68	4·35	3·88
Born non-farm	4·55	3·03	4·44	3·49
9-12 years schooling—				
Rural—				
Born farm	4·25	4·06	4·83	4·30
Born non-farm	4·00	2·93	3·48	3·41
City—				
Born farm	3·00	3·63	3·23	2·73
Born non-farm	2·84	2·56	3·26	2·39
13 years schooling and over—				
Rural—				
Born farm	4·00	3·14	3·63	3·75
Born non-farm	(3·86)	3·00	2·31	2·57
City—				
Born farm	3·00	2·80	1·00	2·50
Born non-farm	3·87	2·00	2·24	1·62

STANDARDIZED MEANS[2]

Canadian-born	3·84	Rural	4·28
European-born	3·56	City	3·13
Roman Catholic	3·99	Born farm	3·98
Protestant	3·42	Born non-farm	3·42
0-8 years schooling	4·85		
9-12 years schooling	3·43		
13 years schooling and over	2·83	All	3·70

[1] Other than French and English.

[2] In this and similar tables standardized means are marginal means, e.g., Protestant standardized mean is average of all cells in the two Protestant columns.

The means of Table XXIX show that the factors of religion, education, and rural vs. city residence, behave as we might expect. It is rather surprising that among those with a European mother-tongue, fertility is higher among the Canadian-born, though by only a small amount. Both populations are very heterogeneous, so that an unequivocal result is hardly to be expected. A partial explanation is afforded by the fact that the persistence of a European language in Canada perhaps implies a group living in some degree of isolation, while the foreign-born are a more normal sample of the population of their country of origin.

The significance of the difference between means was tested in the usual way by an analysis of variance*. Table D. I (Appendix D) gives an analysis of Table XXIX. In a table of this type there are two ways of testing significance. Interactions involving more than two factors can be regarded as displaying the effects of random variation, i.e., variation due to causes other than those studied. In the present case a more direct estimate is possible. The sizes of families of individual women are known and can be used to estimate random error. Since the groups are of unequal size, the method of Yates and Brandt† was used to arrive at an approximate estimate of error. In practice computation of error from the actual families, though possible, would have involved considerable labour. Instead an estimate was made from a known distribution of family size of women of the same age group at the same fertility level. An approximate estimate of this kind seems adequate since, as is only too common in sociological investigation, normal distributions are conspicuous by their absence, and tests of significance cannot be precise. Fortunately most of the differences revealed are of a magnitude so much greater than the estimated error that their significance is beyond all reasonable doubt. It is possible, on the other hand, that some significant differences which really exist may be missed.

Owing to the extreme smallness of some of the groups in Table XXIX, the estimate of error based on the distribution of individual families is very high. According to this standard, only the differences associated with education and rural vs. city residence are clearly significant. However, the birthplace difference is insignificant even when compared with the much lower estimate of error in (c), (Table D. I) so we are safe in disregarding it. Both Canadian and European-born foreign-language groups were combined to get groups of adequate size for the investigation of the remaining factors presented in Table XXXI.

Canadian and British-born.—As before, a comparison between Canadian and British-born is restricted to a single mother-tongue, English. Though other mother-tongues are found in Britain, too few individuals were available. Table XXX shows average size of family of married women among Canadian and British-born with English mother-tongue. The analysis is more straightforward than that of the previous section, since the groups are more even in size and a lower fertility level suggests less variability within groups. It is obvious that the difference between Canadian and British-born is insignificant. The result is interesting in view of the low fertility of counties with a preponderance of British-born. When broken down by religion and urbanization, there is no significant difference between British and Canadian-born in respect of the proportions with advanced education, but the proportion of Roman Catholics among the British-born is much less. The apparent association of British birth with low fertility in certain districts may be due to concentration of British-born in Protestant and more urbanized communities or to economic differences within the same educational level.

* A technical note on this method of analysis will be found in 1931 Census, Vol. XII, p. 117.
† Vide G. W. Snedecor "Calculation and Interpretation of Analysis of Variance and Covariance", p. 52.

TABLE XXX.—ENGLISH MOTHER-TONGUE ACCORDING TO BIRTHPLACE

AVERAGE NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN AGED 45-54 YEARS, REPORTING ENGLISH AS MOTHER-TONGUE

Schooling, present residence and type of birthplace	Canadian-born		British-born	
	Roman Catholic	Protestant	Roman Catholic	Protestant
0-8 years schooling—				
Rural—				
Born farm	5·68	3·97	5·45	3·81
Born non-farm	5·17	4·07	4·34	3·63
City—				
Born farm	4·19	3·01	3·68	3·07
Born non-farm	3·98	2·85	3·65	2·85
9-12 years schooling—				
Rural—				
Born farm	5·04	3·34	4·74	3·42
Born non-farm	4·12	2·89	3·26	3·02
City—				
Born farm	3·41	2·35	3·00	2·55
Born non-farm	2·99	2·14	3·06	2·48
13 years schooling and over—				
Rural—				
Born farm	4·21	2·70	3·00	2·85
Born non-farm	2·43	2·37	2·80	2·51
City—				
Born farm	2·76	1·96	3·58	2·44
Born non-farm	2·57	1·85	2·95	2·05

STANDARDIZED MEANS

Canadian-born	3·33	Rural	3·70
British-born	3·26	City	2·89
Roman Catholic	3·75	Born farm	3·51
Protestant	2·84	Born non-farm	3·08
0-8 years schooling	3·96		
9-12 years schooling	3·24		
13 years schooling and over	2·69	All	3·30

The results of Table XXX will be referred to again in later sections but one point of interest in connection with British birthplace may be noted here. The interaction between religion and birthplace is much larger than the birthplace effect and is possibly significant. The religious difference is greater among the Canadian-born than among the foreign-born. This suggests a greater variety of religious attitudes affecting reproductive behaviour among the Canadian-born. The effect is, however, of a much smaller order of magnitude than the major differences associated with religion, education, urbanization and mother-tongue.

Differences in Family Size Associated with Religion, Urbanization, Education, Mother-tongue, Farm Birthplace

The main object of this section is to show the cumulative effect of all five variables and their interaction in the population. Table XXXI shows the group means. The population is Canadian-born, except for the addition of the foreign-born foreign-language group. The assumption on which the analysis is based is that the differences due to each variable are additive. Fig. 30 shows the differences graphically and indicates to what extent the values of average family size calculated on the additive assumption correspond with the observed values. The upper bar corresponding to each group gives the mean size of family calculated by adding or subtracting the differences between the means of each variable taken separately and the standardized mean. The first group shown is that having the lowest calculated value, viz:—Protestant, English mother-tongue, city, born non-farm, 13 years schooling. Of the four possible sets of groups, rural born farm, rural born non-farm, city born farm, city born non-farm, only the first and last are shown. The two intermediate sets of groups are omitted in order to simplify the diagram. Successive groups are placed in order of magnitude of the calculated values, and the differently shaded portions of each bar indicate the amounts added by changes, such as from Protestant to Roman Catholic and from 13 years schooling to 9-12 years and again to less than 9 years.

The lower bar in each group indicates the observed value of the group mean. There are three large systematic discrepancies. Where French mother-tongue, Roman Catholic religion, and rural born farm occur together, the observed value is greater than that calculated by an amount equal to at least one child. There are compensating deficiencies, but these are less systematically arranged. The explanation of the discrepancies will become clearer in the light of an analysis of the variance. While Fig. 30 is an undue simplification of a complicated situation, it brings out in a graphic manner how striking differences between sections of the Canadian population are the cumulative result of social heritage and present circumstances varying in a number of different ways. Though most of these differences will be found to be highly significant, they are individually fairly small in amount, and no one cause of variation is outstandingly more important than the rest. Table D.II shows an analysis of variance for Table XXXI.

With a population better distributed among the cells of the table, the estimate of random error is lower in the present case than in the two previous analyses. Most of the interactions between two factors and all the triple and higher order interactions are insignificant when tested against the estimate of random error. Significance tests based on higher order interactions or on the quintuple interaction alone lead to substantially the same conclusions about significance as the F ratios given in the table. The first four variables are clearly highly significant. The degrees of freedom available are not enough to enable us to determine whether the order of magnitude of the different factors is significant. The difference between farm and non-farm birthplace is in all the tables considerably smaller than the rest and it is less consistent. These facts suggest

TABLE XXXI.—RELIGION, URBANIZATION, EDUCATION, MOTHER-TONGUE, FARM BIRTHPLACE

AVERAGE NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN AGED 45-54 YEARS

Schooling, present residence and type of birthplace	French mother-tongue		European mother-tongue		English mother-tongue	
	Roman Catholic	Protestant	Roman Catholic	Protestant	Roman Catholic	Protestant
0-8 years schooling—						
Rural—						
Born farm	8·33	5·89	6·45	5·61	5·68	3·97
Born non-farm	7·35	4·99	5·56	4·64	5·17	4·07
City—						
Born farm	6·06	3·90	4·36	3·85	4·19	3·01
Born non-farm	5·46	4·34	4·45	3·40	3·92	2·85
9-12 years schooling—						
Rural—						
Born farm	7·48	3·68	4·78	4·24	5·04	3·34
Born non-farm	5·99	3·43	3·50	3·35	4·12	2·89
City—						
Born farm	5·30	3·81	3·22	2·96	3·41	2·35
Born non-farm	4·33	2·43	3·22	2·43	2·99	2·14
13 years schooling and over—						
Rural—						
Born farm	6·25	3·43	3·65	3·53	4·21	2·70
Born non-farm	5·42	2·17	2·31	2·64	2·43	2·37
City—						
Born farm	4·46	2·00	1·40	2·55	2·76	1·96
Born non-farm	3·62	1·41	2·51	1·70	2·57	1·85

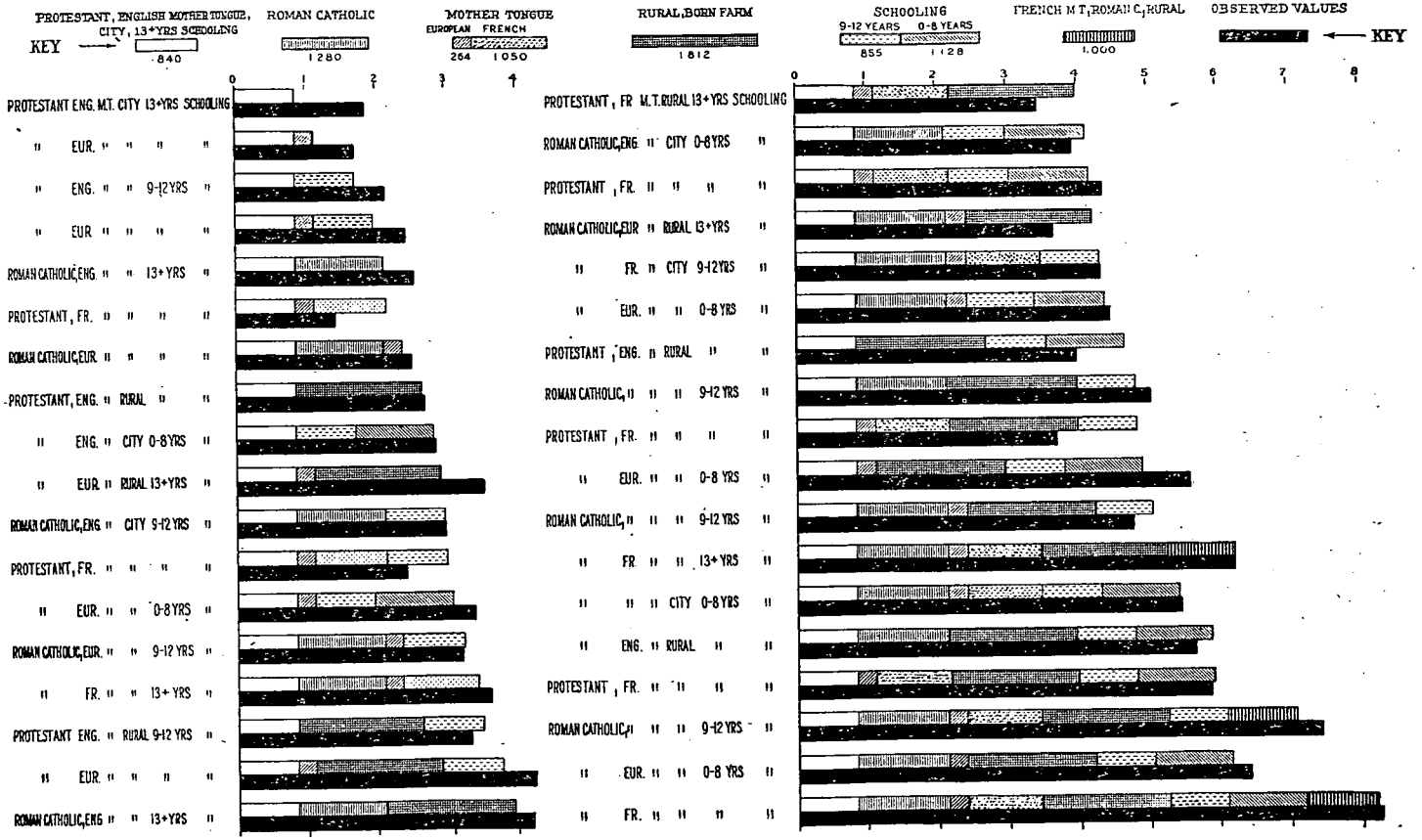
STANDARDIZED MEANS

Roman Catholic	4·50	French mother-tongue	4·65
Protestant	3·22	European mother-tongue	3·60
		English mother-tongue	3·33
Rural	4·46		
City	3·26	Born farm	4·16
		Born non-farm	3·56
0-8 years schooling	4·90		
9-12 years schooling	3·77	All	3·86
13 years schooling and over	2·91		

that it is less important than the first four factors. The farm birthplace distinction in part denotes a change of residence, either early or late in life. In part it can also distinguish the rural non-farm from the rural farm population. The interaction between farm birthplace and urbanization suggests that the latter is the more important distinction, but the differences are too small to permit of a definite answer. One interaction, that between religion and mother-tongue, stands out as important. The difference between Roman Catholic and Protestant is greatest among those with French mother-tongue, least in those with European mother-tongue.

Figure 30

AVERAGE SIZE OF FAMILY, CULTURE GROUPS, CALCULATED AND OBSERVED VALUES



The more important of the interactions between variables and the discrepancies between observed and theoretical means can be interpreted in terms of the Canadian scene. The effect already noted of the conjunction of French mother-tongue with religion and rural residence points to the existence of what may be called the French-Canadian culture complex rooted in language, religion, and in agriculture as a way of life. This complex is most greatly modified by city residence and less so by advanced education. Higher education is available to the French Canadians in terms of their own language and culture so it is not surprising that it has less effect in modifying family attitudes than the more abrupt changes in ways of living developed in the transition from farm to city. In contrast, another high fertility combination, the European mother-tongue Roman Catholic is more affected by education than by urbanization. Here advanced education means the assimilation of an alien culture. The isolating mechanism among the European language group tending to maintain large families is primarily one of illiteracy in the official cultures. At very low levels of fertility we usually find that differences important at higher levels tend to disappear. The low fertility combination, of English mother-tongue and Protestant religion, shows such a general levelling-out tendency. The French Protestant groups usually contain very few individuals. Hence the group means have very large probable errors and the observed characteristics of this group may not be significant.

Cultural Interpretation of Provincial Differences

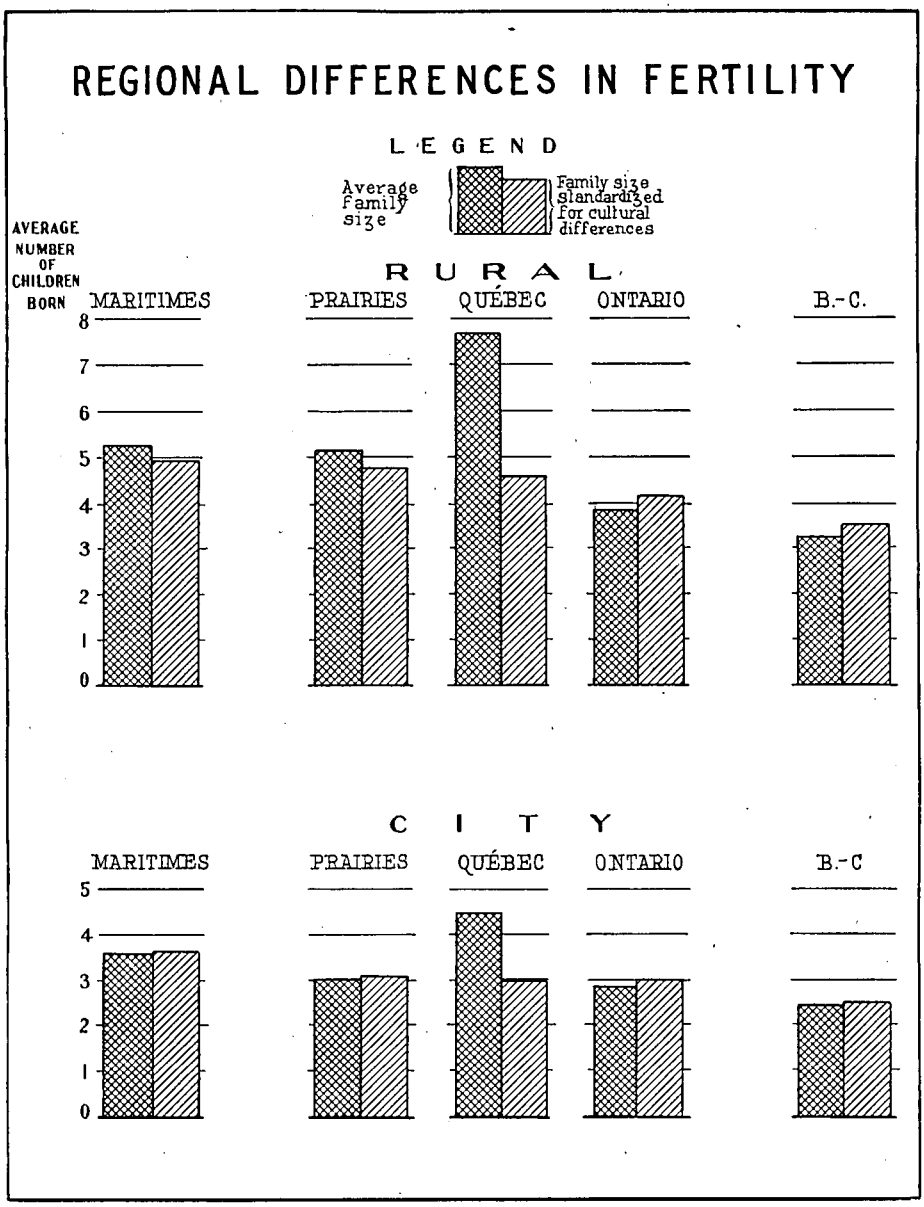
Many of the social groups described in previous sections are missing from some provinces and even from some regions, or are represented only by a negligible number of cases. So a systematic analysis of all variables is impossible. Enough groups remain to give some idea of how cultural differences account for observed regional differences in family size. Fig. 31 is based on 18 city groups and 16 rural groups, accounting for from a half to three-quarters of the respective populations. All French Protestant groups are omitted and most of the French and European mother-tongue higher education groups. Left-hand columns in Fig. 31 show the observed family size of married women in the Maritimes, Quebec, Ontario, the Prairies, and British Columbia.* Right-hand columns show the mean size of family obtained by averaging the means of all the culture groups represented in each region. They thus show differences in family size which would remain if the larger culturally different groups were equally represented in each region.

The principal effect of the equalization of cultural differences is to obliterate the difference between Quebec and other regions. Aside from Quebec, the range of rural differences is somewhat less, but there is little change in the city rates. Some regional differences remain within homogeneous cultural groups. Larger spaces separating the Maritimes and British Columbia from the rest of Canada in Fig. 31 draw attention to the fact that rates are most often highest in the Maritimes and still more consistently lowest in British Columbia. These residual variations reflect economic and occupational differences, and the density and metropolitan character of urban populations. Interpretations of remaining regional differences can be only briefly indicated here. The low fertility of British Columbia has been discussed in a previous paper†. It was shown to be independent of occupational differences. Higher standards of living and the metropolitan character of the rural population were mentioned as contributing factors. The present study confirms the latter point. Fertility rates of rural culture groups in British Columbia are consistently far below those in other regions and at a level characteristic of urban populations. In the earlier discussion, religion was mentioned as a possible contributory factor. We now see that it is only a partial explanation, since rates in both Roman Catholic and Protestant groups are lower than elsewhere, though the conjunction of a mainly English-speaking Protestant population with low fertility occupations and low fertility types of farming‡ can account for at least part of the difference unexplained when either factor is considered alone.

The Maritimes are characterized by generally lower money wages and farm values, and have no city of metropolitan character. Decline in fertility has been less rapid than elsewhere in Canada. Some aspects of the situation in Prince Edward Island have been discussed elsewhere§.

* cf. Chapter I.
† E. Charles, "Differential Fertility in Canada, 1931", Can. Journ. Econ. and Pol. Sci., May, 1943, p. 208.
‡ Intensive types of agriculture for a city market near by are usually associated with small families.
§ E. Charles, "The Trend of Fertility in Prince Edward Island", Can. Journ. Econ. and Pol. Sci., May, 1942.

Figure 31



A more detailed analysis of regional variations will show some interesting aspects of the responses of culture groups to different environments. Owing to the limitations of representation referred to, the analysis will fall into three parts:—(i) three complex culture groups, French mother-tongue Roman Catholic, English mother-tongue Roman Catholic, and English mother-tongue Protestant; educational groups, 0-9 years and 9-12 years; rural born farm and city born non-farm; regions; (ii) English mother-tongue Protestant groups; all educational groups; rural and city; born farm and non-farm; regions; (iii) European mother-tongue; 0-8 years schooling only; Roman Catholic and Protestant; rural, city; born farm and non-farm; regions excluding Maritimes.

(i) Table XXXII shows average family sizes of groups described under (i) above, and the corresponding analysis of variance is given in Table D.III. Since the culture groups combine the effect of two variables, religion and mother-tongue, and rural residence and farm birth are also combined, naturally these two categories account for most of the variance. Again since there are only two educational groups, this factor occupies a comparatively insignificant place. The role of regional variation is small but highly significant. Of the total regional variation, 60 p.c. is contributed by British Columbia, a result of the marked flattening-out of all high fertility rates in this province.

Four of the interactions are significant. One of these involves rural-city residence and culture groups and is another aspect of the French-Canadian culture complex referred to earlier. There are three interactions involving regions. The first, between culture complex and regions, reflects the fact that French Catholic fertility rates are highest in Quebec. They are also high in New Brunswick but lower in the other Maritime Provinces. The French-Canadian culture complex appears to be localized in the two former provinces. As we travel further from the centre, its effect on fertility rates becomes greatly diminished, and almost disappears in Prince Edward

TABLE XXXII.—REGIONAL DIFFERENCES IN FERTILITY

(i) French Mother-Tongue Roman Catholic, English Mother-Tongue Roman Catholic and Protestant—Education, Urbanization. Average Number of Children Ever-born to Married Women Aged 45-54 Years

Schooling by region	French mother-tongue Roman Catholic		English mother-tongue Roman Catholic		English mother-tongue Protestant	
	Rural	City	Rural	City	Rural	City
	Born farm	Born non-farm	Born farm	Born non-farm	Born farm	Born non-farm
0-8 years schooling—						
Maritime Provinces	7·80	6·20	6·15	4·76	4·99	3·74
Quebec	8·53	5·47	6·47	3·94	3·81	2·96
Ontario	7·66	5·46	5·20	3·76	3·61	2·76
Prairie Provinces	7·48	4·27	5·82	3·58	4·48	2·99
British Columbia	5·02	3·81	4·76	2·81	3·73	2·58
9-12 years schooling—						
Maritime Provinces	6·45	3·45	5·33	3·41	3·80	2·46
Quebec	7·66	4·33	5·97	3·05	3·17	1·96
Ontario	6·73	4·48	4·64	2·91	2·87	2·08
Prairie Provinces	7·11	3·72	4·48	2·93	3·60	2·38
British Columbia	4·08	2·31	4·14	2·59	2·90	2·05

Standardized Means

French mother-tongue Roman Catholic	5·60	Maritime Provinces	4·88
English mother-tongue Roman Catholic	4·33	Quebec	4·78
English mother-tongue Protestant	3·15	Ontario	4·35
		Prairie Provinces	4·40
0-8 years schooling	4·82	British Columbia	3·40
9-12 years schooling	3·90		
		All	4·36
Rural non-farm	5·28		
City born non-farm	3·44		

Island and British Columbia. The second interaction, between regions and rural-city residence, shows that rural-city differences are greatest in Quebec and the Prairies. The low fertility of Montreal and Winnipeg depresses the city rates in these regions. Fertility is equally low in Toronto and Vancouver but in the provinces of Ontario and British Columbia rural fertility approximates more closely to the city rates. As in British Columbia, much of the Ontario so-called rural population forms part of large urban concentrations. The third interaction, between regions and education, depends on rather unexpected rates of French Catholics in Saint John and Halifax. As the base populations are very small, this could be a random effect, but is in fact corroborated by other evidence.

(ii) Tables XXXIII and D. IV show regional variations among Protestant English mother-tongue groups cross-classified by educational level, rural and city residence, born farm and non-farm, and the corresponding analysis of variance. At this low fertility level, within-group variability is small and the residual interactions were used as an estimate of error. Again regional

differences account for a small but highly significant part of the variation. In contrast to the preceding section, the Maritimes contribute 56 p.c. of the regional variation. In these provinces cultural differences tend towards equality at a high fertility level, consequently they stand out when all the rates in the table are rather low.

Of the two interactions involving regions, that between regions and education again reveals greater inequality between educational levels in the Maritimes. In the last section it appeared among French Roman Catholic groups in the cities. In the present section it occurs among other culture groups in rural New Brunswick and Nova Scotia. So the greater effect of advanced education on reproductive behaviour in the Maritimes seems to be a genuine property of the situation there. The second regional interaction, that between regions and urbanization, repeats the greater rural-city differences in Quebec and the Prairies found previously. The interaction between education and urbanization shows greater educational differences in rural parts than in cities. This is in accord with the general tendency for differences to disappear at low fertility levels.

TABLE XXXIII.—REGIONAL DIFFERENCES IN FERTILITY

(ii) English Mother-Tongue Protestant Groups—Education, Urbanization, Farm Birthplace. Average Number of Children Ever-born to Married Women Aged 45-54 Years

Schooling by region	Rural		City	
	Born farm	Born non-farm	Born farm	Born non-farm
0-8 years schooling—				
Maritime Provinces	4·99	4·95	3·91	3·74
Quebec	3·81	4·44	3·28	2·96
Ontario	3·61	3·67	2·86	2·76
Prairie Provinces	4·48	4·32	3·29	2·99
British Columbia	3·73	3·35	2·69	2·58
9-12 years schooling—				
Maritime Provinces	3·80	3·40	2·98	2·46
Quebec	3·17	2·47	1·89	1·96
Ontario	2·87	2·64	2·18	2·08
Prairie Provinces	3·60	3·21	2·57	2·38
British Columbia	2·90	2·26	2·22	2·05
13 years schooling and over—				
Maritime Provinces	3·19	2·51	2·23	1·86
Quebec	2·40	2·03	1·87	1·43
Ontario	2·49	2·29	1·90	1·86
Prairie Provinces	3·08	2·74	2·11	2·10
British Columbia	2·12	2·12	1·83	1·78

Standardized Means

0-8 years schooling	3·62	Maritime Provinces	3·34
9-12 years schooling	2·65	Quebec	2·64
13 years schooling and over	2·20	Ontario	2·60
		Prairie Provinces	3·07
Rural	3·22	British Columbia	2·47
City	2·43		
		All	2·82
Born farm	2·93		
Born non-farm	2·71		

(iii) Table XXXIV shows regional variations in European mother-tongue groups with 0-8 years schooling only. Table D. V gives the corresponding analysis of variance. The scope of this analysis is rather restricted on account of the localization and lack of advanced education among those with foreign mother-tongue. Regional differences are associated with a relatively large share of the variation and the Prairies are responsible for 74 p.c. of the regional variation. A new interaction, that between religion and regions, emerges as probably significant. We have already seen that the religious difference is less marked in the foreign language groups. We now see that it is least marked in the Prairies where fertility rates among these groups are highest and where large cohesive foreign language blocks existed during the period of this study. Evidently the foreign language effect manifests itself most strongly under conditions of group settlement, and fades out where the foreign mother-tongue is dispersed among the general population. In the latter circumstances, the foreign mother-tongue itself is probably in process of disappearing.

TABLE XXXIV.—REGIONAL DIFFERENCES IN FERTILITY

(iii) European Mother-Tongue, 0-8 Years Schooling—Religion, Urbanization, Farm Birthplace. Average Number of Children Ever-born to Married Women Aged 45-54 Years

Type of birthplace by region	Roman Catholic		Protestant	
	Rural	City	Rural	City
Born farm—				
Quebec	5·47	4·56	4·48	3·49
Ontario	4·93	4·49	4·05	3·30
Prairie Provinces	6·90	4·14	6·27	4·47
British Columbia	4·71	3·91	4·40	3·58
Born non-farm—				
Quebec	3·73	4·81	2·69	3·45
Ontario	4·36	4·54	3·30	3·02
Prairie Provinces	6·30	4·19	5·41	4·04
British Columbia	4·49	3·75	3·47	2·72

Standardized Means

Roman Catholic	4·70	Quebec	4·09
Protestant	3·88	Ontario	4·00
		Prairie Provinces	5·21
Rural	4·68	British Columbia	3·88
City	3·90		
Born farm	4·57	All	4·29
Born non-farm	4·02		

3. Marriage

Proportions Ever-married

So far we have discussed only the fertility of married women, but the replacement rate of a population depends also on proportions married. It is easier to generalize about the first component, since it is less affected by short-period changes, and by circumstances which produce high proportions married in certain localities, without affecting so markedly the reproductive patterns of the married. The most obvious example of the latter is immigration. Table XXXV shows the proportions married among Canadian-born, European-born and British-born.

TABLE XXXV.—PERCENTAGE OF WOMEN WHO WERE OR HAD BEEN MARRIED

Women Aged 45-54 Years, Selected Populations

	p.c.
Canadian-born	87
British-born	93
European-born	98

These figures reflect, not only the fact that female immigration was at this period largely of the married or about to be married, but also in part special characteristics of immigrant groups. Among the small group of French Protestants, 93 p.c. had been married. This suggests that the group arises to some extent through intermarriage. From the standpoint of this study, interest will centre chiefly on the Canadian-born. We must recollect again that proportions married in the age group studied reflect the conditions of a particular period, during which marriage rates were disturbed by the last world war. In the younger age groups marriage rates were again profoundly modified by the depression and by the present war, while the tendency towards smaller families operated to restrict marriage more in some groups than in others.

Table XXXVI shows percentages ever-married in the culture groups studied in previous sections. Those with foreign mother-tongue are Canadian-born only. In spite of the rather erratic nature of the figures for European mother-tongue and French Protestant, the general picture is fairly clear. Considering first only French and English mother-tongue Canadian-born, all other variables are associated with significant differences in proportions married. The most important factors are education, urbanization and religion. Both advanced education and urbanization reinforce the effects previously noted on size of family of married women by reducing also

the proportions married. The most outstanding feature of the whole table is the low percentage married among women with 13 years or more schooling. The average of the means of all Canadian-born, both French and English mother-tongue, with advanced education is 71 p.c. married as against 84 p.c. married for similar groups with 9-12 years schooling. Postponement of marriage reflects, not only a prolonged period of training, but also the variety of occupations open to trained women as an alternative to marriage.

There are significant interactions of education with urbanization and religion. The lower proportions married among city residents and among Roman Catholics are both accentuated in the groups with 13 years and more schooling. The religious difference has a reverse effect on proportions married. There are fewer who have been married among Roman Catholics than among Protestants. Both mother-tongue and farm birthplace are of minor importance, and the effect of the latter is again in a reverse direction.

TABLE XXXVI.—PROPORTIONS MARRIED—CANADIAN-BORN CULTURE GROUPS

PERCENTAGE EVER-MARRIED AMONG WOMEN AGED 45-54 YEARS

Schooling, religion and mother-tongue	Rural		City	
	Born farm	Born non-farm	Born farm	Born non-farm
	p.c.	p.c.	p.c.	p.c.
0-8 years schooling—				
Roman Catholic—				
French mother-tongue	94	93	87	88
English mother-tongue	88	91	84	82
European mother-tongue	94	96	87	91
Protestant—				
French mother-tongue	95	100	92	93
English mother-tongue	93	94	88	89
European mother-tongue	93	92	90	88
9-12 years schooling—				
Roman Catholic—				
French mother-tongue	87	80	72	76
English mother-tongue	85	82	71	73
Protestant—				
French mother-tongue	93	97	78	91
English mother-tongue	91	92	80	81
European mother-tongue	88	93	68	83
13 years schooling and over—				
Roman Catholic—				
French mother-tongue	68	64	50	65
English mother-tongue	75	72	53	59
Protestant—				
French mother-tongue	88	100	60	81
English mother-tongue	86	86	64	69

STANDARDIZED MEANS

	p.c.		p.c.
Rural	88·3	French mother-tongue	83·0
City	77·8	English mother-tongue	80·3
Born farm	81·4		
Born non-farm	84·7	All	83·0

Tables XXXVII and XXXVIII show regional differences in proportions married corresponding to the regional differences in family size of married women shown in Tables XXXII and XXXIII. We see that in all culture groups taken together proportions married are highest in the Prairies and British Columbia. At the period in question these provinces were centres of immigration, internal as well as external, and had a surplus of unmarried males. Thus, high marriage rates in these provinces and high marriage rates among the foreign-born, both British and European, resident in British Columbia and the Prairies, are two aspects of an economic situation propitious to immigration. There are a few minor variations in regional differences. The rural-city difference is least in the Maritimes, as would be expected, while the educational difference is most marked in Ontario and the Maritimes and least so in the Prairies and Quebec.

TABLE XXXVII.—REGIONAL DIFFERENCES IN PROPORTIONS MARRIED

(i) FRENCH MOTHER-TONGUE ROMAN CATHOLIC, ENGLISH MOTHER-TONGUE ROMAN CATHOLIC, ENGLISH MOTHER-TONGUE PROTESTANT—EDUCATION, URBANIZATION. PERCENTAGE EVER-MARRIED AMONG WOMEN AGED 45-54 YEARS

Schooling by region	French mother-tongue		English mother-tongue			
	Roman Catholic		Roman Catholic		Protestant	
	Rural	City	Rural	City	Rural	City
	Born farm	Born non-farm	Born farm	Born non-farm	Born farm	Born non-farm
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
0-8 years schooling—						
Maritime Provinces	91	83	87	81	92	91
Quebec	94	88	88	80	90	86
Ontario	96	91	87	82	92	88
Prairie Provinces	95	90	93	91	95	91
British Columbia	90	84	94	82	94	92
9-12 years schooling—						
Maritime Provinces	84	67	85	70	91	78
Quebec	88	76	85	71	88	75
Ontario	87	80	83	72	90	79
Prairie Provinces	84	81	89	82	94	86
British Columbia	81	72	85	81	92	87

STANDARDIZED MEANS

	p.c.
Maritime Provinces	83
Quebec	84
Ontario	86
Prairie Provinces	89
British Columbia	86

TABLE XXXVIII.—REGIONAL DIFFERENCES IN PROPORTIONS MARRIED

(ii) ENGLISH MOTHER-TONGUE PROTESTANT GROUPS—EDUCATION, URBANIZATION, FARM BIRTHPLACE. PERCENTAGE EVER-MARRIED AMONG WOMEN AGED 45-54 YEARS

Schooling by region	Rural		City	
	Born farm	Born non-farm	Born farm	Born non-farm
	p.c.	p.c.	p.c.	p.c.
0-8 years schooling—				
Maritime Provinces	92	93	92	91
Quebec	90	92	88	86
Ontario	92	93	86	88
Prairie Provinces	95	97	92	91
British Columbia	94	94	91	92
9-12 years schooling—				
Maritime Provinces	91	90	79	78
Quebec	88	89	73	75
Ontario	90	91	76	79
Prairie Provinces	94	96	84	86
British Columbia	92	92	83	87
13 years schooling and over—				
Maritime Provinces	77	80	82	67
Quebec	86	86	58	79
Ontario	85	84	60	67
Prairie Provinces	94	92	68	74
British Columbia	92	89	68	74

STANDARDIZED MEANS

	p.c.
Maritime Provinces	84
Quebec	82
Ontario	83
Prairie Provinces	89
British Columbia	87

Total Legitimate Fertility

The average number of legitimate children ever-born to all women, is the resultant of both average fertility of married women and the proportion married. It comes closer to being a measure of reproductive capacity, though variations in mortality are disregarded. Tables XXXIX and D. VI show total fertility so defined for Canadian-born culture groups, and the corresponding analysis of variance. Farm and non-farm born have been combined. Since variations in these

categories in fertility of the married and in proportions married are both small and run in opposite directions, the effect on total fertility is not important. As we have already seen, proportions married are lower among Roman Catholics than among Protestants, so the difference in total fertility associated with religion is considerably less than the difference in fertility of married women. The two major factors are now education and urbanization. As so few degrees of freedom are available, it is theoretically possible that the relative order of magnitude of the factors may be a chance effect. Certainly no significance can be attached to the relative magnitudes of the first two or the last two. It seems probable, however, that the relative importance of the first two compared with the last two is an authentic attribute of these populations. We thus see the tendency towards smaller families in the appropriate economic setting is even more uniform than previously appeared, but the mechanism is primarily smaller families among Protestants and postponed marriage among Roman Catholics.

TABLE XXXIX.—CULTURAL DIFFERENCES IN TOTAL FERTILITY

CANADIAN-BORN—RELIGION, URBANIZATION, EDUCATION, MOTHER-TONGUE. AVERAGE NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN 45-54 YEARS OF AGE

Schooling by present residence	French mother-tongue		European mother-tongue		English mother-tongue	
	Roman Catholic	Protestant	Roman Catholic	Protestant	Roman Catholic	Protestant
0-8 years schooling—						
Rural	7·63	5·36	6·56	5·32	4·91	3·71
City	4·91	3·94	4·17	2·89	3·27	2·55
9-12 years schooling—						
Rural	6·06	3·38	3·41	3·35	3·94	2·91
City	3·39	2·36	2·14	2·19	2·21	1·75
13 years schooling and over—						
Rural	3·95	2·64	1·33	2·96	2·53	2·19
City	2·33	1·15	2·83	1·73	1·51	1·28

STANDARDIZED MEANS

French mother-tongue	3·925	0-8 years schooling	4·602
European mother-tongue	3·240	9-12 years schooling	3·091
English mother-tongue	2·730	13 years schooling and over	2·202
Roman Catholic	3·727	Rural	4·008
Protestant	2·870	City	2·589
All	3·298		

The interactions in Table D. VI are similar to those already noted. Table XL shows total legitimate fertility among British-born and European-born. As might be expected from the high proportions married among immigrants, total fertility is somewhat larger among foreign-born groups than it is among corresponding groups of Canadian-born, in spite of the slightly higher fertility of married women among the latter.

TABLE XL.—CULTURAL DIFFERENCES IN TOTAL FERTILITY

EUROPEAN-BORN AND BRITISH-BORN—RELIGION, EDUCATION, URBANIZATION
AVERAGE NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN AGED 45-54 YEARS

Schooling by present residence	European-born		British-born	
	Roman Catholic	Protestant	Roman Catholic	Protestant
0-8 years schooling—				
Rural	6·17	5·23	4·48	3·57
City	4·34	3·43	3·31	2·67
9-12 years schooling—				
Rural	4·16	3·81	3·33	2·99
City	3·05	2·21	2·69	2·27
13 years schooling and over—				
Rural	2·49	2·78	2·48	2·39
City	1·75	1·63	2·42	1·78

Age at Marriage

Chapter II showed size of family by age at marriage and demonstrated the great difference in size of family between those marrying early and those marrying late. The data of this study have not been broken down by age at marriage but we have for each group the percentage of women marrying under 25. This gives a clue to the early and late marrying groups. In addition, size of family by age at marriage has been tabulated for a few selected groups.

Table XLI shows percentages of married women marrying for the first time under 25 years in most of the groups previously mentioned. When compared with proportions married in the same groups, we see that late marriage is in general associated with high proportions of unmarried, but there are some variations in emphasis. The difference between city and rural parts is small. The many unmarried in the cities may be the result of migration to those places where the opportunities of gainful employment are greatest, while for the native female population of the cities, there are no more, or perhaps even fewer, obstacles to early marriage than in the country. In the advanced education group, on the other hand, fewer married are associated with very late marriage.

Of the two immigrant groups, the European group marry young, the British-born at later ages. Their respective marriage-ages reflect differences in economic status and marriage habits in the countries of origin. Among the Canadian-born, the French-Catholics at the primary educational level marry young, while the large numbers marrying late among all English-speaking Catholics are particularly striking.

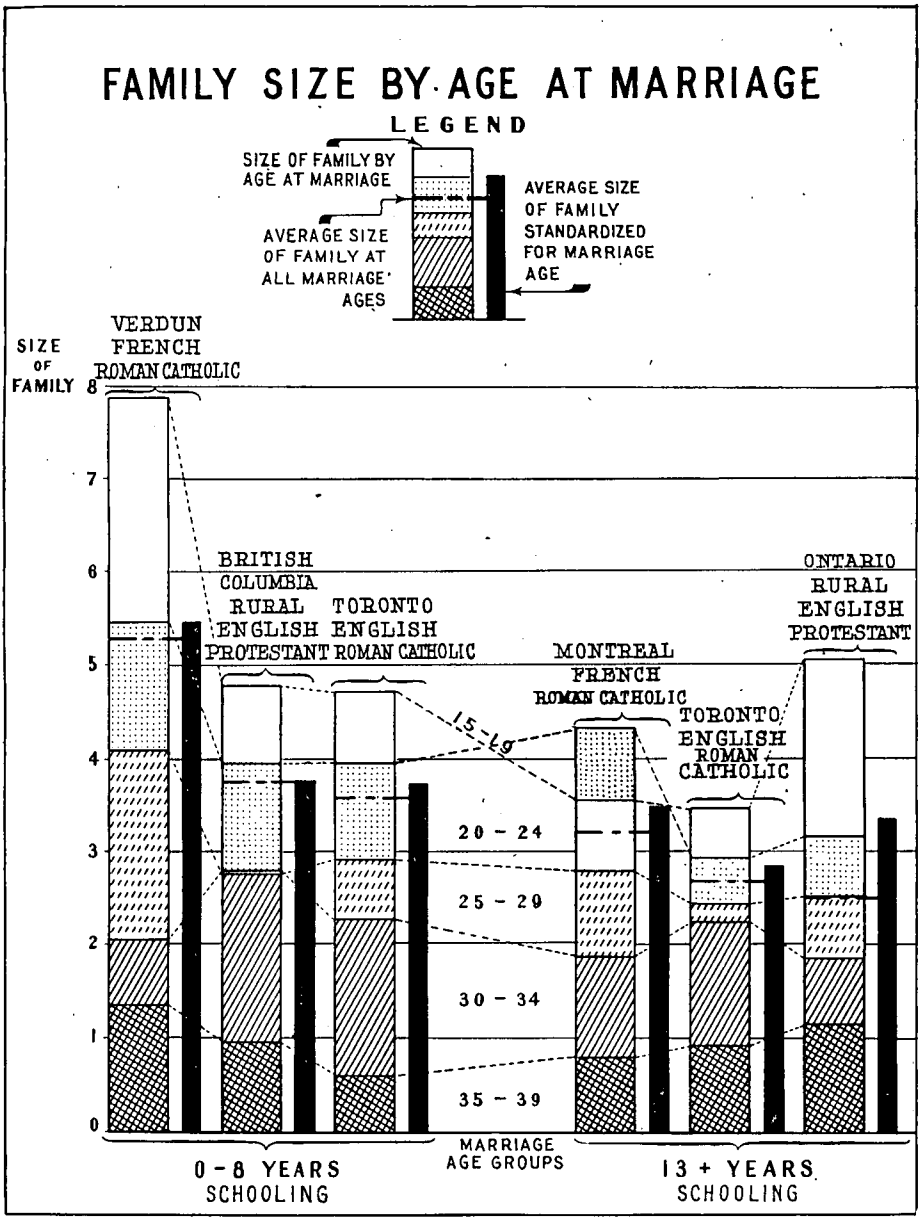
Family size by age at marriage was tabulated for six culture groups, chosen mainly to show the effect of educational differences. The groups are:—0-8 years schooling:—1. French mother-tongue Roman Catholic, born non-farm, Verdun: 2. English mother-tongue Protestant, born farm, British Columbia, rural: 3. English mother-tongue Roman Catholic, born non-farm, Toronto. 13 years schooling and over:—4. French mother-tongue Roman Catholic, born non-farm, Montreal: 5. English mother-tongue Roman Catholic, born non-farm, Toronto: 6. English mother-tongue Protestant, born farm, Ontario, rural. The entire female population so defined in the age-group 45-54 years is included. Figures 32 and 33 show numbers of children by age at marriage and cumulative percentages married at given ages. They can be compared with Figures 14, 27 and 28 in Chapter II. The populations show some local variations and random peculiarities but these do not obscure the relative importance of delayed marriage and differences in family size at similar marriage ages. Figure 32 also shows in parallel bars the total mean size of family and a standardized mean size of family. The latter is the family size which would result if all groups had married at the same ages as the British Columbia rural women, the earliest marrying group in this particular set.

TABLE XLI.—AGE AT MARRIAGE—CULTURE GROUPS

PERCENTAGE WHO MARRIED FOR THE FIRST TIME UNDER 25 YEARS AMONG MARRIED WOMEN AGED 45-54 YEARS

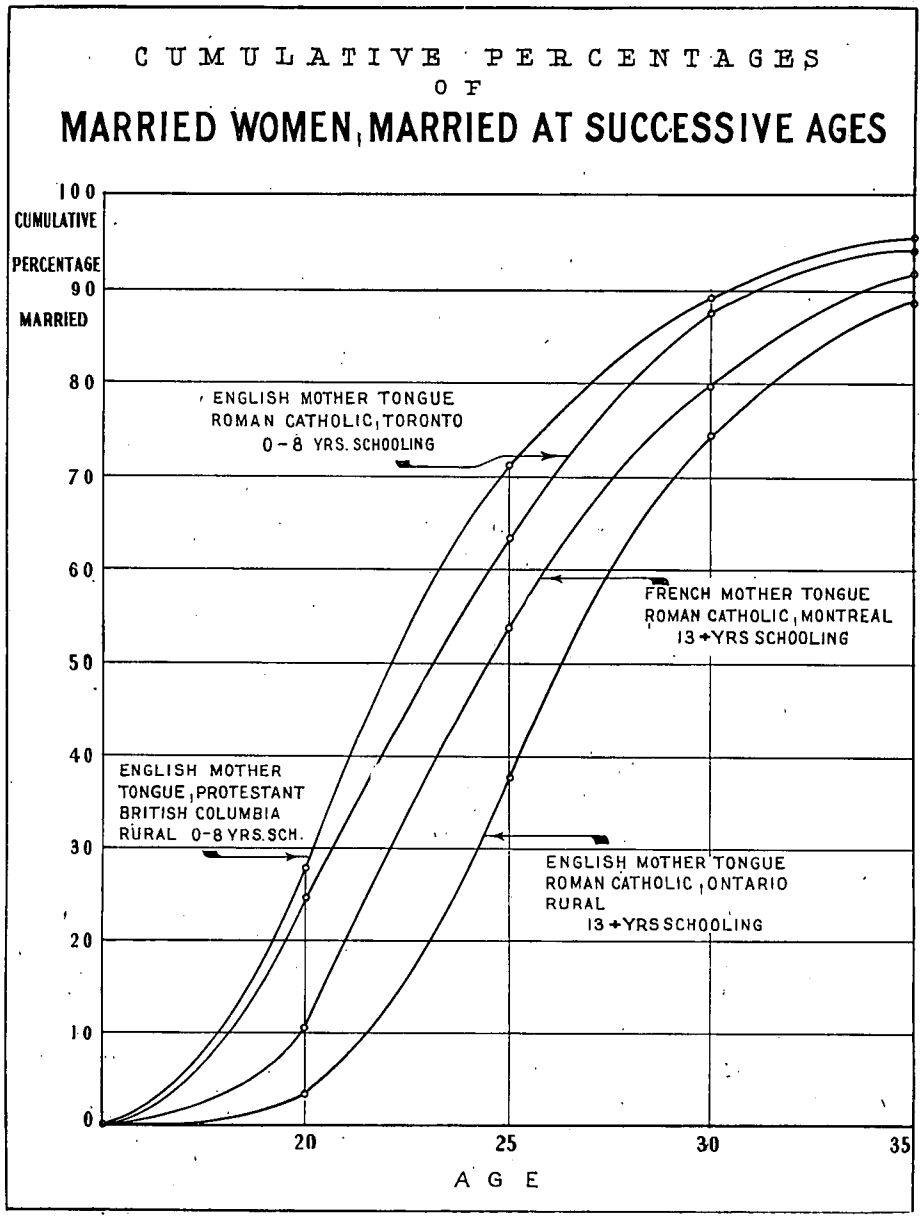
Schooling, present residence and type of birthplace	Canadian-born						British-born		European-born	
	French mother-tongue		English mother-tongue		European mother-tongue		English mother-tongue		European mother-tongue	
	Roman Catholic	Protestant	Roman Catholic	Protestant	Roman Catholic	Protestant	Roman Catholic	Protestant	Roman Catholic	Protestant
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
0-8 years schooling—										
Rural—born farm	78	76	59	70	78	75	60	60	86	76
born non-farm	77	71	68	75	73	69	62	62	84	74
City —born farm	72	71	62	69	75	68	52	58	82	73
born non-farm	70	76	66	69	76	66	61	63	81	73
9-12 years schooling—										
Rural—born farm	68	75	46	58	–	60	56	52	67	63
born non-farm	64	70	56	59	–	59	56	56	60	58
City —born farm	64	71	48	55	–	62	48	51	74	54
born non-farm	61	66	55	56	–	55	54	58	68	60
13 years schooling and over—										
Rural—born farm	59	43	31	38	–	–	–	49	–	62
born non-farm	61	67	35	42	–	–	–	43	–	53
City —born farm	60	67	39	39	–	–	–	46	–	38
born non-farm	54	59	46	41	–	–	–	50	–	46

Figure 32



We see that the differences in family size run in about the same order when age at marriage is standardized, but the range of differences is reduced. The principal change is that within the 13 years schooling group the low fertility of Ontario rural English Protestants is primarily due to delayed marriage. Within the 0-8 years schooling group the big difference between the French Roman Catholic group and the others is due to higher specific fertility rates, since proportions marrying at different ages are about the same as in the British Columbia rural group. On the other hand, the Toronto English Roman Catholic fertility is reduced somewhat by delayed marriage. The educational difference is primarily one of lower specific fertility rates, though it is intensified by delayed marriage.

Figure 33



Early marriages in the British Columbia group mentioned in the last two paragraphs suggest comparison with the differences in age at marriage shown in Chapter VII. Emphasis was laid there on differences associated with educational level and these have been amply confirmed in the present study as have also the differences associated with birthplace. On the other hand, the higher median age at marriage of the total Protestant population as compared with the total Roman Catholic appears to be a reflection of larger numbers of the former living in cities and at higher educational levels. Late marriage ages in British Columbia and Prince Edward Island are also the result of cultural differences. Among all the English-speaking groups, British Columbia has, along with the Prairies, the highest proportions married under 25 years. Proportions married under 25 years in Prince Edward Island are less than in the other two Maritime Provinces but more than in Quebec and Ontario. The high proportion of British-born in British Columbia and of English-speaking Catholics in Prince Edward Island would both help to explain the late marriage ages of these provinces taken as a whole.

4. Childless Marriages and Distribution of Family Sizes

Childless Marriages

Differences in the proportion of women reporting no children follow in general the same lines as differences in size of family. Birthplace differences are rather more marked. Among both British and foreign-born women, there are fewer childless than among Canadian-born, although the size of family is slightly smaller. Table XLII shows percentages childless for the population groups of Table XXXI. As in the latter table, groups have been combined. On account of the small numbers in one cell, the figure shown in brackets is an interpolated value. The educational difference in proportions childless is the most marked and next the rural-city difference. Both of these and that associated with religion follow the same lines as differences in size of family. The differences between mother-tongue groups are small, but show some novel features. There are remarkably few childless women in the foreign-language groups with 0-12 years schooling. In the advanced education groups this distinction is lost, so that, as with size of family, educational differences in percentage childless are most pronounced among those with foreign mother-tongue. There is no significant difference between the French and English mother-tongue groups.

TABLE XLII.—PERCENTAGES CHILDLESS—CULTURE GROUPS

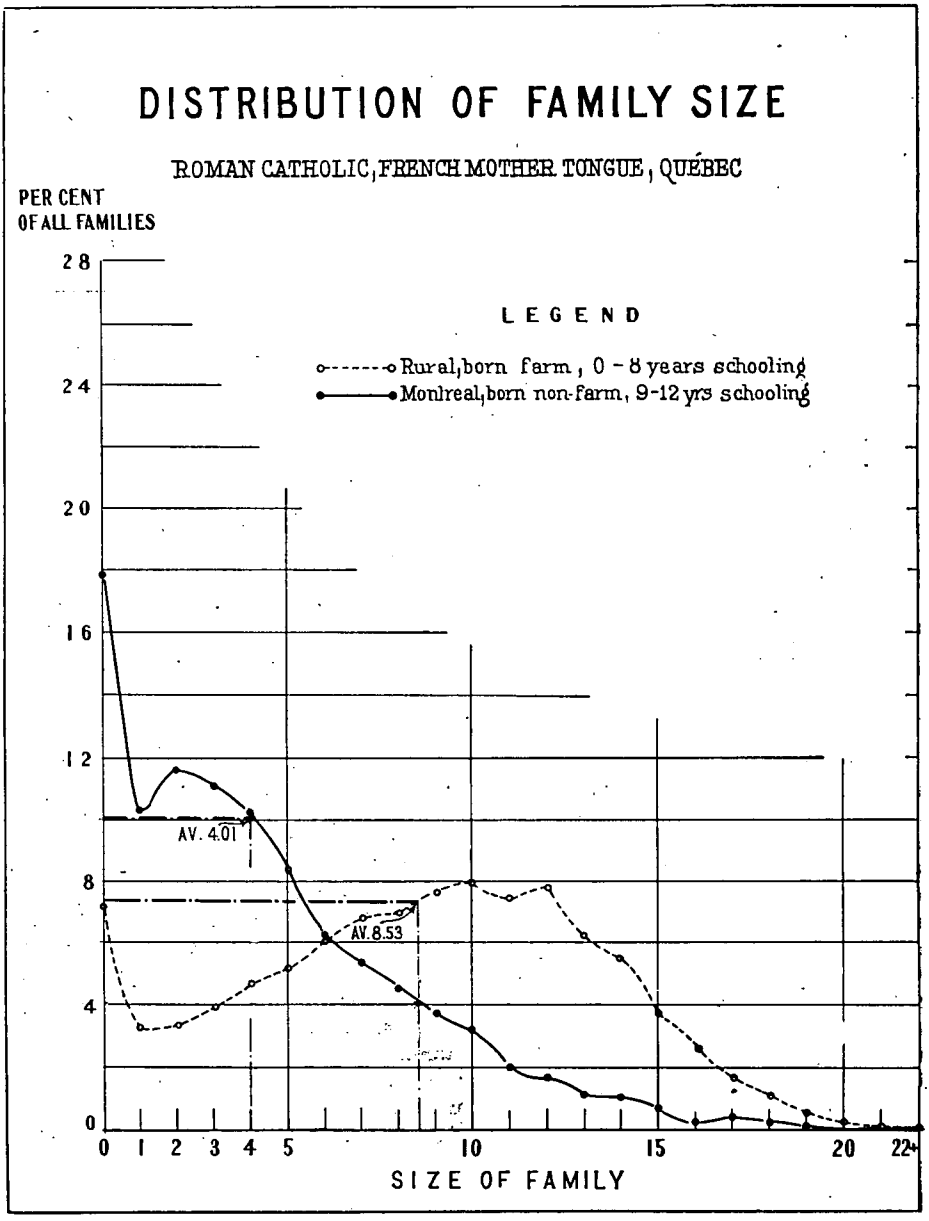
PERCENTAGE OF MARRIED WOMEN AGED 45-54 YEARS WITH NO CHILDREN

Schooling, present residence and type of birthplace	Canadian-born				Canadian-and foreign-born	
	French mother-tongue		English mother-tongue		European mother-tongue	
	Roman Catholic	Protestant	Roman Catholic	Protestant	Roman Catholic	Protestant
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
0-8 years schooling—						
Rural—born farm	7	8	11	10	4	6
born non-farm	10	13	13	11	6	8
City —born farm	12	14	13	15	7	10
born non-farm	13	15	14	15	8	14
9-12 years schooling—						
Rural—born farm	10	18	14	13	6	9
born non-farm	13	10	17	17	15	13
City —born farm	14	24	17	17	14	13
born non-farm	16	25	18	19	13	19
13 years schooling and over—						
Rural—born farm	16	14	12	19	24	13
born non-farm	19	17	22	19	22	33
City —born farm	16	(23)	25	22	20	28
born non-farm	22	35	20	19	24	26

Chapter II showed that proportions childless are highly correlated with age at marriage, even more so than size of family. Without going into details of the intricate relationship between these three variables, one or two aspects may be noted. Over the field of Table XLII, percentage childless appears highly correlated with size of family. The partial regression coefficient associated with age at marriage is very small and the effect of this variable is concealed. When two contrasting culture-types, Roman Catholic French mother-tongue, Protestant English mother-tongue, etc., are considered separately, interesting differences in pattern emerge. The regression equations indicate that the proportions childless among the French Catholic groups vary according to age at marriage but are the same at different fertility levels when age at marriage is held constant. English Protestant groups, on the other hand, vary according to fertility level rather than age at marriage. This is an abstract way of stating the position since in actuality size of family and age at marriage are in general varying together. We can best interpret these cultural differences by saying that in similar situations as regards educational level, urban residence and age at marriage, the number of childless women among both French Catholics and English Protestants will be about the same, but the size of family of fertile women will be smaller among the latter.

Some of the local variations in percentage childless are of interest. Though explanations will not be attempted, they are recorded as pointers towards further research. Perhaps the most striking is the rarity of childless married women in the rural parts of the Prairies. Foreign-born women show this most markedly, but all other groups almost equally so. Among Canadian-born women with foreign mother-tongue at all educational levels, less than 5 p.c. had no children. In all other culture groups except those with 13 years or more schooling the proportion is less than 10 p.c. In contrast, the highest proportions childless are found in Montreal and Toronto, where they are generally between 20 p.c. and 30 p.c. The highest proportion childless recorded among groups large enough for a rate to be computed was 30 p.c. for Protestant European mother-tongue, 9-12 years schooling, in Montreal.

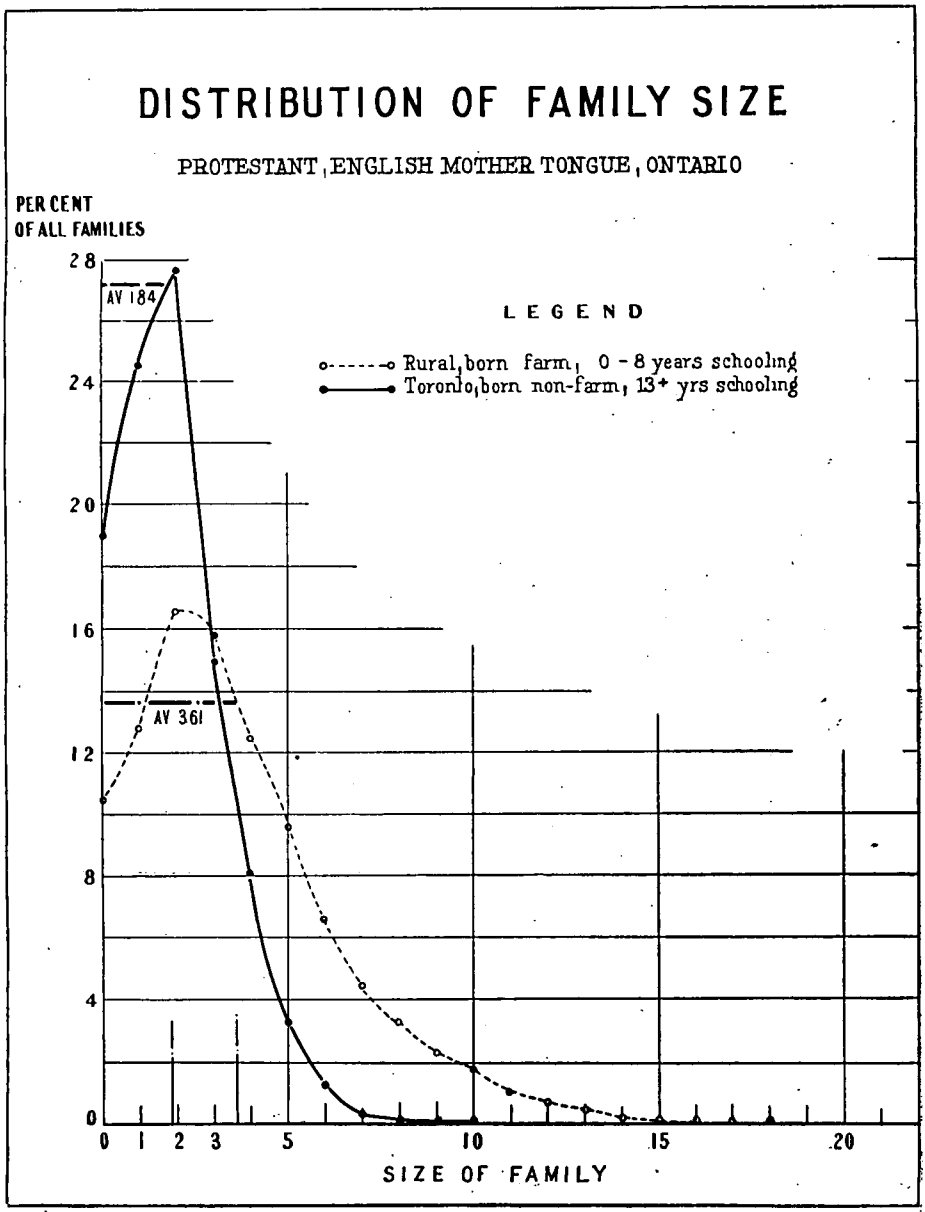
Figure 34



Distribution of Family Sizes

Analysis of group means in earlier sections has been set against a background of estimated individual variability. The range of individual variation can be shown more explicitly for some of the regional groups studied in section 3 at pp. 78-80. Fig. 34 shows distributions for Quebec groups from Table XXXII. Figs. 35 and 36 illustrate Tables XXXIII and XXXIV. The charts can be compared with similar distributions for the whole of Quebec and Ontario shown in Figs. 21-26 of Chapter II. The rural groups shown in the charts are the same as those in the tables, but in the case of the city groups, Montreal and Toronto, with somewhat lower fertility, represent all the larger cities of their respective provinces. The mean size of family corresponding to each distribution is indicated on the charts.

Figure 35



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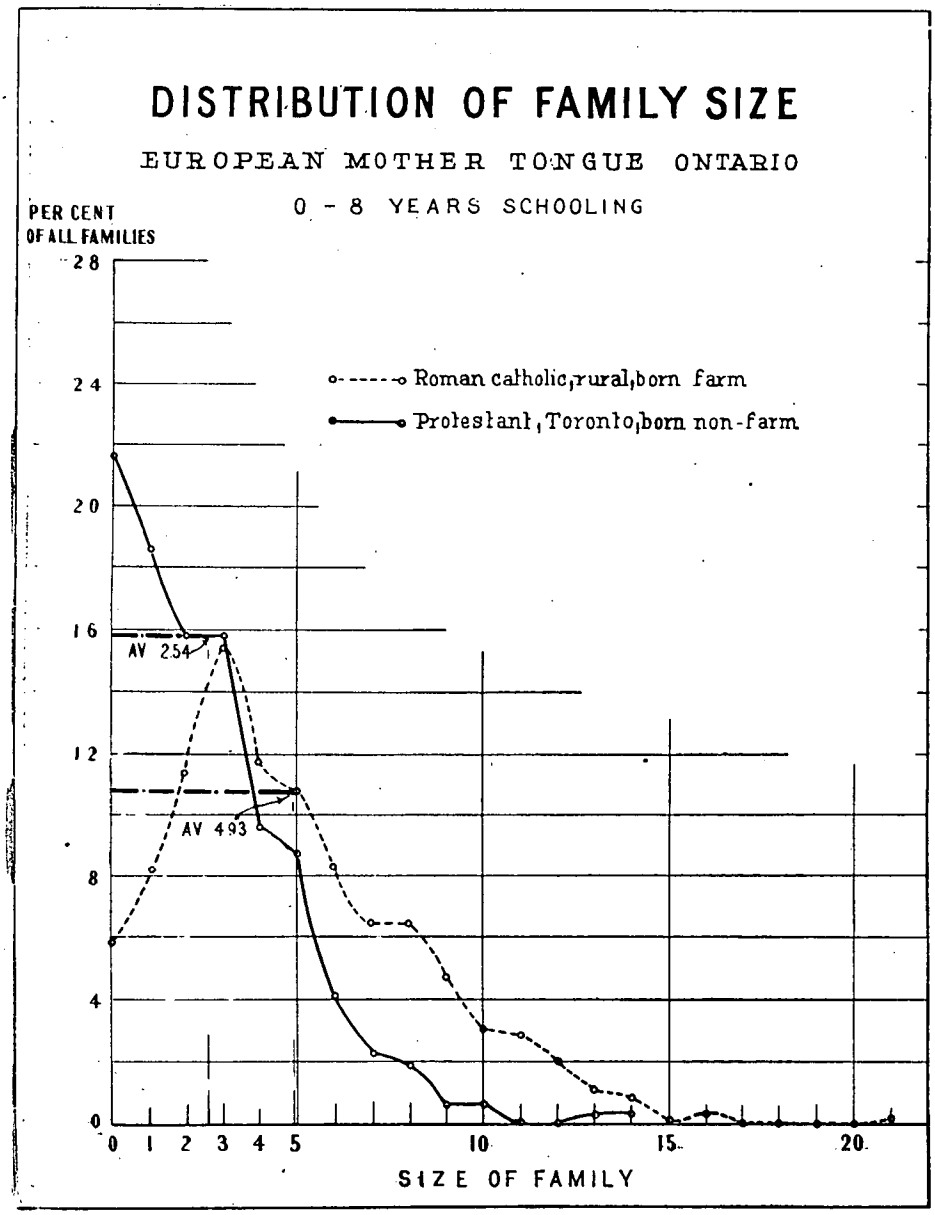
Some of the characteristics of such distributions have been noted in Chapter II. At this juncture they may serve as a useful corrective to a too simple view of cultural differences which may result from consideration of means alone. We see that, even if we neglect all sizes of family found in less than 1 p.c. of the population, the most fertile culture groups contain sizes from 0-19 children in appreciable numbers. There is thus scope for great individual variety. In the least fertile culture groups, the large families have disappeared, but there still remains a choice of sizes from 0 to 5 or 6. The influences at work can thus affect individual women in varying degrees. In spite of the uncertainty surrounding the actual *modus operandi*, the total effect is established without doubt, since even for quite small samples it is possible to predict within a small margin of error the number of families of different sizes in a population whose cultural and economic characteristics are known.

Figure 36



5. Minority Religions and Languages

The general plan of the investigation developed in the foregoing sections aimed at studying, not religion, language, etc., alone, but the joint operation of several factors believed to influence family size. To carry this out,broad groups had to be employed with fairly even representation over the whole field. Several interesting and numerically important cultural types were thus omitted from the main investigation. The present section presents supplementary data about some of these groups. Owing to limitations of time and labour, the data are more fragmentary than would have been the case if a study of religions or languages alone had been undertaken. A compensatory advantage is that the data obtained can be compared with the more comprehensive knowledge available for the larger culture groups. Excluded groups studied in this section comprise two religious groups, Greek Orthodox and Jewish, one language group, the Indian and Eskimo languages, and one combined religious and linguistic group, the Chinese and Japanese languages and religions. A fifth religious group, the Mormons, was not intentionally omitted but was missed because all the women in the age group selected were born in the United States. Finally, two religious groups, Mennonites and Doukhobors, who were included in the main tables, have been studied as separate groups.

Greek Orthodox Religion

Data for this group are complete and include all the population as defined in earlier sections, that is, excluding only United States-born and residents in incorporated places with less than 30,000 inhabitants. Those reporting English and French mother-tongues numbered only 20 and have been neglected. Table XLIII shows average size of family of married women for the Greek Orthodox population reporting European mother-tongue. Ukrainian mother-tongue was the largest language group. Russian, Roumanian, Polish and other Eastern and Southern European tongues were well represented. A very small number of Canadian-born are included in the populations of Table XLIII. Only 21 women had 13 years or more schooling. Their average size of family is shown but is subject to considerable sampling error.

TABLE XLIII.—GREEK ORTHODOX RELIGION, EUROPEAN MOTHER-TONGUE

AVERAGE NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN AGED 45-54 YEARS

Schooling	Rural		City	
0-8 years schooling	6·87		3·95	
Ontario		4·35		3·67
Prairie Provinces		7·19		4·31
9-12 years schooling	3·75		2·69	
13 years schooling and over— (Rural and city)		2·10		

The average size of family of Greek Orthodox women can be compared with similar figures for Roman Catholic and Protestant women with European mother-tongue shown in Table XXXI. Rural women with 0-8 years schooling have larger families than either Roman Catholic or Protestant women in the same categories, but city women and those with more than elementary schooling fall between the two with a tendency towards the lower levels. The tendency already noted for educational differences to be strongly marked in the foreign-language groups is still more pronounced among Greek Orthodox and the rural-urban differences is also large. Comparison of the rates for Ontario and the Prairies with the regional rates of Table XXXIV indicates that fertility of the European-speaking is still higher in the Prairies even when there are no religious distinctions between the different regions. The Greek Orthodox population is much more numerous in the Prairies than elsewhere and forms more compact settlements in that region.

Size of family of all women is not given because in this immigrant group there are almost no unmarried women. Among rural women with 0-8 years schooling 91 p.c. were married under 25 years, the highest proportion hitherto found. Proportions marrying late increase with urbanization and more education but remain relatively low. The proportion of childless women, (4 p.c. among rural women with elementary education), is very low and varies in the way previously noted. Among the small number with advanced education the proportion was 17 p.c.

Jewish Religion

Though numerically important in Canada, the Jewish religion is not of great significance in relation to family size. There is considerable evidence from many countries that Jews have a low birth rate. They are mainly an urban people with an abnormal occupational distribution. They are strongly represented in the textile trades and in commerce, occupations characterized by very low fertility rates irrespective of the cultural composition of the persons engaged in them. An earlier paper* showed that, when occupational distribution is allowed for, recent fertility rates of persons of Jewish "racial origin" is about the same as those of British "racial origin" or perhaps a little higher. The present section gives family data for Jewish† women in the selected age-group resident in Montreal city and Outremont. There are large numbers of Jews in both places and the rates obtained probably exhibit the lowest Jewish fertility reached in Canada.

Table XLIV shows family size of married women, percentage married, etc., for Jewish women sub-classified by mother-tongue and by birthplace. Since the numbers in some categories are very small, the size of the group is shown in the table. Owing to the large sampling errors involved, not much weight can be attached to the figures for single small groups, but something can be said about the general run of the data. Among Jewish women, a birthplace distinction seems to be more important than that between mother-tongues. The European-born, mainly Yiddish-speaking, have larger families than the Canadian and British-born, both Yiddish and English-speaking. Below the Jewish rates are shown two comparable groups also resident in Montreal and Outremont; (a) English-speaking Protestants and (b) Canadian and foreign-born Protestants with European mother-tongue. In the primary school groups, the foreign-born Jews resemble closely the foreign-language Protestants, while the Canadian and British-born, whether English or Yiddish-speaking, approximate to the English-speaking Protestants. Possibly among the Canadian and British-born, the statement of Yiddish mother-tongue indicates Jewish sentiment rather than the actual use of this language in the home. In any event, Yiddish does not appear to be associated with the survival of European traditions of larger families in the same way as other European home languages. While the other educational groups are still on about the same fertility level as the comparable groups (a) and (b), there are indications that the educational gradient is less steep among the Jewish women.

The figures for percentage married, etc., show some interesting features. There are fewer spinsters among the Jewish women, both Canadian and foreign-born. There are also fewer late marriages and fewer childless women. The impression derived from the Jewish data is that a standard pattern prevails to a greater extent than in other groups. The typical Jewish girl marries between 20 and 24 and has from two to four children. There are relatively fewer deviations in the directions of very early or late marriage, no children, or very many children. One small point is perhaps worthy of record. Among the foreign-born, 8 p.c. of those reporting mother-tongue other than Yiddish were farm-born, while only 5 p.c. of those reporting Yiddish mother-tongue were farm-born.

* E. Charles, "Differential Fertility in Canada, 1931", Can. Journ. Econ. and Pol. Sci., Vol. 9, No. 2, May, 1943, p. 204.

† In this report the terms Jew and Jewish are used to describe members of the Jewish religion.

TABLE XLIV.—JEWISH RELIGION—MONTREAL AND OUTREMONT—FERTILITY, NUPTIALITY WITH COMPARATIVE PROTESTANT RATES

WOMEN AGED 45–54 YEARS

Mother-tongue and birthplace	Per cent of women married	Number of married women	Average size of family, married women	Per cent age at marriage under 25 years	Per cent childless of married women
	p.c.	No.		p.c.	p.c.
0-8 years schooling—					
1. English mother-tongue, born non-farm Canadian and British-born	91	42	2·71	76	17
2. Yiddish mother-tongue, born non-farm Canadian and British-born	93	114	2·88	88	5
3. Yiddish mother-tongue European-born	99	2,382	3·53	83	7
4. Other European mother-tongue European-born	97	113	3·40	79	4
(a) Protestant English mother-tongue, born non-farm	85	1,269	2·91	57	15
(b) Protestant European mother-tongue, born farm and non-farm Canadian and foreign-born	90	294	3·50	68	17
9-12 years schooling—					
1. English mother-tongue, born non-farm Canadian and British-born	79	77	2·18	74	17
2. Yiddish mother-tongue, born non-farm Canadian and British-born	91	70	2·53	73	13
3. Yiddish mother-tongue European-born	97	256	3·02	83	5
4. Other European mother-tongue European-born	93	40	1·98	60	12
(a) Protestant English mother-tongue, born non-farm	74	1,421	1·91	50	23
(b) Protestant European mother-tongue, born farm and non-farm Canadian and foreign-born	89	65	2·05	51	28
13 years schooling and over—					
1. English mother-tongue, born non-farm Canadian and British-born	81	13	1·46	69	38
2. Yiddish mother-tongue, born non-farm Canadian and British-born	76	13	2·08	77	15
3. Yiddish mother-tongue European-born	98	40	2·98	80	5
4. Other European mother-tongue European-born	80	4	2·25	75	25
(a) Protestant English mother-tongue, born non-farm	79	312	1·37	28	24
(b) Protestant European mother-tongue, born farm and non-farm Canadian and foreign-born	88	15	·73	27	60

Indian Mother-Tongue

Several definitions of "Indian" are current. One which is of some cultural significance distinguishes between reserve Indians and those not on reserves. The former group nearly coincides with that of Indians who are wards of the Government. Those outside reserves include a few unenfranchised Indians and a more ambiguous class of Indians as defined by the Census. In line with the rest of the investigation, this section is confined to persons reporting an Indian mother-tongue. All in the locality observed were either Roman Catholic or Protestant in religion. Indians, however defined, are found in all provinces. They are most numerous in Ontario. The next largest group is in British Columbia, where they form a much larger proportion of the rural population. The British Columbia rural women reporting an Indian mother-tongue were therefore chosen for tabulation. The average number of children ever-born to 384 Roman Catholic women was 5·50 and to 225 Protestant women 5·20, a very small difference compared with those previously found. Out of the total number of women, 67 p.c. had no schooling, while only 3 p.c. had more than 8 years and none more than 12 years. Since the educational level is so different from that of other groups, size of family was computed separately for 0 years schooling, 1-4 years, 4-6 years, 7-8 years and 9 years and over. No significant differences in size of family were found between these educational groups. The proportion married was 95 p.c., most were married at early ages, and 10 p.c. of the married women were childless.

There is some reason to think that enumeration of size of family may have been less accurate among the Indian women than elsewhere. Registration of births is known to be much less accurate and for similar reasons dead children or children living with relatives may have been omitted. If the figures are taken at their face value, the size of family is about the same as among European language Protestants at the primary school level living in rural districts. The proportion married is also about the same but the number of childless married women is rather higher than in other comparable rural groups.

Japanese and Chinese Languages and Religions

Japanese and Chinese immigrants into Canada are usually sharply distinguished from the rest of the population by three cultural variables, Asiatic birthplace, Asiatic mother-tongue, and Asiatic religion. Assimilation can proceed in several stages; (a) retention of all three Asiatic characteristics, (b) (i) Asiatic birthplace and language with European religion, (ii) Canadian birthplace with Asiatic languages and religions, (c) (i) Canadian birthplace and European religion with Asiatic mother-tongue. Theoretically we should find (c) (ii) Canadian birthplace and mother-tongue with Asiatic religion but the age-group studied contained only one individual answering to this description and that probably a European convert to Buddhism. The first, third and fourth of these stages are common to all immigrant groups but the second is either peculiar to Asiatics or else more easily detected. The religion of the home land is discarded before the mother-tongue. This fact accounts for the scarcity of individuals in the fifth stage. In theory again, there is a final stage of assimilation in which individuals whose parents were Asiatic-born can be identified either by nativity of parents or by physical peculiarities. Of these two marks of identification, the former was not recorded at the 1941 Census and the latter has never been recorded at any census. In practice the question does not arise since no such individuals would be found in the age-group with which we are concerned.

Speedy change of religion mentioned seems to have had little effect on family patterns. When size of family of those with Asiatic and European religions respectively, and with the same birthplaces and mother-tongues is compared, the Roman Catholic and Protestant families are usually slightly larger than the Confucian and Buddhist families, but the difference is probably not significant. There is, as we should expect, a marked difference between the Asiatic-born and the Canadian-born. Still more marked is the difference between Japanese-speaking and Chinese-speaking. Table XLV gives average family size for Asiatics resident in British Columbia rural districts, and in Vancouver and Victoria. The Chinese-born, who were mostly resident in Vancouver and Victoria, show a higher fertility than any other city group in this study. The Japanese-born, on the other hand, are at the same level of fertility as the European mother-tongue groups. In Vancouver and Victoria their families are somewhat larger than those of any other group so far identified in those cities, but the size of family of rural married women is not exceptionally high. With one exception, all the women referred to in this section were married.

TABLE XLV.—CHINESE AND JAPANESE MOTHER-TONGUE, ASIATIC AND CANADIAN-BORN

NUMBER OF MARRIED WOMEN AGED 45-54 YEARS AND AVERAGE NUMBER OF CHILDREN EVER-BORN

Nativity	Chinese mother-tongue		Japanese mother-tongue	
	No. of married women	Average size of family of married women	No. of married women	Average size of family of married women
Asiatic-born	115	6·50	847	4·45
Canadian-born	19	3·74	8	2·75

The Canadian-born and Chinese-born are too few in number to permit of further subdivision. The Japanese-born, in addition to being more numerous, have a larger proportion of women above the primary school level, and are more equally distributed between city and country. Table XLVI shows the Japanese-born women in greater detail. There is no obvious difference between rural and city families. There are indications of an educational gradient, though the difference between educational levels appears to be considerably less than in groups previously described.

TABLE XLVI.—JAPANESE-BORN; URBANIZATION AND EDUCATION

NUMBER OF MARRIED WOMEN AGED 45-54 YEARS AND AVERAGE NUMBER OF CHILDREN EVER-BORN

Schooling	Vancouver and Victoria		British Columbia, rural	
	No. of married women	Average size of family of married women	No. of married women	Average size of family of married women
0–8 years schooling	283	4·25	432	4·72
9–12 years schooling	81	4·30	31	3·90
13 years schooling and over	13	3·08	7	2·86

Mennonites, Doukhobors, and Mormons

In this section are discussed three minority Protestant sects whose family attitudes are likely to be of special interest. Mormons, Mennonites, and Doukhobors possess some characteristics in common. Conflict with the state and consequent persecution prompted migration. Mennonites and Doukhobors sought a land where they would be free from the obligation to military service, Mormons wished to evade the consequences of polygamy. Each sect was strongly sectarian and endeavoured to maintain its own way of life uncontaminated by the world. Their subsequent history in Canada has been one of more or less gradual penetration by the outside world and consequent modification of behaviour patterns. The Mormons abandoned polygamy in 1890, and since then have had no occasion to come into open conflict with governments. The Mennonites have accepted a satisfactory compromise. Though Doukhobors still come into conflict with the law on occasion, these incidents appear to be largely confined to one extreme sub-sect.

All these minority groups have played an important role in opening up the West. While all have proved in the main efficient agriculturists, there seem to be significant differences in type of adaptation. The Mennonites and Doukhobors tend to cling to the simpler ways of life of their past. The resulting self-sufficiency was an asset in helping them to weather the agricultural depression of the thirties. The Mormon culture, on the other hand, was profoundly affected by the need for irrigation in their first permanent home in the United States, and they have as a result been in the forefront of advances in knowledge and in scientific technology.

Some form of primitive communism was the chosen way of life in these as in many other sectarian religious groups, and was not out of harmony with the co-operative ways of living without which settlement on the frontier would have been impossible. As they became surrounded by a fully developed capitalist economy, their own economy came to resemble that generally prevailing. The Doukhobors are perhaps nearest to an equality of poverty. While the Mormons have adapted themselves most successfully to current standards, traces of their more consciously co-operative beginning are seen in the highly organized social activities of the Mormon church.

Table XLVII gives the average size of family of married women among selected populations of Mennonites and Doukhobors. All the rural Mennonite population of Saskatchewan is shown and all the rural Doukhobor population of Saskatchewan and British Columbia as defined in this chapter. The Doukhobors are largely concentrated in the two provinces shown, while the Mennonites are more widely distributed. Both are predominantly rural. Only two Doukhobor females in this age group had more than 8 years schooling and so the table records only family size of those with less than 9 years schooling.

The Mennonite families, as one would expect from their way of life and ideology, are very large. The Canadian-born show as large a size of family as any found in this study. The European-born are somewhat smaller. As suggested earlier, a possible explanation of this fact is that the Canadian-born have maintained greater isolation from the general population. The Doukhobors in this age group arrived in Canada later than the Mennonites and so are all foreign-born. In view of their self-sufficient economy, lack of material wants, and cultural isolation, the

TABLE XLVII.—MENNONITES AND DOUKHOBORS, EDUCATION AND BIRTHPLACE

NUMBER OF MARRIED WOMEN AGED 45-54 YEARS, AND AVERAGE NUMBER OF CHILDREN EVER-BORN

Item	0–8 years schooling				9–12 years schooling	
	Canadian-born		European-born		All birthplaces	
	No. of married women	Average size of family	No. of married women	Average size of family	No. of married women	Average size of family
A. **Mennonites**—						
Saskatchewan rural	375	8·35	347	6·52	28	5·93
B. **Doukhobors**—						
Saskatchewan rural	–	–	313	4·73	–	–
British Columbia rural	–	–	217	4·00	–	–

size of family shown is very surprising. In the past their religious beliefs have involved objections to all forms of government registration, and this has led to considerable difficulty in the collection of vital statistics and in census enumeration. In British Columbia, educational level was not given for 25 women with an average family size of 4·40, while neither education nor number of children was recorded for 67 women. The possibility that there has been systematic under-enumeration of children born among the Doukhobors cannot be dismissed but examination of the census schedules for 1941 and 1931 disclosed no evidence of it. Where the population of a single schedule is mixed, the larger families of Greek Catholic and Greek Orthodox leap to the eye. The distribution of family size is also remarkable for its low variability. Two-thirds of all the married women have families of 3, 4 or 5 children.

A first glance at Mormon families proved so interesting that the scope of the investigation was extended outside limits previously laid down. Nearly all are resident in Alberta but many are United States-born and a large number live in smaller towns such as Cardston, Lethbridge, Raymond. Table XLVIII shows all the Mormon women 45-54 years of age in Alberta without distinction of birthplace, classified according to residence, rural, incorporated places 1,000-29,000, cities 30,000 and over (Calgary and Edmonton), as well as educational level. All have English as their mother-tongue.

Though there is some indication of a rural-urban difference in the Mormon population, it is much smaller than usual, so that, while the rural family size is a normal one, the urban family is exceptionally large. The most significant feature of the Mormon table is the negligible size of the educational differential. On the evidence of Table XLVIII alone, one would be justified in saying that there is no significant difference in size of family between those with advanced education and those with less. But since the difference, though so small, is in the same direction as those previously found in all other groups, it is probably significant. Even so, the Mormon culture is remarkable in this respect.

TABLE XLVIII.—ALBERTA MORMONS, EDUCATION AND RURAL AND URBAN

NUMBER OF MARRIED WOMEN AGED 45-54 YEARS AND AVERAGE NUMBER OF CHILDREN EVER-BORN

Schooling	Rural		Town		City		All	
	No. of married women	Average size of family	No. of married women	Average size of family	No. of married women	Average size of family	No. of married women	Average size of family
0–8 years schooling	139	5·72	103	5·74	18	5·00	260	5·68
9–12 years schooling	124	6·19	123	5·39	6	4·83	253	5·53
13 years schooling and over	18	6·50	–[1]	–	–	–	35	5·40

[1] Entries omitted to avoid disclosing particulars of an individual family.

The result indicated above is in agreement with what we know of the state of Utah. Following a general pattern, on the whole the States with the highest fertility have been the poorest and those with least cultural development according to currently accepted standards. In 1920 Utah and Idaho ranked 5th and 10th respectively among the States of the Union in net replacement index. According to a cultural-intellectual index they ranked 17th and 18th, while the other States among the ten most fertile ranked from 36th to 48th in cultural development.

In view of the disastrously small families of highly educated men and women, it is possible that further investigation of the Mormon culture and economy might yield results of general interest. A preliminary tentative suggestion emerges from the earlier beliefs associated with the practice of polygamy. This practice seems to have been justified on the grounds that the most prosperous and efficient individuals had a duty to raise large families and to give them all possible advantages of health and education. While the practice of polygamy has been abandoned, there may still remain a tendency to direct economic advantages into family channels which shows itself both in the general high level of education and in the large families of the more prosperous and better educated.

6. Conclusion

In conclusion we may try to draw together some of the main threads to show how they illustrate the development of the small family pattern. Two principal centres of high fertility have emerged, rural French-speaking Catholics in Quebec and New Brunswick and the European language groups in the Prairies. The French Catholic culture can be traced without break to the seventeenth century.* It is easy to see how large families became established under conditions of unlimited room for expansion and under the auspices of a religion which set a high value on family life. In later years both language and religion combined to maintain intact a closed culture. As we have seen, the family attitudes associated with this culture complex have been greatly modified in three directions, first, by residence in cities, second, by breaking up of compact settlements as the people spread out into other parts of Canada, and third, to a somewhat smaller degree by higher education and its associated higher social and pecuniary status. At the period of this study the traditional French-Canadian family was seen only in rural populations living in a comparatively simple economy. The seventeenth century family could still be found in the parts of Quebec and New Brunswick most remote from large cities. It finally disappeared only during the last thirty years. The persistence of the French-Canadian family is based primarily on a traditional agriculture and secondarily on compactness of settlement. The latter feature is perhaps seen in the high fertility of the predominantly French-Canadian cities. The economic characteristics of these cities may, however, provide an alternative explanation. The transitional character of family behaviour is seen in the wide and rather inexplicable variations in urban fertility of French Catholic towns.

The Prairies, likewise, provided conditions propitious to large families. High fertility rates were found in all culture groups but more especially in the European language speaking groups, who brought with them a large-family tradition rooted in the peasant agriculture of Southern and Eastern Europe and not dissimilar from the French-Canadian. Decline in the size of the family was retarded by the barriers of language and often by sectarian religions. Since their language habits were more incompatible with social and economic advancement than those of the French-speaking, differences in size of family associated with educational differences were abrupt and the subsequent decline in fertility speedy.

During the period of this study high fertility among the English-speaking groups was found in the Maritimes and these provinces have in recent years shown a slower decline in fertility. Barriers of language and religion have never been so prominent in the Maritimes as in the more economically advanced regions. In the Maritimes smaller primary cultural differences at a high level of fertility are associated with lower money incomes and the absence of a metropolitan city. Though Halifax and Saint John are large cities they are rather different from the newer cities of the West.

* Vide G. Sabagh "The Fertility of the French-Canadian Women during the Seventeenth Century", Am. Journ. Soc. Vol. XLVII, No. 5.

Everywhere in Canada, English-speaking Protestant families tend to be small, and are especially so in the provinces of Ontario and British Columbia, where they are in the majority. For the most part such people trace their origins from a highly industrialized country, and the varieties of religion most popular have proved especially adapted to reinforce the values of an acquisitive society. The primary social heritage associated with differences in language and religion still leads to different family attitudes. Not only is the size of family different in apparently similar circumstances, but the social heritage affects the ease of entry into the more typically acquisitive pursuits. Although these cultural differences exist and are likely to persist for some time, they are not as large as a superficial view suggests. The most significant result obtained has been the similarity of response of all cultures to higher standards of living and a greater variety of material wants. The ultimate reproductive destiny of all appears to be the same. In Vancouver, possibly the most metropolitan city of Canada, the obliteration of all cultural difference at a level of fertility insufficient to maintain a stationary population has been nearly reached. The social heritage operates as a time factor determining the stage of development of family attitudes. The basic problem of population policy is independent of all such transitory cultural time lags. We have yet to discover how to exploit to the full the resources of scientific technology without at the same time committing ourselves to a declining population.

7. Summary

(i) The average size of family of married women 45-54 years old showed significant differences associated with religion, urbanization, educational level, and mother-tongue. Difference in size of family between those born on farms and not born on farms, though also significant, was smaller in amount and less clear-cut.

(ii) When differences in religion, residence, education and mother-tongue were equalized, no significant difference in size of family of married women was found between Canadian-born and foreign-born.

(iii) French-speaking Catholic families in rural districts and with primary education only were larger than would have been expected from the effect of mother-tongue and religion acting independently.

(iv) The rural-city difference in size of family was most marked among French-speaking groups, the educational difference most marked among those with European mother-tongue. All differences were smallest among English-speaking Protestants.

(v) French Catholic size of family was largest in Quebec and New Brunswick, while the size of family of those with European mother-tongue was largest in the Prairie Provinces. The Maritime Provinces and British Columbia both showed a levelling-out of cultural differences, the former at a high level of fertility, the latter at the lowest level found.

(vi) High proportions of married women were found among the foreign-born groups and also among French Protestants. Among the different regions, the Prairies and British Columbia showed highest proportions married. There were more spinsters among Roman Catholics than among Protestants. Otherwise differences in proportions married followed the same lines as differences in fertility of married women. The most conspicuous feature was the very large proportion of spinsters among women with advanced education.

(vii) Late age at marriage was in general associated with many unmarried, but the rural-city difference in age at marriage was small while the educational difference was great.

(viii) Among the minority religions and languages observed, the size of family was very large among Mennonites and among city women born in China. Greek Orthodox religion, Indian mother-tongue, and Japanese birth were associated with a size of family similar to that of Roman Catholics with European mother-tongue. Women reporting the Jewish religion were at the same fertility level as English-speaking Protestants. Doukhobor women showed a size of family unexpectedly small in view of their rural residence and either few years' schooling or none. Mormon women were remarkable in that they showed less difference in size of family associated with educational level than any other group observed.

CHAPTER V

OCCUPATIONAL DIFFERENCES IN FERTILITY

Introduction

Differences in size of family associated with different ways of earning a living have been frequently noted. As a rule, farmers, coal miners, and others engaged in primary industry have larger families than the average, while the families of those engaged in trade and service occupations are particularly small. The typical size of family associated with a given occupation reflects the average earnings and standard of living, as well as the type of work involved. In Canada also the proportional representation of different types of social heritage can vary from occupation to occupation. The present chapter analyses fertility rates for one hundred and fifty occupational groups. Chapter VI will link up the occupational differences of this chapter with the cultural analysis of the previous chapter.

The data immediately available at the 1941 Census in connection with occupation consisted of numbers of children ever-born to married women living with their husbands by occupation of husband. The rates given describe the fertility of so-called "normal" families of husband and wife living together. Fertility rates in previous bulletins were those of all women who were or had been married. Although number of children by age of mother was not available, some correction for age composition is very necessary on account of the great differences in age composition which exist between occupations.* Total numbers of children born were standardized for age composition by the indirect method. Fertility rates for all Canadian women who had been married were used in the computations. In this way we obtain the size of family expected if the ages of married women were the same for all occupations. The rates given thus do not relate to any actual number of children ever-born but are estimates of relative fertility in terms of the size of "normal" families. Standardization does not remove all the difficulties involved in comparing an occupation such as ushers, composed almost entirely of young men, with, for example, judges or locomotive engineers, but it at least affords a more useful measure of fertility than crude numbers of children born. All fertility rates in this bulletin are standardized as described. Since broken marriages are omitted, the fertility level of this chapter is slightly higher than that of all Canadian women who have been married. The tables give an impression of lower fertility because of the larger numbers in the high fertility occupations. This chapter does not discuss differences in total reproductive capacity arising from varying proportions married. While the previous chapter confined itself to fertility of women in the age-group 45-54 years, the present chapter deals with the fertility of women of all ages together.

Table 5 (Part II) shows standardized fertility rates in 102 occupational groups for Canada, the provinces, four metropolitan areas, and the remaining cities with over 100,000 population. The occupations shown are those with the largest number of married men. With one exception (laundrymen, 1,258), the rates for all Canada relate to 2,500 or more wives. In general, rates for provinces and cities are not shown where there were less than 100 wives. A few rates based on between 90 and 100 wives are included. The Canadian occupational groups are large enough to make it very improbable that the sampling error of the fertility rate exceeds 5 p.c. even in the least fertile groups. The expected error in the more fertile groups would be much less. Rates for the smaller groups in provinces and cities are subject to considerable sampling error and also to fluctuations which are not strictly random but are the result of specific local conditions. But in spite of these sources of variation, the figures show considerable regularity. Table 6 presents a supplementary set of standardized fertility rates in Quebec and Ontario for 48 occupational groups in which there are fewer married women and which are in consequence less well represented in other parts of Canada.

In the following sections occupations are grouped in two ways to show fertility variations. In Section 1, occupations are grouped by type, e.g., Agriculture, Manufacturing, Trade, etc. This is the way in which individual occupations are arranged in census tabulations. The grouping is in part industrial and in part by type of occupation. All clerical occupations are put together irrespective of the industry concerned. Section 2 describes a new method of socio-economic classification. It is hoped that the approach may prove useful in other fields of study. Section 3 analyses provincial and metropolitan differences in occupational fertility.

* cf Introduction, pp. 5, 6.

1. Fertility of Occupation-Type Classes

Table XLIX shows mean fertility rates of occupations grouped according to type of occupation. The rates are unweighted averages of the standardized rates for each occupation, so that differences in size of occupational groups are ignored. In most of the text tables, two public service occupations, "government inspectors" and "public service officials, n.e.s." have been combined and also two textile occupations, "other occupations in clothing and textile products" and "textiles". The grouping by type class follows census bulletins with some grouping of classes. Occupations in Agriculture, Fishing, Logging, Mining and Quarrying were grouped under Primary occupations.* Trade and Finance occupations were combined. When arranged in order from the least fertile to the most fertile, the differences between adjoining classes are often small and non-significant and there is a considerable amount of overlap. Yet gradation from low to high fertility classes is clear and is in line with previous knowledge. The two extreme classes, Professional occupations and Primary occupations, are perhaps most clearly defined. We can also note the larger families of those engaged in heavy manual labour as compared with those in white-collar occupations generally. The three occupations with the highest fertility rates are:—hunters and trappers, 5·61; lumbermen, 5·29; fishermen, 4·61. The three occupations with the lowest fertility rates are:—electrical engineers, 1·81; dentists, 1·81; chemists, 1·83.

TABLE XLIX.—FERTILITY BY OCCUPATION-TYPE CLASS

MEAN STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN BY OCCUPATION-TYPE CLASS OF HUSBAND

Occupation-type class	Number of occupations	Mean standardized fertility rate	Range of standardized fertility rates
I. Professional	10	2·02	1·81—2.31
II. Clerical	4	2·21	2·05—2·56
III. Trade and finance	10	2·39	2·07—3·12
IV. Public service	4	2·82	2·56—2·99
V. Personal service	8	2·84	2·38—3·37
VI. Transport and communication	16	2·98	2·41—4·07
VII. Manufacturing and mechanical	32	3·11	2·07—4·21
VIII. Construction	8	3·35	2·95—3·76
IX. Labourers (not in primary occupations)	1	3·98	—
X. Primary occupations	7	4·54	3·65—5·61
Farmers		4·29	

Fertility rates for some occupations can be compared with gross reproduction rates of males for 1931 standardized for proportions married.† There is no reason to expect the two lists to agree at all precisely, since, in addition to the fact that two different indices of reproductivity were used, the first index describes fertility over a period of fifty years, while the second refers to fertility in a single year (1931). The results for lumbermen are totally different. Although a high proportion of married lumbermen have wives in other countries, the discrepancy seems too great to be accounted for by this alone. Probably, as the earlier study suggested, there is some lack of comparability between vital statistics and census data for this occupation. For 30 other occupations, the rank correlation coefficient between the two indices was 0·66. Some important occupations with the same fertility rank for both standardized fertility rate and standardized 1931 male gross reproduction rate were:—farmers, fishermen, blacksmiths, textile operatives, most construction operatives. Some professional occupations gained in rank in 1931 and again apparently in 1941. It has been noted elsewhere that a very low level of fertility was reached earlier in the professions than in any other occupational class, but that in recent years a tendency to stabilization has appeared, so that now the smallest families are more often found in business, trade and finance. Manufacturing owners and managers were lower in rank in 1941. The same was true of miners and masons, both occupations which were particularly badly hit by the depression of the thirties. Apart from professional occupations, the fertility gradient by type of occupation shown in Table XLIX is also apparent in 1931.

* Workers in primary occupations are not quite the same category as workers in primary industries. Of all in primary occupations, less than 1 p.c. are not engaged in primary industries. But nearly 2 p.c. of all those in primary industries are not in primary occupations. For example, the mining industry employs clerks, engineers, etc.

† E. Charles, "Differential Fertility in Canada, 1931", Can. Journ. Econ. and Pol. Sci., Vol. 9, No. 2, 1943.

2. Fertility of Socio-Economic Classes

Description of a Socio-economic Classification

Sociologists and others interested in studying different ways of earning a living in relation to the economic structure and to the welfare of individuals have felt the need for some grouping scheme for individual occupational descriptions. The Canadian 1941 Census contains 211 occupational headings and it is obvious that for many purposes we need to group these into much larger classes before they can become manageable. Often a classification of a type such as that of the previous section is what we require. But for other purposes the type classes cover too great a variety of types of work, income, etc. Again, income alone is felt to be inadequate as a basis, partly because it may not be very stable, or may not be known, but still more so because the social environment of individuals and their habits of living are not completely explained by income levels. To take account of these more intangible differences, the concept of social class or social status has been developed.

