Published by Authority of the Hon. James A. MacKINNON, M.P.,
Minister of Trade and Commerce

CANADA

DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

BULLETIN NO. F-3

OCCUPATIONAL DIFFERENCES IN FERTILITY

CANADA, 1941

OTTAWA
1945

Price 50 cents

Bulletin F-3

OCCUPATIONAL DIFFERENCES IN FERTILITY

CANADA, 1941

PREFACE

This bulletin continues the investigation of human fertility in Canada, commenced in Bulletin F-1 "Trends in Canadian Family Size", and Bulletin F-2 "Cultural Differences in Family Size". All three are based upon statistics collected at the Decennial Census of 1941, when the following questions were asked of all women who, as 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.

This publication is based on a study of the families of women living with their husbands at the time of the Census. The size of family has been analyzed in relation to occupation of husband, and the relationship between type of work and average size of family has been interpreted in the light of educational level, average earnings and socio-economic status of different occupations. Other aspects of the economic background of family behaviour will be investigated in later bulletins.

This study is the work of Dr. Enid Charles, assisted by Miss P. M. Chapell, Miss L. M. Podham, and Miss P. Whelan. Acknowledgements are due to Dr. O. A. Lemieux, Mr. A. H. LeNeveu and Mr. R. Ziola of the Census Branch and to Mr. Sydney B. Smith of the Business Statistics Branch.

S. A. Cudmore

S. A. Cudmore,
Dominion Statistician.

Dominion Bureau of Statistics,
May, 1945.

CONTENTS

DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

OTTAWA - CANADA

Dominion Statistician: S. A. Cudmore, M.A. (Oxon.), LL.D. (Tor.), F.S.S. F.R.S.C.
Census Research Specialist: E. Charles, M.A., Ph.D.

Population: F-3

OCCUPATIONAL DIFFERENCES IN FERTILITY

CANADA, 1941

PART I. TEXT

1. INTRODUCTION

Differences in size of family associated with different ways of getting 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 bulletin gives fertility rates for one hundred and fifty occupational groups. It forms part of a series of bulletins analyzing various aspects of Canadian fertility. Some of the relationships indicated in the text will be more fully explored in later bulletins.

The data 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 report 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 report does not discuss differences in total reproductive capacity arising from varying proportions married.

Table 1, (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, even in the least fertile groups, the sampling error of the fertility rate exceeds 5 per cent. 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 2 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 text, occupations are grouped in two ways to show fertility variations. In Section 2, 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. In Section 3, occupations are grouped according to socio-economic status. Section 3 (a) describes a new method of socio-economic classification. It is hoped that the approach may prove useful in other fields of study. Section 4 analyses provincial and metropolitan differences in occupational fertility.

2. FERTILITY OF OCCUPATION-TYPE CLASSES

Table 1 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.(x) Trade and Finance occupations were combined. When arranged

(x) 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.

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 I. 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.(x) 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 recent year. 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

(x) Charles, "Differential Fertility in Canada, 1931". Can. Journ. Econ. & Pol. Sci. Vol. 9, No. 2, 1943

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 lost 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 I is also apparent in 1931.

3. FERTILITY OF SOCIO-ECONOMIC CLASSES

(i) 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(x), 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-

---

(x) Edwards. Journ. Amer. Stat. Ass. Vol. 28, 1933.

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.(x) 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 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 report 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 education level as an index is that, as between two occupations with the same income level, that 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 per cent 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. proprietory, 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

---

(x) e.g. Warner & Lunt. "The Social Life of a Modern Community".

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 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 report 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 3, Part II.

(ii) Fertility rates by socio-economic class

Table II 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 II. FERTILITY BY SOCIO-ECONOMIC CLASS

Mean standardized number of children ever-born to married women by socio-economic class of husband

Class	Title(x)	Number of Occupations	Mean Standardized Fertility Rate	Range of Standardized Fertility Rates
I.	Proprietory, managerial and professional occupations	10	2.13	1.81 - 2.47
II.	Professional occupations.	10	2.20	1.83 - 2.70
III.(f)	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 services 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	-

Comparing Tables I and II, 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 II 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.

(iii) 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 report 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

(x) The titles given are not precise descriptions of the socio-economic classes.

(f) Excluding farmers.

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 III. 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 per cent of gainfully occupied males are wage-earners. All correlations shown are highly significant.

TABLE III. CORRELATION COEFFICIENTS

Standardized fertility rates, average earnings, standardized educational level, socio-economic status, 85 occupations.

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.