Social status classes as an accepted part of census procedure appear to have originated in the 1911 Census of England and Wales in connection with studies on mortality and fertility. As is well known, the social classes were: 1. upper and middle, 2. intermediate, 3. skilled, 4. semi-skilled, 5. unskilled, all definitely arranged in a descending order, while 6, 7, 8, comprise miners, textile workers, and agricultural labourers, who, from the standpoint of the English report, exhibited peculiar characteristics. This grading clearly reflects the rather rigid social structure of England at that time. As the report says, "Class 1 covers such occupations as commercial and railway clerks and insurance agents, but aims at excluding the artisan, even though his wages may be higher than the clerk's." Although closely corresponding, as all such social classes must do, to income levels, the dividing lines are drawn otherwise and there is a great gulf fixed between the manual and the non-manual worker. The distinction between skilled, semi-skilled, and unskilled, reflects the status of the highly organized crafts, their well-defined apprenticeship systems, and the wide divergence between skilled and unskilled wage rates.

The English scheme seems to have persisted as the basis of all succeeding schemes up to the present time, although subject to continuous modification. One of the unsatisfactory aspects of the situation is the subjective nature of these variations. Each succeeding modification seems to be the product of individual intuition. Two well-known versions are those of Edwards*, dated 1916 and 1933. Of the latter of these, Edwards states—"The six main occupation groups shown in Table 3 are arranged approximately at least, in descending order of the social-economic status of the workers in them." The groups are: 1. Professional; 2. Proprietors, managers, and officials; 3. Clerks and kindred; 4. Skilled; 5. Semi-skilled; 6. Unskilled and servants. The United States Dictionary of Occupations retains the clerical class, professional and managerial are combined into one, and the remaining occupations are grouped by industry with the skilled-unskilled distinction running throughout.

Two major problems are encountered in constructing a social status classification at the present time. First, the ideas of social stratification current in England in 1911, are not necessarily relevant to North America, 1941. It is generally admitted that the American social structure is more fluid and may be changing at the present time. Yet we recognize that such a thing as social status exists and numerous studies of social stratification in individual communities have been made.† Occupations at the same income level may vary in attractiveness and in social prestige and hence can be preferentially chosen by entrants with greater freedom of choice. The problem is then whether we can find any way of measuring social status without depending on either the ideas of a different country and time or on individual judgment.

The second problem lies in the breakdown of the distinction between skilled and semi-skilled work. This was associated with the last World War. Accompanying it went the decay of the apprenticeship system and a reduction of the earnings differential between what were previously regarded as skilled and unskilled occupations. Many bitter trade union struggles have raged round this issue. When we look at the Canadian or United States list of skilled, semi-skilled and unskilled occupations, the extreme ends of the scale are clearly distinct. At the top are a

* A. M. Edwards. Journ. Amer. Stat. Ass., Vol. 28, 1933.
† e.g. W. L. Warner & P. S. Lunt. "The Social Life of a Modern Community".

few highly skilled and very well-paid (relatively) occupations, such as toolmakers and locomotive engineers. At the bottom are occupations such as general labourers, sectionmen, longshoremen, which require only heavy muscular work, and are paid accordingly. But for the great majority, probably about three-quarters, of the occupations in these categories, there is no relation between the skill distinction and the earnings received, nor is the skill distinction related to any other obvious social characteristic.

The scheme of socio-economic classes used in this chapter is based on earnings and educational level. A grouping based on these two characteristics could be described as a grouping by social attractiveness. The assumption underlying the use of educational level as an index is that, as between two occupations with the same income level, the one in which the more highly educated are found is in some way more attractive. The material consisted in the first instance of 177 male occupational groups in which more than 50 p.c. of the gainfully employed were salaried or wage-earners. For each occupation the average earnings and the percentage of gainfully employed with 9 or more years schooling were tabulated. Each variable was converted into standard scores and the average standard score for the two indexes computed. The occupations were then arranged in order of average standard score. Dividing lines were drawn in a rather arbitrary manner to make eight socio-economic classes: I. Proprietary, managerial and professional occupations; II. Professional occupations; III. Small owners, clerical occupations; IV. Foremen, inspectors; V. Skilled and semi-skilled occupations; VI. Semi-skilled and personal service occupations; VII. Construction occupations; VIII. Unskilled occupations. The titles given are not definitions, but serve to characterize the classes loosely and to link them up with classes in other schemes. The mainly non wage-earning occupations and three wage-earning occupations with abnormal age composition were inserted in the scheme, partly according to their resemblance to other occupations already classified, and partly according to their educational level. Farmers were tentatively placed in Class III. The dividing lines between Classes I and II, and between Classes VI and VII are not as clearly marked as elsewhere and for some purposes a six-class classification might be more appropriate. Some of the difficulties and possible modifications of such a scheme are discussed below.

(a) The most obvious difficulty is that both earnings and education are affected by the age composition of the occupational group. Some extreme examples of the former category are the more highly paid railway occupations, which are recruited late in life from other occupations in the same industry. In these occupations average earnings do not represent the income level over the whole of the working life. At the other end of the scale, ushers and messengers are almost exclusively young people and so one would expect a low earnings level. On the other hand, education varies in the reverse way. Educational opportunities have greatly increased in the last 20 years and the educational level of young people as a whole is generally higher than that of their elders. An example is the educational level of nurses-in-training as compared with graduate nurses. Educational level standardized for age could be obtained, and, by using 1931 data, the same thing could be done with earnings. This study has tentatively assumed that, since these variables vary in opposite directions with age, the average of measures, unstandardized for age composition, is sufficient for the purpose. An exception was made in the case of three occupations, judges, messengers and nurses-in-training. As mentioned above, they are excluded from the standard score scheme on grounds of abnormal age composition and inserted where they seemed to belong. Judges obviously belong with the other learned professions, while nurses-in-training, who are not really wage-earners, belong with graduate nurses.

(b) A second difficulty is that several alternative measures of both income and education status are available. The educational index was chosen because, after some trial, it appeared to be the most consistent. In place of average earnings, 1941, we could take average earnings at several censuses, or maximum earnings in 1931. None of the alternative indices of income seemed definitely preferable.

(c) There are no objective criteria for the separation of groups. The lines were drawn according to three considerations: (i) discontinuities in the series of average standard scores; (ii) resemblance to socio-economic classes in other schemes; (iii) consistency with classification of female occupation groups discussed in the next paragraph.

(d) The female occupational groups were measured independently in the way described above and divided into classes to correspond as far as possible with the male classes. With

some slight shifting of the male dividing lines, it was found that out of 77 occupations with more than 150 female wage-earners, all but 14 could be grouped so as to fall into line with the male classes. Of the 14 which were out of line, three—nurses, practical nurses and social welfare workers—are predominantly female occupations. So their position in the classification scheme was changed to show their status among female wage-earners. Thus the same scheme can be used without great difficulty to show social status of both male and female gainfully occupied.

(e) Maintenance is an item in earnings level. For some residential occupations, the value of the board and lodging provided should be taken account of in measuring earnings level. This adjustment was made for farm foremen, logging occupations, water transport occupations, domestics, housekeepers and nurses. After adjustment the classes of farm foremen and graduate nurses were changed.

(f) A possible objection is that on account of the reverse age effect of earnings and education, the above rather crude method of balancing the two may have done nothing more than make an approximate correction for those occupations in which the high earnings are due to a greater number of mature workers. But the different rankings resulting from both education and earnings combined, as compared with earnings alone suggest that the inclusion of an educational index does take account of the differential social status attaching to white-collar occupations as against those involving heavy and dirty physical labour and so approaches more nearly to current conventional ideas on the topic. The correlations between average earnings and educational level as defined were: for male occupational groups +·61, for female occupational groups +·67.

Finally, it cannot be emphasized too strongly that the socio-economic classification of this chapter is purely descriptive of conditions in a particular country at a particular time. It makes no assumptions about either (a) the intelligence of persons in any specified occupation, or (b) the abilities required for any occupation, or (c) the equity of existing methods of remuneration. A complete list of occupations classified in the way described is given in Table E. I., (Appendix E).

Fertility Rates by Socio-economic Class

Table L shows standardized fertility rates for the socio-economic classes described in the previous section. Since the fertility rate of farmers lay well outside the range of other occupations in Class III, where they were tentatively placed, they have been shown separately. If included in Class III, the fertility gradient would remain the same but the difference between Class III and Class IV would be considerably less. The least difference is found between Classes I and II. As already stated, this line of separation is less well-marked than most of the others. In respect of their reproductive behaviour, all professional and managerial occupations tend to resemble each other in spite of well-marked differences in average earnings and to a less extent in professional standards.

TABLE L.—FERTILITY BY SOCIO-ECONOMIC CLASS

MEAN STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN BY SOCIO-ECONOMIC CLASS OF HUSBAND

Class	Title [1]	Number of occupations	Mean standardized fertility rate	Range of standardized fertility rates
I.	Proprietary, managerial and professional occupations	10	2·13	1·81—2·47
II.	Professional occupations	10	2·20	1·83—2·70
III.[2]	Small owners, clerical occupations	11	2·48	2·05—3·01
IV.	Foremen and inspectors	10	2·74	2·35—3·03
V.	Skilled and semi-skilled occupations	21	2·99	2·40—3·56
VI.	Semi-skilled and personal service occupations	21	3·26	2·38—4·45
VII.	Construction occupations	6	3·59	3·43—3·78
VIII.	Unskilled occupations	10	4·16	3·02—5·61
	Farmers	1	4·29	—

[1] The titles given are not precise descriptions of the socio-economic classes.
[2] Excluding farmers.

Comparing Tables XLIX and L, we see that both types of classification are about equally efficient in showing a fertility gradient. The average difference between classes and the average range is very nearly the same in both tables. The occupation-type table differentiates the highest and lowest fertility groups more clearly because the extremes of fertility are associated with type of work rather than with socio-economic status. On the other hand, Table L shows more clearly the distinctions between urban occupations other than professional. In this field, income and standards of living appear to be more important than type of work in determining reproductive behaviour.

Fertility in Relation to Earnings and Educational Level

The broad groups used in the two previous sections to display differences in fertility rates were not constructed for the purpose of studying fertility and there is no reason to expect a precise relationship between size of family and occupation-type on the one hand, or socio-economic status, however defined, on the other hand. The nature of the relationship between family size and industry, income, or educational level, is capable of further elaboration. The material of the present chapter yields correlations which fill in some details of the general picture already presented.

Correlation coefficients were computed between (F) standardized fertility rates and (X) average earnings, (Z) percentage of all gainfully occupied males with primary school education only, standardized for age distribution, (A) socio-economic status as previously defined. These together with the multiple correlation coefficient of fertility with earnings and educational level, are shown in Table LI. The correlation between fertility and standardized educational level is only slightly higher than that with the crude educational level used in determining socio-economic status. The advantage gained is a rather better fit for some of the more abnormal occupations. The correlations are calculated for 85 occupational groups in which more than 50 p.c. of gainfully occupied males are wage-earners. All correlations shown are highly significant.

TABLE LI.—CORRELATION COEFFICIENTS

STANDARDIZED FERTILITY RATES, AVERAGE EARNINGS, STANDARDIZED EDUCATIONAL LEVEL, SOCIO-ECONOMIC STATUS, 85 OCCUPATIONS

$r_{FX} = -\cdot 528$	$r_{FZ} = +\cdot 866$
$r_{FA} = -\cdot 814$	$R_{FXZ} = \cdot 870$

F = Standardized fertility rate of married women by occupation of husband.
X = Average earnings of all gainfully occupied males who are wage-earners.
Z = Percentage of all gainfully occupied males with primary education only, standardized for age distribution.
A = Socio-economic status.

Table L indicated a negative correlation between fertility and socio-economic status. This is corroborated by the very high computed coefficient. The educational variable used in Table LI is, apart from standardization for age, the same as the educational component of the socio-economic variable with the sign changed. The correlations between fertility and lack of higher education and between fertility and low socio-economic status are thus very nearly the same in amount and are in the same direction. The same type of relationship is expressed in the negative correlation between fertility and earnings and it is interesting to note that the coefficient is smaller. When the multiple correlation coefficient which takes into account both educational level and earnings is computed, the result is insignificantly better than when educational level alone is considered. In the multiple regression equation, the partial correlation coefficient associated with earnings is positive, suggesting that among occupational groups having a similar educational status, fertility tends to be slightly higher in those with higher earnings.

The results of the correlation approach can be summed up by saying that small families are associated with high social status and high standards of living. Normally these connote a more prolonged period of education and higher money incomes. There is some evidence that the standard of wants rather than the resources available for meeting them determines the size of family. These remarks are a first approach only to an analysis of the relationships between the various factors involved.* The previous chapter has shown that higher educational status is associated with smaller families in all religion and mother-tongue groups. The present chapter indicates that while educational status is highly correlated with earnings, family size tends to follow the educational pattern rather than the income pattern in the occupational groups where these do not agree.

* For this reason, the small but significant departure from linearity of the correlations observed has been ignored, though this would be an alternative way of describing the deviations at the extremes of the fertility scale.

Something of interest can be added to the general picture by examining the behaviour of occupational groups which diverge markedly from expectation. Using the multiple regression equation of fertility on earnings and educational level for 85 occupations, and regression on education alone for the remaining 15, the discrepancies between predicted and observed fertility rates fall for the most part into well-defined groups. Those in which fertility rates were higher than expected are:—(a) primary occupations—fishermen, mining labourers, hunters, lumbermen; (b) professions—clergymen, lawyers, physicians, teachers, and a cognate occupation, public service officials. Those occupations in which fertility rates were lower than expectation are:—(a) personal service—waiters, laundrymen, janitors, restaurant owners and managers, cooks, barbers; (b) textile industry—tailors, clothing and textile operatives. Five occupations in transport showed the same kind of discrepancy but smaller in magnitude. Chauffeurs and taxi drivers had a fertility rate much lower than expected, suggesting that they might more properly be classed as a personal service occupation, though the transport industry as a whole deviates to a small extent in the same direction. Taking the occupation-type classes of Table XLIX as a whole, we find the greatest deviations from expectation in labourers and primary occupations (positive) and personal service (negative). Smaller deviations are found in professional occupations (positive) and trade and finance (negative).

Deviations from the trend of relationship between fertility on the one hand and earnings and educational level on the other can be interpreted in a variety of ways which will be only suggested here. The high fertility of the primary industries reflects the fact that a rural setting is propitious to large families. Some of the primary occupations with especially high fertility rates have an exceptionally low economic status which is not shown in the variables used. Hunters and fishermen are not wage-earners so that the expected rate is based upon educational level alone and the index used does not in this case differentiate sufficiently well between those with no schooling or only one or two years and those who completed the primary course. The higher than expected fertility of some of the professions suggests an asymptotic effect. The predicted rates for some of the professions are lower than any rates observed for Canada as a whole. But still lower rates were found in the larger cities and in British Columbia for 13 occupations. Most of these were professions, but the relatively high fertility professions, clergymen, lawyers, doctors, were not among them. Experience indicates that the size of family can fall well below the limits set by the regression equations used. The conclusion that persons in professional occupations are less dominated by the values of an acquisitive society is in line with other evidence, though it must be remembered that this admirable trait has only manifested itself at a level of family size too low to maintain a stationary population.

The two types of work associated with unexpectedly low fertility are personal service and the textile occupations. Both of these are occupations in which many married women are gainfully employed and one may suppose that in many cases husband and wife would pursue the same occupation. In that case the income level of the family would be greater than that shown by earnings of husband alone, while gainful employment for married women would of itself tend to reduce the size of the family. Workers in personal service are in more direct contact with persons living at a higher standard and so the discrepancy between wants and resources tends to increase. Their total remuneration is probably higher than the earnings figure indicates. Perhaps the most significant factor is that where personal service involves living-in, a family is almost out of the question.

If the primary occupations, professions, personal service, and occupations in textile industries, are excluded from the list of occupations used in Tables XLIX -LI, 72 occupations remain. Among these the correlation between standardized fertility and standardized percentage with primary education only is 0·96. This rather remarkable result indicates that for the majority of urban occupations, the size of family of an occupational group can be predicted almost exactly from the average educational level attained.

3. Provincial and City Variations in Occupational Fertility

Inspection of the basic table of occupational fertility rates (Table 5.) will show that most occupations are unevenly distributed throughout the provinces. Quebec and Ontario provide rates for nearly all the occupations in the census list, but even with the low size-limit of 100 married women, there are many blanks in the provinces and the smaller cities. Fertility rates

for 50 occupations are available for four metropolitan areas and for all the provinces except Prince Edward Island. These provinces and all cities over 100,000 are represented in 25 occupations, while Prince Edward Island is represented by 13 occupations only.

Putting together all these comparisons, we obtain the relative rank of provinces and cities with occupational differences equalized shown in Table LII.

TABLE LII.—FERTILITY RANK OF PROVINCES[1] AND CITIES

AVERAGE OF ALL OCCUPATIONAL RATES REPRESENTED

	Provinces	Cities
1.	Quebec	
2.		Quebec City
3.	New Brunswick	
4.	Prince Edward Island	
5.	Nova Scotia	
6.	Manitoba	Montreal metropolitan area
7.	Saskatchewan	
8.	Alberta, Ontario	Ottawa
9.	British Columbia	Windsor
10.		Winnipeg metropolitan area
11.		Hamilton
12.		Toronto metropolitan area
		Vancouver metropolitan area

[1] Excluding population in cities of 100,000 and over.

Tables LIII and LIV show averages of 50 occupational fertility rates in 8 provinces and 4 metropolitan areas for the occupation-type and socio-economic classes of Sections 1 and 2. While provincial and city differences run throughout the tables, the fertility gradients are in general the same as for all Canada. The gradient by socio-economic class is the more consistent. The reversals of rank are usually between Classes I and II, where the Canadian table shows only a small difference in average fertility. Occupation-type classes show less consistency in the various localities. Clerical occupations often show a lower fertility rate than professional occupations, while the rank of manufacturing and construction occupations on the one hand, and labourers and primary occupations on the other, is frequently reversed.

TABLE LIII.—FERTILITY BY OCCUPATION-TYPE CLASS

PROVINCES[1] AND METROPOLITAN AREAS

Province or metropolitan area	Occupation-type [2]									
	I	II	III	IV	V	VI	VII	VIII	IX	X
Nova Scotia	2·01	2·25	2·28	3·02	3·10	3·30	3·53	3·56	4·45	3·88
New Brunswick	2·20	2·23	2·34	3·27	3·52	3·40	3·83	3·89	4·62	4·77
Quebec	2·98	3·38	3·99	4·63	4·43	4·69	4·85	4·87	5·43	5·45
Ontario	1·93	1·97	2·03	2·50	2·64	2·79	2·84	2·90	3·67	3·25
Manitoba	2·39	2·21	2·43	2·87	2·88	2·92	3·21	3·28	4·24	4·25
Saskatchewan	2·23	2·01	2·29	2·58	2·82	2·82	3·08	3·05	3·93	4·19
Alberta	2·21	1·96	2·15	2·66	2·61	2·54	2·88	2·73	3·32	3·92
British Columbia	1·86	1·72	1·94	2·11	2·17	2·37	2·41	2·36	3·04	3·17
Metropolitan areas—										
Montreal	2·52	2·28	2·54	3·15	2·92	3·05	3·43	3·73	4·10	4·20
Toronto	1·84	1·64	1·77	1·90	2·04	2·25	2·32	2·28	2·81	2·50
Winnipeg	2·12	1·79	1·95	2·10	2·29	2·26	2·52	2·57	2·92	3·34
Vancouver	1·78	1·63	1·73	1·84	1·94	2·03	2·08	2·12	2·72	2·50

[1] Excluding populations in cities of over 100,000 population.
[2] 50 occupations. For descriptions of classes, see Table XLIX.

TABLE LIV.—FERTILITY BY SOCIO-ECONOMIC STATUS

PROVINCES[1] AND METROPOLITAN AREAS

Province or metropolitan area	Socio-economic class [2]						
	I	II	III	IV	V	VI	VII and VIII
Nova Scotia	2·21	2·26	2·90	3·39	3·34	3·70	3·91
New Brunswick	2·41	2·33	3·09	3·38	3·62	4·02	4·50
Quebec	3·94	3·61	4·25	4·58	4·64	5·02	5·27
Ontario	2·04	2·02	2·43	2·66	2·72	3·05	3·35
Manitoba	2·43	2·42	2·67	2·80	3·00	3·39	4·00
Saskatchewan	2·26	2·28	2·57	2·51	2·95	3·22	3·88
Alberta	2·08	2·31	2·47	2·35	2·62	3·04	3·39
British Columbia	1·96	1·93	2·12	2·18	2·26	2·51	2·96
Metropolitan areas—							
Montreal	2·32	2·62	2·79	3·07	3·31	3·63	4·01
Toronto	1·81	1·77	1·98	2·11	2·17	2·42	2·67
Winnipeg	1·98	2·02	2·21	2·12	2·36	2·60	2·97
Vancouver	1·74	1·75	1·87	1·96	1·94	2·17	2·55

[1] Excluding populations in cities with over 100,000 inhabitants.
[2] 50 occupations. For descriptions of classes, see page 147 and Table L. Farmers are in Class III in this and following tables.

As is usually the case, high fertility occupations show considerable local differences, while the variation in low fertility rates is less. Tables LV and LVI illustrate this point, and make use of a greater number of occupational rates than are available for all provinces and cities. An interesting local variation is exhibited by mining. Fertility in the long-established coal mining areas of Nova Scotia is very much higher than in Ontario and the western provinces, where other types of mining and a more mobile population are found.

TABLE LV.—LOCAL VARIATIONS IN FERTILITY IN PRIMARY OCCUPATIONS

AVERAGE STANDARDIZED FERTILITY RATES OF 4 OCCUPATIONS

Province [1]	Average standardized fertility rate
Quebec	5·33
New Brunswick	5·14
Nova Scotia	4·41
Manitoba	4·38
Saskatchewan	4·32
Alberta	4·04
Ontario	3·66
British Columbia	3·09

TABLE LVI.—LOCAL VARIATIONS IN FERTILITY IN PROFESSIONAL OCCUPATIONS AND PERSONAL SERVICE OCCUPATIONS

Metropolitan area	Average standardized fertility rates	
	Professional occupations	Personal service occupations
Montreal	2·24	2·59
Winnipeg	1·89	2·23
Toronto	1·69	2·09
Vancouver	1·65	1·89

The joint effect of provincial variation, of metropolitan residence, of socio-economic status, and of occupational variation within a socio-economic class can be analysed for four provinces, Quebec, Ontario, Manitoba and British Columbia. Table LVII shows means and Table D. VII the corresponding analysis of variance for data arranged in this way. The provincial populations shown are outside cities of 100,000 and over, so that a comparison is made between the population of metropolitan cities and the population in rural districts, villages, towns, and smaller cities. The two types of population will be described as metropolitan and extra-metropolitan. The analysis of variance shows that, while highly significant differences are associated with province, metropolitan residence, and socio-economic class, the first two are the more important sources of variation. The interaction between the provincial and the metropolitan difference is also significant. This repeats a result obtained previously*. Rural-city differences in fertility were found to be greatest in Quebec and least in British Columbia. The estimate of within-class variance between occupational fertility rates appears to be significantly greater than the triple interaction between classes, indicating some degree of intra-class correlation among the cells of Table LVII.

* Vide Chapters I-III.

TABLE LVII—MEAN FERTILITY RATES BY SOCIO-ECONOMIC CLASS

FOUR PROVINCES—METROPOLITAN AND EXTRA-METROPOLITAN POPULATIONS

Socio-economic class	Quebec		Manitoba		Ontario		British Columbia	
	Province	Metropolis	Province	Metropolis	Province	Metropolis	Province	Metropolis
I.	3·94	2·32	2·43	1·98	2·04	1·81	1·96	1·74
II.	3·61	2·62	2·42	2·02	2·02	1·77	1·93	1·75
III.	4·25	2·79	2·67	2·21	2·43	1·98	2·12	1·87
IV.	4·58	3·07	2·80	2·12	2·66	2·11	2·18	1·96
V.	4·64	3·31	3·00	2·36	2·72	2·17	2·26	1·94
VI.	5·02	3·63	3·39	2·60	3·05	2·42	2·51	2·17
VII. and VIII.	5·27	4·01	4·00	2·97	3·35	2·67	2·96	2·55

STANDARDIZED MEANS

British Columbia	2·14	Class I	2·28
Ontario	2·37	II	2·27
Manitoba	2·64	III	2·54
Quebec	3·79	IV	2·68
		V	2·80
Metropolitan	2·39	VI	3·10
Extra-metropolitan	3·08	VII and VIII	3·47
		All	2·73

[1] Excluding population in cities of 100,000 and over.

The chief point of interest in the foregoing analysis is the fresh light thrown on the rural-urban differential in family size. We shall find that as we progress from rural districts, through villages, towns and cities, to metropolitan cities, the size of family becomes progressively smaller. Residence in towns and cities is associated with different proportions of persons engaged in characteristically high and low fertility occupations. The present chapter shows that within those occupations practised both in metropolitan areas and outside them, the metropolitan family is always markedly smaller. Out of 200 such comparisons made in the present study there are only three exceptions. All are among clergymen, a profession which seems to be an exception to all rules. There are a few other cases, chiefly in British Columbia, where the difference is very small, but the regularity of the metropolitan effect is striking.

All tabulations of family size have revealed provincial differences which are sometimes of considerable magnitude. In Chapter III the high fertility of Quebec was shown to be associated with high proportions of French-speaking, of Roman Catholics, and with relatively less advanced education. The first two of those factors contribute to the high occupational fertility rates found in Quebec. So also to a smaller degree does the third, since within the same occupation, the proportion of persons with primary education only is usually somewhat higher in Quebec. All the three cultural factors taken together are sufficient to account for that part of the provincial variation attributable to Quebec. The remaining provincial variation is less important. Cultural factors again contribute to high rates in the Prairies, while in Manitoba, the extra-metropolitan population is almost exclusively rural. In British Columbia, the proportion with advanced education is higher than elsewhere in many occupations.

In both the previous cultural analysis and the present one, there remains a small but significant residual provincial variation. Fertility rates tend to be higher in the Maritimes and lower in British Columbia in all circumstances. No obvious combination of factors so far analysed appears sufficient to account for this fact. On the evidence so far it appears that the economic history of these parts in its entirety appears to have produced a social heritage affecting reproductive behaviour in a more marked degree than would be predicted from an examination of single factors or any simple function of them.

In the next chapter we shall return to the methods of Chapter IV, and study completed families. While the main objectives will be an analysis of earnings in relation to other factors, occupational differentials will also be considered. The method of successive sorts does not allow for a large number of occupational distinctions, so broad occupational classes will be set up on the lines suggested by this chapter. We shall be able to examine the family size of groups which are homogeneous with respect to occupational type, earnings, educational status and culture. In this way we approach the conclusions of this chapter in another way but with less occupational detail.

4. Summary

(i) Tables 5 and 6 (Part II) present standardized fertility rates for married women living with their husbands by occupation of husband.

(ii) When classified by occupation-type class, primary occupations and unskilled labourers (other than in primary occupation) had the largest families, while the smallest were found in professional, clerical, trade and finance occupations.

(iii) A new socio-economic classification based on earnings and educational level is described.

(iv) Average fertility of socio-economic classes so defined decreases steadily with higher social status.

(v) Standardized fertility rates of occupational groups are highly correlated with the educational level of the group and to a smaller degree with average earnings.

(vi) Fertility rates higher than those predicted from the correlations with earnings and educational level were found in primary occupations and in the professions. Fertility rates lower than predicted were found in personal service occupations and in textile occupations.

(vii) Fertility rates for the provinces and the larger cities followed in general the same pattern as those for all Canada. The size of family in metropolitan areas was smaller than in the population outside the larger cities for every occupational group except clergymen. Large provincial differences in size of family within occupations is in part explained by cultural factors. A small residual variation, yielding higher fertility rates in the Maritimes and lower rates in British Columbia, appears to be independent of cultural or occupational factors.

CHAPTER VI

ECONOMIC DIFFERENCES IN FAMILY SIZE

The present chapter 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*. 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†. 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.

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‡, educational level, and rural as opposed to urban residence. The data are described in more detail in Section 1. Sections 2 and 3 deal with family size among wage-earners and non wage-earners respectively. Section 4 discusses age at marriage in relation to family size, and some facts about the incidence of childless families are presented in Section 5. Section 6 deals with a selected low fertility group. A general discussion will be found in Section 7, and Section 8 contains a brief summary of the most important results. Technical statistical tables are given in Appendix D. The text tables present average family sizes and standardized means for a single characteristic with the effect of all the others equalized. The basic numerical data for Canada as a whole are given in Tables 7-10, Part II.

1. 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

* K. A. Edin & E. P. Hutchinson, "Studies of Differential Fertility in Sweden." C. V. Kiser, "Group Differences in Urban Fertility".

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

‡ 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.

or salaried heads. The former number is 95 p.c. 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 p.c. includes cards rejected because some item of information essential to classification was not given. These made up 2½ p.c. 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 2½ p.c. 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.

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 p.c. 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.

2. Differences in Family Size Associated with Ethnic Group, Education, Earnings and Urbanization of Wage-Earner Groups

Canada

In the present section, mean family size of wage-earner social groups is analysed. Table LVIII 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 LVIII and is illustrated in Fig. 37. The calculated family sizes shown in the figure are obtained by cumulating the differences in group means given in Table LVIII. 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.

TABLE LVIII.—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—		EARNINGS—	
French	5·35	Less than $950	4·43
Other	3·23	$950—$1,949	4·07
British	2·87	$1,950—$2,949	3·46
		$2,950 and over	3·30
EDUCATION—		URBANIZATION—	
0–8 years schooling	4·56	Rural	4·07
9–12 years schooling	3·61	Urban	3·56
13 years schooling and over	3·28		
All	3·82		

A statistical analysis of the variance of Table LVIII is given in Table D. VIII. The effects of all four variables are highly significant. On account of 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.

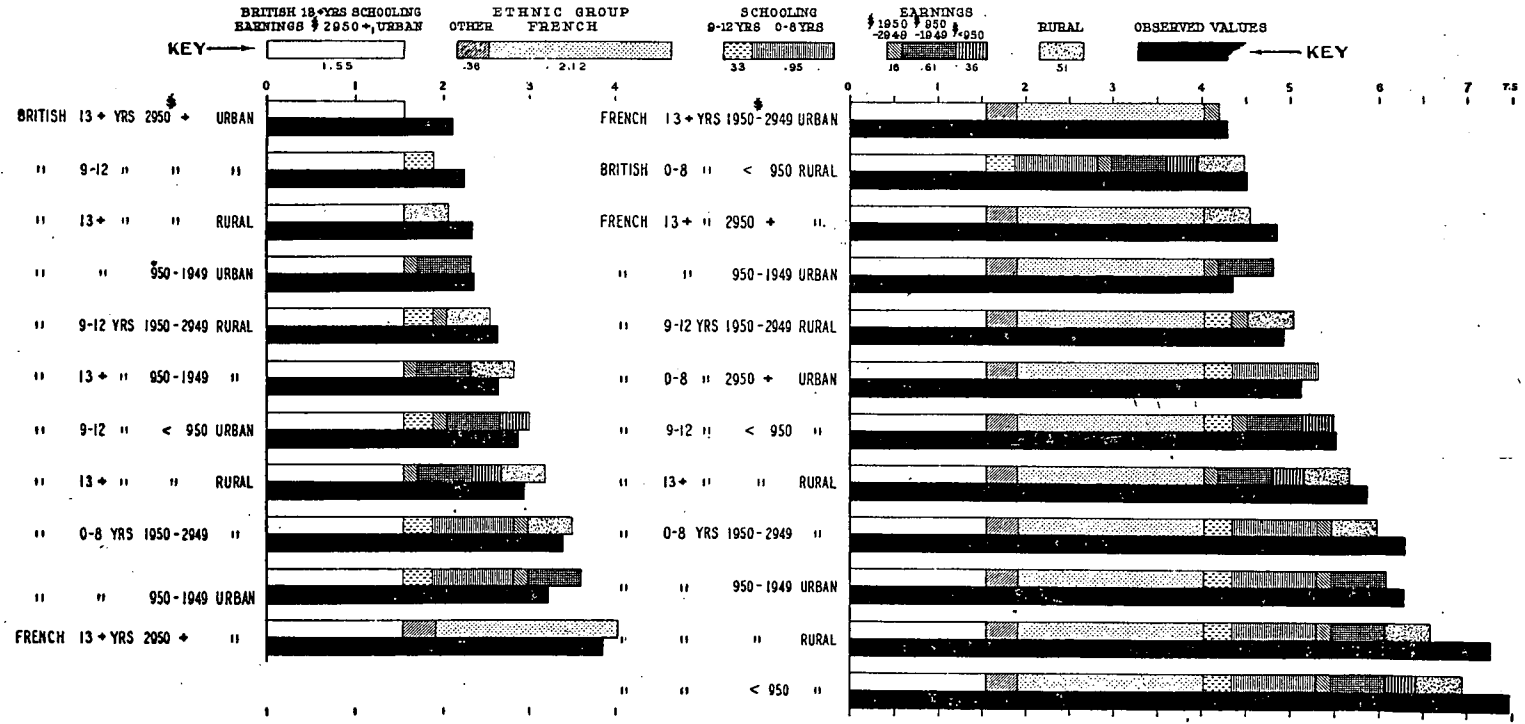
It is perhaps rather surprising that the rural-urban difference should be so small, even though the fact of incorporation does not always draw the line where the sociologist would wish it drawn. Two considerations are relevant. In the first place, this section deals with wage-earners only, and agricultural wage-earners are relatively few in number. In the lowest earnings group, they amount to at most 30 p.c. 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 work. 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* 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.

* Vide Table LIX.

Figure 37

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



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 p.c. 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 LIX shows average earnings of head and average family earnings at each level.

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 LIX.—AVERAGE EARNINGS, CANADA

AVERAGE EARNINGS OF WAGE-EARNER HEADS OF NORMAL FAMILIES MARRIED TO WIVES AGED 45-54 YEARS

Item	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 analysed in a previous report. The remaining group is too heterogeneous 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 LX 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*. 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 LX.—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.

The interactions between variables shown in Table D. VIII 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 p.c. are in the $500 earnings group with average earnings of $471, but among the rural French with 0-8 years schooling, 73 p.c. 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 Chapter IV, 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.

* 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.

In Table LXI the results are shown in parallel. In view of the inevitable differences in the categories, the 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 of 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.

TABLE LXI.—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] Chapter IV, Table XXXI.

Another comparison can be made between the range of mean family sizes in Table XXXI, and that in Table LVIII. 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 latter table. On the other hand, the inclusion of an additional economic variable throws some light on the cultural differences previously reported.

Regional Differences in Family Size

Striking differences between the various provinces of Canada have been noted previously*. Quebec stands out sharply in comparison with Ontario and British Columbia. In Chapter III 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 LXII 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 Table D. IX. 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.

* Chapters I, II, passim.

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 LXII 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 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).

TABLE LXII.—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 to $1,949	$1,950 to $2,949	$2,950 and over	Less than $950	$950 to $1,949	$1,950 to $2,949	$2,950 and over	Less than $950	$950 to $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.

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*. 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.

* Chapter IV, p. 73.

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 LXII. 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 LXII, 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 chapters 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.

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. Chapter V gave total fertility rates by occupation and analysed 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 LXIII 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 Table D. X. 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. 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 in family size asso-

TABLE LXIII.—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 COMBINED

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
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
EDUCATION—		$1,950-$2,949	3·84
0-8 years schooling	4·90	$2,950 and over	3·92
9-12 years schooling	4·00	URBANIZATION—	
13 years schooling and over	3·79	Rural	4·42
OCCUPATION—		Urban	4·04
Primary	4·69		
Manufacturing, construction, transportation	4·27	All	4·23
Trade and finance, service, clerical	3·72		

[1] Average rural and urban rates.

ciated 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. 38. 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 LXIV 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 LXIV 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

TABLE LXIV.—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

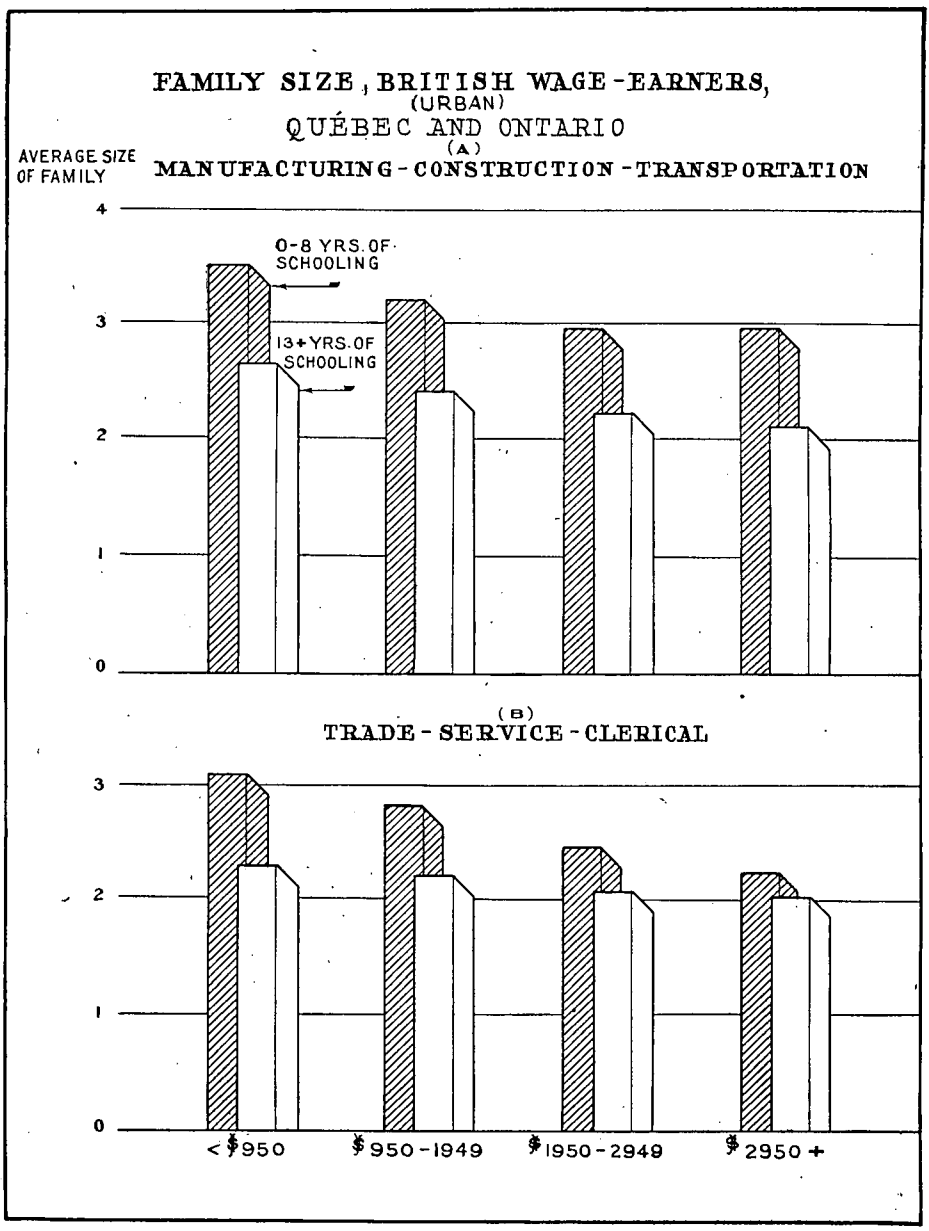
Earnings of head and occupation group	0-8 years schooling				9-12 years schooling			
	French ethnic group		British ethnic group		French ethnic group		British ethnic group	
	Quebec	Ontario	Quebec	Ontario	Quebec	Ontario	Quebec	Ontario
Less than $950—								
Other primary	8·20	7·42	6·86	4·83	7·22	6·80	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		
$950-$1,949	4·71	All	5·02

[1] Average of rural and urban rates.
[2] Not in primary occupations.

Figure 38



differences. 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 LXV 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.

3. Family Size among Non Wage-Earners

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 p.c.). 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 p.c. of all non wage-earners in the group studied. Family size was also tabulated for tenants and lodgers, who together formed 20 p.c. 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 LXV.—DIFFERENCES IN OCCUPATIONAL DISTRIBUTION

WAGE-EARNERS

Description of group	Primary occupations	Manufacturing, Construction, Transportation	Trade and Finance, Service, Clerical	Labourers[1]
	p.c.	p.c.	p.c.	p.c.
Regions—				
French, Farm, 0-8 years, less than $950, Prairies	66·3	24·1	7·2	2·4
Others, Farm, " " $950, Prairies	62·3	22·1	5·9	9·7
Others, Farm, " " $950, British Columbia	63·8	24·3	2·2	9·7
British, Farm, " " $950, Prairies	63·4	20·1	10·0	6·5
Others, Farm, " " $950, 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 and over, $2,950 and 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, Urban, " " 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.

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 p.c. of wage-earners live in rural areas, 68 p.c. of non wage-earners live in these areas. Of the latter, 56·5 live in farm areas as compared with 5·0 p.c. 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*. Although more non wage-earners than wage-earners are found at the higher economic levels,† 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.

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

Table LXVI 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 Table D.XI. 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.

* 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.

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

TABLE LXVI.—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-EARNER, 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 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	ALL	4·16
13 years schooling and over	3·67		
URBANIZATION—			
Rural farm	4·80		
Rural non-farm	3·99		
Urban	3·69		

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.

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 LXVII shows regional means classified in the same way as in Table LXII. 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 LXVII.—REGIONAL STANDARDIZED MEAN SIZE OF FAMILY IN RELATION TO VALUE OF HOME OWNED AND EDUCATION

AVERAGE NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN AGED 45-54 YEARS IN NON WAGE-EARNER, HOME-OWNER NORMAL FAMILIES

Region	(a) All urban[1]	(b) British rural[2]	(c) French and other rural[2]
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 $3,000 only and those who have less than 13 years schooling.

Differences in Family Size Associated with Occupation

As before, non wage-earners in Quebec and Ontario have been analysed 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 LXVIII shows family size by occupation group. Rural farm and non-farm have been combined. The statistical analysis is given in Table D.XII. 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 LXVIII 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 LXVIII.—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-EARNER, 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
		13 years schooling and over	4·14
OCCUPATION—			
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.

Other Categories of Non Wage-earners

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 p.c. to 98 p.c. 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 LXIX 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.

Tenants and Lodgers.—Table LXX 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 LXIX.—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-EARNER, 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 LXX.—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

4. Age at Marriage

Chapter II 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*. 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.

Wage-earner Families

Table LXXI shows proportions married under 25 years for the sub-groups of Table LVIII. 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 39 is a scatter diagram in which proportions married under 25 years are plotted against the mean family sizes of Table LVIII. 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.

* Chapter IV, p. 78.

TABLE LXXI.—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

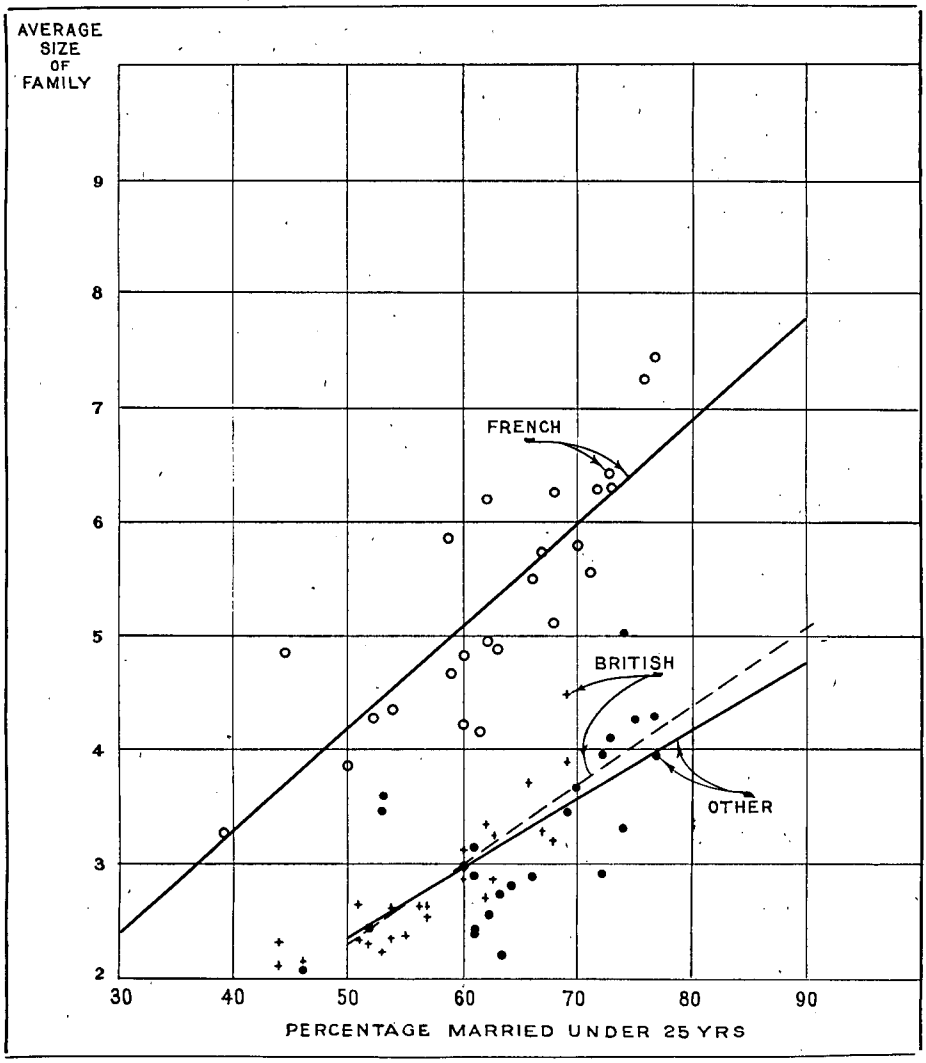
ETHNIC GROUP—	p.c.	EARNINGS—	p.c.
French	62·8	Less than $950	65·7
Other	65·0	$950–$1,949	64·3
British	57·9	$1,950–$2,949	60·1
		$2,950 and over	57·3
EDUCATION—		URBANIZATION—	
0-8 years schooling	70·0	Rural	62·5
9–12 years schooling	62·0	Urban	61·2
13 years schooling and over	53·6		

ALL ..... 61·9 p.c.

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 LXXII and LXXIII show proportions married under 25 years by occupational groups. They correspond to Tables LXIII and LXIV. 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 LXXIII 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 LXXIII agrees with that of Table LXIV.

Figure 39 FAMILY SIZE BY PROPORTION MARRIED UNDER 25 YEARS, WAGE-EARNER FAMILIES

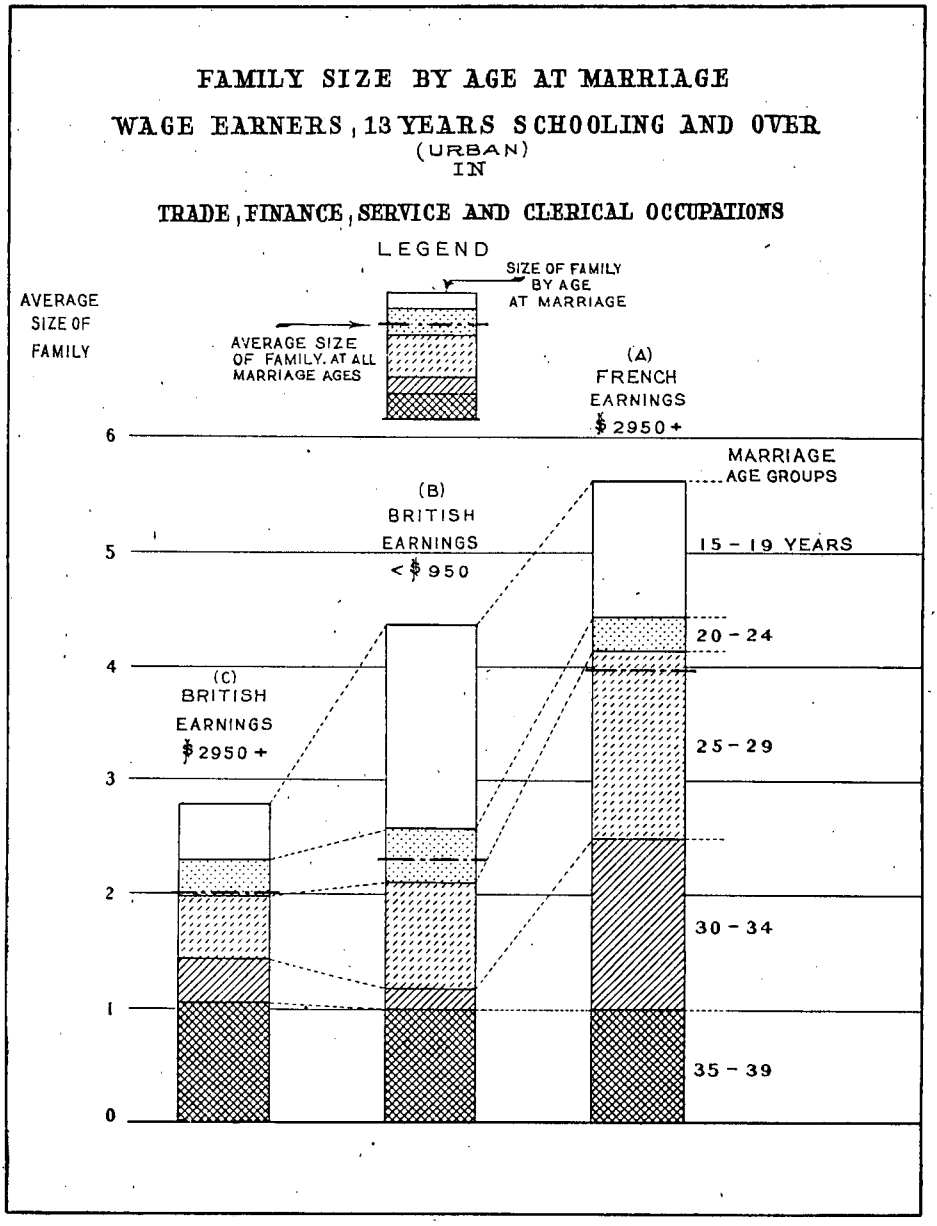


Non Wage-earner Families

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.

Figure 40



Selected Wage-earner 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*. Figure 40 shows average family size at successive ages, while Figure 41 shows cumulative percentages married at successive ages. Family size in the two British groups differs by only a small amount. The difference can be

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

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 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 familiy 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. 32 and 33, in Chapter IV.

Figure 41

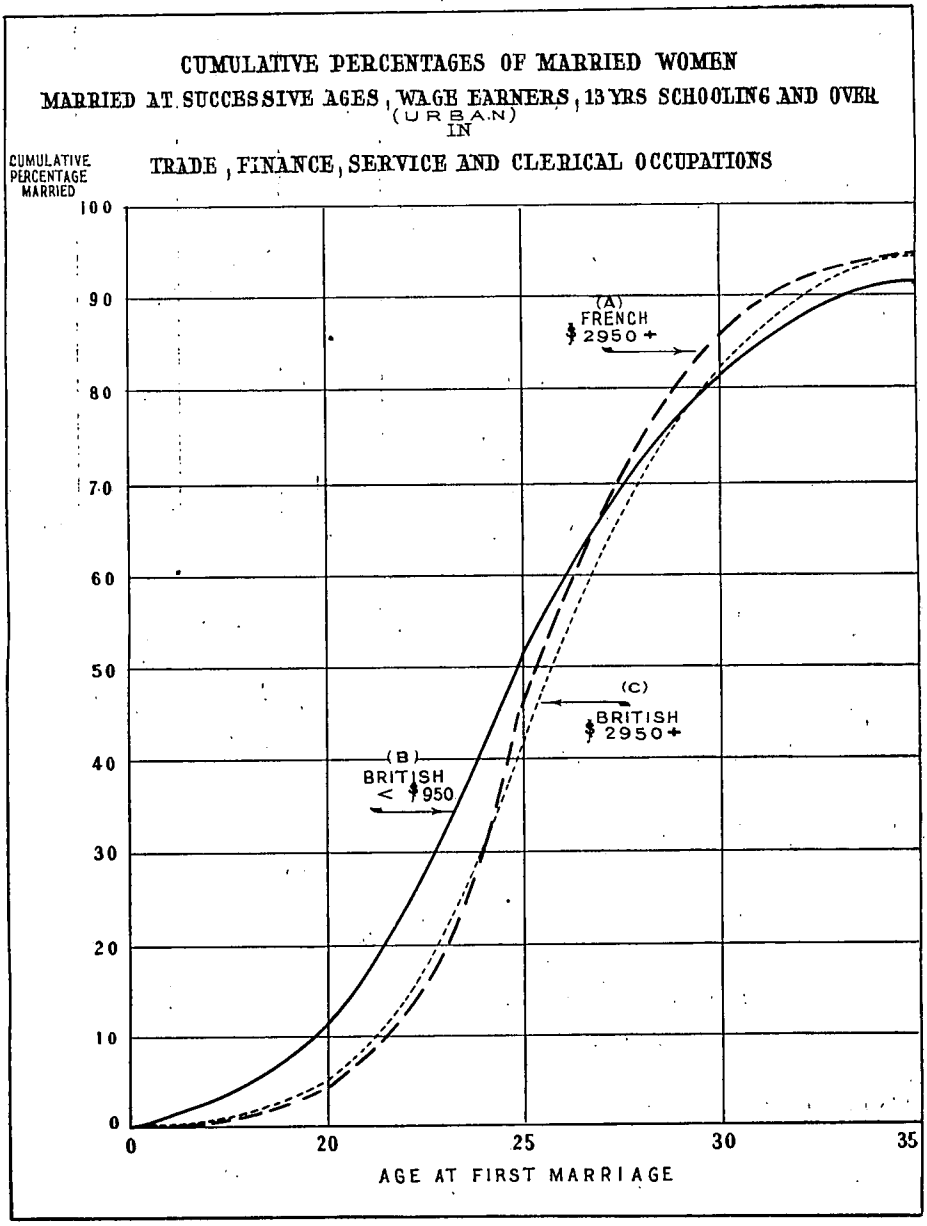


TABLE LXXII.—AGE AT MARRIAGE IN RELATION TO EARNINGS, OCCUPATION, EDUCATION AND ETHNIC GROUP OF HUSBAND[1]

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 COMBINED

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	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

	p.c.
ETHNIC GROUP—	
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—	
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 LXXIII.—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
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Less than $950—								
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.

5. Childless Marriages

Wage-earner Families

Table LXXIV shows proportions of childless families and average size of family of those having at least one child in the sub-groups of Tables LVIII and LXXI. 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 42 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*.

Although Table LXXIV 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.

* cf. Chapter IV, p. 81.

TABLE LXXIV.—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

Figure 42

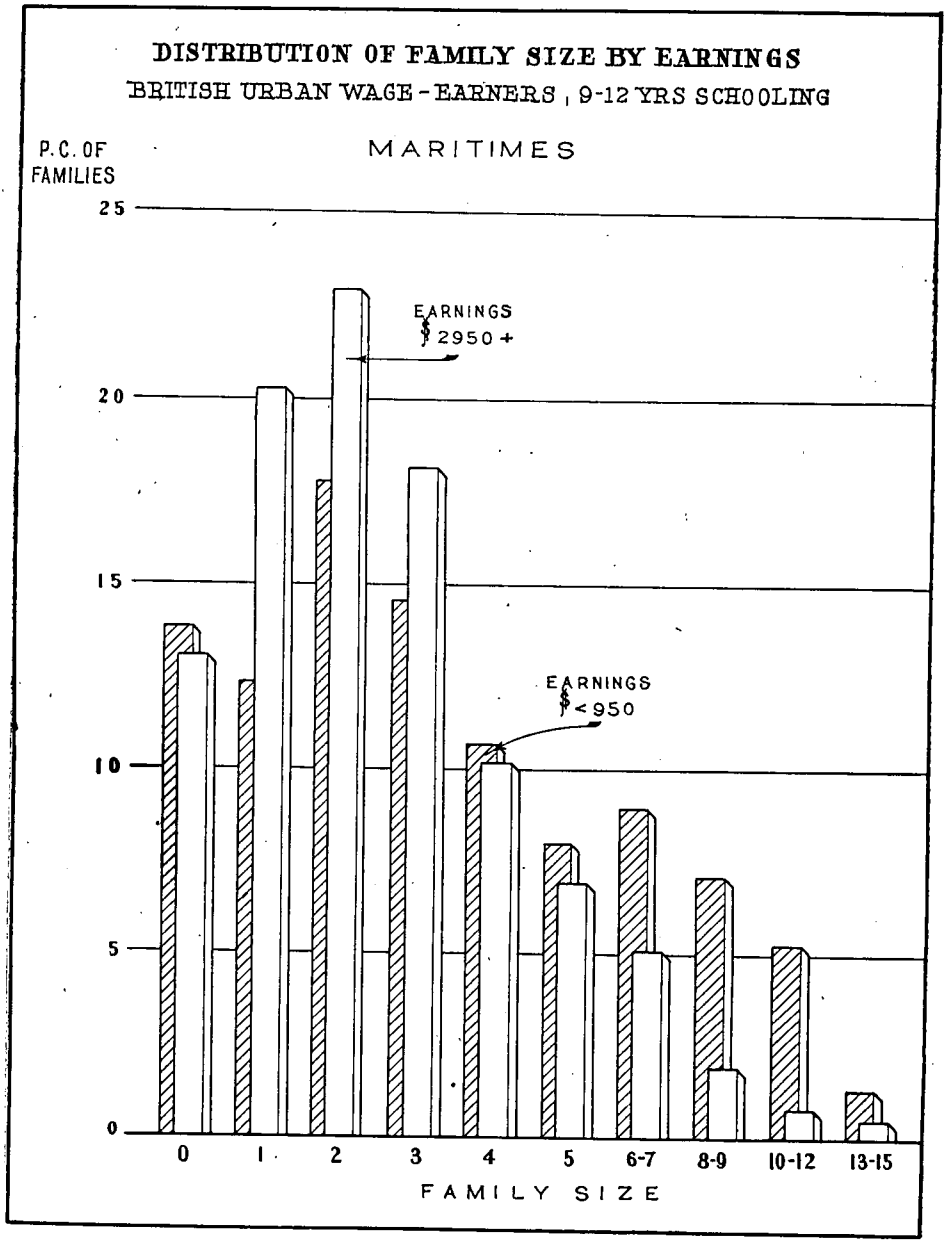


Table LXXV shows proportions childless by occupation groups for the sub-groups of Table LXIII. It follows the same lines as the table of mean size of family. The most noticeable feature is the large proportion childless among wage-earners in white-collar occupations. As in the previous table, there is 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 p.c. 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 p.c. 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.

TABLE LXXV.—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

	p.c.
ETHNIC GROUP—	
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
EARNINGS—	
Less than $950	14·1
$950-$1,949	12·5
$1,950-$2,949	14·3
$2,950 and over	15·0
OCCUPATION—	
Primary	13·5
Manufacturing, construction, transportation	13·2
Trade and finance, service, clerical	15·4
ALL	14·0

[1] Average of rural and urban rates.

Non Wage-earner Families

Table LXXVI 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 p.c. 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 LXXVI.—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-EARNER, 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
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Less than $2,000—						
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

	p.c.		p.c.
ETHNIC GROUP—		URBANIZATION—	
French	14·5	Rural	14·5
Other	11·7	Urban	15·0
British	18·1		
EDUCATION—		VALUE OF HOME OWNED—	
0-8 years schooling	12·7	Less than $2,000	14·3
9-12 years schooling	15·0	$2,000-$2,999	16·7
13 years schooling and over	16·6	$3,000-$4,999	15·1
		$5,000 and over	12·9
ALL	14·8		

6. 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 and over, 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 familes. Every fact recorded at the Census was tabulated for the 400 families.

Table LXXVII 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. 40. A complete tabulation is given in Table LXXVIII. 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 were 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 LXXVII.—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

Item	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.....years	30.2	26.9	25.2	23.6
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.....years	53·2	52·0	52·3	53·9
Average age of wife..... "	49.1	49.1	49.5	50.2
Average difference in age..... "	4·1	2·9	2·8	3·7
Average number of years schooling of husband..... "	15·8	15·6	15·9	16·3
Average number of years schooling of wife..... "	12·2	12·9	12·8	12·0
Number of wives with 13 years schooling and over	38	54	49	37
Average earnings.....$	4,378	4,704	4,371	4,471

TABLE LXXVIII.—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 20 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 LXXVII, 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 Chapter IV, 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 is shown in Table LXXIX 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 LXXIX.—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

Item	(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[1] average number of children born	2·61	2·27	2·22	2·01	—	—

[1] 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 Chapter IV, 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 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.

7. 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 Chapter IV 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-group 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 chapter.

In Chapter V we suggested that educational level was more important than amount of earnings in determining differences in family size. While the present chapter 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 the 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 chapter has drawn attention to the need for research into those determinants of family attitudes which underlie the obviously misleading rationalizations usually put forward as reasons for family limitation.

8. Summary

(i) 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.

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

(iii) 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.

(iv) 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.

(v) 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.

(vi) 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.

(vii) 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.

CHAPTER VII

URBAN AND RURAL ECOLOGY

In previous chapters the starting point has usually been the whole Canadian population classified according to one or more particular characteristics such as age, religion, occupation, etc. One of these characteristics has been residence in rural areas or in urban places. We have found in the first place, that when variations in cultural and economic make-up have been allowed for, family size in rural areas is significantly greater than in urban centres. In the second place, when the material has permitted consideration of regional or provincial variations, significant differences with respect to family size remain which are unexplained by the other variables examined. The same is true of units smaller than a province. For example, among cities and towns we can say that families are on the whole considerably larger in those which are almost exclusively French-speaking and Catholic. But among French Catholic towns there is a very wide range of fertility rates. In the textile towns with large numbers of women employed, fertility is as low as it is in most English Protestant towns, while, on the other hand, it is fairly easy to account for the exceptionally high fertility rates of the new industrial towns of the Lake St. John area. Superimposed on such differences are local variations which are not so easy to explain in terms of the characteristics most easily observable.

This and the subsequent chapter will take up both the foregoing topics in greater detail. Section 1 gives a general survey of rural-urban differentials and describes the material on which the subsequent analyses are based. In Section 2 we shall examine the distinction between rural and urban places. In the light of a more precise definition of a rural place, Sections 3 and 4 describe continuous urban areas and urbanized rural parts of counties. These sections provide the background for the detailed study of local variations to follow. To explain adequately the prevailing reproductive behaviour in a single locality demands field work in addition to study of statistical materials. Something of the sort was attempted in the writer's papers on Prince Edward Island communities*. Limitations of time and labour have prohibited field work and for the same reason a comprehensive analysis of all the local material has not been attempted. Certain aspects only have been selected for study. Section 5 discusses the fertility of urban and metropolitan areas. In Section 7, semi-urban rural parts of counties are distinguished from farm and non-farm types, and the fertility of those which are predominantly farming is analysed in relation to culture-type and farm revenue. In Section 8, the same type of analysis is extended to smaller local units in the Prairie Provinces. Chapter VIII continues the analysis of local units for towns and cities and wards of selected cities. It is hoped that these scattered explorations may pave the way for further community research. Studies such as that of Miner† on a Quebec rural parish and Hughes‡ on a Quebec textile town give a clear picture of social relations which can be obtained in no other way, but in order to add a great deal to our knowledge of family behaviour, they need to be set against a generalized knowledge of trends in family size.

1. Rural-Urban Differences in Fertility

Family Size of Married Women for Rural Areas and Urban Size Groups

Urban families are generally smaller than neighbouring rural families, and families in the large city usually have fewer children than those in the small town or village. In spite of the fact that the basis of classification is by no means clear-cut, Canadian data show a very clear gradation in size of family corresponding to different size of community. The census distinction between rural and urban is based on the fact of incorporation. Hence, as we shall see later, some unincorporated places which are urban in character are classed as rural. The growth of urban population in modern times has overrun the boundaries set by charters of incorporation. Census

* S. Anthony and E. Charles. "Population Trends in relation to the Social Background on Prince Edward Island", Geog. Rev., Oct., 1942. Charles and Anthony. "The Community and the Family in Prince Edward Island", Rural Sociology, Vol. 8, No. 1, March, 1943.

† H. M. Miner. "St. Denis, a French Canadian Parish", Chicago, 1942.

‡ E. C. Hughes. "French Canada in Transition", Chicago, 1943.

tables record family size by present age of mother and age at marriage for rural areas and urban size groups*. A first step in refinement of classification was made when the Census Branch established twelve metropolitan areas or greater cities. Family size was tabulated for the four largest metropolitan areas. The figures are shown in Table 1. (Part II).

In Canada as a whole, size of family for each age group is greater in rural than in urban districts, and decreases regularly as size of community increases. Figure 43 shows this graphically. In the figure, rural areas and urban places with from 1,000-30,000 inhabitants do not include those places which form parts of metropolitan areas. The different categories can thus be described as rural, town, city and metropolis. There is one exception to the regular fall of fertility with size of community. In the age group, 55-64 years, the town family is slightly larger than the village family. The differences between localities under 1,000 and those between 1,000 and 30,000 are small, and village size of family does not behave in any consistent manner from province to province. The line of demarcation at the 1,000 point is not a very satisfactory one for the present purpose, hence this category is omitted from most summary tables and figures. The reader is again reminded that the results of this section relate to women resident in a designated locality at the time of the Census. Some of the families of women so enumerated would have been born and brought up elsewhere.

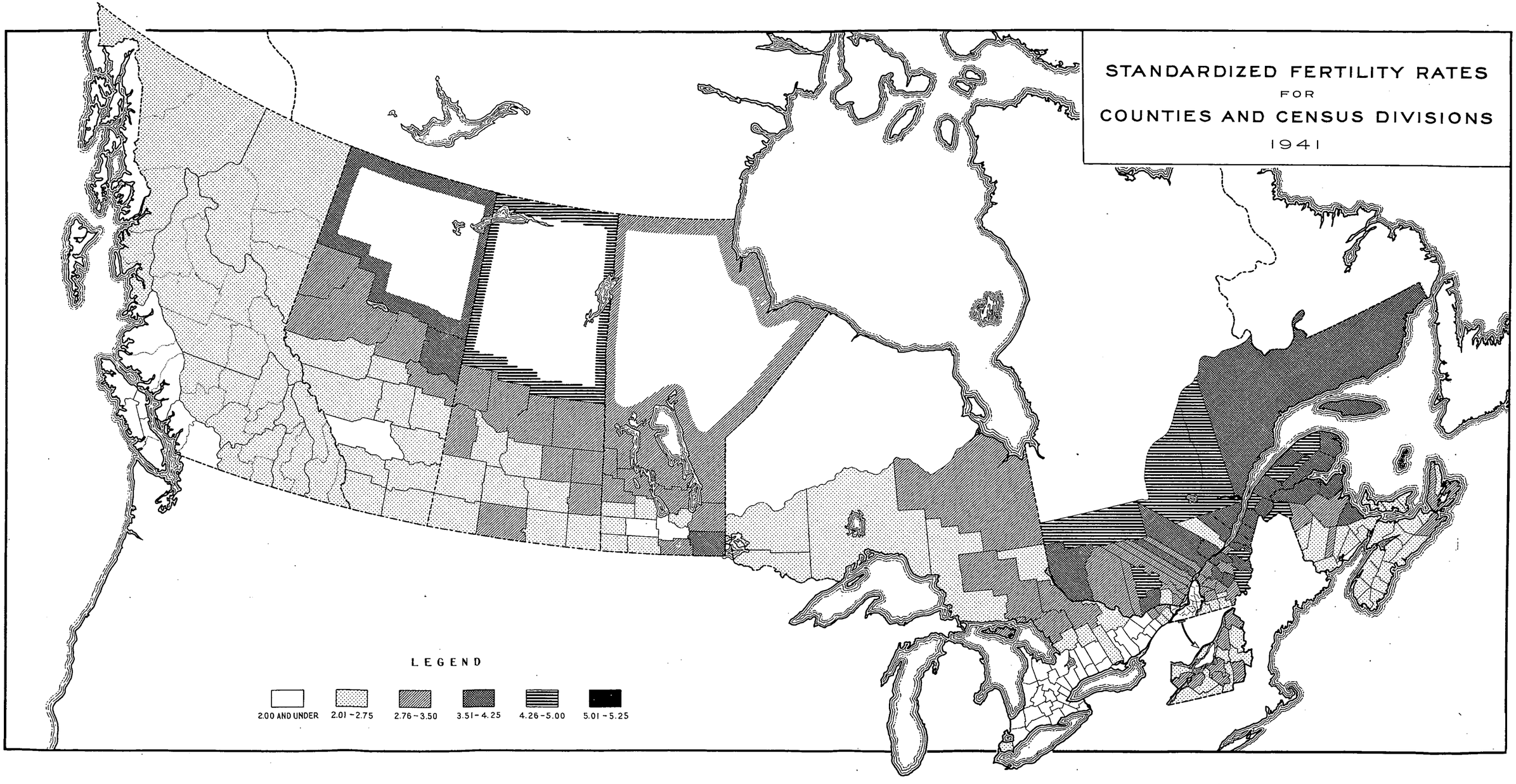
With one or two variations, the gradation shown in size of family from rural through different urban groups to metropolitan cities is seen in the provinces taken separately. The younger age groups show it most clearly. This fact is susceptible of two interpretations. On the one hand, the older age groups contain persons who have moved from the city to the country and vice versa after their families are completed, and so difference in size of family tends to become blurred. On the other hand, there may in fact be a tendency for the rural-urban differential to increase in recent years. Figure 44 shows size of family of married women 45-54 years, for provinces, rural, town and city. The differences are least in British Columbia and Nova Scotia. British Columbia, as already noted, is a highly urbanized province. So also is Nova Scotia in a rather different way. The greater part of the population is found in the coal mining area of Cape Breton and there forms two almost continuous densely populated urban areas. Since the principal occupation is mining, almost always associated with large families, the fertility of the whole area is above the usual urban level, but the distinction between rural and urban is lost. If the provinces at any one time are looked on as illustrating an historical process, Figure 44 suggests that, in the ultimate evolution of family size, rural and urban distinctions tend to disappear as they seem to be doing in British Columbia, but there may well be an intermediate stage in the growth of urbanization when the difference is at its maximum. Table 2, (Part II), (marriages of the last ten years), shows rural-urban differences still more clearly.

Total and Current Fertility of Rural and Urban Districts

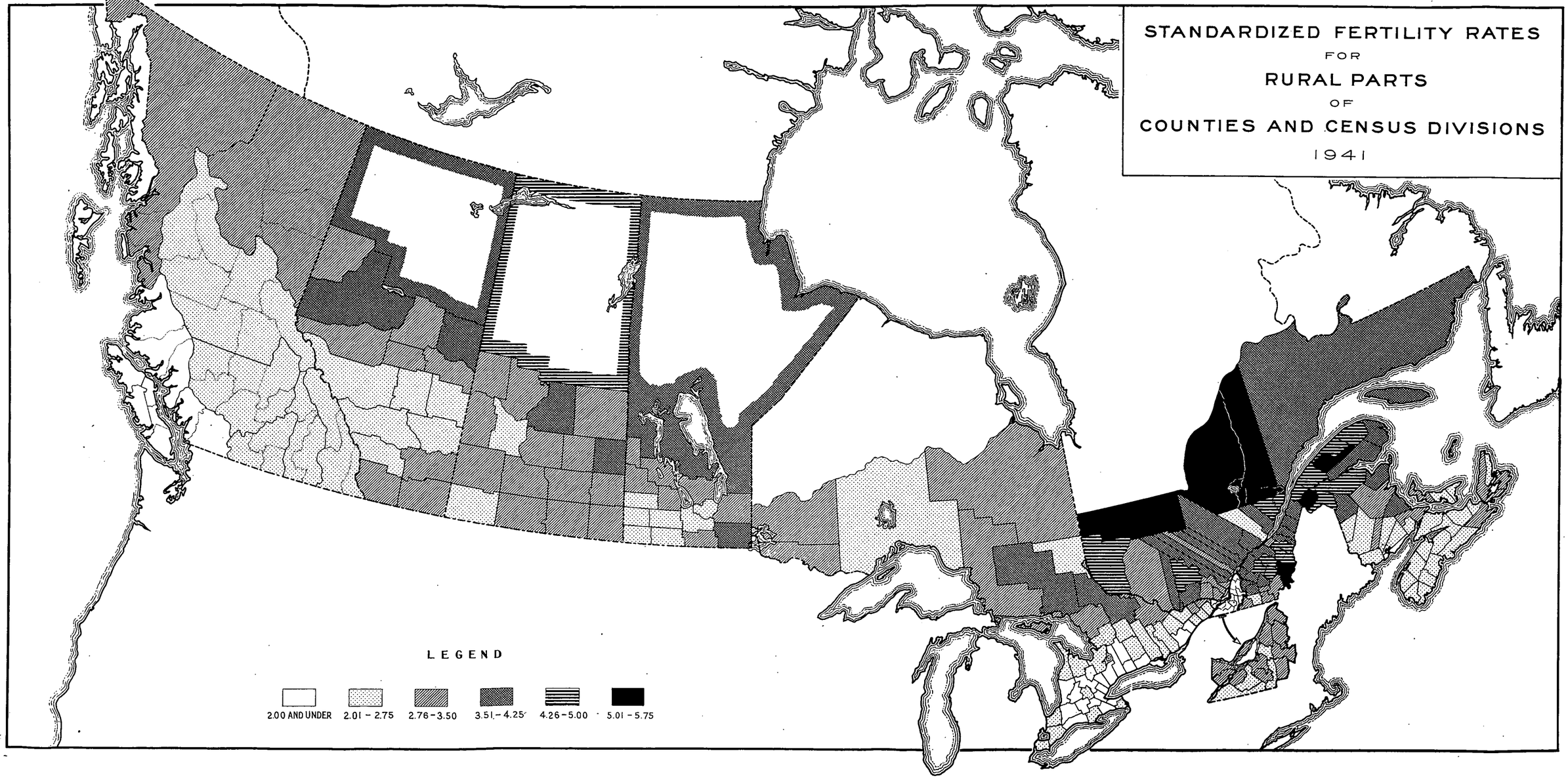
Table 11, Part II, records fertility data for rural and urban districts by size of community and for smaller local units studied in later sections. It gives average number of children born per married woman and standardized fertility rates for counties or census divisions, for the rural districts and urban size groups of each division, and for individual cities and towns with over 5,000 inhabitants. Gross reproduction rates for 1941 and the percentage change in the gross reproduction rate from 1931 to 1941 are shown for census divisions and within each division for the population in cities and towns over 5,000 and in areas outside these centres. The reproduction rates were calculated by the indirect method†. The 1931 Fertility Monograph presented standardized fertility rates for the areas mentioned above. Since the techniques for computing both these types of indices are basically the same, the order of localities in 1931 according to the monograph rates and according to their gross reproduction rates is practically the same. Hence only the amount of change in reproduction rates during the period is shown. The six maps following illustrate Table 11. Maps 2 and 3 show standardized fertility rates for entire divisions and for the rural parts of divisions. Maps 4 and 5 show 1941 reproduction rates for entire divisions and for the rural and village (less than 5,000) parts of each division. Maps

* Vide Chapter I. p. 8.

† E. Charles. "The Maximal Range of Error in Gross Reproduction Rates", Proc. Roy. Soc. Edin. Vol. LX. Part I No. 2.


STANDARDIZED FERTILITY RATES
FOR
COUNTIES AND CENSUS DIVISIONS
1941
LEGEND
2.00 AND UNDER
2.01 - 2.75
2.76 - 3.50
3.51 - 4.25
4.26 - 5.00
5.01 - 5.25

STANDARDIZED FERTILITY RATES
FOR
RURAL PARTS
OF
COUNTIES AND CENSUS DIVISIONS
1941



Relation of Residence to other Variables

In Chapter IV, the difference in family size associated with rural residence and residence in cities and towns of over 30,000 was related to differences in culture characteristics and educational status. When the other variables were equalized, the difference in family size between rural and city families was found to be 1·20. In Chapter V, a difference was found between the fertility of the four largest metropolitan areas and that of the rest of the population irrespective of occupation. In Chapter VI the family size of rural areas as compared with all urban places was considered in relation to occupation and earnings as well as to the variables of Chapter IV. When differences in occupation and income are taken into account, we found that the rural-city difference in family size becomes quite small but is still significant.

In the preceding chapters, the census definition of an urban centre and a metropolitan area were used, and for the purpose of an over-all picture these are adequate. But when we come to investigate rural and urban variations in fertility in greater detail, it becomes necessary to inquire more closely into what is meant by a rural area or an urban centre. This will be the topic of the next three sections.

2. Definitions of Urban Centres

There is no generally accepted definition of what constitutes an urban centre. In the Canadian Census, all incorporated places are classed as urban irrespective of size. In the collection of vital statistics it has not in the past been possible to allocate births by place of residence in this manner. Vital data have been presented for places with over 5,000 inhabitants, and for the remaining parts of counties, referred to later as rural and village areas. For this reason, the question most often asked about fertility,—what is the difference between rural and urban birth rates—is the one to which it is most difficult to give an answer. Perhaps the best answer can be given in terms of standardized fertility rates. According to 1941 Census data the average number of legitimate children ever-born to women of all ages, including both married and unmarried, was 2·25. Comparable standardized fertility rates for rural and urban (census definition) populations were 2·79 and 1·90 respectively.

Conditions for incorporation vary widely from province to province*. Urban centres so defined include places with very few inhabitants, and, what is more serious, may fail to include densely populated suburbs of large cities and newly settled mining areas. To some extent this difficulty has been overcome by the formation of census metropolitan areas to include those unincorporated areas which are an integral part of our greater cities. While the census treatment may be regarded as adequate when the population of Canada as a whole is being considered, an analysis of local variations in fertility seemed to demand more detailed examination of the definitions of urban centres and metropolitan areas. Although it is seldom practicable or necessary to go beyond the census definitions, the facts elicited in this section are of some general interest in the field of urban ecology. The present section has three objectives:—(a) to delimit continuous urban areas,including adjoining townships and rural municipalities†, for use when data are available for census sub-divisions; (b) to ascertain which isolated districts should be classed as semi-urban; (c) to distinguish urbanized from mainly rural counties, when only data for counties and incorporated places of 5,000 and over are available. Since there is no consensus of opinion on what constitutes an urban place, and in fact definitions may legitimately vary according to the objective, subjective judgments necessarily intrude into the classification attempted. It is possible, however, to bring the subject within the realm of public discourse by defining clearly the criteria used. In the present section, four criteria are used:—(a) density, (b) percentage non-farm, (c) contiguity to large cities, (d) absolute size of population.

Density and Size

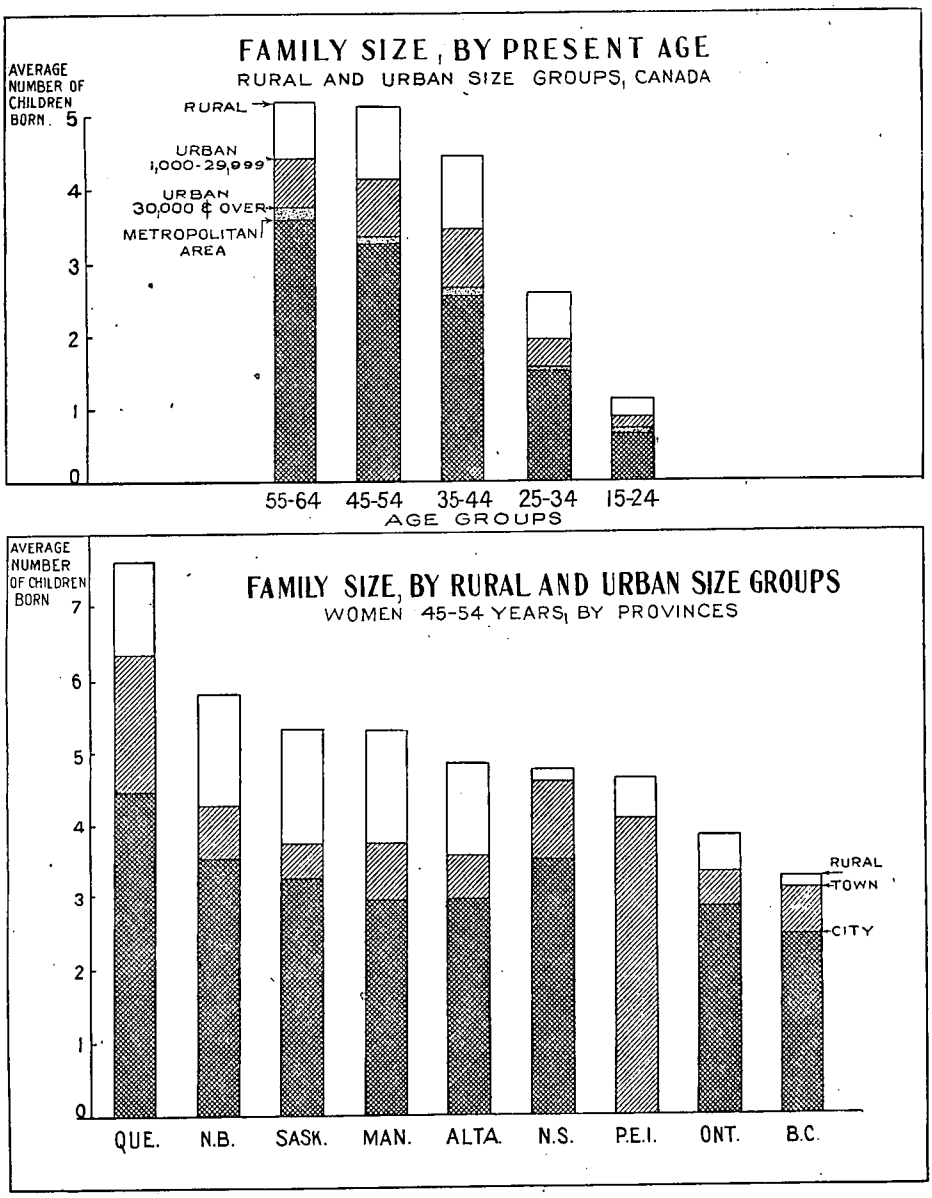
As far as is known, the only criterion of density hitherto used has been the United States' definition of places to be included in metropolitan areas as those having a density of 150 persons per square mile. In order to decide how far this criterion applies in Canada, it is necessary to examine the distribution of densities. Table LXXX shows this distribution for—(a) rural census sub-divisions, e.g., townships, rural municipalities, etc., (b) incorporated places under 2,500 population, (c) incorporated places over 2,500 population. The dividing line between

* Vide Vol. II, Census of Canada, 1941.

† Unincorporated census sub-divisions are called variously townships, rural municipalities, parishes, districts, etc.' In the text, "township" or "rural municipality" designates any unincorporated census sub-division.

6 and 7 show percentage change in reproduction rates for the same areas. As previously mentioned 17 towns came into the 5,000 and over category for the first time in 1941. The maps show percentage change in the areas involved disregarding the population shift, but the figures are not given in the table on account of the inprecision of the comparison.

Figures 43 and 44



Both fertility rates and gross reproduction rates show the gradation according to size of community which has been previously noted. The decline in current fertility between 1931 and 1941 was greatest in cities of over 30,000 in spite of an initially low reproduction rate. It is worth noting that, even with the rising birth rate of 1941, the population of the larger cities was not replacing itself.

the two groups of incorporated places was placed at 2,500 because a previous study* had established this division between urban incorporated places in Ontario. The same distinction is drawn in the United States Census. The dividing line for Quebec was placed at 3,000, but the former division is used throughout in Table LXXX.

TABLE LXXX.—DISTRIBUTION OF DENSITIES. RURAL DISTRICTS AND INCORPORATED PLACES, CANADA

Density—persons per acre	Number of rural districts	Number of incorporated places less than 2,500 population	Number of incorporated places over 2,500 population
Under .100 persons per acre	2,518	26	–
·100– ·109 " "	30	5	–
·110– ·119 " "	21	5	–
·120– ·129 " "	16	1	–
·130– ·139 " "	13	2	–
·140– ·149 " "	12	5	–
·150– ·159 " "	5	6	–
·160– ·169 " "	5	6	–
·170– ·179 " "	2	5	–
·180– ·189 " "	9	6	–
·190– ·199 " "	1	6	–
·200– ·209 " "	8	4	–
·210– ·219 " "	7	6	–
·220– ·229 " "	1	10	–
·230– ·239 " "	–	9	–
·240– ·249 " "	2	5	–
·250– ·259 " "	2	7	–
·260– ·269 " "	–	9	–
·270– ·279 " "	–	5	–
·280– ·289 " "	1	7	–
·290– ·299 " "	2	3	–
·300– ·999 " "	28	443	13
1·000–1·999 " "	12	307	48
2·000 and over " "	11	277	218
	2,706	1,165	279

Areas used in calculating density were obtained in part from tables computed by the Bureau. Densities of all incorporated places over 2,500 are given in Vol. II, Table 7, Census of Canada, 1941. Where these were not available, areas given in Municipal Reports were used. There are some omissions of localities because no areas were obtainable. The principal omissions are:—3 towns in Prince Edward Island, all incorporated places under 2,500 population in New Brunswick, several unnamed rural sub-divisions in the Prairie Provinces, rural municipalities in Montreal and Jesus Islands.

Considering Canada as a whole, the modal density of rural districts is ·01—·02 persons per acre. The numbers fall off in a fairly even manner down to a density of about ·15 persons per acre. The distribution is irregular and the highest density is 25 persons per acre (York). Incorporated places having less than 2,500 population are found with all densities, the modal size being about 0·5 persons per acre. The least densely populated incorporated place is a community in Quebec consisting of 5 dairy farmers, 5 farm labourers and 3 lumbermen with their families, and no empty houses. It is hard to imagine why it became incorporated. There are no incorporated places of over 2,500 with a density of less than 0·6 persons per acre. The main purpose of the table is to suggest a suitable dividing line between those rural districts which are certainly rural from those which may be called semi-urban. The distributions vary in different parts of the country. Except in Quebec, a density of 0·1 persons per acre seems an appropriate division for the following reasons. Prince Edward Island, a densely populated and almost purely rural province, has no townships with a density above this limit. The distribution in Ontario suggests the appearance of new factors at this point. The least densely populated district included entirely in the census metropolitan areas is Old Kildonan, with a density of ·12 persons per acre. It is clear that the limit must be set higher in Quebec. Similar considerations suggest in that province a dividing line at about ·15 persons per acre. The least dense Quebec rural district included in the census metropolitan areas is La Petite-Rivière with a density of ·149. All rural districts in Quebec with a density above this have been considered as probably semi-urban.

* Unpublished work of the Social Analysis Branch.

Occupation

Again we find no accepted definition of what constitutes a rural occupation. The most characteristically rural occupations are farming, lumbering, and fishing. The first two of these generally involve the use of land so that an upper limit is set to the number of persons exclusively employed in these occupations on a given number of acres. Fishing, on the other hand, sets no such limits, and, as we shall see later, there are some fairly densely populated fishing villages. Yet on intuitive grounds and following custom, it seems we must regard fishing as a rural occupation. Mining is still more difficult to classify and mining districts are sometimes placed in a category of their own. In what follows, we shall regard mining populations satisfying the other criteria of density, size, and contiguity to cities, as urban. The principal occupational criterion used is the percentage farm population of total rural population. Only those districts with less than half the rural population living on farms are considered as probably semi-urban.

Contiguity to Cities

The social effects of large concentrations of population are not confined to persons living within a particular administrative boundary. Many living outside the boundary have access to the service and amenities of the city and come in contact with urban ways of living. Such considerations indicate that the boundaries of urban areas should be extensive enough to include the majority of those whose lives are affected by close proximity to large cities. An additional reason is the ever-increasing movement of population to the peripheries of cities rather than to the centres. An isolated township, on the other hand, though it may be of the same size and density as a suburb, has a smaller range of urban activities, and is more closely in contact with the open country. The census metropolitan areas are intended to include all persons economically dependent on the central city. There are, however, some rural districts omitted which would satisfy the United States criterion for inclusion in a metropolitan district, and there are many densely populated districts associated with smaller central cities. All districts associated with an incorporated place of any size have, therefore, been included in this definition except Brooklyn, Nova Scotia. This district adjoins Liverpool, a town with a population of 3,170. In order to keep the picture clear, it seemed better to regard Brooklyn as an isolated township.

Classification of Townships

It seems evident that no single criterion will suffice to separate semi-urban from rural districts. Taking density as a basis, Table 12, (Part II) tabulates all Canadian rural districts having a density of 0·100 persons per acre or more, according to the three other criteria discussed. Those having a majority of the rural population living on farms are separated from those with a majority non-farm. The latter are sub-divided into those which do or do not adjoin a city. In each column different density levels are distinguished.

The majority of the farm districts shown in the table can in most cases be explained either as regions of intensive market gardening, often near a large town, or as having subsidiary occupations leading to some concentration of population. Considering only those with a large proportion farm, the upper limit of intensive agriculture is possibly represented by Chilliwhack, British Columbia, with a density of 0·180. Outside of Quebec, the upper limit of non-intensive farming appears to be less than 0·100 persons per acre. Although many of the districts with a majority on farms come within a sphere of urban influence, it seems that they should be regarded as rural rather than semi-urban. They are included in Table 12 for purposes of comparison.

Most of the isolated townships can be put into four groups, dominated by the occupations of fishing (9), wood pulp and paper manufacturing (7), railway transport (5), and mining (4). We also find three unincorporated villages in Quebec with a variety of occupations and two centres with a number of monasteries and convents. Most of these districts differ from smaller incorporated places only by an administrative accident. It seems logical, therefore, to apply the same criterion and to class as urban those with a population of over 2,500. It is more doubtful whether an additional density criterion should be used. Districts have as a rule a much bigger land area than an incorporated place of the same size and density, and hence include some indubitably rural portions. It is proposed to classify as semi-urban only those of the required size which also have a density of 0·23 or more persons per acre.

To sum up, we can classify as semi-urban two groups of rural districts:—(a) all rural districts with a density of more than 0·1 persons per acre or 64 per square mile, the majority of the population non-farm, and forming part of a continuous area which includes a central city of 10,000 population or more; (b) rural districts not adjacent to a city, having a population of over 2,500, a majority non-farm and a density of more than 0·23 persons per acre or 147 per square mile. If a third category, semi-rural, were to be set up, it could appropriately include all incorporated places with less than 2,500 population, together with isolated townships of the same size with densities over 0·1 persons per acre and larger isolated townships with densities between 0·1 and 0·23 persons per acre.

3. Continuous Urban Areas

Definition

The definition given of semi-urban townships is closely linked with the concept of continuous urban areas. Some of the best-known methods of grouping urban populations are Fawcett's conurbations and the United States and Canadian metropolitan areas. The British conurbations are defined as continuous built-up urban areas. Though it would be interesting to see how such a concept would work out in Canada, it is perhaps doubtful whether it would be equally applicable in a much less densely populated country. In Britain continuous built-up areas stretch half across the country, whereas here we should expect urban areas to have much more scattered fringes. The continuous areas described in this section consist of a central city with all the districts previously defined as semi-urban which form a continuous area including the central city and adjoining incorporated places. Continuous urban areas so defined agree most closely with the definition of United States metropolitan districts. They differ in that the density and size limits are set at a lower limit and the non-farm criterion is included. They include everything to be found in the census metropolitan areas but are more extensive. The weight of evidence seems to suggest that the United States density limit would exclude some rural districts that are essential parts of Canadian cities.

Description

A description based on the township as unit is necessarily less precise than the census metropolitan area, which considers individual enumeration districts. The areas described in Table 13, (Part II) must be regarded as a first approximation to the problem of delineation of continuous urban areas. Greater precision could be reached by more detailed study. Yet urban development is always uneven and it would be hard to say how large an enclave of agricultural or thinly populated land should be in order to constitute a definite break. A river has not been regarded as delimiting an urban area. This is in line with the census metropolitan areas. Quebec metropolitan area includes Lévis and Lauzon on the opposite side of the St. Lawrence.

Two new urban areas of importance emerge in Table 13. They are the St. Catharines-Niagara and the Cape Breton aggregates. The dense concentration of population in these two regions is conspicuous in a population dot map. A consequence of the definition adopted is that neighbouring cities are joined by densely populated townships to form a single urban area. In addition to the Niagara and Cape Breton aggregates, Brantford is joined to Hamilton and Kitchener to Waterloo. Since there is something to be said for the view that the whole highly industrialized area from Niagara-St. Catharines through Hamilton-Brantford and Galt-Preston-Hespeler to Waterloo–Kitchener is a continuous whole, the intervening townships are shown in Table LXXXI. The table shows that the St. Catharines area is separated from the Hamilton area by densely populated districts where the farming population is engaged mainly in market gardening. The area between Kitchener and Hamilton, on the other hand, is more definitely rural. In Nova Scotia there is no doubt that North Sydney, Sydney Mines, and Little Bras d'Or on the one hand, and Sydney, Glace Bay and the surrounding mining districts on the other hand, each form a continuous urban area. The two are, however, separated by Sydney Harbour and the less densely populated district of Balls Creek.

TABLE LXXXI.—BORDERLINE TOWNSHIPS IN NIAGARA PENINSULA

Township	Density	Farm population percentage of total
	Persons per acre	p.c.
A. Linking St. Catharines Area to Hamilton-Brantford Area—		
Louth	·185	59
Clinton	·124	75
Grimsby North	·125	62
Grimsby South	·077	53
B. Linking Hamilton-Brantford Area Through Galt to Kitchener—		
Waterloo South	·094	53
Dumfries North	·063	49
Dumfries South	·053	59

Urban Population Changes

Examination of the population changes shown in Table 13 supports the view that the larger cities dominate an extensive area. The table shows that the growth of population between 1931 and 1941 has mainly been located in the satellite towns, townships, and municipalities adjoining large cities. For every urban area except Ottawa shown in the table, population increase has been more rapid, and often many times more rapid, outside than inside the central city. Table LXXXII summarizes the rates of growth of the different parts of continuous urban areas. Seeing that in Canada as a whole the urban population is increasing at the expense of the rural, the rapid rate of growth in fringe areas confirms the essentially urban character of the districts which have been included in urban areas. In the Winnipeg, Montreal, Quebec and Toronto areas, population has grown fastest in the satellite cities, towns and villages, but for the provinces as a whole, with the exception of Winnipeg, the satellite rural districts show the greatest proportionate increase in population.

Combined Cities

To complete the picture of urban areas, we can add three instances of combined towns without adjoining urban townships. They are:

(a) Fort William, Port Arthur
(b) Galt, Preston, Hespeler
(c) Trois-Rivières, Cap-de-la-Madeleine

All three have adjacent townships which are not yet urban according to the definition laid down, but are relatively densely populated and rapidly growing. It is probable that at the next census more extensive urban areas will be associated with these towns.

4. Urbanized Counties

At the outset one of the objectives set was to distinguish between predominantly urban and predominantly rural counties. Many types of census and vital statistics data are tabulated for counties and incorporated places with over 5,000 population. No great difficulty is encountered in dividing incorporated places at the 5,000 level rather than the 2,500 level, but to regard all the remaining parts of counties as rural would lead to nonsensical results. The

TABLE LXXXII.—POPULATION CHANGES IN CONTINUOUS URBAN AREAS, 1931-41

Province	Percentage increase in population, 1931-1941				
	Central cities	Satellite towns, 5,000 and over	Satellite towns, 2,500-5,000	Satellite villages less than 2,500	Satellite rural districts
	p.c.	p.c.	p.c.	p.c.	p.c.
Nova Scotia	18·7	19·3	15·2	–	43·3
New Brunswick	8·9	–	–	–	24·9
Quebec	11·9	11·7	35·0	28·9	35·8
Ontario	10.1	23.8	13.8	13.0	26.8
Manitoba	1.5	7.3	–	−18·2	4·5
British Columbia	11·8	18·6	–	18·6	40·8
Canada	**10·5**	**17·0**	**28·8**	**17·9**	**28·6**

remaining parts of counties have been regarded as urbanized if the population of smaller incorporated places and semi-urban townships forms a majority of the population of the "remaining parts". Table LXXXIII lists these urbanized counties, together with gross reproduction rates for 1941 for the county and for the remaining parts. For all Canada the gross reproduction rates for these two types of area were 1·38 and 1·64 respectively. In about a quarter of all counties so divided, the rate for the remaining parts was the same or less than that for the county as a whole. Among the counties designated as urbanized in Table LXXXIII, the rate for remaining parts is similar or less in the majority of cases. Although the differences are by no means uniform, the foregoing analysis helps to explain similar fertility rates in some rural and village areas and their adjoining cities and towns. The same type of analysis is applied to rural (census definition) parts of census divisions in Section 7. When only census rural areas are involved, Cape Breton (whole), St. John, Brant, British Columbia, Division 5 (whole), are classed as rural non-farm, rather than semi-urban.

TABLE LXXXIII.—URBANIZED COUNTIES

Province	County or census division	Gross reproduction rates, 1941	
		County or census division	"Remaining parts"
Nova Scotia	Cape Breton North Cape Breton South	1·73	1·57
New Brunswick	St. John	1·29	1·08
Québec	Chambly	1.06	1.16
	Montreal Island	1.04	.81
	Jesus Island	1.23	1.23
	Québec	1.42	1.68
Ontario	Brant	1.18	1.06
	Carleton	1·04	1·21
	Peel	1.05	1·11
	Stormont	1·48	1·26
	Welland	1·30	1·30
	Wentworth	1·01	·99
	York	·84	·98
British Columbia	Div. 4A (Lower Fraser Valley) Div. 4 B (Vancouver)	1·00	1·18
	Div. 5 A (Victoria)	1·24[1]	1·32[1]

[1] Division 5.

5. Fertility of Metropolitan and Urban Areas

Table LXXXIV gives standardized fertility rates for census metropolitan areas and for the continuous urban areas described above. Each urban area is compared with the county or counties in which it is located. Columns (a), (b) and (c) give fertility rates for the total county area, the continuous urban area of Table 13, and the census metropolitan area. These areas are, of course, overlapping. Columns (d) to (g) subdivide the county area into four parts, (d) the largest city, (e) the metropolitan area outside the largest city, (f) the urban fringe outside the metropolitan area or largest city and (g) the remainder of the county.

In several cases, there is very little difference between the rates of the different parts of a county. If we disregard small differences, the variation can be described under three headings. Considering first the twelve metropolitan districts, a characteristic metropolitan pattern can be seen in nine of them. We shall call this Pattern I a. In the nine districts there is a continuous gradient. Fertility is lowest in the principal city, higher in the outer metropolitan area, higher still in the urban fringe, where there is one, and highest in the remainder of the county. Pattern 1 b, seen in Montreal, is a slight deviation from I a, in that the fertility of the outer metropolitan area is lower than that of the central city. The remaining two districts, Ottawa and Windsor, show higher fertility in the outer metropolitan area than in either the principal city or the remainder of the county. We may call this Pattern II. The central city contains prosperous residential areas and occupations are mainly white-collar, while the outer suburbs are more industrial and have a greater concentration of culture-types with high fertility. The rural parts of Ontario have, on the whole, very low fertility, and there is little difference between the surrounding rural districts and parts of the urban area.