$r_{FX} = -.528$ $\quad r_{FZ} = +.866$

$r_{FA} = -.814$ $\quad R_{FXZ} = .870$

Table II 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 III 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, lack of higher education 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. Other studies are in progress which will permit of a more

rigorous treatment(x). A previous report(/) has shown that higher educational status is associated with smaller families in all religion and mother tongue groups. The present report 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.

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 and a cognate occupation, - clergymen, lawyers, physicians, teachers, 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 I 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.

(x) 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.

(/) Bulletin F-2.

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 I - III, 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.

4. PROVINCIAL AND CITY VARIATIONS IN OCCUPATIONAL FERTILITY

Inspection of the basic table of occupational fertility rates (Table 1.) 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 all the provinces except Prince Edward Island, and for four metropolitan areas. These provinces and all cities over 100,000 are represented in 25 occupations, while Prince Edward Island is represented by 13 fertility rates only.

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

TABLE IV. FERTILITY RANK OF PROVINCES(x) 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	Montreal Metropolitan Area
6.	Manitoba	
7.	Saskatchewan	Ottawa
8.	Alberta, Ontario	Windsor
9.	British Columbia	Winnipeg Metropolitan Area
10.		Hamilton
11.		Toronto Metropolitan Area
12.		Vancouver Metropolitan Area

(x) Excluding population in cities of 100,000 and over.

Tables V and VI show averages of 50 occupational fertility rates in 8 provinces and 4 metropolitan areas for the occupation-type and socio-economic classes of Section 3. 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 V. FERTILITY BY OCCUPATION-TYPE CLASS

Provinces(x) and Metropolitan Areas

Province or Metropolitan Area	Occupation-type(✓)									
	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

(x) Excluding populations in cities of over 100,000 population.

(✓) 50 occupations. For descriptions of classes, see Table I.

TABLE VI. FERTILITY BY SOCIO-ECONOMIC STATUS

Provinces(x) and Metropolitan Areas

Province or Metropolitan Area	Socio-economic Class(/)						
	I	II	III	IV	V	VI	VII & 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

(x) Excluding populations in cities with over 100,000 inhabitants.

(/) 50 occupations. For descriptions of classes, see page 8 and Table II. 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 VII and VIII 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 VII. LOCAL VARIATIONS IN FERTILITY IN PRIMARY OCCUPATIONS

Average standardized fertility rates of 4 occupations

Province(x)	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

(x) Excluding population in cities of 100,000 and over.

TABLE VIII. LOCAL VARIATIONS IN FERTILITY IN PROFESSIONAL OCCUPATIONS (10) AND PERSONAL SERVICE OCCUPATIONS (7)

	Average standardized fertility rates	
	Professional occupations	Personal Service occupations
Metropolitan Area -		
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 analyzed for four provinces, Quebec, Ontario, Manitoba and British Columbia. Table IX shows means and the corresponding analysis of variance for data arranged in this way. The provincial populations shown are outside of 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 provinces, 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(x). 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 IX.

(x) Vide Bulletins F-1 and F-2.

TABLE IX. MEAN FERTILITY RATES BY SOCIO-ECONOMIC CLASS

Four Provinces - Metropolitan and Extra-metropolitan Populations

Socio-economic Class	Quebec		Manitoba		Ontario		British Columbia	
	Pro-vince	Metro-polis	Pro-vince	Metro-polis	Pro-vince	Metro-polis	Pro-vince	Metro-polis
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

GRAND 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
Metropolitan	2.39	V.	2.80
Extra-metropolitan	3.08	VI.	3.10
All	2.73	VII. and VIII.	3.47

Analysis of Variance	Sum of Squares	Degrees of Freedom	Mean Square Variance
(a) Factors -			
1. Province	22.585	3	7.528
2. Metropolitan v. 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 variance between occupations		344	.039

$F = \frac{(a)\ 1.}{(d)} = 192.05 > 5.42 \simeq P = .001$

$F = \frac{(a)\ 2.}{(d)} = 169.51 > 10.83 \simeq P = .001$

$F = \frac{(a)\ 3.}{(d)} = 39.08 > 3.74 \simeq P = .001$

$F = \frac{(b)\ 1.}{(d)} = 20.10 > 5.42 \simeq P = .001$

$F = \frac{(a)\ 1.}{(a)\ 3.} = 4.91 > 4.76 \simeq P = .05$

$F = \frac{(a)\ 2.}{(a)\ 3.} = 4.34 < 5.99 \simeq P = .05$

The chief point of interest in the foregoing analysis is the fresh light thrown on the rural-urban differential in family size. We have repeatedly found 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 report shows that within those occupations practised both in metropolitan areas and outside them, the metropolitan family is always markedly smaller. Out of the 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 a previous report 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 an earlier 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 analyzed appears sufficient to account for this fact. While later studies may clarify the situation further, it is tentatively suggested that the situation in these provinces possesses emergent properties. 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.

5. SUMMARY

1. Tables 1 and 2 (Part II) present standardized fertility rates for married women living with their husbands by occupation of husband.

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

3. A new socio-economic classification based on earnings and educational level is described.

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

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

6. 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.

7. 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.

PART II.

BASIC TABLES

TABLE 1. STANDARDIZED FERTILITY RATES BY OCCUPATION

Standardised number of children ever-born to married women, all ages, living with husband, by occupation of husband, Canada,(x) 1941

	OCCUPATIONS	CANADA	Provinces (x)					
			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	3.86	4.10	4.09	4.63	4.68	3.34	4.30
	Fishing, Hunting and Trapping							
3.	Fishermen	4.61	5.28	4.39	4.98	6.05	3.98	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	3.38	-
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	-

(x) Not including Yukon and the Northwest Territories.

(+) Excluding population in cities of 100,000 and over.

TABLE 1. STANDARDIZED FERTILITY RATES BY OCCUPATION

Standardized number of children ever-born to married women, all ages, living with husband, by occupation of husband, Canada,(x) 1941

Provinces - conc.			Metropolitan Areas				Cities				
SASK.	ALTA.	B.C.	Montreal Metropolitan Area	Toronto Metropolitan Area	Winnipeg Metropolitan Area	Vancouver Metropolitan Area	Quebec	Hamilton	Ottawa	Windsor	
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	2.53	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	2.39	3.47	-	16.
-	-	-	3.24	1.98	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	2.91	-	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	3.78	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	2.28	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.

TABLE 1. STANDARDIZED FERTILITY RATES BY OCCUPATION - conc.

Standardized number of children ever-born to married women, all ages, living with husband, by occupation of husband, Canada, (x) 1941

	OCCUPATIONS	CANADA	Provinces (x)					
			P.E.I.	N.S.	N.B.	QUE.	ONT.	MAN.
	Transportation and Communication - conc.							
1.	Conductors - steam railway	2.70	-	3.44	3.05	4.66	2.53	2.35
2.	Linemen and cablemen	2.69	-	3.39	3.39	4.20	2.88	3.05
3.	Locomotive engineers	2.78	-	3.22	3.34	4.64	2.65	2.67
4.	Locomotive firemen	3.08	-	2.85	3.85	4.83	3.09	3.05
5.	Longshoremen and stevedores	3.87	-	4.29	3.99	5.59	3.67	-
6.	Sectionmen and trackmen	4.07	4.48	4.20	4.73	5.83	3.76	3.82
7.	Operators - electric railway	2.63	-	-	-	-	2.73	-
8.	Switchmen, signalmen	3.02	-	-	-	5.34	3.12	2.77
9.	Teamsters and carriage drivers	3.63	-	4.09	4.58	5.58	3.46	4.12
10.	Telegraph operators	2.45	-	2.89	2.65	3.72	2.18	2.36
11.	Truck drivers	3.33	4.14	3.62	3.93	4.80	3.24	3.38
	Trade							
12.	Owners, managers - retail	2.70	2.76	2.67	2.93	4.42	2.23	2.90
13.	Owners, managers - wholesale	2.32	-	2.36	2.56	4.29	2.24	2.89
14.	Commercial travellers	2.11	-	2.18	1.92	3.78	1.89	2.08
15.	Packers, wrappers	3.12	-	3.87	-	4.74	3.20	-
16.	Purchasing agents and buyers	2.49	-	-	-	2.97	1.95	2.74
17.	Canvassers and demonstrators	2.47	-	2.65	2.28	4.50	2.18	-
18.	Salespersons in stores	2.40	2.79	2.54	2.55	3.90	2.22	2.45
	Finance							
19.	Owners, managers - finance and insurance	1.92	-	1.69	1.91	3.50	1.64	1.78
20.	Insurance agents	2.32	-	2.27	2.18	4.07	1.96	2.47
21.	Real estate agents and dealers	2.07	-	-	-	-	2.02	-
	Service, Professional							
22.	Chemists and metallurgists	1.83	-	-	-	2.76	1.80	-
23.	Clergymen and priests	2.31	-	2.19	2.31	2.09	2.15	2.69
24.	Dentists	1.81	-	1.86	-	2.72	1.70	-
25.	Draughtsmen and designers	1.84	-	-	-	2.53	1.85	-
26.	Engineers, civil	2.08	-	2.23	2.01	3.02	2.15	-
27.	Engineers, electrical	1.81	-	1.95	-	2.52	1.84	-
28.	Engineers, mechanical	2.13	-	2.02	-	3.99	1.83	-
29.	Lawyers and notaries	2.20	-	1.88	2.06	3.35	1.86	2.43
30.	Physicians and surgeons	2.15	-	2.11	2.11	3.56	1.91	1.93
31.	Teachers - school	2.07	-	1.87	2.34	2.94	1.81	2.52
	Service, Public							
32.	Firemen - fire department	2.85	-	3.90	-	-	2.63	-
33.	Government inspectors	2.70	-	2.64	3.44	4.73	2.12	-
34.	Public service officials, n.e.s.	2.47	-	2.57	2.70	4.18	2.22	2.40
35.	Policemen and detectives	2.87	-	3.39	3.31	4.82	2.55	2.87
36.	Postmen and mail carriers	2.99	-	3.09	3.80	4.88	2.73	3.33
	Service, Personal							
37.	Owners, managers - hotels	2.58	-	2.19	3.00	3.62	2.32	2.50
38.	Owners, managers - restaurants	2.65	-	2.81	-	3.53	2.30	-
39.	Barbers, hairdressers	2.78	-	3.03	3.54	4.27	2.38	2.66
40.	Cooks	3.14	-	3.68	4.52	4.66	3.30	-
41.	Guards and caretakers, n.e.s.	3.37	-	3.66	4.10	5.14	3.01	3.25
42.	Janitors and sextons	2.78	-	3.51	3.46	4.69	2.87	3.10
43.	Laundrymen	3.02	-	-	-	-	2.60	-
44.	Waiters	2.38	-	-	-	3.48	2.76	-
	Clerical							
45.	Accountants and auditors	2.05	-	1.82	2.01	3.27	1.73	2.04
46.	Bookkeepers and cashiers	2.05	-	2.20	2.13	3.28	2.02	2.17
47.	Office clerks	2.18	2.79	2.72	2.56	3.58	2.15	2.42
48.	Shipping clerks	2.56	-	3.47	2.78	4.04	2.52	-
	Labourers							
49.	(Not in agriculture, fishing, logging or mining)	3.98	4.41	4.45	4.62	5.43	3.67	4.24