TABLE LXXXIV.—STANDARDIZED FERTILITY RATES, METROPOLITAN AND CONTINUOUS URBAN AREAS

County	Principal city or town	(a) County	(b) Continuous urban area	(c) Census metropolitan area	(d) Central city	(e) Outer metropolitan area	(f) Urban fringe	(g) Remainder of county
(i) **Census metropolitan areas with urban fringe—**								
1. Halifax	Halifax	2·07	1·89	1·83	1·75	2·15	2·69	2·89
2. St. John	Saint John	1·78	1·77	1·77	1·77	1·76	1·97	2·13
3. Montreal Island, Jesus Island, Chambly	Montreal	2·01	2·00	2·00	2·08	1·70	2·78	2·75
4. Lévis, Quebec	Quebec	2·55	2·47	2·43	2·38	2·62	2·91	3·56
5. Carleton, Hull	Ottawa	1·94	1·90	1·89	1·63	2·70	3·07	2·35
6. Brant, Wentworth	Hamilton	1·61	1·58	1·58	1·58	1·61	1·59	1·75
7. Peel, York	Toronto	1·44	1·42	1·42	1·37	1·59	1·73	1·68
8. Manitoba, Divisions 5, 6, 9	Winnipeg	1·89	1·67	1·66	1·59	1·91	2·20	2·83
9. British Columbia, Division 4	Vancouver	1·54	1·47	1·43	1·39	1·59	1·88	2·09
(ii) **Census metropolitan areas without urban fringe—**								
10. Essex	Windsor	2·07	–	2·00	1·92	2·50	–	2·24
11. Middlesex	London	1·50	–	1·42	1·40	1·68	–	1·67
12. British Columbia, Division 5A	Victoria	1·44	–	1·30	1·28	1·32	–	1·86
(iii) **Continuous urban areas—**								
13. Beauharnois	Valleyfield	2·76	2·69	–	2·64	–	3·52	2·89
14. Drummond	Drummondville	3·49	3·28	–	2·67	–	4·18	3·72
15. Joliette	Joliette	3·36	3·02	–	2·89	–	4·34	3·67
16. Richelieu	Sorel	3·09	3·01	–	3·04	–	2·90	3·20
17. Lincoln, Welland	St. Catharines	1·83	1·80	–	1·59	–	1·88	1·92
18. Ontario	Oshawa	1·73	1·70	–	1·78	–	1·55	1·76
19. Peterborough	Peterborough	1·86	1·66	–	1·62	–	2·03	2·19
20. Stormont	Cornwall	2·46	2·56	–	2·27	–	2·87	2·23
21. Sudbury	Sudbury	3·04	2·57	–	2·59	–	2·50	3·53
22. Waterloo	Kitchener	1·75	1·71	–	1·66	–	1·84	1·79
23. Cape Breton North	Sydney Mines	3·05	3·10	–	3·09	–	3·10	2·86
24. Cape Breton South	Sydney	2·95	3·00	–	2·51	–	3·33	2·56

In addition to the metropolitan areas twelve other continuous urban areas are shown in the table. Of these, five, St. Catharines, Peterborough, Sorel, Sudbury and Kitchener, conform to the metropolitan pattern, I a. Oshawa, like Montreal, is I b. It has an adjoining suburb with exceptionally low fertility. Four cities, Drummondville, Joliette, Valleyfield, and Cornwall are of Pattern II, where fertility is higher in the outer urban area than in either the central city or the remainder of the county. These are rapidly growing cities with an industrial or mining outer area. Finally Pattern III describes the two mining areas which are of quite a different character. The urban areas show the high fertility characteristic of the occupation, and fertility rates are lower in the surrounding rural areas.

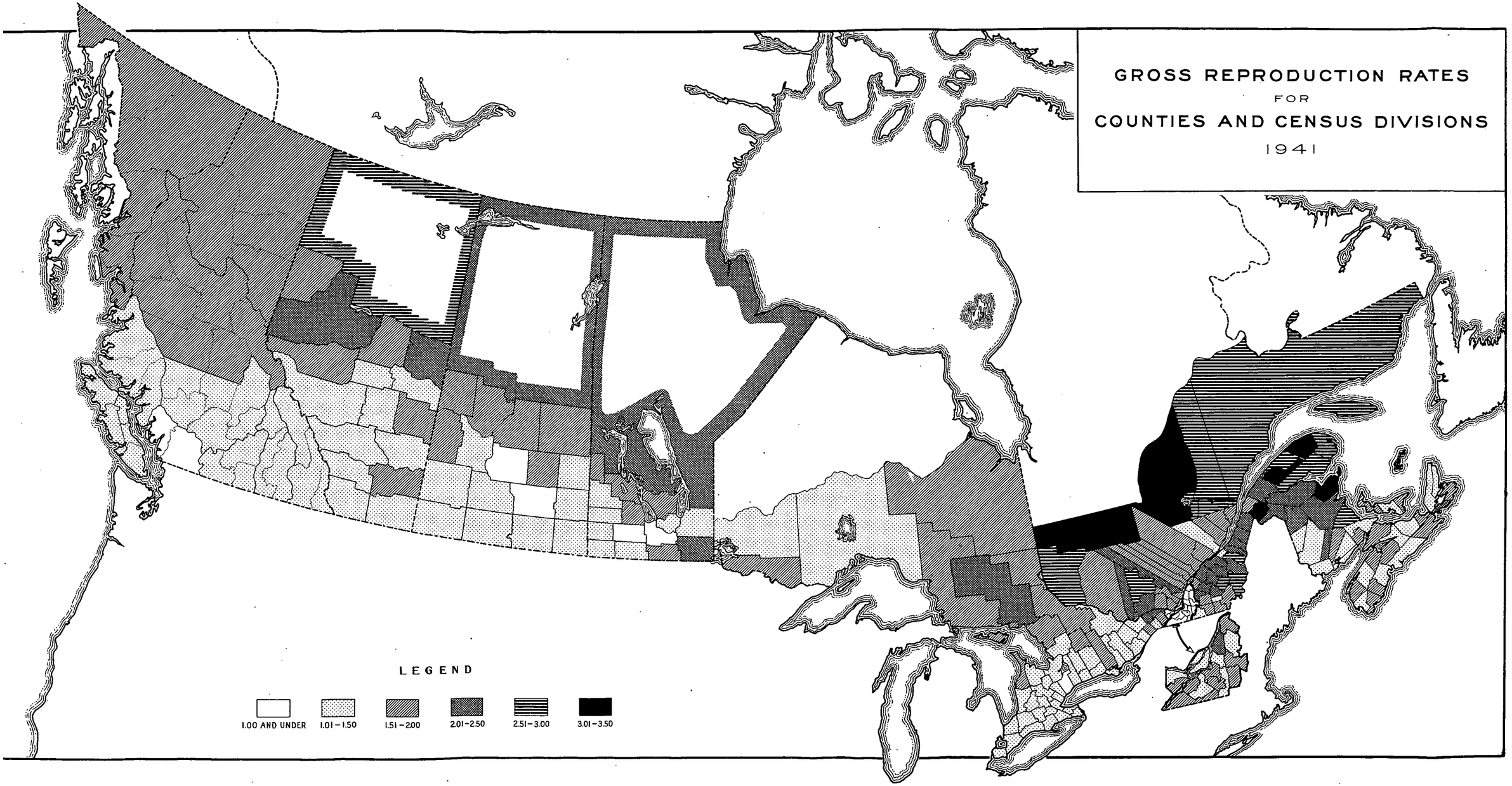
Since there is a wide range of rates among the different wards of a city, or the different parts of a metropolitan area, fertility cannot be a decisive criterion for the inclusion of a place in an urban area. But it is of some interest to inquire how far the figures given corroborate the suggested description of continuous urban areas. In 11 out of the 19 cases, the fertility rate of the outer urban fringe agrees with its urban description. In these areas, the rate is either intermediate between the city or metropolitan area and the remainder, or is as low as one of these. In the remaining eight the evidence is not decisive, since high fertility industrial suburbs are also included in the widely accepted metropolitan areas.

6. Summary of Sections 2 to 5

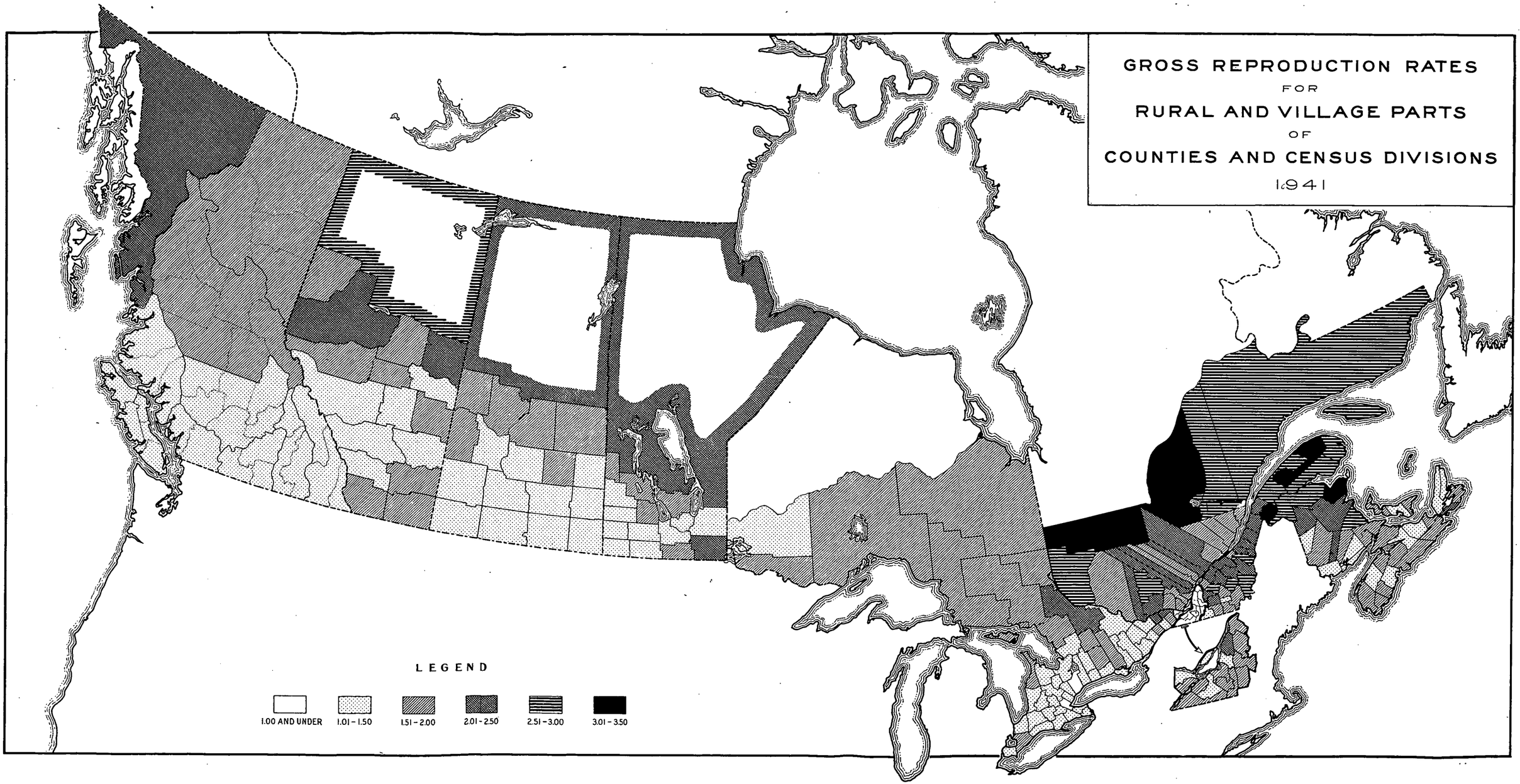
1. A criterion of urbanization is proposed for unincorporated census sub-divisions. The criterion is based on density, size, occupational character, and contiguity to cities.

2. Rural sub-divisions are classed as semi-urban when—(a) they are contiguous to cities of over 10,000 population, have a density of more than 0·1 persons per acre, and a majority of the population non-farm, and (b) if isolated, have a density of more than 0·23 persons per acre, a population size of more than 2,500 and a majority of the population non-farm.

3. Continuous urban areas are described. They include the census metropolitan areas but cover a wider area. They also include urban areas surrounding smaller cities.


GROSS REPRODUCTION RATES
FOR
COUNTIES AND CENSUS DIVISIONS
1941
LEGEND
1.00 AND UNDER
1.01 – 1.50
1.51 – 2.00
2.01 – 2.50
2.51 – 3.00
3.01 – 3.50

GROSS REPRODUCTION RATES
FOR
RURAL AND VILLAGE PARTS
OF
COUNTIES AND CENSUS DIVISIONS
1941



4. The principal new urban aggregates described are those surrounding St. Catharines-Niagara, Sydney Mines, and Sydney-Glace Bay.

5. Growth of population between 1931 and 1941 has been more rapid in the unincorporated districts and satellite towns than in the central cities of urban aggregates.

6. A list of counties is given in which the "remaining parts" should be regarded as urbanized.

7. Standardized fertility rates of metropolitan and continuous urban areas show that fertility of satellite towns, villages and rural districts is in general intermediate between the principal city and the remainder of the county. The urban fringes of rapidly expanding smaller cities have high fertility rates.

7. Rural Fertility Rates

The present section will be devoted to an analysis of fertility rates for rural parts of counties. Standardized fertility rates of 215* rural parts of counties have been analysed. Among these, 11 have been classified as semi-urban on the lines indicated in the last section. Enumeration areas are classified in the census as farm or non-farm according to their predominant character. In the rural parts of 41 counties, less than 50 p.c. of the population live in farm areas. These will be referred to as non-farm districts. In the remaining 164 counties, the population is more than half farm. Average standardized fertility rates for the different types of rural districts are: semi-urban, 2·13; rural non-farm, 2·78; farm, 3·12. The total standardized fertility rate for all rural parts of counties is 2·79. The semi-urban rate clarifies the description of these districts. It is in line with the urban rates for Canada, which range from 1·73 to 2·31 according to size of urban community.

Previous chapters have shown that rural fertility varies greatly from province to province, and that the greater part of this difference can be accounted for by variation associated with the cultural characteristics of language, religion, and educational level. The rural parts of counties have been classified into culture-types according to mother-tongue and religion as described on page 61, Chapter III. Table LXXXV shows average standardized fertility rates for rural districts, classified by culture-type, by semi-urban, rural non-farm, rural farm, and by regions. Within each culture-type there is no consistent difference between regions. Prairie farming districts have on the whole larger families than those of similar culture-types in other provinces, while the mainly rural non-farm districts of British Columbia have exceptionally low fertility.

* Nine rural districts omitted which do not fall into the culture-type classification of Chapter III.

TABLE LXXXV.—MEAN STANDARDIZED FERTILITY RATES—RURAL DISTRICTS

Region	Culture-type[1]								
	Eε	Eεφ	Eχεφ	Eχφε	FEφε	S	FEφ	Fφ	All
Maritimes—									
Semi-urban	–	–	–	–	–	–	–	–	–
Rural non-farm	2·51	2·44	3·20	2·86	3·81	–	–	–	2·81
Farm	2·46	2·44	2·48	3·07	–	–	3·69	4·55	2·84
Quebec—									
Semi-urban	–	–	–	–	2·75	–	–	2·29	2·40
Rural non-farm	–	–	–	–	2·86	–	–	3·94	3·58
Farm	–	–	2·59	3·33	3·08	–	3·93	4·05	3·89
Ontario—									
Semi-urban	1·69	2·13	2·16	2·58	–	–	–	–	1·99
Rural non-farm	2·16	3·10	2·75	–	3·63	–	–	–	2·93
Farm	1·94	2·25	2·64	2·57	3·47	–	3·24	–	2·18
Prairies—									
Semi-urban	–	–	–	–	–	–	–	–	–
Rural non-farm	–	2·14	2·98	–	–	–	–	–	2·71
Farm	2·31	–	2·90	3·53	–	3·45	–	–	2·94
British Columbia—									
Semi-urban	1·84	–	–	–	–	–	–	–	1·84
Rural non-farm	1·63	2·32	2·36	–	–	–	–	–	2·27
Farm	–	–	2·79	–	–	–	–	–	2·79
Canada—									
Semi-urban	1·73	2·13	2·16	2·58	2·75	–	–	2·29	2·13
Rural non-farm	2·33	2·48	2·68	2·86	3·56	–	–	3·94	2·78
Farm	2·12	2·29	2·84	3·11	3·13	3·45	3·74	4·07	3·12

[1] For explanation of symbols, see Chapter III, p. 59.

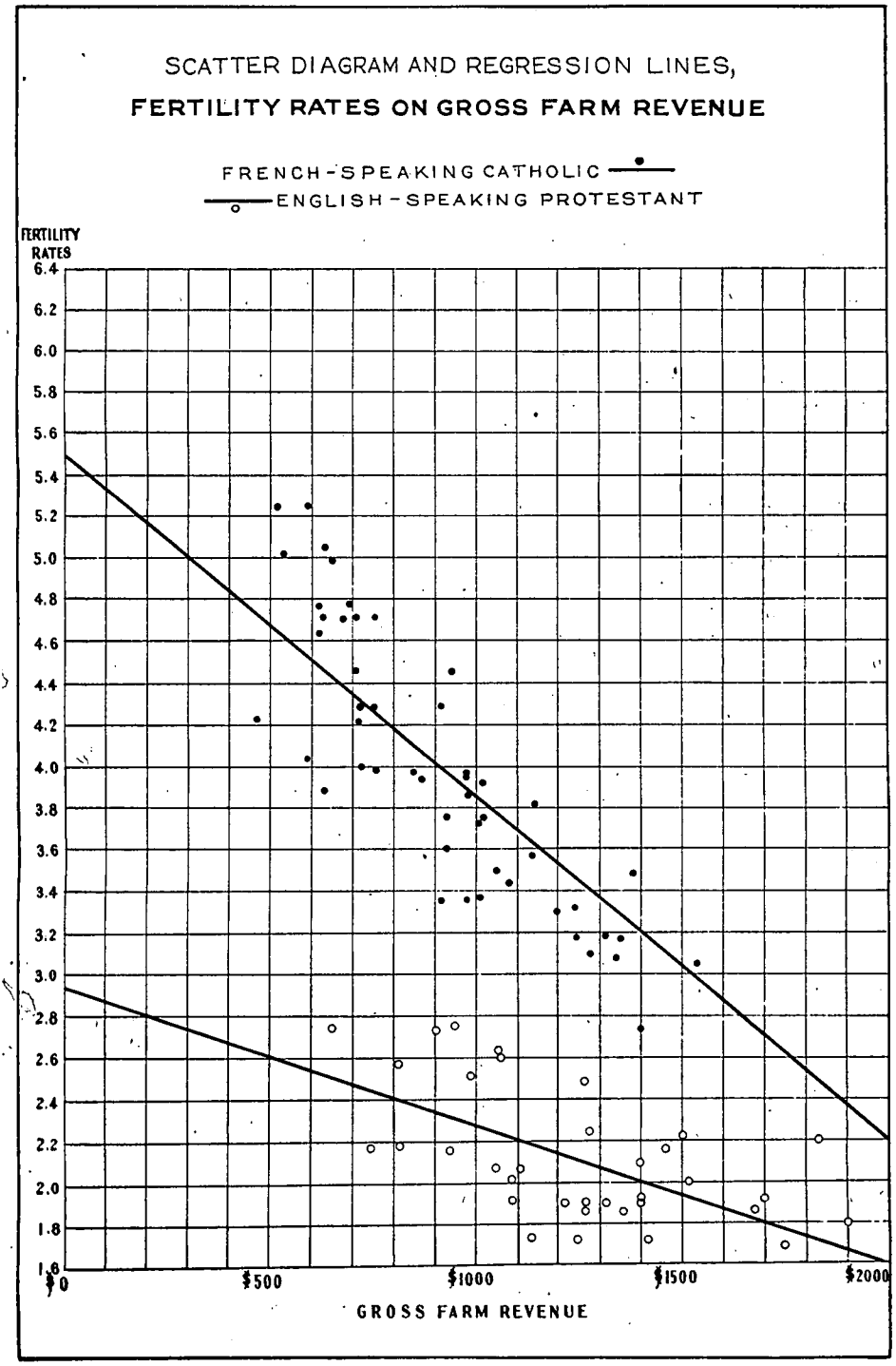
The rural non-farm districts are very heterogeneous in character, and within the same culture-group their fertility rates vary widely. In addition to the British Columbia districts already noted, there are one or two districts in other provinces which are near large cities and resemble the semi-urban districts. Otherwise, rural non-farm counties are those with much lumbering, fishing or mining, and are in general remote from large cities. Their fertility rates are on the whole somewhat above those of predominantly farming districts.

A more detailed analysis is possible of the 164 farming counties. When classified according to culture-type, large differences in fertility still remain, and it is immediately apparent that these are closely associated with differences in farm income. The lowest fertility rates are found in prosperous farming communities located near a large urban market, while the highest are found in fringe communities at a bare subsistence level. The only clue readily available to the economic status of farming areas is the average gross farm revenue. This is only a very rough economic index for the whole rural district. Net income and standard of living do not have a constant relationship to gross revenue and moreover the farm population may vary from 50 p.c. of the rural population upwards. Yet, as we shall see, the correspondence with fertility levels is close. Six counties deviate markedly from the pattern. While the association is particularly marked in all French-speaking districts, Lake St. John and Chicoutimi are striking exceptions. In the latter counties, fertility is exceptionally high in spite of high gross farm income. In both, fertility has fallen very rapidly in the past decade, and we may surmise that the remote situation of the Lake St. John area and its comparatively recent industrialization have favoured the retention of the rural large family and that the situation is at present an unstable one. Four prairie counties, Saskatchewan, Division 8, Alberta, Divisions 2, 4, and 6, are exceptional in that gross farm revenue was over $2,000 and very much higher than elsewhere. As well as the foregoing exceptional counties, those belonging to culture-types which have less than five representatives, and the rapidly changing Slavonic-speaking group, have also been omitted from the analysis. We shall then examine the relationships between culture-type, gross farm income, and fertility rates in 150 rural parts of counties.

Statistical tables of analysis of variance and covariance for the three characteristics mentioned are given in Appendix D. (Tables D. XIII, D. XIV). There the variation between rural-farm fertility rates is split up into several parts. The largest part of the variance, (a), is associated with differences between culture-types which remain when allowance is made for the different levels of farm revenue of various types. Other parts are due to,—(b), variation of fertility with revenue from one culture-type to another, (c), variation of fertility with revenue within each culture-type, (d), differences in the fertility-revenue relationship between culture-types, and, finally, (e), random deviations. In testing significance, the last category has been regarded as composed of random errors not associated with either of the two explanatory factors. Compared with (e), all the other variances are significantly greater. If we consider both variance (a), and also variance (d), as associated with differences in mother-tongue and religion, then 52 p.c. of the variance is associated with cultural differences, 32 p.c. with differences in gross farm revenue, and 16 p.c. is unconnected with either of these factors. The difference between the effects of cultural characteristics and of farm prosperity is not, however, statistically significant, so we can say that the two factors studied account for about 85 p.c. of the differences in rural-farm fertility rates and that the influence of both is approximately equal. In spite of this rather neat result, neither of the two factors in themselves tell the whole story. Each is associated with a number of other less easily measurable characteristics. We can perhaps think of them as indicating, on the one hand, the influence of traditional attitudes, and, on the other hand, the impact of more recent economic conditions.

When the individual regressions of fertility on gross farm income within each culture-type are examined, (Table D. XIV), we can see that they differ in character and that not all are significant. The association is closest in the mainly French-speaking types, and fairly close in the predominantly English-speaking Protestant types. The regressions are statistically significant in all of these except in the French-speaking Catholic type with an English-speaking minority, where it seems that only the very small size of the group prohibits a significant result. On the other hand, in the mainly English-speaking types which include substantial numbers of Catholics or those speaking a language other than English, the correlation is small and the result not statistically significant. These groups are evidently so heterogeneous, as well as being rather small in size, that the relationship between fertility and farm income, if such exists, is obscured.

Figure 45


SCATTER DIAGRAM AND REGRESSION LINES,
FERTILITY RATES ON GROSS FARM REVENUE
FRENCH-SPEAKING CATHOLIC
ENGLISH-SPEAKING PROTESTANT
FERTILITY RATES
6.4
6.2
6.0
5.8
5.6
5.4
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
$0
$500
$1000
$1500
$2000
GROSS FARM REVENUE

A somewhat similar analysis of 1931 data yielded similar results. Estimated gross reproduction rates for two sets of counties having at least 25 p.c. of the population on farms were correlated with the average gross value of farm produce. In set (a), containing 48 counties, 75 p.c. or more of the population was of British origin. In set (b), containing 50 counties, 75 p.c. or more of the population was of French origin. The correlation coefficients between current fertility and value of farm produce were: $-0{\cdot}78$ for the British counties, and $-0{\cdot}82$ for the French counties.

Among the types which do show a significant relationship, there is one important difference in the nature of the relationship. Fertility falls more rapidly with farm income in the mainly French-speaking type than among the English-speaking Protestants. Fig. 45 is a scatter diagram showing fertility rate and gross farm income in all the localities belonging to the two most homogeneous types, wholly English-speaking Protestant, and wholly French-speaking Catholic. It also shows the fitted regression lines for these two types. The diagram suggests that, at a level of gross farm income of about $2,500, fertility rates of both types would be equal at about $1{\cdot}3$. What little evidence there is indicates that this would not be so. Possibly as gross farm revenue increases, the net return is a smaller part of the gross return, and more accurate knowledge of rural standards of living might change the picture somewhat. The evidence so far available leads to the conclusion that the linear relationship between fertility and gross farm income holds only within the income range studied, and that increases in gross income above $2,000 do not result in a corresponding fall in the size of the family. Closer examination of Fig. 45 suggests that the most pronounced effect on family size is exerted by the transition from subsistence farming to production for a market. The absence of further decline suggests that farm life may tend to preserve traditional family attitudes and so delay the impact of increasing prosperity on the size of the family.

The conclusions indicated in the last paragraph would be of some importance to the demographic future of Canada if they could be substantiated. At present we can do no more than hint at the possibility that they might be true. A fruitful field of research is opened up. We would need to study farming families by themselves, to distinguish between prosperity of long duration and that which is only recent, and to separate the effect of proximity to large urban centres from the effect of higher standards of living.

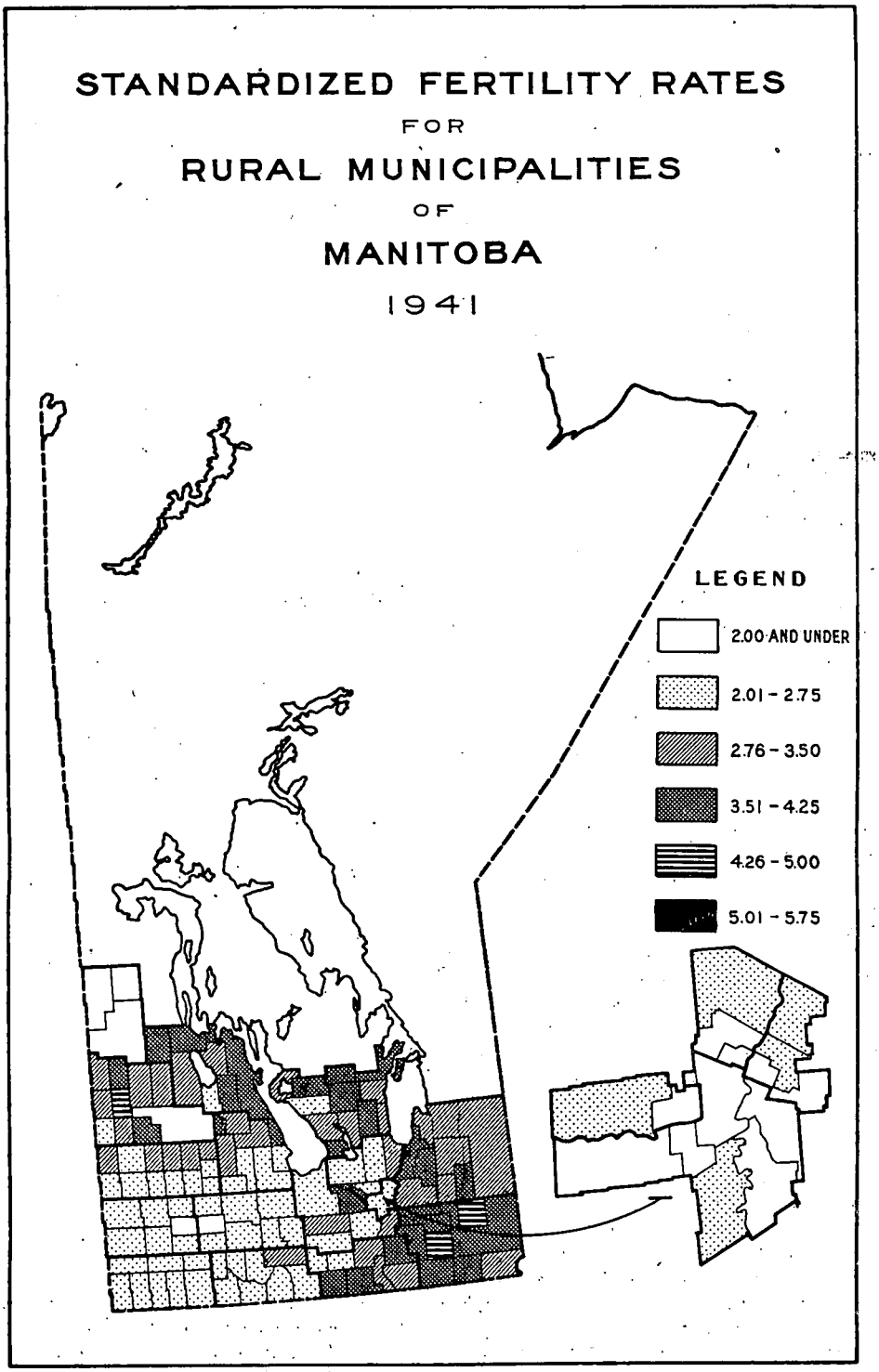
8. Rural Municipalities in the Prairie Provinces

Clear-cut differences in types of agriculture and in soils, together with great variety of culture-types, suggested a more detailed analysis of rural fertility in the Prairie Provinces. The local unit for this section is the census sub-division, a rural municipality, district, or municipal district, etc. Standardized fertility rates are available for these units. The fact that the rural population is predominantly farm facilitates analysis. In connection with the Dominion Sampling Survey, maps were prepared showing for every rural municipality, gross farm revenue and farm type, both as classified by the Agriculture Branch, and according to a crop-work unit devised by the sampling service. These maps have been used in the ensuing analysis together with census data on mother-tongue, religion, etc.

Manitoba

Map 8 shows standardized fertility rates for the rural municipalities of Manitoba. The municipalities which form part of the metropolitan area of Winnipeg show uniformly low fertility. Outside the Winnipeg area, there is a broad correspondence between the fertility map and maps of farm type and soil type. Except in the east where the proportion of English mother-tongue persons is low, the prosperous grain farming block of the south-west is a low fertility area. Fertility rates are particularly low in the two municipalities adjoining Brandon. The outer fringe of low income subsistence farming shows considerably higher rates. In the central area near Winnipeg and Portage-la-Prairie, livestock and dairying predominate, and incomes are high on account of the urban market. In this region there is considerable variety in fertility rates.

Clearly both farm revenue and culture-type are significantly associated with variations in fertility. Farm type does not appear to add anything to the picture except in so far as grain farming is associated with high farm revenue and a high percentage of English mother-tongue.



MAP. 8. Standardized Fertility Rates for Rural Municipalities, Manitoba.

Fertility rates were cross-classified according to percentage English mother-tongue and average farm revenue. The means of the classes so obtained are shown in Table LXXXVI. There is a marked rise in fertility rates within each income group as the percentage of English mother-tongue falls. We can distinguish some variations among the non English-speaking municipalities. The mainly French-speaking districts, and those with a large Mennonite group, tend to have particularly high fertility rates for their revenue, which is in some cases very high. On the other hand, some of the mainly Teutonic-speaking districts north of Winnipeg have rather low fertility rates.

TABLE LXXXVI.—MEAN STANDARDIZED FERTILITY RATES OF RURAL MUNICIPALITIES, MANITOBA, CLASSIFIED BY PERCENTAGE ENGLISH MOTHER-TONGUE AND GROSS FARM REVENUE

Gross farm revenue	Percentage English mother-tongue				
	Less than 20 p.c.	20-39 p.c.	40-59 p.c.	60-79 p.c.	80 p.c. and over
Less than $800—					
Number of municipalities	14	9	3	1	1
Mean standardized fertility rate	3·86	3·52	3·12	2·56	2·40
$800—$1,199—					
Number of municipalities	5	8	6	3	4
Mean standardized fertility rate	3·88	3·16	3·13	2·77	2·34
$1,200—$1,599—					
Number of municipalities	3	2	4	8	15
Mean standardized fertility rate	3·63	3·22	2·64	2·41	2·25
$1,600—$1,999—					
Number of municipalities	4	2	-	4	7
Mean standardized fertility rate	3·54	3·14	-	2·42	2·23
$2,000 and over—					
Number of municipalities	2	-	1	4	5
Mean standardized fertility rate	3·70	-	2·72	2·54	2·17

Within each English-language group, the relation between farm revenue and fertility is not so clear. In every case, fertility rates are higher in the first two classes where gross farm revenue is below $1,200. This is true whether the low income districts are on the fringe of the grain area or in the definitely subsistence farming districts. Though there is a suggestion that fertility rates tend to be higher in the very high income districts, there is no very definite change of fertility with income above $1,200. This latter phenomenon is contrary to general experience, and in view of the small number of cases and the variety of culture-types represented, too much weight cannot be attached to it. In the homogenous English-speaking Protestant districts, there is a slight but continuous trend downwards in fertility as farm revenue increases.

Another feature of Table LXXXVI is relevant to the Manitoba situation. The number of municipalities in each revenue and language class is shown. We see that the foreign language families are on the whole concentrated in the poorer districts, while the more prosperous, or those operating on a larger scale, are predominantly of English mother-tongue. This suggests that the lower fertility of the English-speaking at the same farm income level is in part a result of a group tradition based on a higher level of prosperity.

An alternative presentation is shown in Table LXXXVII and Figure 46. The municipalities are classified by culture-types in the way previously described. After putting together some with few items, six culture-types remain—Mennonite (over 15 p.c. Mennonite), majority French mother-tongue, majority Slavonic mother-tongue, majority Teutonic mother-tongue, majority English mother-tongue but with more than 15 p.c. in one of the other language groups, predominantly English mother-tongue. Some of the high fertility districts which are predominantly French-speaking or Mennonite are now seen to be not unexpected in relation to other districts of these culture-types. Fig. 46 shows some trend towards smaller families with higher incomes. It also emphasizes again the low income level of the predominantly foreign speaking parts. The predominantly Slavonic-speaking occur only in the lowest income group. Places where there are considerable numbers of Mennonites are exceptions. Although all but one have a majority with mother-tongues other than English there are proportionately more of these places in the highest income groups than of those in any other culture group.

Figure 46

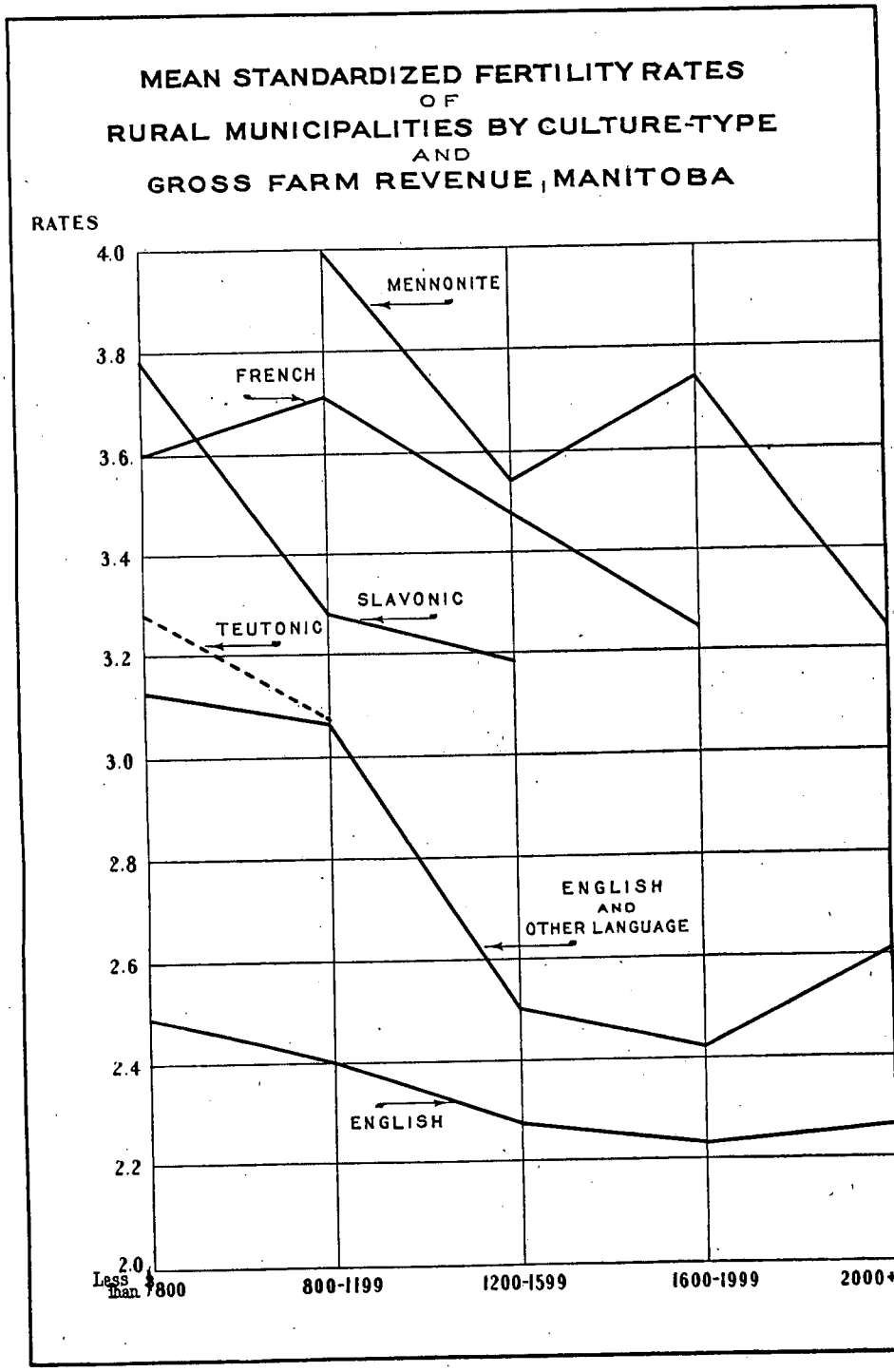

MEAN STANDARDIZED FERTILITY RATES
OF
RURAL MUNICIPALITIES BY CULTURE-TYPE
AND
GROSS FARM REVENUE, MANITOBA
RATES
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
MENNONITE
FRENCH
SLAVONIC
TEUTONIC
ENGLISH AND OTHER LANGUAGE
ENGLISH
Less than $800
800-1199
1200-1599
1600-1999
2000+

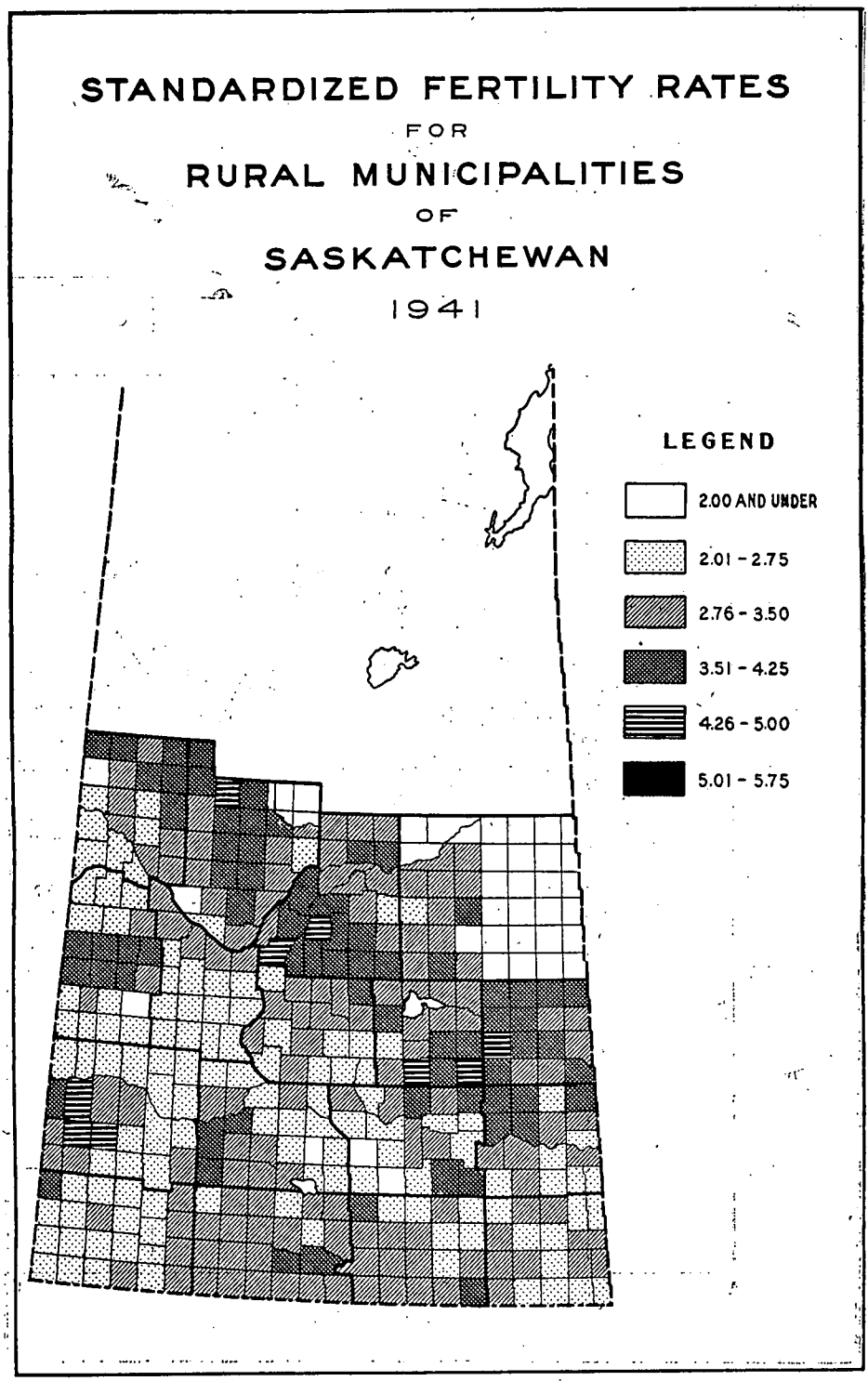
TABLE LXXXVII.—MEAN STANDARDIZED FERTILITY RATES OF RURAL MUNICIPALITIES, MANITOBA, CLASSIFIED BY CULTURE-TYPE AND GROSS FARM REVENUE

Gross farm revenue	Culture-type					
	V Mennonite	F French	S Slavonic	T Teutonic	Ex English and other mother-tongues	E English
Less than $800—						
Number of municipalities	–	2	19	2	3	2
Mean standardized fertility rate	–	3·60	3·78	3·28	3·12	2·48
$800—$1,199—						
Number of municipalities	2	3	5	4	7	5
Mean standardized fertility rate	3·92	3·71	3·28	3·07	3·06	2·40
$1,200—$1,599—						
Number of municipalities	4	–	1	–	10	17
Mean standardized fertility rate	3·54	–	3·18	–	2·50	2·27
$1,600—$1,999—						
Number of municipalities	2	4	–	–	4	7
Mean standardized fertility rate	3·74	3·24	–	–	2·42	2·23
$2,000 and over—						
Number of municipalities	3	–	–	–	3	6
Mean standardized fertility rate	3·24	–	–	–	2·61	2·26

Saskatchewan

Saskatchewan is one of the least industrialized provinces of Canada and the great majority of the rural population is engaged in agriculture. It is more a one-crop province than Manitoba. Though the importance of grain varies from about a third of the crop-work units to nearly 80 p.c. in individual municipalities, it is the principal crop everywhere except in the Northern fringe and a small section of the south-west. There is, however, some variation in soil type and a great deal in gross farm revenue. Even in the predominantly grain regions, some areas are really subsistence farms with negligible cash incomes, while, in other parts, gross farm revenue in 1940 was as high as $4,000 or $5,000. As in the other Prairie Provinces, a wide diversity of cultural types is present, and again we see that on the whole the European-speaking and foreign-born groups tend to occur in the poorer fringe areas. This connection is perhaps less marked in Saskatchewan, where English-speaking Protestant groups are fairly widely dispersed, and there is a concentration of German-speaking persons in the most prosperous part of the prairie grain area.

Map 9 shows standardized fertility rates for rural municipalities. We see again a general tendency for fertility to be low in the prosperous prairie grain region and high in the fringe areas, but again with many exceptions. The large number of rural municipalities permits of analysis in some detail. In the first instance, municipalities were classified by the economic strata used in sampling. The strata were based mainly on income and type of farm. They were:—A, low income, low percentage grain, transitional soils; B, low income, medium percentage grain, park soil belt; C, medium income, medium percentage grain, park soils; D, low income, high percentage grain, prairie soils; E, medium income, high percentage grain, prairie soils; F, high income, high percentage grain, prairie soils. Thus A, B, and C, are mainly subsistence, dairy and livestock farms, while D, E, and F, cover the grain region proper. Farm revenue in D was intermediate between strata B and C. Table LXXXVIII shows mean standardized fertility rates of municipalities classified by culture-type and economic strata. Fig. 47 shows the same figures diagrammatically, with the strata arranged in order of average farm revenue from lowest to highest. The low income subsistence farm stratum shows definitely the highest fertility in all the mainly English-speaking groups. In these groups there is no significant difference between strata B, C, and D. In the two higher income grain-growing strata, E and F, fertility rates are lower, with a suggestion of a slight rise in the highest income group. As previously noted, the very high farm revenues may not necessarily indicate a higher standard of living, but only a higher turnover.



MAP. 9. Standardized Fertility Rates for Rural Municipalities, Saskatchewan

Figure 47

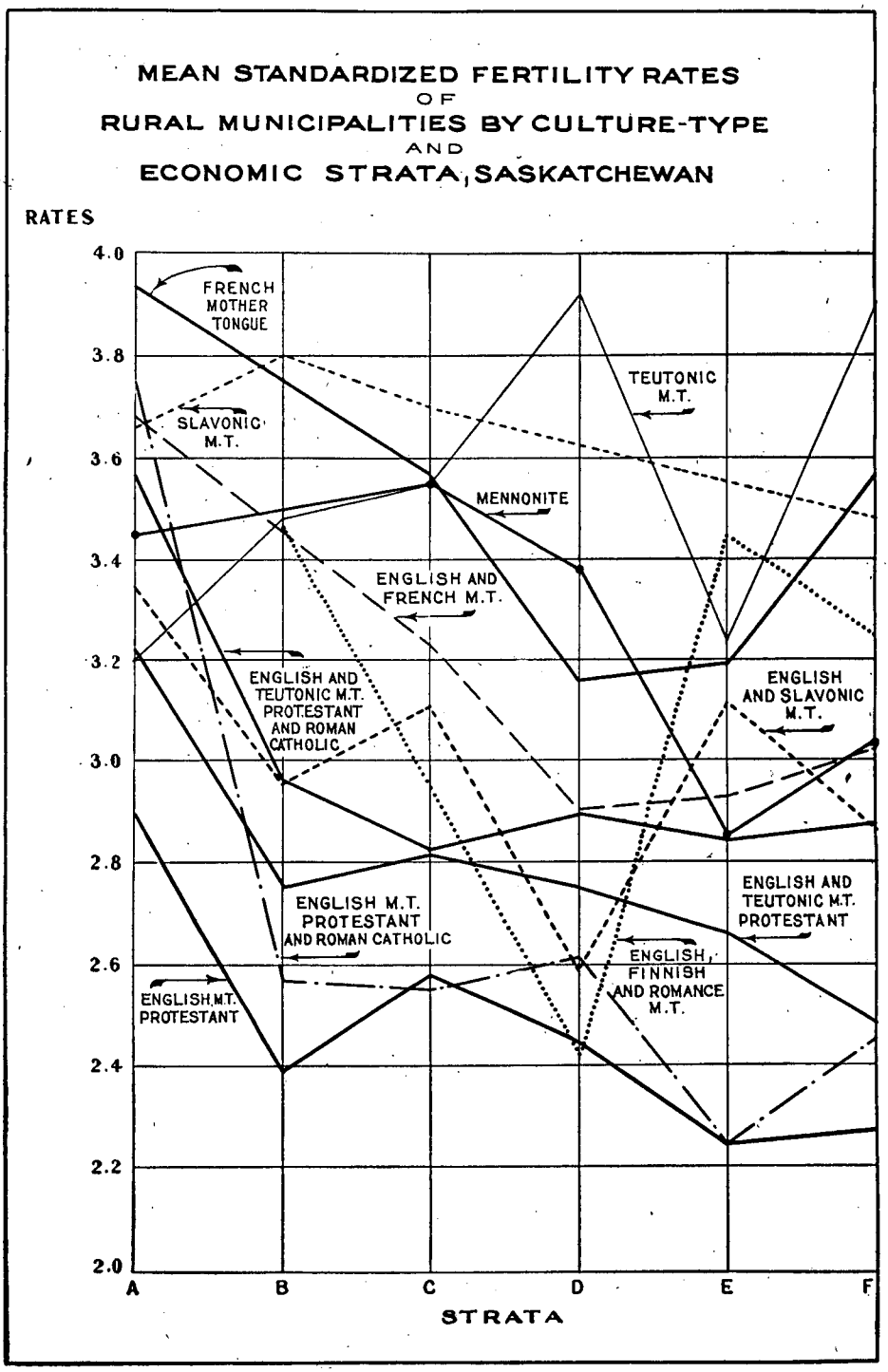

MEAN STANDARDIZED FERTILITY RATES
OF
RURAL MUNICIPALITIES BY CULTURE-TYPE
AND
ECONOMIC STRATA, SASKATCHEWAN
RATES
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
FRENCH MOTHER TONGUE
SLAVONIC M.T.
TEUTONIC M.T.
MENNONITE
ENGLISH AND FRENCH M.T.
ENGLISH AND TEUTONIC M.T. PROTESTANT AND ROMAN CATHOLIC
ENGLISH AND SLAVONIC M.T.
ENGLISH M.T. PROTESTANT AND ROMAN CATHOLIC
ENGLISH AND TEUTONIC M.T. PROTESTANT
ENGLISH, FINNISH AND ROMANCE M.T.
ENGLISH M.T. PROTESTANT
A
B
C
D
E
F
STRATA

TABLE LXXXVIII.—MEAN STANDARDIZED FERTILITY RATES OF RURAL MUNICIPALITIES CLASSIFIED BY CULTURE-TYPE AND ECONOMIC STRATA, SASKATCHEWAN

Culture-type	Strata											
	A		B		C		D		E		F	
	X	+	X	+	X	+	X	+	X	+	X	+
Eε—English mother-tongue, Protestant	2	2·90	5	2·39	13	2·58	10	2·44	12	2·24	12	2·27
Eεφ—English mother-tongue, Protestant and Roman Catholic	1	3·75	4	2·57	5	2·55	5	2·61	5	2·24	6	2·45
ETε—English and Teutonic mother-tongue, Protestant	1	3·22	8	2·75	5	2·81	8	2·75	7	2·66	11	2·48
ETεφ—English and Teutonic mother-tongue, Protestant and Roman Catholic	9	3·57	8	2·96	8	2·82	21	2·89	9	2·84	15	2·87
ES—English and Slavonic mother-tongue	12	3·35	4	2·95	2	3·10	2	2·59	1	3·11	2	2·86
EF—English and French mother-tongue	5	3·68	–	–	6	3·23	4	2·90	1	2·93	3	3·02
EU, R—English, Finnish and Romance mother-tongue	–	–	6	3·46	–	–	1	2·42	2	3·44	3	3·25
T—Teutonic mother-tongue	2	3·20	10	3·48	5	3·55	2	3·92	6	3·24	14	3·90
S—Slavonic mother-tongue	14	3·66	13	3·80	7	3·70	–	–	–	–	1	3·48
F—French mother-tongue	4	3·93	–	–	1	3·57	2	3·16	1	3·19	1	3·57
V—Mennonite	5	3·45	–	–	6	3·55	6	3·38	4	2·85	3	3·03

X = Number of municipalities.
+ = Mean standardized fertility rates.

Since variations in type of farming do not appear to be independently significant, the relation between farm revenue and fertility is shown more directly in Table LXXXIX and Fig. 48. The culture groups most alike have been combined in order to obtain an adequate number of areas in the critical revenue region. This appears to be about $1,250 to $1,500. Up to this point there is a fairly consistent decline in fertility. As farm revenue rises beyond this point, there is a small decline in the homogeneous English-speaking group, but none in the more mixed groups, while the predominantly European language group shows a marked rise. As already mentioned, this is associated with the presence of German-speaking Catholics with large families in the most prosperous part of the grain-growing area. Evidently families of this size are incompatible with the type of farm living indicated by the 1940 revenue and the situation is a highly unstable one. If one can suppose that these areas experienced somewhat similar conditions during and immediately after World War I, then the abrupt declines in current fertility in Saskatchewan during the last ten years are adequately explained. Gross reproduction rates are not available for separate municipalities, but are known for the rural and village parts of census divisions as a whole. The rate of fall between 1931 and 1941 was particularly steep throughout Saskatchewan and the 1941 rates low. This was markedly so in the case of the division containing municipalities which combine high income and high fertility.

The number of Mennonites in the group classified in this way varies from 15 p.c. to 90 p.c. Mean fertility ranges from high in the lower income class to moderate in others. A previous chapter has shown exceptionally large completed families for Saskatchewan Mennonites. While fertility rates of this section are not strictly comparable since they are based on women of all ages, the high fertility of the predominantly Mennonite areas is in agreement with the previous result. We find that fertility is also high where a minority language forms a compact block in an area and is thus culturally isolated from the prevailing reproductive pattern. The mean fertility rate of those municipalities where over 85 p.c. report a European mother-tongue is 4·32.

Figure 48

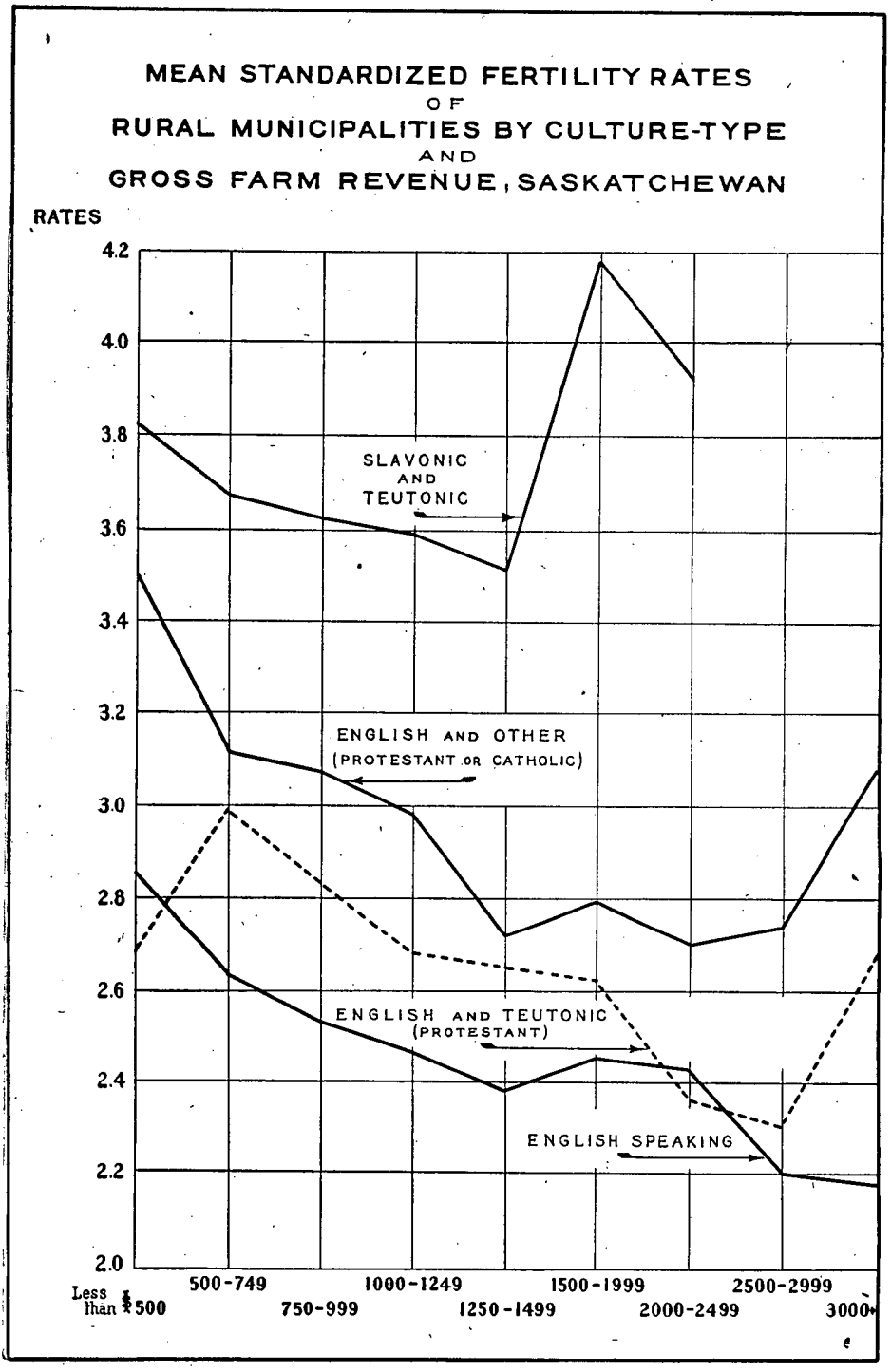

MEAN STANDARDIZED FERTILITY RATES
OF
RURAL MUNICIPALITIES BY CULTURE-TYPE
AND
GROSS FARM REVENUE, SASKATCHEWAN
RATES
4.2
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
SLAVONIC AND TEUTONIC
ENGLISH AND OTHER (PROTESTANT OR CATHOLIC)
ENGLISH AND TEUTONIC (PROTESTANT)
ENGLISH SPEAKING
Less than $500
500-749
750-999
1000-1249
1250-1499
1500-1999
2000-2499
2500-2999
3000+

TABLE LXXXIX.—MEAN STANDARDIZED FERTILITY RATES OF RURAL MUNICIPALITIES, SASKATCHEWAN, CLASSIFIED BY CULTURE-TYPE AND GROSS FARM REVENUE

Gross farm revenue	Culture-type			
	E English mother-tongue	E, T, ϵ English and Teutonic mother-tongue Protestant	E, χ, ϵ, φ English and other mother-tongue Protestant or Catholic	S, T Slavonic and Teutonic mother-tongue
Less than $500—				
Number of municipalities	5	2	11	7
Mean standardized fertility rate	2·85	2·68	3·50	3·82
$500–$749—				
Number of municipalities	7	4	14	14
Mean standardized fertility rate	2·63	2·99	3·11	3·67
$750–$999—				
Number of municipalities	10	8	25	22
Mean standardized fertility rate	2·53	2·83	3·07	3·62
$1,000–$1,249—				
Number of municipalities	10	10	14	13
Mean standardized fertility rate	2·46	2·68	2·93	3·59
$1,250–$1,499—				
Number of municipalities	14	4	8	11
Mean standardized fertility rate	2·38	2·65	2·72	3·51
$1,500–$1,999—				
Number of municipalities	16	5	13	5
Mean standardized fertility rate	2·45	2·62	2·79	4·18
$2,000–$2,499—				
Number of municipalities	5	1	5	2
Mean standardized fertility rate	2·43	2·36	2·70	3·92
$2,500–$2,999—				
Number of municipalities	6	4	2	–
Mean standardized fertility rate	2·20	2·30	2·74	–
$3,000 and over—				
Number of municipalities	7	2	1	–
Mean standardized fertility rate	2.17	2·68	3·12	–

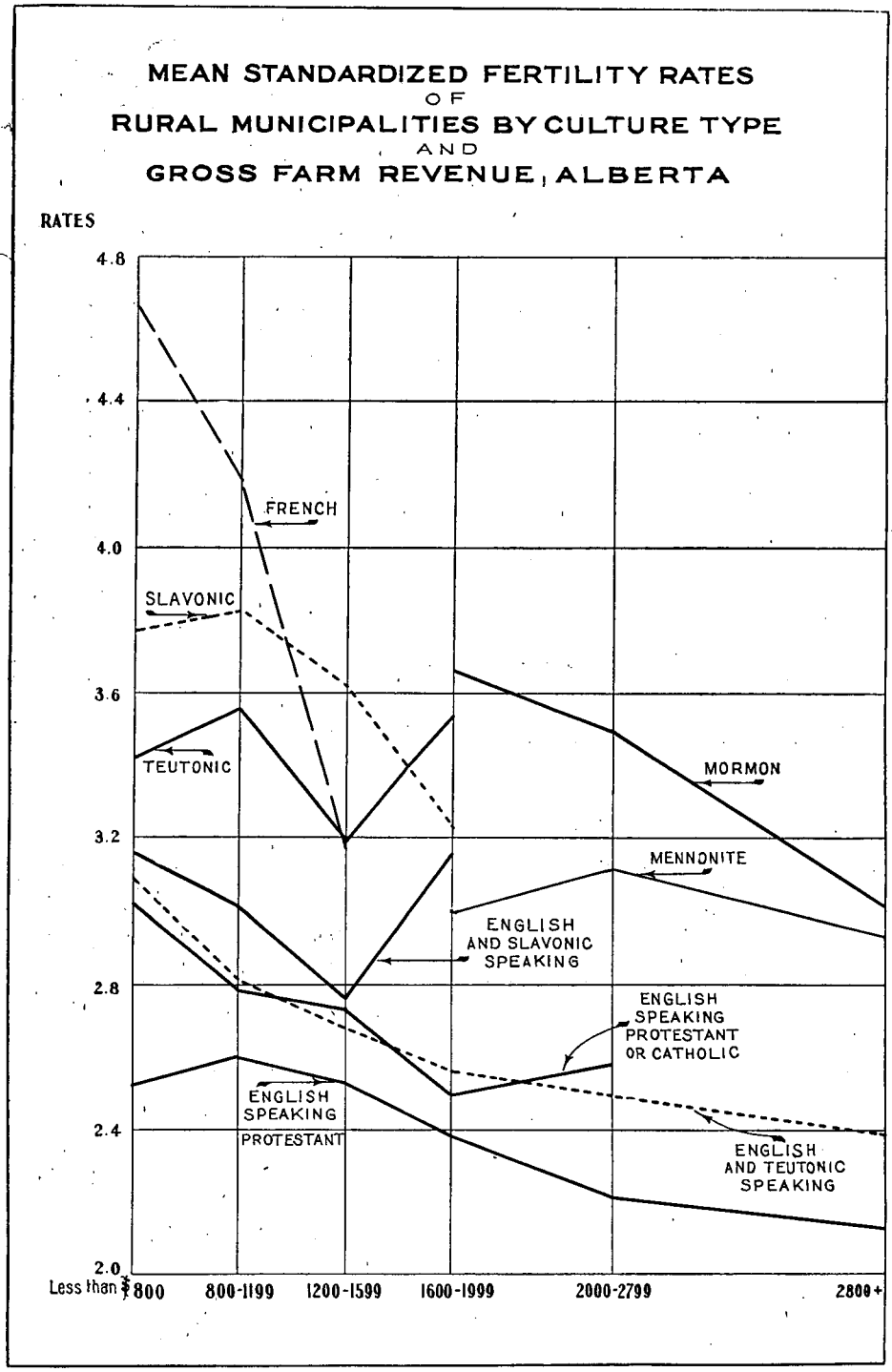
Alberta

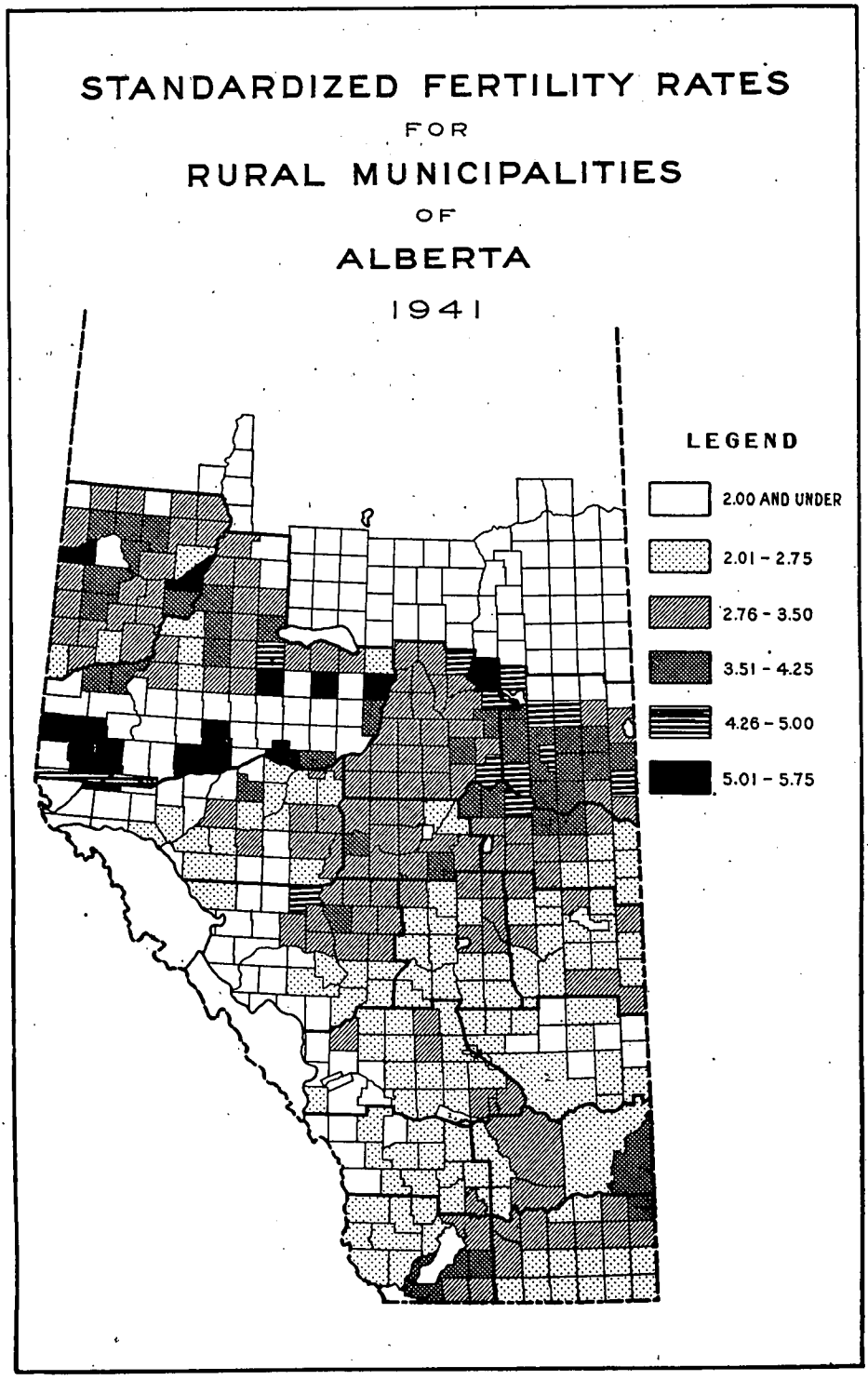
Alberta is not so predominantly a grain growing province as Saskatchewan, but grain is sufficiently important over a continuous strip along the lower part of the eastern border to delimit a grain-growing stratum. Along the western border, coal, oil, and the resort industry occupy a part of the rural population and form a rural non-farm stratum. In three strata no one type of farming predominated, so the central section was classified according to farm revenue. The most prosperous stratum included the sugar-beet and irrigation districts. Finally, as in the other Prairie Provinces, there is a northern fringe of subsistence farming, with much trapping and lumbering.

Map 10 shows standardized fertility rates for Alberta. Both the fringe area and the region of the next lowest farm income show uniformly high fertility rates, though there are some low rates where the fringe section adjoins the park areas. Fertility is on the whole low in the non-farm areas and in the more prosperous grain growing and mixed farming areas. High fertility rates in a prosperous section can be seen where a part of the grain area is German-speaking. In this part of the province there are large Mennonite and Mormon minorities.

In Table XC, municipalities have been classified by culture-type and average farm income. Rural non-farm districts, those where there were less than 50 married women, and those belonging to culture-types with few representatives, have all been omitted. The same data with single cases omitted are shown in Fig. 49. The picture is similar to that obtained from the other two Prairie Provinces. As before, there is clearly a sharp decline in the fertility of all culture-types as we pass from subsistence farming with little cash revenue up to a gross revenue of $1,200—$1,600. Unlike the other two provinces, there is here some indication of a further gradual decline in family size as farm revenue increases beyond this point. The decline is most clearly seen

Figure 49


MEAN STANDARDIZED FERTILITY RATES
OF
RURAL MUNICIPALITIES BY CULTURE TYPE
AND
GROSS FARM REVENUE, ALBERTA
RATES
4.8
4.4
4.0
3.6
3.2
2.8
2.4
2.0
FRENCH
SLAVONIC
TEUTONIC
MORMON
MENNONITE
ENGLISH AND SLAVONIC SPEAKING
ENGLISH SPEAKING PROTESTANT OR CATHOLIC
ENGLISH SPEAKING PROTESTANT
ENGLISH AND TEUTONIC SPEAKING
Less than $800
800-1199
1200-1599
1600-1999
2000-2799
2800+



MAP. 10. Standardized Fertility Rates for Rural Municipalities, Alberta.

among English-speaking Protestant communities. Manitoba also showed a decline in fertility at the highest income levels among similar communities. The few districts with considerable Mormon populations are all in the more prosperous areas and on the average have larger families than any other culture-type at comparable income levels.

TABLE XC.—AVERAGE STANDARDIZED FERTILITY RATES OF RURAL MUNICIPALITIES, ALBERTA

Culture-type	Gross farm revenue											
	Less than $800		$800–$1,199		$1,200–$1,599		$1,600–$1,999		$2,000–$2,799		$2,800 and over	
	X	+	X	+	X	+	X	+	X	+	X	+
Eϵ	6	2·52	5	2·60	12	2·53	4	2·38	6	2·21	5	2·12
Eϵφ	8	3·02	4	2·78	3	2·73	4	2·49	2	2·58	–	–
ET	17	3·09	10	2·81	17	2·68	18	2·56	12	2·49	6	2·39
ES	13	3·16	6	3·01	4	2·76	1	(3·16)	–	–	–	–
T	2	3·42	2	3·56	8	3·19	1	(3·54)	–	–	–	–
S	14	3·77	10	3·83	7	3·62	1	(3·28)				
V	1	(3·10)			1	(3·27)	3	2·99	4	3·12	4	2·93
μ	–	–	–	–	–	–	2	3·66	1	(3·50)	1	(3·01)
F	1	(4·66)	2	4.17	1	(3·17)	–	–	–	–	–	–

X = Number of municipalities.
+ = Average standardized fertility rates.

9. Summary of Sections 7 and 8

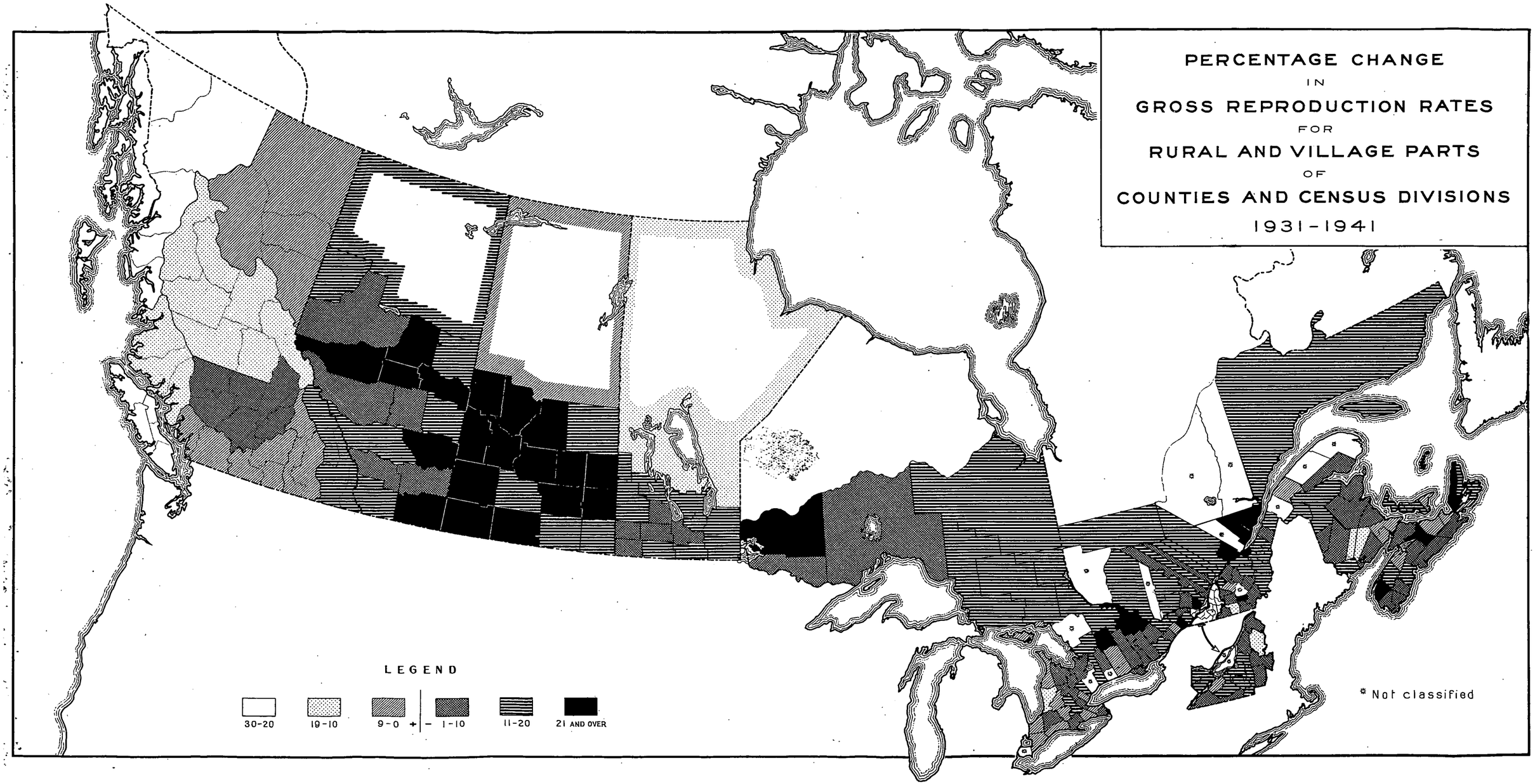
The last two sections fill a gap in the economic analysis of Chapter VI. Economic data about farming families were limited to a small and possibly biassed sample. For non wage-earners as a whole, when difference in occupation and educational status were allowed for, family size fell with increased value of home only in the British ethnic group. The economic index used in the present chapter, gross farm revenue, includes the effect of changing educational status, a variable held constant in the earlier chapter. The combined effect of both economic and educational status is here clearly evident at lower socio-economic levels. The absence of discrimination at higher levels agrees with earlier conclusions. Although the difference in response between mainly English mother-tongue communities and others was suggested rather than demonstrated above, this also agrees with the description in Chapter VI of economic variation in French and British culture groups.

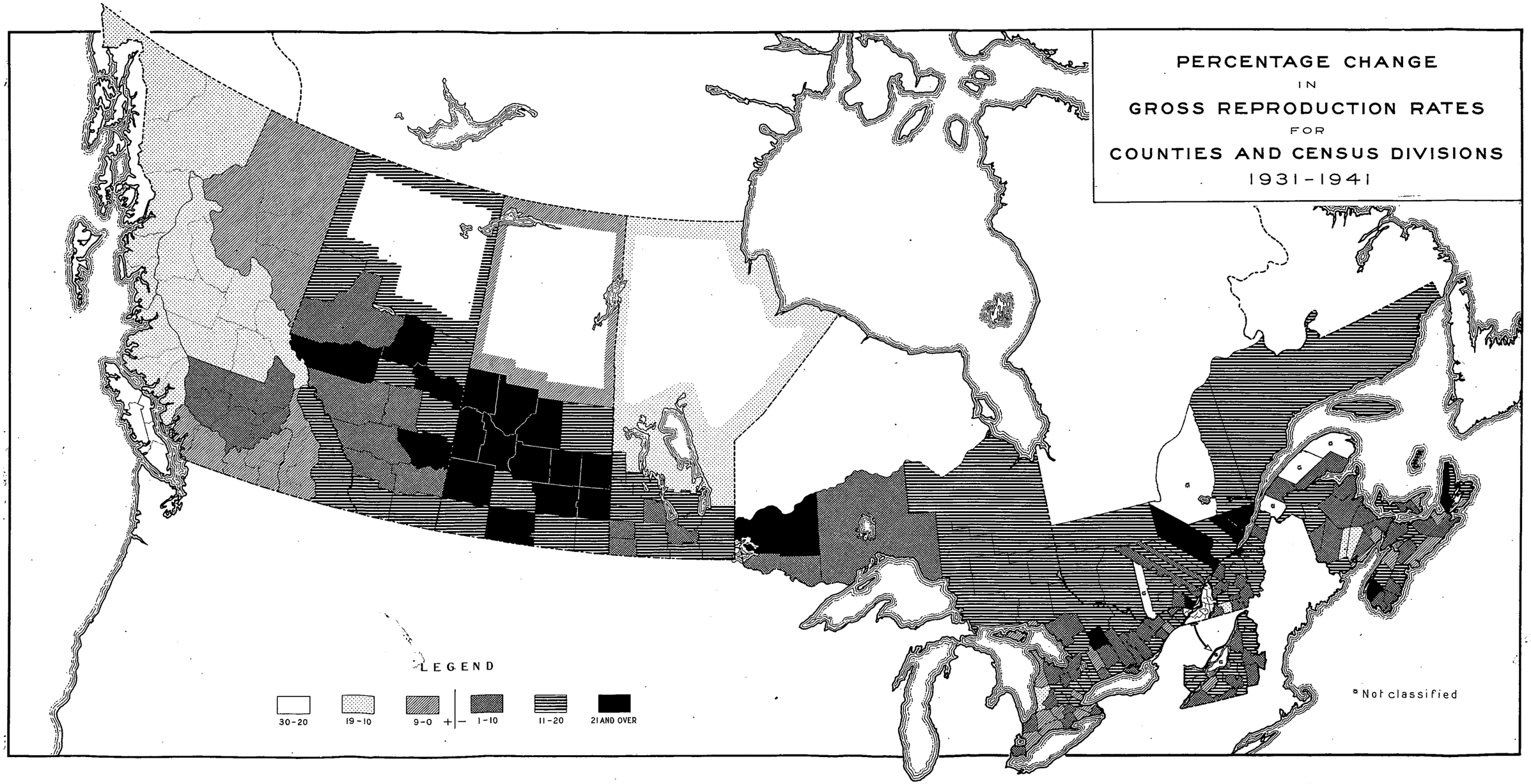
(i) Mean fertility rates are given for rural parts of counties classified according to culture-type and further sub-divided into semi-urban, rural non-farm, and farm districts. The average rate for the semi-urban districts was considerably lower than for rural non-farm and farm districts and was nearer to the Canadian urban average.

(ii) Fertility of the predominantly farming counties was found to vary with both culture-type and with gross farm revenue. These two factors together accounted for 85 p.c. of the variance in fertility.

(iii) Variation of fertility with gross income was greatest in the mainly French-speaking Catholic districts, but was also clearly shown in the predominantly English-speaking Protestant districts.

(iv) Both the figures for all Canada and also a more detailed analysis of Prairie rural districts indicate that the greatest effect of increasing farm prosperity on family size occurs at quite low economic levels. Above a point estimated at $1,400—$2,000 gross farm revenue, there is a little evidence of a further fall in family size, except perhaps in English-speaking Protestant districts.


PERCENTAGE CHANGE
IN
GROSS REPRODUCTION RATES
FOR
RURAL AND VILLAGE PARTS
OF
COUNTIES AND CENSUS DIVISIONS
1931-1941
LEGEND
30-20
19-10
9-0
+
-
1-10
11-20
21 AND OVER
* Not classified


PERCENTAGE CHANGE
IN
GROSS REPRODUCTION RATES
FOR
COUNTIES AND CENSUS DIVISIONS
1931-1941
LEGEND
30-20
19-10
9-0
+
-
1-10
11-20
21 AND OVER
Not classified

CHAPTER VIII

SOCIAL CHARACTERISTICS OF CITIES AND TOWNS

The excessively small metropolitan family is only one of the disquieting aspects of the aggregation of population into dense urban masses. Even before modern weapons of war put a premium on location in open country, the city was growing of its own momentum to a point where the increasing difficulties of living far outweighed any possible compensations. The reasons commonly given for the small city family are the high cost of living, lack of suitable housing, absence of open spaces. While all these things clearly affect the welfare of the family, they may not necessarily be the actual reasons for limiting its size. The character of a city or town affects family attitudes and family welfare in a variety of ways. The present chapter explores some of the social characteristics of cities and towns which are related to family size and family welfare.

Some of the ways in which the average size of family in cities and towns can vary have been indicated in earlier chapters. We found that family size was smallest in metropolitan cities, and that this distinction held in general for all occupations. Montreal is an apparent exception to the rule that "million cities" are never capable of reproducing themselves, but fertility in that city is lower than in other Quebec towns, and is rapidly declining to a characteristic metropolitan level. French-speaking towns have usually larger families than English-speaking ones and regional differences already described are reflected in the urban figures. Yet within the framework of what is already known, considerable differences between cities and towns are found. Quebec urban centres show an especially wide range of variation which is not always easily explained. Some of these differences will be clarified in the subsequent section, where several social characteristics are considered simultaneously in order to give a more complete description of urban fertility. The second section does not add anything to the explanation of variations in family size, but attempts to relate these more specifically to family welfare on the basis of the housing data available for city areas.

1. Factor Analysis of Cities and Towns

The subject matter of the present section consists of the 151 Canadian cities and towns with over 5,000 inhabitants. Nineteen characteristics are studied, of which two are indices of total and current fertility respectively. The method adopted is that of factor analysis*. Since the data we have consist, on the one hand, of fertility rates, and on the other, of descriptions of the town such as percentage French-speaking, average earnings, etc., some form of correlational approach seems indicated. A straight correlation analysis would regard fertility as the dependent variable and would ascertain how much of the variation in fertility was associated with variations in other characteristics. In the present scheme of factor analysis, all variables are treated alike, and we try to describe the relations between a large number of variables in terms of a very few factors which are statistically independent. Since the use of this method in sociology is comparatively new, the present section may be regarded as an experiment in technique. For this reason we shall not attempt any concrete interpretation of the "factors" disclosed. They will be regarded primarily as a summary description of the property of simultaneous variation among a set of characteristics. If the result is to clarify somewhat our picture of urban life as it affects the size of the family, further work on these lines may lead to the testing out of more fruitful hypotheses.

Owing to the small size of many of the populations, the figures used are subject to considerable random error. This is less marked with standardized fertility rates, which are based mainly on the whole reproductive experience of the older women. Sampling variation can be very large for gross reproduction rates which are based only on births for a single year. The same consideration applies to some of the other variables used which are subject to rapid short term changes.

* Appendix F gives a brief account of the method.

Description of Variables

The variables employed in the analysis are listed below. All data were obtained from the Census of June, 1941 and from the Vital Statistics of 1941.

1. Size of population.
2. Density of population—Number of persons per square mile.
3. Housing cost index. This was based on median monthly rental of rented homes and median value of owned homes.
4. Percentage owned homes.
5. Index of economic inequality. This was an attempt to measure whether householders tended to be mostly near the same level of poverty or wealth or included a larger number at both extremes. Since home values and rentals are the only indications of income available for both wage-earners and others, the index was based on the percentage of householders in the class containing the median value of home and the two adjoining classes.
6. Percentage Canadian-born.
7. Percentage English mother-tongue.
8. Percentage Roman Catholic.
9. Percentage farm-born.
10. Percentage gainfully occupied in Trade and Finance occupations.
11. Percentage gainfully occupied in Service occupations.
12. Percentage gainfully occupied in Primary occupations. In urban places, this is nearly equivalent to recording the percentage in Mining, though the figures for Mining alone were not available.
13. Percentage of those engaged in Manufacturing industries who were in textile occupations.
14. Percentage of women among the gainfully occupied.
15. Average earnings of wage-earners.
16. Standardized fertility rate.
17. Gross reproduction rate, 1941. Both 16 and 17 are based on the total female population. Hence, variations in proportions married as a factor in fertility are not taken account of in the present analysis.
18. Infant mortality rate, 1941.
19. Index of educational level—ratio of those with 13 or more years schooling to those with 9–12 years schooling.

The selection of variables necessarily affects to some extent the resulting picture. Since this inquiry is primarily concerned with fertility, all those variables believed to be connected with it were included. Other variables have been included, both for their general interest and to avoid prejudging the issue. Selection of another sort is unavoidable since we are limited by practical considerations to variables which can be easily calculated from census or vital statistics data. It is always possible that with different sources of data and with another angle of approach, a different, though not necessarily contradictory, analysis would result. The fertility rates and gross reproduction rates used are given in Table 11 (Part II).

Correlation Matrix

Table XCI gives the intercorrelations of the 19 variables described on page 164

TABLE XCI—CORRELATION MATRIX

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. Size																			
2. Density	+0·403																		
3. Housing cost	+0·114	+0·460																	
4. P.c. owned homes	−0·259	−0·507	−0·094																
5. Economic inequality	+0·231	−0·043	+0·135	−0·005															
6. P.c. Canadian-born	−0·140	+0·002	−0·245	−0·384	−0·167														
7. P.c. English mother-tongue	−0·023	−0·151	+0·132	+0·569	+0·273	−0·562													
8. P.c. Roman Catholic	−0·006	+0·173	−0·188	−0·581	−0·270	+0·703	−0·935												
9. P.c. farm-born	−0·187	−0·105	−0·270	−0·139	−0·001	+0·289	−0·218	+0·168											
10. P.c. Trade and finance occupations	+0·189	+0·063	+0·379	+0·119	+0·452	−0·305	+0·427	−0·463	−0·057										
11. P.c. Service occupations	+0·083	+0·036	+0·253	−0·113	+0·498	−0·052	+0·080	−0·101	+0·089	+0·553									
12. P.c. Primary occupations	−0·080	−0·165	−0·298	+0·156	−0·088	+0·039	+0·054	+0·055	−0·055	−0·188	−0·191								
13. P.c. Textile occupations	+0·044	+0·091	−0·088	−0·351	−0·110	+0·339	−0·269	+0·289	+0·211	−0·233	−0·124	−0·212							
14. P.c. women gainfully occupied	+0·192	+0·367	+0·343	−0·426	+0·196	+0·178	−0·182	+0·169	+0·238	+0·138	+0·299	−0·449	+0·555						
15. Average earnings	+0·007	+0·173	+0·693	+0·151	+0·041	−0·328	+0·223	−0·260	−0·345	+0·327	−0·388	−0·113	−0·294	−0·049					
16. Standardized fertility rate (total fertility)	−0·123	−0·037	−0·425	−0·316	−0·324	+0·607	−0·756	+0·839	+0·145	−0·532	−0·292	+0·293	+0·113	−0·209	−0·343				
17. Gross reproduction rate (current fertility)	−0·179	−0·058	−0·433	−0·152	−0·266	+0·525	−0·511	+0·597	+0·121	−0·530	−0·391	+0·328	+0·067	−0·339	−0·369	+0·857			
18. Infant mortality rate	−0·024	+0·031	−0·275	−0·250	+0·009	+0·531	−0·385	+0·474	+0·198	−0·224	+0·081	+0·101	+0·233	+0·062	−0·397	+0·460	+0·370		
19. Educational level	+0·048	+0·160	+0·695	+0·154	+0·247	−0·299	+0·340	−0·396	−0·158	+0·391	+0·350	−0·304	−0·142	+0·218	+0·542	−0·561	−0·456	−0·317	

The first step in factor analysis is to reverse the signs of certain of the variables to obtain as many positive correlations as possible. This was done for variables 6, 8, 9, 12, 13, 16, 17, 18. Hence in what follows these variables should be read as:

6. Percentage foreign-born.
8. Percentage Protestant.
9. Percentage city-born.
12. Percentage not in mining.
13. Percentage not in textiles.
16. Low total fertility.
17. Low current fertility.
18. Low infant mortality.

While these descriptions are less accurate than those previously given, they will make the argument easier to follow.

Factor Pattern

After a preliminary averoid solution was carried out, various methods of rotation were tried.* Though some difference in the order of the variables responsible for small amounts of variance were found, all solutions yielded essentially similar results for fertility and the variables most markedly associated with it. The solution to be presented is that arrived at by the Hotelling method†. Table XCII presents the factor loadings of the first two factors thus obtained, omitting those variables with a factor loading of less than 0·250. For the second factor the signs of variables 4, 7, 8, and 13, were reversed. In Table XCII they are given positive signs with the appropriate description. Again, somewhat loose descriptions of the variables are used in order to give a clearer picture.

TABLE XCII.—FACTOR LOADINGS OF FIRST TWO FACTORS FOR 151 CITIES AND TOWNS

First factor Small families—Commerce		Second factor Wage-earning women	
Variable	Factor loading	Variable	Factor loading
16. Low total fertility	+0·90		
8. Protestant	+0·86		
17. Low current fertility	+0·80		
7. English-speaking	+0·78	14. Employed women	+0·76
6. Foreign-born	+0·70		
19. Higher education	+0·65	4. Rented homes	+0·64
10. Trade and finance	+0·62		
3. Housing cost	+0·55	2. Density	+0·55
18. Low infant mortality	+0·54		
15. Earnings	+0·52	3. Housing cost	+0·49
		12. No mining	+0·47
		13. Textiles	+0·41
		7. French and European languages	+0·40
4. Owned homes	+0·39	11. Service	+0·39
5. Economic inequality	+0·36	8. Catholic	+0·36
13. No textiles	+0·32	1. Size	+0·32
11. Service	+0·29	19. Higher education	+0·30
9. City-born	+0·27	17. Low current fertility	+0·26
Contribution of factor to variance	5·579		2·820

The contribution of the third factor (not shown) to total variance was 1·673. Only the first two factors are associated with a significant part of the variance of the two fertility variables. The first factor alone accounts for 80 p.c. of the variation in standardized total fertility, while the first and second factors together account for 72 p.c. of the variation in current fertility.

* Vide Appendix F.

† H. Hotelling. "Analysis of a Complex of Statistical Variables into Principal Components", Journ. Ed. Psych. Sept., Oct., 1933.

The first factor could be described as a "small family" factor. It suggests that almost every aspect of our present civilization is reflected in reproductive behaviour and that family size is the most unambiguous expression of the current culture. Most closely associated with low fertility are the characteristics—English-speaking, Protestant, trading—and next, those which represent a high level of prosperity, or perhaps more correctly, a high social status. The latter include high educational level, high home values, low infant mortality, and high average earnings. The percentage foreign-born is a reflection of the percentage English-speaking. The higher fertility of the non-English speaking foreign-born is lost beneath the reverse effect of the higher fertility of the French-speaking who are exclusively Canadian-born. Since the decline of fertility with size of urban centre is well established, it is surprising not to see population and density among the significant components of the "small family" factor. There are several reasons for this. One is that the least fertile parts of metropolitan cities, such as Forest Hill, Outremont, and Westmount, are treated here as separate cities. If they had been given the population size of the metropolitan area of which they form a part, the relation between size and low fertility would have been clearer. Secondly, out of the 151 cities and towns analysed, 124 are in the size group, 5,000 to 30,000, and within this group size is not significantly related to fertility. Finally, although population size accounts for an insignificant part of the total variation in fertility, yet when big differences in size are involved as in the case of the metropolitan cities, it accounts for a considerable part of the first-factor loadings of these cities. The method employed emphasizes continuous covariance. It would be contrary to common sense to suppose that a small increment in population size would have any effect on fertility. The discontinuous effect of great size is given its due weight in the classification of cities described in the next section.

The second factor is primarily an "employment of women" factor. It distinguishes first of all the textile towns, and secondarily, those with numbers of women in clerical and service occupations from those where the economy is dominated by mining or heavy industry and there are few employment opportunities for women. The inverse association of this factor with the variables, Protestant and English-speaking, is due to the concentration of the textile industry in Quebec. Apparent contradictions in the arrangement of the variables representing the second factor is due to the fact that deviations in two quite different types of town, service and textile, are represented by the one factor. The absence of association between employment of women and total fertility may be accounted for by the fact that standardized fertility is largely weighted by the reproductive experiences of older women. At an earlier time, fewer women were gainfully employed. The proportion has risen from 139 per thousand in 1891 to 227 per thousand in 1941. Also, the geographical location of the older women who are or have been gainfully occupied may not correspond to that of the younger generation.

Classification of Cities and Towns by Factor Loadings of Two Factors

One of the most promising applications of factor analysis to sociological problems is in the field of classification*. We frequently need to group population units according to their degree of resemblance in more than one characteristic. It has been demonstrated that maximum homogeneity in a set of characteristics can be obtained by grouping units according to the values of a composite index which is defined as the sum of the first-factor loading for each characteristic multiplied by the standard score for that characteristic. This will be referred to as the first-factor index. Most usually the type of classification desired is a regional one, achieved by including geographical co-ordinates among the characteristics. The classification of the present section is not a regional one. It is based on the first-factor loadings for the 19 variables previously described.

The resulting classification of cities and towns is shown in the first six columns of Table XCIII. Cities and towns were arranged in order of their first-factor index. The groups were divided arbitrarily in order to display most effectively the relation between the first-factor index and fertility levels. The table has some general interest since the cities and towns so grouped are those most alike in all the 19 characteristics used in the analysis. Obviously the same process can be extended to classify units simultaneously by more than one set of factor loadings. Although more elaborate methods of computation are known, this has been done rather simply in Table XCIII by computing the second-factor index for all units and dividing each first-factor group into three second-factor groups according to the level of the second-factor index. This was done in order to account for part of the variation of the gross reproduction rate within groups which are fairly homogeneous with respect to total fertility.

* M. J. Hagood, N. Danilevsky and C. O. Beum. "An Examination of the Use of Factor Analysis in the Problem of Sub-regional Delineation", Rural Sociology. Vol. 6, No. 7, Sept., 1941.

TABLE XCIII.—CITIES AND TOWNS CLASSIFIED BY FIRST- AND SECOND-FACTOR INDICES

First-factor class						Second-factor sub-class (a)			
First factor class	Number of cities and towns	Mean first factor index	Mean standardized fertility rate	Mean 1941 gross reproduction rate	Mean p.c. fall gross reproduction rate 1931–41	Cities and towns	Mean second factor index	Mean standardized fertility rate	Mean 1941 gross reproduction rate
					P.c.				
I	7	+11·1	1·25	0·71	+3·9	Outremont Westmount	+8·4	1·21	0·38
II	59	+4·0	1·66	1·12	−5·4	Halifax Fredericton St. Lambert Brockville Belleville Chatham Hamilton Kingston London Ottawa Windsor Woodstock Winnipeg Regina Saskatoon Weyburn Edmonton	+1·4	1·64	1·02
III	25	+1·5	1·88	1·29	−3·7	Charlottetown Truro Moncton Saint John St-Laurent Guelph Kitchener Peterborough Welland	+1·5	1·76	1·17
IV	22	−1·6	2·26	1·47	−7·7	Yarmouth Campbellton Lachine Longueuil Montreal Verdun Cornwall	+3·2	2·29	1·31
V	31	−7·1	2·96	1·76	−21·0	Drummondville Granby Joliette Québec City St-Hyacinthe St-Jean Sherbrooke Trois-Rivières Valleyfield	+4·7	2·56	1·54
VI	7	−12·4	4·04	2·55	−18·5	Montmorency St-Joseph-de-Grantham	+4·2	3·96	2·22

TABLE XCIII.—CITIES AND TOWNS CLASSIFIED BY FIRST- AND SECOND-FACTOR INDICES—Con.

Second-factor sub-class

(b) Cities and towns	Mean second factor index	Mean standardized fertility rate	Mean 1941 gross reproduction rate	(c) Cities and towns	Mean second factor index	Mean standardized fertility rate	Mean 1941 gross reproduction rate
Forest Hill Toronto	+5·6	1·23	0·70	Leaside Swansea Vancouver	−0·7	1·28	0·94
Barrie Brampton Brantford Cobourg Dundas Fort Erie Galt New Toronto Niagara Falls Preston St. Catharines St. Thomas Sarnia Simcoe Stratford Waterloo Weston Brandon Swift Current Yorkton Calgary Victoria	−0·8	1·60	1·10	Fort William Kenora Long Branch Mimico Oshawa Port Hope Smith's Falls Thorold Whitby Moose Jaw Lethbridge Medicine Hat Kamloops Kelowna Nanaimo Nelson New Westminster North Vancouver Prince Rupert Vernon	−2·4	1·74	1·22
Dartmouth New Glasgow Lindsay North Bay Orillia Port Colborne St. Boniface Prince Rupert	−1·0	1·99	1·27	Collingwood Fort Frances Ingersoll Leamington Owen Sound Port Arthur Sault Ste. Marie Trail	−2·6	1·91	1·46
Summerside Amherst Sydney Pembroke Renfrew Sudbury Trenton Portage la Prairie	−1·0	2·19	1·52	North Sydney Stellarton Montreal N. Midland Parry Sound Timmins Transcona	−3·4	2·31	1·58
Edmundston Chicoutimi Grand'Mère Hull Lachute Lévis Magog Rivière-du-Loup St-Jérôme Shawinigan Falls Sorel Victoriaville Eastview Hawkesbury	+1·7	3·09	1·74	Glace Bay New Waterford Springhill Sydney Mines La Tuque Lauzon Rouyn Thetford Mines	−4·3	3·24	2·08
Cap-de-la-Madeleine Kénogami	−0·2	3·78	2·44	Asbestos Jonquière St-Joseph-d'Alma	−1·6	4·28	2·83

Table XCIII shows six first-factor classes. Mean standardized fertility rises from a rate of 1·25 in Class I, to a rate of 4·04 in Class VI. More than a third of the cities and towns are to be found in Class II, with a mean standardized rate of 1·66. Although this class covers a wide range of first-factor indices, total fertility is very similar in all the towns. Such differences as exist are probably local and insignificant. This indicates the trend towards a uniformly low pattern of urban family size. The first-factor index is most effective in distinguishing, first, the exceptionally low fertility of two metropolitan cities, Toronto and Vancouver, and of the wealthy suburbs of Montreal and Toronto; and, second, the greater variation among the high fertility mainly French-speaking towns.