(x) Not including Yukon and the Northwest Territories.

(+) Excluding population in cities of 100,000 and over.

TABLE 1. STANDARDIZED FERTILITY RATES BY OCCUPATION - conc.

Standardized number of children ever-born to married women, all ages, living with husband, by occupation of husband, Canada,(x) 1941

Provinces - conc.			Metropolitan Areas				Cities				
SASK.	ALTA.	B.C.	Montreal Metropolitan Area	Toronto Metropolitan Area	Winnipeg Metropolitan Area	Vancouver Metropolitan Area	Quebec	Hamilton	Ottawa	Windsor	
2.24	2.14	2.17	2.95	2.02	2.07	1.97	-	-	-	-	1.
2.64	2.08	2.00	2.56	2.13	2.06	1.93	-	2.12	3.32	-	2.
2.42	2.27	2.09	2.97	2.17	2.36	1.94	-	2.55	2.85	-	3.
2.75	2.67	2.30	3.18	2.65	2.60	-	-	-	-	-	4.
-	-	3.49	4.01	-	-	2.31	5.14	-	-	-	5.
3.85	3.34	3.28	4.42	3.17	2.93	2.84	-	-	-	-	6.
-	2.51	-	3.60	2.19	2.19	1.91	5.21	1.89	3.13	-	7.
2.69	2.47	2.57	3.87	2.23	2.28	-	-	2.12	-	-	8.
3.74	3.37	3.07	3.67	2.46	2.83	2.17	4.70	2.50	3.22	2.86	9.
2.21	2.35	1.99	2.41	1.97	1.95	1.80	-	-	-	-	10.
3.51	3.98	2.78	3.52	2.54	2.63	2.26	4.29	2.85	3.54	3.10	11.
2.67	2.51	2.10	2.93	2.03	2.20	1.96	4.29	1.95	2.52	2.23	12.
2.32	2.22	2.16	2.39	1.91	2.14	1.80	3.90	1.89	2.26	2.03	13.
1.96	2.02	1.79	2.47	1.66	1.87	1.62	3.79	1.64	2.24	1.99	14.
-	2.48	-	3.36	2.32	2.63	1.83	-	2.96	-	-	15.
2.90	2.71	-	2.11	1.56	1.75	1.92	-	-	2.23	-	16.
2.92	2.67	-	2.39	1.70	2.00	1.46	-	-	-	-	17.
2.55	2.23	1.89	2.74	1.75	1.89	1.69	3.84	1.84	2.54	2.17	18.
1.94	1.75	1.73	2.18	1.52	1.67	1.59	3.93	1.55	1.92	-	19.
2.31	2.18	2.00	2.53	1.73	1.95	1.70	3.69	1.84	2.19	2.09	20.
2.01	2.20	1.75	2.55	1.75	2.27	1.71	-	-	-	-	21.
-	1.66	1.68	2.05	1.49	1.79	1.62	-	1.28	1.51	-	22.
2.65	2.76	2.06	2.38	2.28	2.65	2.09	-	-	-	-	23.
2.01	1.90	1.52	2.17	1.45	1.62	1.49	-	-	-	-	24.
-	-	-	1.88	1.60	1.90	1.65	-	1.60	1.76	-	25.
2.03	1.79	1.69	2.25	1.74	2.00	1.58	2.90	-	1.79	-	26.
-	-	-	1.85	1.59	1.46	1.56	-	1.85	-	-	27.
-	-	-	2.05	1.66	1.62	1.52	-	1.72	1.86	-	28.
2.04	1.96	1.73	2.53	1.77	1.98	1.60	3.16	-	1.89	-	29.
1.94	1.91	1.80	2.29	1.70	1.99	1.68	2.70	1.71	1.91	1.77	30.
2.28	2.21	1.86	2.90	1.60	1.98	1.74	3.18	1.56	1.54	1.58	31.
2.31	2.23	2.06	3.59	2.32	2.29	1.97	5.72	2.22	3.24	-	32.