Turning to the second-factor sub-class, within each first-factor class are shown—(a), high second-factor, (b), medium second-factor, and (c), low second-factor, sub-classes. While total fertility does not differ consistently between sub-classes, in each case current fertility is lowest in sub-class (a) and highest in sub-class (c). The difference is often considerable. In sub-class I (a) we find the phenomenally low gross reproduction rates of Outremont and Westmount. In sub-classes V(a) and VI (a) we find the principal Quebec textile towns, Drummondville, St-Hyacinthe, St-Jean, Valleyfield, Granby and St-Jospeh-de-Grantham. In the (c) sub-classes we find the mining towns of Cape Breton and Quebec, together with Timmins and most of the pulp towns of Quebec. In sub-class (c) are also found all but one of the British Columbia towns. This agrees with the recent tendency to higher gross reproduction rates in that province.

Table XCIII also summarizes the percentage fall in gross reproduction rates between 1931 and 1941 for each first-factor class. 17 towns were not in the 5,000 class in 1931 and hence are not included in the figures for mean percentage fall. The changes were erratic on account of random local variations, accentuated by rapidly rising fertility rates in 1941. Yet on the whole we see clearly that the higher gross reproduction rates decreased by a much larger proportion than the lower rates. This is especially marked in some of the Quebec towns which still have very high fertility rates and indicates the effect of urban life on populations with the high fertility characteristic of an isolated rural environment. The Canadian urban experience is in line with the tendency everywhere for very different fertility rates to approach the same uniform low level.

To avoid the imputation of circular reasoning, it may be well to reiterate that the fertility rates used are themselves components of the factor indices, so that Table XCIII is primarily a table of ordered fertility classes. Its significance is that the classes so formed also share a number of other social characteristics. Some interest, therefore, attaches to those cases where the fertility rates differ markedly from expectation. These can be found by comparing the means of Table XCIII with the individual fertility rates shown in Table 11 (Part II). We shall confine comment to the larger towns. In two cases both the standardized fertility rate and the gross reproduction rate differ markedly from expectation (more than 20 p.c. and 30 p.c. respectively), so that we must look for local characteristics of a fairly permanent nature leading in St-Hyacinthe to exceptionally low fertility and in Chicoutimi to exceptionally high fertility. Where the standardized fertility rate differs from expectation but the gross reproduction rate does not, one may suggest that the character of the town is changing so that the fertility of the older women does not reflect present circumstances. In this group are found:—(a) fertility lower than expectation, Victoria, Sherbrooke; (b) fertility higher than expectation, Fort William, Medicine Hat, North Bay, Montreal. Finally, where total fertility agrees with expectation but current fertility does not, one would expect that localized war-time developments have led to a rapidly rising birth rate. In this group there are five towns, all with gross reproduction rates higher than expectation—Chatham, Barrie, Cornwall, Sudbury and Thetford Mines. The explanation offered appears to be valid at least for the four Ontario towns.

Summary

Low fertility, both of older women and of those now bearing children, was found to be associated with a high proportion of English-speaking persons and of Protestants, with high proportions engaged in trade and finance, and with a high level of social status and prosperity. The current rate of reproduction was independently affected by the proportion of women in gainful occupations, especially when employed in the textile industry, and to a less extent when employed in service occupations. The order of first-factor variables agrees with the conclusions of Chapter VI. According to both methods, cultural variables and educational status were

shown to be the most important variables associated with family size. In the earlier chapter, a large part of the variation apparently associated with earnings and value of home was found to be in fact dependent on occupational differences and we find here also that the proportion of persons employed in white-collar occupations occupies a high place.

When all the social characteristics of urban places are considered together, it is significant that the greater part of the relationship can be referred to a first factor whose principal component is low fertility. This can be interpreted as indicating that every aspect of social life influences reproductive behaviour. Since group correlation coefficients reflect as well the process by which the group is selected, the result suggests that the composition of the urban community may be itself an agent tending to intensify and perpetuate similarity in family attitudes among the residents of a given type of city.

To suggest an interpretation of the different components, the first and second factors have been given names, "small family—commerce" and "wage-earning women", respectively. The first reflects a commercial profit-seeking culture, historically most fully developed in Protestant countries. In Canada, trade and finance find their most successful practitioners in that part of the population which had its origin in English-speaking countries. The second factor has been called "wage-earning women" to emphasize that work done by women in the home and on the farm is not incompatible with large families. In Canada, the factor also describes the fact that the towns primarily dependent on manufactures employing many women are crowded and mainly French and Catholic. It thus shows the effect of current economic conditions on a population with a tradition of large families.

2. The Impact of Poverty on the Urban Family

In the last section, we have discussed the fertility of individual towns and cities. At the same time there are great differences both in prosperity and in average family size within our larger cities. The present section carries the analysis of urban fertility further by considering the different wards of a few large cities. Though little new light is to be expected on the factors associated with declining fertility, the economic data available for city sub-districts enable us to form a clearer picture of how city living conditions affect the welfare of the family and of social stratification within a city.

The 1941 Census conducted a special housing survey of one in every ten occupied dwellings. Tables were prepared, covering wage-earner households only, for wards or combinations of wards to correspond with areas for which fertility data were available. The standardized fertility rates shown relate to the same areas as the remainder of the data. They apply to all women whereas the economic data only refer to wage-earner households. Districts in which less than 50 p.c. of the household heads were wage-earners have not been included in the study. From previous work, we know that the average size of family of urban non-wage-earners is somewhat smaller than that of urban wage-earners. The differences in the proportions of wage-earners among the districts discussed in this section are not likely to affect the comparability of their fertility rates by more than about 3 p.c. Since the preparation of these tables was somewhat laborious, the study is confined to fourteen cities. Some especially heterogeneous cities were included. Possibly social distinctions might be less clear-cut in the cities not discussed.

Social Conditions at Different Levels of Fertility

Earlier chapters have demonstrated repeatedly that in general the more prosperous communities and social groups have fewer children than the less prosperous. Since the decline in fertility has not progressed as far in Canada as in many other countries of the Western World, the differences are usually very marked and only rarely do we approach that low level of fertility where differences become obliterated and the poor have as small families as the rich. As we would expect, the same state of affairs is found when we compare the different districts of our larger cities, and there is little point in repeating a result shown more clearly in other ways. Hence, the data are presented in a different way. The subsequent paragraphs are intended to show the impact of poverty on the urban large family. Following on this, we shall discuss the geographical location of social groups at different levels of fertility. Variations of fertility with

earnings cannot be compared directly with the results of Chapter VI. Not only have we now included women of all ages, but also, in the present material, variations in the economic levels of wards are associated with variations in culture-type and educational status. In the previous chapter, the effect of the two latter variables was separated from the effect of earnings.

In Table XCIV wards of fourteen cities have been grouped according to fertility levels, those with standardized fertility rates of over 2·8 children per woman, those with rates between 2·6 and 2·8, and so on. Certain cities have been combined, e.g., Ottawa and Hull. At each fertility level, unweighted averages are given of—(a), value of owner-occupied dwellings, (b), monthly rent of tenant-occupied dwellings, (c), family earnings, (d), rooms per person, (e), percentage of sub-standard dwellings. These are shown for cities and combined cities separately and for all the wards of all fourteen cities taken together. Value of home and rental were not included where the number of cases in the ward sample was less than ten. For the purpose of these tables, the sub-standard dwelling was defined as "any dwelling in need of external repair (as defined in the enumerator's instructions), any dwelling without private toilet, or any without electric lighting". The standard is somewhat more drastic than that adopted later.

In discussing Table XCIV it may be helpful to remember that in 1941 the average number of children ever-born to women of all ages for all Canada was 2·25. The fertility rates shown are comparable rates since differences in age composition are allowed for. The standardized rate for British Columbia was 1·67 and at that time the province had a net reproduction rate of 1·07. Standardized rates of less than 1·6 children are hence those of communities which are probably not replacing themselves. At the other extreme, the highest fertility rates of Table XCIV represent quite rapidly increasing populations. The figure given for all Canada includes both rural and urban populations, so naturally more urban wards are below the Canadian level than above it. We should have seen this more clearly were it not for the fact that cities were selected for study which were above the urban average in fertility. The reason was that they are likely to show a great diversity of social conditions.

A familiar pattern is repeated clearly in the wards of the fourteen cities shown. Comparing the two highest fertility levels with the two lowest, we see that, where families are very large, average family earnings are between $800 and $1,200. Where families are very small, average family earnings range between $1,300 and $2,800, with the majority about $2,000. Since the family income has to provide for more people, differences in living conditions are even greater than the earnings figures would indicate. Typically, in the large family districts the value of the owned home is about $2,100, the monthly rental paid about $18, households are overcrowded and nearly half the homes are sub-standard. In contrast, where families are very small, the value of the owned home is about $5,000, monthly rental paid is about $40, the smaller households allow for 1·4 rooms per person, and less than a quarter of the homes are sub-standard.

Compared with the worst European slums, there is no extreme overcrowding in Canada. For the whole of Glasgow and most of the Clydeside in 1931, the average was two persons per room. No district in any of the fourteen cities falls to this level. Yet the member of a large family is handicapped compared with the child in a family of one or two children by lack of privacy and by a congested and rather squalid neighbourhood. Though the average for a ward may not indicate general overcrowding, yet in districts with one person per room or a little over quite a large proportion of homes may be overcrowded and some of them seriously so. This is seen in the housing maps published at the 1941 Census of Housing. Among those which have already appeared, Halifax and Ottawa show areas as large as one or more wards where more than 30 p.c. of the wage-earner households are overcrowded.

TABLE XCIV.—HOUSING AND ECONOMIC CONDITIONS OF CITY WARDS[1] (14 CITIES) ACCORDING TO FERTILITY LEVEL

Standardized fertility rates	Quebec and Three Rivers		Montreal		Ottawa and Hull		Saint John and Halifax	
	Mean value of owner-occupied dwellings							
	Number of wards	Value	Number of wards	Value	Number of wards	Value	Number of wards	Value
		$		$		$		$
Over 2·8	10	2,500	10	2,215	3	1,577	–	–
2·79–2·60	1	1,971	6	2,049	2	3,081	1	750
2·59–2·40	1	2,500	7	2,903	1	4,850	–	–
2·39–2·20	1	3,531	8	2,692	1	2,375	3	1,980
2·19–2·00	–	–	4	2,872	1	3,368	–	–
1·99–1·80	–	–	–	–	1	4,000	2	3,258
1·79–1·60	1	6,045	2	3,340	2	4,766	1	2,083
1·59–1·40	–	–	2	5,318	1	4,895	–	–
1·39–1·20	1	7,971	3	6,148	3	6,051	–	–
Less than 1·20	–	–	2	6,663	1	7,353	1	5,870
	Mean rent of tenant-occupied dwellings							
	Number of wards	Rent	Number of wards	Rent	Number of wards	Rent	Number of wards	Rent
		$		$		$		$
Over 2·8	10	18·1	14	17·0	4	16·8	–	–
2·79–2·60	1	18·0	14	18·3	2	21·5	–	–
2·59–2·40	3	22·0	9	20·9	1	27·0	–	–
2·39–2·20	1	25·0	12	21·2	1	25·0	4	19·8
2·19–2·00	–	–	12	22·1	1	29·0	1	18·0
1·99–1·80	1	35·0	5	24·8	1	37·0	3	22·0
1·79–1·60	1	39·0	5	22·0	2	38·0	2	20·0
1·59–1·40	1	28·0	4	33·5	1	35·0	1	23·0
1·39–1·20	1	52·0	4	54·8	3	43·0	1	27·0
Less than 1·20	–	–	8	43·4	1	47·0	1	40·0
	Mean family earnings							
	Number of wards	Earnings	Number of wards	Earnings	Number of wards	Earnings	Number of wards	Earnings
		$		$		$		$
Over 2·8	10	1,066	14	1,020	4	1,114	–	–
2·79–2·60	1	810	14	1,018	2	1,206	1	797
2·59–2·40	3	1,024	9	1,239	1	1,209	–	–
2·39–2·20	1	1,363	12	1,122	1	1,094	4	1,069
2·19–2·00	–	–	12	1,221	1	1,465	1	961
1·99–1·80	1	1,642	5	1,167	1	1,935	3	1,236
1·79–1·60	1	1,668	5	931	2	1,898	2	1,142
1·59–1·40	1	1,150	4	1,514	1	1,942	1	1,219
1·39–1·20	1	2,565	4	2,754	3	2,093	1	1,455
Less than 1·20	–	–	8	1,702	1	1,962	1	1,892
	Mean number of rooms per person							
	Number of wards	Rooms	Number of wards	Rooms	Number of wards	Rooms	Number of wards	Rooms
		No.		No.		No.		No.
Over 2·8	10	0·92	14	0·94	4	0·95	–	–
2·79–2·60	1	0·80	14	0·98	2	1·05	1	1·10
2·59–2·40	3	0·93	9	1·04	1	1·00	–	–
2·39–2·20	1	1·00	12	1·09	1	1·00	4	1·08
2·19–2·00	–	–	12	1·11	1	1·10	1	1·30
1·99–1·80	1	1·10	5	1·18	1	1·50	3	1·27
1·79–1·60	1	1·20	5	1·08	2	1·30	2	1·30
1·59–1·40	1	1·00	4	1·28	1	1·50	1	1·40
1·39–1·20	1	1·30	4	1·55	3	1·37	1	1·40
Less than 1·20	–	–	8	1·35	1	1·40	1	1·30
	Mean percentage of sub-standard dwellings							
	Number of wards	Per-centage	Number of wards	Per-centage	Number of wards	Per-centage	Number of wards	Per-centage
Over 2·8	10	48	14	39	4	68	–	–
2·79–2·60	1	76	14	38	2	50	1	94
2·59–2·40	3	58	9	26	1	40	–	–
2·39–2·20	1	47	12	22	1	52	4	55
2·19–2·00	–	–	12	28	1	27	1	66
1·99–1·80	1	17	5	21	1	12	3	49
1·79–1·60	1	27	5	28	2	20	2	38
1·59–1·40	1	41	4	16	1	28	1	27
1·39–1·20	1	8	4	7	3	16	1	29
Less than 1·20	–	–	8	20	1	14	1	37

[1] In some cases two or more wards have been combined in the fertility and housing tables. The numbers of wards given refer to wards or combined wards.

TABLE XCIV.—HOUSING AND ECONOMIC CONDITIONS OF CITY WARDS[1] (14 CITIES) ACCORDING TO FERTILITY LEVEL—Con.

Standardized fertility rates	Saskatoon and Calgary		Winnipeg		Four Ontario cities[2]		14 cities	
	Mean value of owner-occupied dwellings							
	Number of wards	Value	Number of wards	Value	Number of wards	Value	Number of wards	Value
		$		$		$		$
Over 2·8	–	–	–	–	–	–	23	2,256
2·79–2·60	1	1,797	–	–	–	–	11	2,079
2·59–2·40	–	–	1	1,923	1	2,302	11	2,900
2·39–2·20	1	1,736	8	1,965	2	2,456	24	2,323
2·19–2·00	1	2,210	2	2,610	1	3,442	9	2,747
1·99–1·80	1	2,427	5	2,346	2	2,994	11	2,787
1·79–1·60	3	2,717	6	2,905	7	3,054	22	3,241
1·59–1·40	3	3,334	11	3,233	2	4,116	19	3,649
1·39–1·20	1	3,435	4	4,099	5	3,969	17	4,956
Less than 1·20	1	6,140	4	6,032	–	–	9	6,313
	Mean rent of tenant-occupied dwellings							
	Number of wards	Rent	Number of wards	Rent	Number of wards	Rent	Number of wards	Rent
		$		$		$		$
Over 2·8	–	–	–	–	–	–	28	18·1
2·79–2·60	1	18·0	–	–	–	–	18	18·6
2·59–2·40	–	–	3	18·7	1	22·0	17	21·1
2·39–2·20	1	16·0	8	16·9	2	21·5	29	19·9
2·19–2·00	1	19·0	2	18·0	1	25·0	18	21·8
1·99–1·80	1	24·0	9	21·4	2	25·5	22	24·1
1·79–1·60	3	25·3	6	30·2	7	24·6	26	26·7
1·59–1·40	5	27·6	13	32·2	2	29·5	27	31·0
1·39–1·20	1	28·0	4	38·8	5	30·8	19	40·2
Less than 1·20	1	41·0	9	45·8	–	–	20	44·6
	Mean family earnings							
	Number of wards	Earnings	Number of wards	Earnings	Number of wards	Earnings	Number of wards	Earnings
		$		$		$		$
Over 2·8	–	–	–	–	–	–	28	1,066
2·79–2·60	1	904	–	–	–	–	19	1,009
2·59–2·40	–	–	3	1,145	1	1,549	17	1,145
2·39–2·20	1	965	9	871	2	1,262	30	1,051
2·19–2·00	1	1,182	3	1,069	1	1,477	19	1,208
1·99–1·80	1	1,322	9	1,042	2	1,458	22	1,215
1·79–1·60	3	1,296	6	1,530	7	1,294	26	1,328
1·59–1·40	5	1,344	14	1,589	2	1,480	28	1,510
1·39–1·20	1	1,335	4	1,988	5	1,551	19	2,019
Less than 1·20	1	2,527	9	2,005	–	–	20	1,902
	Mean number of rooms per person							
	Number of wards	Rooms	Number of wards	Rooms	Number of wards	Rooms	Number of wards	Rooms
		No.		No.		No.		No.
Over 2·8	–	–	–	–	–	–	28	0·92
2·79–2·60	1	1·00	–	–	–	–	19	0·98
2·59–2·40	–	–	3	1·02	1	1·10	17	1·02
2·39–2·20	1	1·10	9	1·01	2	1·15	30	1·06
2·19–2·00	1	1·20	3	0·99	1	1·30	19	1·11
1·99–1·80	1	1·40	9	1·04	2	1·35	22	1·17
1·79–1·60	3	1·27	6	1·30	7	1·33	26	1·26
1·59–1·40	3	1·18	14	1·24	2	1·45	28	1·26
1·39–1·20	1	1·20	4	1·48	5	1·52	19	1·46
Less than 1·20	1	1·60	9	1·36	–	–	20	1·36
	Mean percentage of sub-standard dwellings							
	Number of wards	Per-centage	Number of wards	Per-centage	Number of wards	Per-centage	Number of wards	Per-centage
Over 2·8	–	–	–	–	–	–	28	48
2·79–2·60	1	60	–	–	–	–	19	45
2·59–2·40	–	–	3	40	1	44	17	40
2·39–2·20	1	66	9	66	2	34	30	44
2·19–2·00	1	50	3	50	1	47	19	36
1·99–1·80	1	50	9	47	2	33	22	37
1·79–1·60	3	40	6	29	7	38	26	32
1·59–1·40	3	41	14	29	2	24	28	29
1·39–1·20	3	48	4	21	5	29	19	20
Less than 1·20	1	19	9	19	–	–	20	22

[1] See footnote (1), page 173.
[2] London, Windsor, Kingston, Kitchener.

Figures for Montreal, Winnipeg, Quebec and Three Rivers, and for all the fourteen cities combined are shown graphically in Figs. 50-54. The charts show differences between cities associated with cultural composition and still more clearly the basic similarity of response to changing economic conditions. The same reduction in size of family with greater prosperity is found equally in the French-speaking Catholic cities and in those which are mainly English-speaking Protestant. Yet some characteristic variations can be seen. In Quebec, which is almost exclusively Roman Catholic and French-speaking, and is isolated from a different culture, family limitation has proceeded less far than in other cities. Hence, small families are associated with larger money incomes in Quebec than elsewhere. However, the graphs for Ottawa follow nearly the same course in districts where there is only a small French Catholic minority. The explanation may be the higher level of both incomes and cost of living in the Capital. In Montreal, the high-income small family districts are predominantly English-speaking and either Protestant or Jewish in religion. In Winnipeg, several wards are predominantly Slavonic-speaking. These are found at rather high fertility levels but they do not stand out in any way from the predominantly English-speaking districts. In contrast to the other cities, the four smaller cities of Ontario show relatively little economic differentiation. This is partly because they are not large enough to allow of much segregation in wards, and also because, at the Ontario urban level of low fertility and comparative prosperity, differences tend to become obliterated.

City Zones

It is often thought that there is a tendency for larger families to move to the outskirts of cities where rents are lower, houses rather than apartments are the rule, and there are more gardens and open spaces. The tendency is obscured, however, by the fact that new outlying suburbs are often occupied by prosperous middle class people with small families, while families may be quite large in some congested districts in the heart of a city. A pattern can, however, be discerned when each income level is considered separately. The wards of five cities, Montreal, Winnipeg, Quebec, Saint John, and the Ottawa metropolitan area, were examined to show the centrifugal tendency of the large family. The results are shown in the accompanying sketch maps (Maps 11-15). In each city the wards were divided into four income groups—A, B, C, D—in descending order according to average earnings of wage-earner heads. A had the highest earnings. Each group contained equal numbers of wards. Each income group was again divided equally according to fertility rates, Group 1 having the lowest fertility rate, Group 3 the highest. The wards in each group are shown in Table XCV.

When wards are mapped according to both income and fertility, we see first of all that there may be a concentration of the most prosperous districts in a part of the city made desirable by some natural feature, e.g., in Montreal round the Mont-Royal Park, in Winnipeg along the Assiniboine River, but there is otherwise no consistent pattern in the arrangement by prosperity levels. Wards in the highest income group are to be found scattered over all parts of the city. Similarly, some of the poorest districts are to be found in the heart of a city, others on the outskirts. But within each income group there is a quite clearly marked zoning. Those wards with the smallest families are found in the centre of the city, while the largest families occur on the fringe. Thus one can draw on the map of each city a central small family zone, containing both some of the richest and some of the poorest districts, and a less clearly marked fertile fringe, likewise containing districts at all income levels.

In Montreal the small family centre extends south-east and north-west of Sherbrooke and St. Catherine and north of Windsor station,* then spreads north-westward to take in all the area surrounding Mont-Royal Park. Contiguous to this area are the separate cities of Outremont and Westmount, where families are phenomenally small. The northern part of the area takes in the poor districts with smaller families, while to the south are the prosperous districts with extremely small families. The outer fertile fringe is less clearly defined. Within the city limits, the northeast corner, and the southeast districts east of Sherbrooke Street comprise districts in all income levels and all with high fertility for their respective earnings levels. At the northwestern city boundary, Ahuntsic ward falls in the highest income group and has relatively large families.

* Owing to a right-angled bend in the river, Sherbrooke St. runs nearer north-south than east-west, but it is conventionally regarded as running east-west and street directions are labelled accordingly. Readers confused by the above description of Montreal can refer to Map 11.

Figure 50

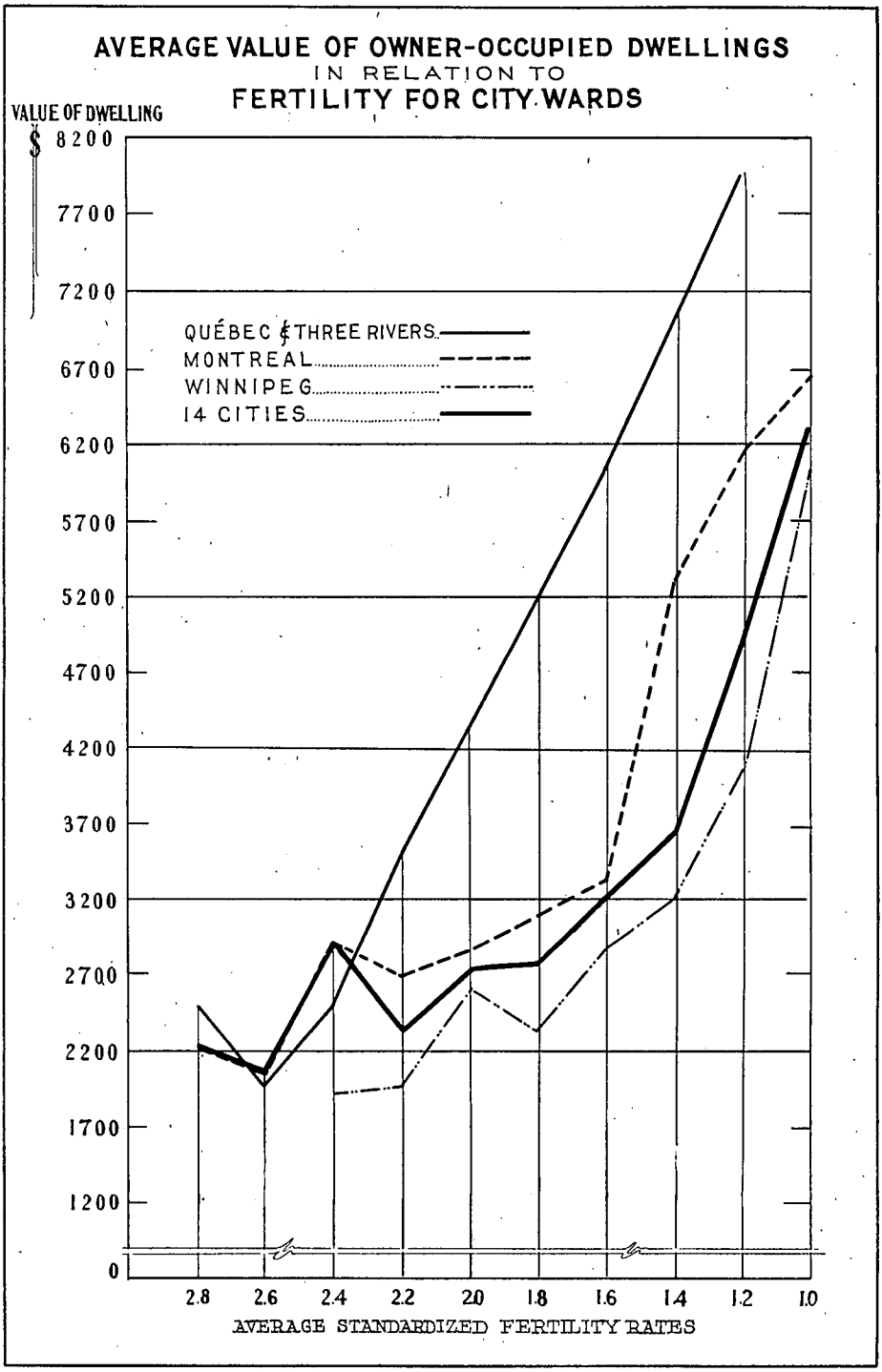

AVERAGE VALUE OF OWNER-OCCUPIED DWELLINGS
IN RELATION TO
FERTILITY FOR CITY WARDS
VALUE OF DWELLING
$ 8200
7700
7200
6700
6200
5700
5200
4700
4200
3700
3200
2700
2200
1700
1200
0
QUÉBEC & THREE RIVERS
MONTREAL
WINNIPEG
14 CITIES
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
AVERAGE STANDARDIZED FERTILITY RATES

Figure 51

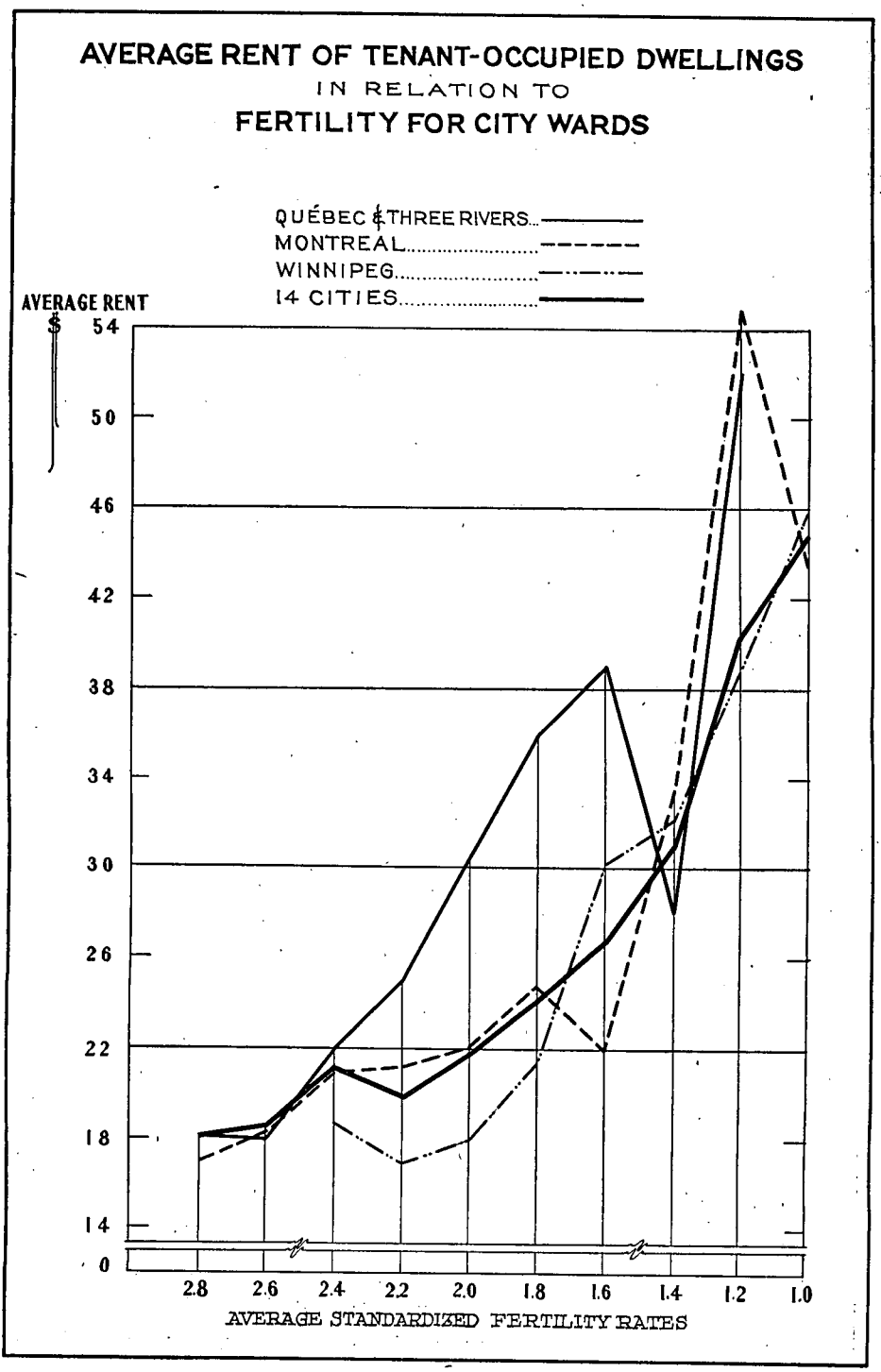

AVERAGE RENT OF TENANT-OCCUPIED DWELLINGS
IN RELATION TO
FERTILITY FOR CITY WARDS
QUÉBEC & THREE RIVERS
MONTREAL
WINNIPEG
14 CITIES
AVERAGE RENT
$
54
50
46
42
38
34
30
26
22
18
14
0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
AVERAGE STANDARDIZED FERTILITY RATES

Figure 52

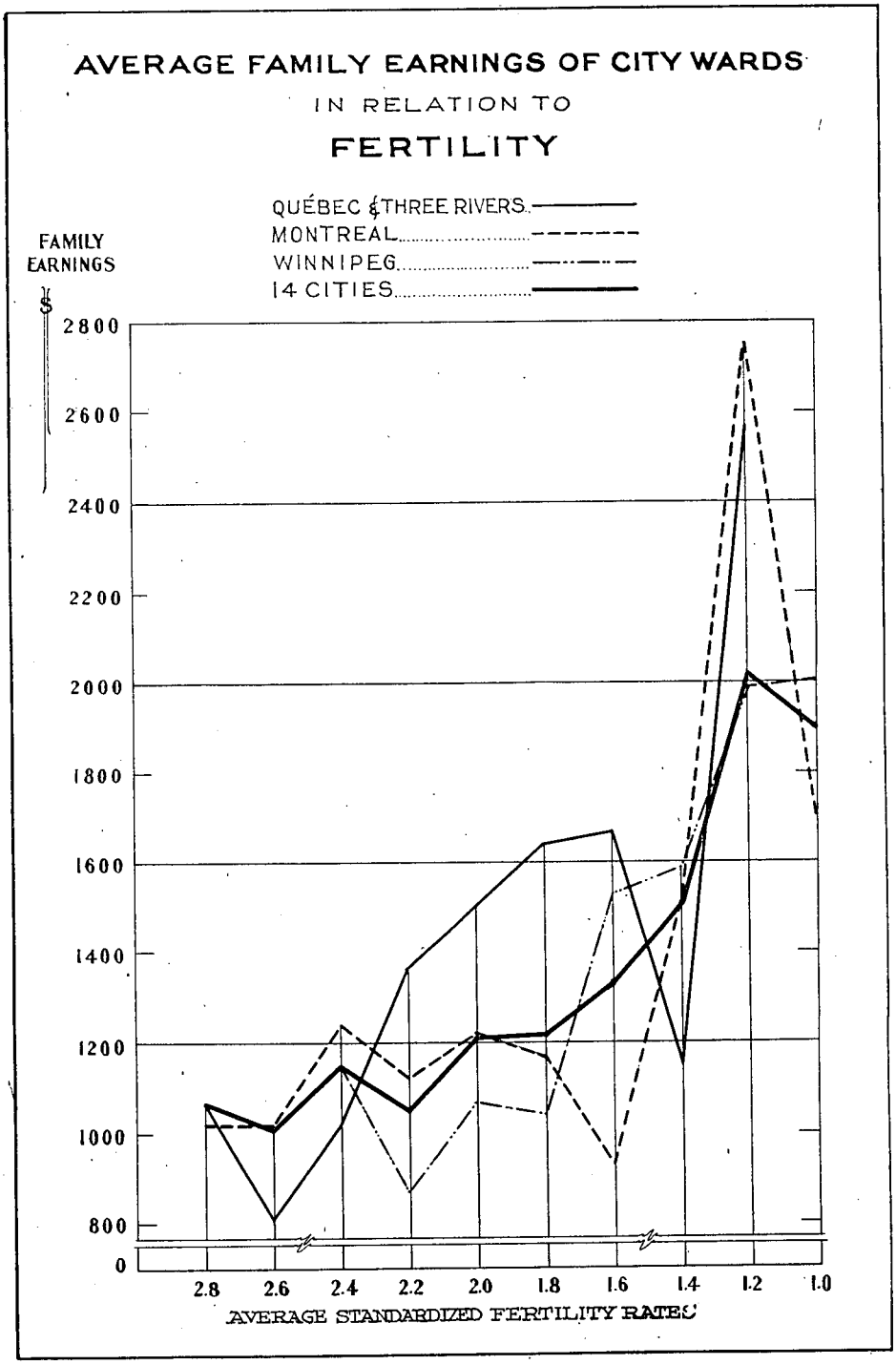

AVERAGE FAMILY EARNINGS OF CITY WARDS
IN RELATION TO
FERTILITY
QUÉBEC & THREE RIVERS
MONTREAL
WINNIPEG
14 CITIES
FAMILY EARNINGS
$
2800
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
AVERAGE STANDARDIZED FERTILITY RATES

Figure 53

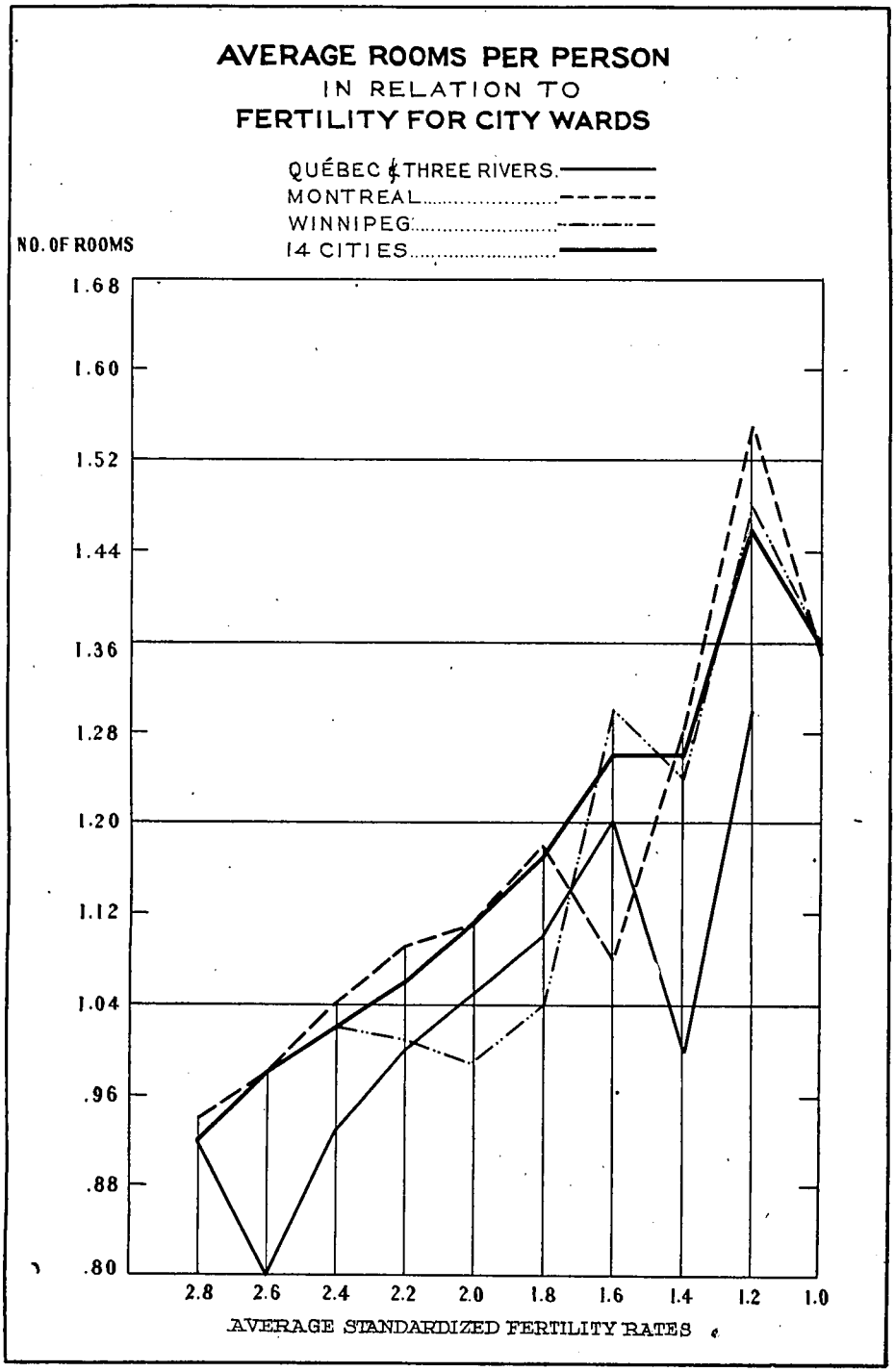
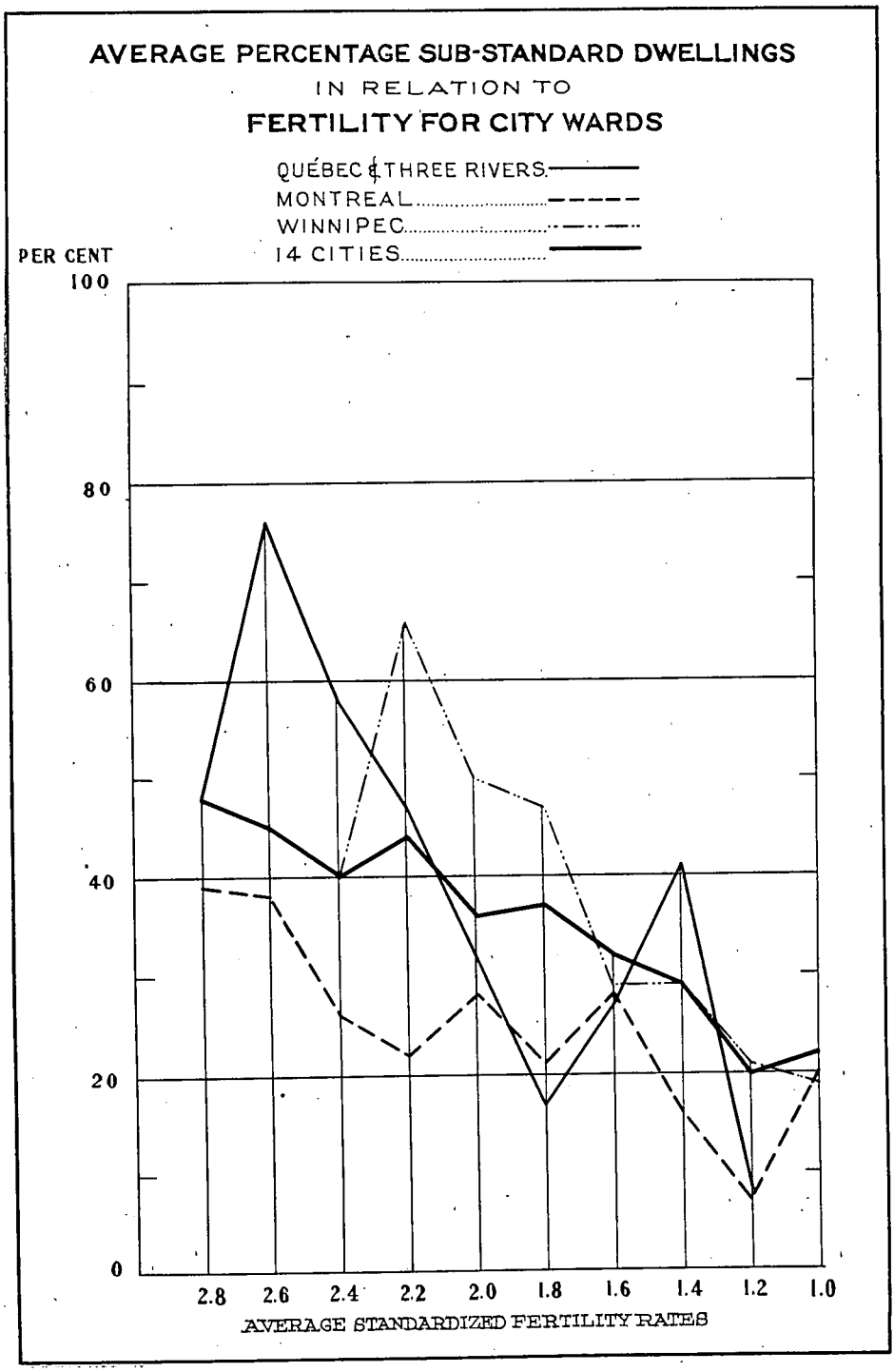

AVERAGE ROOMS PER PERSON
IN RELATION TO
FERTILITY FOR CITY WARDS
QUÉBEC & THREE RIVERS
MONTREAL
WINNIPEG
14 CITIES
NO. OF ROOMS
1.68
1.60
1.52
1.44
1.36
1.28
1.20
1.12
1.04
.96
.88
.80
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
AVERAGE STANDARDIZED FERTILITY RATES

Figure 54


AVERAGE PERCENTAGE SUB-STANDARD DWELLINGS
IN RELATION TO
FERTILITY FOR CITY WARDS
QUÉBEC & THREE RIVERS
MONTREAL
WINNIPEG
14 CITIES
PER CENT
100
80
60
40
20
0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
AVERAGE STANDARDIZED FERTILITY RATES

INCOME AND FERTILITY ZONES

MONTREAL

1941

LEGEND

INCOME
- $2500 & over
- 1500 - 2499
- 1000 - 1499
- Less than 1000

FERTILITY
- LOW
- MEDIUM
- HIGH

TABLE XCV.—WARDS[1] ZONED BY INCOME CLASS AND FERTILITY LEVEL

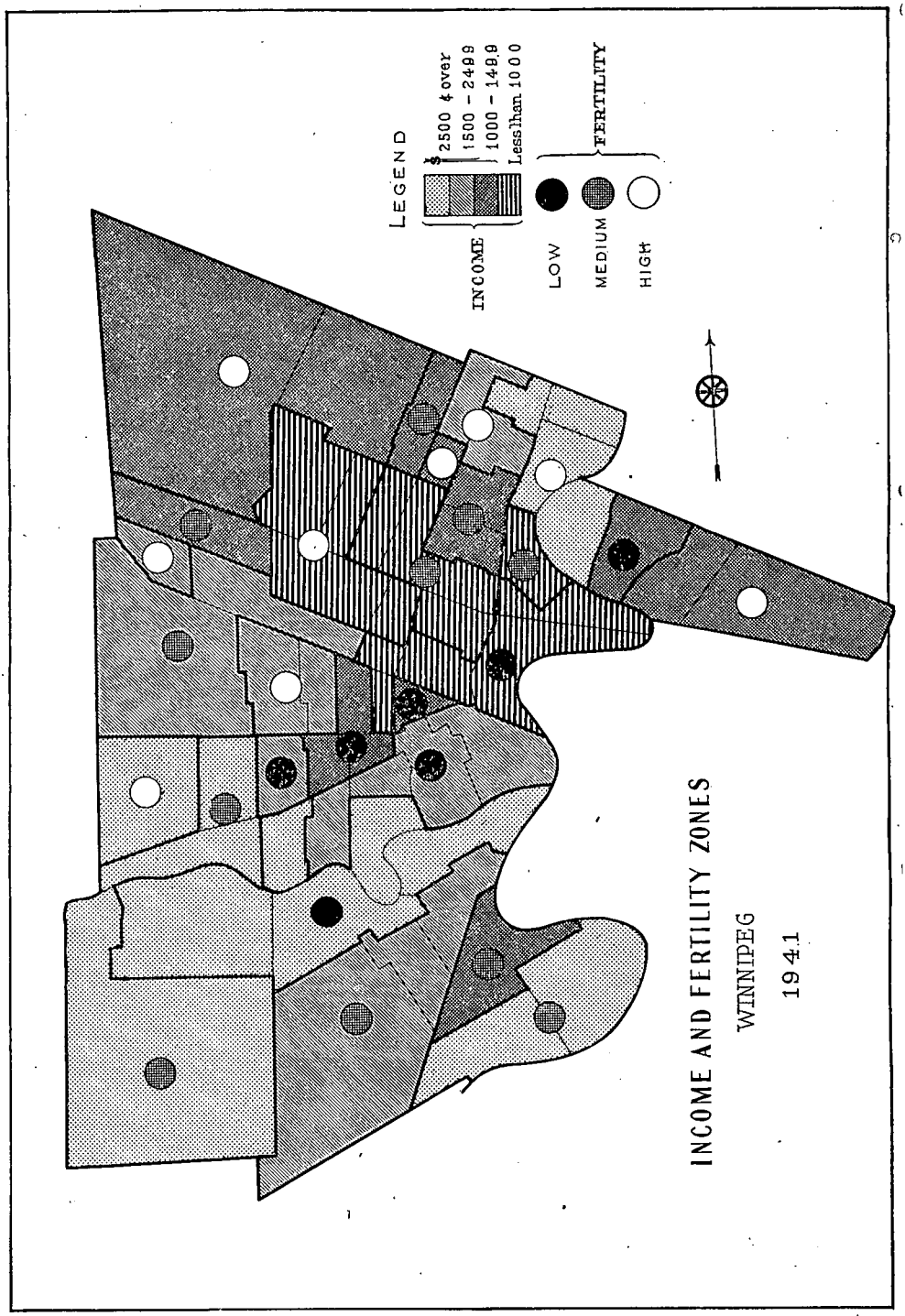
City	Income class A, Fertility class 1	Income class A, Fertility class 2	Income class A, Fertility class 3	Income class B, Fertility class 1	Income class B, Fertility class 2	Income class B, Fertility class 3
Montreal	30, 31, 33, 36, 38, 39, 50.	13, 32, 34, 35, 37, 78, 94.	1, 2, 3, 11, 22, 45, 103.	10, 12, 49, 59, 66, 82, 96.	60, 61, 62, 65, 95, 105, 108, 109.	16, 64, 70, 71, 97, 106, 107.
Winnipeg	38, 40, 44, 50, 55.	43, 46, 47, 57, 58.	4, 7, 8, 9, 59.	48, 49, 51, 54, 56.	28, 37, 39, 41, 42.	10, 14, 29, 35, 36.
Quebec	1, 6.	7.	3, 4.	8.	2, 9.	17, 18.
Saint John	Dukes	Wellington	Victoria	Lorne Sydney	Lansdowne	Dufferin
Ottawa metropolitan area	Rockcliffe Central	Capital St. George 2	Elmdale Riverdale	St. George 1 Wellington	Rideau	Westboro Overbrook

City	Income class C, Fertility class 1	Income class C, Fertility class 2	Income class C, Fertility class 3	Income class D, Fertility class 1	Income class D, Fertility class 2	Income class D, Fertility class 3
Montreal	6, 14, 18, 53, 58, 86, 90.	9, 17, 28, 29, 46, 47, 99, 104.	15, 24, 25, 42, 67, 72, 98.	7, 8, 51, 74, 79, 87, 101.	5, 20, 41, 54, 56, 57, 80, 83.	4, 40, 55, 76, 77, 92, 93.
Winnipeg	3, 32, 34, 52, 53.	11, 12, 18, 31, 45.	1, 2, 15, 19, 22.	5, 23, 24, 27, 33.	6, 13, 16, 17, 25.	20, 21, 26, 30.
Quebec	12, 13.	14.	15, 16.	–	–	–
Saint John	Guys	Prince Brooks	Stanley	–	–	–
Ottawa metropolitan area	Dalhousie By Ward	Victoria 1	Hull 5 Victoria 2	Ottawa Hull 4	Hull 2 Eastview	Hull 1 Gatineau Point

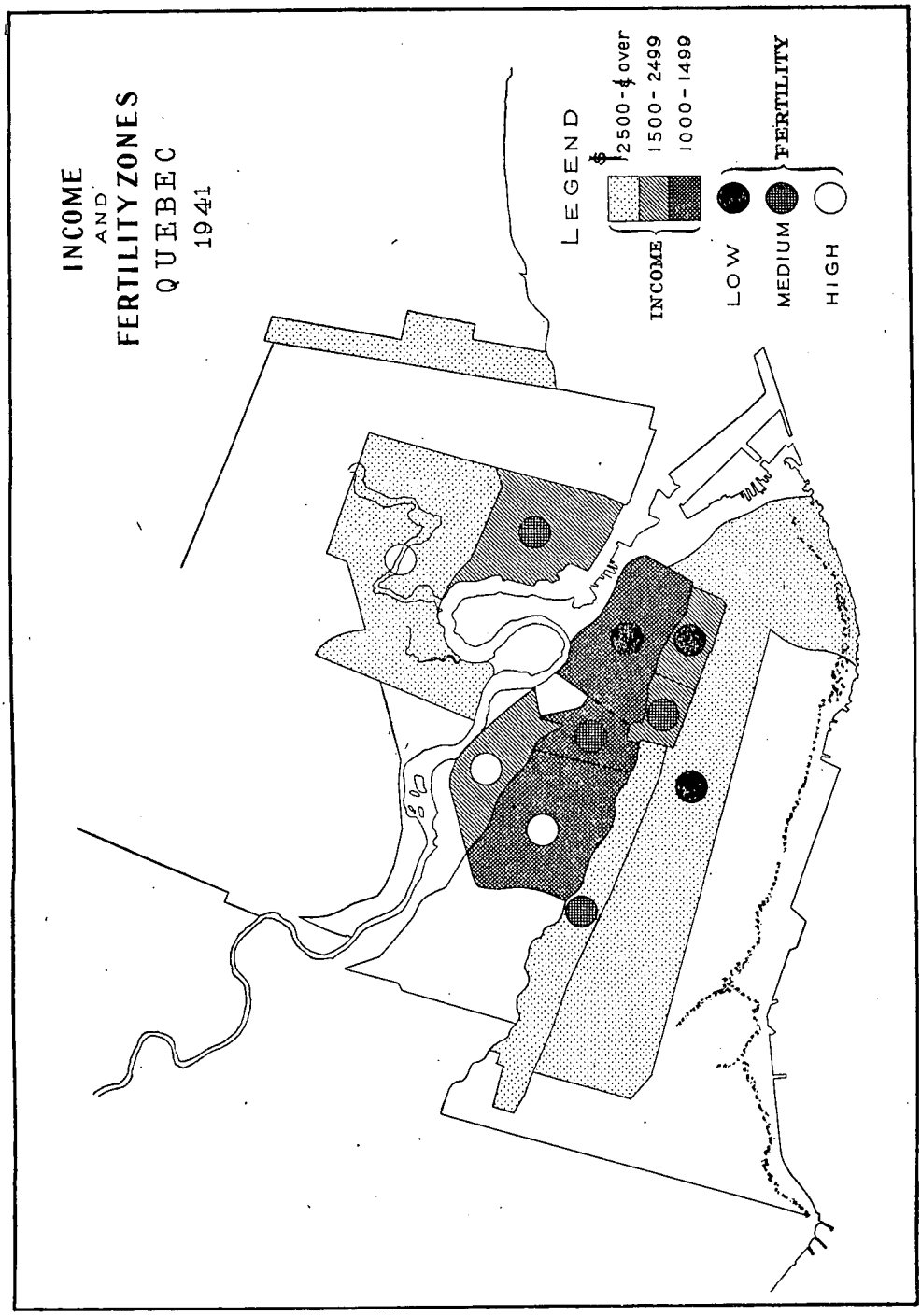
[1]The following wards are combined,
Montreal:—8, 91; 79, 89; 9, 27, 44; 42, 63; 16, 21, 43, 48; 22, 23, 26; 53, 69, 73, 102; 67, 100; 18, 75, 81; 51, 52, 68, 88.
Quebec:—1, 5, 10, 11.

In Winnipeg the small family sector is well defined. It consists of the districts either side of the Assiniboine River and extends northwards to take in the principal public buildings and the business and commercial districts with the central station. The more fertile sections are the northeast and northwest, with a larger family high-income district at the extreme west of the Assiniboine River sector. The centre of Quebec is the extreme northeast corner. Relatively small families are found in all this area between the St. Charles and the St. Lawrence Rivers and extend westwards through Montcalm ward. The largest families are in the northwestern parts of the city, the more prosperous in Limoilou ward and the poorest in St. Sauveur ward. In Saint John the small family central zone lies east and west of the harbour mouth, while the larger families lie north of the railway.

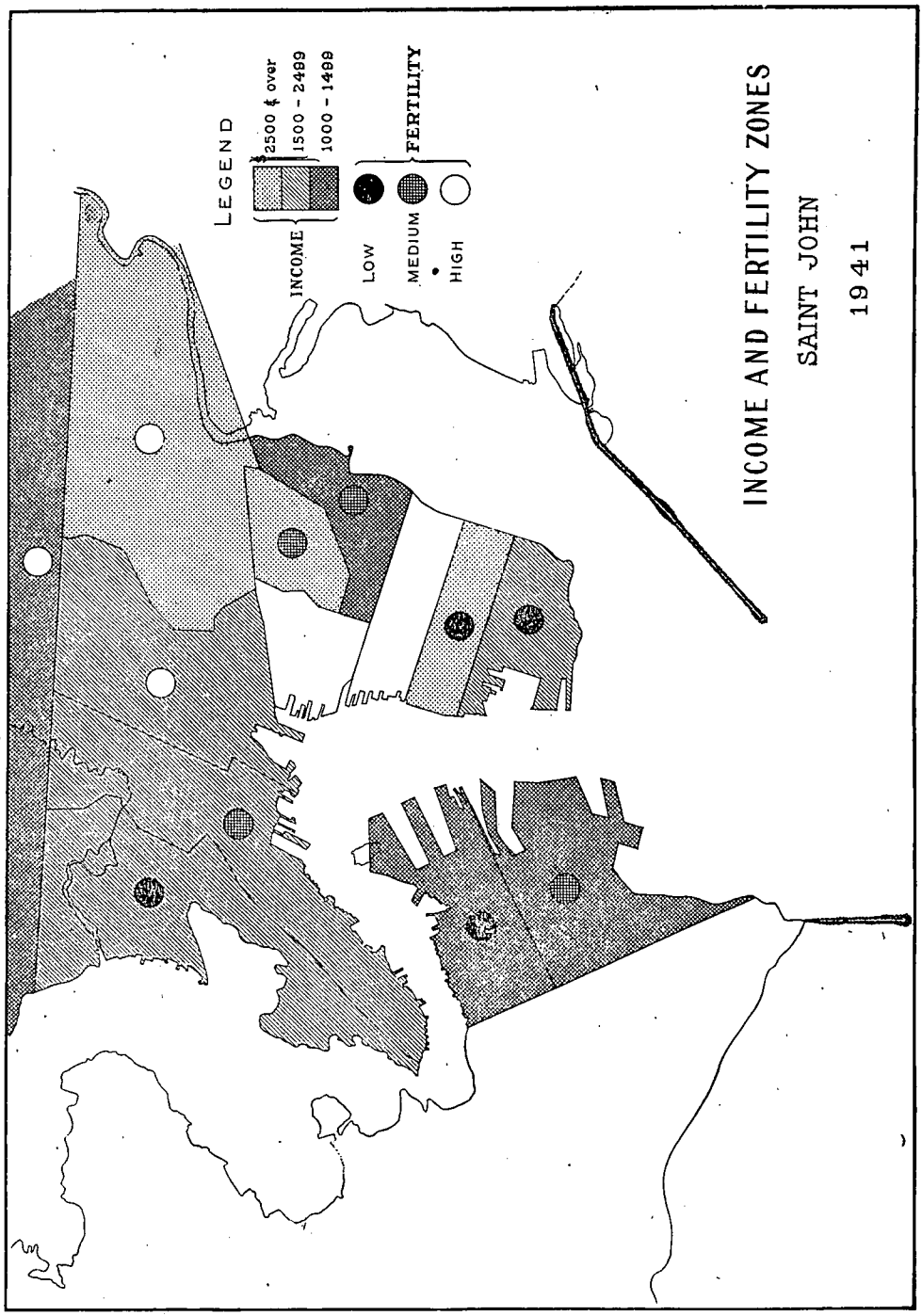
Map No. 12


LEGEND
$2500 & over
1500 - 2499
1000 - 1499
Less than 1000
INCOME
FERTILITY
LOW
MEDIUM
HIGH
INCOME AND FERTILITY ZONES
WINNIPEG
1941

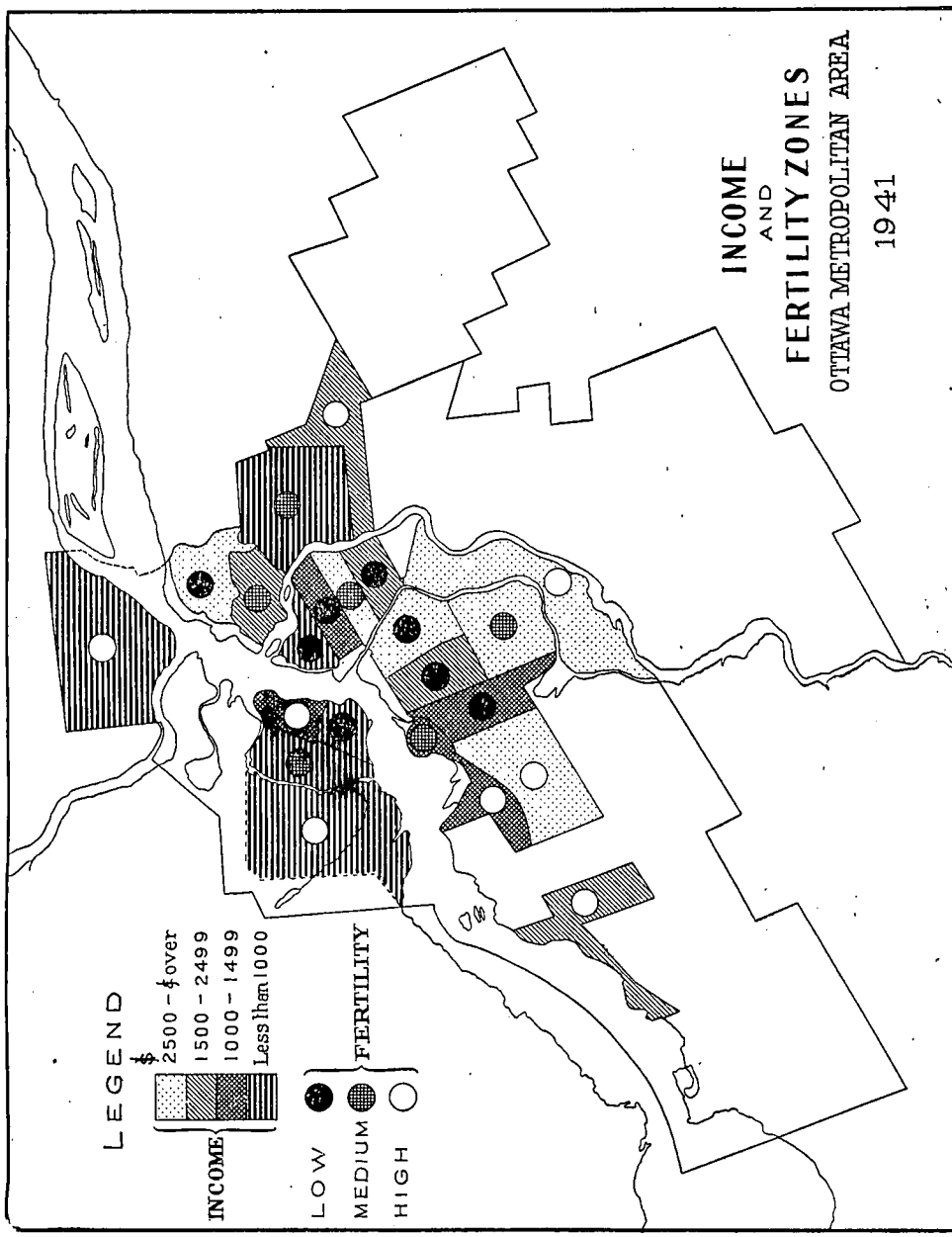
Map No. 13


INCOME
AND
FERTILITY ZONES
QUEBEC
1941
LEGEND
INCOME
$2500-& over
1500-2499
1000-1499
FERTILITY
LOW
MEDIUM
HIGH

Map No. 14


INCOME AND FERTILITY ZONES
SAINT JOHN
1941
LEGEND
INCOME
2500 & over
1500 - 2499
1000 - 1499
FERTILITY
LOW
MEDIUM
HIGH

Map No. 15


INCOME AND FERTILITY ZONES
OTTAWA METROPOLITAN AREA
1941
LEGEND
INCOME
$2500 - & over
1500 - 2499
1000 - 1499
Less than 1000
FERTILITY
LOW
MEDIUM
HIGH

Both Hull and the metropolitan fringe were included with Ottawa in mapping the fertility zones and it is interesting to note that both Ottawa and Hull fall into the above plan, in spite of their different cultural characteristics. The Parliament Buildings and Union Station are focal points of the small family area. This includes the adjoining wards, Dalhousie, Wellington, Central, Ottawa, and the Hull ward immediately opposite. Probably owing to the location of certain government and diplomatic buildings to the extreme northeast, Rockcliffe, the wealthiest ward and the one with naturally lowest fertility, deviates from the usual plan and is rather remote from the centre of the city. The more fertile areas are the metropolitan districts of Westboro and Overbrook, the prosperous outlying wards, Elmdale and Riverdale, and the outer wards of Hull and Pointe-à-Gatineau.

It may perhaps appear obvious that large and small families should be located in the manner described. Apartment houses are characteristic of the business centre and rents are higher for similar accommodation. Greater numbers of flats and boarding houses would lead one to expect a larger proportion of the unmarried. While there is some tendency for the proportion of single women to be greater in the centre, the tendency is not sufficiently marked to explain the differences in fertility. Differences in rents are more important. These are shown in Table XCVI, which gives some details about the income and fertility classes in Montreal and Winnipeg. Owing to the close correspondence between income and size of family there is also the possibility that subdivision of income classes by size of family has merely meant a further subdivision according to income. Table XCVI shows that this is so for the highest income group. Different fertility levels within this class are at different levels of income. Nevertheless, some zoning effect is still to be seen when the average earnings and fertility rates are compared with those of the next earnings class. In classes B, C, and D, average family earnings are about the same within each class, and the centrifugal tendency of the large family is clearly seen. Scatter diagrams of values for individual wards show that, except perhaps for Class A-1, the relationship between earnings and fertility is different in the three fertility zones.

TABLE XCVI.—CHARACTERISTICS[1] OF WARDS GROUPED ACCORDING TO EARNINGS AND STANDARDIZED FERTILITY

Item	Earnings class											
	A			B			C			D		
	Fertility class			Fertility class			Fertility class			Fertility class		
	1	2	3	1	2	3	1	2	3	1	2	3
Montreal—												
Per cent owned homes..... p.c.	8	10	20	4	10	6	5	16	13	2	2	6
Value of owned homes..... $	6,839	4,756	2,926	5,950	2,726	2,470	3,349	2,094	1,980	3,208	–	2,825
Rent of rented homes..... $	54	36	23	24	22	20	26	20	17	22	18	17
Family earnings..... $	2,487	1,807	1,472	1,230	1,227	1,224	1,102	1,079	1,087	755	830	818
Rooms per person.....	1·56	1·29	1·13	1·17	1·10	1·01	1·14	1·02	0·91	1·01	0·98	0·94
Per cent sub-standard dwellings.. p.c.	7	13	22	17	16	25	27	21	36	44	51	49
Per cent wage-earners..... "	64·0	70·6	72·3	65·9	71·5	76·9	64·9	76·3	78·4	68·0	69·8	73·8
Fertility rate.....	1·06	1·69	2·31	1·88	2·31	2·71	1·61	2·65	2·95	1·69	2·47	2·87
Winnipeg—												
Per cent owned homes..... p.c.	48	62	65	40	47	57	27	44	60	16	23	28
Value of owned homes..... $	5,972	3,263	3,360	3,864	3,012	2,850	2,282	2,384	2,006	–	2,117	1,880
Rent of rented homes..... $	51	39	33	40	32	27	30	22	18	24	16	18
Family earnings..... $	2,638	1,993	1,812	1,491	1,586	1,468	1,198	1,153	1,022	812	675	792
Rooms per person.....	1·52	1·44	1·36	1·48	1·28	1·22	1·26	1·14	1·04	0·96	0·90	1·00
Per cent sub-standard dwellings.. p.c.	16	27	20	21	31	23	33	35	64	64	75	60
Per cent wage-earners..... "	62·8	73·4	71·0	60·2	69·5	69·9	64·2	61·9	73·0	64·7	62·9	67·8
Fertility rate.....	1·13	1·44	1·56	1·12	1·57	1·80	1·49	2·03	2·33	1·80	2·17	2·41

[1] Average of wards in sub-groups.

Table XCVI shows that, while monthly rent falls as earnings decrease, rent takes a greater part of the family earnings at the low income levels. Within each earning group, however, rent falls as size of family increases and also becomes less in proportion to earnings. Movement outwards from the centre lessens to some degree housing difficulties for the large family. Yet in spite of this, rooms per person are still less for the large family, and the proportion of sub-standard homes increases somewhat. The percentage of home-owners is larger among those with large families, while the value of owned homes decreases as the size of family increases.

Conclusion

The discussion throws some light on the conditions which result in the low fertility characteristic of large cities. By 1941 the disappearance of the urban large family had proceeded apace, and current rates are at a much lower level. Among the 14 cities discussed, only Quebec, Three Rivers, Saint John, and Hull had current fertility rates capable of leading to an increasing population, and only in Three Rivers and Hull was the birth rate really high. In both these cities, as also in Quebec and Montreal, fertility fell 16 p.c. to 27 p.c. during the ten years 1931 to 1941, so that at 1941-42 rates, the female population of Montreal was no longer reproducing itself.

The rapid disappearance of the urban large family is not surprising when we look at the earnings levels discussed in the previous section. Many conflicting estimates have been made of the income necessary to subsistence for a family of given size. If the standard adopted is that which many urban families are coming to ask for their children, then an income of at least $3,000 may be thought necessary to provide adequately, including advanced education for those able to profit by it, for a family of three or four. In only three out of all the wards of the 14 cities do the average family earnings of wage-earners reach this level, and for most to attain it, a great increase in national productivity would be needed. In the three wards which reach this standard, the number of children per woman is only a little over one. The pressure of inadequate resources makes the disappearance of the large family seem inevitable. At the same time the process is accelerated by the example of the cultural heart of the city. Here, when resources are ample, families of only one or two children are found, and increasing numbers of childless couples occupy the best dwellings and the most desirable locations.

3. Summary

1. Nineteen characteristics of cities and towns are analysed to reveal two independent factors responsible for 72 p.c. of the variation in urban fertility.

2. The first factor, "Small family—Commerce" is most closely associated with both total and current fertility, with high proportions English-speaking and Protestant, with high socio-economic status, and with a large proportion of persons engaged in Trade and Finance.

3. The second factor, "Wage-earning women", describes dense and rather poor industrial towns in which a high proportion of women are employed. It is associated with current rather than past fertility.

4. Cities and towns are classified according to their ratings for the two factors described.

5. Wards of cities in which families are large are shown to be those in which earnings are low and housing sub-standard.

6. A zoning system is described in five cities. At a given income level, family size is lowest in the centre of the city and is largest on the outskirts.

CHAPTER IX

SOME GENERAL CONSIDERATIONS CONCERNING POPULATION PROBLEMS

While policy-making has not been one of the functions of the research program, it is legitimate and, in fact, desirable to indicate in what way the conclusions arrived at may have suggestions for public policy. As a starting point it will be convenient to take the results of Chapter I. A projection of past trends indicated a probable increase in the Canadian population of about three millions during the next thirty years, provided there is no net immigration or emigration, and a turning point in population increase at the end of the century, followed by a declining population. Though a few relevant considerations can be adduced, there is no rational basis for deciding whether the optimum population would be larger or smaller than that estimated. Estimates of the population carrying capacity of Canada range from less than its present size to ninety-five million. As long as the possibility of mass unemployment exists, the first type of estimate appears the most appropriate. The lower estimates are usually based on the lack of need for more people on the land. One of the reasons given for discouraging further agricultural settlement is less potent than it appears. If all Canadians were adequately fed, the large exportable surpluses which Canada is now able to furnish to famine-stricken countries would be greatly reduced in respect of commodities other than grain. A more plausible reason is that better utilization of land would take care of any probable increased demand for food. Ten per cent of Canadian farms are mainly self-sufficient and a considerably larger proportion produce little marketable surplus. The day is past when large numbers of people are content to live in this way. While foods other than grain involve more labour per acre, the continuing progress of agricultural science and the possible disappearance of subsistence farming will probably mean fewer acres in cultivation and fewer people employed in agriculture.

It is generally agreed that a substantial increase in the agricultural population can only occur if either substantial new external markets are found or if the total population becomes very much larger than seems probable. What are the prospects for a larger population? The size of a population is limited in the first instance by the food that can be produced at home or imported, and in this respect it seems probable that Canada could feed, and in fact does feed, a much larger population. The future size of the population cannot be determined because it will be dependent upon a great many factors including the extent and utilization of natural resources, international markets, capital expansion, technical developments in agriculture, primary and secondary industries, and in distribution, the availability of suitable immigrants, and other developments in the social, political and economic fields.

Even though such questions remain for the present unsolved, the facts warrant some concern about the future of Canada's population. In the Western World, the birth rate has been declining everywhere, and in many countries to a point where a declining population in the near future is inevitable. The population projections for Canada indicate that a declining population is some forty or more years distant, but if the birth rate resumes its steep decline, it may fall below the point necessary to maintain a stationary population within the next ten years. The point that needs emphasis here is that the birth rate has in no country stopped short at the point where it is just sufficient for replacement, so that what we may expect in the future, if no action is taken, is a continuously and quite rapidly declining population.

The belief that a declining population is not a welcome prospect rests upon two assumptions, neither of which can be definitely proved, but both of which would probably command general assent. The first of these is that in a country as sparsely populated as Canada, the most efficient utilization of space and natural resources, both from the standpoint of a global economy and of Canada itself, would require a population at least not smaller than the probable maximum of 15 millions. The second is that a rapidly declining population, progressively ageing, would be undesirable in any type of economy and would exacerbate a condition of chronic unemployment. If these assumptions are accepted, then the problem is one of importance at the moment, not in the distant future. It is very unlikely that anything would avert a further decline in the

birth rate in the near future, but it is at least possible that a changed social environment might prevent it from falling to a disastrously low level. There are three possible ways in which the future size of the population can be affected. Large-scale immigration may occur and mortality and fertility trends may change. About the first two of these topics little will be said, since neither seem likely to affect numbers greatly and moreover the third is more especially the theme of this work.

1. Mortality

Public policy directed towards eliminating preventable deaths and towards improving the health of the people requires no justification on the score of its effect on total size. With full recognition of the greater scope of the subject, we will consider here only the demographic angle. It has been pointed out earlier that when the gross reproduction rate falls below unity, no improvements in mortality can avert a decline in numbers. Though reductions in mortality rates can thus have only a limited effect, there is still considerable room in Canada for reducing the gap between gross and net reproduction rates. The expectation of life now compares favourably with that in Britain and the United States, but there is a great amount of provincial variation. In no province is infant mortality as low as in New Zealand and Sweden. British Columbia, Ontario, and Alberta have about the same proportion of infant deaths as the United States and Australia, but death rates are much higher in the remaining provinces, particularly in New Brunswick and Quebec. In the latter province, improvement has been rapid in recent years and intensified public health programs in the Eastern Provinces would mean the saving of many lives.

In one respect, improved health conditions and a further decline in the birth rate appear inseparable. In 1941, there were still nearly 500 mothers under 65 years of age who had given birth to 22 or more living children. In a sample study of 100 of these families, taken from both rural and city districts, less than half the children born were living at the time of the Census, and in the city only a third had survived. Though not yet proven, it seems probable that the rapid disappearance of families of this type has been a factor in the considerable increase in the expectation of life of Quebec women. While the poverty in which most of these families live is responsible for much of the attendant illness and death, a preliminary study of mortality in relation to size of family suggests that, even under the best practicable conditions, very large families mean wastage of infant life and risk of sickness and death to the mother. There is every reason to think that the exceptionally large family will become more and more of a rarity in the future. This means that a further decline in the birth rate in some parts of the country is inevitable if a universally high standard of health is to be achieved.

2. Migration

Throughout the period of census history, no consistent trend in migration has been evident. The wisdom or otherwise of large-scale immigration in the near future would seem to rest on consideration of national adjustment of numbers to resources along the lines indicated earlier. There are reasons for thinking that immigration is not likely to affect greatly future population trends. In the past, the growth of Canada's population has been mainly through natural increase. While immigration has been heavy, so also has been loss to the United States. Only during the period between 1900 and the first World War, was increase through immigration about as important as natural increase. Included in the latter, of course, is the natural increase of those immigrants who stayed and this was high at first. We know, however, that fertility rates of the foreign-born soon come to resemble those of the native-born. In order to produce any great effect on population size, we should have to have a continuous large stream of immigration and one which we would be able to retain. There would moreover be some difficulty in obtaining such a flow of immigration. The preferred emigrating countries, Britain and Scandinavia, have demographic problems which are far more acute than those of Canada, and it is unlikely that the former country, in its present phase of constructive activity, would welcome the loss of workers at the most productive age. If a population of 15 millions is believed to be adequate, then the advisability of large-scale immigration does not arise in the present context. If a much larger population is desired, then the conclusion seems indicated that either a reversal of fertility trends or an expanding economy with a place for immigrants from other parts of Europe or the Orient would be necessary.

3. Fertility.—Planning for the Four-Child Family

One respect in which demographic studies can lay the foundations for a population policy is by clarifying the goals in terms of the size of family necessary to maintain a stationary population. Measurement of fertility by means of gross and net reproduction rates gives us the required number of children per woman but such a general average is of little help in envisaging concrete policies. In all actual populations, some women remain unmarried, some married women are childless, others have only one child. Many of these may be unfitted by physique or temperament to have larger families or may have chosen some alternative walk of life. They are found even in social groups where the large family is the general rule. D. V. Glass has estimated that in England in 1931, taking the existing proportions of unmarried and childless women, and those with one child, the remaining married women would have had to average over four children each to maintain a stationary population. A similar calculation made for Canadian populations which were just at replacement level in 1941, indicated that women with more than one child averaged nearly four children each.

It should now be clear that the fashionable family of two children, if it becomes at all widespread, means a rapidly declining population. An earlier paragraph has indicated that the very large family is rapidly disappearing and in fact, must do so, if adequate health standards are to be achieved. It will then be all the more necessary to establish the family of four or five children as the norm. There are other practical reasons for placing the four-child family in the forefront of a population program. We have seen that reasonable prospects of employment in the immediate future are sufficient to maintain marriages at a high level, and that most married couples want and do actually have one or two children. Families of four or more children, however, become continually scarcer and it is on these that social restraints and the difficulties of existence on straitened means press most heavily. It is for these that social planning is needed.

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 practice. 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 program leaves untouched the problem of finding adequate incentives to parenthood.

4. A Positive Population Policy

When we come to ask what suggestions research in the field of fertility can offer as positive inducements to parenthood, the yield is somewhat meagre. Research has been going on for some fifty years and its main results are well-known. The present work could not be expected to yield anything startlingly new. What has been attempted has been some clarification of already known results by their application to a particular geographical setting. The fact that the problem of declining fertility has only recently become a subject for general discussion may be one reason for the scarcity of constructive proposals and for the conspicuous lack of success of overt attempts to stabilize or reverse current trends. Another reason is the failure to make the distinction between welfare measures necessary if we are to have the kind of families we want, and the type of social environment which will make parents desirous of having several children. We have also failed to face realistically, the fundamental dilemma of population policy, that nearly everything we regard as characteristic of an advanced civilization has been shown to be associated with a rapid decline in the size of the family. One or two exceptions can be noted. They are not of outstanding importance but nevertheless they merit consideration.

Variation of family size with age at marriage has been emphasized in earlier chapters. It has been shown that early marriage is fairly highly correlated with large families. Yet even among those marrying very young, the average family is not large among the prosperous and well-educated. Further, it would be wrong to assume that if more people married young, the

additional early marriages would necessarily result in families as large as those of people who now marry young in spite of obstacles. Yet late marriage practically prohibits a family of more than one or two, and, other things being equal, the chances of a family of four or five are greater for the woman who marries before she is 25. Hence, social conditions which make early marriage more possible are to be welcomed. The experience of the war years gives us some clue as to what these conditions are. It seems that financial provision for the immediate future is a desideratum but that security for the distant future is not, since the distant future has never been more obscure than it has been during the last few years. Future security which has to be achieved by individual action is clearly inimical both to early marriage and a large family. These involve either a risk-taking temperament or a system of values in which material security is of secondary importance. It may be that the plain impossibility of planning for the future in war-time may have stimulated marriages and births which in more normal times would have been considered as disregarding the dictates of prudence.

The difference in family size between rural and urban areas has frequently suggested a line of development which would not be anti-social in character. Especially in metropolitan cities, the psychological frustrations and probable loss of economic efficiency resulting from extreme urban concentration have been criticized from many points of view. While the rural-urban difference is often striking, extended analysis limits its importance. In culturally homogeneous and highly urbanized areas, of which England and parts of the provinces of Ontario and British Columbia are examples, urban patterns of living tend to spread to rural areas and the fertility differential begins to disappear. The persistence of the large rural family seems to require some degree of isolation from large urban centres. Where the differential is still pronounced, the analysis of Chapters IV and VI has shown that it is largely a matter of different occupations, of more advanced education, and of higher incomes. In a sense this is stating the obvious, since it would be difficult to farm on St. James Street in Montreal or to conduct a central bank on the Churchill River. Yet when all other factors have been accounted for, some differences remain between rural and urban families. In particular the size of the larger metropolitan cities appears to be associated with small families in a way not completely accounted for by occupation and socio-economic status. This suggests two lines of thought, first, redistribution of the population, and secondly, changes in the occupational structure.

The fairly clear evidence of exceptionally small families in our largest cities and their suburbs has suggested to some the advisability of limiting their further growth and of planning the relocation of industry as far as possible in quite small towns. This has much to commend it from many points of view and should be feasible in Canada with its extensive reserve of hydro-electric power. Eventually the coming of the atomic age may render the metropolis superfluous. The large city is even more a centre of trade and finance and of culture than of industry. More scattering of such facilities as universities, libraries, medical centres, and symphony orchestras should be feasible. Further research should be encouraged on the optimum size of a city with the object of decentralizing urban cultural activities.

The low fertility of characteristically urban occupations sets a limit to what can be expected from redistribution of population. Though occupational structure is worth examination, there is little prospect of reversing existing trends. The present tendency is for more food to be produced from less land and less labour so that economists predict future growth of population only in urban and industrial centres. This view should be qualified at the moment by the recollection that in the world at large, even discounting the present crisis, there is gross under-production of food. Masses still live close to starvation and an enormous increase in agricultural efficiency would be necessary to give the whole world an adequate diet. Nevertheless, it probably remains true that the trend will be to achieve increased production by better utilization of land and more efficient methods generally rather than by an increase of numbers of persons engaged in food production. Indeed, if this were not so, the all-round standard of living of the world as a whole would deteriorate. The example of Australia and New Zealand, where a small proportion of the population produces a surplus of food for export, shows that to remain a food-exporting country is no answer to the problem of too small families. Yet it is still probably true, that stability would be easier to achieve in such a situation than in a country like England which is almost completely urbanized. There is some evidence from other countries that trade and finance occupations tend to be more sterile than the professions, and the Canadian material shows exceptionally small families in towns which are centres of trade and finance.

When we come to consider more outstanding features of the Canadian family situation, it is difficult to avoid generalities, but we shall attempt to suggest a rational approach. We have seen that in so far as religion and mother-tongue are clues to different segments of a complex culture pattern, they are powerful determinants of family size. We have also seen that the family behaviour of all of these interlocking cultures is quite unstable. One of the most resistant is that of the French-speaking Roman Catholic living in a fairly isolated rural district, but even this has changed since the seventeenth century and is changing now. The effect of higher socio-economic status, of urban living, and of white-collar occupations, is alike everywhere, although the culture patterns which tend to preserve traditional family attitudes have been responsible for a time lag. Since family patterns of all cultural types appear to be tending in the same direction, it is profitable to inquire what it is that prevents "modern middle-class man" in the mass from finding as much pleasure in the family as a few individuals still do.

We do not need to stop to consider whether it is legitimate to stigmatize a whole culture as neurotic. It would be sufficient for our purpose to have shown that it is unable to survive. If we cannot replace ourselves, then some aspects of our social relations clearly need to be altered. The usefulness of the sociologist seems to be at an end when he has shown that our present civilization in its most characteristic manifestations appears to be on the wrong track. To find out just where it has been wrong opens the field to the psychologist. The results of research should have demonstrated, if they have done nothing else, that all the usual rationalizations by which people attempt to explain the size of their family have little relation to their actual behaviour. They may have some relevance to individual variation within the framework of group influences, though even this is doubtful. The larger part of the mechanism of response in the field of family behaviour is not apparent to the individual. The most promising avenue of research now seems to lie in the application of modern psychological techniques to elucidate these mechanisms. If we can assume that the fashionable attitude to the family involves some inhibition of opportunities for greater satisfaction,—and if this is not so, there seems little hope for survival,—then it seems reasonable to look for its source in unexpressed fears and frustrations. The experience of the war years seems to indicate that these are not the obvious fears of poverty and death. The analysis of K. Horney and E. Fromm has shown that the price of individual freedom has too often been loneliness and anxiety. We still need to explore the mechanisms by which these phenomena are manifested in a retreat from parenthood. The comforting walls of the self-contained family group are as irretrievably lost to us as is the safety of the prenatal nest. We have prosecuted our inquiries in the hope that there is still time to learn to be at home in a socially integrated world.

GENERAL SUMMARY

The Changing Size of the Canadian Family (Chapter I)

The earliest record of change in the size of the Canadian family is provided by the ratio of children to women at successive censuses (Chap. I, p. 10). At each successive census from 1851 to 1891, the proportion of children to women grew rapidly smaller. From 1891 to 1921 there was little change, and from 1921 onwards, there was again a decline. Numbers of children ever-born were recorded for the first time at the Census of 1941. At this time the average size of family of married women between 45 and 55 was 4·18. The average number of legitimate children per woman, including both married and single, in this age-group was 3·73 (Chap. I, p. 8). The census figures enabled an estimate to be made of a decline in total fertility of 13 p. c. between about 1898 and 1921. This rate of decline was slower than that experienced in many other countries. The comparatively late industrialization of Canada and the opening of new land frontiers at the beginning of this century both helped to preserve group traditions favourable to large families.

From 1921 onwards the rate at which children are being born is recorded in vital statistics. From 1921 to 1939 the gross reproduction rate fell by a third. While the economic fluctuations of the time tend to exaggerate the long-term rate of change, there is no doubt that fertility was falling more rapidly after World War I than during the earlier part of the century. As a result of continued improvements in mortality rates, net reproduction fell more slowly than gross reproduction, but probably more rapidly than at an earlier period. The decline in net reproduction during the twenty-year period 1911 to 1931, was estimated at about 11 p.c. During the ten-year period from 1931 to 1941, the net reproduction rate fell by 8 p.c.

The onset of World War II saw a striking rise in the birth rate as a result of full employment and other contributory phenomena. In so far as analysis of war-time events is possible, the rise appears to be due to increased numbers of marriages and a consequent increase in the numbers of first and second births. The proportion of families of four or more children has continued to decline without interruption. There is thus no reason to suppose that the decline in the birth rate has come to an end.

The effect of a continued decline has been illustrated by estimates of the future population of Canada based on the assumption of a continuance of past trends. On one set of assumptions, trends in fertility and mortality between 1921 and 1939 were assumed to continue and to be unaffected by the recent War. On the second set of assumptions, it was supposed that the War would have the effect of temporarily arresting the decline and thus bring about a net increase in births. On both assumptions the rate of natural increase will become progressively smaller and be eventually succeeded by a declining population, while at the same time the population becomes progressively older.

Age at Marriage (Chapter II)

The census record is especially well adapted for the study of variations in size of family with age at marriage. The two are highly correlated. For those marrying after reaching 20 years of age a postponement of marriage for five years means one child less, but for those marrying under 18 compared with those marrying over 18 and under 20, the difference in average family size is as much as 1·5.

While age at marriage continues to have a profound effect on the probable size of the family, the decline in the birth rate has affected women marrying at all ages though not always to the same extent. Families have declined in size in spite of the fact that there has been no consistent trend towards later marriages. The distribution of family sizes by age at marriage shows that, except for those marrying very young, the two-child family is becoming the fashionable size. Not only do women who marry young have a longer childbearing period, but they also bear children at a more rapid rate and are less likely to remain childless. Among Canadian women who had completed their families at the time of the Census, comparatively few were childless except in the larger metropolitan cities. Among younger women there are indications that the proportion childless is likely to be greater.

Cultural Differences in Family Size (Chapters III and IV)

There are striking differences between the provinces of Canada, both in respect of family size, and in respect of the rate at which it is changing. These reflect differences in social tradition and economic circumstances. The census category, "racial origin", has been shown to be unscientific and confused. Alternative ways of studying the variety of social traditions found in Canada are described.

The average size of completed families varies according to religion, mother-tongue, and educational status of mother and according to residence in rural as opposed to city areas. When each of these variables is held constant, Protestant families are smaller than Catholic, English-speaking smaller than those with French or European mother-tongue. Family size decreases as the number of years' schooling increases and rural families are larger than those in cities and towns with over 30,000 population. When all the foregoing characteristics are taken into account, birthplace was not found to have any significant effect on size of family.

Economic Differences in Family Size (Chapters V and VI)

Families are largest in primary occupations and among unskilled labourers. They are smallest in the white-collar occupations. In nearly every occupation, the metropolitan family is smaller than in the rest of the country. Occupations were classified according to socio-economic status, based on average earnings and average educational level in the occupation. Family size is small when the socio-economic status of the occupation is high, and of the two characteristics mentioned, educational level is more important than earnings in determining the family size characteristic of an occupation.

The effect of earnings and education on family size was also noted in groups which were homogeneous with respect to French or British ethnic origin, rural or urban residence, and occupational type. Again education was found to be somewhat more important than earnings in determining family size, but all the foregoing characteristics were significantly associated with differences in fertility. Among both French and British, when educational level, occupation, and residence are held constant, families become smaller as earnings rise.

In the same way, variations of family size with value of home owned are found among others than wage-earners, but the differences are less clear-cut. When occupational differences are taken into account there is little change in family size as the value of the home increases.

Local Variations in Family Size (Chapters VII and VIII)

Fertility declines consistently as we pass from rural areas through smaller to large urban centres. A large part of the rural-urban differential is associated with differences in cultural characteristics, in ways of getting a living, and in incomes, but rural families are still significantly larger than urban families when all these factors are taken into account. Certain rural areas are described as semi-urban and continuous urban aggregates can be delineated. Where a Census Metropolitan Area forms part of the latter, family size is usually smallest in the central city, and increases as we pass to the outlying portions of the county. Some of the smaller cities are surrounded by rapidly growing industrial suburbs with high fertility.

Rural areas which are of the semi-urban type have fertility rates similar to those of urban areas. Fertility of rural farm areas varies according to culture-type and according to gross farm revenue in approximately equal parts. Family size falls as farm revenue increases. The relationship is seen most clearly in those areas which are predominantly English-speaking Protestant or French-speaking Catholic, and the fall of fertility with increasing revenue is steeper among the latter.

The same type of relationship is seen in the smaller farming sub-divisions of the Prairie Provinces. The fall in family size is most pronounced at the point where mainly subsistence farming gives place to a cash crop. At higher income levels there is little evidence of a further fall in family size. Fertility rates of cities and towns are closely correlated with a number of other social characteristics. The joint variation of 19 characteristics is expressed in terms of two independent factors. The first factor is most closely connected with small families, high proportions English-speaking and Protestant, and high proportion of persons engaged in trade, finance and commerce occupations. The second factor is associated with low current fertility and with gainful employment of women.

Fertility is highest in the poorest wards of our larger cities. The impact of poverty on the urban large family is shown in lower earnings, more overcrowding, and more sub-standard homes. When earnings are held constant, the smallest families in each income group are found at the centre of the city and the largest on the outskirts.

PART II

BASIC TABLES

TABLE 1.—Childless families and average family size, metropolitan areas

NUMBER AND PERCENTAGE CHILDLESS, AND TOTAL AND AVERAGE NUMBER OF CHILDREN EVER-BORN, BY PRESENT AGE OF MARRIED WOMEN, FOUR METROPOLITAN AREAS

Age of married women	Number of married women	Childless		Children ever-born	
		No.	P.C.	Total	Average
Montreal, M.A.—					
15-24 years	16,507	7,993	48·4	12,784	0·77
25-34 "	65,689	19,456	29·6	110,884	1·69
35-44 "	65,909	12,172	18·5	202,150	3·07
45-54 "	53,270	8,131	15·3	220,140	4·13
55-64 "	35,463	4,977	14·0	170,929	4·82
Toronto, M.A.—					
15-24 years	15,565	8,305	53·4	9,883	0·63
25-34 "	57,608	17,241	29·9	76,791	1·33
35-44 "	58,067	10,610	18·3	124,071	2·14
45-54 "	52,789	8,360	15·8	138,255	2·62
55-64 "	37,165	5,934	16·0	109,641	2·95
Winnipeg, M.A.—					
15-24 years	5,686	3,034	53·4	3,503	0·62
25-34 "	18,942	5,823	30·7	24,637	1·30
35-44 "	16,726	2,596	15·5	38,576	2·31
45-54 "	16,745	1,994	11·9	51,330	3·07
55-64 "	11,913	1,401	11·8	42,284	3·55
Vancouver, M.A.—					
15-24 years	6,460	3,270	50·6	4,293	0·66
25-34 "	22,170	6,967	31·4	28,048	1·27
35-44 "	19,735	3,658	18·5	40,336	2·04
45-54 "	20,956	3,353	16·0	52,420	2·50
55-64 "	17,663	3,079	17·4	47,976	2·72

TABLE 2.—Childless families and average family sizes marriages of 1931-41, rural, and urban size groups, cities and metropolitan areas, Canada and provinces

NUMBER AND PERCENTAGE CHILDLESS, AND TOTAL AND AVERAGE NUMBER OF CHILDREN EVER-BORN, BY PRESENT AGE OF MARRIED WOMEN, FOR THOSE MARRIED BETWEEN 1931 AND 1941, RURAL, AND URBAN SIZE GROUPS, CITIES OF 30,000 AND OVER AND METROPOLITAN AREAS, CANADA AND PROVINCES

No.	Residence	Married women aged 15-24 years married at 15-24 years					Married women aged 25-29 years married at 20-29 years				
		Total	Childless		Children ever-born		Total	Childless		Children ever-born	
			No.	P.C.	Total	Average		No.	P.C.	Total	Average
1	**Canada**	**229,271**	**93,667**	**40·9**	**216,056**	**0·94**	**235,382**	**79,201**	**33·6**	**287,307**	**1·22**
2	Rural	103,116	34,941	33·9	115,495	1·12	86,473	21,222	24·5	134,670	1·56
3	Localities under 1,000	6,827	2,629	38·5	6,547	0·96	7,563	2,194	29·0	9,904	1·31
4	" 1,000-29,999	45,505	19,247	42·3	41,088	0·90	45,926	15,631	34·0	54,860	1·19
5	" 30,000 and over	65,717	33,036	50·3	46,869	0·71	83,008	35,230	42·4	76,275	0·92
6	**Prince Edward Island**	**1,741**	**588**	**33·8**	**1,940**	**1·11**	**1,630**	**430**	**26·4**	**2,512**	**1·54**
7	Rural	1,258	396	31·5	1,446	1·15	1,106	251	22·7	1,858	1·68
8	Localities under 1,000	64	14	21·9	81	1·27	76	15	19·7	116	1·53
9	" 1,000-29,999	419	178	42·5	413	0·99	448	164	36·6	538	1·20
10	**Nova Scotia**	**13,784**	**4,645**	**33·7**	**15,650**	**1·14**	**11,088**	**3,200**	**28·9**	**15,406**	**1·39**
11	Rural	7,214	2,013	27·9	9,223	1·28	5,104	1,174	23·0	8,192	1·61
12	Localities under 1,000	111	36	32·4	102	0·92	100	25	25·0	128	1·28
13	" 1,000-29,999	4,743	1,749	36·9	4,991	1·05	4,222	1,300	30·8	5,485	1·30
14	Halifax, c	1,716	847	49·4	1,334	0·78	1,662	701	42·2	1,601	0·96
15	**New Brunswick**	**10,427**	**3,436**	**33·0**	**12,493**	**1·20**	**7,973**	**2,217**	**27·8**	**12,141**	**1·52**
16	Rural	7,408	2,158	29·1	9,690	1·31	5,036	1,149	22·8	8,763	1·74
17	Localities under 1,000	32	13	40·6	35	1·09	34	12	35·3	44	1·29
18	" 1,000-29,999	1,870	773	41·3	1,793	0·96	1,911	682	35·7	2,257	1·18
19	Saint John, c	1,117	492	44·0	975	0·87	992	374	37·7	1,077	1·09
20	**Quebec**	**53,891**	**21,636**	**40·1**	**54,287**	**1·01**	**66,818**	**20,947**	**31·3**	**95,830**	**1·43**
21	Rural	20,586	6,843	33·2	25,100	1·22	19,943	4,141	20·8	39,134	1·96
22	Localities under 1,000	1,724	645	37·4	1,830	1·06	2,181	567	26·0	3,445	1·58
23	" 1,000-29,999	11,289	4,508	39·9	11,078	0·98	13,853	4,085	29·5	20,442	1·48
24	" 30,000 and over	18,862	8,933	47·4	15,235	0·81	28,441	11,223	39·5	30,270	1·06
25	Outremont, c	232	153	65·9	100	0·43	492	216	43·9	368	0·75
26	Hull, c	693	226	32·6	822	1·19	649	187	28·8	906	1·40
27	Sherbrooke, c	741	372	50·2	550	0·74	899	324	36·0	1,068	1·19
28	Trois-Rivières, c	660	274	41·5	661	1·00	905	259	28·6	1,341	1·48
29	Verdun, c	1,143	575	50·3	773	0·68	1,983	842	42·5	1,826	0·92
30	Quebec, c	1,691	775	45·8	1,462	0·86	3,003	1,043	34·7	3,887	1·29
31	Montreal, c	13,702	6,558	47·9	10,867	0·79	20,510	8,352	40·7	20,874	1·02
32	Montreal, M.A	16,507	7,993	48·4	12,784	0·77	25,385	10,341	40·7	25,607	1·01
33	**Ontario**	**79,574**	**34,626**	**43·5**	**68,677**	**0·86**	**78,158**	**29,532**	**37·8**	**80,157**	**1·03**
34	Rural	26,154	9,253	35·4	27,669	1·06	21,837	6,413	29·4	28,421	1·30
35	Localities under 1,000	1,266	423	33·4	1,363	1·08	1,181	363	30·7	1,419	1·20
36	" 1,000-29,999	20,605	9,009	43·7	17,710	0·86	18,316	6,798	37·1	18,902	1·03
37	" 30,000 and over	27,378	13,960	51·0	18,857	0·69	30,358	13,308	43·8	25,754	0·85
38	Kingston, c	876	407	46·5	686	0·78	706	294	41·6	638	0·90
39	St. Catharines, c	765	371	48·5	547	0·72	741	306	41·3	659	0·89
40	Fort William, c	726	338	46·6	533	0·73	720	281	39·0	670	0·93
41	Brantford, c	767	374	48·8	566	0·74	781	318	40·7	699	0·90
42	Sudbury, c	1,435	547	38·1	1,355	0·94	1,128	352	31·2	1,347	1·19
43	Kitchener, c	727	365	50·2	482	0·66	855	346	40·5	804	0·94
44	London, c	1,658	862	52·0	1,120	0·68	1,750	771	44·1	1,558	0·89
45	Windsor, c	2,717	1,250	46·0	2,208	0·81	2,183	835	38·3	2,164	0·99
46	Ottawa, c	2,639	1,278	48·4	1,984	0·75	3,301	1,465	44·4	2,958	0·90
47	Hamilton, c	3,674	1,844	50·2	2,571	0·70	3,781	1,573	41·6	3,357	0·89
48	Toronto, c	11,394	6,324	55·5	6,805	0·60	14,412	6,767	47·0	10,900	0·76
49	Toronto, M.A	15,565	8,305	53·4	9,883	0·63	20,878	9,417	45·1	16,561	0·79

TABLE 2.—Childless families and average family sizes marriages of 1931-41, rural, and urban size groups, cities and metropolitan areas, Canada and provinces—Con.

NUMBER AND PERCENTAGE CHILDLESS, AND TOTAL AND AVERAGE NUMBER OF CHILDREN EVER-BORN, BY PRESENT AGE OF MARRIED WOMEN, FOR THOSE MARRIED BETWEEN 1931 AND 1941, RURAL, AND URBAN SIZE GROUPS, CITIES OF 30,000 AND OVER AND METROPOLITAN AREAS, CANADA AND PROVINCES

Married women aged 30-34 years married at 25-34 years					Married women aged 35-39 years married at 30-39 years					Married women aged 40-44 years married at 35-44 years					No.
Total	Childless		Children ever-born		Total	Childless		Children ever-born		Total	Childless		Children ever-born		
	No.	P.C.	Total	Average		No.	P.C.	Total	Average		No.	P.C.	Total	Average	
101,334	**38,778**	**38·3**	**112,542**	**1·11**	**30,995**	**15,245**	**49·2**	**27,597**	**0·89**	**10,110**	**6,609**	**65·4**	**5,758**	**0·57**	1
31,860	9,531	29·9	45,320	1·42	9,983	4,050	40·6	11,627	1·16	3,346	1,913	57·2	2,541	0·76	2
3,084	1,082	35·1	3,714	1·20	926	440	47·5	808	0·87	318	190	59·7	224	0·70	3
19,696	7,463	37·9	22,069	1·12	5,635	2,718	48·2	5,113	0·91	1,732	1,156	66·7	931	0·54	4
40,289	18,129	45·0	35,524	0·88	12,630	7,070	56·0	8,729	0·69	4,114	2,946	71·6	1,777	0·43	5
627	**206**	**32·9**	**847**	**1·35**	**220**	**89**	**40·5**	**290**	**1·32**	**79**	**48**	**60·8**	**52**	**0·66**	6
413	126	30·5	597	1·45	157	59	37·6	202	1·29	59	32	54·2	46	0·78	7
22	11	50·0	25	1·14	3	1	33·3	6	2·00	2	2	100·0	0	0·00	8
192	69	35·9	225	1·17	60	29	48·3	82	1·37	18	14	77·8	6	0·33	9
4,271	**1,578**	**36·9**	**5,060**	**1·18**	**1,370**	**632**	**46·1**	**1,462**	**1·07**	**459**	**297**	**64·7**	**266**	**0·58**	10
1,817	575	31·6	2,482	1·37	628	255	40·6	765	1·22	214	126	58·9	154	0·72	11
35	18	51·4	27	0·77	10	3	30·0	15	1·50	3	2	66·7	2	0·67	12
1,623	614	37·8	1,829	1·13	463	213	46·0	475	1·03	161	107	66·5	80	0·50	13
796	371	46·6	722	0·91	269	161	59·9	207	0·77	81	62	76·5	30	0·37	14
3,258	**1,138**	**34·9**	**4,290**	**1·32**	**1,021**	**454**	**44·5**	**1,061**	**1·04**	**339**	**211**	**62·2**	**225**	**0·66**	15
1,865	538	28·8	2,928	1·57	559	215	38·5	693	1·24	207	116	56·0	170	0·82	16
21	6	28·6	21	1·00	3	2	66·7	1	0·33	–	–	–	–	–	17
847	332	39·2	915	1·08	284	147	51·8	231	0·81	70	52	74·3	26	0·37	18
525	262	49·9	426	0·81	175	90	51·4	136	0·78	62	43	69·4	29	0·47	19
32,115	**11,609**	**36·1**	**41,785**	**1·30**	**9,847**	**4,762**	**48·4**	**9,805**	**1·00**	**3,127**	**2,011**	**64·3**	**2,025**	**0·65**	20
7,789	2,011	25·8	14,169	1·82	2,303	833	36·2	3,385	1·47	767	410	53·5	730	0·95	21
925	276	29·8	1,380	1·49	309	142	46·0	310	1·00	120	75	62·5	89	0·74	22
6,178	2,035	32·9	8,759	1·42	1,674	732	43·7	1,876	1·12	478	312	65·3	303	0·63	23
15,693	6,694	42·7	15,835	1·01	5,097	2,813	55·2	3,842	0·75	1,615	1,120	69·3	822	0·51	24
290	119	41·0	266	0·92	86	43	50·0	67	0·78	33	21	63·6	21	0·64	25
294	99	33·7	386	1·31	76	37	48·7	75	0·99	21	10	47·6	18	0·86	26
436	178	40·8	431	0·99	115	57	49·6	101	0·88	34	24	70·6	15	0·44	27
467	134	28·7	689	1·48	137	55	40·1	169	1·23	43	27	62·8	29	0·67	28
965	398	41·2	891	0·92	279	151	54·1	209	0·75	80	52	65·0	40	0·50	29
1,825	676	37·0	2,245	1·23	597	272	45·6	579	0·97	182	120	65·9	103	0·57	30
11,416	5,090	44·6	10,927	0·96	3,807	2,198	57·7	2,642	0·69	1,222	866	70·9	596	0·49	31
14,201	6,200	43·7	13,726	0·97	4,636	2,634	56·8	3,310	0·71	1,482	1,033	69·7	738	0·50	32
35,160	**14,552**	**41·4**	**33,252**	**0·95**	**11,531**	**5,983**	**51·9**	**8,755**	**0·76**	**3,886**	**2,664**	**68·6**	**1,877**	**0·48**	33
9,188	3,138	34·2	10,993	1·10	3,337	1,501	45·0	3,193	0·96	1,150	709	61·7	719	0·63	34
531	208	39·2	535	1·01	211	111	52·6	143	0·68	68	34	50·0	57	0·84	35
8,024	3,290	41·0	7,632	0·95	2,474	1,259	50·9	1,912	0·77	803	551	68·6	393	0·49	36
14,113	6,536	46·3	11,337	0·80	4,555	2,580	56·6	2,906	0·64	1,555	1,143	73·5	597	0·38	37
338	155	45·9	272	0·80	92	43	46·7	70	0·76	32	19	59·4	18	0·56	38
298	139	46·6	237	0·80	93	48	51·6	75	0·81	27	18	66·7	16	0·59	39
312	117	37·5	317	1·02	76	33	43·4	73	0·96	15	11	73·3	5	0·33	40
304	135	44·4	242	0·80	98	56	57·1	79	0·81	28	19	67·9	13	0·46	41
405	159	39·3	432	1·07	114	58	50·9	92	0·81	24	17	70·8	15	0·63	42
391	155	39·6	370	0·95	116	54	46·6	90	0·78	31	19	61·3	20	0·65	43
816	382	46·8	659	0·81	246	130	52·8	177	0·72	83	59	71·1	30	0·36	44
825	373	45·2	686	0·83	264	150	56·8	175	0·66	106	73	68·9	49	0·46	45
1,723	764	44·3	1,565	0·91	568	319	56·2	400	0·70	205	145	70·7	87	0·42	46
1,686	783	46·4	1,317	0·78	508	298	58·7	310	0·61	160	123	76·9	46	0·29	47
7,015	3,374	48·1	5,240	0·75	2,380	1,391	58·4	1,365	0·57	844	640	75·8	298	0·35	48
10,319	4,754	46·1	7,995	0·77	3,334	1,923	57·7	1,966	0·59	1,154	867	75·1	409	0·35	49

TABLE 2.—Childless families and average family sizes marriages of 1931-41, rural, and urban size groups, cities and metropolitan areas, Canada and provinces—Con.

NUMBER AND PERCENTAGE CHILDLESS, AND TOTAL AND AVERAGE NUMBER OF CHILDREN EVER-BORN, BY PRESENT AGE OF MARRIED WOMEN, FOR THOSE MARRIED BETWEEN 1931 AND 1941, RURAL, AND URBAN SIZE GROUPS, CITIES OF 30,000 AND OVER AND METROPOLITAN AREAS, CANADA AND PROVINCES

No.	Residence	Married women aged 15-24 years married at 15-24 years					Married women aged 25-29 years married at 20-29 years				
		Total	Childless		Children ever-born		Total	Childless		Children ever-born	
			No.	P.C.	Total	Average		No.	P.C.	Total	Average
1	**Manitoba**	**15,116**	**6,605**	**43·7**	**12,950**	**0·86**	**15,764**	**5,500**	**34·9**	**17,772**	**1·13**
2	Rural	7,812	2,802	35·9	8,241	1·05	6,648	1,566	23·6	10,020	1·51
3	Localities under 1,000	381	158	41·5	309	0·81	436	152	34·9	478	1·10
4	" 1,000-29,999	1,237	611	49·4	897	0·73	1,236	487	39·4	1,213	0·98
5	Winnipeg, c.	4,584	2,583	56·3	2,567	0·56	5,780	2,721	47·1	4,337	0·75
6	Winnipeg, M.A.	5,686	3,034	53·4	3,503	0·62	7,444	3,295	44·3	6,061	0·81
7	**Saskatchewan**	**18,103**	**6,829**	**37·7**	**17,613**	**0·97**	**17,455**	**4,817**	**27·6**	**23,303**	**1·34**
8	Rural	12,656	4,297	34·0	13,375	1·06	10,810	2,394	22·1	16,372	1·51
9	Localities under 1,000	1,706	714	41·9	1,496	0·88	2,050	603	29·4	2,532	1·24
10	" 1,000-29,999	1,753	808	46·1	1,400	0·80	2,022	721	35·7	2,126	1·05
11	" 30,000 and over	1,988	1,010	50·8	1,342	0·68	2,573	1,099	42·7	2,273	0·88
12	Saskatoon, c.	801	427	53·3	521	0·65	1,052	466	44·3	871	0·83
13	Regina, c.	1,187	583	49·1	821	0·69	1,521	633	41·6	1,402	0·92
14	**Alberta**	**18,837**	**7,396**	**39·3**	**17,775**	**0·94**	**16,424**	**4,919**	**30·0**	**20,410**	**1·24**
15	Rural	11,963	4,147	34·7	12,699	1·06	8,677	1,936	22·3	12,979	1·50
16	Localities under 1,000	1,256	500	39·8	1,089	0·87	1,220	353	28·9	1,448	1·19
17	" 1,000-29,999	1,645	740	45·0	1,290	0·78	1,590	562	35·3	1,605	1·01
18	" 30,000 and over	3,973	2,009	50·6	2,697	0·68	4,937	2,068	41·9	4,378	0·89
19	Calgary, c.	2,065	1,103	53·4	1,299	0·63	2,449	1,058	43·2	2,040	0·83
20	Edmonton, c.	1,908	906	47·5	1,398	0·73	2,488	1,010	40·6	2,338	0·94
21	**British Columbia**	**17,318**	**7,738**	**44·7**	**14,116**	**0·82**	**19,828**	**7,573**	**38·2**	**19,422**	**0·98**
22	Rural	7,634	2,884	37·8	7,539	0·99	7,134	2,153	30·2	8,647	1·21
23	Localities under 1,000	265	117	44·2	219	0·83	256	97	37·9	256	1·00
24	" 1,000-29,999	1,917	860	44·9	1,497	0·78	2,291	818	35·7	2,260	0·99
25	" 30,000 and over	6,099	3,202	52·5	3,862	0·63	8,265	3,736	45·2	6,585	0·80
26	Victoria, c.	1,042	607	58·3	568	0·55	1,114	563	50·5	821	0·74
27	Vancouver, c.	5,057	2,595	51·3	3,294	0·65	7,151	3,173	44·4	5,764	0·81
28	Vancouver, M.A.	6,460	3,270	50·6	4,293	0·66	9,033	3,942	43·6	7,438	0·82
29	**Northwest Territories and Yukon**	**480**	**168**	**35·0**	**555**	**1·16**	**244**	**66**	**27·0**	**354**	**1·45**
30	Rural	431	148	34·3	513	1·19	178	45	25·3	284	1·60
31	Localities under 1,000	22	9	40·9	23	1·05	29	7	24·1	38	1·31
32	" 1,000-29,999	27	11	40·7	19	0·70	37	14	37·8	32	0·86

TABLE 2.—Childless families and average family sizes marriages of 1931-41, rural, and urban size groups, cities and metropolitan areas, Canada and provinces—Con.

NUMBER AND PERCENTAGE CHILDLESS, AND TOTAL AND AVERAGE NUMBER OF CHILDREN EVER-BORN, BY PRESENT AGE OF MARRIED WOMEN, FOR THOSE MARRIED BETWEEN 1931 AND 1941, RURAL, AND URBAN SIZE GROUPS, CITIES OF 30,000 AND OVER AND METROPOLITAN AREAS, CANADA AND PROVINCES

Married women aged 30-34 years married at 25-34 years					Married women aged 35-39 years married at 30-39 years					Married women aged 40-44 years married at 35-44 years					No.
Total	Childless		Children ever-born		Total	Childless		Children ever-born		Total	Childless		Children ever-born		
	No.	P.C.	Total	Average		No.	P.C.	Total	Average		No.	P.C.	Total	Average	
6,336	**2,546**	**40·2**	**6,212**	**0·98**	**1,672**	**753**	**45·0**	**1,510**	**0·90**	**531**	**331**	**62·3**	**298**	**0·56**	1
2,328	715	30·7	3,000	1·29	655	236	36·0	779	1·19	191	99	51·8	148	0·77	2
203	80	39·4	213	1·05	58	27	46·6	40	0·69	16	10	62·5	8	0·50	3
517	204	39·5	457	0·88	130	59	45·4	103	0·79	40	22	55·0	27	0·68	4
2,506	1,263	50·4	1,732	0·69	655	355	54·2	433	0·66	227	165	72·7	78	0·34	5
3,288	1,547	47·0	2,542	0·77	829	431	52·0	588	0·71	284	200	70·4	115	0·40	6
5,732	**1,768**	**30·8**	**7,261**	**1·27**	**1,455**	**597**	**41·0**	**1,538**	**1·06**	**426**	**242**	**56·8**	**303**	**0·71**	7
3,107	743	23·9	4,611	1·48	780	257	32·9	1,017	1·30	230	114	49·6	205	0·89	8
770	282	36·6	859	1·12	209	93	44·5	184	0·88	65	44	67·7	34	0·52	9
793	317	40·0	793	1·00	184	96	52·2	142	0·77	52	28	53·8	34	0·65	10
1,062	426	40·1	998	0·94	282	151	53·5	195	0·69	79	56	70·9	30	0·38	11
423	177	41·8	376	0·89	112	63	56·3	73	0·65	33	22	66·7	12	0·36	12
639	249	39·0	622	0·97	170	88	51·8	122	0·72	46	34	73·9	18	0·39	13
5,670	**1,882**	**33·2**	**6,618**	**1·17**	**1,467**	**677**	**46·1**	**1,405**	**0·96**	**418**	**236**	**56·5**	**306**	**0·73**	14
2,582	662	25·6	3,632	1·41	719	276	38·4	852	1·18	217	106	48·8	198	0·91	15
470	157	33·4	548	1·17	89	47	52·8	72	0·81	29	14	48·3	27	0·93	16
599	222	37·1	607	1·01	131	66	50·4	104	0·79	40	25	62·5	23	0·58	17
2,019	841	41·7	1,831	0·91	528	288	54·5	377	0·71	132	91	68·9	58	0·44	18
1,051	454	43·2	872	0·83	273	148	54·2	192	0·70	66	45	68·2	29	0·44	19
968	387	40·0	959	0·99	255	140	54·9	185	0·73	66	46	69·7	29	0·44	20
8,072	**3,459**	**42·9**	**7,115**	**0·88**	**2,379**	**1,283**	**53·9**	**1,741**	**0·73**	**835**	**562**	**67·3**	**401**	**0·48**	21
2,704	998	36·9	2,824	1·04	817	405	49·6	714	0·87	307	198	64·5	170	0·55	22
97	39	40·2	97	1·00	31	13	41·9	35	1·13	13	7	53·8	7	0·54	23
907	370	40·8	843	0·93	233	116	49·8	187	0·80	66	43	65·2	35	0·53	24
3,575	1,736	48·6	2,643	0·74	1,069	632	59·1	633	0·59	363	266	73·3	133	0·37	25
434	225	51·8	307	0·71	140	85	60·7	75	0·54	43	35	81·4	11	0·21	26
3,141	1,511	48·1	2,336	0·74	929	547	58·9	558	0·60	320	231	72·2	122	0·38	27
3,930	1,827	46·5	3,044	0·77	1,158	664	57·3	730	0·63	406	279	68·7	178	0·44	28
93	**40**	**43·0**	**102**	**1·10**	**33**	**15**	**45·5**	**30**	**0·91**	**10**	**7**	**70·0**	**5**	**0·50**	29
67	25	37·3	84	1·25	28	13	46·4	27	0·96	4	3	75·0	1	0·25	30
10	5	50·0	9	0·90	3	1	33·3	2	0·67	2	2	100·0	0	0·00	31
16	10	62·5	9	0·56	2	1	50·0	1	0·50	4	2	50·0	4	1·00	32

TABLE 3.—Conjugal condition and years of schooling, by age of married women and duration of marriage, Canada and regions

Present age and age at first marriage	Married women								
	Total	Present conjugal condition				Years of schooling			
		Married	Widowed	Divorced	Separated	0-4	5-8	9-12	13+
CANADA									
Present age, 15-24 years—									
Married under 20 years	123,772	121,529	637	188	1,418	9,400	69,381	43,252	1,646
" at 20-24 "	106,471	105,676	304	39	452	3,868	45,458	50,892	6,143
Present age, 25-34 years—									
Married under 20 years	167,957	159,181	3,208	1,106	4,461	20,228	96,395	49,051	2,163
" at 20-24 "	309,284	301,401	3,565	830	3,487	19,575	139,471	132,323	17,613
" " 25-29 "	145,618	143,732	960	159	767	6,067	52,279	71,399	15,733
" " 30-34 "	20,190	19,987	104	7	91	863	7,053	9,843	2,402
Present age, 35-44 years—									
Married under 20 years	157,037	141,749	8,862	979	5,447	30,526	87,179	36,947	2,221
" at 20-24 "	256,243	239,350	11,042	1,105	4,745	24,624	124,066	95,026	12,244
" " 25-29 "	115,331	109,468	3,958	322	1,583	8,437	45,753	50,144	10,870
" " 30-34 "	41,804	40,360	1,002	77	365	2,700	15,843	18,682	4,535
" " 35-39 "	14,556	14,185	255	11	105	886	5,680	6,484	1,485
" " 40-44 "	2,258	2,221	30	–	7	147	902	991	215
Present age, 45-54 years—									
Married under 20 years	117,720	98,583	14,866	508	3,763	26,760	62,708	26,186	1,870
" at 20-24 "	223,737	193,920	24,492	688	4,637	24,271	108,580	80,208	10,401
" " 25-29 "	112,520	99,648	10,889	267	1,716	7,552	46,904	48,537	9,398
" " 30-34 "	36,437	32,728	3,164	80	465	2,393	14,881	15,686	3,417
" " 35-39 "	13,842	12,544	1,089	26	183	990	5,691	5,859	1,281
" " 40-44 "	6,016	5,613	340	6	57	455	2,445	2,536	569
" " 45 years and over	3,053	2,890	124	5	34	228	1,270	1,267	276
Present age, 55-64 years—									
Married under 20 years	70,600	50,916	17,999	105	1,580	17,667	37,523	14,143	1,136
" at 20-24 "	155,520	117,457	35,148	239	2,675	21,071	80,654	47,581	5,969
" " 25-29 "	89,506	69,211	18,905	147	1,243	6,897	41,882	34,520	6,075
" " 30-34 "	33,163	26,065	6,539	56	503	2,347	15,104	12,999	2,649
" " 35-39 "	14,734	11,748	2,795	19	172	1,080	6,588	5,852	1,194
" " 40-44 "	6,210	4,945	1,156	8	101	497	2,767	2,404	532
" " 45 years and over	4,624	3,907	675	3	39	373	2,089	1,780	375
Present age, 65 years and over—									
Married under 20 years	64,466	26,007	37,751	43	665	19,128	32,342	11,787	999
" at 20-24 "	136,067	59,835	74,962	99	1,169	25,464	70,628	34,695	4,885
" " 25-29 "	73,304	35,354	37,293	58	599	9,774	36,876	22,667	3,802
" " 30-34 "	28,077	14,339	13,451	21	266	3,554	13,709	9,021	1,726
" " 35-39 "	13,096	6,836	6,127	10	123	1,593	6,411	4,186	860
" " 40-44 "	6,562	3,544	2,958	9	51	842	3,137	2,106	464
" " 45 years and over	6,526	3,631	2,820	5	70	852	3,101	2,102	436
MARITIMES									
Present age, 15-24 years—									
Married under 20 years	15,830	15,604	86	10	130	1,427	8,399	5,892	98
" at 20-24 "	10,153	10,078	32	3	40	565	4,058	5,162	360
Present age, 25-34 years—									
Married under 20 years	18,245	17,386	346	79	434	2,316	10,132	5,672	111
" at 20-24 "	27,207	26,511	363	51	282	2,028	11,281	12,861	1,009
" " 25-29 "	11,699	11,534	95	5	65	619	3,668	6,399	1,007
" " 30-34 "	1,667	1,652	10	–	5	94	468	919	185
Present age, 35-44 years—									
Married under 20 years	15,186	13,672	921	85	508	2,385	8,363	4,328	103
" at 20-24 "	20,544	19,127	1,010	67	340	1,901	9,057	8,853	707
" " 25-29 "	9,276	8,771	369	18	118	696	3,166	4,733	671
" " 30-34 "	3,615	3,466	114	4	31	283	1,189	1,831	305
" " 35-39 "	1,230	1,200	21	–	9	97	419	612	101
" " 40-44 "	202	195	7	–	–	18	76	89	18
Present age, 45-54 years—									
Married under 20 years	11,400	9,576	1,469	22	333	2,119	6,162	3,022	90
" at 20-24 "	19,230	16,693	2,183	45	309	2,223	8,456	7,928	602
" " 25-29 "	9,356	8,278	950	15	113	773	3,418	4,546	610
" " 30-34 "	3,148	2,774	347	5	22	262	1,145	1,527	205
" " 35-39 "	1,289	1,173	100	1	15	117	497	587	88
" " 40-44 "	549	504	38	2	5	47	205	248	48
" " 45 years and over	284	265	15	–	4	29	101	133	21
Present age, 55-64 years—									
Married under 20 years	7,202	5,160	1,899	3	140	1,694	3,737	1,703	57
" at 20-24 "	13,977	10,448	3,329	12	188	2,125	6,449	4,956	429
" " 25-29 "	7,663	5,827	1,754	7	75	758	3,130	3,328	438
" " 30-34 "	3,006	2,299	676	6	25	331	1,178	1,310	183
" " 35-39 "	1,383	1,080	292	–	11	139	520	631	90
" " 40-44 "	606	471	123	2	10	64	210	280	52
" " 45 years and over	417	344	71	–	2	46	163	179	28

TABLE 3.—Conjugal condition and years of schooling, by age of married women and duration of marriage, Canada and regions—Con.

Present age and age at first marriage	Married women								
	Total	Present conjugal condition				Years of schooling			
		Married	Widowed	Divorced	Separated	0–4	5–8	9–12	13+
MARITIMES—Con.									
Present age, 65 years and over—									
Married under 20 years	7,082	2,674	4,346	–	62	2,002	3,456	1,536	72
" at 20–24 "	15,525	6,327	9,080	12	106	3,466	7,096	4,509	420
" " 25–29 "	8,784	3,890	4,837	9	48	1,658	3,816	2,962	331
" " 30–34 "	3,579	1,707	1,854	2	16	654	1,511	1,242	166
" " 35–39 "	1,656	796	853	1	6	307	735	525	79
" " 40–44 "	864	441	416	1	6	162	365	289	48
" " 45 years and over	768	387	371	–	10	161	279	279	43
QUEBEC									
Present age, 15–24 years—									
Married under 20 years	25,345	25,014	114	12	205	3,531	17,417	4,234	142
" at 20–24 "	28,683	28,537	80	3	63	1,856	16,733	9,326	733
Present age, 25–34 years—									
Married under 20 years	35,184	33,579	770	58	777	5,602	22,982	6,264	310
" at 20–24 "	84,146	82,383	1,014	56	693	7,085	48,370	26,330	2,280
" " 25–29 "	45,468	44,976	296	13	183	2,647	22,507	18,144	2,130
" " 30–34 "	6,984	6,919	33	3	28	410	3,291	2,877	392
Present age, 35–44 years—									
Married under 20 years	37,648	34,104	2,277	62	1,205	6,689	23,398	7,154	374
" at 20–24 "	71,538	66,916	3,350	90	1,182	7,338	39,468	22,649	1,989
" " 25–29 "	31,418	29,867	1,103	33	415	2,663	14,985	12,102	1,633
" " 30–34 "	12,196	11,826	277	8	85	937	5,635	4,897	714
" " 35–39 "	4,681	4,580	71	3	27	368	2,185	1,889	230
" " 40–44 "	738	725	11	–	2	62	339	302	33
Present age, 45–54 years—									
Married under 20 years	30,038	25,245	3,927	50	816	6,582	17,729	5,353	334
" at 20–24 "	55,696	48,163	6,378	75	1,080	7,375	30,077	16,597	1,580
" " 25–29 "	24,565	21,615	2,542	31	377	2,429	11,858	9,104	1,143
" " 30–34 "	8,007	7,200	698	11	98	785	3,821	2,960	432
" " 35–39 "	3,408	3,086	271	5	46	349	1,680	1,191	181
" " 40–44 "	1,676	1,582	83	–	11	202	803	570	95
" " 45 years and over	884	832	43	–	9	99	399	352	33
Present age, 55–64 years—									
Married under 20 years	19,954	14,718	4,877	18	341	5,171	11,256	3,273	224
" at 20–24 "	38,363	28,923	8,844	28	568	6,772	20,517	10,014	996
" " 25–29 "	16,965	12,957	3,763	14	231	2,253	8,356	5,599	730
" " 30–34 "	5,969	4,622	1,240	8	99	780	2,914	1,970	293
" " 35–39 "	2,778	2,198	550	–	30	366	1,347	930	132
" " 40–44 "	1,322	1,058	241	–	23	187	650	409	75
" " 45 years and over	1,075	900	164	–	11	164	531	330	50
Present age, 65 years and over—									
Married under 20 years	17,980	7,663	10,173	8	136	6,340	8,933	2,476	175
" at 20–24 "	32,285	14,699	17,352	6	228	8,651	16,174	6,577	767
" " 25–29 "	14,840	7,112	7,622	10	96	3,355	7,126	3,827	502
" " 30–34 "	5,661	2,840	2,774	3	44	1,266	2,862	1,319	199
" " 35–39 "	2,711	1,417	1,279	–	15	595	1,360	646	101
" " 40–44 "	1,517	779	729	–	9	348	763	337	66
" " 45 years and over	1,502	843	641	2	16	353	736	364	44
ONTARIO									
Present age, 15–24 years—									
Married under 20 years	44,740	43,811	225	71	633	1,641	23,330	18,700	1,033
" at 20–24 "	35,310	35,001	94	14	201	581	12,584	18,818	3,285
Present age, 25–34 years—									
Married under 20 years	60,149	56,644	1,098	457	1,950	4,510	33,609	20,797	1,196
" at 20–24 "	105,516	102,539	1,205	322	1,450	4,233	42,190	49,930	9,049
" " 25–29 "	49,561	48,860	324	67	310	1,341	14,823	25,362	7,975
" " 30–34 "	6,769	6,702	34	2	31	174	1,966	3,458	1,162
Present age, 35–44 years—									
Married under 20 years	53,456	47,720	3,178	380	2,178	6,894	31,511	13,913	1,086
" at 20–24 "	93,978	87,544	4,006	464	1,964	6,371	45,306	35,847	5,872
" " 25–29 "	44,900	42,486	1,583	135	696	2,377	17,405	19,459	5,603
" " 30–34 "	15,983	15,414	375	30	164	760	5,779	7,142	2,286
" " 35–39 "	5,521	5,378	98	4	41	248	2,057	2,453	754
" " 40–44 "	857	847	8	–	2	40	347	377	93
Present age, 45–54 years—									
Married under 20 years	38,151	31,330	5,198	177	1,446	6,155	21,778	9,359	800
" at 20–24 "	83,936	72,206	9,602	255	1,873	6,337	42,728	30,051	4,716
" " 25–29 "	45,605	40,197	4,554	94	760	2,149	19,846	19,130	4,427
" " 30–34 "	14,466	12,904	1,329	22	211	639	6,093	6,097	1,611
" " 35–39 "	5,388	4,841	470	12	65	272	2,267	2,254	586
" " 40–44 "	2,279	2,118	136	1	24	97	946	983	250
" " 45 years and over	1,196	1,134	41	3	18	60	539	456	132

TABLE 3.—Conjugal condition and years of schooling, by age of married women and duration of marriage, Canada and regions—Con.

Present age and age at first marriage	Married women								
	Total	Present conjugal condition				Years of schooling			
		Married	Widowed	Divorced	Separated	0-4	5-8	9-12	13+
ONTARIO—Con.									
Present age, 55-64 years—									
Married under 20 years	22,791	15,909	6,255	30	597	4,025	13,350	4,881	493
" at 20-24 "	59,165	44,180	13,885	72	1,028	5,123	33,547	17,806	2,594
" " 25-29 "	36,389	27,777	8,066	51	495	1,879	18,479	13,352	2,621
" " 30-34 "	12,846	9,858	2,768	13	207	651	6,379	4,771	1,014
" " 35-39 "	5,735	4,443	1,218	7	67	298	2,753	2,185	489
" " 40-44 "	2,512	1,934	537	2	39	131	1,237	918	220
" " 45 years and over	1,984	1,650	317	1	16	86	980	726	187
Present age, 65 years and over—									
Married under 20 years	22,929	8,654	14,023	14	238	4,458	13,175	4,732	481
" at 20-24 "	55,602	23,637	31,463	38	463	6,241	32,425	14,415	2,343
" " 25-29 "	31,949	15,058	16,628	18	245	2,483	18,028	9,515	1,833
" " 30-34 "	11,827	5,754	5,953	8	112	854	6,370	3,718	854
" " 35-39 "	5,308	2,572	2,677	6	53	394	2,795	1,708	389
" " 40-44 "	2,513	1,250	1,241	3	19	198	1,301	798	209
" " 45 years and over	2,885	1,509	1,348	-	28	206	1,501	939	222
PRAIRIES									
Present age, 15-24 years—									
Married under 20 years	28,411	28,003	130	41	237	2,079	16,029	10,050	238
" at 20-24 "	23,884	23,716	73	11	84	682	9,637	12,365	1,184
Present age, 25-34 years—									
Married under 20 years	41,707	39,868	695	286	857	6,444	23,516	11,392	342
" at 20-24 "	67,431	65,930	683	197	620	5,233	29,384	29,305	3,472
" " 25-29 "	26,745	26,437	162	30	116	1,178	8,357	14,242	2,947
" " 30-34 "	3,204	3,171	18	-	15	150	917	1,698	437
Present age, 35-44 years—									
Married under 20 years	39,739	36,659	1,760	242	1,078	12,819	18,715	7,785	383
" at 20-24 "	51,206	48,400	1,745	241	819	7,559	22,707	18,596	2,300
" " 25-29 "	20,784	19,911	587	64	222	2,243	7,545	9,113	1,870
" " 30-34 "	6,634	6,423	146	14	51	549	2,271	3,077	735
" " 35-39 "	1,965	1,916	36	1	12	126	680	951	207
" " 40-44 "	263	258	3	-	2	14	79	131	39
Present age, 45-54 years—									
Married under 20 years	29,531	25,537	3,032	130	832	10,392	13,163	5,552	369
" at 20-24 "	46,514	41,513	4,017	158	826	6,999	20,467	16,828	2,160
" " 25-29 "	22,441	20,359	1,756	58	268	1,763	8,452	10,142	2,063
" " 30-34 "	7,108	6,554	468	19	67	542	2,650	3,205	698
" " 35-39 "	2,372	2,202	140	2	28	195	842	1,080	252
" " 40-44 "	893	840	44	-	9	72	305	416	99
" " 45 years and over	394	383	8	1	2	30	148	167	48
Present age, 55-64 years—									
Married under 20 years	15,539	11,573	3,593	29	344	5,665	6,973	2,675	202
" at 20-24 "	30,808	24,230	5,989	67	521	5,917	14,590	9,109	1,136
" " 25-29 "	18,425	14,932	3,232	26	235	1,579	8,146	7,369	1,299
" " 30-34 "	7,121	5,915	1,119	12	75	446	3,049	2,958	655
" " 35-39 "	2,931	2,490	403	5	33	211	1,256	1,195	267
" " 40-44 "	1,020	880	127	1	12	80	410	432	96
" " 45 years and over	593	536	54	1	2	57	236	251	48
Present age, 65 years and over—									
Married under 20 years	12,172	5,270	6,748	7	147	5,371	4,824	1,803	145
" at 20-24 "	22,404	10,586	11,561	26	230	5,885	10,449	5,274	755
" " 25-29 "	11,272	6,014	5,134	8	116	1,796	5,286	3,551	602
" " 30-34 "	4,233	2,481	1,707	4	41	572	1,883	1,516	253
" " 35-39 "	1,968	1,195	741	1	31	217	960	633	155
" " 40-44 "	892	584	298	2	8	90	398	353	48
" " 45 years and over	692	459	226	-	7	87	312	232	58
BRITISH COLUMBIA									
Present age, 15-24 years—									
Married under 20 years	9,077	8,743	73	54	207	432	4,148	4,355	135
" at 20-24 "	8,316	8,222	23	8	63	132	2,424	5,183	568

TABLE 3.—Conjugal condition and years of schooling, by age of married women and duration of marriage, Canada and regions—Con.

Present age and age at first marriage	Married women								
	Total	Present conjugal condition				Years of schooling			
		Married	Widowed	Divorced	Separated	0-4	5-8	9-12	13+
BRITISH COLUMBIA—Con.									
Present age, 25-34 years—									
Married under 20 years	12,295	11,350	279	225	441	1,060	6,118	4,889	199
" at 20-24 "	24,681	23,743	295	203	440	840	8,199	13,820	1,782
" " 25-29 "	12,011	11,793	82	44	92	249	2,913	7,190	1,646
" " 30-34 "	1,544	1,521	9	2	12	33	406	882	222
Present age, 35-44 years—									
Married under 20 years	10,719	9,332	704	210	473	1,500	5,157	3,754	273
" at 20-24 "	18,813	17,209	922	243	439	1,337	7,006	9,062	1,372
" " 25-29 "	8,883	8,366	313	72	132	428	2,640	4,721	1,081
" " 30-34 "	3,331	3,190	86	21	34	154	964	1,721	487
" " 35-39 "	1,146	1,099	28	3	16	46	337	575	187
" " 40-44 "	195	193	1	-	1	13	61	90	31
Present age, 45-54 years—									
Married under 20 years	8,414	6,753	1,200	129	332	1,360	3,854	2,889	276
" at 20-24 "	18,241	15,246	2,292	155	548	1,246	6,838	8,794	1,338
" " 25-29 "	10,517	9,164	1,087	69	197	419	3,327	5,609	1,148
" " 30-34 "	3,687	3,277	320	23	67	157	1,169	1,891	467
" " 35-39 "	1,374	1,231	108	6	29	49	404	745	174
" " 40-44 "	608	560	37	3	8	32	186	315	75
" " 45 years and over	291	272	17	1	1	9	82	158	41
Present age, 55-64 years—									
Married under 20 years	4,979	3,475	1,323	25	156	988	2,204	1,604	159
" at 20-24 "	13,128	9,631	3,069	60	368	1,069	5,544	5,691	812
" " 25-29 "	10,029	7,692	2,085	48	204	414	3,763	4,864	982
" " 30-34 "	4,195	3,351	730	17	97	131	1,578	1,980	502
" " 35-39 "	1,903	1,533	332	7	31	64	712	909	216
" " 40-44 "	742	596	126	3	17	33	257	364	87
" " 45 years and over	552	475	68	1	8	20	177	293	62
Present age, 65 years and over—									
Married under 20 years	4,215	1,712	2,407	14	82	881	1,945	1,238	125
" at 20-24 "	10,197	4,563	5,476	17	141	1,179	4,480	3,917	597
" " 25-29 "	6,430	3,266	3,058	13	93	468	2,618	2,801	532
" " 30-34 "	2,771	1,555	1,159	4	53	204	1,081	1,226	254
" " 35-39 "	1,450	853	577	2	18	79	560	673	136
" " 40-44 "	774	488	274	3	9	44	310	328	92
" " 45 years and over	677	432	233	3	9	44	273	287	69

TABLE 4.—Mother-tongue and religion, by age of married women and duration of marriage, Canada and regions

Present age and age at first marriage	Total	Married women										
		Mother-tongue					Religion					
		English	French	Teutonic	Slovanic	Other	Roman Catholic and Greek Catholic	Greek Orthodox	Protestants	Jewish	Other
CANADA											
Present age, 15-24 years—											
Married under 20 years	123,772	71,185	31,040	5,903	9,144	6,497	51,612	2,259	68,358	788	708
" at 20-24 "	106,471	62,191	29,648	6,335	5,357	2,940	44,021	1,224	58,662	1,919	595
Present age, 25-34 years—											
Married under 20 years	167,957	91,228	40,254	10,815	15,902	9,757	69,749	3,921	91,206	1,837	1,187
" at 20-24 "	309,284	176,489	83,464	22,540	16,899	9,881	124,612	3,468	171,357	7,726	1,974
" " 25-29 "	145,618	88,560	41,611	7,898	4,645	2,896	58,569	865	82,240	3,081	767
" " 30-34 "	20,190	12,173	6,335	889	450	343	8,655	87	11,040	286	112
Present age, 35-44 years—											
Married under 20 years	157,037	78,216	40,579	12,139	16,450	9,642	67,975	4,344	80,584	2,891	1,195
" at 20-24 "	256,242	147,086	67,682	19,577	12,376	9,509	99,311	2,533	146,533	5,782	1,957
" " 25-29 "	115,331	73,358	26,749	7,396	4,310	3,512	41,295	809	70,240	2,074	849
" " 30-34 "	41,804	26,480	10,493	2,314	1,123	1,393	15,961	109	24,841	523	249
" " 35-39 "	14,556	9,107	4,200	627	223	399	5,880	45	8,399	121	99
" " 40-44 "	2,258	1,421	661	97	26	53	897	10	1,311	23	15
Present age, 45-54 years—											
Married under 20 years	117,720	58,675	31,731	9,981	11,046	6,283	50,084	3,009	60,630	2,926	1,035
" at 20-24 "	223,737	140,816	51,976	16,357	7,716	6,862	76,448	1,643	138,716	4,799	2,044
" " 25-29 "	112,520	81,231	20,633	5,843	2,051	2,758	32,790	443	76,888	1,328	1,020
" " 30-34 "	36,437	26,352	6,637	1,766	658	1,024	11,010	156	24,641	266	353
" " 35-39 "	13,842	9,606	2,950	711	197	377	4,586	56	8,980	70	137
" " 40-44 "	6,016	4,082	1,453	265	59	157	2,133	12	3,767	38	63
" " 45 years and over	3,053	2,060	765	127	30	71	1,073	7	1,931	16	21
Present age, 55-64 years—											
Married under 20 years	70,600	35,897	21,056	5,676	4,614	3,351	29,866	1,207	37,141	1,737	619
" at 20-24 "	155,520	99,422	35,886	11,194	4,479	4,522	51,461	915	98,695	3,137	1,249
" " 25-29 "	89,506	68,207	13,756	4,411	1,080	2,049	22,603	209	64,838	909	906
" " 30-34 "	33,163	25,988	4,824	1,300	315	735	8,329	56	24,301	137	318
" " 35-39 "	14,734	11,313	2,370	544	171	336	3,903	47	10,579	66	131
" " 40-44 "	6,210	4,566	1,183	240	63	158	1,865	17	4,236	33	50
" " 45 years and over	4,624	3,389	966	157	40	72	1,400	11	3,138	17	54
Present age, 65 years and over—											
Married under 20 years	64,466	35,677	18,873	4,058	3,210	2,643	25,936	843	35,914	1,207	529
" at 20-24 "	136,067	90,073	30,991	8,601	3,024	3,372	43,671	620	88,824	1,831	1,048
" " 25-29 "	73,304	54,801	12,829	3,305	777	1,589	20,206	123	51,861	491	577
" " 30-34 "	28,077	21,283	4,886	1,022	177	705	8,031	39	19,670	87	229
" " 35-39 "	13,096	9,839	2,373	477	67	339	3,851	21	9,091	26	101
" " 40-44 "	6,562	4,811	1,385	184	39	143	2,085	6	4,406	16	46
" " 45 years and over	6,526	4,786	1,374	166	44	154	1,972	10	4,467	17	52
MARITIMES											
Present age, 15-24 years—											
Married under 20 years	15,830	12,856	2,719	35	43	177	5,538	6	10,243	12	26
" at 20-24 "	10,153	8,151	1,857	30	29	86	3,817	4	6,285	33	9
Present age, 25-34 years—											
Married under 20 years	18,245	14,809	3,038	62	78	258	6,328	5	11,862	20	27
" at 20-24 "	27,207	21,884	4,820	130	77	296	10,097	11	16,930	109	44
" " 25-29 "	11,699	9,474	2,031	62	21	111	4,485	7	7,114	72	16
" " 30-34 "	1,667	1,356	286	5	3	17	676	1	986	3	1
Present age, 35-44 years—											
Married under 20 years	15,186	11,886	2,836	105	85	274	5,296	9	9,786	47	42
" at 20-24 "	20,544	16,475	3,529	175	66	299	6,927	10	13,486	88	22
" " 25-29 "	9,276	7,659	1,350	82	17	168	3,240	2	5,959	50	21
" " 30-34 "	3,615	2,936	572	20	5	82	1,378	–	2,211	16	9
" " 35-39 "	1,230	994	212	5	1	18	467	–	755	4	4
" " 40-44 "	202	161	35	1	–	5	82	–	118	1	1
Present age, 45-54 years—											
Married under 20 years	11,400	8,966	2,031	78	62	263	3,866	4	7,449	52	26
" at 20-24 "	19,230	15,529	3,143	149	71	338	6,285	6	12,798	95	37
" " 25-29 "	9,356	7,782	1,271	54	26	223	3,066	6	6,217	33	28
" " 30-34 "	3,148	2,629	380	19	6	114	1,096	1	2,037	8	6
" " 35-39 "	1,289	1,045	182	5	2	55	478	–	809	–	2
" " 40-44 "	549	451	75	5	–	18	205	–	342	–	2
" " 45 years and over	284	220	52	2	–	10	98	–	185	1	–

TABLE 4.—Mother-tongue and religion, by age of married women and duration of marriage, Canada and regions—Con.

Present age and age at first marriage	Total	Married women									
		Mother-tongue					Religion				
		English	French	Teutonic	Slovanic	Other	Roman Catholic and Greek Catholic	Greek Orthodox	Protestants	Jewish	Other
MARITIMES—Con.											
Present age, 55-64 years—											
Married under 20 years	7,202	5,667	1,293	46	20	176	2,284	1	4,866	31	17
" at 20-24 "	13,977	11,156	2,289	108	34	390	4,502	–	9,374	67	25
" " 25-29 "	7,663	6,371	974	46	15	257	2,472	–	5,148	23	18
" " 30-34 "	3,006	2,464	368	11	5	158	1,077	–	1,924	1	4
" " 35-39 "	1,383	1,132	174	–	2	75	474	1	905	2	1
" " 40-44 "	606	497	82	3	–	24	217	–	385	1	3
" " 45 years and over	417	347	56	3	1	10	143	–	271	–	3
Present age, 65 years and over—											
Married under 20 years	7,082	5,709	1,138	27	6	202	2,071	1	4,974	17	16
" at 20-24 "	15,525	12,337	2,581	73	10	524	4,727	1	10,719	38	35
" " 25-29 "	8,784	6,962	1,302	39	9	472	2,978	–	5,774	14	14
" " 30-34 "	3,579	2,851	477	7	2	241	1,239	–	2,328	3	8
" " 35-39 "	1,656	1,297	193	6	–	160	587	–	1,063	1	2
" " 40-44 "	864	689	120	–	–	56	309	–	554	–	1
" " 45 years and over	768	601	116	1	–	49	261	–	503	–	1
QUEBEC											
Present age, 15-24 years—											
Married under 20 years	25,345	2,888	21,345	299	256	557	22,604	86	2,325	303	24
" at 20-24 "	28,683	3,830	23,643	621	213	376	24,950	88	2,866	746	26
Present age, 25-34 years—											
Married under 20 years	35,184	4,343	28,558	612	648	1,023	30,726	220	3,586	594	49
" at 20-24 "	84,146	12,195	67,077	2,636	903	1,334	71,331	309	9,353	3,038	95
" " 25-29 "	45,468	8,181	35,353	1,110	341	482	37,910	127	6,097	1,251	61
" " 30-34 "	6,984	1,287	5,490	113	46	48	5,886	16	941	131	8
Present age, 35-44 years—											
Married under 20 years	37,648	4,572	30,052	1,079	728	1,217	32,513	303	3,723	1,053	53
" at 20-24 "	71,537	11,573	55,440	2,252	999	1,265	59,448	323	9,320	2,301	129
" " 25-29 "	31,418	7,236	22,422	881	384	494	24,708	126	5,681	833	57
" " 30-34 "	12,196	2,727	8,873	253	121	222	9,848	40	2,070	203	30
" " 35-39 "	4,681	931	3,585	67	25	73	3,916	7	699	50	6
" " 40-44 "	738	141	577	11	2	7	630	1	98	9	–
Present age, 45-54 years—											
Married under 20 years	30,038	3,655	24,107	1,002	373	901	25,872	235	2,868	1,021	40
" at 20-24 "	55,696	10,561	41,879	1,902	500	852	45,022	219	8,433	1,912	100
" " 25-29 "	24,565	6,767	16,729	554	159	356	18,542	80	5,342	526	67
" " 30-34 "	8,007	2,206	5,484	160	44	113	6,091	26	1,733	123	30
" " 35-39 "	3,408	864	2,424	48	19	53	2,699	15	647	35	12
" " 40-44 "	1,676	372	1,260	22	5	17	1,383	2	271	18	2
" " 45 years and over	884	209	647	9	4	15	709	2	164	8	1
Present age, 55-64 years—											
Married under 20 years	19,954	2,314	16,381	660	140	459	17,317	79	1,854	665	34
" at 20-24 "	38,363	7,395	28,900	1,283	173	603	30,937	80	6,026	1,250	59
" " 25-29 "	16,965	5,176	11,091	395	81	221	12,425	26	4,122	347	39
" " 30-34 "	5,969	1,894	3,891	93	22	69	4,379	10	1,496	63	18
" " 35-39 "	2,778	754	1,939	30	14	41	2,142	10	593	29	4
" " 40-44 "	1,322	313	974	14	6	15	1,058	3	246	12	1
" " 45 years and over	1,075	249	802	9	5	10	887	2	175	5	5
Present age, 65 years and over—											
Married under 20 years	17,980	2,333	14,823	457	49	318	15,640	34	1,808	467	24
" at 20-24 "	32,285	6,517	24,570	784	82	331	26,136	35	5,286	764	55
" " 25-29 "	14,840	4,302	10,117	227	32	162	11,193	18	3,392	209	23
" " 30-34 "	5,661	1,633	3,802	64	10	62	4,363	4	1,238	46	7
" " 35-39 "	2,711	704	1,962	21	1	23	2,164	2	530	9	6
" " 40-44 "	1,517	331	1,155	11	8	12	1,250	1	256	8	2
" " 45 years and over	1,502	335	1,144	10	2	11	1,214	2	277	8	1
ONTARIO											
Present age, 15-24 years—											
Married under 20 years	44,740	34,521	5,056	1,067	2,081	2,014	12,005	433	31,644	390	241
" at 20-24 "	35,310	28,692	2,863	1,310	1,367	1,078	8,166	263	25,870	808	183
Present age, 25-34 years—											
Married under 20 years	60,149	44,551	6,191	2,088	3,889	3,430	16,201	785	41,863	971	300
" at 20-24 "	105,516	84,060	7,923	5,217	4,328	3,981	23,060	753	77,721	3,404	521
" " 25-29 "	49,561	42,068	2,958	1,940	1,355	1,237	9,644	225	38,207	1,183	261
" " 30-34 "	6,769	5,868	383	234	142	142	1,354	21	5,239	110	41

TABLE 4.—Mother-tongue and religion, by age of married women and duration of marriage, Canada and regions—Con.

Present age and age at first marriage	Total	Married women									
		Mother-tongue					Religion				
		English	French	Teutonic	Slovanic	Other	Roman Catholic and Greek Catholic	Greek Orthodox	Protestants	Jewish	Other
ONTARIO—Con.											
Present age, 35-44 years—											
Married under 20 years	53,456	38,070	5,259	2,543	3,908	3,671	14,590	837	36,394	1,303	311
" at 20-24 "	93,978	74,726	5,916	5,214	4,020	4,100	18,893	744	71,345	2,345	597
" " 25-29 "	44,900	37,664	2,040	2,005	1,513	1,675	8,200	269	35,250	797	349
" " 30-34 "	15,983	13,554	720	604	419	686	3,093	61	12,514	202	99
" " 35-39 "	5,521	4,790	277	164	88	202	1,064	13	4,353	46	42
" " 40-44 "	857	763	42	18	11	23	141	5	693	9	7
Present age, 45-54 years—											
Married under 20 years	38,151	27,895	3,760	2,075	2,200	2,219	9,206	598	26,698	1,321	314
" at 20-24 "	83,936	70,053	4,612	4,368	2,100	2,801	14,232	430	66,681	1,920	633
" " 25-29 "	45,605	40,416	1,669	1,676	677	1,163	7,077	147	37,501	489	371
" " 30-34 "	14,466	12,927	491	435	215	398	2,384	45	11,818	83	133
" " 35-39 "	5,388	4,751	230	195	62	149	918	21	4,361	23	54
" " 40-44 "	2,279	2,037	82	81	15	64	372	2	1,867	12	23
" " 45 years and over	1,196	1,082	45	35	10	24	193	2	985	4	9
Present age, 55-64 years—											
Married under 20 years	22,791	17,537	2,267	1,265	674	1,045	4,840	180	16,806	746	202
" at 20-24 "	59,165	50,637	3,152	3,040	793	1,539	8,762	172	48,479	1,251	473
" " 25-29 "	36,389	33,139	1,012	1,251	222	764	4,702	43	30,939	343	345
" " 30-34 "	12,846	11,839	324	357	94	232	1,774	13	10,882	44	123
" " 35-39 "	5,735	5,277	143	159	48	108	839	15	4,810	21	47
" " 40-44 "	2,512	2,269	76	92	19	56	381	6	2,087	15	18
" " 45 years and over	1,984	1,816	75	61	12	20	258	5	1,689	6	23
Present age, 65 years and over—											
Married under 20 years	22,929	18,910	2,052	1,082	246	635	4,065	54	18,125	473	194
" at 20-24 "	55,602	48,911	2,621	2,809	318	942	7,413	48	46,930	707	465
" " 25-29 "	31,949	29,359	979	1,082	122	405	4,075	19	27,396	176	264
" " 30-34 "	11,827	10,980	346	310	31	159	1,729	8	9,964	25	90
" " 35-39 "	5,308	4,942	132	130	17	86	764	6	4,491	8	38
" " 40-44 "	2,513	2,333	73	64	10	33	378	2	2,107	7	17
" " 45 years and over	2,885	2,662	86	73	14	49	373	4	2,467	7	30
PRAIRIES											
Present age, 15-24 years—											
Married under 20 years	28,411	13,955	1,741	4,092	6,202	2,419	9,606	1,649	16,906	70	172
" at 20-24 "	23,884	14,538	1,171	3,940	3,451	784	5,965	810	16,678	295	121
Present age, 25-34 years—											
Married under 20 years	41,707	18,580	2,243	7,347	10,347	3,189	14,076	2,785	24,312	219	302
" at 20-24 "	67,431	38,316	3,287	13,012	10,499	2,314	16,878	2,239	46,776	1,050	450
" " 25-29 "	26,745	18,350	1,141	4,126	2,572	552	5,179	461	20,414	505	167
" " 30-34 "	3,204	2,331	154	446	216	57	545	41	2,558	38	18
Present age, 35-44 years—											
Married under 20 years	39,739	16,161	2,164	7,723	10,886	2,799	13,480	3,081	22,438	440	284
" at 20-24 "	51,206	29,570	2,520	10,603	6,551	1,956	11,558	1,346	36,905	959	412
" " 25-29 "	20,784	13,555	805	3,709	2,132	581	4,120	374	15,781	335	163
" " 30-34 "	6,634	4,522	282	1,157	481	191	1,223	83	5,205	83	35
" " 35-39 "	1,965	1,411	111	318	85	40	315	17	1,597	17	14
" " 40-44 "	263	190	6	49	7	11	27	3	227	4	2
Present age, 45-54 years—											
Married under 20 years	29,531	12,197	1,601	6,170	7,767	1,795	9,612	2,071	17,081	479	276
" at 20-24 "	46,514	29,569	2,089	8,747	4,658	1,445	9,017	933	35,356	753	438
" " 25-29 "	22,441	17,018	832	3,038	1,062	491	3,167	195	18,611	240	216
" " 30-34 "	7,108	5,379	227	940	350	212	1,066	71	5,862	44	61
" " 35-39 "	2,372	1,756	99	359	98	60	365	17	1,945	11	33
" " 40-44 "	893	687	29	117	33	27	121	5	748	6	13
" " 45 years and over	394	289	16	66	15	8	48	2	332	3	7
Present age, 55-64 years—											
Married under 20 years	15,539	6,769	975	3,351	3,418	1,023	4,602	907	9,597	272	158
" at 20-24 "	30,808	19,122	1,363	5,973	3,223	1,123	5,966	628	23,383	519	301
" " 25-29 "	18,425	14,465	569	2,266	698	426	2,251	126	15,681	173	185
" " 30-34 "	7,121	5,900	212	684	180	144	805	28	6,187	24	72
" " 35-39 "	2,931	2,400	91	286	95	59	334	20	2,532	10	30
" " 40-44 "	1,020	816	38	94	33	39	136	6	865	3	9
" " 45 years and over	593	467	29	60	18	19	71	3	506	3	10

TABLE 4.—Mother-tongue and religion, by age of married women and duration of marriage, Canada and regions—Con.

Present age and age at first marriage	Total	Married women									
		Mother-tongue					Religion				
		English	French	Teutonic	Slovanic	Other	Roman Catholic and Greek Catholic	Greek Orthodox	Protestants	Jewish	Other
PRAIRIES—Con.											
Present age, 65 years and over—											
Married under 20 years	12,172	5,407	740	2,305	2,684	1,036	3,535	735	7,508	232	156
" at 20-24 "	22,404	13,588	1,069	4,380	2,460	904	4,411	517	16,939	300	224
" " 25-29 "	11,272	8,332	364	1,676	584	315	1,496	84	9,474	85	122
" " 30-34 "	4,233	3,313	148	514	127	129	504	27	3,645	11	42
" " 35-39 "	1,968	1,551	73	261	46	37	243	13	1,687	6	17
" " 40-44 "	892	740	27	85	18	22	88	2	791	1	9
" " 45 years and over	692	555	22	64	25	26	86	4	592	2	7
BRITISH COLUMBIA											
Present age, 15-24 years—											
Married under 20 years	9,077	6,923	172	408	560	1,014	1,716	85	7,024	13	236
" at 20-24 "	8,316	6,923	110	428	296	559	1,093	58	6,873	37	252
Present age, 25-34 years—											
Married under 20 years	12,295	8,889	215	704	939	1,548	2,262	126	9,375	33	496
" at 20-24 "	24,681	19,916	349	1,542	1,085	1,789	3,149	153	20,383	125	856
" " 25-29 "	12,011	10,397	124	657	353	480	1,321	44	10,308	70	259
" " 30-34 "	1,544	1,315	22	88	43	76	190	8	1,298	4	44
Present age, 35-44 years—											
Married under 20 years	10,719	7,501	262	689	840	1,427	1,974	114	8,078	48	503
" at 20-24 "	18,813	14,707	266	1,330	737	1,771	2,424	110	15,384	89	788
" " 25-29 "	8,883	7,212	132	714	263	562	1,005	38	7,525	59	255
" " 30-34 "	3,331	2,720	46	275	96	194	401	15	2,815	19	75
" " 35-39 "	1,146	970	15	73	24	64	114	8	986	4	33
" " 40-44 "	195	163	1	18	6	7	17	1	173	-	4
Present age, 45-54 years—											
Married under 20 years	8,414	5,944	225	655	643	947	1,459	100	6,422	53	375
" at 20-24 "	18,241	15,079	252	1,190	386	1,334	1,847	55	15,379	119	830
" " 25-29 "	10,517	9,234	132	521	127	503	927	15	9,194	40	336
" " 30-34 "	3,687	3,201	54	210	43	179	367	13	3,177	8	122
" " 35-39 "	1,374	1,187	15	104	16	52	119	3	1,214	1	36
" " 40-44 "	608	530	6	40	6	26	46	3	534	2	23
" " 45 years and over	291	258	4	15	1	13	23	1	263	-	4
Present age, 55-64 years—											
Married under 20 years	4,979	3,602	139	350	361	527	753	40	3,954	23	207
" at 20-24 "	13,128	11,103	181	788	256	800	1,259	35	11,391	50	389
" " 25-29 "	10,029	9,039	108	451	64	367	745	14	8,922	23	318
" " 30-34 "	4,195	3,876	28	153	14	124	287	5	3,793	5	101
" " 35-39 "	1,903	1,748	23	69	12	51	113	1	1,737	4	48
" " 40-44 "	742	667	12	36	5	22	70	2	648	2	19
" " 45 years and over	552	507	4	24	4	13	41	1	494	3	13
Present age, 65 years and over—											
Married under 20 years	4,215	3,309	119	186	223	377	587	19	3,451	18	137
" at 20-24 "	10,197	8,712	148	555	154	627	953	19	8,929	22	267
" " 25-29 "	6,430	5,832	67	279	30	222	458	2	5,803	7	153
" " 30-34 "	2,771	2,504	23	127	7	110	193	-	2,492	2	82
" " 35-39 "	1,450	1,344	13	58	3	32	92	-	1,318	2	38
" " 40-44 "	774	717	10	24	3	20	60	1	696	-	17
" " 45 years and over	677	632	6	18	3	18	37	-	627	-	13

TABLE 5.—Standardized fertility rates by occupation

STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN, ALL AGES, LIVING WITH HUSBAND, BY OCCUPATION OF HUSBAND, CANADA[1], 1941

No.	Occupation	Canada	Provinces[2]					
			P.E.I.	N.S.	N.B.	Que.	Ont.	Man.
	Agriculture—							
1	Farmers and stockraisers	4·29	3·67	3·66	4·89	6·22	3·17	4·20
2	Farm labourers	3·85	4·10	4·09	4·65	4·68	3·34	4·30
	Fishing, Hunting and Trapping—							
3	Fishermen	4·61	5·28	4·39	4·98	6·05	3·88	5·43
4	Hunters, trappers, guides	5·61	–	–	5·16	5·77	4·75	5·95
	Logging—							
5	Lumbermen	5·29	–	4·93	5·85	6·17	5·00	6·20
	Mining and Quarrying—							
6	Labourers—mines and quarries	4·45	–	5·26	–	5·23	3·49	3·65
7	Miners and millmen	3·65	–	4·95	5·18	4·24	3·11	2·84
	Manufacturing—							
8	Owners and managers—manufacturing	2·47	–	2·70	2·89	4·33	2·18	2·76
9	Foremen—manufacturing	3·03	–	3·77	3·50	4·57	2·63	2·99
10	Inspectors and gaugers—metals	2·35	–	3·49	–	3·34	2·44	–
11	Bakers	3·19	–	3·62	3·72	4·75	2·78	2·94
12	Blacksmiths and forgemen	3·98	4·07	3·63	4·59	5·73	3·19	3·76
13	Boiler firemen	4·05	–	4·27	4·75	5·59	3·35	3·88
14	Boilermakers, platers and riveters	3·29	–	4·03	4·05	4·56	2·96	–
15	Boot and shoe repairers	3·43	–	3·12	4·09	4·97	2·79	3·89
16	Butchers and meat cutters	2·91	–	3·08	3·54	4·18	2·84	3·29
17	Cabinet and furniture makers	2·64	–	–	–	4·25	2·66	–
18	Filers, grinders	3·13	–	–	–	4·97	3·15	–
19	Fitters and assemblers—metal	2·78	–	–	–	4·04	2·86	–
20	Furnacemen—metal	2·21	–	4·54	–	4·92	3·19	–
21	Machinists—metal	2·79	–	3·27	3·28	4·43	2·64	2·57
22	Mechanics and repairmen, n.e.s	3·09	3·36	3·44	3·58	4·64	2·86	3·18
23	Moulders, coremakers, casters	3·32	–	3·76	4·04	5·07	3·14	–
24	Printers	2·38	–	2·86	2·60	3·71	2·17	–
25	Sawyers, wood	4·21	–	4·38	5·17	5·84	3·94	–
26	Sheet metal workers and tinsmiths	3·02	–	3·44	3·75	4·86	2·65	3·14
27	Stationary enginemen	3·16	–	3·74	3·98	4·98	3·12	3·28
28	Tailors	2·74	–	2·99	–	4·15	2·20	–
29	Tool makers, die cutters	2·27	–	–	–	3·32	2·25	–
30	Weavers, textile	3·78	–	–	–	4·34	2·90	–
31	Welders and flame cutters	2·86	–	3·45	–	4·04	2·78	–
32	Other occupations in chemical products	3·29	–	–	–	4·81	3·16	–
33	Clothing and textile operatives	2·57	–	3·23	–	3·61	2·38	–
34	Food operatives	3·30	–	3·74	3·84	5·21	2·86	2·95
35	Leather operatives	3·44	–	–	–	4·75	2·66	–
36	Metal operatives	3·06	–	4·03	4·24	4·85	2·98	3·05
37	Non-metallic mineral operatives	3·30	–	–	–	4·60	3·04	–
38	Rubber operatives	2·80	–	–	–	4·31	2·84	–
39	Textile operatives	3·54	–	–	–	4·38	3·12	–
40	Wood and paper operatives	3·48	–	3·88	4·91	4·99	3·14	–
	Construction—							
41	Owners and managers—construction	3·01	–	2·85	3·46	5·14	2·68	–
42	Foremen—construction	3·56	–	3·79	4·01	5·36	3·23	–
43	Brick and stone masons	3·65	–	3·98	4·20	5·47	3·28	–
44	Carpenters	3·76	4·16	3·71	4·42	5·42	3·20	3·76
45	Electricians and wiremen	2·95	–	3·30	3·60	4·58	2·63	2·74
46	Painters, decorators and glaziers	3·17	3·85	3·80	3·65	4·55	2·90	3·25
47	Plasterers and lathers	3·50	–	–	–	5·41	3·32	–
48	Plumbers and pipe fitters	2·19	–	3·44	3·88	4·92	2·86	3·37
	Transportation and Communication—							
49	Owners and managers—transportation and communication	2·42	–	2·52	2·93	4·61	2·40	2·78
50	Foremen—transportation and communication	2·93	–	3·29	3·15	5·10	2·82	–
51	Agents—ticket, station	2·41	–	2·54	2·26	4·13	2·17	2·29
52	Brakemen—railway	2·85	–	3·10	3·12	4·75	2·60	2·35
53	Chauffeurs and taxi drivers	2·86	–	3·08	3·30	4·15	2·53	–
54	Conductors—steam railway	2·70	–	3·44	3·05	4·66	2·53	2·35
55	Linemen and cablemen	2·69	–	3·39	3·39	4·20	2·88	3·05
56	Locomotive engineers	2·78	–	3·22	3·34	4·64	2·65	2·67
57	Locomotive firemen	3·08	–	2·85	3·85	4·83	3·09	3·05
58	Longshoremen and stevedores	3·87	–	4·29	3·99	5·59	3·67	–
59	Sectionmen and trackmen	4·07	4·48	4·20	4·73	5·83	3·76	3·82
60	Operators—electric railway	2·63	–	–	–	–	2·73	–
61	Switchmen, signalmen	3·02	–	–	–	5·34	3·12	2·77

[1] Not including Yukon and the Northwest Territories.
[2] Excluding population in cities of 100,000 and over.

TABLE 5.—Standardized fertility rates by occupation—Con.

STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN, ALL AGES, LIVING WITH HUSBAND, BY OCCUPATION OF HUSBAND, CANADA[1], 1941

			Metropolitan areas				Cities				
Sask.	Alta.	B.C.	Montreal metropolitan area	Toronto metropolitan area	Winnipeg metropolitan area	Vancouver metropolitan area	Quebec	Hamilton	Ottawa	Windsor	No.
4·18	3·98	2·10	4·77	2·59	3·40	2·43	–	–	–	–	1
4·20	3·87	3·24	3·64	2·42	3·28	2·56	–	2·91	3·34	–	2
–	–	3·83	–	–	–	2·49	–	–	–	–	3
6·55	5·97	4·72	–	–	–	–	–	–	–	–	4
5·33	5·03	3·15	–	–	–	2·02	–	–	–	–	5
–	3·18	2·86	–	–	–	–	–	–	–	–	6
3·56	3·26	2·86	–	1·92	–	2·17	–	–	–	–	7
2·58	2·35	2·29	2·34	1·90	2·09	1·95	3·69	1·91	1·95	2·03	8
2·30	2·52	2·33	3·17	2·02	2·38	2·02	4·16	2·27	2·90	2·54	9
–	–	–	2·43	1·84	2·10	1·56	–	2·07	–	2·21	10
2·93	2·95	2·28	3·69	2·42	2·32	2·00	4·87	2·40	3·45	–	11
3·95	3·64	2·61	4·03	2·44	2·94	2·30	–	2·72	–	–	12
3·28	3·41	2·84	3·94	2·77	2·99	2·29	4·47	–	–	–	13
–	2·44	2·24	3·67	2·81	2·65	2·31	–	2·46	–	–	14
3·75	3·25	2·61	3·47	2·51	2·77	2·36	–	–	–	–	15
3·04	2·71	2·32	3·41	2·31	2·59	2·15	4·59	2·29	3·47	–	16
–	–	–	3·24	1·95	2·56	2·08	–	–	–	–	17
–	–	2·80	3·91	2·50	–	1·94	–	2·59	–	2·86	18
–	–	–	3·16	2·13	2·25	1·71	–	2·27	–	3·15	19
–	–	2·73	3·29	2·72	–	–	–	2·82	–	–	20
2·83	2·34	2·10	3·15	2·20	2·25	1·89	4·29	2·25	2·53	2·79	21
3·25	2·92	2·35	3·22	2·22	2·41	1·96	4·56	2·42	2·66	2·69	22
–	–	2·74	3·69	2·57	2·82	2·34	–	2·95	–	3·16	23
2·33	2·04	1·92	3·06	1·90	2·02	1·94	4·43	2·05	2·59	2·11	24
–	3·27	3·08	–	–	–	2·36	–	–	–	–	25
3·11	2·88	2·46	3·72	2·43	2·67	1·96	–	2·33	3·82	2·71	26
3·23	2·90	2·49	3·34	2·43	2·57	11·98	5·20	2·67	3·19	2·98	27
2·69	2·58	–	2·94	2·50	2·46	2·45	4·25	2·54	–	–	28
–	–	–	2·57	1·98	–	–	–	2·00	–	2·50	29
–	–	–	4·02	2·12	–	–	–	–	–	–	30
2·92	2·54	1·93	3·27	2·24	2·48	1·88	–	2·50	–	3·04	31
–	2·60	2·28	3·33	2·30	–	–	–	–	–	–	32
–	–	–	2·62	2·31	2·26	–	–	1·84	–	–	33
2·78	2·91	2·32	3·70	2·24	2·26	2·12	–	–	–	–	34
–	3·06	–	3·80	2·31	2·88	2·22	5·50	–	–	–	35
2·96	2·62	2·30	3·43	2·30	2·48	2·10	–	2·50	2·99	3·02	36
–	3·69	–	3·53	2·50	–	–	–	2·78	–	–	37
–	–	–	3·17	2·25	–	–	–	2·46	–	–	38
–	–	–	3·29	2·26	–	–	–	2·23	–	–	39
–	2·13	2·45	2·44	2·20	2·30	2·29	–	2·13	2·81	–	40
3·00	2·66	2·22	3·30	2·34	2·74	2·15	5·72	2·21	2·84	–	41
–	2·81	2·62	3·91	2·47	–	2·18	–	–	–	–	42
3·07	3·12	2·51	4·21	2·72	2·76	2·10	–	2·91	–	2·91	43
3·68	3·15	2·64	4·44	2·44	2·94	2·25	5·42	2·44	3·77	3·57	44
2·57	2·44	2·17	3·13	2·03	2·21	1·87	3·73	2·16	2·92	2·76	45
3·10	2·73	2·33	3·67	2·42	2·61	2·25	5·00	2·55	3·47	3·03	46
3·69	3·30	2·62	4·31	2·68	3·09	2·45	–	–	–	–	47
2·87	2·60	2·31	3·67	2·24	2·53	2·11	4·76	2·38	2·99	2·69	48
2·71	2·28	2·10	2·16	2·07	2·14	1·80	–	–	–	–	49
2·83	2·60	2·33	2·97	2·13	2·39	1·87	–	–	–	–	50
2·31	2·19	1·99	2·45	1·67	1·72	1·56	–	–	–	–	51
2·57	2·36	2·25	3·35	2·32	1·91	2·06	–	–	–	–	52
3·26	2·28	2·16	2·89	1·92	1·98	2·00	3·99	2·21	2·89	–	53
2·24	2·14	2·17	2·95	2·02	2·07	1·97	–	–	–	–	54
2·64	2·08	2·00	2·56	2·13	2·06	1·93	–	2·12	3·32	–	55
2·42	2·27	2·09	2·97	2·17	2·36	1·94	–	2·55	2·85	–	56
2·75	2·67	2·30	3·18	2·65	2·60	–	–	–	–	–	57
–	–	3·49	4·01	–	–	2·31	5·14	–	–	–	58
3·85	3·34	3·28	4·42	3·17	2·93	2·84	–	–	–	–	59
–	2·51	–	3·60	2·19	2·19	1·91	5·21	1·89	3·13	–	60
2·69	2·47	2·57	3·87	2·23	2·28	–	–	2·12	–	–	61

TABLE 5.—Standardized fertility rates by occupation—Con.

STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN, ALL AGES, LIVING WITH HUSBAND, BY OCCUPATION OF HUSBAND, CANADA[1], 1941

No.	Occupation	Canada	Provinces[2]					
			P.E.I.	N.S.	N.B.	Que.	Ont.	Man.
	Transportation and Communication—Con.							
1	Teamsters and carriage drivers	3·63	–	4·09	4·58	5·58	3·46	4·12
2	Telegraph operators	2·45	–	2·89	2·65	3·72	2·18	2·36
3	Truck drivers	3·33	4·14	3·62	3·93	4·80	3·24	3·38
	Trade—							
4	Owners, managers—retail	2·70	2·76	2·67	2·93	4·42	2·23	2·90
5	Owners, managers—wholesale	2·32	–	2·36	2·56	4·29	2·24	2·89
6	Commercial travellers	2·11	–	2·18	1·92	3·78	1·89	2·08
7	Packers, wrappers	3·12	–	3·87	–	4·74	3·20	–
8	Purchasing agents and buyers	2·49	–	–	–	2·97	1·95	2·74
9	Canvassers and demonstrators	2·47	–	2·65	2·28	4·50	2·18	–
10	Salespersons in stores	2·40	2·79	2·54	2·55	3·90	2·22	2·45
	Finance—							
11	Owners, managers—finance and insurance	1·92	–	1·69	1·91	3·50	1·64	1·78
12	Insurance agents	2·32	–	2·27	2·18	4·07	1·96	2·47
13	Real estate agents and dealers	2·07	–	–	–	–	2·02	–
	Service, Professional—							
14	Chemists and metallurgists	1·83	–	–	–	2·76	1·80	–
15	Clergymen and priests	2·31	–	2·19	2·31	2·09	2·15	2·69
16	Dentists	1·81	–	1·86	–	2·72	1·70	–
17	Draughtsmen and designers	1·84	–	–	–	2·53	1·85	–
18	Engineers, civil	2·08	–	2·23	2·01	3·02	2·15	–
19	Engineers, electrical	1·81	–	1·95	–	2·52	1·84	–
20	Engineers, mechanical	2·13	–	2·02	–	3·99	1·83	–
21	Lawyers and notaries	2·20	–	1·88	2·06	3·35	1·86	2·43
22	Physicians and surgeons	2·15	–	2·11	2·11	3·56	1·91	1·93
23	Teachers—school	2·07	–	1·87	2·34	2·94	1·81	2·52
	Service, Public—							
24	Firemen—fire department	2·85	–	3·90	–	–	2·63	–
25	Government inspectors	2·70	–	2·64	3·44	4·73	2·12	–
26	Public service officials, n.e.s.	2·47	–	2·57	2·70	4·18	2·22	2·40
27	Policemen and detectives	2·87	–	3·39	3·31	4·82	2·55	2·87
28	Postmen and mail carriers	2·99	–	3·09	3·80	4·88	2·73	3·33
	Service, Personal—							
29	Owners, managers—hotels	2·58	–	2·19	3·00	3·62	2·32	2·50
30	Owners, managers—restaurants	2·65	–	2·81	–	3·53	2·30	–
31	Barbers, hairdressers	2·78	–	3·03	3·54	4·27	2·38	2·66
32	Cooks	3·14	–	3·68	4·52	4·66	3·30	–
33	Guards and caretakers, n.e.s.	3·37	–	3·66	4·10	5·14	3·01	3·25
34	Janitors and sextons	2·78	–	3·51	3·46	4·69	2·87	3·10
35	Laundrymen	3·02	–	–	–	–	2·60	–
36	Waiters	2·38	–	–	–	3·48	2·76	–
	Clerical—							
37	Accountants and auditors	2·05	–	1·82	2·01	3·27	1·73	2·04
38	Bookkeepers and cashiers	2·05	–	2·20	2·13	3·28	2·02	2·17
39	Office clerks	2·18	2·79	2·72	2·56	3·58	2·15	2·42
40	Shipping clerks	2·56	–	3·47	2·78	4·04	2·52	–
	Labourers—							
41	(not in agriculture, fishing, logging or mining)	3·98	4·41	4·45	4·62	5·43	3·67	4·24

[1] Not including Yukon and the Northwest Territories.
[2] Excluding population in cities of 100,000 and over.

TABLE 5.—Standardized fertility rates by occupation—Con.

STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN, ALL AGES, LIVING WITH HUSBAND, BY OCCUPATION OF HUSBAND, CANADA[1], 1941

			Metropolitan areas				Cities				
Sask.	Alta.	B.C.	Montreal metropolitan area	Toronto metropolitan area	Winnipeg metropolitan area	Vancouver metropolitan area	Quebec	Hamilton	Ottawa	Windsor	No.
3·74	3·37	3·07	3·67	2·46	2·83	2·17	4·70	2·50	3·22	2·86	1
2·21	2·35	1·99	2·41	1·97	1·95	1·80	–	–	–	–	2
3·51	3·98	2·78	3·52	2·54	2·63	2·26	4·29	2·85	3·54	3·10	3
2·67	2·51	2·10	2·93	2·03	2·20	1·96	4·29	1·95	2·52	2·23	4
2·32	2·22	2·16	2·39	1·91	2·14	1·80	3·90	1·89	2·26	2·03	5
1·96	2·02	1·79	2·47	1·66	1·87	1·62	3·79	1·64	2·24	1·99	6
–	2·48	–	3·36	2·32	2·63	1·83	–	2·96	–	–	7
2·90	2·71	–	2·11	1·56	1·75	1·92	–	–	2·23	–	8
2·92	2·67	–	2·39	1·70	2·00	1·46	–	–	–	–	9
2·55	2·23	1·89	2·74	1·75	1·89	1·69	3·84	1·84	2·54	2·17	10
1·94	1·75	1·73	2·18	1·52	1·67	1·59	3·93	1·55	1·92	–	11
2·31	2·18	2·00	2·53	1·73	1·95	1·70	3·69	1·84	2·19	2·09	12
2·01	2·20	1·75	2·55	1·75	2·27	1·71	–	–	–	–	13
–	1·66	1·68	2·05	1·49	1·79	1·62	–	1·28	1·51	–	14
2·65	2·76	2·06	2·38	2·28	2·65	2·09	–	–	–	–	15
2·01	1·90	1·52	2·17	1·45	1·62	1·49	–	–	–	–	16
–	–	–	1·88	1·60	1·90	1·65	–	1·60	1·76	–	17
2·03	1·79	1·69	2·25	1·74	2·00	1·58	2·90	–	1·79	–	18
–	–	–	1·85	1·59	1·46	1·56	–	1·85	–	–	19
–	–	–	2·05	1·66	1·62	1·52	–	1·72	1·86	–	20
2·04	1·96	1·73	2·53	1·77	1·98	1·60	3·16	–	1·89	–	21
1·94	1·91	1·80	2·29	1·70	1·89	1·68	2·70	1·71	1·91	1·77	22
2·28	2·21	1·86	2·90	1·60	1·98	1·74	3·18	1·56	1·54	1·58	23
2·31	2·23	2·06	3·59	2·32	2·29	1·97	5·72	2·22	3·24	–	24
2·49	2·34	1·99	3·06	1·80	2·10	1·91	4·16	–	2·04	–	25
2·26	2·81	1·96	2·98	1·68	2·05	1·78	4·11	–	2·03	1·95	26
2·47	2·37	2·14	3·12	2·03	2·06	1·93	4·35	2·20	2·72	2·45	27
3·02	2·80	2·23	3·36	2·00	2·20	1·81	–	1·96	–	–	28
2·68	2·42	1·97	1·89	1·70	2·05	1·63	–	–	–	–	29
2·50	2·54	2·07	2·61	2·15	2·03	1·72	2·50	–	–	–	30
2·69	2·32	2·18	3·13	1·92	2·25	1·93	4·67	1·97	3·31	2·52	31
2·51	2·80	2·69	2·51	2·19	2·32	2·06	3·84	–	3·20	–	32
3·04	2·80	2·36	3·79	2·41	2·57	2·23	5·48	2·38	3·24	2·88	33
2·86	2·89	2·19	2·88	2·14	2·28	1·97	3·69	2·62	2·78	2·79	34
–	–	–	3·74	2·52	–	–	–	–	–	–	35
2·43	2·46	1·98	2·34	2·11	2·12	1·70	3·23	2·34	2·80	–	36
1·80	1·77	1·65	2·29	1·53	1·72	1·57	3·66	1·56	1·87	1·79	37
2·16	2·15	1·77	2·17	1·68	1·84	1·70	3·12	1·81	2·21	–	38
2·08	1·97	1·75	2·38	1·70	1·80	1·62	3·47	1·84	2·12	2·21	39
2·52	2·25	2·05	3·05	2·05	2·32	1·86	4·38	2·10	2·90	2·75	40
3·93	3·32	3·04	4·10	2·81	2·92	2·72	5·49	2·88	4·34	3·28	41

TABLE 6.—Supplementary standardized fertility rates—48 occupations—Quebec and Ontario[1]

STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN, ALL AGES, LIVING WITH HUSBAND BY OCCUPATION OF HUSBAND

Occupation	Quebec	Ontario
Agriculture—		
Farm foremen	4·02	2·72
Logging—		
Logging, owners and managers	5·99	3·21
Logging, foremen	5·99	4·00
Foresters and timber cruisers	5·69	4·03
Mining and Quarrying—		
Mining and quarrying, owners and managers	2·51	2·23
Foremen, mines and quarries	4·65	2·98
Quarriers and rock drillers	5·68	3·30
Manufacturing—		
Inspectors, graders, scalers—wood	5·18	3·48
Bleachers and dyers, textiles	4·67	3·02
Jewellers and watchmakers	3·40	2·12
Loom fixers and card grinders	4·13	3·04
Millers, flour and grain	5·52	2·52
Millwrights	5·30	3·33
Paper makers	5·05	3·03
Photographers	3·69	1·91
Polishers and buffers, metal	4·12	2·99
Power station operators	4·55	2·32
Spinners, twisters, textiles	3·99	3·37
Stone cutters and dressers	5·00	2·72
Wood turners, planers, etc.	4·56	3·16
Other occupations in manufacturing, liquids and beverages	3·96	2·58
Other occupations in manufacturing	4·85	2·41
Construction—		
Structural iron workers	4·79	3·32
Other construction occupations	5·43	3·34

[1] Excluding population in cities of 100,000 and over.

TABLE 6.—Supplementary standardized fertility rates—48 occupations—Quebec and Ontario[1] —Con.

STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO MARRIED WOMEN, ALL AGES, LIVING WITH HUSBAND BY OCCUPATION OF HUSBAND

Occupation	Quebec	Ontario
Transportation and Communication—		
Inspectors, transportation and communication	5·22	2·46
Bus drivers	4·02	2·48
Captains, mates, pilots	4·87	2·60
Deliverymen and drivers, n.e.s.	4·53	3·39
Engineering officers, on ships	4·82	2·64
Lockkeepers, canalmen, boatmen	4·69	3·08
Messengers	4·01	1·87
Seamen, sailors, dockhands, n.e.s.	5·11	2·99
Other transport occupations	5·46	3·05
Service, Professional—		
Authors, editors, journalists	3·63	1·82
Engineers, mining	1·91	1·67
Musicians and music teachers	3·58	1·74
Professors, college principals	3·58	1·59
Veterinary surgeons	3·05	1·84
Other professional occupations	3·55	1·94
Service, Public—		
Postmasters	4·20	2·49
Other public occupations	5·50	3·13
Service, Recreational—		
Owners and managers, amusements	3·03	2·29
Service, Personal—		
Lodging house keepers	2·87	2·02
Charworkers and cleaners	5·59	3·14
Cleaners and dyers	3·73	2·20
Domestic servants, n.e.s.	4·45	2·59
Elevator tenders	5·48	2·94
Undertakers	4·73	2·03

[1] Excluding population in cities of 100,000 and over.

TABLE 7.—Wage-earner normal families in relation to ethnic group, urbanization, earnings and education of husband

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, CANADA

No.	Ethnic group, rural and urban, earnings	0-8 years schooling				
		Number of normal families	Number of women married under 25 years of age	Number[1] of children ever-born	Number[1] of children now living	Number of childless families
1	**Canada**[2]	**139,180**	**96,414**	**628,153**	**515,044**	**15,330**
	British ethnic group—					
2	Rural farm[2]	4,524	3,080	20,010	17,637	470
3	Less than $950	3,371	2,298	15,347	13,467	343
4	$950–$1,949	963	659	3,923	3,511	106
5	$1,950–$2,949	95	63	311	281	13
6	$2,950 and over	15	8	60	57	1
7	Rural non farm[2]	10,291	7,124	42,393	36,955	1,130
8	Less than $950	4,965	3,478	22,145	19,145	574
9	$950–$1,949	4,256	2,938	16,530	14,506	433
10	$1,950–$2,949	737	495	2,506	2,226	84
11	$2,950 and over	162	113	509	463	21
12	Urban[2]	58,628	37,510	194,327	169,997	7,263
13	Less than $950	16,309	10,819	61,022	52,413	2,093
14	$950–$1,949	31,479	19,926	101,388	89,109	3,790
15	$1,950–$2,949	7,066	4,476	20,330	18,050	932
16	$2,950 and over	2,179	1,340	5,919	5,419	282
	French ethnic group—					
17	Rural farm[2]	3,066	2,382	23,336	18,484	256
18	Less than $950	2,504	1,937	19,010	14,997	218
19	$950–$1,949	507	403	3,965	3,187	31
20	$1,950–$2,949	36	27	237	190	5
21	$2,950 and over	7	6	49	44	0
22	Rural non farm[2]	5,584	4,215	40,475	31,392	450
23	Less than $950	3,782	2,873	27,939	21,442	304
24	$950–$1,949	1,595	1,201	11,292	8,940	123
25	$1,950–$2,949	151	110	941	771	19
26	$2,950 and over	27	15	162	127	0
27	Urban[2]	31,949	22,985	201,495	151,090	3,525
28	Less than $950	15,377	11,177	98,959	72,556	1,792
29	$950–$1,949	14,245	10,214	89,397	68,131	1,468
30	$1,950–$2,949	1,714	1,205	9,943	7,895	191
31	$2,950 and over	334	227	1,711	1,362	42
	Other ethnic group—					
32	Rural farm[2]	1,685	1,272	8,718	7,523	141
33	Less than $950	1,338	991	7,127	6,120	112
34	$950–$1,949	318	257	1,452	1,282	25
35	$1,950–$2,949	17	15	79	69	3
36	$2,950 and over	–	–	–	–	–
37	Rural non farm[2]	3,993	2,963	18,149	14,903	343
38	Less than $950	2,109	1,574	10,241	8,204	193
39	$950–$1,949	1,697	1,261	7,161	6,076	132
40	$1,950–$2,949	149	106	603	512	14
41	$2,950 and over	19	11	60	53	2
42	Urban[2]	19,460	14,883	79,250	67,063	1,752
43	Less than $950	9,026	6,936	38,811	32,441	857
44	$950–$1,949	9,021	6,916	35,830	30,528	752
45	$1,950–$2,949	1,036	767	3,413	3,042	104
46	$2,950 and over	267	192	777	701	28

[1] Number of children in families with more than five children estimated from grouped data.
[2] Includes families with heads on Active Service and figures not shown separately for groups with less than five individuals.

TABLE 7.—Wage-earner normal families in relation to ethnic group, urbanization, earnings and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, CANADA

9-12 years schooling					13 years schooling and over					No.
Number of normal families	Number of women married under 25 years of age	Number[1] of children ever-born	Number[1] of children now living	Number of childless families	Number of normal families	Number of women married under 25 years of age	Number[1] of children ever-born	Number[1] of children now living	Number of childless families	
80,626	**46,918**	**244,249**	**212,779**	**11,835**	**17,904**	**8,842**	**46,031**	**41,084**	**3,004**	1
1,585	933	5,477	4,917	207	305	153	832	755	45	2
890	544	3,190	2,828	121	92	56	274	237	16	3
495	283	1,669	1,517	64	130	58	332	307	21	4
105	51	292	277	13	34	13	97	89	4	5
40	24	133	128	5	39	21	107	101	3	6
5,640	3,377	17,285	15,467	779	1,180	607	3,024	2,778	200	7
1,506	931	5,072	4,498	229	162	97	475	423	25	8
2,755	1,673	8,523	7,643	360	525	273	1,405	1,291	85	9
870	494	2,284	2,057	115	232	124	510	464	49	10
341	182	857	783	51	214	91	483	454	36	11
56,471	31,778	145,498	130,985	8,502	12,930	6,174	28,979	26,480	2,220	12
9,021	5,400	25,954	22,976	1,529	1,123	640	2,849	2,507	229	13
28,059	15,873	73,494	65,912	4,092	3,884	1,982	9,119	8,259	685	14
10,896	5,989	25,803	23,522	1,647	3,125	1,432	6,728	6,191	540	15
6,475	3,439	14,485	13,363	996	4,182	1,822	8,796	8,154	687	16
323	203	1,908	1,554	35	43	31	295	238	1	17
189	125	1,164	947	17	19	14	148	116	0	18
106	66	609	502	14	16	13	127	102	0	19
16	9	83	61	2	-	-	-	-	-	20
9	2	21	16	2	-	-	-	-	-	21
807	555	4,734	3,817	105	128	72	612	507	14	22
334	233	2,115	1,651	47	35	18	169	131	3	23
349	239	2,000	1,647	43	54	37	273	225	6	24
90	58	439	357	12	16	6	55	49	1	25
26	19	127	118	3	21	9	110	97	3	26
10,699	6,699	53,660	42,239	1,471	2,109	1,121	9,021	7,394	339	27
2,898	1,927	15,984	12,072	378	331	197	1,600	1,254	62	28
5,315	3,289	26,434	20,832	748	800	429	3,471	2,784	136	29
1,678	990	7,868	6,479	231	471	244	2,017	1,689	67	30
691	421	2,873	2,440	97	468	236	1,805	1,567	66	31
204	143	899	785	17	57	31	198	188	10	32
132	98	618	530	12	32	17	110	105	7	33
56	36	224	202	4	18	8	66	63	2	34
11	6	45	41	0	-	-	-	-	-	35
-	-	-	-	-	5	4	19	17	0	36
607	422	2,069	1,803	84	118	66	378	326	16	37
247	173	885	752	32	26	14	98	77	4	38
254	182	918	811	31	57	32	193	169	8	39
72	46	182	165	15	17	10	39	35	2	40
30	18	73	65	5	18	10	48	45	2	41
4,290	2,808	12,719	11,212	635	1,034	587	2,692	2,418	159	42
1,224	839	4,225	3,601	168	199	119	596	518	37	43
1,915	1,264	5,573	4,954	292	381	245	1,066	944	65	44
622	384	1,609	1,460	89	201	105	493	455	22	45
477	293	1,136	1,049	81	234	108	488	456	32	46

TABLE 8.—Wage-earner normal families in relation to ethnic group, urbanization, earnings, occupation and education of husband

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

No.	Ethnic group, rural and urban, earnings and occupation	0–8 years schooling				
		Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families
	British ethnic group[3]—					
	Rural farm					
1	Less than $950	1,895	1,261	7,933	7,027	218
2	Agriculture	881	562	3,621	3,180	110
3	Other primary	91	64	531	470	2
4	Manufacturing, etc.[4]	487	336	2,049	1,830	46
5	Trade, etc.[5]	131	87	429	394	24
6	Labour[6]	305	212	1,303	1,153	36
7	$950–$1,949	566	386	2,174	1,923	68
8	Agriculture	26	18	104	99	2
9	Other primary	20	14	95	89	3
10	Manufacturing, etc[4]	388	257	1,491	1,315	46
11	Trade, etc.[5]	86	65	287	247	12
12	Labour[6]	46	32	197	173	5
13	$1,950–$2,949	67	43	203	184	11
14	Agriculture	–	–	–	–	–
15	Other primary	–	–	–	–	–
16	Manufacturing, etc.[4]	48	30	144	135	10
17	Trade, etc.[5]	17	12	55	45	1
18	Labour[6]	–	–	–	–	–
19	$2,950 and over	13	7	56	53	0
20	Agriculture	–	–	–	–	–
21	Other primary	–	–	–	–	–
22	Manufacturing, etc.[4]	10	5	42	42	0
23	Trade, etc.[5]	–	–	–	–	–
24	Labour[6]	–	–	–	–	–
	Rural non-farm					
25	Less than $950	2,398	1,667	9,891	8,595	288
26	Agriculture	414	269	1,553	1,336	64
27	Other primary	163	119	909	777	11
28	Manufacturing, etc.[4]	894	641	3,648	3,142	106
29	Trade, etc.[5]	363	242	1,236	1,084	54
30	Labour[6]	564	396	2,545	2,256	53
31	$950–$1,949	2,165	1,503	8,032	7,058	219
32	Agriculture	44	32	195	173	3
33	Other primary	117	81	532	432	8
34	Manufacturing, etc.[4]	1,421	1,015	5,310	4,677	149
35	Trade, etc.[5]	403	246	1,285	1,143	43
36	Labour[6]	180	129	710	633	16
37	$1,950–$2,949	421	286	1,421	1,258	43
38	Agriculture	–	–	–	–	–
39	Other primary	27	17	85	79	4
40	Manufacturing, etc.[4]	330	228	1,177	1,036	28
41	Trade, etc.[5]	61	40	152	138	10
42	Labour[6]	–	–	–	–	–
43	$2,950 and over	106	76	357	323	14
44	Agriculture	–	–	–	–	–
45	Other primary	10	7	46	39	1
46	Manufacturing, etc.[4]	64	48	230	207	10
47	Trade, etc.[5]	32	21	81	77	3
48	Labour[6]	–	–	–	–	–

[1] Other ethnic groups not included.
[2] Number of children in families with more than five children estimated from grouped data.
[3] Included in totals are figures not shown separately for groups with less than five individuals.
[4] Also construction, transportation and communication.
[5] Also service and clerical.
[6] Not including primary occupations.

TABLE 8.—Wage-earner normal families in relation to ethnic group, urbanization, earnings, occupation and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

9–12 years schooling					13 years schooling and over					No.
Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	
356	213	1,163	1,021	57	40	23	120	107	8	1
144	86	435	381	27	14	7	47	40	3	2
8	6	60	45	0	–	–	–	–	–	3
98	60	337	301	16	7	5	24	23	1	4
69	34	181	158	11	13	7	32	31	4	5
37	27	150	136	3	6	4	17	13	0	6
183	113	557	501	30	62	31	178	160	5	7
15	8	48	44	1	–	–	–	–	–	8
–	–	–	–	–	–	–	–	–	–	9
104	69	347	316	13	8	5	15	12	1	10
56	32	136	118	16	50	24	144	134	4	11
6	4	17	14	0	–	–	–	–	–	12
63	22	171	164	7	20	8	51	45	3	13
–	–	–	–	–	–	–	–	–	–	14
–	–	–	–	–	–	–	–	–	–	15
28	7	72	66	3	–	–	–	–	–	16
31	13	76	75	4	18	7	44	38	3	17
–	–	–	–	–	–	–	–	–	–	18
24	15	67	62	4	28	14	71	69	2	19
–	–	–	–	–	–	–	–	–	–	20
–	–	–	–	–	–	–	–	–	–	21
9	7	29	28	1	6	3	16	16	0	22
13	7	33	29	3	22	11	55	53	2	23
–	–	–	–	–	–	–	–	–	–	24
566	347	1,774	1,560	92	76	46	240	210	7	25
80	50	252	232	10	–	–	–	–	–	26
14	9	69	55	3	–	–	–	–	–	27
208	136	638	563	36	25	17	85	77	2	28
192	114	586	512	31	42	21	127	108	4	29
72	38	229	198	12	–	–	–	–	–	30
1,235	759	3,713	3,333	161	252	127	696	632	36	31
21	13	62	59	4	6	5	35	32	1	32
50	33	132	111	8	9	5	34	31	0	33
701	459	2,209	1,988	82	60	38	170	139	9	34
398	213	1,079	974	62	170	76	434	409	25	35
65	41	231	201	5	7	3	23	21	1	36
397	228	1,010	912	52	116	57	227	203	30	37
–	–	–	–	–	–	–	–	–	–	38
14	11	43	41	2	–	–	–	–	–	39
232	140	657	587	31	36	22	63	52	11	40
148	76	304	278	19	78	33	156	144	19	41
–	–	–	–	–	–	–	–	–	–	42
191	103	488	441	32	129	53	269	257	24	43
–	–	–	–	–	–	–	–	–	–	44
20	12	59	51	2	12	6	29	28	1	45
77	47	234	213	13	27	10	52	50	4	46
94	44	195	177	17	90	37	188	179	19	47
–	–	–	–	–	–	–	–	–	–	48

TABLE 8.—Wage-earner normal families in relation to ethnic group, urbanization, earnings, occupation and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

No.	Ethnic group, rural and urban, earnings and occupation	0-8 years schooling				
		Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families
	British ethnic group[3]—Con.					
	Urban					
1	Less than $950	10,229	6,705	36,176	31,157	1,420
2	Agriculture	489	325	1,919	1,691	57
3	Other primary	123	92	605	498	13
4	Manufacturing, etc.[4]	4,812	3,210	16,757	14,558	640
5	Trade, etc.[5]	2,732	1,697	8,406	7,234	447
6	Labour[6]	2,073	1,381	8,489	7,176	263
7	$950-$1,949	21,137	13,355	66,008	58,006	2,669
8	Agriculture	149	90	469	417	17
9	Other primary	122	76	421	368	12
10	Manufacturing, etc.[4]	13,460	8,731	42,956	37,795	1,609
11	Trade, etc.[5]	5,869	3,481	16,576	14,627	872
12	Labour[6]	1,537	977	5,586	4,799	159
13	$1,950-$2,949	4,867	3,021	13,783	12,186	667
14	Agriculture	7	1	13	13	2
15	Other primary	38	23	155	132	2
16	Manufacturing, etc.[4]	3,441	2,232	10,222	8,996	442
17	Trade, etc.[5]	1,361	755	3,339	2,993	219
18	Labour[6]	20	10	54	52	2
19	$2,950 and over	1,530	915	4,030	3,679	213
20	Agriculture	–	–	–	–	–
21	Other primary	11	7	39	35	2
22	Manufacturing, etc.[4]	805	514	2,389	2,158	99
23	Trade, etc.[5]	711	393	1,588	1,474	112
24	Labour[6]	–	–	–	–	–
	French ethnic group[3]—					
	Rural farm					
25	Less than $950	1,927	1,489	14,688	11,554	172
26	Agriculture	439	336	2,982	2,317	47
27	Other primary	471	395	4,099	3,161	26
28	Manufacturing, etc.[4]	489	358	3,631	2,978	46
29	Trade, etc.[5]	151	107	1,062	821	18
30	Labour[6]	377	293	2,914	2,277	35
31	$950-$1,949	414	329	3,222	2,585	26
32	Agriculture	14	9	99	71	1
33	Other primary	20	15	170	134	0
34	Manufacturing, etc.[4]	291	233	2,265	1,825	19
35	Trade, etc.[5]	48	39	310	260	5
36	Labour[6]	41	33	378	295	1
37	$1,950-$2,949	27	22	173	131	5
38	Agriculture	–	–	–	–	–
39	Other primary	–	–	–	–	–
40	Manufacturing, etc.[4]	18	15	109	79	4
41	Trade, etc.[5]	7	5	44	39	1
42	Labour[6]	–	–	–	–	–
43	$2,950 and over	6	5	45	40	0
44	Agriculture	–	–	–	–	–
45	Other primary	–	–	–	–	–
46	Manufacturing, etc.[4]	–	–	–	–	–
47	Trade, etc.[5]	–	–	–	–	–
48	Labour[6]	–	–	–	–	–

[1] Other ethnic groups not included.
[2] Number of children in families with more than five children estimated from grouped data.
[3] Included in totals are figures not shown separately for groups with less than five individuals.
[4] Also construction, transportation and communication.
[5] Also service and clerical.
[6] Not including primary occupations.