2.49	2.34	1.99	3.06	1.90	2.10	1.91	4.16	-	2.04	-	33.
2.26	2.81	1.96	2.98	1.68	2.05	1.78	4.11	-	2.03	1.95	34.
2.47	2.37	2.14	3.12	2.03	2.06	1.93	4.35	2.20	2.72	2.45	35.
3.02	2.90	2.23	3.36	2.00	2.20	1.81	-	1.96	-	-	36.
2.68	2.42	1.97	1.99	1.70	2.05	1.63	-	-	-	-	37.
2.50	2.54	2.07	2.61	2.15	2.03	1.72	2.50	-	-	-	38.
2.69	2.32	2.18	3.13	1.92	2.25	1.93	4.67	1.97	3.31	2.62	39.
2.51	2.80	2.69	2.51	2.19	2.32	2.06	3.84	-	3.20	-	40.
3.04	2.80	2.36	3.79	2.41	2.57	2.23	5.48	2.38	3.24	2.88	41.
2.86	2.89	2.19	2.88	2.14	2.28	1.97	3.69	2.62	2.78	2.79	42.
-	-	-	3.74	2.52	-	-	-	-	-	-	43.
2.43	2.46	1.98	2.34	2.11	2.12	1.70	3.23	2.34	2.80	-	44.
1.80	1.77	1.65	2.29	1.53	1.72	1.57	3.66	1.56	1.87	1.79	45.
2.16	2.15	1.77	2.17	1.68	1.84	1.70	3.12	1.81	2.21	-	46.
2.08	1.97	1.75	2.38	1.70	1.80	1.62	3.47	1.84	2.12	2.21	47.
2.52	2.28	2.05	3.05	2.05	2.32	1.86	4.38	2.10	2.90	2.75	48.
3.93	3.32	3.04	4.10	2.81	2.92	2.72	5.49	2.88	4.34	3.28	49.

TABLE 2. SUPPLEMENTARY STANDARDIZED FERTILITY RATES - 48 OCCUPATIONS - QUEBEC AND ONTARIO(x)

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

(x) Excluding population in cities of 100,000 and over.

TABLE 2. SUPPLEMENTARY STANDARDIZED FERTILITY RATES - 48 OCCUPATIONS - QUEBEC AND ONTARIO(x) - (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

(x) Excluding population in cities of 100,000 and over.

TABLE 3. OCCUPATIONS IN SOCIO-ECONOMIC CLASSES

I. Proprietary, managerial, professional occupations, etc.

Average standard scores(x) + 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 + .933 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

(x) Mean of average earnings and average educational level, both measured on the same scale.

TABLE 3. OCCUPATIONS IN SOCIO-ECONOMIC CLASSES - (Con.)

IV. Foremen and inspectors, etc.

Average standard scores + .066 to + .403 — 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

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

TABLE 3. OCCUPATIONS IN SOCIO-ECONOMIC CLASSES - (Con.)

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 peddlars
Labourers (not in primary occupations)
Farm labourers
Bootblacks
Cooks
Charworkers
Domestic servants
Launderers