TABLE 8.—Wage-earner normal families in relation to ethnic group, urbanization, earnings, occupation and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45–54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

9–12 years schooling					13 years schooling and over					No.
Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	
5,313	3,144	14,740	12,986	987	701	391	1,715	1,519	152	1
190	89	532	470	29	11	6	35	29	1	2
30	18	99	92	5	–	–	–	–	–	3
2,326	1,453	6,663	5,888	389	234	150	616	532	44	4
2,144	1,172	5,325	4,700	465	411	211	938	850	98	5
623	412	2,121	1,836	99	42	23	120	103	7	6
16,984	9,627	44,013	39,336	2,595	2,361	1,232	5,382	4,827	453	7
79	38	197	183	13	7	5	21	20	0	8
72	39	225	194	12	7	5	26	23	1	9
9,015	5,438	24,720	21,973	1,207	814	477	1,957	1,726	142	10
7,026	3,632	16,427	14,826	1,271	1,473	713	3,246	2,942	299	11
792	480	2,444	2,160	92	60	32	132	116	11	12
6,550	3,610	15,205	13,839	1,046	1,931	877	4,045	3,712	358	13
7	4	16	16	1	–	–	–	–	–	14
31	21	90	77	5	7	2	14	13	1	15
3,077	1,906	7,871	7,078	418	428	240	952	843	74	16
3,414	1,666	7,153	6,609	619	1,490	630	3,058	2,837	282	17
21	13	65	59	3	–	–	–	–	–	18
4,285	2,230	9,384	8,670	699	3,125	1,342	6,359	5,914	532	19
–	–	–	–	–	–	–	–	–	–	20
30	17	70	66	6	14	6	26	23	4	21
1,502	883	3,627	3,324	235	561	280	1,177	1,090	87	22
2,753	1,330	5,687	5,280	458	2,548	1,056	5,153	4,799	440	23
–	–	–	–	–	–	–	–	–	–	24
139	92	890	724	13	15	11	98	83	0	25
30	16	172	129	5	–	–	–	–	–	26
13	9	96	78	1	–	–	–	–	–	27
51	37	329	275	4	7	4	32	28	0	28
25	16	145	125	3	5	5	54	46	0	29
20	14	148	117	0	–	–	–	–	–	30
78	45	425	332	12	11	8	70	52	0	31
–	–	–	–	–	–	–	–	–	–	32
–	–	–	–	–	–	–	–	–	–	33
47	30	245	190	10	5	3	25	19	0	34
25	12	141	117	2	–	–	–	–	–	35
–	–	–	–	–	–	–	–	–	–	36
13	6	76	54	1	–	–	–	–	–	37
–	–	–	–	–	–	–	–	–	–	38
–	–	–	–	–	–	–	–	–	–	39
7	4	38	25	1	–	–	–	–	–	40
5	2	34	25	0	–	–	–	–	–	41
–	–	–	–	–	–	–	–	–	–	42
8	2	18	13	2	–	–	–	–	–	43
–	–	–	–	–	–	–	–	–	–	44
–	–	–	–	–	–	–	–	–	–	45
–	–	–	–	–	–	–	–	–	–	46
6	1	12	9	2	–	–	–	–	–	47
–	–	–	–	–	–	–	–	–	–	48

TABLE 8.—Wage-earner normal families in relation to ethnic group, urbanization, earnings, occupation and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45–54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

No.	Ethnic group, rural and urban, earnings and occupation	0–8 years schooling				
		Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families
	French ethnic group[3]—Con.					
	Rural non farm					
1	Less than $950	2,745	2,088	20,214	15,211	233
2	Agriculture	227	159	1,613	1,264	19
3	Other primary	592	495	4,789	3,527	45
4	Manufacturing, etc.[4]	1,010	745	7,196	5,435	83
5	Trade, etc.[5]	291	204	1,911	1,441	40
6	Labour[6]	625	485	4,705	3,544	46
7	$950–$1,949	1,231	940	8,872	6,967	91
8	Agriculture	11	8	69	56	2
9	Other primary	78	66	555	435	4
10	Manufacturing, etc.[4]	830	640	6,047	4,774	63
11	Trade, etc.[5]	171	124	1,112	846	13
12	Labour[6]	141	102	1,089	856	9
13	$1,950–$2,949	125	93	793	649	15
14	Agriculture	–	–	–	–	–
15	Other primary	–	–	–	–	–
16	Manufacturing, etc.[4]	111	84	721	596	14
17	Trade, etc.[5]	10	7	54	36	1
18	Labour[6]	–	–	–	–	–
19	$2,950 and over	25	13	154	120	0
20	Agriculture	–	–	–	–	–
21	Other primary	–	–	–	–	–
22	Manufacturing, etc.[4]	19	12	120	97	0
23	Trade, etc.[5]	–	–	–	–	–
24	Labour[6]	–	–	–	–	–
	Urban					
25	Less than $950	14,504	10,534	93,533	68,268	1,707
26	Agriculture	375	287	2,662	2,002	46
27	Other primary	556	451	4,385	3,268	47
28	Manufacturing, etc.[4]	7,533	5,420	47,456	34,813	877
29	Trade, etc.[5]	2,256	1,552	12,738	9,421	336
30	Labour[6]	3,784	2,824	26,292	18,764	401
31	$950–$1,949	13,514	9,674	84,958	64,584	1,406
32	Agriculture	47	34	309	230	2
33	Other primary	255	202	1,807	1,416	19
34	Manufacturing, etc.[4]	9,029	6,562	57,898	43,951	908
35	Trade, etc.[5]	2,904	1,945	16,188	12,580	348
36	Labour[6]	1,279	931	8,756	6,407	129
37	$1,950–$2,949	1,596	1,132	9,409	7,443	176
38	Agriculture	–	–	–	–	–
39	Other primary	26	19	144	112	4
40	Manufacturing, etc.[4]	1,120	834	6,934	5,478	106
41	Trade, etc.[5]	438	269	2,254	1,795	66
42	Labour[6]	11	9	69	52	0
43	$2,950 and over	311	212	1,604	1,264	39
44	Agriculture	–	–	–	–	–
45	Other primary	5	3	32	26	1
46	Manufacturing, etc.[4]	178	122	1,021	791	24
47	Trade, etc.[5]	128	87	551	447	14
48	Labour[6]	–	–	–	–	–

[1] Other ethnic groups not included.
[2] Number of children in families with more than five children estimated from grouped data.
[3] Included in totals are figures not shown for groups with less than five individuals.
[4] Also construction, transportation and communication.
[5] Also service and clerical.
[6] Not including primary occupations.

TABLE 8.—Wage-earner normal families in relation to ethnic group, urbanization, earnings, occupation and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

9-12 years schooling					13 years schooling and over					No.
Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	
255	174	1,697	1,298	36	29	16	140	107	2	1
14	8	61	48	4	–	–	–	–	–	2
25	23	181	139	2	–	–	–	–	–	3
103	69	747	567	11	12	7	63	43	1	4
67	39	388	329	12	14	8	70	57	0	5
46	35	320	215	7	–	–	–	–	–	6
261	179	1,513	1,236	35	38	27	193	156	5	7
–	–	–	–	–	–	–	–	–	–	8
10	7	75	60	1	–	–	–	–	–	9
153	114	871	723	17	11	8	59	48	2	10
88	55	526	430	14	21	15	109	84	2	11
7	2	37	19	1	–	–	–	–	–	12
76	51	371	299	10	15	6	53	47	1	13
–	–	–	–	–	–	–	–	–	–	14
–	–	–	–	–	–	–	–	–	–	15
47	35	235	194	6	5	2	15	12	0	16
29	16	136	105	4	10	4	38	35	1	17
–	–	–	–	–	–	–	–	–	–	18
23	17	117	109	2	18	8	100	87	2	19
–	–	–	–	–	–	–	–	–	–	20
–	–	–	–	–	–	–	–	–	–	21
13	11	76	70	2	5	1	37	31	0	22
10	6	41	39	0	13	7	63	56	2	23
–	–	–	–	–	–	–	–	–	–	24
2,727	1,806	15,190	11,393	357	308	181	1,482	1,152	60	25
31	21	208	153	3	–	–	–	–	–	26
38	27	268	185	2	–	–	–	–	–	27
1,360	927	7,828	5,845	157	111	66	564	430	23	28
934	588	4,525	3,478	151	152	89	671	522	30	29
364	243	2,361	1,737	44	38	23	200	161	7	30
4,983	3,070	25,025	19,630	713	736	390	3,248	2,604	127	31
8	7	51	44	0	–	–	–	–	–	32
30	19	206	161	4	–	–	–	–	–	33
2,385	1,575	12,755	9,862	322	191	119	981	760	27	34
2,413	1,361	11,077	8,867	372	528	258	2,162	1,773	99	35
147	108	936	690	15	13	9	81	56	1	36
1,560	913	7,415	6,078	216	447	228	1,907	1,588	66	37
–	–	–	–	–	–	–	–	–	–	38
–	–	–	–	–	–	–	–	–	–	39
606	403	3,154	2,515	72	63	35	343	270	5	40
949	505	4,224	3,531	144	383	193	1,564	1,318	60	41
–	–	–	–	–	–	–	–	–	–	42
653	393	2,728	2,317	94	447	223	1,724	1,504	66	43
–	–	–	–	–	–	–	–	–	–	44
–	–	–	–	–	–	–	–	–	–	45
195	119	820	678	25	43	26	143	129	8	46
454	271	1,889	1,624	69	402	195	1,566	1,363	58	47
–	–	–	–	–	–	–	–	–	–	48

TABLE 9.—Non wage-earner normal families in relation to ethnic group, urbanization, value of home owned and education of husband

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45–54 YEARS, CANADA

No.	Ethnic group, rural and urban, value of home	0-8 years schooling				
		Number of normal families	Number of women married under 25 years of age	Number[1] of children ever-born	Number[1] of children now living	Number of childless families
	Canada[2]	**135,954**	**96,795**	**714,553**	**605,779**	**13,762**
	British ethnic group—					
1	Rural farm[2]	38,331	24,196	153,629	138,913	4,202
2	Less than $2,000	1,783	1,176	8,092	7,224	207
3	$2,000–$3,000	216	136	755	687	29
4	$3,000–$5,000	113	72	392	357	13
5	$5,000 and over	49	27	164	150	7
6	Value of home not given	31,850	19,988	125,543	113,602	3,530
7	Tenants	3,979	2,622	17,775	16,102	334
8	Rural non-farm[2]	6,924	4,634	27,197	23,885	927
9	Less than $2,000	4,299	2,985	18,354	16,012	514
10	$2,000–$3,000	733	458	2,284	2,045	130
11	$3,000–$5,000	521	303	1,524	1,366	92
12	$5,000 and over	255	165	764	679	29
13	Tenants	1,017	662	4,015	3,555	133
14	Urban[2]	15,242	9,589	47,427	41,880	2,419
15	Less than $2,000	3,452	2,257	12,337	10,882	441
16	$2,000–$3,000	1,995	1,264	5,782	5,174	333
17	$3,000–$5,000	2,437	1,481	6,336	5,701	437
18	$5,000 and over	1,379	797	3,223	2,927	255
19	Tenants	5,680	3,614	19,167	16,702	850
	French ethnic group—					
20	Rural farm[2]	24,275	18,754	199,640	161,965	1,765
21	Less than $2,000	2,829	2,189	23,579	18,964	219
22	$2,000–$3,000	181	132	1,408	1,183	16
23	$3,000–$5,000	39	25	249	206	3
24	$5,000 and over	36	27	248	209	5
25	Value of home not given	19,844	15,373	164,570	133,554	1,419
26	Tenants	1,094	836	8,143	6,726	61
27	Rural non-farm[2]	4,732	3,455	33,137	26,320	610
28	Less than $2,000	3,429	2,528	24,878	19,768	408
29	$2,000–$3,000	392	282	2,530	2,048	67
30	$3,000–$5,000	252	178	1,718	1,348	28
31	$5,000 and over	108	77	645	525	12
32	Tenants	462	330	2,888	2,255	75
33	Urban[2]	8,201	5,738	47,551	36,450	1,273
34	Less than $2,000	1,887	1,318	11,619	9,112	293
35	$2,000–$3,000	975	668	5,759	4,505	150
36	$3,000–$5,000	967	655	5,538	4,406	161
37	$5,000 and over	721	505	4,157	3,252	112
38	Tenants	3,463	2,455	19,850	14,758	495
	Other ethnic group—					
39	Rural farm[2]	24,816	19,908	146,939	127,351	1,337
40	Less than $2,000	763	580	4,240	3,569	59
41	$2,000–$3,000	78	62	378	336	8
42	$3,000–$5,000	39	25	192	167	4
43	$5,000 and over	12	9	49	45	2
44	Value of home not given	21,096	17,062	125,393	108,763	1,120
45	Tenants	2,654	2,052	16,032	13,912	120
46	Rural non-farm[2]	4,205	3,264	21,574	16,561	386
47	Less than $2,000	3,188	2,503	17,129	12,797	283
48	$2,000–$3,000	286	219	1,185	1,035	32
49	$3,000–$5,000	182	129	785	657	20
50	$5,000 and over	83	65	345	316	6
51	Tenants	424	316	1,994	1,656	36
52	Urban[2]	9,228	7,257	37,459	32,454	843
53	Less than $2,000	2,198	1,754	10,034	8,482	200
54	$2,000–$3,000	1,080	859	4,454	3,853	95
55	$3,000–$5,000	1,272	1,000	4,766	4,206	108
56	$5,000 and over	829	666	3,148	2,842	49
57	Tenants	3,703	2,869	14,711	12,785	356

[1] Number of children in families with more than five children estimated from grouped data.
[2] Includes lodging families and figures not shown for groups with less than five individuals.

TABLE 9.—Non wage-earner normal families in relation to ethnic group, urbanization, value of home owned and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, CANADA

9–12 years schooling					13 years schooling and over					No.
Number of normal families	Number of women married under 25 years of age	Number[1] of children ever-born	Number[1] of children now living	Number of childless families	Number of normal families	Number of women married under 25 years of age	Number[1] of children ever-born	Number[1] of children now living	Number of childless families	
41,260	**24,524**	**141,538**	**125,366**	**6,125**	**10,483**	**5,296**	**28,212**	**25,329**	**1,942**	
12,312	6,882	42,578	38,852	1,584	1,152	592	3,440	3,133	186	1
594	343	2,116	1,910	77	47	22	113	103	9	2
166	96	502	450	24	16	4	65	58	3	3
91	44	293	266	19	21	11	58	52	5	4
31	19	78	68	9	11	7	27	26	3	5
10,007	5,596	34,413	31,414	1,278	918	473	2,737	2,485	142	6
1,283	728	4,896	4,473	134	131	70	427	396	22	7
3,215	1,869	9,609	8,688	584	733	331	1,656	1,543	168	8
1,497	937	5,041	4,502	237	190	102	469	419	41	9
468	259	1,244	1,134	95	100	45	221	201	26	10
364	200	889	827	76	144	48	300	285	32	11
257	125	561	523	56	146	60	309	295	33	12
565	314	1,776	1,609	97	147	72	345	331	35	13
14,453	8,203	36,281	32,912	2,499	5,826	2,728	12,706	11,705	1,137	14
1,913	1,161	5,636	5,052	296	325	163	774	710	67	15
1,591	892	4,203	3,771	266	373	190	821	732	77	16
2,827	1,570	6,655	6,081	506	910	417	2,006	1,872	180	17
2,908	1,563	6,374	5,957	460	2,436	1,081	5,366	4,976	387	18
4,911	2,869	13,032	11,705	852	1,675	825	3,611	3,299	380	19
1,962	1,334	13,464	11,119	188	157	101	959	793	20	20
207	138	1,601	1,276	16	19	12	122	99	2	21
33	23	204	177	4	–	–	–	–	–	22
27	14	171	144	4	–	–	–	–	–	23
–	–	–	–	–	–	–	–	–	–	24
1,548	1,062	10,676	8,837	143	111	71	692	581	15	25
115	78	656	553	17	18	11	62	52	3	26
628	404	3,716	3,037	108	129	67	658	545	17	27
312	204	1,974	1,642	50	44	27	230	189	7	28
104	71	658	519	19	24	11	117	93	4	29
67	35	299	262	14	21	9	110	88	1	30
54	34	301	250	7	20	9	99	86	2	31
80	55	444	334	15	19	11	102	89	2	32
2,801	1,730	13,082	10,468	499	1,184	671	4,921	4,134	207	33
354	219	1,745	1,432	61	70	38	292	234	15	34
263	152	1,165	946	53	72	42	319	274	10	35
379	239	1,987	1,611	52	147	75	632	530	34	36
461	311	2,318	1,957	64	376	212	1,777	1,547	42	37
1,296	794	5,769	4,450	248	498	293	1,873	1,529	98	38
2,776	1,917	12,768	11,375	251	322	202	1,221	1,069	50	39
96	69	394	353	12	11	6	41	36	3	40
25	21	93	83	4	–	–	–	–	–	41
8	5	42	40	0	–	–	–	–	–	42
5	5	16	16	0	–	–	–	–	–	43
2,226	1,537	10,097	8,973	203	253	165	967	846	34	44
370	249	1,868	1,691	26	52	27	192	171	13	45
570	409	2,257	1,889	69	120	78	338	309	20	46
331	252	1,476	1,192	41	54	34	159	146	10	47
69	49	242	216	5	12	8	21	19	4	48
38	23	99	84	6	12	8	27	25	2	49
33	18	97	92	3	15	9	45	43	0	50
90	61	321	288	11	27	19	86	76	4	51
2,543	1,776	7,783	7,026	343	860	526	2,313	2,098	137	52
371	263	1,392	1,229	44	74	49	280	254	6	53
216	149	676	603	25	52	29	159	149	9	54
412	295	1,339	1,229	34	136	91	388	340	21	55
454	298	1,240	1,134	65	238	138	572	527	34	56
1,054	748	3,076	2,776	162	348	215	904	818	61	57

TABLE 10.—Non wage-earner normal families in relation to ethnic group, urbanization, value of home owned, occupation group and education of husband

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

No.	Ethnic group, value of home, occupation group, rural and urban,	0-8 years schooling				
		Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families
	British ethnic group[3]—					
	Rural farm					
1	Less than $2,000	623	412	2,494	2,243	86
2	Agriculture	540	362	2,241	2,031	68
3	Other primary	9	4	33	29	0
4	Manufacturing, etc.[4]	18	11	55	45	4
5	Trade, etc.[5]	29	21	73	63	8
6	Retired[6]	27	14	92	75	6
7	$2,000-$3,000	131	82	458	408	17
8	Agriculture	118	73	417	371	17
9	Other primary	-	-	-	-	-
10	Manufacturing, etc.[4]	5	4	19	15	0
11	Trade, etc.[5]	8	5	22	22	0
12	Retired[6]	-	-	-	-	-
13	$3,000-$5,000	55	37	186	170	5
14	Agriculture	45	30	155	141	4
15	Other primary	-	-	-	-	-
16	Manufacturing, etc.[4]	-	-	-	-	-
17	Trade, etc.[5]	5	3	16	14	1
18	Retired[6]	-	-	-	-	-
19	$5,000 and over	31	19	125	113	2
20	Agriculture	25	13	96	87	2
21	Other primary	-	-	-	-	-
22	Manufacturing, etc.[4]	-	-	-	-	-
23	Trade, etc.[5]	-	-	-	-	-
24	Retired[6]	-	-	-	-	-
	Rural non-farm					
25	Less than $2,000	1,606	1,101	6,339	5,495	206
26	Agriculture	742	512	3,086	2,699	87
27	Other primary	106	80	634	532	10
28	Manufacturing, etc.[4]	283	195	1,015	870	40
29	Trade, etc.[5]	236	162	738	670	31
30	Retired[6]	239	152	866	724	38
31	$2,000-$3,000	445	277	1,357	1,220	74
32	Agriculture	198	129	648	584	33
33	Other primary	5	3	10	9	2
34	Manufacturing, etc.[4]	70	39	219	199	11
35	Trade, etc.[5]	116	76	331	289	16
36	Retired[6]	56	30	149	139	12
37	$3,000-$5,000	348	196	978	887	56
38	Agriculture	128	77	403	368	19
39	Other primary	5	5	16	12	0
40	Manufacturing, etc.[4]	69	37	205	189	7
41	Trade, etc.[5]	101	53	236	213	20
42	Retired[6]	45	24	118	105	10
43	$5,000 and over	197	125	583	518	20
44	Agriculture	59	34	188	172	5
45	Other primary	-	-	-	-	-
46	Manufacturing, etc.[4]	53	37	177	152	6
47	Trade, etc.[5]	67	46	183	160	5
48	Retired[6]	16	8	31	30	4

[1] "Other" ethnic group not included.
[2] Number of children in families with more than five children estimated from grouped data.
[3] Included in totals are figures not shown separately for groups with less than five individuals.
[4] Includes construction, transportation and communication.
[5] Includes service and clerical.
[6] Includes unpaid and no occupation.

TABLE 10.—Non wage-earner normal families in relation to ethnic group, urbanization, value of home owned, occupation group and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45–54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

9–12 years schooling					13 years schooling and over					No.
Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	
117	67	357	317	19	11	4	26	23	4	1
96	53	316	277	14	9	3	25	22	3	2
–	–	–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	–	–	4
14	9	21	21	4	–	–	–	–	–	5
–	–	–	–	–	–	–	–	–	–	6
51	32	158	142	8	–	–	–	–	–	7
44	27	141	126	7	–	–	–	–	–	8
–	–	–	–	–	–	–	–	–	–	9
–	–	–	–	–	–	–	–	–	–	10
6	4	14	13	1	–	–	–	–	–	11
–	–	–	–	–	–	–	–	–	–	12
29	17	83	74	6	11	4	26	25	4	13
23	13	70	63	4	5	2	17	16	2	14
–	–	–	–	–	–	–	–	–	–	15
–	–	–	–	–	–	–	–	–	–	16
5	3	13	11	1	5	2	9	9	1	17
–	–	–	–	–	–	–	–	–	–	18
19	11	44	43	6	5	3	11	11	1	19
12	7	29	28	4	–	–	–	–	–	20
–	–	–	–	–	–	–	–	–	–	21
–	–	–	–	–	–	–	–	–	–	22
6	4	15	15	1	–	–	–	–	–	23
–	–	–	–	–	–	–	–	–	–	24
353	214	1,073	943	64	62	33	181	156	13	25
121	73	412	361	14	17	11	70	63	2	26
9	6	33	31	2	–	–	–	–	–	27
55	35	166	142	14	6	3	20	14	1	28
109	68	289	265	19	27	13	50	48	8	29
58	31	169	140	15	11	5	41	31	1	30
182	102	459	410	46	26	7	52	50	5	31
58	30	146	135	16	–	–	–	–	–	32
–	–	–	–	–	–	–	–	–	–	33
38	25	112	99	5	–	–	–	–	–	34
54	28	139	119	14	16	3	33	31	3	35
32	19	62	57	11	–	–	–	–	–	36
197	106	466	437	39	64	21	137	132	14	37
71	39	167	155	12	14	3	28	27	5	38
–	–	–	–	–	–	–	–	–	–	39
43	24	132	124	8	6	3	14	13	0	40
60	30	136	132	10	38	14	90	87	5	41
21	11	26	21	9	6	1	5	5	4	42
155	79	331	306	36	106	37	221	208	24	43
36	15	78	74	7	9	2	16	16	2	44
–	–	–	–	–	–	–	–	–	–	45
28	17	74	65	7	10	1	18	17	5	46
72	35	155	146	14	74	28	163	154	12	47
18	11	23	21	8	13	6	24	21	5	48

TABLE 10.—Non wage-earner normal families in relation to ethnic group, urbanization, value of home owned, occupation group and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

No.	Ethnic group, value of home, occupation group, rural and urban	0-8 years schooling				
		Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families
	British ethnic group[3]—Con.					
	Urban					
1	Less than $2,000	1,394	936	4,765	4,178	197
2	Agriculture	183	119	565	497	27
3	Other primary	48	36	210	176	6
4	Manufacturing, etc.[4]	448	317	1,608	1,418	55
5	Trade, etc.[5]	308	197	876	775	48
6	Retired[6]	406	266	1,503	1,309	61
7	$2,000-$3,000	1,105	711	3,165	2,786	202
8	Agriculture	103	64	319	271	20
9	Other primary	7	3	17	11	3
10	Manufacturing, etc.[4]	354	236	1,077	941	48
11	Trade, etc.[5]	365	239	989	896	66
12	Retired[6]	275	169	763	667	64
13	$3,000-$5,000	1,663	1,014	4,169	3,735	309
14	Agriculture	112	60	280	249	26
15	Other primary	15	10	61	52	2
16	Manufacturing, etc.[4]	648	417	1,771	1,598	97
17	Trade, etc.[5]	557	337	1,320	1,188	95
18	Retired[6]	331	190	737	648	89
19	$5,000 and over	1,045	597	2,347	2,119	203
20	Agriculture	39	19	101	94	9
21	Other primary	9	8	34	31	1
22	Manufacturing, etc.[4]	353	212	886	793	50
23	Trade, etc.[5]	501	285	1,090	990	92
24	Retired[6]	143	73	236	211	51
	French ethnic group[3]—					
	Rural farm					
25	Less than $2,000	2,385	1,856	20,008	16,060	183
26	Agriculture	2,179	1,708	18,662	15,011	153
27	Other primary	29	22	195	163	3
28	Manufacturing, etc.[4]	85	68	618	464	11
29	Trade, etc.[5]	34	21	236	193	3
30	Retired[6]	58	37	297	229	13
31	$2,000-$3,000	170	123	1,315	1,098	16
32	Agriculture	170	123	1,315	1,098	16
33	Other primary	-	-	-	-	-
34	Manufacturing, etc.[4]	-	-	-	-	-
35	Trade, etc.[5]	-	-	-	-	-
36	Retired[6]	-	-	-	-	-
37	$3,000-$5,000	30	20	189	156	2
38	Agriculture	13	10	99	84	0
39	Other primary	-	-	-	-	-
40	Manufacturing, etc.[4]	5	4	41	36	0
41	Trade, etc.[5]	9	5	40	29	2
42	Retired[6]	-	-	-	-	-
43	$5,000 and over	36	27	248	209	5
44	Agriculture	28	23	203	174	3
45	Other primary	-	-	-	-	-
46	Manufacturing, etc.[4]	-	-	-	-	-
47	Trade, etc.[5]	5	2	18	16	1
48	Retired[6]	-	-	-	-	-

[1] "Other" ethnic group not included.
[2] Number of children in families with more than five children estimated from grouped data.
[3] Included in totals are figures not shown separately for groups with less than five individuals.
[4] Includes construction, transportation and communication.
[5] Includes service and clerical.
[6] Includes unpaid and no occupation.

TABLE 10.—Non wage-earner normal families in relation to ethnic group, urbanization, value of home owned, occupation group and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45–54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

9–12 years schooling					13 years schooling and over					No.
Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	
570	331	1,577	1,409	108	96	45	247	218	16	1
60	35	230	208	11	–	–	–	–	–	2
6	3	12	11	1	–	–	–	–	–	3
168	105	511	460	18	16	8	45	41	2	4
193	116	437	395	37	59	27	162	142	9	5
143	72	387	335	41	17	8	32	28	5	6
644	362	1,679	1,499	119	140	75	304	275	35	7
46	24	134	118	12	8	5	18	18	1	8
–	–	–	–	–	–	–	–	–	–	9
222	122	645	573	32	22	12	40	34	8	10
237	134	529	485	48	85	44	196	175	22	11
136	80	363	315	26	25	14	50	48	4	12
1,461	802	3,248	2,975	282	405	184	875	813	86	13
58	30	148	138	11	5	2	13	12	1	14
7	5	22	22	2	–	–	–	–	–	15
497	277	1,247	1,121	75	51	27	100	93	12	16
634	338	1,363	1,263	111	283	120	621	576	54	17
265	152	468	431	83	65	35	139	130	19	18
1,904	998	4,030	3,772	311	1,595	686	3,500	3,248	250	19
22	11	48	46	4	10	8	24	23	2	20
10	6	27	24	0	–	–	–	–	–	21
453	266	1,087	1,015	52	168	88	406	380	14	22
1,003	512	2,045	1,922	166	1,274	528	2,791	2,593	197	23
416	203	823	765	89	140	60	274	247	37	24
104	112	1,298	1,025	13	13	8	87	69	1	25
134	95	1,093	863	10	8	5	75	58	0	26
–	–	–	–	–	–	–	–	–	–	27
13	11	99	82	0	–	–	–	–	–	28
10	4	71	55	0	–	–	–	–	–	29
6	2	29	19	3	–	–	–	–	–	30
29	20	176	152	4	–	–	–	–	–	31
24	16	152	135	3	–	–	–	–	–	32
–	–	–	–	–	–	–	–	–	–	33
–	–	–	–	–	–	–	–	–	–	34
–	–	–	–	–	–	–	–	–	–	35
–	–	–	–	–	–	–	–	–	–	36
23	13	154	132	4	–	–	–	–	–	37
13	8	90	75	3	–	–	–	–	–	38
–	–	–	–	–	–	–	–	–	–	39
–	–	–	–	–	–	–	–	–	–	40
7	3	49	44	1	–	–	–	–	–	41
–	–	–	–	–	–	–	–	–	–	42
–	–	–	–	–	–	–	–	–	–	43
–	–	–	–	–	–	–	–	–	–	44
–	–	–	–	–	–	–	–	–	–	45
–	–	–	–	–	–	–	–	–	–	46
–	–	–	–	–	–	–	–	–	–	47
–	–	–	–	–	–	–	–	–	–	48

TABLE 10.—Non wage-earner normal families in relation to ethnic group, urbanization, value of home owned, occupation group and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45-54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

No.	Ethnic group, value of home, occupation group, rural and urban	0-8 years schooling				
		Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number o of childless families
	French ethnic group[3]—Con.					
	Rural non-farm					
1	Less than $2,000	2,209	1,657	15,983	12,586	269
2	Agriculture	1,091	836	8,622	6,926	101
3	Other primary	287	240	2,161	1,724	20
4	Manufacturing, etc.[4]	341	242	2,365	1,817	49
5	Trade, etc.[5]	221	158	1,390	1,058	36
6	Retired[6]	269	181	1,445	1,061	63
7	$2,000-$3,000	354	261	2,367	1,906	59
8	Agriculture	141	107	1,125	936	17
9	Other primary	7	4	42	30	0
10	Manufacturing, etc.[4]	71	56	525	413	10
11	Trade, etc.[5]	104	73	566	444	22
12	Retired[6]	30	20	106	80	10
13	$3,000-$5,000	231	166	1,600	1,254	24
14	Agriculture	73	54	589	466	1
15	Other primary	-	-	-	-	-
16	Manufacturing, etc.[4]	55	43	404	315	4
17	Trade, etc.[5]	83	57	513	399	16
18	Retired[6]	16	9	62	53	3
19	$5,000 and over	98	69	592	477	12
20	Agriculture	25	16	139	118	2
21	Other primary	6	5	40	30	0
22	Manufacturing, etc.[4]	18	14	120	105	2
23	Trade, etc.[5]	40	26	248	191	7
24	Retired[6]	9	8	45	33	1
	Urban					
25	Less than $2,000	1,678	1,168	10,355	8,074	271
26	Agriculture	415	311	3,055	2,410	58
27	Other primary	31	27	274	223	1
28	Manufacturing, etc.[4]	500	342	3,336	2,498	65
29	Trade, etc.[5]	332	228	1,788	1,362	57
30	Retired[6]	398	259	1,896	1,580	89
31	$2,000-$3,000	909	623	5,474	4,273	141
32	Agriculture	148	94	960	784	20
33	Other primary	7	7	37	30	0
34	Manufacturing, etc.[4]	292	205	1,912	1,501	32
35	Trade, etc.[5]	282	194	1,691	1,320	38
36	Retired[6]	178	121	869	637	50
37	$3,000-$5,000	911	614	5,265	4,173	158
38	Agriculture	88	61	570	462	13
39	Other primary	7	5	68	56	0
40	Manufacturing, etc.[4]	305	209	1,977	1,579	40
41	Trade, etc.[5]	358	244	1,978	1,582	51
42	Retired[6]	153	95	672	494	54
43	$5,000 and over	694	488	4,030	3,144	108
44	Agriculture	41	27	272	201	8
45	Other primary	12	12	96	70	0
46	Manufacturing, etc.[4]	207	149	1,286	1,010	23
47	Trade, etc.[5]	351	252	2,051	1,617	47
48	Retired[6]	83	48	325	246	30

[1] "Other" ethnic group not included.
[2] Number of children in families with more than five children estimated from grouped data.
[3] Included in totals are figures not shown separately for groups with less than five individuals.
[4] Includes construction, transportation and communication.
[5] Includes service and clerical.
[6] Includes unpaid and no occupation.

TABLE 10.—Non wage-earner normal families in relation to ethnic group, urbanization, value of home owned, occupation group and education of husband—Con.

NUMBER OF NORMAL FAMILIES, NUMBER OF WOMEN MARRIED UNDER 25 YEARS OF AGE, NUMBER OF CHILDREN EVER-BORN AND NUMBER NOW LIVING AND NUMBER OF CHILDLESS FAMILIES AMONG MARRIED WOMEN AGED 45–54 YEARS, QUEBEC AND ONTARIO COMBINED[1]

9–12 years schooling					13 years schooling and over					No.
Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	Number of normal families	Number of women married under 25 years of age	Number[2] of children ever-born	Number[2] of children now living	Number of childless families	
214	145	1,400	1,140	33	29	18	151	117	5	1
93	66	702	583	11	5	3	17	16	1	2
15	12	99	76	2	–	–	–	–	–	3
37	21	215	173	9	5	3	30	20	1	4
47	30	266	224	6	12	6	75	56	1	5
22	16	118	84	5	6	5	24	20	2	6
85	55	543	429	16	21	10	90	71	4	7
22	17	176	145	2	–	–	–	–	–	8
–	–	–	–	–	–	–	–	–	–	9
16	11	78	59	4	–	–	–	–	–	10
36	21	244	195	7	15	8	68	53	2	11
10	5	31	22	3	–	–	–	–	–	12
57	28	245	215	14	16	7	94	73	1	13
15	8	40	34	7	–	–	–	–	–	14
–	–	–	–	–	–	–	–	–	–	15
11	7	71	66	0	–	–	–	–	–	16
26	11	128	109	4	12	5	76	58	1	17
5	2	6	6	3	–	–	–	–	–	18
50	31	277	230	6	18	8	89	80	2	19
9	6	43	34	0	–	–	–	–	–	20
–	–	–	–	–	–	–	–	–	–	21
7	4	64	47	0	–	–	–	–	–	22
32	20	166	145	5	15	7	83	74	1	23
–	–	–	–	–	–	–	–	–	–	24
288	180	1,463	1,186	53	55	29	241	186	14	25
51	34	303	254	8	5	2	31	25	1	26
–	–	–	–	–	–	–	–	–	–	27
84	53	482	380	13	–	–	–	–	–	28
93	54	431	357	13	42	22	182	143	11	29
56	36	230	182	17	7	5	23	15	2	30
229	131	1,053	859	47	60	34	269	237	10	31
26	15	144	127	2	–	–	–	–	–	32
–	–	–	–	–	–	–	–	–	–	33
55	28	239	205	13	8	5	38	33	1	34
110	63	526	425	18	46	26	216	189	7	35
35	22	115	76	14	–	–	–	–	–	36
330	210	1,772	1,425	47	133	68	588	497	31	37
19	9	105	87	5	–	–	–	–	–	38
–	–	–	–	–	–	–	–	–	–	39
92	68	575	445	10	10	7	37	28	3	40
189	114	959	795	26	112	55	508	436	23	41
28	17	126	92	6	8	4	18	14	5	42
438	293	2,248	1,899	59	357	198	1,703	1,477	40	43
12	11	85	76	1	–	–	–	–	–	44
–	–	–	–	–	–	–	–	–	–	45
102	67	509	432	11	19	13	87	75	2	46
287	189	1,547	1,304	38	321	173	1,539	1,339	35	47
36	25	102	82	9	14	9	50	39	3	48

TABLE 11.—Local differences in fertility

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[2], 1941			Percentage change in gross reproduction rates, 1931–1941[3]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
CANADA[1]	**3·35**	–	–	**2·25**	–	–	**1·38**	–	–	**−11·0**	–	–
Rural	–	3·90	–	–	2·79							
Urban, under 1,000	–	3·56	–	–	2·31	–	–	1·64	–	–	−11·4	–
" 1,000–4,999	–	3·38	–	–	2·20							
" 5,000–29,999	–	3·08	–	–	2·06	–	–	1·38	–	–	− 4·4	–
" 30,000 and over	–	2·74	–	–	1·73	–	–	1·02	–	–	−12·6	–
Prince Edward Island	**3·81**	–	–	**2·44**	–	–	**1·54**	–	–	**− 7·2**	–	–
Rural	–	3·99	–	–	2·57							
Urban, under 1,000	–	3·60	–	–	2·31	–	–	1·72	–	–	− 6·9	–
" 1,000–4,999	–	4·57	–	–	2·69							
" 5,000–29,999	–	3·21	–	–	1·91	–	–	1·27	–	–	+10·5	–
Kings	4·15	–	–	2·57	–	–	1·70	–	–	+ 7·1	–	–
Rural	–	4·17	–	–	2·60							
Urban, under 1,000	–	3·71	–	–	2·23	–	–	1·70	–	–	+ 7·1	–
" 1,000–4,999	–	4·57	–	–	2·68							
Prince	4·00	–	–	2·72	–	–	1·84	–	–	−11·7	–	–
Rural	–	4·21	–	–	2·88	–	–	1·97	–	–	11·7	–
Urban, under 1,000	–	3·51	–	–	2·39							
" 5,000–29,999 (Summerside)	–	3·12	3·12	–	2·08	2·08	–	1·42	1·42	–	–	–
Queens	3·50	–	–	2·11	–	–	1·36	–	–	− 7·9	–	–
Rural	–	3·64	–	–	2·27	–	–	1·49	–	–	−15·9	–
Urban, 5,000-29,999 (Charlottetown)	–	3·24	3·24	–	1·86	1·86	–	1·21	1·21	–	+ 5·2	+5·2
Nova Scotia	**3·63**	–	–	**2·42**	–	–	**1·53**	–	–	**− 6·1**	–	–
Rural	–	3·85	–	–	2·61							
Urban, under 1,000	–	3·29	–	–	2·08	–	–	1·59	–	–	− 8·9	–
" 1,000–4,999	–	3·33	–	–	2·12							
" 5,000–29,999	–	3·55	–	–	2·49	–	–	1·59	–	–	− 6·5	–
" 30,000 and over	–	2·78	–	–	1·75	–	–	1·27	–	–	− 2·3	–
Annapolis	3·09	–	–	2·06	–	–	1·33	–	–	−16·7	–	–
Rural	–	3·20	–	–	2·18							
Urban, under 1,000	–	2·47	–	–	1·33	–	–	1·33	–	–	−16·7	–
" 1,000–4,999	–	2·58	–	–	1·67							
Antigonish	4·42	–	–	2·34	–	–	1·60	–	–	+ 7·4	–	–
Rural	–	4·60	–	–	2·60	–	–	1·60	–	–	+ 7·4	–
Urban, 1,000–4,999	–	3·72	–	–	1·59							
Cape Breton	4·17	–	–	2·97	–	–	1·73	–	–	−14·8	–	–
Rural	–	4·43	–	–	3·09	–	–	1·57	–	–	− 18·0	–
Urban, 1,000–4,999	–	4·44	–	–	3·24							
" 5,000–29,999	–	4·06	–	–	2·92	–	–	–	–	–	–	–
North Sydney	–	–	4·06	–	–	2·70	–	–	1·84	–	–	− 4·3
Sydney Mines	–	–	4·46	–	–	3·09	–	–	2·29	–	–	− 3·9
Sydney	–	–	3·59	–	–	2·51	–	–	1·60	–	–	− 4·0
Glace Bay	–	–	4·33	–	–	3·23	–	–	1·81	–	–	−16·1
New Waterford	–	–	4·56	–	–	3·61	–	–	1·97	–	–	−27·6
Colchester	3·12	–	–	2·22	–	–	1·42	–	–	−12·1	–	–
Rural	–	3·53	–	–	2·51	–	–	1·50	–	–	−24·0	–
Urban, under 1,000	–	3·41	–	–	2·43							
" 5,000–29,999 (Truro)	–	2·44	2·44	–	1·74	1·74	–	1·32	1·32	–	+14·3	+14·3
Cumberland	3·49	–	–	2·45	–	–	1·62	–	–	− 2·7	–	–
Rural	–	3·68	–	–	2·57	–	–	1·67	–	–	− 6·0	–
Urban, 1,000–4,999	–	3·43	–	–	2·25							
" 5,000–29,999	–	3·30	–	–	2·37	–	–	–	–	–	–	–
Amherst	–	–	3·18	–	–	2·13	–	–	1·53	–	–	+46·1
Springhill	–	–	3·46	–	–	2·69	–	–	1·63	–	–	−22·3
Digby	3·86	–	–	2·51	–	–	1·52	–	–	−23·0	–	–
Rural	–	3·95	–	–	2·57	–	–	1·52	–	–	−23·0	–
Urban, 1,000–4,999	–	3·07	–	–	1·98							

[1] Excluding Yukon and Northwest Territories.

[2] Gross reproduction rates are estimated rates based on births tabulated by place of residence, omitting births in U.S.A. to Canadian residents. They have not been corrected for deficiencies in birth registrations.

[3] 1931 rates used in calculating percentage change for Canada and Provinces are based on births of 1930-32.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931–1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Nova Scotia—Con.												
Guysborough	4·13	–	–	2·76	–	–	1·97	–	–	− 8·2	–	–
Rural	–	4·10	–	–	2·77	–	–	1·97	–	–	− 8·2	–
Urban, 1,000–4,999	–	4·29	–	–	2·68							
Halifax	3·09	–	–	2·07	–	–	1·44	–	–	+ 0·6	–	–
Rural	–	3·72	–	–	2·73	–	–	1·83	–	–	− 0·9	–
Urban, 5,000–29,999 (Dartmouth)	–	2·86	2·86	–	2·06	2·06	–	1·52	1·52	–	+15·9	+15·9
" 30,000 and over (Halifax)	–	2·78	2·78	–	1·75	1·75	–	1·27	1·27	–	− 2·3	− 2·3
Hants	3·75	–	–	2·52	–	–	1·83	–	–	− 7·9	–	–
Rural	–	3·95	–	–	2·74	–	–	1·83	–	–	− 7·9	–
Urban, under 1,000	–	2·71	–	–	1·78							
" 1,000–4,999	–	3·13	–	–	1·83							
Inverness	4·96	–	–	2·87	–	–	1·50	–	–	−23·7	–	–
Rural	–	5·01	–	–	2·85	–	–	1·50	–	–	−23·7	–
Urban, under 1,000	–	4·96	–	–	2·66							
" 1,000–4,999	–	4·77	–	–	2·98							
Kings	3·19	–	–	2·21	–	–	1·52	–	–	+ 1·0	–	–
Rural	–	3·44	–	–	2·47	–	–	1·52	–	–	+ 1·0	–
Urban, under 1,000	–	2·71	–	–	1·76							
" 1,000–4,999	–	2·41	–	–	1·52							
Lunenburg	3·41	–	–	2·30	–	–	1·24	–	–	−13·0	–	–
Rural	–	3·62	–	–	2·51	–	–	1·24	–	–	−13·0	–
Urban, 1,000–4,999	–	2·71	–	–	1·72							
Pictou	3·34	–	–	2·13	–	–	1·39	–	–	− 3·6	–	–
Rural	–	3·42	–	–	2·16	–	–	1·49	–	–	+ 3·3	–
Urban, 1,000–4,999	–	3·54	–	–	2·31							
" 5,000–29,999	–	3·12	–	–	1·98	–	–	–	–	–	–	–
New Glasgow	–	–	2·92	–	–	1·79	–	–	1·13	–	–	−10·5
Stellarton	–	–	3·47	–	–	2·37	–	–	1·36	–	–	−22·9
Queens	3·25	–	–	2·37	–	–	1·64	–	–	− 3·1	–	–
Rural	–	3·40	–	–	2·51	–	–	1·64	–	–	− 3·1	–
Urban, 1,000–4,999	–	2·82	–	–	2·01							
Richmond	4·90	–	–	3·06	–	–	2·03	–	–	+ 1·7	–	–
Rural	–	4·90	–	–	3·06	–	–	2·03	–	–	+ 1·7	–
Shelburne	3·60	–	–	2·48	–	–	1·75	–	–	− 5·9	–	–
Rural	–	3·66	–	–	2·52	–	–	1·75	–	–	− 5·9	–
Urban, under 1,000	–	4·24	–	–	2·98							
" 1,000–4,999	–	3·15	–	–	2·20							
Victoria	4·00	–	–	2·38	–	–	1·33	–	–	−16·7	–	–
Rural	–	4·00	–	–	2·38	–	–	1·33	–	–	−16·7	–
Yarmouth	3·77	–	–	2·39	–	–	1·47	–	–	− 6·8	–	–
Rural	–	3·99	–	–	2·59	–	–	1·62	–	–	−10·2	–
Urban, 1,000– 4,999	–	5·55	–	–	3·30							
" 5,000–29,999 (Yarmouth)	–	3·17	3·17	–	1·95	1·95	–	1·26	1·26	–	− 2·2	− 2·2
New Brunswick	**4·01**	–	–	**2·73**	–	–	**1·82**	–	–	**− 5·7**	–	–
Rural	–	4·45	–	–	3·17	–	–	2·00	–	–	− 7·3	–
Urban, under 1,000	–	3·07	–	–	1·85							
" 1,000– 4,999	–	3·41	–	–	2·16							
" 5,000–29,999	–	3·22	–	–	2·03	–	–	1·21	–	–	−16·5	–
" 30,000 and over	–	2·92	–	–	1·77	–	–	1·35	–	–	+ 2·7	–
Albert	3·69	–	–	2·61	–	–	1·75	–	–	+ 1·7	–	–
Rural	–	3·69	–	–	2·61	–	–	1·75	–	–	+ 1·7	–
Carleton	3·42	–	–	2·38	–	–	1·49	–	–	− 6·2	–	–
Rural	–	3·61	–	–	2·60	–	–	1·49	–	–	− 6·2	–
Urban, under 1,000	–	2·70	–	–	1·75							
" 1,000–4,999	–	2·77	–	–	1·72							
Charlotte	3·07	–	–	2·01	–	–	1·22	–	–	−19·0	–	–
Rural	–	3·26	–	–	2·34	–	–	1·22	–	–	−19·0	–
Urban, 1,000–4,999	–	2·72	–	–	1·53							

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931–1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
New Brunswick—Con.												
Gloucester	5·65	–	–	4·04	–	–	3·06	–	–	– 5·4	–	–
Rural	–	5·83	–	–	4·21	–	–	3·06	–	–	–5·4	–
Urban, 1,000–4,999	–	3·56	–	–	2·31							
Kent	5·57	–	–	3·69	–	–	2·57	–	–	– 7·9	–	–
Rural	–	5·57	–	–	3·69	–	–	2·57	–	–	– 7·9	–
Kings	3·13	–	–	2·07	–	–	1·33	–	–	– 9·0	–	–
Rural	–	3·30	–	–	2·15	–	–	1·33	–	–	– 9·0	–
Urban, under 1,000	–	2·65	–	–	1·37							
" 1,000–4,999	–	2·37	–	–	1·72							
Madawaska	5·62	–	–	4·32	–	–	2·43	–	–	–18·1	–	–
Rural	–	6·10	–	–	4·89	–	–	2·66	–	–	–16·7	–
Urban, 1,000–4,999	–	5·39	–	–	3·86	–	–	1·74	1·74	–	–29·7	–29·7
" 5,000–29,999 (Edmundston)	–	4·37	4·37	–	3·06	3·06						
Northumberland	4·68	–	–	3·23	–	–	2·14	–	–	– 3·1	–	–
Rural	–	4·83	–	–	3·48	–	–	2·14	–	–	– 3·1	–
Urban, 1,000–4,999	–	4·16	–	–	2·47							
Queens	3·53	–	–	2·57	–	–	1·83	–	–	+12·4	–	–
Rural	–	3·53	–	–	2·57	–	–	1·83	–	–	+12·4	–
Restigouche	5·16	–	–	3·86	–	–	2·23	–	–	–16·4	–	–
Rural	–	5·79	–	–	4·56	–	–	2·55	–	–	–17·2	–
Urban, 1,000– 4,999	–	4·00	–	–	3·13							
" 5,000–29,999 (Campbellton)	–	4·13	4·13	–	2·65	2·65	–	1·40	1·40	–	–26·8	–26·8
St. John	2·94	–	–	1·78	–	–	1·29	–	–	+ 0·9	–	–
Rural	–	3·03	–	–	1·82	–	–	1·08	–	–	– 3·2	–
Urban, 30,000 and over (Saint John)	–	2·92	2·92	–	1·77	1·77	–	1·35	1·35	–	+ 2·7	+ 2·7
Sunbury	3·70	–	–	2·88	–	–	2·17	–	–	+14·6	–	–
Rural	–	3·70	–	–	2·88	–	–	2·17	–	–	+14·6	–
Victoria	4·54	–	–	3·48	–	–	2·02	–	–	–17·1	–	–
Rural	–	4·50	–	–	3·52	–	–	2·02	–	–	–17·1	–
Urban, 1,000–4,999	–	4·94	–	–	3·21							
Westmorland	3·69	–	–	2·42	–	–	1·44	–	–	– 1·8	–	–
Rural	–	4·22	–	–	2·93	–	–	1·68	–	–	+ 0·8	–
Urban, under 1,000	–	4·03	–	–	2·53							
" 1,000– 4,999	–	3·66	–	–	2·25							
" 5,000–29,999 (Moncton)	–	2·98	2·98	–	1·85	1·85	–	1·13	1·13	–	– 7·4	– 7·4
York	3·27	–	–	2·28	–	–	1·43	–	–	– 3·9	–	–
Rural	–	3·61	–	–	2·73	–	–	1·70	–	–	– 0·1	–
Urban, 1,000– 4,999	–	3·14	–	–	2·18							
" 5,000–29,999 (Fredericton)	–	2·64	2·64	–	1·60	1·60	–	0·87	0·87	–	–12·6	–12·6
Quebec	**4·36**	–	–	**2·81**	–	–	**1·64**	–	–	**–15·0**	–	–
Rural	–	5·59	–	–	3·86	–	–	2·15	–	–	–12·2	–
Urban, under 1,000	–	4·52	–	–	2·69							
" 1,000– 4,999	–	4·22	–	–	2·71							
" 5,000–29,999	–	4·20	–	–	2·64	–	–	1·60	–	–	– 2·0	–
" 30,000 and over	–	3·50	–	–	2·14	–	–	1·16	–	–	–18·8	–
Abitibi	4·72	–	–	4·46	–	–	3·02	–	–	–14·5	–	–
Rural	–	5·39	–	–	5·01	–	–	3·02	–	–	–14·5	–
Urban, under 1,000	–	3·45	–	–	3·71							
" 1,000–4,999	–	3·21	–	–	3·12							
Argenteuil	3·99	–	–	2·70	–	–	1·54	–	–	– 7·3	–	–
Rural	–	4·22	–	–	2·86	–	–	1·52	–	–	–	–
Urban, under 1,000	–	4·65	–	–	2·99							
" 1,000– 4,999	–	3·13	–	–	2·08							
" 5,000–29,999 (Lachute)	–	3·67	3·67	–	2·53	2·53	–	1·59	1·59	–	–	–
Arthabaska	5·49	–	–	3·63	–	–	2·15	–	–	–11·8	–	–
Rural	–	6·39	–	–	4·45	–	–	2·37	–	–	– 7·4	–
Urban, under 1,000	–	5·33	–	–	2·95							
" 1,000– 4,999	–	4·97	–	–	2·70							
" 5,000–29,999 (Victoriaville)	–	4·34	4·34	–	2·99	2·99	–	1·88	1·88	–	– 9·1	– 9·1

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate,[1] 1941			Percentage change in gross reproduction rates, 1931–1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Quebec—Con.												
Bagot	5·05	–	–	3·27	–	–	2·20	–	–	– 4·3	–	–
Rural	–	5·44	–	–	3·75							
Urban, under 1,000	–	4·39	–	–	2·33	–	–	2·20	–	–	– 4·8	–
" 1,000–4,999	–	4·52	–	–	2·30							
Beauce	6·14	–	–	4·24	–	–	2·35	–	–	–20·2	–	–
Rural	–	6·46	–	–	4·70							
Urban, under 1,000	–	5·37	–	–	3·35	–	–	2·38	–	–	–20·2	–
" 1,000–4,999	–	5·09	–	–	3·03							
Beauharnois	3·99	–	–	2·76	–	–	1·72	–	–	+ 1·8	–	–
Rural	–	4·64	–	–	3·19							
Urban, under 1,000	–	3·67	–	–	2·79	–	–	1·54	–	–	+ 6·4	–
" 1,000– 4,999	–	3·90	–	–	2·99							
" 5,000–29,999 (Valleyfield)	–	3·84	3·84	–	2·84	2·64	–	1·87	1·87	–	– 4·8	– 4·8
Bellechasse	5·23	–	–	3·77	–	–	2·36	–	–	–15·9	–	–
Rural	–	6·36	–	–	3·89							
Urban, under 1,000	–	4·74	–	–	2·57	–	–	2·36	–	–	–15·9	–
Berthier	5·04	–	–	3·19	–	–	1·84	–	–	– 7·9	–	–
Rural	–	5·17	–	–	3·35							
Urban, under 1,000	–	5·52	–	–	3·38	–	–	1·84	–	–	– 7·9	–
" 1,000–4,999	–	4·50	–	–	2·65							
Bonaventure	5·62	–	–	3·94	–	–	2·79	–	–	– 7·8	–	–
Rural	–	5·62	–	–	3·94	–	–	2·79	–	–	– 7·8	–
Brome	3·47	–	–	2·30	–	–	1·58	–	–	+17·8	–	–
Rural	–	3·73	–	–	2·59							
Urban, under 1,000	–	2·97	–	–	1·85	–	–	1·58	–	–	+17·8	–
" 1,000–4,999	–	2·99	–	–	1·73							
Chambly	3·48	–	–	2·14	–	–	1·06	–	–	–14·5	–	–
Rural	–	4·11	–	–	2·75	–	–	1·16	–	–	–13·8	–
Urban, 1,000– 4,999	–	3·38	–	–	2·04							
" 5,000–29,999	–	3·04	–	–	1·78	–	–	–	–	–	–	–
Longueuil	–	–	3·34	–	–	2·03	–	–	1·31	–	–	–17·9
St-Lambert	–	–	2·75	–	–	1·55	–	–	0·64	–	–	–14·7
Champlain	5·40	–	–	3·70	–	–	1·97	–	–	–23·9	–	–
Rural	–	5·53	–	–	3·94							
Urban, under 1,000	–	5·20	–	–	3·25	–	–	2·16	–	–	–13·5	–
" 1,000– 4,999	–	5·23	–	–	3·50							
" 5,000–29,999	–	5·04	–	–	3·55	–	–	–	–	–	–	–
Cap-de-la-Madeleine	–	–	5·06	–	–	3·61	–	–	1·83	–	–	–29·8
Grand'Mère	–	–	5·07	–	–	3·32	–	–	1·50	–	–	–38·2
La Tuque	–	–	4·90	–	–	3·75	–	–	1·95	–	–	–30·3
Charlevoix	5·74	–	–	3·85	–	–	1·88	–	–	–27·4	–	–
Rural	–	6·08	–	–	4·28							
Urban, under 1,000	–	5·21	–	–	3·51	–	–	1·88	–	–	–27·4	–
" 1,000–4,999	–	4·94	–	–	2·46							
Châteauguay	4·06	–	–	2·43	–	–	1·46	–	–	–10·3	–	–
Rural	–	4·41	–	–	2·73							
Urban, under 1,000	–	3·57	–	–	1·96	–	–	1·46	–	–	–16·3	–
" 1,000–4,999	–	3·00	–	–	1·78							
Chicoutimi	5·62	–	–	4·45	–	–	2·79	–	–	–17·2	–	–
Rural	–	6·85	–	–	5·45							
Urban, under 1,000	–	6·52	–	–	4·99	–	–	2·81	–	–	–	–
" 1,000– 4,999	–	4·90	–	–	4·00							
" 5,000–29,999	–	5·23	–	–	4·07	–	–	–	–	–	–	–
Chicoutimi	–	–	5·29	–	–	3·70	–	–	2·47	–	–	–19·5
Jonquière	–	–	5·41	–	–	4·06	–	–	3·29	–	–	–5·6
Kénogami	–	–	4·64	–	–	3·94	–	–	3·03	–	–	–
Compton	4·49	–	–	3·08	–	–	1·85	–	–	– 6·2	–	–
Rural	–	4·75	–	–	3·37							
Urban, under 1,000	–	3·61	–	–	2·19	–	–	1·86	–	–	– 6·2	–
" 1,000–4,999	–	4·40	–	–	3·00							

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931–1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Quebec—Con.												
Deux-Montagnes	4·49	–	–	2·77	–	–	1·51	–	–	−24·4	–	–
Rural	–	4·91	–	–	3·10							
Urban, under 1,000	–	4·44	–	–	2·28	–	–	1·51	–	–	−24·4	–
" 1,000–4,999	–	3·29	–	–	2·10							
Dorchester	6·43	–	–	4·39	–	–	2·73	–	–	−11·9	–	–
Rural	–	6·46	–	–	4·46	–	–	2·73	–	–	−11·9	–
Urban, under 1,000	–	5·95	–	–	3·14							
Drummond	4·81	–	–	3·49	–	–	2·17	–	–	− 5·6	–	–
Rural	–	5·39	–	–	3·96							
Urban, under 1,000	–	5·06	–	–	2·97	–	–	2·63	–	–	–	–
" 5,000–29,999	–	4·16	–	–	3·08							
Drummondville	–	–	3·86	–	–	2·67	–	–	1·47	–	–	−41·3
St-Joseph-de-Grantham	–	–	4·71	–	–	4·10	–	–	2·45	–	–	–
Frontenac	6·12	–	–	4·61	–	–	2·60	–	–	−18·1	–	–
Rural	–	6·43	–	–	5·04							
Urban, under 1,000	–	6·17	–	–	3·56	–	–	2·60	–	–	−18·1	–
" 1,000–4,999	–	4·77	–	–	3·40							
Gaspé E	5·55	–	–	4·03	–	–	2·67	–	–	–	–	–
Rural	–	5·65	–	–	4·17							
Urban, under 1,000	–	4·58	–	–	2·61	–	–	2·67	–	–	–	–
" 1,000-4,999	–	4·74	–	–	3·35							
Gaspé W	5·93	–	–	4·68	–	–	3·08	–	–	–	–	–
Rural	–	5·98	–	–	4·77	–	–	3·08	–	–	–	–
Urban, 1,000–4,999	–	5·55	–	–	4·05							
Madeleine Islands	5·64	–	–	3·95	–	–	2·54	–	–	−18·5	–	–
Rural	–	5·64	–	–	3·95	–	–	2·54	–	–	−18·5	–
Gatineau	4·72	–	–	3·40	–	–	2·09	–	–	–	–	–
Rural	–	4·86	–	–	3·56							
Urban, under 1,000	–	3·83	–	–	2·51	–	–	2·09	–	–	–	–
" 1,000–4,999	–	4·33	–	–	3·00							
Hull	4·53	–	–	3·23	–	–	1·98	–	–	–	–	–
Rural	–	5·33	–	–	3·68							
Urban, under 1,000	–	4·49	–	–	3·19	–	–	2·36	–	–	–	–
" 1,000–4,999	–	4·21	–	–	3·45							
" 30,000 and over (Hull)	–	4·53	4·53	–	3·17	3·17	–	1·91	1·91	–	−15·9	−15·9
Huntingdon	3·81	–	–	2·44	–	–	1·64	–	–	− 4·2	–	–
Rural	–	3·96	–	–	2·57							
Urban, under 1,000	–	3·41	–	–	1·92	–	–	1·64	–	–	− 4·2	–
" 1,000–4,999	–	3·18	–	–	1·99							
Iberville	4·52	–	–	2·85	–	–	1·73	–	–	− 5·4	–	–
Rural	–	4·83	–	–	3·11							
Urban, under 1,000	–	4·25	–	–	2·06	–	–	1·73	–	–	− 5·4	–
" 1,000–4,999	–	4·09	–	–	2·68							
Joliette	5·44	–	–	3·36	–	–	1·88	–	–	−17·2	–	–
Rural	–	5·84	–	–	3·81							
Urban, under 1,000	–	6·56	–	–	4·79	–	–	2·18	–	–	−14·4	–
" 1,000–4,999	–	4·83	–	–	2·68							
" 5,000–29,999 (Joliette)	–	4·93	4·93	–	2·89	2·89	–	1·55	1·55	–	−18·8	−18·8
Kamouraska	6·17	–	–	3·76	–	–	2·14	–	–	−19·2	–	–
Rural	–	6·35	–	–	4·00							
Urban, under 1,000	–	5·40	–	–	2·47	–	–	2·14	–	–	−19·2	–
" 1,000–4,999	–	5·14	–	–	2·80							
Labelle	5·67	–	–	4·35	–	–	2·74	–	–	−13·2	–	–
Rural	–	5·82	–	–	4·71							
Urban, under 1,000	–	5·33	–	–	3·71	–	–	2·74	–	–	−13·2	–
" 1,000–4,999	–	5·21	–	–	3·35							
Lac-St-Jean E	6·20	–	–	4·93	–	–	2·85	–	–	–	–	–
Rural	–	7·02	–	–	5·75							
Urban, under 1,000	–	5·36	–	–	3·97	–	–	2·84	–	–	–	–
" 1,000- 4,999	–	5·75	–	–	4·25							
" 5,000–29,999 (St-Joseph-d'Alma)	–	5·53	5·53	–	4·56	4·56	–	2·87	2·87	–	–	–

[1],[2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931-1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Quebec—Con.												
Lac-St-Jean W.	6·36	–	–	4·93	–	–	3·18	–	–	–	–	–
Rural	–	6·73	–	–	5·55							
Urban, under 1,000	–	5·83	–	–	4·06	–	–	3·18	–	–	–	–
" 1,000-4,999	–	5·62	–	–	3·91							
Laprairie	4·66	–	–	2·99	–	–	1·59	–	–	−18·8	–	–
Rural	–	4·75	–	–	3·04							
Urban, under 1,000	–	4·65	–	–	3·53	–	–	1·59	–	–	−18·8	–
" 1,000-4,999	–	4·34	–	–	2·75							
L'Assomption	4·99	–	–	3·13	–	–	1·91	–	–	−10·4	–	–
Rural	–	5·05	–	–	3·25	–	–	1·91	–	–	−10·4	–
Urban, 1,000-4,999	–	4·89	–	–	2·93							
Lévis	5·34	–	–	2·92	–	–	1·50	–	–	−22·0	–	–
Rural	–	5·78	–	–	3·35							
Urban, under 1,000	–	5·34	–	–	3·02	–	–	1·66	–	–	−28·6	–
" 1,000-4,999	–	5·23	–	–	3·14							
" 5,000-29,999	–	5·06	–	–	2·60	–	–	–	–	–	–	–
Lauzon	–	–	5·10	–	–	2·79	–	–	1·54	–	–	−12·9
Lévis	–	–	5·01	–	–	2·50	–	–	1·31	–	–	−16·9
L'Islet	6·09	–	–	3·94	–	–	2·35	–	–	− 7·7	–	–
Rural	–	6·10	–	–	4·03	–	–	2·35	–	–	− 7·7	–
Urban, under 1,000	–	5·64	–	–	2·22							
Lotbinière	5·96	–	–	3·84	–	–	2·29	–	–	−13·9	–	–
Rural	–	6·18	–	–	4·21							
Urban, under 1,000	–	5·39	–	–	3·06	–	–	2·29	–	–	−13·9	–
" 1,000-4,999	–	5·23	–	–	2·96							
Maskinongé	5·54	–	–	3·55	–	–	1·98	–	–	−16·5	–	–
Rural	–	5·86	–	–	3·85							
Urban, under 1,000	–	5·20	–	–	2·85	–	–	1·98	–	–	−16·5	–
" 1,000-4,999	–	4·60	–	–	2·90							
Matane	5·65	–	–	4·22	–	–	2·55	–	–	–	–	–
Rural	–	5·90	–	–	4·63							
Urban, under 1,000	–	5·05	–	–	3·10	–	–	2·55	–	–	–	–
" 1,000-4,999	–	5·18	–	–	3·64							
Matapédia	6·09	–	–	4·78	–	–	3·17	–	–	–	–	–
Rural	–	6·28	–	–	5·24							
Urban, under 1,000	–	5·83	–	–	3·92	–	–	3·17	–	–	–	–
" 1,000-4,999	–	5·61	–	–	3·92							
Mégantic	5·31	–	–	3·46	–	–	2·17	–	–	−14·9	–	–
Rural	–	5·99	–	–	4·28							
Urban, under 1,000	–	5·29	–	–	3·05	–	–	2·25	–	–	−11·9	–
" 1,000-4,999	–	4·81	–	–	2·32							
" 5,000-29,999 (Thetford Mines)	–	4·73	4·73	–	3·47	3·47	–	2·04	2·04	–	−24·8	−24·8
Missisquoi	3·77	–	–	2·47	–	–	1·49	–	–	− 5·0	–	–
Rural	–	4·25	–	–	2·81							
Urban, under 1,000	–	3·43	–	–	1·93	–	–	1·49	–	–	− 5·0	–
" 1,000-4,999	–	3·33	–	–	2·24							
Montcalm	5·30	–	–	3·39	–	–	2·08	–	–	−10·2	–	–
Rural	–	5·41	–	–	3·60							
Urban, under 1,000	–	4·95	–	–	2·95	–	–	2·08	–	–	−10·2	–
" 1,000-4,999	–	4·98	–	–	2·82							
Montmagny	5·77	–	–	3·62	–	–	2·22	–	–	−12·0	–	–
Rural	–	6·00	–	–	3·87	–	–	2·22	–	–	−12·0	–
Urban, 1,000-4,999	–	4·93	–	–	2·81							
Montmorency	5·92	–	–	3·62	–	–	1·76	–	–	−28·3	–	–
Rural	–	6·15	–	–	3·94							
Urban, under 1,000	–	5·07	–	–	3·00	–	–	1·76	–	–	−28·3	–
" 1,000-4,999	–	4·62	–	–	2·09							

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931-1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Quebec—Con.												
Montreal Island	3·29	–	–	2·00	–	–	1·04	–	–	–	–	–
Rural	–	4·29	–	–	1·30							
Urban, under 1,000	–	3·22	–	–	1·86	–	–	0·81	–	–	–	–
" 1,000– 4,999	–	2·97	–	–	1·95							
" 5,000–29,999	–	3·05	–	–	1·54	–	–	–	–	–	–	–
Lachine	–	–	3·60	–	–	2·24	–	–	1·22	–	–	−12·5
Westmount	–	–	2·31	–	–	1·00	–	–	0·33	–	–	+15·0
Montreal N.	–	–	4·15	–	–	2·87	–	–	1·34	–	–	–
St-Laurent	–	–	3·59	–	–	1·78	–	–	1·03	–	–	−30·4
Urban, 30,000 and over	–	3·31	–	–	2·05	–	–	–	–	–	–	–
Montreal	–	–	3·36	–	–	2·08	–	–	1·10	–	–	−18·9
Outremont	–	–	2·86	–	–	1·42	–	–	0·42	–	–	+15·2
Verdun	–	–	2·87	–	–	1·99	–	–	1·02	–	–	−23·0
Jesus Island	4·18	–	–	2·52	–	–	1·23	–	–	–	–	–
Rural	–	4·54	–	–	2·93							
Urban, under 1,000	–	2·45	–	–	1·62	–	–	1·23	–	–	–	–
" 1,000–4,999	–	3·97	–	–	2·12							
Napierville	4·85	–	–	3·10	–	–	1·93	–	–	−10·7	–	–
Rural	–	5·14	–	–	3·49							
Urban, under 1,000	–	3·78	–	–	2·33	–	–	1·93	–	–	−10·7	–
Urban, 1,000–4,999	–	4·60	–	–	2·45							
Nicolet	5·76	–	–	3·26	–	–	2·08	–	–	− 9·9	–	–
Rural	–	6·09	–	–	3·97							
Urban, under 1,000	–	4·93	–	–	2·60	–	–	2·08	–	–	− 9·9	–
" 1,000–4,999	–	4·79	–	–	1·45							
Papineau	5·07	–	–	3·57	–	–	2·13	–	–	−16·7	–	–
Rural	–	5·39	–	–	3·94							
Urban, under 1,000	–	5·20	–	–	3·19	–	–	2·13	–	–	−16·7	–
" 1,000–4,999	–	4·54	–	–	3·11							
Pontiac	4·74	–	–	3·16	–	–	1·94	–	–	−13·0	–	–
Rural	–	4·90	–	–	3·33							
Urban, under 1,000	–	4·06	–	–	2·53	–	–	1·94	–	–	−13·0	–
" 1,000–4,999	–	5·08	–	–	3·43							
Portneuf	5·75	–	–	3·55	–	–	1·91	–	–	−20·7	–	–
Rural	–	5·99	–	–	3·72							
Urban, under 1,000	–	5·69	–	–	3·22	–	–	1·91	–	–	−20·7	–
" 1,000–4,999	–	5·28	–	–	3·34							
Quebec	4·58	–	–	2·47	–	–	1·42	–	–	−21·5	–	–
Rural	–	4·90	–	–	2·64							
Urban, under 1,000	–	3·35	–	–	2·38	–	–	1·68	–	–	–	–
" 1,000–4,999	–	5·09	–	–	2·83							
" 5,000–29,999 (Montmorency)	–	5·43	5·43	–	3·83	3·83	–	1·98	1·98	–	–	–
" 30,000 and over (Quebec)	–	4·45	4·45	–	2·38	2·38	–	1·33	1·33	–	−27·0	−27·0
Richelieu	4·68	–	–	3·09	–	–	1·68	–	–	−11·5	–	–
Rural	–	5·24	–	–	3·37							
Urban, under 1,000	–	4·69	–	–	2·35	–	–	1·66	–	–	− 7·7	–
" 1,000– 4,999	–	3·97	–	–	2·92							
" 5,000–29,999 (Sorel)	–	4·47	4·47	–	3·04	3·04	–	1·69	1·69	–	−13·3	−13·3
Richmond	4·52	–	–	3·20	–	–	2·04	–	–	−13·2	–	–
Rural	–	5·28	–	–	3·72							
Urban, under 1,000	–	3·24	–	–	1·89	–	–	1·94	–	–	–	–
" 1,000–4,999	–	4·00	–	–	2·60							
" 5,000–29,999 (Asbestos)	–	4·09	4·09	–	3·61	3·61	–	2·34	–	–	–	–
Rimouski	5·96	–	–	4·02	–	–	2·46	–	–	− 4·4	–	–
Rural	–	6·37	–	–	4·71							
Urban, under 1,000	–	5·72	–	–	3·79	–	–	2·61	–	–	+ 1·4	–
" 1,000– 4,999	–	5·29	–	–	2·97							
" 5,000–29,999 (Rimouski)	–	4·79	4·79	–	2·68	2·68	–	1·87	1·87	–	−27·5	−27·5
Rouville	4·29	–	–	2·63	–	–	1·61	–	–	− 8·3	–	–
Rural	–	4·48	–	–	3·03							
Urban, under 1,000	–	3·81	–	–	2·17	–	–	1·61	–	–	− 8·3	–
" 1,000–4,999	–	4·11	–	–	2·11							

[1],[2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Quebec—Con.												
Saguenay	5·03	–	–	4·14	–	–	2·72	–	–	−15·0	–	–
Rural	–	5·19	–	–	4·24							
Urban, under 1,000	–	5·44	–	–	3·89	–	–	2·72	–	–	−15·0	–
" 1,000–4,999	–	2·51	–	–	2·64							
Shefford	4·37	–	–	2·94	–	–	1·94	–	–	−11·1	–	–
Rural	–	5·09	–	–	3·57							
Urban, under 1,000	–	4·40	–	–	2·65	–	–	2·16	–	–	− 5·8	–
" 1,000–4,999	–	2·98	–	–	2·08							
" 5,000–29,999 (Granby)	–	4·13	4·13	–	2·74	2·74	–	1·72	1·72	–	−16·8	−16·8
Sherbrooke	3·66	–	–	2·30	–	–	1·32	–	–	−8·2	–	–
Rural	–	4·73	–	–	2·98							
Urban, under 1,000	–	4·38	–	–	3·07	–	–	1·26	–	–	−24·3	–
" 1,000–4,999	–	2·37	–	–	1·45							
" 30,000 and over (Sherbrooke)	–	3·53	3·53	–	2·23	2·23	–	1·33	1·33	–	− 4·0	− 4·0
Soulanges	4·88	–	–	3·01	–	–	1·58	–	–	−19·8	–	–
Rural	–	5·09	–	–	3·31							
Urban, under 1,000	–	4·53	–	–	2·56	–	–	1·58	–	–	−19·8	–
Stanstead	3·92	–	–	2·64	–	–	1·65	–	–	− 5·0	–	–
Rural	–	4·25	–	–	2·92							
Urban, under 1,000	–	2·98	–	–	1·72	–	–	1·51	–	–	− 4·3	–
" 1,000– 4,999	–	3·71	–	–	2·38							
" 5,000–29,999 (Magog)	–	4·10	4·10	–	2·99	2·99	–	1·93	1·93	–	−11·7	−11·7
St-Hyacinthe	4·24	–	–	2·30	–	–	1·29	–	–	−11·9	–	–
Rural	–	4·66	–	–	3·19							
Urban, under 1,000	–	3·96	–	–	1·84	–	–	1·80	–	–	+17·9	–
" 1,000– 4,999	–	4·09	–	–	2·65							
" 5,000–29,999 (St-Hyacinthe)	–	4·07	4·07	–	1·96	1·96	–	1·00	1·00	–	−29·9	−29·9
St-Jean	3·97	–	–	2·55	–	–	1·45	–	–	−12·2	–	–
Rural	–	4·19	–	–	2·73							
Urban, under 1,000	–	3·78	–	–	2·27	–	–	1·54	–	–	−16·6	–
" 5,000–29,999 (St-Jean)	–	3·89	3·89	–	2·50	2·50	–	1·42	1·42	–	− 9·0	− 9·0
St-Maurice	4·92	–	–	3·23	–	–	1·84	–	–	−20·8	–	–
Rural	–	5·99	–	–	3·91							
Urban, under 1,000	–	5·24	–	–	2·97	–	–	2·07	–	–	−15·2	–
" 1,000– 4,999	–	6·46	–	–	5·09							
" 5,000–29,999 (Shawinigan Falls)	–	4·69	4·69	–	3·44	3·44	–	1·94	1·94	–	−25·1	−25·1
" 30,000 and over (Trois-Rivières)	–	4·64	4·64	–	2·91	2·91	–	1·71	1·71	–	−19·6	−19·6
Témiscamingue	4·39	–	–	3·93	–	–	2·72	–	–	−13·3	–	–
Rural	–	5·47	–	–	4·78							
Urban, under 1,000	–	6·10	–	–	4·31	–	–	2·83	–	–	–	–
" 1,000– 4,999	–	2·85	–	–	2·53							
" 5,000–29,999 (Rouyn)	–	3·36	3·36	–	3·27	3·27	–	2·43	2·43	–	–	–
Rivière-du-Loup	6·14	–	–	3·73	–	–	1·79	–	–	–	–	–
Rural	–	6·70	–	–	4·45							
Urban, under 1,000	–	4·66	–	–	2·47	–	–	2·17	–	–	–	–
" 1,000–4,999	–	5·30	–	–	3·00							
" 5,000–29,999 (Rivière-du-Loup)	–	5·16	5·16	–	2·68	2·68	–	1·12	1·12	–	−34·7	−34·7
Témiscouata	6·14	–	–	4·97	–	–	3·51	–	–	–	–	–
Rural	–	6·33	–	–	5·24							
Urban, 1,000–4,999	–	5·04	–	–	3·63	–	–	3·51	–	–	–	–
Terrebonne	4·59	–	–	3·07	–	–	1·75	–	–	−17·2	–	–
Rural	–	4·97	–	–	3·43							
Urban, under 1,000	–	4·18	–	–	2·61	–	–	1·85	–	–	−12·6	–
" 1,000– 4,999	–	4·40	–	–	2·77							
" 5,000–29,999 (St-Jérôme)	–	4·25	4·25	–	2·91	2·91	–	1·53	1·53	–	−26·7	−26·7

[1,2] See footnotes (2) and (3), respectively, page 234.

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AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931-1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Quebec—Con.												
Vaudreuil	4·21	–	–	2·53	–	–	1·36	–	–	−11·5	–	–
Rural	–	4·87	–	–	3·18							
Urban, under 1,000	–	3·20	–	–	1·84	–	–	1·36	–	–	−11·5	–
" 1,000–4,999	–	3·74	–	–	1·94							
Verchères	4·83	–	–	3·00	–	–	2·02	–	–	− 1·2	–	–
Rural	–	5·44	–	–	3·47							
Urban, under 1,000	–	5·24	–	–	2·35	–	–	2·02	–	–	− 1·2	–
" 1,000–4,999	–	3·70	–	–	2·56							
Wolfe	5·94	–	–	4·20	–	–	2·53	–	–	−10·2	–	–
Rural	–	6·17	–	–	4·71							
Urban, under 1,000	–	5·22	–	–	3·18	–	–	2·53	–	–	−10·2	–
" 1,000–4,999	–	5·86	–	–	3·48							
Yamaska	5·53	–	–	3·41	–	–	1·96	–	–	−17·4	–	–
Rural	–	5·80	–	–	3·75							
Urban, under 1,000	–	4·71	–	–	2·43	–	–	1·96	–	–	−17·4	–
" 1,000–4,999	–	5·01	–	–	3·15							
Ontario	2·73	–	–	1·80	–	–	1·16	–	–	− 9·4	–	–
Rural	–	3·09	–	–	2·14							
Urban, under 1,000	–	2·92	–	–	1·81	–	–	1·37	–	–	− 8·7	–
" 1,000– 4,999	–	2·84	–	–	1·80							
" 5,000–29,999	–	2·60	–	–	1·76	–	–	1·27	–	–	− 7·2	–
" 30,000 and over	–	2·41	–	–	1·51	–	–	0·96	–	–	− 6·1	–
Algoma	3·39	–	–	2·56	–	–	1·59	–	–	−12·5	–	–
Rural	–	3·75	–	–	2·95							
Urban, under 1,000	–	4·76	–	–	2·91	–	–	1·66	–	–	−20·2	–
" 1,000– 4,999	–	4·50	–	–	3·14							
" 5,000–29,999 (Sault Ste. Marie)	–	2·95	2·95	–	2·20	2·20	–	1·55	1·55	–	− 4·8	− 4·8
Brant	2·58	–	–	1·68	–	–	1·18	–	–	− 4·4	–	–
Rural	–	2·80	–	–	1·86	–	–	1·06	–	–	−14·4	–
Urban, 1,000–4,999	–	2·49	–	–	1·46							
" 30,000 and over (Brantford)	–	2·47	2·47	–	1·67	1·67	–	1·24	1·24	–	+ 2·0	+ 2·0
Bruce	3·23	–	–	2·00	–	–	1·53	–	–	+ 2·1	–	–
Rural	–	3·49	–	–	2·26							
Urban, under 1,000	–	2·92	–	–	1·64	–	–	1·53	–	–	+ 2·1	–
" 1,000–4,999	–	2·88	–	–	1·72							
Carleton	2·97	–	–	1·75	–	–	1·04	–	–	−10·8	–	–
Rural	–	3·31	–	–	2·16							
Urban, under 1,000	–	3·07	–	–	1·90	–	–	1·21	–	–	−15·4	–
" 1,000– 4,999	–	2·10	–	–	1·02							
" 5,000–29,999 (Eastview)	–	4·28	4·28	–	3·32	3·32	–	1·59	1·59	–	−32·8	−32·8
" 30,000 and over (Ottawa)	–	2·84	2·84	–	1·63	1·63	–	0·99	0·99	–	− 4·6	− 4·6
Cochrane	3·35	–	–	2·97	–	–	1·89	–	–	−16·5	–	–
Rural	–	3·81	–	–	3·38							
Urban, under 1,000	–	3·39	–	–	2·76	–	–	1·87	–	–	−18·5	–
" 1,000– 4,999	–	3·33	–	–	2·60							
" 5,000–29,999 (Timmins)	–	2·79	2·79	–	2·59	2·59	–	1·91	1·91	–	−11·0	−11·0
Dufferin	2·76	–	–	1·74	–	–	1·25	–	–	− 7·1	–	–
Rural	–	2·83	–	–	1·85							
Urban, under 1,000	–	3·03	–	–	1·78	–	–	1·25	–	–	− 7·1	–
" 1,000–4,999	–	2·55	–	–	1·50							
Dundas	3·09	–	–	1·97	–	–	1·51	–	–	+ 7·9	–	–
Rural	–	3·25	–	–	2·15							
Urban, under 1,000	–	2·23	–	–	1·36	–	–	1·51	–	–	+ 7·9	–
" 1,000–4,999	–	2·87	–	–	1·69							
Durham	2·60	–	–	1·62	–	–	1·30	–	–	− 2·3	–	–
Rural	–	2·75	–	–	1·71							
Urban, under 1,000	–	2·71	–	–	1·49	–	–	1·24	–	–	–	–
" 1,000– 4,999	–	2·42	–	–	1·58							
" 5,000–29,999 (Port Hope)	–	2·30	2·30	–	1·44	1·44	–	1·52	1·52	–	–	–

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Ontario—Con.												
Elgin	2·48	–	–	1·64	–	–	1·22	–	–	+ 6·7	–	–
Rural	–	2·77	–	–	1·85							
Urban, under 1,000	–	2·55	–	–	1·57	–	–	1·29	–	–	+ 4·9	–
" 1,000- 4,999	–	2·16	–	–	1·40							
" 5,000-29,999 (St. Thomas)	–	2·21	2·21	–	1·46	1·46	–	1·15	1·15	–	+12·6	+12·6
Essex	2·85	–	–	2·07	–	–	1·33	–	–	– 3·8	–	–
Rural	–	3·32	–	–	2·47							
Urban, under 1,000	–	3·29	–	–	2·48	–	–	1·47	–	–	–	–
" 1,000-4,999	–	3·03	–	–	2·13							
" 5,000-29,999 (Leamington)	–	2·53	2·53	–	1·74	1·74	–	1·53	1·53	–	–	–
" 30,000 and over (Windsor)	–	2·65	2·65	–	1·92	1·92	–	1·25	1·25	–	+ 0·9	+ 0·9
Frontenac	2·73	–	–	1·75	–	–	1·34	–	–	– 1·5	–	–
Rural	–	3·38	–	–	2·32							
Urban, 1,000-4,999	–	2·48	–	–	1·09	–	–	1·42	–	–	– 8·0	–
" 30,000 and over (Kingston)	–	2·36	2·36	–	1·51	1·51	–	1·29	1·29	–	+ 5·6	+ 5·6
Glengarry	4·24	–	–	2·56	–	–	1·57	–	–	–14·4	–	–
Rural	–	4·23	–	–	2·57							
Urban, under 1,000	–	3·88	–	–	2·14	–	–	1·57	–	–	–14·4	–
" 1,000-4,999	–	4·63	–	–	2·82							
Grenville	2·74	–	–	1·69	–	–	1·15	–	–	– 9·9	–	–
Rural	–	2·80	–	–	1·73							
Urban, under 1,000	–	2·87	–	–	1·70	–	–	1·15	–	–	– 9·9	–
" 1,000-4,999	–	2·64	–	–	1·63							
Grey	2·94	–	–	1·86	–	–	1·38	–	–	– 2·8	–	–
Rural	–	3·13	–	–	2·01							
Urban, under 1,000	–	2·87	–	–	1·66	–	–	1·32	–	–	– 7·5	–
" 1,000- 4,999	–	2·69	–	–	1·69							
" 5,000-29,999 (Owen Sound)	–	2·70	2·70	–	1·73	1·73	–	1·38	1·38	–	+11·4	+11·4
Haldimand	2·66	–	–	1·75	–	–	1·36	–	–	+ 1·0	–	–
Rural	–	2·85	–	–	1·89							
Urban, under 1,000	–	2·50	–	–	1·59	–	–	1·36	–	–	+ 1·0	–
" 1,000-4,999	–	2·35	–	–	1·55							
Haliburton	3·58	–	–	2·74	–	–	1·52	–	–	–25·9	–	–
Rural	–	3·58	–	–	2·74	–	–	1·52	–	–	–25·9	–
Halton	2·55	–	–	1·61	–	–	1·15	–	–	+ 5·9	–	–
Rural	–	2·64	–	–	1·67							
Urban, 1,000-4,999	–	2·47	–	–	1·57	–	–	1·15	–	–	+ 5·9	–
Hastings	2·99	–	–	2·08	–	–	1·53	–	–	– 7·2	–	–
Rural	–	3·45	–	–	2·40							
Urban, under 1,000	–	2·53	–	–	1·63	–	–	1·67	–	–	–10·2	–
" 1,000- 4,999	–	3·17	–	–	2·09							
" 5,000-29,999	–	2·45	–	–	1·73	–	–	–	–	–	–	–
Belleville	–	–	2·42	–	–	1·62	–	–	1·25	–	–	+ 5·1
Trenton	–	–	2·51	–	–	1·98	–	–	1·74	–	–	+ 0·7
Huron	2·85	–	–	1·72	–	–	1·45	–	–	+11·4	–	–
Rural	–	3·01	–	–	1·90							
Urban, under 1,000	–	2·62	–	–	1·39	–	–	1·45	–	–	+11·4	–
" 1,000-4,999	–	2·52	–	–	1·44							
Kenora	2·97	–	–	2·46	–	–	1·19	–	–	–23·5	–	–
Rural	–	3·05	–	–	2·77							
Urban, 1,000- 4,999	–	2·89	–	–	2·16	–	–	1·21	–	–	–28·4	–
" 5,000-29,999 (Kenora)	–	2·85	2·85	–	2·09	2·09	–	1·13	1·13	–	–12·9	–12·9
Kent	2·86	–	–	1·98	–	–	1·50	–	–	+ 3·0	–	–
Rural	–	3·12	–	–	2·24							
Urban, under 1,000	–	2·61	–	–	1·66	–	–	1·57	–	–	+ 3·2	–
" 1,000- 4,999	–	2·84	–	–	1·90							
" 5,000-29,999 (Chatham)	–	2·44	2·44	–	1·65	1·65	–	1·37	1·37	–	+ 6·1	+ 6·1

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931–1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Ontario—Con.												
Lambton	2·80	–	–	1·85	–	–	1·36	–	–	− 0·2	–	–
Rural	–	3·10	–	–	2·09							
Urban, under 1,000	–	2·71	–	–	1·66	–	–	1·42	–	–	+ 3·4	–
" 1,000– 4,999	–	2·62	–	–	1·65							
" 5,000–29,999 (Sarnia)	–	2·46	2·46	–	1·64	1·64	–	1·26	1·26	–	− 6·3	− 6·3
Lanark	2·99	–	–	1·80	–	–	1·36	–	–	− 2·4	–	–
Rural	–	3·41	–	–	2·06							
Urban, under 1,000	–	2·96	–	–	1·65	–	–	1·36	–	–	− 6·8	–
" 1,000– 4,999	–	2·84	–	–	1·65							
" 5,000–29,999 (Smith's Falls)	–	2·53	2·53	–	1·67	1·67	–	1·36	1·36	–	+14·0	+14·0
Leeds	2·73	–	–	1·68	–	–	1·16	–	–	−13·7	–	–
Rural	–	2·99	–	–	1·82							
Urban, under 1,000	–	3·06	–	–	1·74	–	–	1·26	–	–	−11·0	–
" 1,000–4,999	–	2·49	–	–	1·60							
" 5,000–29,999 (Brockville)	–	2·35	2·35	–	1·49	1·49	–	0·99	0·99	–	−19·6	−19·6
Lennox and Addington	2·94	–	–	1·92	–	–	1·43	–	–	− 6·3	–	–
Rural	–	3·10	–	–	2·06							
Urban, under 1,000	–	2·73	–	–	1·65	–	–	1·43	–	–	− 6·3	–
" 1,000–4,999	–	2·41	–	–	1·49							
Lincoln	2·51	–	–	1·72	–	–	1·21	–	–	+ 1·4	–	–
Rural	–	2·76	–	–	1·92	–	–	1·24	–	–	+ 8·3	–
Urban, 1,000–4,999	–	2·49	–	–	1·68							
" 30,000 and over (St. Catharines)	–	2·32	2·32	–	1·59	1·59	–	1·18	1·18	–	− 4·6	− 4·6
Manitoulin	3·92	–	–	2·86	–	–	1·91	–	–	+ 8·4	–	–
Rural	–	4·05	–	–	3·03							
Urban, under 1,000	–	3·32	–	–	2·09	–	–	1·91	–	–	+ 8·4	–
" 1,000–4,999	–	3·35	–	–	2·28							
Middlesex	2·45	–	–	1·50	–	–	1·11	–	–	+ 8·6	–	–
Rural	–	2·67	–	–	1·71							
Urban, under 1,000	–	2·81	–	–	1·55	–	–	1·11	–	–	−10·1	–
" 1,000–4,999	–	2·44	–	–	1·43							
" 30,000 and over (London)	–	2·32	2·32	–	1·40	1·40	–	1·11	1·11	–	+19·0	+19·0
Muskoka	3·35	–	–	2·26	–	–	1·26	–	–	−16·5	–	–
Rural	–	3·64	–	–	2·46							
Urban, under 1,000	–	2·86	–	–	1·90	–	–	1·26	–	–	−16·5	–
" 1,000–4,999	–	2·96	–	–	2·00							
Nipissing	4·48	–	–	3·24	–	–	1·87	–	–	−16·5	–	–
Rural	–	5·11	–	–	3·98							
Urban, under 1,000	–	5·49	–	–	3·79	–	–	2·28	–	–	−13·5	–
" 1,000– 4,999	–	5·43	–	–	3·78							
" 5,000–29,999 (North Bay)	–	3·46	3·46	–	2·38	2·38	–	1·34	1·34	–	−16·1	−16·1
Norfolk	2·68	–	–	1·89	–	–	1·38	–	–	− 5·6	–	–
Rural	–	2·86	–	–	2·08							
Urban, under 1,000	–	2·29	–	–	1·40	–	–	1·41	–	–	− 9·2	–
" 1,000– 4,999	–	2·39	–	–	1·63							
" 5,000–29,999 (Simcoe)	–	2·33	2·33	–	1·56	1·56	–	1·29	1·29	–	+13·7	+13·7
Northumberland	2·81	–	–	1·73	–	–	1·19	–	–	−12·7	–	–
Rural	–	2·92	–	–	1·89							
Urban, under 1,000	–	2·86	–	–	1·67	–	–	1·27	–	–	− 8·8	–
" 1,000– 4,999	–	2·70	–	–	1·68							
" 5,000–29,999 (Cobourg)	–	2·53	2·53	–	1·36	1·36	–	0·92	0·92	–	−27·8	−27·8
Ontario	2·63	–	–	1·73	–	–	1·08	–	–	−17·1	–	–
Rural	–	2·89	–	–	1·90							
Urban, under 1,000	–	2·52	–	–	1·36	–	–	1·13	–	–	−15·0	–
" 1,000–4,999	–	2·70	–	–	1·52							
" 5,000–29,999	–	2·42	–	–	1·63	–	–	–	–	–	–	–
Oshawa	–	–	2·41	–	–	1·78	–	–	1·12	–	–	−18·7
Whitby	–	–	2·45	–	–	1·18	–	–	0·69	–	–	− 4·6
Oxford	2·65	–	–	1·66	–	–	1·32	–	–	+ 3·6	–	–
Rural	–	2·85	–	–	1·80							
Urban, under 1,000	–	2·99	–	–	1·68	–	–	1·43	–	–	+ 0·8	–
" 1,000–4,999	–	2·46	–	–	1·43							
" 5,000–29,999	–	2·44	–	–	1·55	–	–	–	–	–	–	–
Woodstock	–	–	2·37	–	–	1·49	–	–	1·02	–	–	+ 3·6
Ingersoll	–	–	2·58	–	–	1·68	–	–	1·47	–	–	+25·3

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931–1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Ontario—Con.												
Parry Sound	3·72	–	–	2·82	–	–	1·91	–	–	– 4·6	–	–
Rural	–	4·04	–	–	3·10	–	–	1·87	–	–	–	–
Urban, under 1,000	–	3·50	–	–	2·40		–			–	–	–
" 5,000–29,999 (Parry Sound)	–	2·84	2·84	–	2·26	2·26	–	2·06	2·06	–	–	–
Peel	2·56	–	–	1·64	–	–	1·05	–	–	–14·7	–	–
Rural	–	2·64	–	–	1·71		–	1·11	–	–	–12·4	–
Urban, under 1,000	–	2·36	–	–	1·31	–						
" 1,000–4,999	–	2·44	–	–	1·69							
" 5,000–29,999 (Brampton)	–	2·39	2·39	–	1·47	1·47	–	0·85	0·85	–	–23·3	–23·3
Perth	2·84	–	–	1·73	–	–	1·24	–	–	– 3·6	–	–
Rural	–	3·16	–	–	2·00		–	1·37	–	–	+ 0·7	–
Urban, under 1,000	–	2·68	–	–	1·49	–						
" 1,000–4,999	–	2·56	–	–	1·41							
" 5,000–29,999 (Stratford)	–	2·64	2·64	–	1·62	1·62	–	1·02	1·02	–	–13·2	–13·2
Peterborough	2·90	–	–	1·86	–	–	1·36	–	–	– 1·5	–	–
Rural	–	3·33	–	–	2·21		–	1·51	–	–	+ 0·3	–
Urban, under 1,000	–	2·83	–	–	1·68	–						
" 1,000–4,999	–	3·21	–	–	2·06							
" 5,000–29,999 (Peterborough)	–	2·58	2·58	–	1·62	1·62	–	1·25	1·25	–	– 2·6	– 2·6
Prescott	4·84	–	–	3·14	–	–	2·01	–	–	– 8·2	–	–
Rural	–	4·95	–	–	3·24		–	2·01	–	–	– 6·5	–
Urban, 1,000–4,999	–	4·15	–	–	2·27	–						
" 5,000–29,999 (Hawkesbury)	–	4·86	4·86	–	3·37	3·37	–	2·01	2·01	–	–14·1	–14·1
Prince Edward	2·55	–	–	1·69	–	–	1·45	–	–	– 1·3	–	–
Rural	–	2·69	–	–	1·85		–	1·45	–	–	– 1·3	–
Urban, under 1,000	–	2·12	–	–	1·38	–						
" 1,000–4,999	–	2·34	–	–	1·43							
Rainy River	3·44	–	–	2·71	–	–	1·57	–	–	– 7·2	–	–
Rural	–	3·72	–	–	3·02		–	1·69	–	–	– 2·0	–
Urban, 1,000–4,999	–	2·98	–	–	2·10	–						
" 5,000–29,999 (Fort Frances)	–	3·05	3·05	–	2·33	2·33	–	1·40	1·40	–	–13·7	–13·7
Renfrew	3·86	–	–	2·59	–	–	1·40	–	–	–17·5	–	–
Rural	–	4·18	–	–	2·92		–	1·42	–	–	–21·4	–
Urban, under 1,000	–	3·72	–	–	2·30	–						
" 1,000–4,999	–	3·88	–	–	2·39							
" 5,000–29,999	–	3·35	–	–	2·18	–	–	–	–	–	–	–
Pembroke	–	–	3·25	–	–	2·22	–	–	1·43	–	–	– 6·8
Renfrew	–	–	3·57	–	–	2·11	–	–	1·22	–	–	–11·2
Russell	5·23	–	–	3·47	–	–	2·10	–	–	–14·7	–	–
Rural	–	5·17	–	–	3·47		–	2·10	–	–	–14·7	–
Urban, 1,000–4,999	–	5·49	–	–	3·47							
Simcoe	3·00	–	–	1·91	–	–	1·34	–	–	– 1·6	–	–
Rural	–	3·21	–	–	2·02		–	1·30	–	–	– 6·8	–
Urban, under 1,000	–	2·79	–	–	1·73	–						
" 1,000–4,999	–	3·38	–	–	2·04							
" 5,000–29,999	–	2·69	–	–	1·78	–	–	–	–	–	–	–
Barrie	–	–	2·22	–	–	1·56	–	–	1·50	–	–	+23·7
Collingwood	–	–	2·84	–	–	1·78	–	–	1·28	–	–	– 0·9
Midland	–	–	3·20	–	–	2·14	–	–	1·42	–	–	+ 1·4
Orillia	–	–	2·73	–	–	1·75	–	–	1·26	–	–	– 1·6
Stormont	3·56	–	–	2·46	–	–	1·48	–	–	–17·5	–	–
Rural	–	3·67	–	–	2·58		–	1·26	–	–	–23·1	–
Urban, under 1,000	–	2·84	–	–	1·87	–						
" 5,000–29,999 (Cornwall)	–	3·38	3·38	–	2·27	2·27	–	1·89	1·89	–	– 8·1	– 8·1
Sudbury	3·39	–	–	3·04	–	–	2·04	–	–	–12·2	–	–
Rural	–	4·06	–	–	3·53		–	1·94	–	–	–16·8	–
Urban, under 1,000	–	3·80	–	–	3·20	–						
" 1,000–4,999	–	3·23	–	–	2·62							
" 30,000 and over (Sudbury)	–	2·70	2·70	–	2·59	2·59	–	2·13	2·13	–	– 8·2	– 8·2

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931-1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Ontario—Con.												
Thunder Bay	2·70	–	–	2·11	–	–	1·29	–	–	− 9·9	–	–
Rural	–	3·06	–	–	2·55	–	–	1·63	–	–	− 7·7	–
Urban, 1,000-4,999	–	1·69	–	–	2·09	–	–	1·63	–	–	− 7·7	–
" 5,000-29,999 (Port Arthur)	–	2·53	2·53	–	1·90	1·90	–	1·23	1·23	–	− 0·9	− 0·9
" 30,000 and over (Fort William)	–	2·68	2·68	–	2·00	2·00	–	1·03	1·03	–	−25·4	−25·4
Timiskaming	3·09	–	–	2·62	–	–	1·76	–	–	−11·3	–	–
Rural	–	3·05	–	–	2·73	–	–	1·76	–	–	−11·3	–
Urban, under 1,000	–	3·72	–	–	3·42	–	–	1·76	–	–	−11·3	–
" 1,000-4,999	–	3·18	–	–	2·28	–	–	1·76	–	–	−11·3	–
Victoria	2·87	–	–	1·78	–	–	1·34	–	–	+ 1·4	–	–
Rural	–	3·07	–	–	1·91	–	–	1·34	–	–	− 0·8	–
Urban, under 1,000	–	2·71	–	–	1·59	–	–	1·34	–	–	− 0·8	–
" 1,000-4,999	–	2·55	–	–	1·52	–	–	1·34	–	–	− 0·8	–
" 5,000-29,999 (Lindsay)	–	2·67	2·67	–	1·68	1·68	–	1·35	1·35	–	+ 8·2	+ 8·2
Waterloo	2·69	–	–	1·75	–	–	1·06	–	–	−15·1	–	–
Rural	–	3·29	–	–	2·23	–	–	1·28	–	–	−15·8	–
Urban, under 1,000	–	2·49	–	–	1·28	–	–	1·28	–	–	−15·8	–
" 1,000-4,999	–	2·74	–	–	1·62	–	–	1·28	–	–	−15·8	–
" 5,000-29,999	–	2·47	–	–	1·58	–	–	1·28	–	–	−15·8	–
Galt	–	–	2·31	–	–	1·47	–	–	1·03	–	–	− 1·5
Preston	–	–	2·63	–	–	1·71	–	–	0·93	–	–	−17·4
Waterloo	–	–	2·64	–	–	1·70	–	–	0·95	–	–	−15·4
Urban, 30,000 and over (Kitchener)	–	2·52	2·52	–	1·66	1·66	–	0·99	0·99	–	−17·2	−17·2
Welland	2·63	–	–	1·91	–	–	1·30	–	–	− 1·7	–	–
Rural	–	2·89	–	–	2·13	–	–	1·30	–	–	− 0·8	–
Urban, under 1,000	–	2·04	–	–	1·65	–	–	1·30	–	–	− 0·8	–
" 1,000-4,999	–	2·67	–	–	2·02	–	–	1·30	–	–	− 0·8	–
" 5,000-29,999	–	2·47	–	–	1·77	–	–	1·30	–	–	− 0·8	–
Niagara Falls	–	–	2·39	–	–	1·65	–	–	1·40	–	–	+10·9
Welland	–	–	2·56	–	–	1·88	–	–	1·26	–	–	− 4·5
Fort Erie	–	–	2·16	–	–	1·58	–	–	1·27	–	–	+19·8
Port Colborne	–	–	2·60	–	–	2·05	–	–	1·19	–	–	−33·6
Thorold	–	–	2·84	–	–	1·89	–	–	1·16	–	–	−13·6
Wellington	2·82	–	–	1·73	–	–	1·18	–	–	−11·3	–	–
Rural	–	3·11	–	–	1·92	–	–	1·26	–	–	− 9·9	–
Urban, under 1,000	–	2·91	–	–	1·59	–	–	1·26	–	–	− 9·9	–
" 1,000-4,999	–	2·60	–	–	1·55	–	–	1·26	–	–	− 9·9	–
" 5,000-29,999 (Guelph)	–	2·62	2·62	–	1·64	1·64	–	1·07	1·07	–	−13·6	−13·6
Wentworth	2·42	–	–	1·59	–	–	1·01	–	–	−11·1	–	–
Rural	–	2·55	–	–	1·69	–	–	0·99	–	–	− 1·2	–
Urban, under 1,000	–	2·56	–	–	1·55	–	–	0·99	–	–	− 1·2	–
" 1,000-4,999	–	2·21	–	–	1·46	–	–	0·99	–	–	− 1·2	–
" 5,000-29,999 (Dundas)	–	2·32	2·32	–	1·35	1·35	–	1·24	1·24	–	+10·6	+10·6
" 30,000 and over (Hamilton)	–	2·39	2·39	–	1·58	1·58	–	1·01	1·01	–	−12·4	−12·4
York	2·28	–	–	1·43	–	–	0·84	–	–	−19·1	–	–
Rural	–	2·37	–	–	1·68	–	–	0·98	–	–	–	–
Urban, 1,000-4,999	–	2·62	–	–	1·58	–	–	0·98	–	–	–	–
" 5,000-29,999	–	2·03	–	–	1·35	–	–	0·98	–	–	–	–
Leaside	–	–	1·54	–	–	1·27	–	–	1·08	–	–	–
Mimico	–	–	2·36	–	–	1·64	–	–	0·97	–	–	−22·5
New Toronto	–	–	2·23	–	–	1·40	–	–	0·87	–	–	−37·6
Weston	–	–	2·37	–	–	1·50	–	–	1·08	–	–	–
Forest Hill	–	–	1·80	–	–	1·09	–	–	0·63	–	–	–
Long Branch	–	–	2·36	–	–	1·79	–	–	1·21	–	–	–
Swansea	–	–	1·81	–	–	1·18	–	–	0·83	–	–	–
Urban, 30,000 and over (Toronto)	–	2·27	2·27	–	1·37	1·37	–	0·78	0·78	–	−19·5	−19·5
Manitoba	3·27	–	–	2·28	–	–	1·22	–	–	−10·9	–	–
Rural	–	3·88	–	–	2·87	–	–	1·54	–	–	−10·4	–
Urban, under 1,000	–	3·37	–	–	2·16	–	–	1·54	–	–	−10·4	–
" 1,000-4,999	–	3,22	–	–	2·22	–	–	1·54	–	–	−10·4	–
" 5,000-29,999	–	2·90	–	–	1·90	–	–	0·98	–	–	−13·5	–
" 30,000 and over	–	2·44	–	–	1·59	–	–	0·80	–	–	− 6·3	–

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Manitoba—Con.												
Division 1	5·03	–	–	3·88	–	–	2·21	–	–	−17·4	–	–
Rural	–	5·03	–	–	3·88	–	–	2·21	–	–	−17·4	–
Division 2	4·61	–	–	3·29	–	–	1·76	–	–	−18·8	–	–
Rural	–	4·69	–	–	3·43							
Urban, under 1,000	–	4·25	–	–	2·68	–	–	1·76	–	–	−18·8	–
" 1,000–4,999	–	3·91	–	–	2·47							
Division 3	3·65	–	–	2·48	–	–	1·32	–	–	−17·2	–	–
Rural	–	3·72	–	–	2·55							
Urban, under 1,000	–	3·11	–	–	1·93	–	–	1·32	–	–	−17·2	–
" 1,000–4,999	–	3·22	–	–	2·04							
Division 4	3·16	–	–	2·12	–	–	1·30	–	–	− 5·8	–	–
Rural	–	3·19	–	–	2·20							
Urban, under 1,000	–	3·05	–	–	1·86	–	–	1·30	–	–	− 5·8	–
Division 5	3·82	–	–	2·88	–	–	1·36	–	–	−15·4	–	–
Rural	–	3·92	–	–	2·96							
Urban, under 1,000	–	4·09	–	–	2·90	–	–	1·39	–	–	−16·7	–
" 1,000–4,999	–	4·88	–	–	3·58							
" 5,000–29,999 (Transcona)	–	2·90	2·90	–	2·20	2·20	–	1·16	1·16	–	− 6·8	− 6·8
Division 6	2·62	–	–	1·73	–	–	0·90	–	–	− 7·3	–	–
Rural	–	3·43	–	–	2·44							
Urban, under 1,000	–	2·32	–	–	1·36	–	–	1·47	–	–	− 8·4	–
" 1,000–4,999	–	3·22	–	–	2·32							
" 5,000–29,999	–	3·06	–	–	2·01	–	–	–	–	–	–	–
Portage la Prairie	–	–	2·97	–	–	1·89	–	–	1·08	–	–	−10·0
St. Boniface	–	–	3·09	–	–	2·07	–	–	1·07	–	–	− 9·0
Urban, 30,000 and over (Winnipeg)	–	2·44	2·44	–	1·59	1·59	–	0·80	0·80	–	− 6·3	− 6·3
Division 7	2·94	–	–	1·91	–	–	1·00	–	–	−15·1	–	–
Rural	–	3·25	–	–	2·21							
Urban, under 1,000	–	2·69	–	–	1·67	–	–	1·21	–	–	− 7·3	–
" 5,000–29,999 (Brandon)	–	2·68	2·68	–	1·68	1·68	–	0·83	0·83	–	−18·3	−18·3
Division 8	3·16	–	–	2·15	–	–	1·20	–	–	−10·2	–	–
Rural	–	3·28	–	–	2·23							
Urban, under 1,000	–	2·75	–	–	1·97	–	–	1·20	–	–	−10·2	–
" 1,000–4,999	–	2·99	–	–	1·96							
Division 9	3·12	–	–	2·15	–	–	1·12	–	–	−11·1	–	–
Rural	–	3·07	–	–	2·14							
Urban, under 1,000	–	3·08	–	–	2·13	–	–	1·12	–	–	−11·1	–
" 1,000–4,999	–	3·46	–	–	2·21							
Division 10	3·71	–	–	2·70	–	–	1·54	–	–	− 6·7	–	–
Rural	–	3·85	–	–	2·87							
Urban, under 1,000	–	3·33	–	–	2·09	–	–	1·54	–	–	− 6·7	–
" 1,000–4,999	–	2·96	–	–	2·02							
Division 11	3·56	–	–	2·47	–	–	1·33	–	–	−15·4	–	–
Rural	–	3·66	–	–	2·59							
Urban, under 1,000	–	3·21	–	–	1·98	–	–	1·33	–	–	−15·4	–
" 1,000–4,999	–	2·89	–	–	1·94							
Division 12	4·48	–	–	3·37	–	–	1·76	–	–	−19·6	–	–
Rural	–	4·53	–	–	3·43							
Urban, under 1,000	–	3·34	–	–	2·25	–	–	1·76	–	–	−19·6	–
Division 13	4·14	–	–	3·16	–	–	1·60	–	–	−11·0	–	–
Rural	–	4·50	–	–	3·48							
Urban, under 1,000	–	4·16	–	–	2·85	–	–	1·60	–	–	−11·0	–
" 1,000–4,999	–	2·81	–	–	2·13							
Division 14	4·14	–	–	3·13	–	–	1·49	–	–	−17·6	–	–
Rural	–	4·26	–	–	3·33							
Urban, under 1,000	–	3·56	–	–	2·32	–	–	1·49	–	–	−17·6	–
Division 15	3·90	–	–	2·96	–	–	1·55	–	–	−17·8	–	–
Rural	–	4·07	–	–	3·17							
Urban, under 1,000	–	2·56	–	–	1·72	–	–	1·55	–	–	−17·8	–
" 1,000–4,999	–	2·91	–	–	1·93							

[2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931-1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Manitoba—Con.												
Division 16	3·83	–	–	3·45	–	–	2·28	–	–	+11·6	–	–
Rural	–	3·89	–	–	3·55	–	–	2·28	–	–	+11·6	–
Urban, 1,000–4,999	–	3·13	–	–	2·47							
Saskatchewan	**3·69**	–	–	**2·74**	–	–	**1·37**	–	–	**−19·4**	–	–
Rural	–	4·08	–	–	3·15							
Urban, under 1,000	–	3·47	–	–	2·41	–	–	1·50	–	–	−19·0	–
" 1,000–4,999	–	3·24	–	–	2·23							
" 5,000–29,999	–	2·81	–	–	1·97	–	–	1·03	–	–	−16·0	–
" 30,000 and over	–	2·59	–	–	1·78	–	–	0·88	–	–	−24·5	–
Division 1	3·70	–	–	2·62	–	–	1·34	–	–	−16·9	–	–
Rural	–	3·88	–	–	2·84							
Urban, under 1,000	–	3·30	–	–	2·17	–	–	1·34	–	–	−16·9	–
" 1,000–4,999	–	3·37	–	–	2·28							
Division 2	3·64	–	–	2·58	–	–	1·31	–	–	−20·1	–	–
Rural	–	3·90	–	–	2·94							
Urban, under 1,000	–	3·43	–	–	2·35	–	–	1·48	–	–	−15·9	–
" 5,000–29,999 (Weyburn)	–	2·83	2·83	–	1·69	1·69	–	0·68	0·68	–	−30·7	−30·7
Division 3	3·87	–	–	2·89	–	–	1·37	–	–	−23·9	–	–
Rural	–	4·04	–	–	3·06							
Urban, under 1,000	–	3·27	–	–	2·41	–	–	1·37	–	–	−23·9	–
" 1,000–4,999	–	3·61	–	–	2·38							
Division 4	3·50	–	–	2·57	–	–	1·32	–	–	−20·9	–	–
Rural	–	3·63	–	–	2·69							
Urban, under 1,000	–	3·06	–	–	2·26	–	–	1·32	–	–	−20·9	–
" 1,000–4,999	–	3·22	–	–	2·25							
Division 5	4·05	–	–	2·91	–	–	1·33	–	–	−22·8	–	–
Rural	–	4·21	–	–	3·15							
Urban, under 1,000	–	3·74	–	–	2·47	–	–	1·33	–	–	−22·8	–
" 1,000–4,999	–	3·79	–	–	2·60							
Division 6	3·16	–	–	2·21	–	–	0·99	–	–	−26·3	–	–
Rural	–	3·93	–	–	2·91							
Urban, under 1,000	–	3·77	–	–	2·47	–	–	1·21	–	–	−21·1	–
" 1,000–4,999	–	3·13	–	–	1·99							
" 30,000 and over (Regina)	–	2·61	2·61	–	1·80	1·80	–	0·88	0·88	–	−26·1	−26·1
Division 7	3·31	–	–	2·35	–	–	1·22	–	–	−18·0	–	–
Rural	–	3·82	–	–	2·87							
Urban, under 1,000	–	3·60	–	–	2·45	–	–	1·37	–	–	−20·4	–
" 5,000–29,999 (Moose Jaw)	–	2·70	2·70	–	1·87	1·87	–	1·01	1·01	–	− 9·6	− 9·6
Division 8	3·57	–	–	2·71	–	–	1·35	–	–	−24·0	–	–
Rural	–	3·76	–	–	2·92							
Urban, under 1,000	–	3·48	–	–	2·51	–	–	1·40	–	–	−23·9	–
" 5,000–29,999 (Swift Current)	–	2·84	2·84	–	2·08	2·08	–	1·08	1·08	–	−20·7	−20·7
Division 9	4·21	–	–	3·33	–	–	1·45	–	–	−21·9	–	–
Rural	–	4·51	–	–	3·65							
Urban, under 1,000	–	3·56	–	–	2·78	–	–	1·50	–	–	−23·9	–
" 1,000–4,999	–	3·40	–	–	2·35							
" 5,000–29,999 (Yorkton)	–	3·04	3·04	–	2·22	2·22	–	1·11	1·11	–	−20·5	−20·5
Division 10	4·17	–	–	3·21	–	–	1·59	–	–	−22·4	–	–
Rural	–	4·36	–	–	3·42							
Urban, under 1,000	–	3·44	–	–	2·44	–	–	1·59	–	–	−22·4	–
" 1,000–4,999	–	3·06	–	–	2·18							
Division 11	3·04	–	–	2·11	–	–	1·00	–	–	−23·5	–	–
Rural	–	3·91	–	–	2·84							
Urban, under 1,000	–	3·21	–	–	2·15	–	–	1·24	–	–	−21·1	–
" 1,000–4,999	–	3·05	–	–	2·07							
" 30,000 and over (Saskatoon)	–	2·56	2·56	–	1·76	1·76	–	0·87	0·87	–	−22·2	−22·2
Division 12	3·39	–	–	2·44	–	–	1·26	–	–	−21·0	–	–
Rural	–	3·52	–	–	2·58							
Urban, under 1,000	–	3·09	–	–	2·13	–	–	1·26	–	–	−21·0	–
" 1,000–4,999	–	3·01	–	–	2·05							

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931-1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Saskatchewan—Con.												
Division 13	3·77	–	–	2·79	–	–	1·54	–	–	−22·7	–	–
Rural	–	3·95	–	–	3·00							
Urban, under 1,000	–	3·28	–	–	2·27	–	–	1·54	–	–	−22·7	–
" 1,000-4,999	–	3·20	–	–	2·24							
Division 14	3·83	–	–	3·13	–	–	1·86	–	–	−13·8	–	–
Rural	–	3·93	–	–	3·29							
Urban, under 1,000	–	3·36	–	–	2·55	–	–	1·86	–	–	−13·8	–
" 1,000-4,999	–	3·05	–	–	2·15							
Division 15	4·24	–	–	3·24	–	–	1·58	–	–	−26·2	–	–
Rural	–	4·60	–	–	3·62							
Urban, under 1,000	–	4·09	–	–	2·77	–	–	1·64	–	–	−28·9	–
" 1,000-4,999	–	3·65	–	–	2·43							
" 5,000-29,999 (Prince Albert)	–	2·88	2·88	–	2·15	2·15	–	1·30	1·30	–	− 5·3	− 5·3
Division 16	3·98	–	–	3·03	–	–	1·57	–	–	−21·6	–	–
Rural	–	4·21	–	–	3·23							
Urban, under 1,000	–	3·47	–	–	2·59	–	–	1·57	–	–	−21·6	–
" 1,000-4,999	–	2·75	–	–	2·00							
Division 17	3·71	–	–	2·88	–	–	1·63	–	–	−24·5	–	–
Rural	–	3·87	–	–	3·05							
Urban, under 1,000	–	2·98	–	–	2·20	–	–	1·63	–	–	−24·5	–
" 1,000-4,999	–	2·62	–	–	1·82							
Division 18	4·67	–	–	4·45	–	–	2·49	–	–	+ 0·7	–	–
Rural	–	4·74	–	–	4·51							
Urban, under 1,000	–	2·13	–	–	2·33	–	–	2·49	–	–	+ 0·7	–
Alberta	**3·23**	–	–	**2·45**	–	–	**1·38**	–	–	**−16·4**	–	–
Rural	–	3·68	–	–	2·94							
Urban, under 1,000	–	3·10	–	–	2·30	–	–	1·59	–	–	−16·3	–
" 1,000-4,999	–	2·98	–	–	2·19							
" 5,000-29,999	–	2·80	–	–	2·01	–	–	1·03	–	–	−20·8	–
" 30,000 and over	–	2·41	–	–	1·69	–	–	1·02	–	–	−11·6	–
Division 1	3·33	–	–	2·54	–	–	1·44	–	–	−15·9	–	–
Rural	–	3·57	–	–	2·95							
Urban, under 1,000	–	3·34	–	–	2·45	–	–	1·61	–	–	−23·2	–
" 1,000-4,999	–	3·66	–	–	2·79							
" 5,000-29,999 (Medicine Hat)	–	3·01	3·01	–	2·11	2·11	–	1·21	1·21	–	+ 1·1	+ 1·1
Division 2	3·23	–	–	2·49	–	–	1·42	–	–	−16·0	–	–
Rural	–	3·62	–	–	2·93							
Urban, under 1,000	–	3·45	–	–	2·41	–	–	1·59	–	–	−11·6	–
" 1,000-4,999	–	3·13	–	–	2·38							
" 5,000-29,999 (Lethbridge)	–	2·64	2·64	–	1·93	1·93	–	0·95	0·95	–	−31·4	−31·4
Division 3	3·35	–	–	2·69	–	–	1·76	–	–	− 1·2	–	–
Rural	–	3·51	–	–	2·83							
Urban, under 1,000	–	2·86	–	–	2·23	–	–	1·76	–	–	− 1·2	–
" 1,000-4,999	–	2·87	–	–	2·37							
Division 4	2·79	–	–	2·20	–	–	1·47	–	–	− 2·1	–	–
Rural	–	2·84	–	–	2·29							
Urban, under 1,000	–	2·61	–	–	2·00	–	–	1·47	–	–	− 2·1	–
" 1,000-4,999	–	2·78	–	–	1·86							
Division 5	3·24	–	–	2·40	–	–	1·18	–	–	−25·7	–	–
Rural	–	3·30	–	–	2·45							
Urban, under 1,000	–	3·09	–	–	2·25	–	–	1·18	–	–	−25·7	–
" 1,000-4,999	–	2·85	–	–	2·15							
Division 6	2·56	–	–	1·83	–	–	1·15	–	–	− 9·1	–	–
Rural	–	3·10	–	–	2·34							
Urban, under 1,000	–	3·08	–	–	2·24	–	–	1·34	–	–	−14·7	–
" 1,000-4,999	–	2·69	–	–	1·94							
" 30,000 and over (Calgary)	–	2·29	2·29	–	1·60	1·60	–	1·03	1·03	–	− 4·5	− 4·5
Division 7	3·47	–	–	2·53	–	–	1·53	–	–	−13·3	–	–
Rural	–	3·63	–	–	2·69							
Urban, under 1,000	–	2·96	–	–	2·07	–	–	1·53	–	–	−13·3	–

[1],[2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931–1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
Alberta—Con.												
Division 8	3·34	–	–	2·48	–	–	1·45	–	–	− 6·9	–	–
Rural	–	3·51	–	–	2·64							
Urban, under 1,000	–	3·08	–	–	2·29	–	–	1·45	–	–	− 6·9	–
" 1,000–4,999	–	2·87	–	–	2·07							
Division 9	3·23	–	–	2·58	–	–	1·37	–	–	− 8·0	–	–
Rural	–	3·27	–	–	2·63							
Urban, under 1,000	–	2·89	–	–	2·19	–	–	1·37	–	–	− 8·0	–
Division 10	4·05	–	–	3·24	–	–	1·44	–	–	−29·5	–	–
Rural	–	4·21	–	–	3·43							
Urban, under 1,000	–	3·29	–	–	2·58	–	–	1·44	–	–	−29·5	–
" 1,000–4,999	–	3·11	–	–	2·16							
Division 11	2·95	–	–	2·14	–	–	1·20	–	–	−18·1	–	–
Rural	–	3·87	–	–	3·06	–	–	1·57	–	–	−24·7	–
Urban, under 1,000	–	3·62	–	–	2·58							
" 30,000 and over (Edmonton)	–	2·53	2·53	–	1·77	1·77	–	1·01	1·01	–	−16·2	−16·2
Division 12	3·29	–	–	2·71	–	–	1·57	–	–	−22·2	–	–
Rural	–	3·34	–	–	2·79							
Urban, under 1,000	–	3·10	–	–	2·54	–	–	1·57	–	–	−22·2	–
" 1,000–4,999	–	2·92	–	–	2·10							
Division 13	4·48	–	–	3·80	–	–	2·20	–	–	−19·4	–	–
Rural	–	4·54	–	–	3·89							
Urban, under 1,000	–	3·79	–	–	2·87	–	–	2·20	–	–	−19·4	–
" 1,000–4,999	–	3·76	–	–	2·79							
Division 14	3·98	–	–	3·25	–	–	1·87	–	–	−24·5	–	–
Rural	–	4·02	–	–	3·31	–	–	1·87	–	–	−24·5	–
Urban, under 1,000	–	3·41	–	–	2·58							
Division 15	3·98	–	–	3·38	–	–	2·27	–	–	− 9·7	–	–
Rural	–	4·07	–	–	3·53	–	–	2·27	–	–	− 9·7	–
Urban, under 1,000	–	3·01	–	–	2·16							
Division 16	3·59	–	–	2·92	–	–	1·86	–	–	−12·6	–	–
Rural	–	3·75	–	–	3·06	–						
Urban, under 1,000	–	2·60	–	–	2·16	–	–	1·86	–	–	−12·6	–
" 1,000–4,999	–	2·71	–	–	2·16							
Division 17	4·63	–	–	4·20	–	–	2·80	–	–	−12·5	–	–
Rural	–	4·63	–	–	4·20	–	–	2·80	–	–	−12·5	–
British Columbia	2·41	–	–	1·67	–	–	1·13	–	–	+ 5·6	–	–
Rural	–	2·66	–	–	1·95							
Urban, under 1,000	–	2·67	–	–	1·90	–	–	1·24	–	–	− 0·2	–
" 1,000–4,999	–	2·54	–	–	1·90							
" 5,000–29,999	–	2·39	–	–	1·69	–	–	1·40	–	–	+ 5·0	–
" 30,000 and over	–	2·13	–	–	1·38	–	–	0·92	–	–	+ 7·7	–
Division 1	2·87	–	–	2·23	–	–	1·29	–	–	−16·0	–	–
Rural	–	2·86	–	–	2·32							
Urban, under 1,000	–	2·03	–	–	1·60	–	–	1·29	–	–	−16·0	–
" 1,000–4,999	–	2·96	–	–	2·08							
Division 2	2·62	–	–	2·06	–	–	1·27	–	–	+ 1·2	–	–
Rural	–	2·89	–	–	2·29							
Urban, under 1,000	–	2·69	–	–	1·75	–	–	1·06	–	–	+ 2·3	–
" 1,000–4,999	–	2·51	–	–	1·92							
" 5,000–29,999	–	2·25	–	–	1·80	–	–	–	–	–	–	–
Nelson	–	–	2·44	–	–	1·65	–	–	1·23	–	–	− 2·0
Trail	–	–	2·13	–	–	1·93	–	–	1·84	–	–	+ 1·4
Division 3	2·84	–	–	2·08	–	–	1·43	–	–	+ 4·1	–	–
Rural	–	2·89	–	–	2·16							
Urban, under 1,000	–	2·92	–	–	1·94	–	–	1·37	–	–	–	–
" 1,000–4,999	–	2·96	–	–	1·98							
" 5,000–29,999	–	2·63	–	–	1·84	–	–	–	–	–	–	–
Kelowna	–	–	2·74	–	–	1·86	–	–	1·75	–	–	–
Vernon	–	–	2·53	–	–	1·83	–	–	1·49	–	–	–

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 11.—Local differences in fertility—Con.

AVERAGE NUMBER OF CHILDREN EVER-BORN PER MARRIED WOMAN, STANDARDIZED NUMBER OF CHILDREN EVER-BORN TO ALL WOMEN, GROSS REPRODUCTION RATE, CANADA, 1941, AND PERCENTAGE CHANGE IN GROSS REPRODUCTION RATE, 1931–1941, FOR CENSUS SUBDIVISIONS, RURAL AND URBAN BY SIZE GROUPS, CITIES AND TOWNS OF 5,000 AND OVER

Province, county or census division, rural and urban size groups	Number of children born per married woman			Standardized number of children born per woman			Gross reproduction rate[1], 1941			Percentage change in gross reproduction rates, 1931-1941[2]		
	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City	County or census division	Rural and urban	City
British Columbia—Con.												
Division 4	2·31	–	–	1·54	–	–	1·00	–	–	+ 5·2	–	–
Rural	–	2·65	–	–	1·84							
Urban, under 1,000	–	2·50	–	–	1·80	–	–	1·18	–	–	+ 4·7	–
" 1,000-4,999	–	2·66	–	–	1·91							
" 5,000-29,999	–	2·42	–	–	1·62	–	–	–	–	–	–	–
New Westminster	–	–	2·46	–	–	1·66	–	–	1·25	–	–	– 2·8
North Vancouver	–	–	2·35	–	–	1·54	–	–	1·22	–	–	+11·3
" 30,000 and over (Vancouver)	–	2·14	2·14	–	1·39	1·39	–	–	0·90	–	–	+ 5·6
Division 5	2·23	–	–	1·53	–	–	1·24	–	–	+24·8	–	–
Rural	–	2·28	–	–	1·63							
Urban, under 1,000	–	2·74	–	–	1·93	–	–	1·32	–	–	+26·8	–
" 1,000-4,999	–	2·24	–	–	1·80							
" 5,000-29,999 (Nanaimo)	–	2·52	2·52	–	1·70	1·70	–	1·49	1·49	–	+13·1	+13·1
" 30,000 and over (Victoria)	–	2·10	2·10	–	1·28	1·28	–	1·03	1·03	–	+19·2	+19·2
Division 6	2·79	–	–	2·04	–	–	1·38	–	–	– 2·0	–	–
Rural	–	2·92	–	–	2·19							
Urban, under 1,000	–	3·13	–	–	2·01	–	–	1·41	–	–	– 1·1	–
" 5,000-29,999 (Kamloops)	–	2·28	2·28	–	1·59	1·59	–	1·28	1·28	–	– 4·1	– 4·1
Division 7	2·35	–	–	2·00	–	–	1·50	–	–	+17·4	–	–
Rural	–	2·35	–	–	2·00	–	–	1·50	–	–	+17·4	–
Division 8	3·05	–	–	2·46	–	–	1·81	–	–	+12·4	–	–
Rural	–	3·19	–	–	2·63							
Urban, under 1,000	–	2·55	–	–	1·94	–	–	1·81	–	–	+12·4	–
" 1,000-4,999	–	2·61	–	–	1·92							
Division 9	2·81	–	–	2·30	–	–	1·72	–	–	+16·2	+30·1	–
Rural	–	3·51	–	–	2·92							
Urban, under 1,000	–	2·31	–	–	1·93	–	–	2·16	–	–	–21·2	–
" 5,000-29,999 (Prince Rupert)	–	2·13	2·13	–	1·70	1·70	–	1·29	1·29	–	+ 7·0	+ 7·0
Division 10	3·17	–	–	2·70	–	–	1·90	–	–	+ 5·9	–	–
Rural	–	3·28	–	–	2·79							
Urban, under 1,000	–	2·26	–	–	1·96	–	–	1·90	–	–	+ 5·9	–

[1,2] See footnotes (2) and (3), respectively, page 234.

TABLE 12.—Densely populated[1] rural subdivisions, Canada, 1941

A. MAJORITY NON-FARM

(i) Contiguous to cities

I.—0·10–0·14 persons per acre

Rural subdivision	Adjacent to	Population		
		Total	Per acre	P.c. farm
Nova Scotia—				
Bedford Basin	Halifax	2,115	0·109	–
Lingan, South Forks, etc.	Sydney—mining	7,277	0·113	23
Dominion No. 6, Dutch Brook, Reserve	" "	4,737	0·146	13
Quebec—				
La Petite-Rivière	Quebec	281	0·149	31
Ontario—				
Gloucester	Ottawa	9,871	0·108	43
Waterloo N	Kitchener	5,048	0·110	49
Ancaster	Hamilton	5,259	0·114	38
Brantford	Brantford	9,285	0·117	36
Bertie	St. Catharines	4,750	0·121	25
Westminster	London	9,068	0·138	33
Manitoba—				
Old Kildonan	Winnipeg	704	0·120	47
British Columbia—				
North Vancouver	Vancouver	5,931	0·145	–

(ii) Isolated

I.—0·10–0·14 persons per acre

Rural subdivision	Principal industry	Population		
		Total	Per acre	P.c. farm
Nova Scotia—				
La Have Island	Fishing	341	0·103	4
Dublin, La Have	"	803	0·109	24
Tiverton, Freeport	"	1,016	0·114	13
Port Latour	"	629	0·124	46
Woods Harbour	"	1,551	0·137	14
New Brunswick—				
Chatham	Saw mills	2,622	0·116	36
West Isles	Fishing	1,162	0·138	6
Ontario—				
West Ferris	Railway town	2,636	0·111	33
British Columbia—				
N. Cowichan	Saw mills, residential	4,590	0·130	16

[1] Quebec 0·150 or more persons per acre. Other provinces 0·100 persons or more per acre.

TABLE 12.—Densely populated[1] rural subdivisions, Canada, 1941—Con.

A. MAJORITY NON-FARM—Con.

(i) Contiguous to cities

II.—0·15 - 0·22 persons per acre

Rural subdivision	Adjacent to	Population		
		Total	Per acre	P.c. farm
Nova Scotia—				
Herring Cove, etc.[2]	Halifax	7,963	0·158	1
Cole Harbour, Preston Road	"	5,366	0·165	9
Eastern Passage	"	1,645	0·186	18
Quebec—				
St-Hubert	Montreal	2,457	0·156	23
Grande-Ile	Valleyfield	490	0·167	40
St-Joseph	Sorel	941	0·201	19
St-Télesphore	Quebec	254	0·206	17
S.C. de-Jésus-de-Crabtree-Mills	Joliette	1,411	0·207	29
L'Ancienne-Lorette	Quebec	3,750	0·226	47
Ontario—				
Toronto	Toronto	12,481	0·183	31
East Whitby	Oshawa	6,392	0·186	22
Thorold	St. Catharines	4,967	0·189	24
Nepean	Ottawa	13,859	0·201	14
Cornwall	Cornwall	16,034	0·219	16
British Columbia—				
Surrey	Vancouver	14,840	0·180	34
Coquitlam	"	7,949	0·213	4

(ii) Isolated

II.—0·15 - 0·22 persons per acre

Rural subdivision	Principal industry	Population		
		Total	Per acre	P.c. farm
Nova Scotia—				
Westport	Fishing	464	0·187	8
North Cape	"	1,677	0·187	18
Quebec—				
Carleton-sur-Mer	Resort village	765	0·157	43
St-Jean-Baptiste-des-Ecureuils	Pulp and paper	844	0·194	41
N.D. de-Bon-Secours	Coke oven	650	0·209	22
St-Joseph-de-Mont-Rolland	Pulp and paper	1,313	0·218	13
Ontario—				
Ignace	Railway village	420	0·200	-
Rutherford	Fishing	439	0·167	4

III.—0·23 or more persons per acre

Rural subdivision	Adjacent to	Population		
		Total	Per acre	P.c. farm
Nova Scotia—				
Little Bras d'Or	Sydney Mines	4,302	0·672	4
New Brunswick—				
Lancaster	Saint John	9,043	0·303	2
Quebec—				
St-David-de-l'Aube	Quebec	875	0·304	27
Ste-Foy	"	2,682	0·390	13
St-Emile	"	976	0·462	13
Ste-Helène-de-Breakey-ville	"	1,194	0·466	13
St-Antoine-de-Longueuil	Montreal	5,361	0·479	8
St-Felix	Quebec	960	0·600	8
St-Romuald	"	4,027	1·220	3
St-Simon-de-Drummond	Drummondville	2,406	2·107	1
St-Colomb	Quebec	4,214	2·990	1
St-Michel-Archange	"	1,990	15·500	1
Grantham	Drummondville	1,986	4·620	1
Ontario—				
Saltfleet	Hamilton	10,262	0·250	24
N. Monaghan	Peterborough	4,206	0·244	11
Crowland	St. Catharines	6,638	0·298	11
Barton	Hamilton	4,512	0·333	14
Sandwich W.	Windsor	4,735	0·333	35
McKim	Sudbury	5,105	0·333	2
Grantham	St. Catharines	7,052	0·288	28
Stamford	"	9,574	0·377	10
Scarborough	Toronto	24,303	0·500	12
Etobicoke	"	18,973	1·000	9
Sandwich E.	Windsor	8,571	1·000	8
N. York	Toronto	22,908	0·500	-
E. York	"	41,821	14·300	-
York	"	81,052	25·000	-
Manitoba—				
Fort Garry	Winnipeg	4,453	0·249	18
Kildonan N.	"	1,946	0·379	35
St. Vital	"	11,993	0·775	9
St. James	"	13,892	2·550	1
Kildonan W.	"	6,110	3·050	3
" E.	"	8,350	4·032	1
British Columbia—				
Richmond	Vancouver	10,370	0·294	32
W. Vancouver	"	8,362	0·406	-
Saanich	Victoria	20,535	0·504	10
Burnaby	Vancouver	30,328	1·360	4
Fraser Mills	"	552	1·410	-
Esquimalt	Victoria	3,737	2·430	-
Oak Bay	"	9,240	3·560	-

(a) Under 2,500 population

Rural subdivision	Principal industry	Population		
		Total	Per acre	P.c. farm
Nova Scotia—				
Brooklyn	Pulp and paper	1,195	0·348	2
Quebec—				
East Broughton	Village	1,084	0·752	10
L'Annonciation	Religious	825	1·125	-
Beaupré	Pulp and paper	1,501	1·340	6
Repentigny	Village	862	1·500	46
St-Antoine-de-Padoue	Village	458	1·541	16
La Pointe-du-Lac	Religious	899	0·540	14
Ontario—				
Schreiber	Railway village	1,281	0·500	-
McIrvine	Pulp and paper village	922	0·500	20
Chapleau	Railway village	1,867	1·000	9
Wicksteed	"	910	1·000	1
British Columbia—				
Tadanac	Mining	510	0·525	3

(b) 2,500 population and over

Rural subdivision	Principal industry	Population		
		Total	Per acre	P.c. farm
Ontario—				
Calvert	Pulp and paper town	3,269	0·250	9
Tisdale	Mining	9,461	0·500	1
Teck	Mining	20,409	1·000	-
British Columbia—				
Penticton	Mining	5,777	0·820	12

[1] Quebec 0·150 or more persons per acre. Other provinces 0·100 persons or more per acre.
[2] Includes Ferguson's Cove, Spryfield, North West Arm.

TABLE 12.—Densely populated[1] rural subdivisions, Canada, 1941—Con.

B. MAJORITY FARM

I.—0·10 – 0·14 persons per acre

Rural subdivision	Explanation	Population		
		Total	Per acre	P.c. farm
Nova Scotia—				
Canard and Port William	Fishing	1,459	0·108	54
First South	"	2,228	0·141	52
New Brunswick—				
Shippigan	Fishing	6,371	0·122	82
Ontario—				
Markham	Toronto	7,134	0·100	53
Sandwich S	Windsor	2,482	0·100	53
Flamborough E	Hamilton	4,034	0·117	52
Clinton	St. Catharines	3,419	0·124	75
Niagara	"	3,346	0·127	72
Grimsby N	"	2,151	0·125	62
British Columbia—				
Matsqui	Vancouver	5,601	0·102	79
Glenmore	Intensive	404	0·108	70
Peachland	"	479	0·119	57

II.—0·15 – 0·22 persons per acre

Nova Scotia—				
Pubnico	Fishing	2,166	0·173	61
Horton	Fruit farms	5,256	0·210	51
Quebec—				
Madeleine Islands	Fishing	3,940	0·162	76
Ste-Claire-de-Joliette	Village	1,096	0·155	50
Paspébiac	Fishing	2,093	0·158	74
St-Joachim-de-Châteauguay	Lachine	992	0·170	76
St-Ambroise	Quebec	1,884	0·210	57
St-Charles-de-Charlesbourg	"	1,205	0·212	78
Ste-Catherine-d'Alexandrie	Laprairie	365	0·212	75
Ontario—				
Louth	St. Catharines	4,049	0·185	59
British Columbia—				
Summerland	Intensive	2,054	0·167	53
Chilliwhack	"	7,787	0·180	69

[1] Quebec 0·150 or more persons per acre. Other provinces 0·100 persons or more per acre.

TABLE 13.—Population change in continuous urban areas, 1931-1941

Central city	1931	1941	P.c. change	Satellite cities over 5,000	1931	1941	P.c. change	Satellite towns 2,500-5,000
Nova Scotia—								
Halifax	59,275	70,488	–	Dartmouth	9,100	10,847	–	–
TOTAL	59,275	70,488	18·9	–	9,100	10,847	19·2	–
Sydney	23,089	28,305	–	Glace Bay	20,706	25,147	–	Dominion
				New Waterford	7,745	9,302	–	–
TOTAL	23,089	28,305	–	–	28,451	34,449	21·1	–
Sydney Mines	7,769	8,198	5·5	North Sydney	6,139	6,836	11·4	–
Province total	**90,133**	**106,991**	**18·7**	–	**43,690**	**52,132**	**19·3**	–
New Brunswick—								
Saint John	47,514	51,741	–	–	–	–	–	–
Province total	**47,514**	**51,741**	**8·9**	–	–	–	–	–
Quebec—								
Montreal	818,577	903,007	10·3	Lachine	18,630	20,051	7·6	Lasalle
				Outremont	28,641	30,751	7·4	Montreal W.
				Montreal N.	4,519	6,152	36·1	Mont-Royal
				St-Laurent	5,348	6,242	16·7	Pointe-aux-Trembles
				Verdun	60,745	67,349	10·9	Pointe-Claire
				Westmount	24,235	26,047	7·5	Ste-Anne-de-Bellevue
				Longueuil	5,407	7,087	31·1	St-Michel
				St-Lambert	6,075	6,417	5·6	St-Pierre
								Laval-des-Rapides
TOTAL	818,577	903,007	10·3	–	153,600	170,096	10·7	–
Quebec	130,594	150,757	15·4	Lauzon	7,084	7,877	11·2	Beauport
				Lévis	11,724	11,991	2·3	Charlesbourg
				Montmorency	4,575	5,393	17·9	Gifford
								Quebec W.
								Loretteville
								Charny
TOTAL	130,594	150,757	15·4	–	23,383	25,261	8·0	–
Valleyfield	11,411	17,052	49·4	–	–	–	–	–
Drummondville	6,609	10,555	59·7	St-Joseph-de-Grantham	2,812	5,556	97·6	–
TOTAL	6,609	10,555	59·7	–	2,812	5,556	97·6	–
Joliette	10,765	12,749	18·4	–	–	–	–	–
Sorel	10,320	12,251	18·7	–	–	–	–	–
Province total	**988,276**	**1,106,371**	**11·9**	–	**179,795**	**200,913**	**11·7**	–

[1] Spryfield, Prospect Road. [2] Fairview, Armdale, Kline Heights. [3] Cole Harbour, Woodside, Tuft's Cove.

TABLE 13.--Population change in continuous urban areas, 1931-1941—Con.

1931	1941	P.c. change	Satellite villages less than 2,500	1931	1941	P.c. change	Semi-urban subdivisions	1931	1941	P.c. change	Urban area 1931	Urban area 1941	P.c. change
–	–	–	–	–	–	–	Ferguson's Cove....	374	448	–	–	–	–
							Herring Cove.....	240	587	–	–	–	–
							Spryfield[1].....	327	2,336	–	–	–	–
							Northwest Arm[2]....	3,037	4,592	–	–	–	–
							Bedford Basin.....	1,741	2,115	–	–	–	–
							Cole Harbour[3].....	2,596	4,836	–	–	–	–
							Preston Road.....	1,059	530	–	–	–	–
							Eastern Passage....	1,406	1,645	–	–	–	–
–	–	–	–	–	–	=	–	10,780	17,089	58·5	79,155	98,424	24·3
2,846	3,279	–	–	–	–	–	Dominion No. 6....	1,408	1,525	–	–	–	–
							Dutch Brook.....	620	1,242	–	–	–	–
							Lingan.....	3,042	4,478	–	–	–	–
							Reserve.....	2,459	3,212	–	–	–	–
							South Forks.....	1,554	1,557	–	–	–	–
2,846	3,279	15·2	–	–	–	–	–	9,083	12,014	32·3	63,469	78,047	23·0
–	–	–	–	–	–	–	Little Bras d'Or....	3,448	4,302	24·8	17,356	19,336	11·4
2,846	**3,279**	**15·2**	–	–	–	–	–	**23,311**	**33,405**	**43·3**	**159,980**	**195,807**	**22·4**
–	–	–	–	–	–	–	Lancaster.....	7,490	9,043	–	–	–	–
							Simonds.....	4,883	6,412	–	–	–	–
–	–	–	–	–	–	–	–	**12,373**	**15,455**	**24·9**	**59,887**	**67,196**	**12·2**
2,362	4,651	96·9	Baie-d'Urfé.....	211	236	11·8	Montreal Island—						
3,190	3,474	8·9	Beaconsfield.....	641	706	10·1	rural.....	12,100	15,372	27·0	–	–	–
2,174	4,888	124·8	Côte-St-Luc.....	490	463	–5·5	Jesus Island—rural..	10,242	13,112	28·0	–	–	–
2,970	4,314	45·3	Dorval.....	2,052	2,048	–0·2	St-Hubert.....	1,981	2,457	24·0	–	–	–
4,058	4,536	11·8	Hampstead.....	594	2,287	285·0	St-Antoine-de-						
2,417	3,006	24·4	Montreal E.....	2,242	2,355	5·0	Longueuil.....	3,932	5,361	36·3	–	–	–
1,528	2,956	93·5	Roxboro.....	25	23	–8·0	Ile-Perrot.....	1,172	1,481	26·4	–	–	–
4,185	4,061	–3·0	Ste-Geneviève-de										
			Pierrefonds.....	472	489	3·6	–	–	–	–	–	–	–
2,716	3,242	19·4	St-Léonard-de-										
			Port-Maurice...	453	518	14·3	–	–	–	–	–	–	–
			Saraguay.....	178	263	47·8	–	–	–	–	–	–	–
			Senneville.....	526	555	5·5	–	–	–	–	–	–	–
			Greenfield Park..	1,610	1,819	13·0	–	–	–	–	–	–	–
			Montreal S.....	1,164	1,441	23·8	–	–	–	–	–	–	–
			Iles-Laval.....	–	358	–	–	–	–	–	–	–	–
			Laval-sur-le-Lac..	84	312	271·4	–	–	–	–	–	–	–
			Plage-Laval.....	220	542	146·4	–	–	–	–	–	–	–
			Ste-Rose.....	1,661	2,292	38·0	–	–	–	–	–	–	–
25,600	35,128	37·2	–	12,623	16,707	24·4	–	29,427	37,783	28·4	1,039,827	1,162,721	11·8
3,242	3,725	14·9	Beauport E.....	480	587	22·3	La Petite-Rivière...	247	281	13·8	–	–	–
1,869	2,789	49·2	St-Rédempteur...	657	680	3·5	St-Colomb-de-						
3,573	4,909	37·4	–	–	–	–	Sillery.....	2,794	4,214	50·8	–	–	–
1,813	3,619	99·6	–	–	–	–	Ste-Foy.....	1,973	2,682	35·9	–	–	–
2,251	2,564	13·9	–	–	–	–	St-Michel-Archange.	2,549	1,990	–21·9	–	–	–
2,823	2,831	0·3	–	–	–	–	St-Félix.....	592	960	62·2	–	–	–
							St-Ambroise.....	713	976	36·9	–	–	–
							L'Ancienne-Lorette.	3,018	3,750	24·3	–	–	–
							St-Romuald.....	3,722	4,027	8·2	–	–	–
							St-Télesphore.....	186	254	36·6	–	–	–
							Ste-Helène.....	990	1,194	20·6	–	–	–
							St-David.....	828	875	5·7	–	–	–
15,571	20,437	31·3	–	1,137	1,267	11·4	–	17,612	21,203	20·4	188,297	218,925	16·3
			Nouveau-Salaberry.....	805	1,043	29·6	Grande-Ile.....	–	490	–	12,216	18,585	52·1
–	–	–	–	–	–	–	St-Simon-de-Drummond.....	–	2,406	–	–	–	–
							Grantham.....	–	1,986	–	–	–	–
–	–	–	–	–	–	–	–	–	4,392	–	9,421	20,503	117·6
–	–	–	St-Pierre.....	272	311	14·3	Sacré-Cœur-de-Jesus -de-Crabtree-Mills.	1,170	1,411	20·6	12,207	14,471	18·5
–	–	–	St-Joseph.....	1,869	2,207	18·1	St-Joseph.....	568	941	65·7	12,757	15,399	20·7
41,171	**55,565**	**35·0**	–	**16,706**	**21,535**	**28·9**	–	**48,777**	**66,220**	**35·8**	**1,274,725**	**1,450,604**	**13·8**

TABLE 13.—Population change in continuous urban areas, 1931-1941—Con.

Central city	1931	1941	P.c. change	Satellite cities over 5,000	1931	1941	P.c. change	Satellite towns 2,500-5,000
Ontario—								
Toronto	631,207	667,457	–	Leaside	938	6,183	–	–
				Mimico	6,800	8,070	–	–
				New Toronto	7,146	9,504	–	–
				Weston	4,723	5,740	–	–
				Forest Hill	5,207	11,757	–	–
				Long Branch	3,962	5,172	–	–
				Swansea	5,031	6,988	–	–
TOTAL	631,207	667,457	5·7	–	33,807	53,414	58·0	–
Ottawa	126,872	154,951	–	Hull	29,433	32,947	–	–
					6,686	7,966	–	–
TOTAL	126,872	154,951	22·1	–	36,119	40,913	13·3	–
Hamilton	155,547	166,337	–	Brantford	30,107	31,948	–	Paris
TOTAL	155,547	166,337	6·9	–	30,107	31,948	6·1	–
Windsor	98,179	105,311	–	–	–	–	–	Riverside
TOTAL	98,179	105,311	7·3	–	–	–	–	–
St. Catharines	24,753	30,275	–	Niagara Falls	19,046	20,589	–	Merritton
				Welland	10,709	12,500	–	–
				Fort Erie	2,383	6,595	–	–
				Thorold	5,092	5,305	–	–
TOTAL	24,753	30,275	22·3	–	37,230	44,989	20·8	–
London	71,148	78,264	10·0	–	–	–	–	–
Kitchener	30,793	35,657	15·8	Waterloo	8,095	9,025	11·5	–
Sudbury	18,518	32,203	73·9	–	–	–	–	Copper Cliff
Oshawa	23,439	26,813	14·4	Whitby	5,046	5,904	17·0	–
Cornwall	11,126	14,117	26·9	–	–	–	–	–
Peterborough	22,327	25,350	13·5	–	–	–	–	–
Province total	**1,213,909**	**1,336,735**	**10·1**	–	**150,404**	**186,193**	**23·8**	–
Manitoba—								
Winnipeg	218,785	221,960	1·5	St. Boniface	16,305	18,157	11·4	–
				Transcona	5,747	5,495	4·4	–
Province total	**218,785**	**221,960**	**1·5**	–	**22,052**	**23,652**	**7·3**	–
British Columbia—								
Vancouver	246,593	275,353	11·7	N. Vancouver	8,510	8,914	4·7	–
				New Westminster	17,524	21,967	25·4	–
TOTAL	246,593	275,353	11·7	–	26,034	30,881	18·6	–
Victoria	39,082	44,068	12·8	–	–	–	–	–
TOTAL	39,082	44,068	12·8	–	–	–	–	–
Province total	**285,675**	**319,421**	**11·8**	–	**26,034**	**30,881**	**18·6**	–
CANADA TOTAL	**2,844,292**	**3,143,219**	**10·5**	–	**421,975**	**493,771**	**17·0**	–

TABLE 13.—Population change in continuous urban areas, 1931-1941—Con.

1931	1941	P.c. change	Satellite villages less than 2,500	1931	1941	P.c. change	Semi-urban subdivisions	1931	1941	P.c. change	Urban area 1931	Urban area 1941	P.c. change
–	–	–	–	–	–	–	York	69,593	81,052	16·5	–	–	–
–	–	–	–	–	–	–	York E	36,080	41,821	15·9	–	–	–
–	–	–	–	–	–	–	York N	13,210	22,908	73·4	–	–	–
–	–	–	–	–	–	–	Scarborough	20,682	24,303	17·5	–	–	–
–	–	–	–	–	–	–	Etobicoke	13,769	18,973	37·8	–	–	–
–	–	–	–	–	–	–	Toronto (Peel)	9,935	12,481	25·6	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	163,269	201,538	23·4	828,283	922,409	11·4
–	–	–	Pointe-à-Gatineau	2,282	2,230	–	Nepean	11,142	13,859	24·4	–	–	–
–	–	–	Rockcliffe Park	951	1,480	–	Gloucester	8,412	9,871	17·3	–	–	–
–	–	–	–	3,233	3,710	14·8	–	19,554	23,730	21·4	185,778	223,304	20·2
4,137	4,637	–	Stoney Creek	877	1,007	–	Brantford	8,162	9,285	13·8	–	–	–
							Ancaster	4,596	5,259	14·4	–	–	–
							Barton	3,295	4,512	36·9	–	–	–
							Saltfleet	7,217	10,262	42·2	–	–	–
4,137	4,637	12·1	–	877	1,007	14·8	–	23,270	29,318	26·0	213,938	233,247	9·0
4,432	4,878	–	La Salle	703	951	–	Sandwich E	5,421	8,571	58·1	–	–	–
			Ojibway	79	24	–	Sandwich W	3,782	4,735	25·2	–	–	–
			Tecumseh	2,129	2,412	–	–	–	–	–	–	–	–
4,432	4,878	10·1	–	2,911	3,387	16·4	–	9,203	13,306	44·6	114,725	126,882	10·6
2,523	2,993	–	Port Dalhousie	1,547	1,723	–	Grantham	5,364	7,052	31·5	–	–	–
–	–	–	Chippawa	1,266	1,385	–	Bertie	4,246	4,750	11·9	–	–	–
–	–	–	Crystal Beach	661	618	–	Crowland	4,999	6,638	32·8	–	–	–
–	–	–	Fonthill	863	1,000	–	Stamford	7,744	9,574	23·6	–	–	–
							Thorold	4,451	4,967	11·6	–	–	–
2,523	2,993	18·6	–	4,337	4,726	9·0	–	26,804	32,981	23·0	95,647	115,964	21·2
–	–	–	–	–	–	–	Westminster	7,153	9,068	26·8	78,301	87,332	11·5
–	–	–	–	–	–	–	Waterloo N	4,326	5,048	16·7	43,214	49,730	15·1
3,173	3,732	17·6	–	–	–	–	McKim	533	5,105	857·8	22,224	41,040	84·7
–	–	–	–	–	–	–	E. Whitby	5,112	6,392	25·0	33,597	39,109	16·4
–	–	–	–	–	–	–	Cornwall	10,930	16,034	46·7	22,056	30,151	36·7
–	–	–	–	–	–	–	N. Monaghan	3,359	4,206	25·2	25,686	29,556	15·1
14,265	**16,240**	**13·8**	–	**11,358**	**12,830**	**13·0**	–	**273,513**	**346,726**	**26·8**	**1,663,449**	**1,898,724**	**14·1**
–	–	–	Tuxedo	1,173	735	–37·3	Kildonan E	9,047	8,350	–7·7	–	–	–
–	–	–	Brooklands	2,462	2,240	–9·0	Kildonan N	1,347	1,946	44·5	–	–	–
							Fort Garry	3,926	4,453	13·4	–	–	–
							St. Vital	10,402	11,993	15·3	–	–	–
							Kildonan W	6,132	6,110	–0·4	–	–	–
							Old Kildonan	647	704	8·8	–	–	–
							St. James	13,903	13,892	–0·8	–	–	–
–	–	–	–	**3,635**	**2,975**	**–18·2**	–	**45,404**	**47,448**	**4·5**	**289,876**	**296,035**	**2·1**
–	–	–	Port Coquitlam	1,312	1,539	17·3	Burnaby	25,564	30,328	18·6	–	–	–
–	–	–	Port Moody	1,260	1,512	20·0	N. Vancouver	4,788	5,931	23·9	–	–	–
							Richmond	8,182	10,370	26·7	–	–	–
							W. Vancouver	4,786	8,362	74·7	–	–	–
							University Area	575	636	10·6	–	–	–
							Coquitlam	4,871	7,949	63·2	–	–	–
							Fraser Mills	616	552	–10·4	–	–	–
							Surrey	8,388	14,840	76·9	–	–	–
–	–	–	–	2,572	3,051	18·6	–	57,770	78,968	36·7	332,969	388,253	16·6
							Esquimalt	3,274	3,737	14·1	–	–	–
							Oak Bay	5,892	9,240	56·8	–	–	–
							Saanich	12,968	20,535	58·4	–	–	–
–	–	–	–	–	–	–	–	22,134	33,512	51·4	61,216	77,580	26·7
–	–	–	–	**2,572**	**3,051**	**18·6**	–	**79,904**	**112,480**	**40·8**	**394,185**	**465,833**	**18·2**
58,282	**75,084**	**28·8**	–	**34,271**	**40,391**	**17·9**	–	**483,282**	**621,734**	**28·6**	**3,842,102**	**4,374,199**	**13·8**

APPENDICES

APPENDIX A

COMPLETENESS OF BIRTH REGISTRATION AND CENSUS ENUMERATION UNDER 1 YEAR, CANADA, 1941

1. Comparison of Census Entries and Birth Transcripts

(Excluding Indians on Reserves)

Introduction

In common with most other countries, deficiencies in data about infants under 1 year has constituted one of Canada's major statistical problems. The present study is an attempt to provide an up-to-date estimate of three sources of error:—

(i) Incompleteness of birth registration.

(ii) Under-enumeration in the census of children under 1 year.

(iii) Mis-statements of age in the census at early ages.

An investigation of these topics was carried out on the 1931 data and the results are given in the Census Monograph on Fertility*. Since 1931, evidence has accumulated to show that some improvement has occurred in the districts which then appeared to have most incomplete birth registration. Wartime limitations on staff and expenditure dictated a small-scale investigation. Hence it was decided to take the 1931 investigation as a basis, and to direct attention mainly to the worse registered districts. In this way it might be possible to obtain sufficient evidence either to confirm or to revise downwards the 1931 figure of 5-6 p.c. incompleteness of birth registration. At the same time, data on the accuracy of census enumeration under 1 year would be obtained. Since no attempt was made to sample the whole population, the results of the current check must be taken in conjunction with the previous survey.

Table A.I shows the districts selected, together with the total number of separate entries (census and birth transcripts) checked in each. The first two districts are ones which appeared to show a relatively high percentage of completeness of birth registration in 1931, while the reverse is true of the last three. In each case, the entire district was covered by the procedure outlined below. Indian births not on reserves are included. Section 2 will deal with Reserve Indians in British Columbia.

TABLE A. I.—DISTRICTS SELECTED FOR UNDER-REGISTRATION CHECK

District	Number of separate entries checked
1. Kamouraska County, Quebec	1,096
2. Saskatoon City, Saskatchewan	1,065
3. Prince Edward Island	3,136
4. British Columbia, Division 4A (Lower Fraser Valley)	1,909
5. British Columbia, Division 6 (Kamloops, Fraser and North Thompson River Districts)	675
Total	7,881

Method

The procedure followed falls into several stages:—

(i) Information from the birth transcripts was transcribed on to A cards for all the births between January 1, 1940 and June 1, 1941 occurring in the district.

(ii) The census books for the district were searched for all children enumerated as under 1 year whose parents were living in the district at the time of birth. Where an A card was not found for the child, the particulars were transcribed on to a B card.

(iii) The census books were again searched for all births not already found.

* Census Monograph No. 3, Fertility of the Population of Canada.

(iv) When the parents of the child were found in the census, but not the child, the death transcripts for the preceding year and a half were searched.

(v) The B cards (i.e., those children whose births had not been traced) were searched for, (a) among births occurring at the beginning of June and after the census date and (b) among all recent births in the province concerned.

(vi) Several checks were carried out to ensure the accuracy of the estimates. The census books were searched a second time by an independent worker to ensure that the census population under 1 was complete. The preparation of tables involved frequent reference back to original data and so minimized errors. Further, all untraced census entries could be compared one by one with all the births in the district not already found in the census, thus reducing to a minimum the entries not traced due to changes in spelling.

On all cards of children traced through birth transcripts and the census, particulars of child's, father's, and mother's age, racial origin, occupation, etc. were recorded as described on the two different occasions. The checking process thus answered simultaneously three questions for each district chosen,—(a) Of all the births in the 17 months previous to the census, how many were living and not enumerated at the census?; (b) Of all children under 1 year at the census, how many had not been registered?; (c) What discrepancies occurred between data as recorded on the birth transcript and at the census? After the check was completed, lists of untraced names were prepared and the co-operation of the Provincial Registrars was sought to make a further search.

Completeness of Birth Registration

Table A.II shows the percentages of census entries under 1 year of age whose birth transcripts could not be traced. The 1931 figures for similar districts are given for comparison.

TABLE A. II.—PERCENTAGES UNTRACED CENSUS ENTRIES

District	Number of census entries	Number not traced in birth transcripts	P.c. not traced	P.c. not traced in similar district, 1931
Kamouraska County	649	11	1·7	7
Saskatoon City	613	58	9·5	6
Prince Edward Island	1,791	94	5·2	20
British Columbia[1]— (a) Census Division 4, Subdivision A (b) Census Division 6	1,800	105	5·8	13
Total	4,853	268	5·5	12[2]

[1] Excluding Indians.
[2] Canada (excluding Indians).

The standard deviation of the percentage unregistered for all districts taken together is 0·33 p.c. Hence, there is a probability of 99 p.c. that the universe value of the percentage unregistered for all the districts taken together would be between 4·5 p.c. and 6·5 p.c.

We next ask to what extent do these figures provide a reliable estimate of the completeness of birth registration, firstly, in the districts selected, and secondly, in Canada as a whole. In one or two respects they may overestimate completeness. The census population is that of children enumerated as under 1. As will be seen later, the actual population under 1 is somewhat larger and it may be that children whose ages are mis-stated are more liable to be under-registered. Recent arrivals in the district were also omitted and it is again possible that the more mobile part of the population is less completely registered. Both these effects are of minor importance, but the omission of children who were neither enumerated nor registered is more serious. The 1931 Monograph suggested that this factor might raise the percentage not registered by 1 p.c. On the other side of the ledger, it is believed that, on account of the small number of cases dealt with, the present search was more thorough than in 1931 and that very few births registered in the province of origin were missed. On the other hand, undoubtedly there were many cases of births said to have taken place in the district of census residence, which were actually registered in another province or even another country. This effect was particularly obvious in Saskatoon,

where many of the unregistered births belonged to recent arrivals. Two such cases, where the birth was said to have occurred in Saskatoon, and no other residence was given for the child, were searched for and found to be registered in Manitoba. In 1931, it was believed that mis-statement of province of registration might reduce the percentage under-registered by as much as 4 p.c. Taking all the above facts into consideration, the true percentage of under-registration in the districts studied might be as low as 3 p.c.

The X^2 test applied to the percentages not registered in the different districts showed a highly significant amount of variation from expectation, contributed chiefly by Kamouraska and Saskatoon. The high percentage in Saskatoon is mainly due to (a) recent arrivals and (b) children in orphanages. The former are probably registered elsewhere, while the latter may actually be worse registered or may have been more difficult to trace. The percentage figure for Saskatoon then probably overstates the actual amount of under-registration, while that for Kamouraska records a real and significant difference between rural French and the rest of the population.

From the figures given in the table, we may tentatively suggest (a) that registration of rural French births is about 98 p.c. complete, and (b) that not more than 5 p.c. of the births in British Columbia and Prince Edward Island during the pre-census period were unregistered. The foregoing statements cover over 20 p.c. of all Canadian births. All the districts studied, with the exception of Saskatoon, show a very marked improvement on the 1931 results. An explanation of the latter result has been suggested.

It seems reasonable to suppose that some improvement in completeness of registration has taken place throughout Canada. The districts chosen were not in any sense a random sample of the Canadian population, but were heavily weighted on the side of incomplete registration, three-quarters of the population checked being chosen for marked incompleteness in 1931. It might seem that the figures for all Canada should hence be better than that for the selected districts. A more plausible view is that the worse registered districts in 1931 showed greater improvement, with the result that non-registration is now due to a number of small random causes, not varying significantly in their total effect from province to province. One important section of the population viz.:—the rural French Catholic, is undoubtedly more completely registered, but as far as the province of Quebec is concerned, this is partly if not wholly offset by greater incompleteness in Montreal. On the basis of Table A.II, the best estimate of completeness of birth registration for Canada appears to be 96 p.c. to 97 p.c. A final estimate should take into account:—

(i) The Reserve Indian population.

(ii) Births traced by the provincial offices.

(iii) The census figures for total population under 1, taken in conjunction with data on under-enumeration and mis-statements of age. Due to wartime conditions (ii) presented difficulties. The concluding section will present a final estimate based on all the available data.

The percentage of births not registered may differ in different categories of the population to such an extent as to necessitate appropriate adjustments in fertility rates.

(i) Sex. No significant difference between males and females was observed.

(ii) Legitimacy. Referring to Table A. II, 4,729 children out of 4,853 were known to be legitimate and living with their parents. Among these the percentage not registered was 4·8. Clearly the percentage was much higher than the average among illegitimate and adopted children and children from broken families, though the difficulty of tracing such children may in part account for the result.

(iii) Order of birth. The same fact is reflected in the figure for order of birth. For 89 children the number of children born was given in the census as 0 (adopted child, or mother unmarried or unknown). Among these, 40 p.c. could not be traced. The percentage unregistered among the 1,557 first children was 5·6. Both these groups may be presumed to be first children, giving a percentage of first children unregistered of 7·5 p.c. and accounting for very nearly half the unregistered births.

(iv) Age of mother. No significant difference appeared in percentages unregistered at different ages, probably because of the number of unknown ages of mothers not with their children. If these were mainly young mothers of illegitimate children, the percentage of non-registration among mothers 15-24 would be somewhat higher than the average.

The following adjustments in numbers of births are suggested:—

(i) The percentage of legitimate births not registered should be 0·5 p.c. less than the Canadian figure.

(ii) Half the non-registered births should be treated as first children, the remainder distributed proportionally among remaining orders of birth.

(iii) The percentage of non-registration among mothers 15-24 should be 1 p.c. higher than the Canadian figure. Due to the smallness of the population, it was not possible to make any estimate of varying completeness as between occupations and racial origins, apart from the obvious difference in favour of the French. The latter is not likely to be much more than 1 p.c.

Completeness of Enumeration, 0-1½ years

The process of tracing all the birth transcripts for the previous 1½ years in the census permitted an estimate of the completeness of enumeration of infants. The results obtained are shown in Table A. III.

TABLE A. III.—COMPLETENESS OF ENUMERATION—0-1½ YEARS

Birth transcript age

District	Under 1 year			1-1½ years		
	Number of births	Number not enumerated	P.c. not enumerated	Number of births	Number not enumerated	P.c. not enumerated
Kamouraska County	704	1	0·14	316	3	0·95
Saskatoon	559	5	0·89	202	4	1·98
Prince Edward Island	1,991	31	1·56	846	27	3·19
British Columbia—Division 4a	619	5	0·81	232	4	1·72
British Columbia—Division 6	355	3	0·85	115	1	0·87
All districts	4,228	45	1·06	1,711	39	2·28

The difference between the percentages non-enumerated under and over 1 is 1·22 p.c. with a standard error of 0·4 p.c. It is thus unlikely that it could arise as a sampling error and it is in a direction contrary to expectation. Further examination of the data points to a major source of error in the estimate of under-enumeration. Where the parents of a registered child could not be found in the census, it was assumed that they had moved out of the district, and the cards corresponding to these children ignored in computing the estimate. There is no reason to suspect any general under-enumeration in the census, nor, if there were, could the present study throw light on it. We are concerned only with differential under-enumeration at early ages, i.e., cases where the parents are enumerated and the child is not dead and not enumerated. The figures shown, however, indicate that the cards with families untraced cannot be neglected. Table A. IV gives the numbers of untraced families, together with the total birth population, including the untraced. The final column gives the state of the population as indicated by the 1941 population figures.

TABLE A. IV.—NUMBERS AND PERCENTAGES OF FAMILIES UNTRACED

Birth transcript age

District	Under 1 year				Over 1 year			Probable state of population
	Total birth population	Families untraced		P.c. of immigrants	Total birth population	Families untraced		
		Number	Percentage			Number	Percentage	
Kamouraska County	731	27	3·7	0·1	337	21	6·2	Stationary
Saskatoon	680	121	17·8	1·2	263	61	23·2	Declining
Prince Edward Island	2,090	99	4·7	1·0	896	50	5·6	Declining
British Columbia—Division 4a	668	49	7·3	12·0	262	30	11·5	Inclining
British Columbia—Division 6	429	74	17·2	2·3	160	45	28·1	Declining
All districts	4,598	370	8·0	2·6	1,918	207	10·8	Declining

While in a general way the figures for presumed out-migrants correspond to the probable movements of population in the districts, the numbers appear too large. It is evident that the untraced cards include broken families and non-enumerated children as well as migrants. This belief is strengthened by the fact that they include 73 illegitimate children. There is little evidence on which to base an estimate of the number of untraced unenumerated children. We may assume that the numbers would be sufficient to make the percentage non-enumerated under and over 1 at least equal. If we assume 8 p.c. non-enumerated over 1, and 24 p.c. non-enumerated under 1, among the untraced, not unreasonable figures in view of the high proportion of illegitimates, we obtain for both age-groups 3 p.c. non-enumerated among the total birth population, including untraced. In two respects, the figures given for non-enumerated among the traced families may be an exaggeration. The child might have been dead, though the death transcript was not found, or might be living elsewhere. These effects are probably of minor importance. On the other hand we have again neglected children neither registered nor enumerated. So the best estimates for under-enumeration in the first two years appear to be 3 p.c. for the first year, and 1·5 p.c. or 2·p.c. for the second year. These figures refer to children not appearing at all in the census. The subject of mis-statement of age will be dealt with later.

X_2 for the differences between districts (children under 1) has a P of 0·03 and is therefore probably significant. Kamouraska and Prince Edward Island contribute the greater part, the former being better and the latter worse enumerated than expected. But in view of the large element of uncertainty introduced by the untraced cards, it is doubtful whether any significant difference between districts exists. The superiority of Kamouraska may, however, be a real one, due to a stable population and very few broken families.

We can also set an upper limit to the percentage non-enumerated. Some of the untraced families must have left the district. If we assume that the difference between untraced families and known in-migrants represent children all unenumerated, we arrive at a figure of 6 p.c. for the whole population as the upper limit of the percentage not enumerated.

Comparison of data recorded at the Census and on Birth Transcripts

Comparison of various items of information about the child and its parents as recorded on the birth transcript and at the census provides evidence for estimating the accuracy and comparability of data obtained from both sources.

Mis-statement of Age of Child.—The nature of mis-statements of age in adult life is well known and actuarial methods for constructing life tables have been devised to take account of them. Owing to the known actual deficiency in the numbers under 1, population figures for the first year of age are usually discarded altogether and birth and death data utilized. Possibly for this reason, not so much attention has been paid to the inaccuracy of age reporting under 1, which differs in character from that at all other ages since it is biassed in the direction of overstatements. Yet, since the birth figures are themselves known to be inaccurate and an estimate has to be made of their incompleteness, it would seem that parallel estimates of both omissions and overstatements of age in the infant census population could provide a useful check on the registration estimates. That such mis-statement of age is a source of error at least equal in importance to actual omission is obvious from a cursory examination of earlier census population figures. An extreme example is provided by an Indian Reserve census book which enumerated 38 children between 1 and 2 years and not a single one under 1 year. Table A. V shows the data on mis-statements of age. Since all cards where a comparison was possible were used, the total populations of Table A. V do not correspond to any of the previous tables. The census populations under 1 of Table A. V are the populations of Table A. II with the unregistered children omitted.

TABLE A. V.—COMPARISON OF CHILD'S AGE AS RECORDED AT CENSUS AND ON BIRTH TRANSCRIPT

Age as enumerated at census	Birth transcript age											
	Total	Born after census	Under 1 year	1 year and under 2 years	Total	Born after census	Under 1 year	1 year and under 2 years	Total	Born after census	Under 1 year	1 year and under 2 years
	Kamouraska				Saskatoon				Prince Edward Island			
Under 1 year	638	7	630	1	555	6	547	2	1,697	21	1,673	3
1 year and under 2 years	331	–	47	284	237	–	48	189	887	1	151	735
2 years and under 3 years	8	–	1	7	4	–	–	4	30	–	7	23
3 " " 4 "	1	–	–	1	–	–	–	–	3	–	2	1
4 " " 5 "	2	–	1	1	–	–	–	–	1	–	1	–
5 " " 6 "	–	–	–	–	–	–	–	–	–	–	–	–
6 years and over	1	–	1	–	–	–	–	–	4	–	3	1
Total	981	7	680	294	796	6	595	195	2,622	22	1,837	763
Balance overstatement of age, 0–1 year	42				40				140			
Percentage of census population 0–1 year	6·6				7·2				8·2			
	British Columbia, Division 4a				British Columbia, Division 6				All Districts			
Under 1 year	1,335	34	1,299	2	360	8	351	1	4,585	76	4,500	9
1 year and under 2 years	301	–	88	213	129	–	28	101	1,885	1	362	1,522
2 years and under 3 years	6	–	1	5	3	–	–	3	51	–	9	42
3 " " 4 "	2	–	2	–	–	–	–	–	6	–	4	2
4 " " 5 "	2	–	2	–	1	–	1	–	6	–	5	1
5 " " 6 "	–	–	–	–	–	–	–	–	–	–	–	–
6 years and over	1	–	–	1	–	–	–	–	6	–	4	2
Total	1,647	34	1,392	221	493	8	380	105	6,539	77	4,884	1,578
Balance of overstatement of age, 0–1 year	57				20				299			
Percentage of census population 0–1 year	4·3				5·6				6·5			

In the preparation of Table A. V there was a possibility of clerical errors, though it is believed these were few and would not be biassed. It is assumed that the age as deduced from the date of birth given on the birth transcript is substantially accurate. If the given dates were biassed in the direction of reporting a birth as having occurred on a later date than the actual date the figures given below for mis-statements of age would be reduced. Inaccuracy in age appears significantly greater in Prince Edward Island and less in British Columbia, Division 4a. The former district also showed less complete enumeration, so there appears to have been generally less accurate reporting of infants. It is hard to account for the apparent greater accuracy in British Columbia 4a. The 1931 Fertility Monograph quotes Dr. Dunlop as having obtained a balance of mis-statement of age under 1 of 5·1 p.c. in Scotland, 1916, believed to be a very accurate Census. It is then safe to say that at least 6 p.c. should be added to the 1941 Census population 0-1 to represent the children actually 0-1 enumerated as over 1. Since only the first half of the second year was available, the data on mis-statement of age are incomplete. They show a biassed mis-statement of age of 2·5 p.c. for all the districts together, indicating that the effect is significant in the second year also.

Parent's Ages.—Much more is known about the accuracy of reporting of adult ages. Yet a comparison of ages as recorded at the birth of a child and at the census may be of interest. Tables A. VI and A. VII show the data on father's and mother's ages, while Figure A. 1 gives a graph of the frequency of births to mothers of different ages according to both sources. The

graph shows the well-known peak at age 21, but clustering at zeros is not apparent. The tabulation was confined to parents of children under 1 year. Second children and the second of a pair of twins were omitted, since the table is a comparison of statements about parents. It was assumed that one birthday could have elapsed between the birth and the census date. This lack of precision in determining the ages appears to result in an excess of errors of +1 year. But the number of positive and negative differences of more than 1 year are approximately equal for both sexes and the total number of years in excess or defect are also approximately equal. Taking the population as a whole the statement of age appears to be subject to small random errors, negligible in amount when the number is adequately large.

Figure A. 1

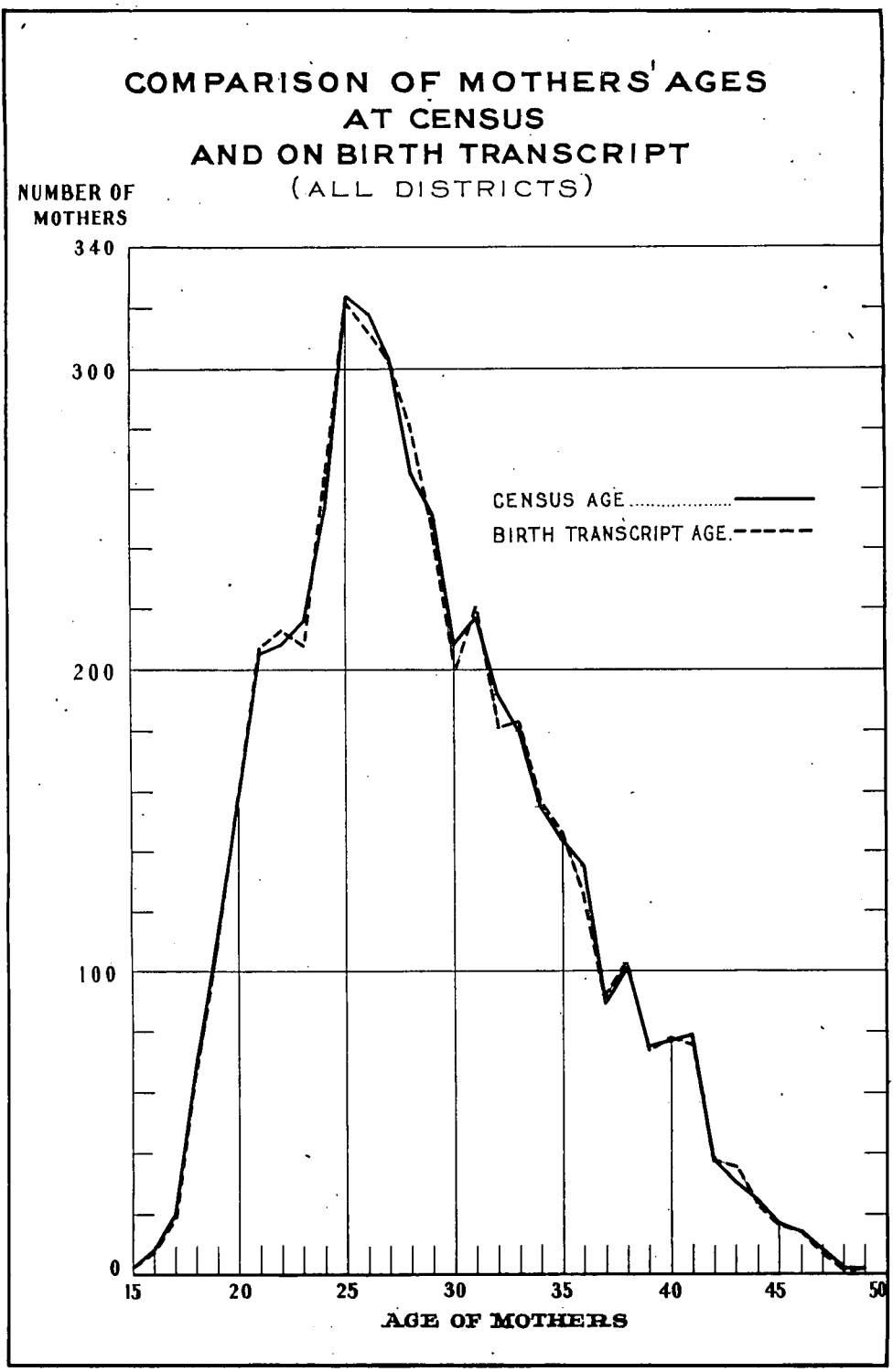

COMPARISON OF MOTHERS' AGES
AT CENSUS
AND ON BIRTH TRANSCRIPT
(ALL DISTRICTS)
NUMBER OF MOTHERS
340
300
200
100
0
CENSUS AGE
BIRTH TRANSCRIPT AGE.
15
20
25
30
35
40
45
50
AGE OF MOTHERS

TABLE A. VI.—COMPARISON OF FATHERS' AGES, ALL DISTRICTS

No.	Census age	Number of comparisons	Difference between census age and birth transcript age												
			−20	−18	−14	−12	−11	−10	−9	−8	−7	−6	−5	−4	−3
1	18	1	-	-	-	-	-	-	-	-	-	-	-	-	-
2	19	5	-	-	-	-	-	-	-	-	-	-	-	-	-
3	20	16	-	-	-	-	-	-	-	-	-	-	-	-	-
4	21	36	-	-	-	-	-	-	-	-	-	-	-	-	-
5	22	68	-	-	-	-	-	-	-	-	-	-	-	-	-
6	23	75	-	-	-	-	-	-	-	-	-	-	-	-	-
7	24	99	-	-	-	-	-	-	-	-	-	-	-	-	-
8	25	121	-	-	-	-	-	-	-	-	-	-	-	-	-
9	26	145	-	-	-	-	-	-	-	-	-	-	-	-	-
10	27	159	-	-	-	-	-	-	-	-	-	-	-	-	-
11	28	185	-	-	-	-	-	-	-	-	-	-	-	-	1
12	29	180	-	-	-	-	-	-	-	-	-	-	-	-	-
13	30	188	-	-	-	-	-	-	-	-	-	-	-	-	-
14	31	190	-	-	-	-	-	-	-	-	-	-	-	-	-
15	32	173	-	-	-	-	-	-	-	-	-	-	-	-	1
16	33	185	-	-	-	-	-	-	-	-	-	-	-	-	-
17	34	162	-	-	-	-	-	-	1	-	-	-	-	-	-
18	35	161	-	-	-	-	-	-	-	-	-	-	-	1	-
19	36	144	-	-	-	-	-	-	-	-	-	-	-	-	-
20	37	143	-	-	-	-	-	-	-	-	-	1	-	-	1
21	38	134	-	-	-	-	-	-	-	-	-	1	-	-	2
22	39	110	-	-	-	-	-	-	-	-	-	-	-	1	1
23	40	110	-	-	-	-	-	-	-	-	-	-	-	-	-
24	41	78	-	-	-	-	-	1	-	-	-	-	-	-	-
25	42	87	-	-	-	-	-	1	-	-	-	-	-	-	-
26	43	62	-	-	1	-	-	-	-	-	-	-	-	1	-
27	44	45	-	1	-	-	-	-	-	-	1	-	-	-	-
28	45	62	-	-	-	-	-	-	-	-	-	-	-	-	-
29	46	52	-	-	-	-	-	-	-	-	-	-	1	-	-
30	47	39	-	-	-	-	-	-	-	-	-	-	-	-	-
31	48	40	-	-	-	-	-	-	-	-	-	-	-	-	2
32	49	29	-	-	-	-	-	-	-	-	1	-	-	-	-
33	50	20	-	-	-	-	-	-	-	-	-	-	-	-	-
34	51	26	-	-	-	-	-	1	-	-	-	-	-	-	-
35	52	20	1	-	-	-	-	-	-	-	-	-	-	1	-
36	53	18	-	-	-	-	-	-	-	-	-	-	-	-	-
37	54	13	-	-	-	-	-	-	-	-	-	-	-	-	1
38	55	9	-	-	-	-	-	-	-	-	-	-	-	1	-
39	56	7	-	-	-	-	-	-	-	-	-	1	-	-	-
40	57	2	-	-	-	-	-	-	-	-	-	-	-	-	-
41	58	5	-	-	-	-	-	-	-	-	-	-	-	-	-
42	59	7	-	-	-	-	-	-	-	-	-	-	-	-	-
43	60	3	-	-	-	-	-	-	-	-	-	-	-	-	-
44	61	2	-	-	-	-	-	-	-	-	-	-	-	-	-
45	62	3	-	-	-	-	-	-	-	-	-	-	-	-	-
46	63	1	-	-	-	-	-	-	-	-	-	-	-	-	-
47	64	5	-	-	-	-	-	-	-	-	-	-	-	-	-
48	65	1	-	-	-	-	-	-	-	-	-	-	-	-	-
49	66	1	-	-	-	-	-	-	-	-	-	-	-	-	-
50	68	1	-	-	-	-	-	-	-	-	-	-	-	-	-
51	69	4	-	-	-	-	-	-	-	-	-	-	-	-	-
52	71	1	-	-	-	-	-	-	-	-	-	-	-	-	-
53		3,432	1	1	1	-	-	3	1	-	2	3	1	5	9

TABLE A. VI.—COMPARISON OF FATHERS' AGES, ALL DISTRICTS—Con.

Difference between census age and birth transcript age													Birth transcript age	No.
−2	−1	0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10		
–	–	1	–	–	–	–	–	–	–	–	–	–	1	1
–	–	5	–	–	–	–	–	–	–	–	–	–	6	2
1	–	13	2	–	–	–	–	–	–	–	–	–	13	3
–	1	32	3	–	–	–	–	–	–	–	–	–	34	4
–	–	62	4	1	1	–	–	–	–	–	–	–	66	5
–	–	70	4	1	–	–	–	–	–	–	–	–	76	6
1	1	91	6	–	–	–	–	–	–	–	–	–	101	7
1	3	111	5	1	–	–	–	–	–	–	–	–	124	8
2	2	130	7	2	2	–	–	–	–	–	–	–	142	9
1	6	137	13	1	–	–	–	1	–	–	–	–	151	10
1	5	171	7	–	–	–	–	–	–	–	–	–	194	11
1	6	164	7	1	–	–	1	–	–	–	–	–	179	12
1	4	167	7	5	–	2	–	–	1	–	1	–	183	13
–	9	160	20	1	–	–	–	–	–	–	–	–	181	14
–	8	151	11	–	2	–	–	–	–	–	–	–	191	15
2	9	164	7	1	–	1	–	–	–	–	1	–	190	16
2	9	138	9	3	–	–	–	–	–	–	–	–	157	17
5	5	137	8	3	–	1	–	–	–	–	–	1	163	18
2	9	124	4	3	1	–	–	–	–	–	1	–	151	19
2	10	121	7	–	–	–	–	–	–	–	–	1	138	20
5	5	115	6	–	–	–	–	–	–	–	–	–	130	21
2	5	98	2	–	1	–	–	–	–	–	–	–	113	22
–	5	96	5	3	–	–	–	–	–	1	–	–	101	23
–	2	71	3	–	–	1	–	–	–	–	–	–	83	24
1	4	72	5	3	–	–	–	–	–	–	1	–	83	25
1	1	54	3	–	1	–	–	–	–	–	–	–	60	26
1	1	37	3	1	–	–	–	–	–	–	–	–	49	27
–	4	56	2	–	–	–	–	–	–	–	–	–	69	28
2	3	40	5	–	–	–	–	–	–	1	–	–	47	29
2	3	30	4	–	–	–	–	–	–	–	–	–	40	30
–	4	32	2	–	–	–	–	–	–	–	–	–	38	31
–	–	26	1	1	–	–	–	–	–	–	–	–	30	32
–	1	17	–	–	–	2	–	–	–	–	–	–	20	33
1	1	20	3	–	–	–	–	–	–	–	–	–	24	34
–	–	15	3	–	–	–	–	–	–	–	–	–	18	35
–	–	14	3	1	–	–	–	–	–	–	–	–	17	36
–	–	11	1	–	–	–	–	–	–	–	–	–	17	37
–	–	8	–	–	–	–	–	–	–	–	–	–	11	38
–	1	5	–	–	–	–	–	–	–	–	–	–	5	39
–	–	2	–	–	–	–	–	–	–	–	–	–	3	40
–	1	4	–	–	–	–	–	–	–	–	–	–	4	41
–	–	7	–	–	–	–	–	–	–	–	–	–	8	42
–	1	2	–	–	–	–	–	–	–	–	–	–	2	43
–	–	2	–	–	–	–	–	–	–	–	–	–	2	44
–	–	3	–	–	–	–	–	–	–	–	–	–	4	45
–	1	–	–	–	–	–	–	–	–	–	–	–	2	46
–	2	2	1	–	–	–	–	–	–	–	–	–	2	47
–	–	–	1	–	–	–	–	–	–	–	–	–	1	48
–	–	1	–	–	–	–	–	–	–	–	–	–	2	49
–	–	1	–	–	–	–	–	–	–	–	–	–	2	50
–	1	3	–	–	–	–	–	–	–	–	–	–	3	51
–	–	1	–	–	–	–	–	–	–	–	–	–	1	52
37	133	2,993	184	32	8	7	1	1	1	2	4	2	3,432	53

TABLE A. VII.—COMPARISON OF MOTHERS' AGES, ALL DISTRICTS

No.	Census age	Number of comparisons	Difference between census age and birth transcript age											
			−12	−11	−10	−9	−8	−7	−6	−5	−4	−3	−2	−1
1	15	2	-	-	-	-	-	-	-	-	-	-	-	-
2	16	8	-	-	-	-	-	-	-	-	-	-	-	-
3	17	20	-	-	-	-	-	-	-	-	-	-	-	-
4	18	70	-	-	-	-	-	-	-	-	-	-	-	-
5	19	109	-	-	-	-	-	-	-	-	-	-	-	-
6	20	159	-	-	-	-	-	-	-	-	-	-	-	2
7	21	205	-	-	-	-	-	-	-	-	-	-	-	4
8	22	208	-	-	-	-	-	-	-	-	-	-	-	4
9	23	216	-	-	-	-	-	-	-	-	-	1	-	7
10	24	253	-	-	-	-	-	-	-	-	-	1	1	5
11	25	324	-	-	-	-	-	-	-	-	-	2	1	14
12	26	318	-	-	-	-	-	-	-	-	1	1	2	14
13	27	303	-	-	-	-	-	-	-	-	-	-	-	18
14	28	265	-	-	-	-	-	1	-	-	-	-	2	10
15	29	251	-	-	-	-	-	-	-	-	-	1	4	13
16	30	208	-	-	-	-	-	-	1	-	-	-	3	7
17	31	217	-	-	-	-	-	-	-	1	-	-	-	6
18	32	192	-	-	-	-	-	-	-	-	-	-	2	11
19	33	180	-	-	-	-	-	-	-	1	1	1	3	3
20	34	155	1	-	-	-	-	-	-	-	-	-	1	9
21	35	144	-	-	-	-	-	-	-	-	-	-	3	2
22	36	135	1	-	2	1	-	-	-	-	-	1	5	7
23	37	89	-	-	-	-	-	-	1	1	1	-	1	2
24	38	101	-	-	1	1	-	-	-	-	-	-	1	5
25	39	75	-	-	-	-	-	1	-	-	-	1	-	5
26	40	77	-	-	-	-	-	-	-	-	-	-	-	2
27	41	79	-	-	-	-	-	-	-	-	-	-	-	4
28	42	38	-	-	-	-	-	-	-	-	-	-	1	-
29	43	31	-	-	-	-	-	-	-	-	-	-	-	-
30	44	25	-	-	-	-	-	-	-	-	-	-	-	2
31	45	17	-	-	-	-	-	-	-	-	-	-	-	-
32	46	14	-	-	1	-	-	-	-	-	-	-	-	1
33	47	8	-	-	-	-	-	-	-	-	-	1	-	1
34	48	2	-	-	-	-	-	-	-	-	-	1	-	-
35	49	2	-	-	-	-	-	-	-	-	-	-	-	-
36	50	-	-	-	-	-	-	-	-	-	-	-	-	-
37		4,500	2	-	4	2	-	2	2	3	3	11	30	158

TABLE A. VII.—COMPARISON OF MOTHERS' AGES, ALL DISTRICTS—Con.

Difference between census age and birth transcript age													Birth transcript age	No.
0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+10	+11	+12		
2	–	–	–	–	–	–	–	–	–	–	–	–	2	1
7	1	–	–	–	–	–	–	–	–	–	–	–	7	2
18	2	–	–	–	–	–	–	–	–	–	–	–	19	3
66	4	–	–	–	–	–	–	–	–	–	–	–	68	4
102	6	1	–	–	–	–	–	–	–	–	–	–	108	5
148	7	–	–	–	–	1	–	1	–	–	–	–	159	6
193	7	1	–	–	–	–	–	–	–	–	–	–	207	7
194	6	1	–	–	2	–	–	–	–	1	–	–	213	8
194	12	–	2	–	–	–	–	–	–	–	–	–	208	9
233	8	–	3	1	–	–	–	1	–	–	–	–	264	10
300	5	1	–	1	–	–	–	–	–	–	–	–	322	11
280	14	4	–	–	–	–	–	–	1	1	–	–	312	12
267	16	2	–	–	–	–	–	–	–	–	–	–	302	13
241	8	2	–	–	–	–	–	–	–	1	–	–	281	14
225	5	1	1	–	–	–	–	–	1	–	–	–	245	15
184	9	3	–	1	–	–	–	–	–	–	–	–	200	16
196	13	–	1	–	–	–	–	–	–	–	–	–	221	17
162	11	4	–	1	1	–	–	–	–	–	–	–	181	18
158	9	2	1	–	–	1	–	–	–	–	–	–	183	19
135	9	–	–	–	–	–	–	–	–	–	–	–	157	20
126	11	1	1	–	–	–	–	–	–	–	–	–	146	21
107	8	3	–	–	–	–	–	–	–	–	–	–	126	22
77	4	1	–	1	–	–	–	–	–	–	–	–	92	23
88	4	1	–	–	–	–	–	–	–	–	–	–	103	24
66	1	1	–	–	–	–	–	–	–	–	–	–	74	25
71	4	–	–	–	–	–	–	–	–	–	–	–	78	26
70	3	2	–	–	–	–	–	–	–	–	–	–	76	27
35	2	–	–	–	–	–	–	–	–	–	–	–	38	28
30	–	–	–	1	–	–	–	–	–	–	–	–	36	29
23	–	–	–	–	–	–	–	–	–	–	–	–	24	30
16	1	–	–	–	–	–	–	–	–	–	–	–	18	31
12	–	–	–	–	–	–	–	–	–	–	–	–	14	32
6	–	–	–	–	–	–	–	–	–	–	–	–	7	33
1	–	–	–	–	–	–	–	–	–	–	–	–	1	34
2	–	–	–	–	–	–	–	–	–	–	–	–	2	35
–	–	–	–	–	–	–	–	–	–	–	–	–	–	36
4,035	190	31	9	6	3	2	–	2	2	3	–	–	4,500	37

When we consider the type of mis-statement at different ages, the statements made above are subject to some qualification. Recently the subject of errors in female census ages has come into prominence through the work of Smith and Hitt*, who assert that the differential mis-statement of women's ages in the United States Census is of major proportions. The present study can only throw an indirect light on census errors. Presumably, if adults understate their age at the census, they are likely to do so also on the birth transcript. Yet a consideration of Table A. VIII which summarizes the errors by five-year age groups, suggests the type of census error.

TABLE A. VIII.—MIS-STATEMENT OF FATHERS' AND MOTHERS' AGES, ALL DISTRICTS

Age group	Number of cases	Number of mis-statements	P.c. mis-statements	Balance mis-statement in years	Average mis-statement in years
	FATHERS				
Under 25	299	26	8·7	+20	+0·067
25–29	790	77	9·7	+29	+0·037
30–34	898	118	13·1	+56	+0·062
35–39	692	97	14·0	−20	−0·029
40–44	382	52	13·6	−25	−0·065
45–49	222	38	17·1	−16	−0·072
50–54	97	20	20·6	−21	−0·216
55 and over	52	11	21·2	−15	−0·288
Total	3,432	439	12·8	+ 8	+0·002
	MOTHERS				
15–19	209	14	6·7	+15	+0·072
20–24	1,041	79	7·6	+75	+0·072
25–29	1,461	148	10·1	+ 3	+0·002
30–34	952	117	12·3	+ 5	+0·005
35–39	544	80	14·7	−80	−0·147
40 and over	293	27	9·2	−10	−0·034
Total	4,500	465	10·3	+ 8	+0·002

Smith and Hitt found the greatest understatement of age among women in the age-group 35-39. Table A. VIII shows that in this age-group the birth transcript age was less than the census age. From this fact and the rest of Table A. VIII we must assume that the birth transcript ages tend to exaggerate the mis-statements of age in the census. Table A. VIII can then be regarded as an attenuated reflection of census mis-statements in age. According to this view, our results are in agreement with those of Smith and Hitt in showing understatement of age in females from 35 onwards, diminishing in amount as age increases. On the other hand, they differ in showing overstatement of age for both males and females up to 35. In the table there is no significant mis-statement of age on balance for either sex and males and females differ only in that females show maximum mis-statement at an early age, which then declines, whereas mis-statement of males continues to increase with age. However, the rapidly decreasing numbers of mothers over 40 make it doubtful whether any significance should be attached to the difference in behaviour. It is of course possible that, on the occasion of registering a birth, different attitudes to age from those at the census come into play, causing the younger parents to wish to be thought older and vice versa. In fact the table is quite consistent with the view that census ages are subject to random errors of well-known types, but not systematically biassed, while the birth transcript ages tend to conform to the norm of suitable ages for parents. Perhaps the only definite conclusion possible is that Table A. VIII does not lend any support to the view that there is a marked difference between the sexes in the type of mis-statements of age. This is in accord with later work which has cast doubts on the conclusions of Smith and Hitt†.

Numbers of Children Ever-born.—Since the question about numbers of children ever-born was asked for the first time at the 1941 Census, it is of especial importance to arrive at some idea of the accuracy of the answers. Fortunately a comparison of the data from both sources provides evidence for the view that a reasonably high degree of accuracy was obtained. Tables A. IX and A. X show the data on number of children ever-born. Only children enumerated as

* T. L. Smith and H. L. Hitt, "The Mis-statement of Women's Ages and the Vital Indexes". Metron XIII, No. 4.
† J. Yerushalmy, "The Age-Sex Composition of the Population resulting from Natality and Mortality Conditions." The Milbank Memorial Fund Quarterly, Vol. XXI, No. 1.

TABLE A. IX.—COMPARISON OF BIRTH ORDER (LEGITIMATE CHILDREN UNDER 1 YEAR, NOT ADOPTED) ALL DISTRICTS

Census order of birth	Number	Birth transcript order of birth																				Largest birth order	Number of children ever-born			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		Census	Birth transcript	Largest	
0	6	3	1	1	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
1	1,439	1,399	32	7	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1,402	1,439	1,424	1,402	1
2	939	18	897	22	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	948	1,878	1,890	1,896	2
3	594	2	7	575	7	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	614	1,782	1,860	1,842	3
4	411	–	6	10	379	12	3	1	–	–	–	–	–	–	–	–	–	–	–	–	–	403	1,644	1,616	1,612	4
5	253	1	1	–	12	230	7	1	–	1	–	–	–	–	–	–	–	–	–	–	–	259	1,265	1,310	1,295	5
6	205	–	1	1	2	14	174	10	2	1	–	–	–	–	–	–	–	–	–	–	–	204	1,230	1,194	1,224	6
7	143	–	–	3	3	1	8	124	2	1	1	–	–	–	–	–	–	–	–	–	–	152	1,001	1,064	1,064	7
8	142	1	–	–	–	2	4	8	122	3	2	–	–	–	–	–	–	–	–	–	–	141	1,136	1,112	1,128	8
9	105	–	–	1	–	–	1	6	10	18	4	5	–	–	–	–	–	–	–	–	–	102	945	837	918	9
10	71	–	–	–	–	–	–	1	2	5	62	1	–	–	–	–	–	–	–	–	–	77	710	740	770	10
11	51	–	–	–	–	–	–	–	1	3	5	38	2	1	–	1	–	–	–	–	–	53	561	539	583	11
12	37	–	–	–	–	–	–	–	–	1	–	4	27	3	–	–	–	1	1	–	–	34	444	420	408	12
13	28	–	–	–	–	–	–	–	–	–	–	1	3	24	–	–	–	–	–	–	–	32	364	364	416	13
14	17	–	–	–	–	–	–	–	–	–	–	–	2	–	13	1	1	–	–	–	–	15	238	224	210	14
15	13	–	–	–	–	–	–	–	–	–	–	–	–	–	3	10	–	–	–	–	–	15	195	180	225	15
16	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	1	–	2	48	32	32	16
17	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	3	17	51	51	17
18	3	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	2	–	–	4	54	54	72	18
19	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	19	19	19
20	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	20	20	20	20
	4,462	1,424	945	620	404	262	199	152	139	93	74	49	35	28	16	12	2	3	3	1	1	4,462	14,971	14,950	15,187	

under 1 at the time of the census are included. Illegitimate and adopted children, where known, were omitted, also second children and the second of a pair of twins. The birth transcript order of birth given is for children born alive, excluding stillborn. The census question specifically states that stillbirths are to be excluded.

TABLE A. X.—COMPARISON BETWEEN TOTAL NUMBERS OF LEGITIMATE CHILDREN BORN, FIVE DISTRICTS

District	(a) Census	(b) Birth transcript	(c) Largest	(d) Difference between census and birth transcript	(e) (d) as percentage of (a)	(f) Difference between census and largest	(g) (f) as percentage of (a)
					P.c.		P.c.
Kamouraska	3,316	3,304	3,354	+12	+0·4	− 38	−1·1
Saskatoon	1,194	1,200	1,217	− 6	−0·5	− 23	−1·9
Prince Edward Island	6,221	6,200	6,328	+21	+0·3	−107	−1·7
British Columbia—							
Division 4a	3,308	3,312	3,343	− 4	−0·1	− 35	−1·1
Division 6	932	934	945	− 2	−0·2	− 13	−1·4
All districts	14,971	14,950	15,187	+21	+0·14	−216	−1·4

Errors in the number of children ever-born are mainly of two kinds. The most important source of error is obviously the omission of dead children, and appears to occur more often in the census data. On the other hand, some of the census replies appear to have included stillborn children, an error not so common in the birth transcripts. In addition, there were of course, random errors not ascribable to any particular cause, including omission of living children. The two main sources of error apparently balance each other in the census over all orders of birth, with the result that the total number of children ever-born according to the census and birth transcripts are approximately equal in every district. In spite of this satisfactory agreement, several alternative views of the degree of accuracy obtained are possible. One view is that the vital statistics order is substantially accurate, and that the census order agrees with it as a result of the aforementioned balancing of errors. Another view is that the principal errors are all omissions and that the largest birth order given is nearest the actual order. So Tables A. IX and A. X show the birth order and total number of children ever-born obtained by taking the largest birth order in each individual case. This view is an exaggeration since it is certain that in at least a few cases the order given was too high, either through the inclusion of stillbirths or for some other reason. The deficit in the census number of children ever-born is then seen to be between 0 and 1·4 p.c. and it appears to be safe to say that the number is probably 99 p.c. accurate even for comparatively small groups. For single orders of birth the error is somewhat greater, though even the excess of first children in the census does not appear to be more than about 2 p.c. The numbers of living children were not tabulated throughout; but it will be apparent from what has gone before that they will be still more accurately stated than the number of children ever-born. On the other hand, the number of deaths cannot be inferred accurately from the difference between the numbers of children born and living. An error of 1 p.c. in number of children ever-born means an error of about 10 p.c. in the number of deaths deduced from census data. Further, the data checked relate only to those families in which a birth has occurred during the previous year. It is well known that when a long period has elapsed since the completion of a family, statements about the number of children born become progressively more inaccurate.

Racial Origin.—Tables A. XI and A. XII compare the data on racial origin for fathers and mothers. Kamouraska is omitted from the tables, because all parents were reported as French both at the census and on birth transcripts. Taking all French in the 5 districts, the differences in description were negligible. The different racial origins are grouped very roughly so as to bring together those most frequently confused. The grouping shows that the German and Dutch groups, as well as being confused with each other, are also confused with practically every other type of racial origin. An inspection of the tables also reveals wider discrepancies among females, probably reflecting the tendency to give the wife the same racial origin as the

husband. The percentage of cases where the birth transcript description differs is large, varying from 10 p.c. to 40 p.c.; exceptions are Italian and Japanese with no differences, and French and Norwegian with 5 p.c. or less. Many of the descriptive differences, however, balance each other. The principal differences remaining on balance between the two populations are summarized for the larger groups in Table A. XIII. The outstanding discrepancies are vital statistics German, shown in the census as Dutch, vital statistics Scandinavian shown in the census as British. In the former case, the census has recorded the preferred racial origin more often. In the case of Scandinavians there appears to be a tendency in the census to give husband and wife the same racial origin, especially making both British where one is recorded as Scandinavian on the birth transcript.

The ambiguity surrounding Welsh and Scandinavian racial origins, and to a lesser extent, Irish, Scottish, and Austrian, reflects the rapid dilution of these culture groups through mixed marriages, while on the other hand, two of the most consistently reported groups, Japanese and French, have for different reasons, low proportions of mixed marriages. Most of the racial origins, other than French or British, in the foregoing tables, came from British Columbia. This province probably differs from the rest of Canada at the present time in showing less segregation of culture groups and more intermarriage. Hence it is possible that racial origin descriptions may be more variable here than elsewhere. An interesting sidelight on the process of assimilation was revealed when the Christian names of babies were examined. In British Columbia, Division 6, 282 pairs of parents, at least one of whom gave a racial origin other than British, were tabulated to show the type of Christian name given to the child. Only 8, viz.:—3 Finnish, 2 Scandinavian, 1 Japanese, 1 French, and 1 Swiss had solely non-British names. Christian names were partly foreign and partly British in 37 cases, while 237 of the foreign or partly foreign parent-pairs gave their offspring exclusively British Christian names.

TABLE A. XI.—FATHERS' RACIAL ORIGIN, FOUR DISTRICTS

No.	Census racial origin	Number	Birth transcript racial origin													
			French	English	Irish	Scottish	Welsh	Danish	Icelandic	Norwegian	Swedish	Finnish	Belgian	German	Dutch	Swiss
1	French	621	598	11	8	–	–	–	–	–	–	–	–	1	–	2
2	English	1,591	4	1,351	79	133	7	1	–	1	2	–	–	3	8	–
3	Irish	824	8	52	733	25	–	–	1	–	1	–	–	–	2	1
4	Scottish	1,212	5	119	33	1,050	2	–	–	–	–	–	–	–	3	–
5	Welsh	41	–	12	1	2	26	–	–	–	–	–	–	–	–	–
6	Danish	34	–	–	–	–	–	32	–	–	–	–	–	1	–	–
7	Icelandic	9	–	1	–	–	–	–	8	–	–	–	–	–	–	–
8	Norwegian	69	–	–	–	–	–	–	–	67	2	–	–	–	–	–
9	Swedish	60	–	–	–	–	–	–	–	1	58	–	–	–	–	1
10	Finnish	25	–	–	–	–	–	–	–	–	1	24	–	–	–	–
11	Belgian	6	–	–	–	–	–	–	–	–	–	–	6	–	–	–
12	German	183	–	8	3	3	–	1	–	–	–	–	–	147	8	5
13	Dutch	151	1	9	1	4	–	–	–	–	–	–	–	14	114	–
14	Greek	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–
15	Italian	37	–	–	–	–	–	–	–	–	–	–	–	–	–	–
16	Roumanian	7	–	–	–	–	–	–	–	–	–	–	–	–	–	1
17	Austrian	23	–	–	–	–	–	–	–	–	–	–	–	4	–	1
18	Czech-Slovak	20	–	–	–	–	–	–	–	–	–	–	–	3	–	–
19	Hungarian	21	–	–	–	–	–	–	–	–	–	–	–	–	–	–
20	Lithuanian	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–
21	Polish	36	–	1	–	–	–	–	–	–	–	–	–	1	1	–
22	Russian	41	–	1	–	–	–	–	–	–	–	–	–	8	3	–
23	Ukrainian	62	–	–	–	–	–	–	–	–	–	–	–	–	1	–
24	Yugo-Slavic	2	–	–	–	–	–	–	–	–	–	–	–	–	–	–
25	Other European	10	–	–	–	–	–	–	–	–	–	–	–	–	–	2
26	Hebrew	14	–	–	–	–	–	–	–	–	–	–	–	–	–	–
27	Chinese	14	–	–	–	–	–	–	–	–	–	–	–	–	–	–
28	Japanese	130	–	–	–	–	–	–	–	–	–	–	–	–	–	–
29	Syrian	11	–	–	–	–	–	–	–	–	–	–	–	–	–	–
30	Other Asiatic	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–
31	Indian	17	–	–	–	–	–	–	–	–	–	–	–	–	–	–
32	Half-breed	11	–	2	2	2	–	–	–	–	–	–	–	–	–	–
33	Negro	4	–	1	–	–	–	–	–	–	–	–	–	–	–	–
34	Total	5,294	616	1,568	860	1,219	35	34	9	69	64	24	6	182	140	13

TABLE A. XI.—FATHERS' RACIAL ORIGIN, FOUR DISTRICTS

Birth transcript racial origin																					No.
Greek	Italian	Roumanian	Austrian	Czech-Slovak	Hungarian	Lithuanian	Polish	Russian	Ukrainian	Yugo-Slavic	Other European	Hebrew	Chinese	Japanese	Syrian	Other Asiatic	Indian	Half-breed	Negro	
–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	1	–	2
–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5
–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	6
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	8
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	11
–	–	–	–	–	1	–	3	4	–	–	–	–	–	–	–	–	–	–	–	12
–	–	–	–	–	–	–	–	8	–	–	–	–	–	–	–	–	–	–	–	13
1	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	14
–	37	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	15
–	–	5	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	16
–	–	–	13	2	1	–	–	–	2	–	–	–	–	–	–	–	–	–	–	17
–	–	–	–	17	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	18
–	–	–	–	–	21	–	–	–	–	–	–	–	–	–	–	–	–	–	–	19
–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	–	–	–	–	20
–	–	1	4	–	–	–	25	–	3	–	–	–	–	–	–	–	–	–	–	21
–	–	–	–	–	–	–	3	26	–	–	–	–	–	–	–	–	–	–	–	22
–	–	1	1	1	–	–	2	2	54	–	–	–	–	–	–	–	–	–	–	23
–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	–	–	–	–	–	24
–	–	–	–	–	–	–	–	–	–	–	8	–	–	–	–	–	–	–	–	25
–	–	1	–	–	–	–	–	–	–	–	–	13	–	–	–	–	–	–	–	26
–	–	–	–	–	–	–	–	–	–	–	–	–	14	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	–	–	–	–	–	–	130	–	–	–	–	–	28
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	11	–	–	–	–	29
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	30
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	17	–	–	31
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5	–	32
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	33
1	38	8	19	20	23	2	33	41	61	2	8	13	14	130	11	4	18	6	3	34

TABLE A. XII.—MOTHERS' RACIAL ORIGIN, FOUR DISTRICTS

No.	Census racial origin	Number	Birth transcript racial origin													
			French	English	Irish	Scottish	Welsh	Danish	Icelandic	Norwegian	Swedish	Finnish	Belgian	German	Dutch	Swiss
1	French	681	644	6	14	8	–	–	–	–	1	–	1	3	–	3
2	English	1,677	17	1,361	75	183	2	1	–	3	3	1	–	10	11	–
3	Irish	787	16	62	660	43	–	–	–	–	–	–	1	2	1	–
4	Scottish	1,226	7	145	42	1,021	1	1	1	1	3	–	–	2	2	–
5	Welsh	43	–	7	3	1	32	–	–	–	–	–	–	–	–	–
6	Danish	15	–	–	1	–	–	13	–	–	–	–	–	–	–	1
7	Icelandic	5	–	–	–	–	–	–	5	–	–	–	–	–	–	–
8	Norwegian	80	–	2	–	–	–	–	–	78	–	–	–	–	–	–
9	Swedish	52	–	1	–	–	–	–	–	4	46	–	–	–	–	1
10	Finnish	25	–	1	–	–	–	–	–	–	4	20	–	–	–	–
11	Belgian	6	–	–	–	–	–	–	–	–	–	–	6	–	–	–
12	German	174	1	5	2	2	–	–	–	1	–	–	–	140	10	4
13	Dutch	179	–	7	8	6	–	1	–	2	–	–	–	22	124	–
14	Greek	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
15	Italian	22	–	–	–	–	–	–	–	–	–	–	–	–	–	–
16	Roumanian	6	–	–	–	1	–	–	–	–	–	–	–	1	–	–
17	Austrian	23	–	–	–	–	–	–	–	–	–	–	–	4	–	–
18	Czech-Slovak	17	–	–	–	–	–	–	–	–	–	–	–	–	–	–
19	Hungarian	27	–	–	–	–	–	–	–	–	–	–	–	–	–	–
20	Lithuanian	1	–	–	–	–	–	–	–	–	–	–	–	1	–	–
21	Polish	46	–	2	–	–	–	–	–	–	–	–	–	2	–	–
22	Russian	54	–	–	–	–	–	–	–	–	–	–	–	6	4	–
23	Ukrainian	58	–	1	1	–	–	–	–	–	–	–	–	–	2	–
24	Yugo-Slavic	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
25	Other European	9	–	–	–	–	–	–	–	–	–	–	–	1	–	–
26	Hebrew	14	–	1	–	–	–	–	–	–	–	–	–	–	–	–
27	Chinese	10	–	–	–	–	–	–	–	–	–	–	–	–	–	–
28	Japanese	130	–	–	–	–	–	–	–	–	–	–	–	–	–	–
29	Syrian	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–
30	Other Asiatic	5	–	1	–	–	–	–	–	–	–	–	–	–	–	–
31	Indian	30	1	–	–	–	–	–	–	–	–	–	–	–	–	–
32	Half-breed	15	2	3	1	–	–	–	–	–	–	–	–	1	1	–
33	Negro	7	2	–	–	1	–	–	–	–	–	–	–	–	–	–
34	Total	5,463	690	1,605	807	1,266	35	16	6	89	57	21	8	195	155	9

TABLE A. XII.—MOTHERS' RACIAL ORIGIN, FOUR DISTRICTS

Birth transcript racial origin																					No.
Greek	Italian	Roumanian	Austrian	Czech-Slovak	Hungarian	Lithuanian	Polish	Russian	Ukrainian	Yugo-Slavic	Other European	Hebrew	Chinese	Japanese	Syrian	Other Asiatic	Indian	Half-breed	Negro	
–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1
–	–	1	1	–	–	–	1	2	2	–	1	–	–	–	–	–	2	–	–	2
–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	3
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	8
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	9
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	10
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	11
–	–	–	1	–	–	–	1	5	1	–	–	–	–	–	–	–	1	–	–	12
–	–	–	1	–	–	–	–	8	–	–	–	–	–	–	–	–	–	–	–	13
1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	14
–	22	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	15
–	–	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	16
–	–	–	11	5	–	–	1	–	2	–	–	–	–	–	–	–	–	–	–	17
–	–	–	–	16	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	18
–	–	–	2	–	24	–	–	–	–	–	–	–	–	–	–	–	–	–	–	19
–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	20
–	–	–	2	–	–	–	37	–	3	–	–	–	–	–	–	–	–	–	–	21
–	–	–	–	–	–	–	2	41	1	–	–	–	–	–	–	–	–	–	–	22
–	–	1	3	–	–	–	4	1	73	–	2	–	–	–	–	–	–	–	–	23
–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	24
–	–	–	–	–	–	–	–	–	–	–	8	–	–	–	–	–	–	–	–	25
–	–	–	–	–	–	–	–	–	–	–	–	13	–	–	–	–	–	–	–	26
–	–	–	–	–	–	–	–	–	–	–	–	–	10	–	–	–	–	–	–	27
–	–	–	–	–	–	–	–	–	–	–	–	–	–	130	–	–	–	–	–	28
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	7	–	–	–	–	29
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	30
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	28	1	–	31
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	5	–	32
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	33
1	23	6	22	21	25	1	46	58	82	1	11	13	10	130	7	4	33	6	4	34

TABLE A. XIII.—NET DIFFERENCE BETWEEN CENSUS AND VITAL STATISTICS POPULATIONS, BY RACIAL ORIGIN

Census and vital statistics population same, both sexes	Vital statistics population larger than census		Vital statistics population less than census	
	Males	Females	Males	Females
All British	-	German..... +12 p.c.	Welsh... −15 p.c.	Welsh.... −19 p.c.
French	Swedish..... +7 p.c.	Swedish..... +10 p.c.	Dutch... − 7 p.c.	Dutch.... −13 p.c.
Japanese	Indian..... +6 p.c.	Indian..... +10 pc..	-	English... − 4 p.c.
	Scotch..... +6 p.c	Scotch..... + 3 p.c.	Polish... − 8 p.c.	-
	-	Norwegian..... +11 p.c.	-	Ukrainian − 7 p.c.
	-	Russian..... + 7 p.c.		
	Irish..... +4 p.c.	Irish..... + 3 p.c.		
	All Scandinavian.. +2 p.c.	All Scandinavian. +11 p.c.		

Occupation.—It is generally admitted that occupational descriptions present the most difficult problem in the whole field of census data. To the initial difficulty of obtaining consistent descriptions from a single source, are added the difficulties of comparing two sets of occupational descriptions, obtained under different conditions, and compiled according to two different codes. The 1941 situation was still further exacerbated, first by the rapid expansion of nearly all types of industry, and secondly, by the transference of men into the Armed Forces. These latter were coded according to their peace-time occupation in the census, but more usually simply as "Army, Navy, etc." on the birth transcripts. It is then an agreeable surprise to find any sort of agreement between the two sets of data.

The complete table of census and vital statistics occupational descriptions from the 5 districts studied contains 158 census occupational headings and 100 occupational headings under which the birth transcript description differs from the census description. Many of these headings, however, contain very few cases, so that no useful purpose would be served by presenting the complete table.

In the tables which follow, the smaller occupational groups have been eliminated. Since it has been generally recognized that compatibility of the finer occupational distinctions is not to be expected, Table A. XIV presents data on broad industrial groups, containing at least 120 cases. Workers coded in the census as unpaid farm labourers are nearly all coded farmers on birth transcripts. Hence these two categories have been combined. Column (a) gives the total number of fathers having the indicated census description. Column (b) shows which of these have an equivalent code number on the birth transcript. Those in column (c) were coded as in some branch of the Armed Forces on the birth transcript. Column (d) gives the number of cases in which the coding was different. Column (e) gives the total number of cases having the indicated coding on the birth transcript, while in column (f) those coded to the occupation in the census and to the Armed Forces on the birth transcript are added to the population of column (e). Column (f) then represents an estimate of the vital statistics population in this occupation including those who have gone into the Armed Forces, and should correspond to the census population. Column (g) gives the difference between the census and vital statistics population so defined as a percentage of the census population. Column (h) indicates the census occupation with which the excess or deficit in the vital statistics population is associated. The data of Table A. XIV must be interpreted in the light of the exceptional mobility of the census period. Table A. XV gives some more information on the nature of the differences in coding. All cases found are included. Column (b) shows the number in which the birth transcript occupation was the same as the 1931 Census occupation. In column (c) cases the occupational description was the same at both censuses, but the birth transcript description different. In column (d) cases, the occupation was apparently different on all three occasions. The figures at the bottom of the table are those obtained when unpaid farm labourers are classed as farmers. It will be seen that about 39 p.c. of the cases in column (c) look like errors in coding. Column (b) (12 p.c.) appears to indicate changes in occupation between the time of the birth and the census, while the 49 p.c. of cases in column (d) may also contain many changes of occupation. This view of column (d) cases is corroborated by the fact that many of them were coded as having no occupation in 1931, and would be thus recent recruits to industry without a settled occupation. Although the expansion of the labour force in 1941 was primarily derived from young people and women entering industry for the first time, there was also some transference of labour from agriculture and also

possibly from the ranks of casual labour to more clearly defined occupations. We should then expect an excess in the vital statistics population in Farming and Labouring, and a deficit in Manufacturing, Transport, Trade and Clerical work, as in fact we do. It then seems safe to say that at a more stable period, the census and vital statistics populations of the type shown in Class A of Table A. XIV might be expected to agree with an error of the order of about 5 p.c. Of the groups shown in Classes B and C, two, farm labourers and labourers were known not to be comparable, and the fact is amply confirmed. The data on farm labourers explain why the gross reproduction rate for this group in 1931 was found to be 0·2. Of the remaining groups, logging, fishermen, and drivers, the first two clearly show the effects of seasonal changes in occupation, and the same explanation may possibly account for the deficiency in drivers.

TABLE A. XIV.—COMPARISON OF OCCUPATIONS, (CENSUS AND BIRTH TRANSCRIPT), ALL DISTRICTS

LARGER INDUSTRIAL GROUPS (UNPAID FARM LABOURERS CLASSED AS FARMERS)

Census group	(a) Number of cases	(b) Coding same in birth transcript	(c) Army in birth transcript	(d) Birth transcript different	(e) Birth transcript population	(f) Birth transcript and army population	(g) P.C. difference	(h) Category where excess or deficit lies
	A. Vital statistics population differing by not more than 10 p.c.							
000 Farmers and unpaid farm labourers	1,354	1,224	28	87	1,154	1,477	+ 9	
Metal operatives	194	132	8	54	193	201	+ 4	
430 Carpenters	121	69	6	46	110	116	− 4	
Railway operatives	120	84	2	34	108	110	− 8	
Trade, all	304	212	18	74	263	281	− 8	
Professions	138	113	6	19	132	138	-	
Clerical	131	83	11	37	107	118	−10	
	B. Vital statistics population deficient by more than 10 p.c.							
Farm labourers, wage-earners	228	17	25	186	32	62	−73	Farmers and labourers
100 Fishermen	181	129	9	43	148	157	−13	Labourers and seasonal changes
Drivers	237	138	16	83	183	199	−16	Farmers, labourers
	C. Vital statistics population in excess by more than 10 p.c.							
Logging	188	120	6	67	207	213	+13	Labourers and seasonal changes
900 Labourers	401	225	35	141	557	592	+48	Farmers, fishermen, lumbermen

The picture presented by individual census categories is much less satisfactory. Table A. XVI presents all the census categories containing not less than 17 cases.

TABLE A. XV.—OCCUPATIONAL DIFFERENCES, ALL DISTRICTS

Census	(a) Number of differences	(b) Birth transcripts as census 1931	(c) Both censuses same	(d) All different
000 Farmers	84	15	34	35
010 Farm foremen	11	1	2	8
090 Farm labourers	136	11	102	23
	186	13	120	53
100 Fishermen	43	6	28	9
110 Hunters, trappers, guides	2	–	–	2
120 Logging owners	4	–	1	3
130 Logging foremen	1	–	–	1
140 Foresters	3	1	–	2
150 Lumbermen	54	9	10	35
161 Mining owners	2	–	–	2
162 Mining foremen	2	1	–	1
170 Mining labourers	3	–	1	2
180 Miners and millmen	3	–	–	3
192 Quarriers and rock drillers	3	–	–	3
200 Manufacturing owners	18	4	5	9
210 Manufacturing foremen	5	1	3	1
222 Manufacturing inspectors—metals	1	–	–	1
223 Manufacturing inspectors—wood	9	1	2	6
241 Blacksmiths	6	–	3	3
243 Boiler firemen	4	1	–	3
244 Boilermakers	3	–	1	2
246 Boot and shoe repairers	3	–	1	2
247 Butchers and meat cutters	4	–	3	1
261 Electrical appliance repairmen	1	–	–	1
263 Filers, grinders, sharpeners	5	–	3	2
264 Fitters and assemblers	1	–	–	1
267 Jewellers and watchmakers	3	–	1	2
270 Machinists—metal	6	1	2	3
280 Mechanics and repairmen, n.e.s.[1]	27	1	17	9
291 Millers—flour and grain	1	–	–	1
293 Millwrights	6	–	3	3
294 Moulders, coremakers, casters	2	–	–	2
297 Photographers	1	–	1	–
299 Power station operators	1	–	–	1
300 Printers	2	–	2	–
312 Sawyers—wood	31	4	11	16
313 Sheet metal workers and tinsmiths	2	–	1	1
320 Stationary enginemen	18	3	3	12
336 Welders and flame cutters	2	2	–	–
337 Wood machinists—turners, planers	15	4	5	6
340 Chemical products	2	–	1	1
360 Food	8	3	1	4
373 Liquors and beverages	3	–	1	2
380 Metal products	2	–	1	1
391 Non-metallic mineral products	1	–	–	1
394 Textiles	1	1	–	–
396 Wood and paper products	18	3	9	6
411 Foremen—construction	2	1	–	1
420 Brick and stone masons	1	–	1	–
430 Carpenters	46	11	17	18
440 Electricians and wiremen	4	–	2	2
450 Painters, decorators, glaziers	8	–	1	7
460 Plasterers and lathers	3	–	2	1
470 Plumbers and pipe fitters	8	–	5	3
480 Structural iron workers	2	–	1	1
501 Owners—transportation and communication	5	–	2	3
502 Foremen—transportation and communication	3	–	2	1
504 Agents—ticket, station	3	–	–	3
506 Baggagemen and expressmen	1	1	–	–
507 Brakemen—railway	2	–	–	2
508 Bus drivers	83	16	16	51
509 Captains, mates, pilots	1	–	–	1
524 Engineering officers—on ships	3	–	1	2
525 Firemen and trimmers—on ships	3	1	1	1
526 Linemen and servicemen	3	–	2	1
527 Lockkeepers, canalmen, boatmen	2	–	1	1
531 Locomotive firemen	1	–	–	1
533 Messengers	1	–	–	1
534 Radio announcers, broadcasters	1	–	–	1
535 Radio station operators	1	–	–	1
540 Seamen, sailors, deckhands	5	1	–	4
550 Sectionmen and trackmen	16	4	7	5
561 Street car operators	1	–	1	–
562 Switchmen, signalmen, flagmen	4	2	–	2
564 Telegraph operators	3	1	1	1
591 Yardmen (railway), n.e.s.[1]	5	2	1	2
599 Other transportation occupations	3	1	1	1
600 Owners, managers, dealers—retail	41	4	10	27
610 Owners, managers, dealers—wholesale	7	1	1	5

[1]N.e.s. = Not elsewhere specified.

TABLE A. XV.—OCCUPATIONAL DIFFERENCES, ALL DISTRICTS—Con.

Census		(a) Number of differences	(b) Birth transcripts as census 1931	(c) Both censuses same	(d) All different
621	Floorwalkers and foremen	1	–	–	1
630	Commercial travellers	30	3	11	16
641	Credit men	1	1	–	–
642	Hawkers and pedlars	3	–	3	–
643	Inspectors, graders, samplers	1	–	–	1
646	Packers, wrappers, labellers	1	–	–	1
647	Purchasing agents and buyers	2	–	2	–
650	Sales agents, canvassers, demonstrators	5	–	1	4
660	Salespersons in stores	31	–	6	25
679	Other trade occupations	2	–	–	2
680	Owners, managers, officials—finance and insurance	4	1	2	1
691	Insurance agents	1	–	1	–
693	Stock and bond brokers	1	–	1	–
703	Authors, editors, journalists	2	–	–	2
704	Chemists and metallurgists	3	–	1	2
705	Clergymen and priests	1	–	1	–
706	Dentists	1	–	1	–
711	Engineers, civil	2	–	1	1
712	Engineers, electrical	5	–	–	5
718	Musicians and music teachers	1	–	–	1
726	Professors and college principals	3	–	2	1
749	Other professional service occupations	8	2	–	6
752	Government inspectors	4	–	2	2
755	Policemen and detectives	1	–	–	1
756	Postmasters	1	–	1	–
757	Postmen and mail carriers	3	–	2	1
758	Public service officials, n.e.s.[1]	1	–	–	1
759	Other public service occupations	1	–	–	1
761	Owners and managers—amusements	1	–	1	–
771	Hotel keepers and managers	2	2	–	–
772	Laundry owners and managers	1	1	–	–
774	Restaurant and tavern keepers	2	–	–	2
775	Barbers, hairdressers, manicurists	1	–	–	1
776	Bootblacks	1	1	–	–
778	Cleaners and dyers—clothing	1	–	–	1
779	Cooks	6	–	3	3
780	Domestic servants, n.e.s.[1]	3	–	2	1
790	Elevator tenders	1	–	1	–
791	Guards and caretakers	10	4	–	6
792	Housekeepers, matrons, stewards	3	2	1	–
793	Janitors and sextons	1	–	1	–
794	Laundrymen and laundresses	1	–	–	1
795	Nurses, practical	1	–	–	1
796	Porters	3	1	–	2
797	Undertakers	1	–	–	1
798	Waiters and waitresses	3	–	–	3
800	Accountants and auditors	5	–	2	3
810	Bookkeepers and cashiers	22	1	7	14
830	Office clerks	17	1	6	10
900	Labourers (not agriculture, fishing, logging or mining)	141	12	48	81
X	Not gainfully occupied	19	4	12	3
	Total	1,387	168	576	643
	Farm labourers unpaid as farmers				
	Farmers	102	15	49	38
	Total	1,269	157	489	623

[1] N.e.s. = Not elsewhere specified.

TABLE A. XVI.—COMPARISON OF OCCUPATIONAL CATEGORIES, ALL DISTRICTS

No.	Census category	Number of cases	Coding same in birth transcript	Army on birth transcript	Birth transcript difference	Birth transcript description									
						000 Farmers	090 Farm labourers	100 Fishermen	150 Lumbermen	180 Miners	200 Manufacturers owners and managers	241 Blacksmiths	247 Butchers	280 Mechanics	312 Sawyers
1	000 Farmers	1,210	1,103	23	84	–	3	6	3	–	–	1	1	3	1
2	090 Farm labourers, no pays	144	3	5	136	121	–	2	1	–	–	–	–	–	–
	Farm labourers, wage-earners	228	17	25	186	88	–	2	4	–	–	–	–	1	–
3	100 Fishermen	181	129	9	43	11	–	–	–	–	–	–	–	2	–
4	150 Lumbermen	177	117	6	54	18	–	4	–	–	–	–	2	–	–
5	180 Miners	29	25	1	3	–	–	–	–	–	–	–	–	–	–
6	200 Manufacturers owners and managers	29	11	–	18	1	–	–	1	–	–	–	–	2	–
7	241 Blacksmiths	36	29	1	6	2	–	–	–	–	–	–	–	–	–
8	246 Boot and shoe repairers	18	14	1	3	–	–	–	2	–	–	–	–	1	–
9	247 Butchers	18	12	2	4	1	–	–	–	–	–	–	–	–	–
10	280 Mechanics	94	62	5	27	2	–	1	3	–	1	–	–	–	–
11	312 Sawyers	57	24	2	31	4	1	–	3	–	3	1	–	3	–
12	320 Stationary engineers	44	26	–	18	1	–	–	2	–	1	–	–	1	–
13	337 Wood machinists	17	2	–	15	1	–	–	–	–	–	–	–	–	2
14	360 Food operatives	17	8	1	8	–	–	–	–	–	1	–	1	1	–
15	396 Wood operatives	25	6	1	18	1	–	–	–	–	–	–	–	1	–
16	430 Carpenters	121	69	6	46	12	–	–	4	2	–	–	–	1	1
17	450 Painters	38	26	4	8	1	–	–	1	–	–	–	–	–	–
18	470 Plumbers	19	10	1	8	–	–	–	1	–	–	–	–	–	–
19	508 Bus drivers	237	138	16	83	19	1	–	7	–	1	–	–	12	–
20	550 Sectionmen	63	47	–	16	2	–	–	2	–	–	–	–	–	–
21	600 Retail owners and managers	118	75	2	41	1	–	2	1	1	1	1	6	–	–
22	630 Commercial travellers	39	8	1	30	–	–	–	–	–	–	–	–	2	–
23	660 Salesmen	87	47	9	31	3	–	–	1	–	1	–	1	2	–
24	730 Teachers	40	38	2	–	–	–	–	–	–	–	–	–	–	–
25	749 Other professional workers	21	12	1	8	1	–	–	–	–	–	–	–	–	–
26	775 Barbers	17	13	3	1	–	–	–	–	–	–	–	–	–	–
27	800 Accountants	17	11	1	5	1	–	–	–	–	–	–	–	–	–
28	830 Office clerks	114	65	10	39	1	–	–	1	–	1	–	–	1	–
29	900 Labourers	401	225	35	141	27	5	2	25	1	1	1	–	3	5
30	x None	40	3	18	19	5	–	–	2	–	–	–	1	2	–
31	Other occupations	653	359	37	257	27	2	–	23	7	5	–	–	9	3
32	Total	4,349	2,734	228	1,387	351	12	19	87	11	16	4	12	47	12

TABLE A. XVI.—COMPARISON OF OCCUPATIONAL CATEGORIES, ALL DISTRICTS—Con.

Birth transcript description																									
320 Stationary engineers	337 Wood machinists	360 Food operatives	396 Wood operatives	430 Carpenters	450 Painters	470 Plumbers	508 Bus drivers	550 Sectionmen	600 Retail owners and managers	630 Commercial travellers	660 Salesmen	730 Teachers	749 Other professional workers	775 Barbers	800 Accountants	830 Office clerks	900 Labourers	x None	Other occupations	Birth transcript population	Birth transcript and army population	P.C. difference	No.
–	–	3	1	–	1	–	–	–	2	–	6	–	–	–	–	1	23	–	6	183	199	−16	19
–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	10	–	1	54	54	−14	20
–	–	1	–	–	1	–	4	–	–	1	5	–	1	1	2	1	2	–	9	94	96	−19	21
–	–	–	1	–	–	–	–	–	–	–	21	–	–	–	–	1	–	–	5	13	14	−64	22
–	–	–	–	–	–	–	2	–	2	4	–	–	1	–	–	1	4	–	9	103	112	+29	23
–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	42	44	+10	24
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	2	–	4	23	24	+14	25
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	17	20	+18	26
–	–	–	–	1	1	–	–	1	2	–	1	1	1	–	5	2	8	–	11	88	98	−14	28
2	–	1	8	14	2	1	3	2	1	–	3	1	1	–	–	6	–	1	25	557	592	+48	29
–	–	–	–	–	–	–	2	–	–	–	–	–	1	–	–	–	4	–	2	4	22	–	30
5	–	2	1	2	2	2	9	2	8	–	11	1	3	1	1	8	49	–	74	565	602	–	31
8	1	13	17	41	11	4	45	7	19	5	56	4	11	4	8	23	332	1	206	4,121	4,349	–	32

A few call for special comment. The small group of miners all came from British Columbia and were probably in a highly mobile state. The figures understate the comparability of all Canadian miners. Although the group of all operatives in the food industry was too small for inclusion in Table A. XIV, the excess of 25 p.c. found in the vital statistics population probably correctly represents the state of affairs in this occupation. Table A. XVI shows 6 cases, coded as butchers on the birth transcript and as retail owners in the census. This is proportionally one of the largest systematic errors found and is unavoidable under present conditions, due to the absence of status information on the birth transcript. Another major discrepancy occurs in wood manufacturing. Again the numbers are small, but the birth transcript population shows a deficiency of 27 p.c. This appears to be due to the fact that many workers coded in the census to a specific wood-working occupation are coded as unskilled labourers on the birth transcript. Commonly they describe themselves differently, e.g., census, planerman, birth transcript, labourer in saw mill. More rarely, a man will be described as mill worker on both occasions and coded wood operative and unskilled worker. Possibly these ambiguities reflect considerable interchange of activities in the industry. Rather surprising is the absence of commercial travellers in the vital statistics population, most of them describing themselves as salesmen. The additional complicating factor of transference to the Armed Forces puts out of court any comparison between census and vital statistics occupational data for 1941. But it is hoped that the tables presented may have some utility in facilitating greater comparability between the two sets of data at some more stable period.

2. Under-Registration and Under-Enumeration of Reserve Indians in British Columbia

Summary of Results

It is generally admitted that the difficulties attending the collection of accurate data about Reserve Indians are great, so that their vital statistics are not comparable to those of the rest of Canada, and hence are tabulated separately. On account of the recognized inadequacy of the data, the investigation of Reserve Indians could not be expected to yield many useful results. The checking process was very difficult owing to the frequent errors, mis-spelling of names, confusion of generations in large combined households, etc. Although every effort was made to match the entries correctly, mistakes must have occurred. The following summary of the data does not pretend to a high degree of precision and will be summarized rather briefly.

The survey of Reserve Indians covered all such in the province of British Columbia and was carried out in the same way as the remainder of the survey. The main results are summarized in Table A. XVII.

TABLE A. XVII.—COMPLETENESS OF REGISTRATION AND ENUMERATION, BRITISH COLUMBIA RESERVE INDIANS

Total number of entries	1,049
Census population under 1	502
Percentage not traced in birth transcripts	25 p.c.
Percentage not traced in 1931	38 p.c.
Enumeration sample	996
Percentage not enumerated	6 p.c.

Under-registration

Nine children appeared to have been registered twice but, as all were over 1 year, the percentage not registered would not be affected. In spite of the considerable improvement since 1931, birth registration among Reserve Indians appears to be still greatly deficient.

As before, no significant difference between males and females in percentages unregistered was found. The percentage unregistered among legitimate children, not adopted, was exactly the same as for the whole population. The age groups 20-29 showed least under-registration and those 35 and over the most, but the significance of the differences is doubtful. The proportion of first children not registered is again considerably higher than among later orders of birth.

Under-enumeration

The Indian Reserve groups yielded only 2 cards where neither the parents nor child could be traced in the census or death transcripts. Hence, the figure given for percentage not enumerated is not an under-estimate. It can be an over-estimate, since some of the children not found with their parents might be enumerated outside the Indian Reserves. It does not seem likely that there would be many such cases.

The percentage under-enumerated for children under 1 year at the time of the census was 9·7 p.c., while for children over 1 year it was 2·8 p.c. It can be estimated with some degree of accuracy that among British Columbia Reserve Indians, about 9 p.c. of the children under 1 and about 2 p.c. of the children between 1 and 2 years were not enumerated at the census.

Comparability of Census and Vital Statistics Data

Age of Child.—As indicated earlier, the statements about age of Reserve Indian children appear to be highly inaccurate. The differences between census and birth transcript age are shown in Table A. XVIII.

TABLE A. XVIII.—COMPARISON OF CHILD'S AGE AS RECORDED AT CENSUS AND ON BIRTH TRANSCRIPT, RESERVE INDIANS, BRITISH COLUMBIA

Age as enumerated at census	Total	Birth transcript age		
		Born after census	Under 1 year	1 year and under 2 years
Under 1 year	378	5	365	8
1 year and under 2 years	341	–	135	206
2 years " " 3 "	22	–	7	15
3 " " " 4 "	3	–	2	1
4 " " " 5 "	1	–	–	1
7 " " " 8 "	1	–	1	–
Total	746	5	510	231

Balance of overstatement of age, 0–1 year 132
Percentage of census population, 0–1 year ..... 35 p.c.

Again assuming that the age deduced from the birth transcript age is approximately accurate, the biassed mis-statements of age amount to 35 p.c. of the enumerated census population under 1. Fortunately the Indian population is a small proportion of the whole. It is highest in British Columbia, where an additional deficit of about 2 p.c. in the total census population under 1 year might be expected.

Parent's Ages.—The discrepancies between parent's ages as recorded on two occasions are summarized in Table A. XIX.

TABLE A. XIX.—MIS-STATEMENTS OF FATHER'S AND MOTHER'S AGES, RESERVE INDIANS, BRITISH COLUMBIA

—	Number of cases	Number of mis-statements	Percentage mis-statements	Balance mis-statements in years	Average mis-statements in years
Father	346	106	30·6 p.c.	− 4	−1·2
Mother	372	102	27·4 p.c.	+21	+5·6

Clearly the number of mis-statements of age are proportionately much greater among Reserve Indians. The table for father's ages is skew and resembles those given in Section I, overstatements at younger ages being balanced by understatements at older ages. While the understatements of mother's age occur mainly among the older women, the overstatements are distributed more at random among the ages and there are more of them. The greater proportion of overstatements is nearly $2\frac{1}{2}$ times its standard error and hence is probably significant. In so far as the census ages are guessed by the enumerator, they may reflect the ravages of disease and poverty among the Indian women.

Number of children ever-born.—The discrepancies in birth-order are again more marked than in the rest of the population. They occurred chiefly among first children and among large families. The total number of children ever-born according to the birth transcripts was 2·4 p.c. higher than the number recorded at the census. The number of children ever-born obtained by taking the largest birth-order in each case was 14 p.c. higher than the census number. These figures suggest that errors arising from the omission of dead children and through misunderstanding the questions asked are significant on both occasions, though somewhat greater at the census. The effect on the total number of children ever-born appears to be an understatement of the order of about 10 p.c.

Racial Origin.—Little needs to be said of the racial origins of the Reserve Indians, since 99 p.c. of both sexes were recorded as Indians on both occasions. The remaining cases include five fathers and six mothers enumerated as half-breeds at the census. Four of the half-breed fathers were recorded as Indians on the birth transcripts, but the half-breed mothers were half-breeds on the birth transcript also.

Occupation.—Tables A. XX and A. XXI summarize the differences between the occupational descriptions of Reserve Indians.

TABLE A. XX.—COMPARISON OF OCCUPATIONAL DESCRIPTIONS, RESERVE INDIANS, BRITISH COLUMBIA

Census occupation	Number	Birth transcript occupations							Birth transcript population	Percentage difference
		Correct	Farmers and unpaid farm labourers	Fishermen	Trappers	Loggermen	Labourers	Other occupations		
										p.c.
Farmers and unpaid farm labourers	63	34	-	-	9	1	18	1	44	−30
Farm labourers wage-earners	17	1[1]	5	-	-	-	9	2	-	-
100 Fishermen	144	133	1	-	-	1	9	-	156	− 8
110 Trappers	56	37	2	8	-	1	8	-	46	−18
150 Loggers	36	15	1	10	-	-	9	1	20	−46
532 Longshoremen	12	10	-	-	-	-	2	-	-	-
900 Labourers	1	1	-	-	-	-	-	-	61	-
Other occupations	17	3	1	5	-	2	6	-	14	-
Total	346	234	10	23	9	5	61	4	-	-

[1] On Active Service.

TABLE A. XXI.—OCCUPATIONAL DIFFERENCES, RESERVE INDIANS, BRITISH COLUMBIA

Census	(a) Number of differences	(b) Birth transcript as census 1931	(c) Both censuses same	(d) All different
000 Farmer and unpaid farm labourer	29	-	26	3
090 Farm labourer wage-earner	16	2	8	6
100 Fisherman	11	-	3	8
110 Trapper	19	2	11	6
150 Logger	21	2	10	9
180 Miner	1	-	-	1
320 Stationary engineer	2	2	-	-
396 Carver	1	-	-	1
509 Captain on ship	1	-	1	-
532 Longshoreman	2	-	1	1
550 Sectionman	5	2	1	2
562 Watchman railway transportation	1	1	-	-
563 Teamster	1	-	-	1
9 Retired	1	-	-	1
x None	1	-	1	-
Total	112	11	62	39

The difficulties attendant on the coding of farmers, farm labourers, and labourers are exaggerated among Reserve Indians. The census category of unpaid farm labourers was equally distributed between farmers and labourers on the birth transcripts, so that it would be immaterial to the end result whether they are grouped with farmers or other farm labourers. The space on the birth transcript for "business in which employed" occasionally results in other occupations being attributed to the category of farm labourers. The query was seldom answered on the Indian birth transcripts and hence the category of "labourers" is still more unduly inflated than usual. The higher proportion of apparent coding errors is again due to the fact that Reserve Indians mostly follow the more difficult occupations from the coding point of view. The outstanding difference in occupational description between Reserve Indians and the rest of the population is that, while there is no great difference in the numbers of farmers in the non-Indian population, the birth transcript population of Reserve Indian farmers is far less than the census population. Greater laxity in description is to be expected in accordance with the results of previous sections, but probably contributory is the fact that proportionally more Indians are engaged in subsistence farming combined with some wage-labour, permitting alternative and equally valid occupational descriptions.

While detailed recommendations for achieving greater comparability of occupational descriptions do not seem called for, two quite general comments can be made on the nature of the more outstanding difficulties. In the first place, to distinguish between farmers, farm labourers, and unpaid family workers, information on status is required on the vital statistics transcripts. Otherwise large numbers of workers on farms who are not farmers in the census sense will be recorded as such in vital statistics data. In the second place, the greatest source of error is the existence of a vital statistics rag-bag of labourers in no specified industry. Into such a collection will inevitably drift numbers who, due to the existence of an industry entry in the census, are allocated to fishing, logging, etc. In fact the proper allocation of labourers in vital statistics data would remove most of the major difficulties, since it would then, even in the absence of status information, be possible to group together farmers and farm labourers and obtain a meaningful category of workers on farms from both census and vital statistics data.

3. Discussion

The investigation has led to a preliminary estimate of 3 p.c. to 4 p.c. under-registration in the period immediately preceding the 1941 Census. Before making a final estimate, it was hoped to obtain the co-operation of the provinces in searching for untraced births and to collate all the evidence with census populations by single years of age.

At the present time, the preparation of Life Tables requires an estimate of under-registration. While neither of the two lines of investigation referred to above has been completed, some more evidence is at hand to permit a revised estimate.

Resulting from correspondence between the Vital Statistics Branch and the provinces, some progress was made in checking untraced births. Among the districts forming part of the Bureau survey, replies were received from Quebec and British Columbia. Of the 11 untraced births in Kamouraska, 10 were found to be registered. Among the migrants, one untraced birth was said to have been born in Quebec. Thus, even if we include the second dubious case, the percentage of unregistered births in Kamouraska County was less than 0·5 p.c. It seems probable that birth-registration in rural French Quebec can be regarded as differing from 100 p.c. completeness by a negligible amount.

In British Columbia, a preliminary search in Division 6 resulted in finding a third of the 30 untraced births. This reduces the percentage untraced in this district from 7·2 p.c. to 5·1 p.c.

Births of children said to be born outside the province of residence at the time of the Census were not searched for in the Bureau. Lists were prepared and the co-operation of the province sought for in tracing the births. Searches for these births were carried out by the following provinces:—Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba and Alberta. In all, 60 names were searched for and 56 found. This gives 10 p.c. unregistered. However, four of the untraced were the four said to have been born in New Brunswick. This suggests the possibility of some systematic error. Three of these cases were resident in Prince Edward Island, and there might have been some systematic mis-statements of province of birth. Or, alternatively, some special difficulty in tracing births might have arisen in New Brunswick. The

number of cases involved is too small to permit any definite conclusion, but it is perhaps safe to say that in view of the difficulty of ascertaining the actual province of registration, it does not appear that migrants were less well registered than the remainder of the population. We should perhaps add that Alberta adduces the fact that all migrants born in that province were traced in support of its claim that registration there is 100 p.c. complete.

The first estimate of 3 p.c. to 4 p.c. incompleteness of registration allowed for the fact that further search in local offices would reduce the percentage of untraced births. It also took into account the possibility that some infants may be missed both in the census and in birth registration. Finally, we have to include Indians with a very large number of unregistered births, and sufficiently numerous to affect the figures in British Columbia. Taking the new evidence into consideration we might attribute to the provinces the following percentage of under-registration,—Quebec and Alberta, 1 p.c., the Maritimes, 4 p.c., Ontario, Manitoba and Saskatchewan, 3 p.c., British Columbia, 5 p.c. This would give a percentage for the whole country of about 2·4 p.c. Taking into consideration infants not enumerated and not registered, we should arrive at a figure of about 3 p.c.

Finally, we can consider evidence from the census. Figures by single years are not yet available, but a detailed study has been made of migration figures by five-year age groups for the provinces. A study of these figures pointed to a much lower percentage of under-registration than had been previously suggested, possibly as low as 2 p.c. Collating this evidence with that of the survey, an estimate of 2·5 p.c. under-registration for the period 1936-1941 was reached.

In conclusion, it seems that the most probable figure of under-registration for the census period is 3 p.c. It has been the practice in constructing Life Tables to use a conservative figure in order to be sure of not over-estimating the births, while at the same time improving on the crude figures. It is suggested that an allowance of 2 p.c. for under-registration be made in all Bureau computations.

The following adjustments of registered births have been agreed upon.

1. An addition of 2 p.c. for the whole of Canada, period 1940-42.

2. The evidence appears strong enough to permit of a lower figure for Quebec but we do not feel able to distinguish between the other provinces, in view of the fact that the proposed adjustments are minimum figures and not the most probable estimate. We, therefore, propose an addition of 1 p.c. for Quebec in the census period, and an addition for the rest of Canada sufficient to make the addition for all Canada 2 p.c.

3. In 1931 a correction of 5 p.c. for unregistered births was used in the construction of Life Tables. At that time there did not seem to be sufficient evidence to enable distinctions to be drawn between the provinces. However, the results of the 1941 survey have some bearing on the earlier period and suggest that the difference between Quebec and the rest of Canada should be continued backwards. If no distinction is made in 1931, the result will be a probably fictitious decline of 4 p.c. in the gross reproduction rate of Quebec super-added to the actual decline. If a difference is made in fertility rate and not in mortality rates, an error arises but this is probably small in comparison with the exaggeration of the fall in fertility arising from making no distinction in 1931. The compromise solution which seems to minimize all errors is to make a 5 p.c. adjustment for Canada and 3 p.c. for Quebec in the period 1930-32.

4. Accuracy of Census Fertility Data

Women included in the fertility tabulations.—Census fertility tables include all women who have ever been married. Single women with own children living with them were excluded. Census enumerators did not, however, require the production of marriage certificates, so that some women who had not in fact been legally married may have described themselves as married, widowed, separated, or divorced. The main census tabulations of family size do not distinguish between the different categories of women who have been married.

In the analysis of Chapter I those women have been excluded from whom information about either age of marriage or number of children born was lacking. Information was complete for 98·9 p.c. of the total census population of women who had been married. The percentage of women omitted from the tabulation varied slightly from province to province but the differences were not great enough to introduce any serious error. The most important difference

between percentages of women giving incomplete information is between age groups. Such cases are much more common among older women. It is not known whether the omitted cases differ significantly in size of family or age at marriage from the included. Any bias due to omitted women would not affect comparisons of the same age group in different localities and could affect only negligibly comparisons of different age groups.

Data on number of children born and now living.—The wording of the question on number of children born and the instructions to enumerators were designed to include children of all previous marriages, not only the current one, and to exclude stillbirths, adopted or step-children. Although illegitimate children are not specifically referred to, a strictly accurate answer would include all illegitimate children of a mother who later married before the census date. There were many possibilities of error. Determination of what constitutes a stillbirth is a matter on which there is no world-wide unanimity and it is easy to include or exclude in error stillborn children or children dying soon after birth. In spite of specific instructions, there were undoubtedly a few cases in which adopted or stepchildren were returned as "own" children. The omission of children of previous marriages was impossible to detect but may have occurred. In the foregoing pages an attempt was made to estimate the expected error in the census replies by comparing information given in the census with information relating to the same mother given on the occasion of birth registration. It is not known whether one of these sets of data is consistently more or less accurate than the other, but a study of the discrepancies gives some idea of the order of magnitude of possible inaccuracy. In both the census and vital statistics, random balancing errors occurred. In addition, the census data appeared to be in error both by the inclusion of stillborn children and by the omission of dead children. If the vital statistics data were assumed to be completely accurate, these two sources of error in the census balanced each other. An alternative assumption, that all differences between the two sets were due to omitted children, would lead to an outside limit for the expected error which would almost certainly be too high. On this assumption, the number of children ever-born recorded at the census might only be deficient by about one per cent. On the other hand, the sample study referred to was concerned only with women still bearing children. Probably omissions of children among older women would be more common.

Duration of marriage.—Information about duration of marriage was elicited in the form of age at first marriage. Duration of marriage is interpreted as the period elapsing between the date of first marriage and the date of the census. No account is taken of the interruption of marriages by separation, divorce, or widowhood. The wording of the question is unambiguous and only the usual type of errors associated with statements of age might be expected. But the tabulated data disclosed some improbable combinations of number of children born and duration of marriage. Few of these could be ruled out as impossible. Legitimization of several children late in life is a possible explanation but, necessarily an infrequent one, since over 70 p.c. of all illegitimate children are first-born. A rigid biological limit cannot be set either to the rate at which children are produced or to the age at which a birth can occur. All the more improbable cases were re-examined in the light of the other information contained on the census schedule. Among the younger women, stepchildren were sometimes recorded as "own" children. Among older women, who yielded the greater number of apparently improbable cases, a major source of error seemed to be substitution of duration of marriage for age at first marriage. After examination of the schedules, 726 cases, 0·03 p.c. of the total, were revised. Comparison of the revised census data with vital statistics suggests that there are still some errors among the older women said to have been married at late ages. In particular, the few cases of high orders of birth to women marrying late must be regarded as doubtful. The part played in total reproduction by women marrying after 40 is very small, so that errors, which may seriously distort the picture of a single marriage-age group are a negligible part of the whole. Some minor discrepancies between census tables, on the one hand, and bulletin and monograph tables, on the other hand, are due to the revisions described and consequent adjustments. One further point about age at marriage remains to be noted. Although direct evidence is lacking, data from other countries suggest that in those families where the oldest child is still at home, there may be some antedating of the age at marriage by a few months to include the first conception.

Relation of fertility recorded in the tables to total fertility.—In different periods, about 96 to 97 p.c. of all Canadian births have been legitimate. In addition to births registered as legitimate, the census tables record an unknown proportion of illegitimate children who later came to form part of a legitimate family, or whose mothers recorded themselves as married at the census. There may also be included in error a few adopted or stepchildren. In the Census of 1931, 97 p.c. of all children under seven years were living either with both parents or with the mother alone. Some children living with their mothers would be excluded from the census fertility tables if the mother was recorded as single. On the other hand, the three per cent of children not living with their mothers includes not only illegitimate children but the probably larger class of children whose mothers have died. It seems safe to conclude that for living women the census tables record at least 98 p.c. of the total fertility. They give no information about the families of women who have died before the census period.

APPENDIX B

BIOLOGICAL SIGNIFICANCE OF RACIAL CLASSIFICATIONS

We have seen that the probability of kinship indicated by the "racial origin" classification may imply either biological or cultural similarity. Both aspects have been stressed in previous discussions of the subject and no hard and fast line can be drawn between the two. Stature is an example. It is known to be in part genetically determined, but Canadian-born children on the average receive as part of their social heritage an extra allowance of height, irrespective of their genotype. In spite of the facility with which popular discussion uses terms such as "blood", "race" and "stock", the issues raised are some of the most difficult ones in natural science. In Linnaean systematics, a species was distinguished from other species by a number of physical characteristics and maintained as a true breeding unit by a barrier of sterility. Within the species, inter-fertile varieties or races could be distinguished which owed their existence to the effects of geographical isolation. Taxonomists believed that such a species classification not only provided a ready means of identification, but also gave a clue to evolutionary relationship. For the main line of evolutionary descent, substantiated by fossil records, the principle of genetic unity still holds, but the discovery of parallel mutations has demonstrated that physical resemblance is not necessarily a clue to common ancestry. For example, it is possible that the recessive gene producing albinism may have appeared several times, so that existing albinos can be totally unrelated.* Haldane has demonstrated a relatively high mutation rate for the gene responsible for haemophilia.**

Since all human beings later than Homo Neanderthalensis form a single Linnaean species, the classifications of the physical anthropologist have attempted to identify races or varieties within the species. The approach of the anthropologists was pre-Mendelian in that "they treated as units the complexes of characteristics of individuals, races, and species; and attempted to find rules governing the inheritance of such complexes. Mendel was the first to understand that it was inheritance of separate traits, and not of complexes of traits, which had to be studied".†,‡

It is easy to find true-breeding types with respect to a single physical characteristic and some of these have a fairly well defined geographical distribution. But the distributions of no two characters coincide. Knowledge of both the hereditary mechanism involved and of geographical distribution is fairly complete concerning the blood-groups. An account of the mode of inheritance is given by Hogben.§ The four blood-groups of the Jansky classification are produced by a triple allelomorph system in which two dominant gene mutations are responsible for the A and B agglutinogens. Group 0 is thus the double recessive and two parents belonging to the group can produce only group 0 children. The geographical distribution has been mapped by Alison Davis.†† For each gene a centre of maximum frequency can be found from which the distribution shades off in an east-west direction. The greatest uniformity is found among the North American Indians, including Eskimos, who were found by Snyder to be 91 p.c. group 0. Mongols, on the other hand, who are believed by some to be nearly related to the North American Indian, show a high concentration of B. There appears to be complete discontinuity across the Behring Straits. The A type is on the whole most abundant among the Nordics, and equally so among Australian aboriginals.

* L. Hogben, "Nature and Nurture". London, 1933.

** Bell and Haldane, Proc. Roy. Soc. B. 123.

† T. Dolzhansky, "Genetics and the origin of species". New York, 1937. Quoted by Ashley Montagu "The Genetical Theory of Race and Anthropological Method". American Anthropologist. Vol. 44, no. 3.

‡ Recent statistical methods such as Mahalanobis' generalized distance and the discriminant function have refined the treatment of taxonomic problems, but the approach is fundamentally unaltered. In any event they are inapplicable to questions of census terminology, where an assemblage of quantitative characteristics is seldom, if ever, contemplated.

§ L. Hogben, "Genetic Principles in Medicine and Social Science". London, 1931.

†† Alison Davis, "The distribution of the blood-groups and its bearing on the concept of race". "Political Arithmetic". ed. L. Hogben. London, 1938.

Since, as far as we know, there is no advantage in belonging to one blood-group rather than another, no selection appears to have taken place. The distribution of blood-group genotypes demonstrates the effects of migration, inter-crossing and repeated mutation. Other physical characters such as skin colour, and hair-form appear to have been subject to selection and consequently have a more well-defined geographical distribution. In no case, however, do the maps of any one characteristic coincide even in broad outline with that of any other, or with the blood-group map.

Unlike the blood-group mechanism, the genetics of skin colour, hair-form and other favourite criteria of the anthropologist have hitherto proved too complex for analysis. Hence the mode of hereditary transmission can be discussed only in the most general terms. The universality of application of Mendelian laws enables us to exclude some expressions in popular use as inadmissable in scientific discussion. The terms "mixed blood," "half blood", "half breed", etc., embody two known errors. The first error is that the blood is a carrier of hereditary characteristics. The second error is the conception of a cross as a simple blending of characters comparable to the mixing of a pound of sugar and a pound of sand. If either black or white skin colour behaved as a simple Mendelian dominant, offspring of black-white colour crosses would consist of one-quarter pure white, one-quarter pure black, and one-half heterozygous for the black-white colour gene. Obviously the mechanism is not so simple and probably several genes are involved. Hence we cannot predict the results of such a cross nor the frequency with which the pure type will reappear. There are only two correct ways of describing offspring of colour crosses. The physical appearance of the individual concerned can be described without reference to ancestry. Alternatively, the facts of ancestry can be recorded as a matter of history without any implication that they yield information about the appearance or genetic constitution of the offspring.

In Canada, primary anthropological distinctions separate one group of some numerical importance, the Indian. The greater number of the remaining distinctions concern subdivisions of the Caucasian "race". Since the biological basis of the major so-called races is obscure, it is not surprising to find the European peoples thoroughly mixed. The European scene has been described by Morant.* In view of the importance attached to the linguistic criterion, it is significant to note that the maps given by Morant of cephalic index, stature and blood-groups cut right across linguistic divisions. The blood-groups show a fairly regular east-west sequence. The eastern frontier of Germany forms a dividing line on either side of which the blood-group distribution is different. Within Germany itself, however, there is great diversity with a common language.

The position as regards linguistic criteria in Central Europe is summed up by Morant in the following words: "A very definite answer can thus be given to the question whether the classification of the peoples of Central Europe provided by languages and that derived from physical characters are similar or not. The evidence of the two kinds leads in fact to entirely different conclusions: where these relate to matters of detail there is found to be agreement in one particular, say, and clear disagreement in nine. Leaving the German groups out of account for the moment, all the others of the region are closely related, judging from the evidence of blood-groups and cranial type, and the closest resemblances are found between groups occupying adjoining territories. These criteria make no frontiers whatever. The languages indicate marked distinctions and discontinuity, whereas the physical characters show no corresponding hiatuses, but gradual transitions and continuity throughout the region. It is quite impossible to reconcile two systems which differ to such an extent: if either is accepted as providing reliable indication of the blood relationships of the populations then the other cannot be supposed of any value for that purpose."

* Morant, "The Races of Central Europe". London, 1939.

APPENDIX C

SUMMARIZING MEASURES OF NUMBER OF CHILDREN EVER-BORN

There are several possible summarizing measures of frequency distributions of size of family. The two measures most commonly used are the arithmetic mean and the median. The latter of these has become very popular and is sometimes believed to be specially appropriate for family size data. Close examination of the Canadian material suggests, however, that of the two the arithmetic mean is preferable. Apart from ease of computation, the median has two principal advantages. It is not affected by outlying extreme values and it can be used with terminal open-end classes. In the Canadian material we have a terminal open-end class of 22 children and over. The number of families in this class is so small that the error involved in estimating the numbers with 22, 23, 24 or more children cannot be great. Yet the existence of this element of uncertainty is an argument in favour of the median. The property of being unaffected by extreme values has its principal usefulness in the field of income distribution, where a few extremely high values can result in a mean not truly representative of the population as a whole. In family size distributions we do not have such extremes. We would approach most closely to the income situation, if, in a population all with very small families, a few immigrants of a more fertile type arrived with families of 12 to 20 children. Such a situation would seldom occur. Going beyond the rather precisely defined situation in which the median is most useful, it is becoming increasingly favoured for all types of skewed distributions. This prompts us to examine more closely the character of the distributions found in the Canadian material.

For the purpose of this study, the material available consisted of the numbers of families of different sizes in all the census subdivisions of several counties in Nova Scotia, Quebec, Ontario, and Manitoba. These counties had been selected to show the effect of proximity to cities. Hence the purely rural types of locality were under-represented. In addition, two census divisions of Alberta had been selected on account of their variety of foreign language groups. In spite of the purposive selection, the material appeared adequate for its purpose, i.e., to study a small number of diverse types of distribution covering wide varieties in fertility.

Table C. I summarizes the characteristics of 12 distributions studied.

The standard error of the median is given approximately by the formula:

$$\sqrt{Mi} = \frac{1}{2} \cdot \frac{\sqrt{n}}{fMi}$$

The measure of skewness used was: $SK = \frac{3\ (\text{Mean-Median})}{\text{Standard Deviation}}$

The distributions are graphed in Figs. C. 1-5.

Six of the distributions show various degrees of left-handed skewness, from moderate to extreme. Four of the distributions can be described as slightly skew to the right or left, or approximately symmetrical; while two show marked skewness to the right. No distributions could be found with a degree of right-handed skewness comparable to that on the left. In the range of fertility covered, the localities with the smallest size of family are all skewed to the left, most of them markedly so; while all types of skewness occur in the more fertile districts.

Since the distributions shown were selected for variation in type, it is important to know their relative frequencies in the total population of census subdivisions. Owing to the enormous labour involved, a complete and accurate survey of all the material could not be carried out. In order to form a rough estimate, 290 census subdivisions in the provinces of Quebec, Ontario, Manitoba and Alberta were classified according to type. The type was determined by inspection of the distance between the mean and median in relation to the absolute size of the mean. Low fertility districts were probably over-represented. Table C. II gives the percentage frequencies in each category. It shows that while the great majority of distributions studied were skewed to the left, the minority which are either approximately symmetrical in form or skewed to the right is not negligible.

TABLE C. I.—CHARACTERISTICS OF TWELVE DISTRIBUTIONS OF FAMILY SIZE

District	Census Division	Number of married women	Mean number of children	Standard error of mean	Median number of children born	Approximate standard error of median	Skewness
St-Henri-de-Lauzon	Lévis..... Que.	138	7·4	±0·40	8·0	±0·98	−0·40
Wickham	Drummond.. "	139	6·9	±0·43	5·9	±0·59	+0·59
Unorganized parts	Quebec..... "	33	6·1	±0·72	5·8	±0·47	+0·21
Notre-Dame des-Laurentides	Quebec..... "	333	6·0	±0·29	4·5	±0·38	+0·88
Lefebvre	Drummond.. "	86	5·7	±0·46	6·1	±0·58	−0·28
Indian Reserves	Division 12.. Man.	44	3·9	±0·46	3·6	±0·83	+0·29
Indian Reserves	York..... Ont.	26	3·6	±0·46	4·0	±0·51	−0·42
Holland Landing	York..... "	89	3·4	±0·35	2·5	±0·23	+0·82
Val-Saint-Michel	Quebec..... Que.	85	2·2	±0·33	1·1	±0·27	+1·07
St. James (part)	Division 9...Man.	102	2·0	±0·17	1·9	±0·15	+0·18
Leaside	York..... Ont.	1,942	1·5	±0·04	1·3	±0·04	+0·45
Toronto, Ward 2 (part)	York..... "	2,735	1·5	±0·04	0·9	±0·04	+0·91

TABLE C. II.—TYPES OF FAMILY SIZE DISTRIBUTION IN SELECTED DISTRICTS

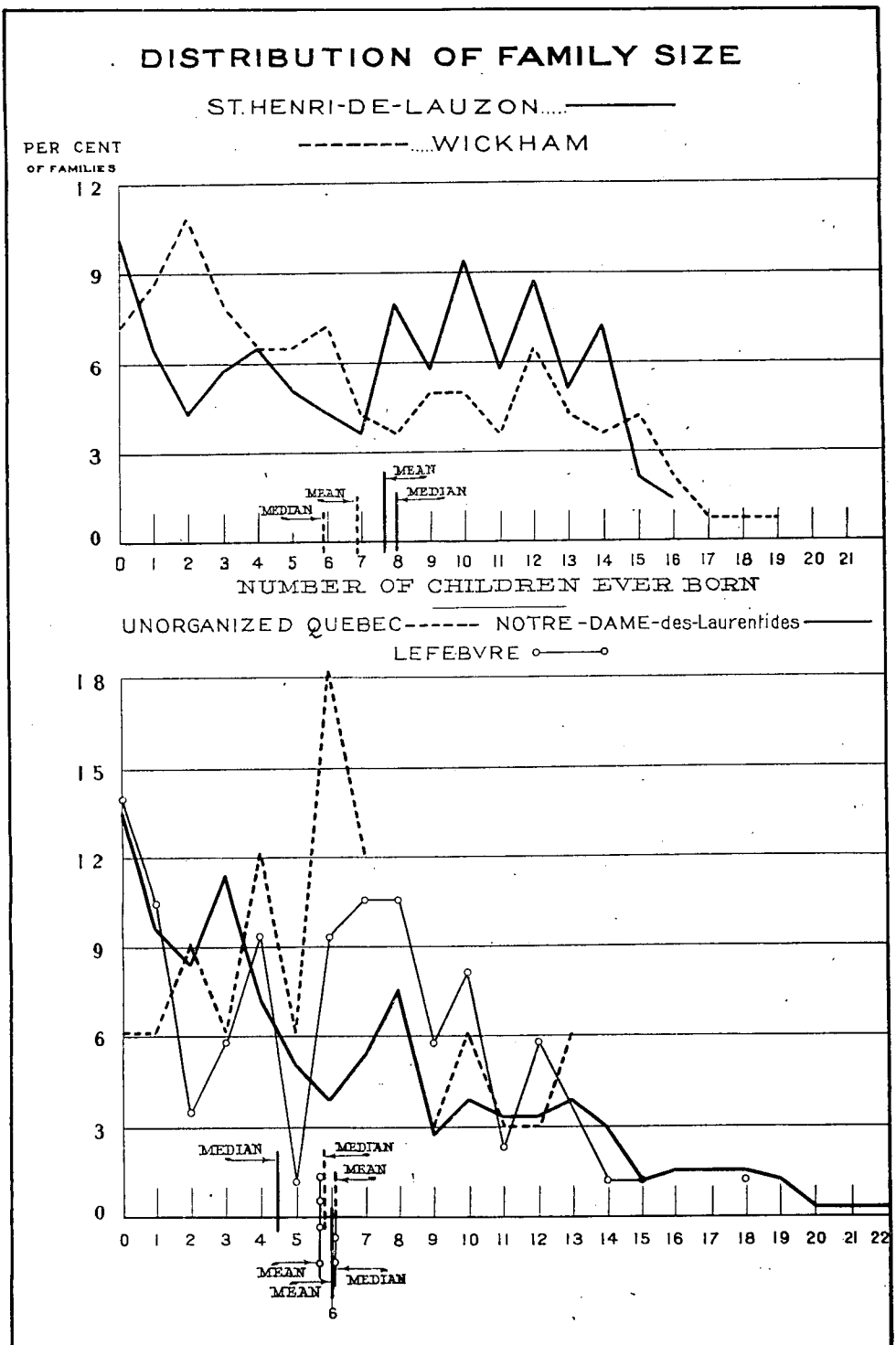
PERCENTAGE FREQUENCY, 290 CENSUS SUBDIVISIONS

Mean number of children ever-born	Extreme left-skewed	Left-skewed	Approximately symmetrical	Right-skewed	Total
	p.c.	p.c.	p.c.	p.c.	p.c.
1·0 – 1·9	2·8	4·8	0·3	–	7·9
2·0 – 2·9	2·1	19·0	0·3	–	21·4
3·0 – 3·9	4·8	14·2	1·4	0·3	20·7
4·0 – 4·9	2·8	18·0	0·3	–	21·1
5·0 – 5·9	0·3	15·9	4·2	–	20·4
6·0 – 6·9	–	3·8	3·8	–	7·6
7·0 – 7·9	–	0·3	0·3	0·3	0·9
	12·8	76·0	10·6	0·6	100·0

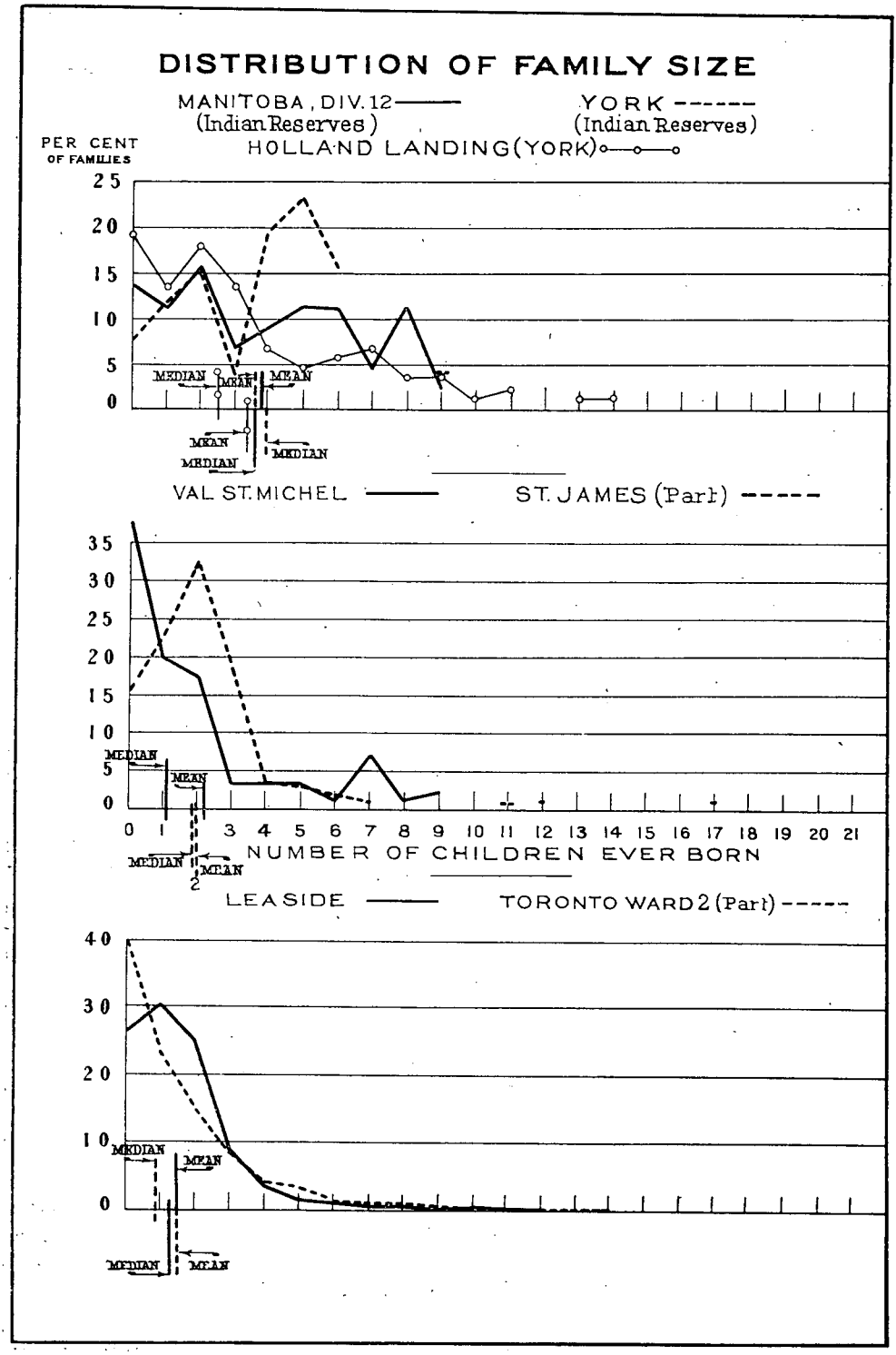
In deciding on the relative advantages of the median and mean as summarizing measures, two criteria will be considered. The first of these is the relative stability of the two measures. The treatment is approximate only. In four cases out of the twelve of Table C.I, the median appears more stable than the mean, while in two cases, there is no difference between the two. The median is evidently more stable for the extremely left-skewed distributions, and for all the very low fertility districts, either mean or median are equally suitable. For about half the material, showing neither extreme skewness nor very low fertility, the median appears to be more stable only in those comparatively infrequent cases where a pronounced peak occurs in the region of the median.

A second criterion which we can apply is an attempt to decide how far a summarizing measure can give a correct picture of the relative fertility status of different communities. When we compare two communities with varying proportions of women married at different ages, the most valid comparison is probably obtained by standardizing the proportions of married women by age. For seven of the twelve distributions, the number of mothers in each group having different numbers of children ever-born was obtained from the census schedules, so that a direct method of standardization was possible. Val-Saint-Michel and Manitoba Indian Reserve had the largest proportion of young married women; St. James and York Indian Reserve, the smallest. Holland Landing was intermediate in its age distribution between the younger and older localities, so was chosen as the standard population. Table C. III compares the order of the standardized number of children ever-born with the order given by the mean and the median respectively. The mean and the standardized number must necessarily resemble each other more than either do the median, since both are more affected by the few large families. Hence the order is the same for both. It seems that the median exaggerates apparent differences in fertility arising out of differing age distributions. It reduces the apparent fertility of the younger communities

Figures C. 1 and C. 2.



Figures C. 3, C. 4 and C. 5.



and increases that of the older. In general, the effect of this trend will be to diminish the true difference between the more fertile and the less fertile districts. In a stable population, the former will usually have the higher proportion of young married women. On the other hand, those highly fertile districts with symmetrical or right-skewed distributions will have their fertility understated.

TABLE C. III.—STANDARDIZED NUMBER OF CHILDREN EVER-BORN IN SEVEN DISTRICTS

Census subdivision	Standardized children per married woman	Children per married woman 45 and over	Order of means	Order of medians
1. Wickham	7·0	10·3	1	2
2. Lefebvre	5·0	7·1	2	1
3. Manitoba, Division 12, Indian Reserve	4·5	5·1	3	4
4. York, Indian Reserve	3·6	4·2	4	3
5. Holland Landing	3·4	4·1	5	5
6. Val-Saint-Michel	3·2	5·4	6	7
7. St. James	2·0	2·8	7	6

The position is clarified if the reversions of order in Table C. III are considered in more detail. The populations are so small that the phenomena described may well have occurred by chance, but at present we are concerned with describing accurately the facts as they are, irrespective of how they occurred. The principal changes, when the median is used, are that Lefebvre and York Indian Reserve show higher fertility and Val-Saint-Michel appears lower. The first two of these are similar. Both are right-skewed distributions. The very large families usually found at this level of fertility are reduced in number and in their place, we have a bunching of families at the 6-8 children level in Lefebvre and 4-6 children in York Indian Reserve. However it occurred, it would seem that this truncation of the very large family represents a loss in reproductive capacity. Val-Saint-Michel is different and exceptionally interesting. It is characterized by a relatively high proportion of young married women with one child or none. Their fertility is far lower than would be expected from the number of children born to women of 45 and over. Many of these younger women are native to the municipality and the facts suggest a very rapid decline in fertility. The median may show more clearly the future fertility trend of Val-Saint-Michel, but, as a description of the present state of affairs, it understates the importance of the large families of older women. For the purposes of the fertility monograph, the median offered no saving in computation time. Hence in view of the foregoing argument, the mean has been used throughout, except where clearly inappropriate.

APPENDIX D

ANALYSIS OF VARIANCE TABLES

TABLE D. I.—ANALYSIS OF VARIANCE—EUROPEAN MOTHER-TONGUE ACCORDING TO BIRTHPLACE

(DATA OF TABLE XXIX)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance
(a) *Factors*			
1. Education	34·4537	2	17·2268
2. Urbanization	16·0661	1	16·0661
3. Religion	4·0194	1	4·0194
4. Born farm	3·7576	1	3·7576
5. Birthplace	·9436	1	·9436
(b) *Interactions between two factors*			
1. Urbanization—Born farm	1·5230	1	1·5230
2. Religion—Birthplace	·7626	1	·7626
3. —10	–	12	–
(c) *Residual interactions*	8·5276	27	·3158
(d) *Estimate of within-class error*	–	37,438	1·4036

F s (within-class error)

$$F = \frac{(a)\ 1.}{(d)} = 12{\cdot}273 > 6{\cdot}91 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 2.}{(d)} = 11{\cdot}446 > 10{\cdot}83 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 3.}{(d)} = 2{\cdot}864 < 3{\cdot}84 \tilde{=} P = {\cdot}05$$

TABLE D. II.—ANALYSIS OF VARIANCE—RELIGION, URBANIZATION, EDUCATION, MOTHER-TONGUE, FARM BIRTHPLACE

(DATA OF TABLE XXXI)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance
(a) *Factors*			
1. Religion	29·4784	1	29·4784
2. Urbanization	26·2691	1	26·2691
3. Education	47·5003	2	23·7502
4. Mother-tongue	23·2050	2	11·6025
5. Farm birthplace	6·5945	1	6·5945
(b) *Interactions between two factors*			
1. Religion—Mother-tongue	12·4101	2	6·2050
2. Urbanization—Farm birthplace	1·3696	1	1·3696
3. Religion—Urbanization	·7792	1	·7792
4. Education—Urbanization	·7506	2	·3753
5. Mother-tongue—Education	1·4456	4	·3614
6. —10	–	9	–
(c) *Residual interactions*	6·4912	45	·1442
(d) *Estimate of within-class error*	–	251,957	·2125

$$F = \frac{(a)\ 1.}{(d)} = 138{\cdot}722 > 10{\cdot}83 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 2.}{(d)} = 123{\cdot}619 > 10{\cdot}83 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 3.}{(d)} = 111{\cdot}766 > 6{\cdot}91 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 4.}{(d)} = 54{\cdot}600 > 6{\cdot}91 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 5.}{(d)} = 31{\cdot}033 > 10{\cdot}83 \tilde{=} P = {\cdot}001$$

$$F = \frac{(b)\ 1.}{(d)} = 29{\cdot}200 > 6{\cdot}91 \tilde{=} P = {\cdot}001$$

$$F = \frac{(b)\ 2.}{(d)} = 6{\cdot}445 > 3{\cdot}84 \tilde{=} P = {\cdot}05$$

$$F = \frac{(b)\ 3.}{(d)} = 3{\cdot}667 < 3{\cdot}84 \tilde{=} P = {\cdot}05$$

TABLE D. III.—ANALYSIS OF VARIANCE—REGIONAL DIFFERENCES IN FERTILITY (i)

(DATA OF TABLE XXXII)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance
(a) *Factors*			
1. Rural born farm vs. city, born non-farm	50·858	1	50·858
2. Culture groups	60·290	2	30·145
3. Education	12·659	1	12·659
4. Regions	16·430	4	4·107
(b) *Interactions between two factors*			
1. Urbanization—Culture groups	4·963	2	2·482
2. Regions—Culture groups	8·750	8	1·094
3. Regions—Urbanization	1·870	4	·467
4. Regions—Education	1·103	4	·276
5. Culture groups—Education	·368	2	·184
6. Education—Urbanization	·096	1	·096
(c) *Residual interactions*	3·036	30	·101
(d) *Estimate of within-class error*	-	159,505	·087

$F = \frac{(a)\ 1.}{(d)} = 583{\cdot}698 > 10{\cdot}83 \tilde{=} P = {\cdot}001$

$F = \frac{(a)\ 2.}{(d)} = 345{\cdot}977 > 6{\cdot}91 \tilde{=} P = {\cdot}001$

$F = \frac{(a)\ 3.}{(d)} = 145{\cdot}291 > 4{\cdot}62 \tilde{=} P = {\cdot}001$

$F = \frac{(a)\ 4.}{(d)} = 47{\cdot}141 > 10{\cdot}83 \tilde{=} P = {\cdot}001$

$F = \frac{(b)\ 1.}{(d)} = 28{\cdot}480 > 6{\cdot}91 \tilde{=} P = {\cdot}001$

$F = \frac{(b)\ 2.}{(d)} = 12{\cdot}554 > 3{\cdot}27 \tilde{=} P = {\cdot}001$

$F = \frac{(b)\ 3.}{(d)} = 5{\cdot}359 > 4{\cdot}62 \tilde{=} P = {\cdot}001$

$F = \frac{(b)\ 4.}{(d)} = 3{\cdot}164 > 2{\cdot}37 \tilde{=} P = {\cdot}05$

$F = \frac{(b)\ 5.}{(d)} = 2{\cdot}113 < 2{\cdot}99 \tilde{=} P = {\cdot}05$

TABLE D. IV.—ANALYSIS OF VARIANCE—REGIONAL DIFFERENCES IN FERTILITY (ii)

(DATA OF TABLE XXXIII)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance
(a) *Factors*			
1. Education	21·126	2	10·563
2. Urbanization	9·472	1	9·472
3. Regions	6·378	4	1·595
4. Farm birthplace	·739	1	·739
(b) *Interactions between two factors*			
1. Education—Urbanization	·472	2	·236
2. Regions—Education	1·238	8	·155
3. Regions—Urbanization	·424	4	·106
4. Education—Farm birthplace	·147	2	·074
5. Regions—Farm birthplace	·107	4	·027
6. Urbanization—Farm birthplace	·017	1	·017
(c) *Residual interactions*	·900	30	·030

$F = \frac{(a)\ 1.}{(c)} = 352{\cdot}093 > 8{\cdot}77 \tilde{=} P = {\cdot}001$

$F = \frac{(a)\ 2.}{(c)} = 315{\cdot}733 > 13{\cdot}29 \tilde{=} P = {\cdot}001$

$F = \frac{(a)\ 3.}{(c)} = 53{\cdot}153 > 6{\cdot}12 \tilde{=} P = {\cdot}001$

$F = \frac{(a)\ 4.}{(c)} = 24{\cdot}643 > 13{\cdot}29 \tilde{=} P = {\cdot}001$

$F = \frac{(b)\ 1.}{(c)} = 7{\cdot}863 > 5{\cdot}39 \tilde{=} P = {\cdot}01$

$F = \frac{(b)\ 2.}{(c)} = 5{\cdot}167 > 4{\cdot}58 \tilde{=} P = {\cdot}001$

$F = \frac{(b)\ 3.}{(c)} = 3{\cdot}533 > 2{\cdot}69 \tilde{=} P = {\cdot}05$

$F = \frac{(b)\ 4.}{(c)} = 2{\cdot}467 < 3{\cdot}32 \tilde{=} P = {\cdot}05$

TABLE D. V.—ANALYSIS OF VARIANCE—REGIONAL DIFFERENCES IN FERTILITY (iii)

(DATA OF TABLE XXXIV)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance
(a) *Factors*			
1. Religion	5·396	1	5·396
2. Urbanization	4·883	1	4·883
3. Regions	9·212	3	3·071
4. Born farm	2·464	1	2·464
(b) *Interactions between two factors*			
1. Regions—Urbanization	4·615	3	1·538
2. Urbanization—Farm birthplace	1·140	1	1·140
3. Regions—Religion	·923	3	·308
4. Religion—Farm birthplace	·281	1	·281
5. Regions—Farm birthplace	·226	3	·075
6. Religion—Urbanization	·008	1	·008
(c) *Residual interactions*	1·451	13	·112
(d) *Estimate of within-class error*	–	35,288	·091

$$F = \frac{(a)\ 1.}{(d)} = 59{\cdot}292 > 10{\cdot}83 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 2.}{(d)} = 53{\cdot}657 > 10{\cdot}83 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 3.}{(d)} = 33{\cdot}744 > 5{\cdot}42 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 4.}{(d)} = 27{\cdot}079 > 10{\cdot}83 \tilde{=} P = {\cdot}001$$

$$F = \frac{(b)\ 1.}{(d)} = 16{\cdot}904 > 5{\cdot}42 \tilde{=} P = {\cdot}001$$

$$F = \frac{(b)\ 2.}{(d)} = 12{\cdot}527 > 10{\cdot}83 \tilde{=} P = {\cdot}001$$

$$F = \frac{(b)\ 3.}{(d)} = 3{\cdot}379 > 2{\cdot}60 \tilde{=} P = {\cdot}05$$

$$F = \frac{(b)\ 4.}{(d)} = 3{\cdot}090 < 3{\cdot}84 \tilde{=} P = {\cdot}05$$

TABLE D. VI.—ANALYSIS OF VARIANCE—TOTAL FERTILITY OF CANADIAN-BORN—EDUCATION, URBANIZATION, RELIGION, MOTHER-TONGUE

(DATA OF TABLE XXXIX)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance
(a) *Factors*			
1. Urbanization	18·1192	1	18·1192
2. Education	35·3110	2	17·6555
3. Religion	6·6094	1	6·6094
4. Mother-tongue	8·6294	2	4·3147
(b) *Interactions between two factors*			
1. Religion—Mother-tongue	2·4746	2	1·2373
2. Education—Urbanization	2·0667	2	1·0333
3. Education—Mother-tongue	2·1481	4	·5370
4. —6	–	5	–
(c) *Residual interactions*	5·1623	16	·3226

$$F = \frac{(a)\ 1.}{(c)} = 56{\cdot}166 > 16{\cdot}12 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 2.}{(c)} = 54{\cdot}729 > 10{\cdot}97 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 3.}{(c)} = 20{\cdot}474 > 16{\cdot}12 \tilde{=} P = {\cdot}001$$

$$F = \frac{(a)\ 4.}{(c)} = 13{\cdot}375 > 10{\cdot}97 \tilde{=} P = {\cdot}001$$

$$F = \frac{(b)\ 1.}{(c)} = 3{\cdot}835 > 3{\cdot}63 \tilde{=} P = {\cdot}05$$

$$F = \frac{(b)\ 2.}{(c)} = 3{\cdot}203 < 3{\cdot}63 \tilde{=} P = {\cdot}05$$

TABLE D. VII.—ANALYSIS OF VARIANCE—FERTILITY AND SOCIO-ECONOMIC CLASS

(DATA OF TABLE LVII)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance
(a) *Factors*			
1. Province	22·585	3	7·528
2. Metropolitan vs. extra-metropolitan	6·645	1	6·645
3. Socio-economic class	9·191	6	1·532
(b) *Interactions*			
1. Province x Metropolitan	2·364	3	·788
2. Province x Class	·624	18	·035
3. Metropolitan x Class	·193	6	·032
(c) *Triple interaction*	·197	18	·011
(d) *Estimate of within-class error*	–	344	·039

$$F = \frac{(a)\ 1.}{(d)} = 192{\cdot}05 > 5{\cdot}42 \simeq P = {\cdot}001$$

$$F = \frac{(a)\ 2.}{(d)} = 169{\cdot}51 > 10{\cdot}83 \simeq P = {\cdot}001$$

$$F = \frac{(a)\ 3.}{(d)} = 39{\cdot}08 > 3{\cdot}74 \simeq P = {\cdot}001$$

$$F = \frac{(b)\ 1.}{(d)} = 20{\cdot}10 > 5{\cdot}42 \simeq P = {\cdot}001$$

$$F = \frac{(a)\ 1.}{(a)\ 3.} = 4{\cdot}91 > 4{\cdot}76 \simeq P = {\cdot}05$$

$$F = \frac{(a)\ 2.}{(a)\ 3.} = 4{\cdot}34 < 5{\cdot}99 \simeq P = {\cdot}05$$

TABLE D. VIII[1].—ANALYSIS OF VARIANCE—FAMILY SIZE IN RELATION TO ETHNIC GROUP, EDUCATION, EARNINGS, URBANIZATION

(DATA OF TABLE LVIII)

Source of variation	Sum of squares	Degrees of freedom	Mean square variance	F.[2]
(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[3]
5. Education—Urbanization	·2502	2	·1251	1·891[3]
6. Ethnic group—Urbanization	·1712	2	·0856	1·294[3]
(c) *Residual interactions*	2·6081	40	·0652	–
(d) *Estimate of within-class error*	–	232,170	·0661	–

[1] In Tables D. VIII-D. XII, 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.

[2] Ratio of mean square variance to estimated within-class error.

[3] Not significant.

TABLE D. IX.—ANALYSIS OF VARIANCE—REGIONAL DIFFERENCES IN FAMILY SIZE

(Significant sources of variation only)

(DATA OF TABLE LXII)

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 vs. 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 vs. 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 D. X.—ANALYSIS OF VARIANCE—OCCUPATIONAL DIFFERENCES IN FAMILY SIZE

(Significant sources of variation only)

(DATA OF TABLES LXIII AND LXIV)

Source of variation	(a) Labourers omitted, agriculture and other primary combined: Mean square variance	(a) F (Within-class error)	(b) 2 educational groups, 2 income groups only: Mean square variance	(b) F (Residual interactions)
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
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	
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	
Residual interactions	·3157	–	·6461	–
Estimate of within-class error	·7067	–	–	–

TABLE D. XI.—ANALYSIS OF VARIANCE—FAMILY SIZE IN RELATION TO ETHNIC GROUP, EDUCATION, URBANIZATION, VALUE OF HOME OWNED

(DATA OF TABLE LXVI)

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 D. XII.—ANALYSIS OF VARIANCE—FAMILY SIZE IN RELATION TO ETHNIC GROUP, OCCUPATION, URBANIZATION, EDUCATION, VALUE OF HOME OWNED

(DATA OF TABLE LXVIII)

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	doubtfully significant
3. Ethnic group—Value of home owned	5·6377	3	1·8792	doubtfully significant
(c) *Triple and higher order interactions*	52·4526	103	·5092	–
(d) *Estimate of within-class error*	–	24,665	·9983	–

[1] Ratio of mean square variance to estimate of within-class error.

TABLE D. XIII.—ANALYSIS OF COVARIANCE ASSOCIATION BETWEEN CULTURE-TYPE, GROSS FARM REVENUE, AND STANDARDIZED FERTILITY RATE IN 150(1) RURAL PARTS OF COUNTIES

Source of variation	Sum of squares	Degrees of freedom	Mean square variance	Ratio of variances, F
(a) Group differences (not associated with differences in revenue)	540,174	5	108,035	84·903
(b) Group regression of fertility rate on revenue	298,110	1	298,110	234·279
(c) Regression of fertility on revenue within-groups	68,104	1	68,104	53·521
(d) Deviations of group regressions from average within-group regression	59,258	6	9,876	7·762
(e) Individual deviations from within-group regression	173,054	136	1,272	-

$84{\cdot}903 > 4{\cdot}42 \tilde{=} P = {\cdot}001$ $\quad 234{\cdot}279 > 11{\cdot}38 \tilde{=} P = {\cdot}001$

$53{\cdot}521 > 11{\cdot}38 \tilde{=} P = {\cdot}001$ $\quad 7{\cdot}762 > 4{\cdot}04 \tilde{=} P = {\cdot}001$

[1] Rate per 100 women.

TABLE D. XIV.—COEFFICIENTS OF CORRELATION, REGRESSION OF FERTILITY ON INCOME, AND SIGNIFICANCE TESTS RURAL PARTS OF 150 COUNTIES BY CULTURE-TYPE

Source of variation	γ	b	Explained sums of squares	Errors of estimate: Unexplained sums of squares	Errors of estimate: Degrees of freedom	Errors of estimate: Mean square variance (unexplained)	F	Significance
Total	−0·567	−1·389	366,213·160	772,486·800	148	5,219·505	70·162	$>11{\cdot}38 \tilde{=} P = {\cdot}001$
Between groups	−0·813	−3·461	548,774·907	280,878·090	6	46,813·010	11·723	$> 5{\cdot}99 \tilde{=} P = {\cdot}05$
Within-groups	−0·498	−0·730	76,734·679	232,312·320	142	1,636·002	46·904	$>11{\cdot}38 \tilde{=} P = {\cdot}001$
Individual group								
$E\epsilon$	−0·582	−0·606	11,908·869	23,231·131	33	703·974	16·917	$>13{\cdot}29 \tilde{=} P = {\cdot}001$
$E\epsilon\varphi$	−0·372	−0·273	1,178·206	7,360·794	9	817·866	1·441	Not significant
$EX\epsilon\varphi$	−0·225	−0·160	1,382·876	25,846·124	32	807·691	1·712	Not significant
$EX\varphi\epsilon$	−0·507	−0·711	1,990·059	5,746·941	4	1,436·735	1·385	Not significant
$FE\varphi\epsilon$	−0·778	−1·816	8·160·941	5,325·059	7	760·723	10·728	$>5{\cdot}59 \tilde{=} P = {\cdot}05$
$FE\varphi$	−0·875	−1·005	3,679·279	1,129·721	3	376·574	9·770	Not significant
$F\varphi$	−0·698	−1·656	99,061·460	104,414·540	48	2,175·302	45·539	$>12{\cdot}26 \tilde{=} P = {\cdot}001$

APPENDIX E

LISTS

TABLE E. I.—OCCUPATIONS IN SOCIO-ECONOMIC CLASSES

I. *Proprietary, managerial, professional occupations, etc.*

Average standard scores[1] *+ 1·529 and over* — *21 occupations*

- Owners and managers, finance
- Owners and managers, mining
- Owners and managers, manufacturing
- Owners and managers, transport and communication
- Owners and managers, wholesale trade
- Advertising agents
- Credit men
- Architects
- Authors
- Dentists
- Engineers, civil
- Engineers, electrical
- Engineers, mechanical
- Engineers, mining
- Judges
- Lawyers
- Physicians
- Professors
- Aviators
- Despatchers—train
- Stockbrokers

II. *Professional occupations, etc.*

Average standard scores + ·033 to + 1·410 — *22 occupations*

- Chemists
- Clergymen and priests
- Draughtsmen and designers
- Librarians
- Nurses, graduate
- Nurses-in-training
- Osteopaths
- Religious workers
- Social welfare workers
- Teachers
- Veterinary surgeons
- Other professional occupations
- Owners and managers, recreational service
- Owners and managers, retail trade
- Public service officials
- Brokers and agents
- Commercial travellers
- Insurance agents
- Other finance occupations
- Agents—ticket
- Radio announcers
- Accountants

III. *Small owners, clerical occupations, etc.*

Average standard scores + ·430 to + ·886 — *24 occupations*

- Farmers
- Owners and managers, logging
- Owners and managers, construction
- Owners and managers, hotels
- Owners and managers, laundries
- Owners and managers, restaurants
- Auctioneers
- Purchasing agents
- Conductors, steam railway
- Telegraph operators
- Radio station operators
- Locomotive engineers
- Bookkeepers
- Office appliance operators
- Office clerks
- Stenographers and typists
- Artists
- Nuns and brothers
- Undertakers
- Engravers
- Toolmakers
- Inspectors, construction
- Interior decorators
- Real estate agents

IV. *Foremen and inspectors, etc.*

Average standard scores + ·066 to + ·408 — *31 occupations*

- Foremen, manufacturing
- Foremen, mining
- Foremen, transport
- Inspectors, transport
- Inspectors, trade
- Inspectors, metals
- Inspectors, chemicals
- Postmasters
- Policemen
- Firemen
- Actors
- Motion picture projectionists
- Musicians
- Baggagemen
- Brakemen, railway
- Captains
- Engineering officers, ships
- Linemen and service men
- Telephone operators
- Collectors, bills and accounts
- Floorwalkers and foremen, trade
- Sales agents and canvassers
- Electric appliance repairmen
- Paper makers
- Pattern makers
- Photographers
- Power station operators
- Printers
- Rolling mill operators
- Electricians
- Oil well drillers

[1] Mean of average earnings and average educational level, both measured on the same scale.

TABLE E. I.—OCCUPATIONS IN SOCIO-ECONOMIC CLASSES—*Con.*

V. *Skilled and semi-skilled occupations, etc.*

Average standard scores — ·490 to + ·022 — *40 occupations*

Inspectors, wood
Boilermakers
Bookbinders
Dressmakers, and seamstresses
Filers
Fitters
Furnacemen, metal
Heat treaters
Jewellers
Machinists
Mechanics
Milliners
Millwrights
Stationary enginemen
Sheet metal workers
Upholsterers
Welders
Chemical operatives
Metal operatives
Rubber operatives
Printing operatives
Other manufacturing operatives
Bus drivers
Locomotive firemen
Operators, street car
Switchmen
Yardmen, railway
Other transport occupations
Foremen, construction
Plumbers
Salesmen
Other trade occupations
Postmen
Other public service occupations
Barbers
Lodging and house keepers
Nurses, practical
Other personal service occupations
Shipping clerks
Farm foremen

VI. *Semi-skilled and personal service occupations, etc.*

Average standard scores — ·875 to — ·524 — *39 occupations*

Bakers
Blacksmiths
Bleachers
Boiler firemen
Butchers
Cabinet makers
Furriers
Loom fixers
Moulders
Polishers
Tailors
Wood machinists
Food operatives
Liquor operatives
Mineral operatives
Wood operatives
Textile operatives
Millers
Painters
Structural iron workers
Chauffeurs
Firemen, ships
Lock-keepers
Seamen
Truck drivers
Teamsters
Packers
Cleaners and dyers
Elevator tenders
Guards and caretakers
Housekeepers, stewards
Janitors
Porters
Waiters
Ushers
Foremen, logging
Foresters
Miners
Mining labourers

VII. *Construction occupations, etc.*

Average standard scores — 1·018 to — ·930 — *13 occupations*

Carpenters
Masons
Plasterers
Other construction occupations
Other recreational occupations
Boot and shoe repairers
Coopers
Leather operatives
Spinners
Stonecutters
Weavers
Messengers
Newsboys

VIII. *Unskilled and personal service occupations, etc.*

Average standard scores — 1·034 or less — *17 occupations*

Sectionmen
Longshoremen
Deliverymen
Fishermen
Hunters, trappers
Lumbermen
Sawyers, wood
Tobacco operatives
Quarriers
Hawkers and pedlars
Labourers (not in primary occupations)
Farm labourers
Bootblacks
Cooks
Charworkers
Domestic servants
Launderers

TABLE E. II.—LIST OF RELIGIOUS DENOMINATIONS AS DESCRIBED IN THE CENSUS INCLUDED UNDER THE RUBRIC "PROTESTANT" IN THIS MONOGRAPH

Adventists
Anglicans
Apostolic Brethren
Baptists
Brethren
Christadelphian
Christians
Christian Missionary Alliance
Church of Christ
Church of God
Disciples
Doukhobors
Evangelical Association
Friends
Gospel People
Holiness Movement
International Bible Students
Lutherans
Mennonites
Methodist, African
Methodist, Free
Mission
Moravian
Mormons
Non-denominational
Pentecostal
Plymouth Brethren
Presbyterians
Protestants
Reformed Church
Salvation Army
United Brethren
United Church
Unitarians

TABLE E. III.—LINGUISTIC CLASSIFICATION OF MOTHER-TONGUES

I. INDO-EUROPEAN
1. *English*[1]
2. *French*[1]
3. *Teutonic*
Austrian, n.e.s.[2]
Danish
Dutch
Flemish
German
Icelandic
Norwegian
Swedish
Yiddish
4. *Slavonic*
Bohemian
Bulgarian
Polish
Serbo-Croat
Slovak
Russian
Ukrainian
5. *Romance*
Italian
Roumanian
Spanish
6. *Gaelic*
7. *Greek*
8. *Baltic*
Lithuanian

II. FINNO-UGRIAN
1. *Finnish*
2. *Magyar*

III. INDIAN AND ESKIMO

IV. CHINESE AND JAPANESE

V. SYRIAN AND ARABIC

[1] Classified separately on account of their numerical importance in Canada.
[2] N.e.s. = Not elsewhere specified.

APPENDIX F

A NOTE ON FACTOR ANALYSIS

The use of factor analysis in sociology is comparatively new. The technique has been mainly developed by educational psychologists in connection with the measurement of intelligence. For a complete account the reader is referred to standard works such as those of Burt, Thurstone, and Holzinger*. A few words may assist the lay reader to understand what the method sets out to do.

Put as briefly as possible, factor analysis is a way of describing economically the relations between a large number of characteristics or attributes. In the text example, the characteristics studied are fertility rates, percentage English-speaking, etc., of 151 cities and towns. The factor solution is a compact way of describing the resemblances and differences between Canadian towns in these respects. The basis of factor analysis is correlation, i.e., an observation that changes in the value of one variable are associated with changes in the value of another variable. For example, tall people usually weigh more than short people. Several variables can be observed to vary together. If one of these is regarded as a dependent variable, an equation can be found by means of which its value can be predicted from a knowledge of the values of the other variables. If correlation is high, the total difference between the observed and predicted values will usually be a small and known amount. In Chapter V, the fertility of persons engaged in a given occupation is correlated in this way with the educational status and the average earnings of the occupation.

Factor analysis is a different way of looking at the interdependence of a large number of variables. Though the selection of variables may throw into prominence some particular aspect of the social scene, no one variable is singled out for interpretation. The analysis accounts for the greater part of the observed correlations by introducing a much smaller number of new variables, called factors, which are usually independent of each other. The factors are not observed facts, like a score in arithmetic, but mathematical abstractions, introduced in the first instance for economy of description. It is possible that they may come to have more concrete form. In genetics, a mathematical description of the way in which hereditable characteristics are transmitted was arrived at some considerable time before the physical mechanism involved was discovered. To take an illustration from the field of psychology, when a large number of tests are administered to an individual, it is often found that a high score in one test is associated with high scores in all or nearly all the others. The factor associated with the greatest amount of correlation between test scores may be identified with general intelligence. In addition, there may appear to be other factors, identified as special abilities, which account for high scores in a group of tests having some common element, e.g., verbal facility.

When perhaps two or three factors have been identified, the individual tests, or, in our case, the social characteristics studied, are found to be associated to greater or less degree with the factors found. For example, scores in some tests may be determined fairly precisely by the amount of general ability an individual possesses, while scores in others depend on a special ability or are unexplainable by the information at hand. The proportion of the variance of each variable associated with a given factor is called its factor loading. In the text example, the first factor found was most closely associated with the standardized fertility rate. In the language of multiple correlation, this would be expressed by saying that a knowledge of the other eighteen variables summarized in the first factor, would enable us to predict fairly closely the fertility rate for a given community.

* C. Burt, "Factors of the Mind".
L. L. Thurstone, "The Vectors of Mind".
K. J. Holzinger and H. H. Harman, "Factor Analysis".

One difficulty which arises in attempting a popular exposition of factor analysis is that there is no unique factor solution for a given set of correlations. A simple geometrical illustration may make this clear. A set of points in a plane can be exactly located by giving their perpendicular distances from horizontal and perpendicular axes. If the axes are rotated about their point of intersection, a new series of perpendicular distances will describe the location of the same set of points. Since the axes can be rotated through an infinite series of positions, an infinite number of descriptions is possible. Variables can be represented by points. The factors can then be thought of as a system of orthogonal axes*. When one set has been found, others can be obtained by rotation. While the choice of a system is restricted by considerations of economy and meaningfulness, much controversy still goes on over the principles involved. It will suffice to say that in the text example, two preferred types of solution were tried and both yielded essentially similar results.

In the text, reference was made to the use of factor analysis in classifying communities, and it was applied in this way to Canadian towns. It has been proved that, if we wish to classify individuals or communities so that they are as much alike as possible with respect to a given set of characteristics, this can be done by rating them according to an index obtained by applying first-factor loadings to the observed values of the characteristics. Cities and towns have been classified in this way in the text. A similar index can be obtained from the second factor, or succeeding factors. By using a second-factor index, a two-way classification was made. The groups so obtained are as homogeneous as possible with respect to the variables studied. A different set of variables, e.g., one which involved only occupations, industries, and earnings, could result in a somewhat different grouping.

* The point representing the variables is the end point of a vector in n-space, where n is the number of subjects. The co-ordinates of the point referred to the factor axis-system, are the factor loadings.