

## **Canadian Aboriginal Fertility**

**Juhee Suwal  
Frank Trovato**

Department of Sociology  
University of Alberta  
Edmonton, Alberta

### ***Abstract***

This study compares the fertility of aboriginal peoples with that of non-aboriginal Canadians. Three hypotheses are developed: the characteristics-assimilation hypothesis, the minority status insecurities hypothesis, and the pronatalist subculture thesis. We use data from the 1991 census Public Use Sample Tapes (Family File) to test these hypotheses. The aboriginal population included in the study are divided into three subgroups: husband/wife aboriginal, husband aboriginal/wife non-aboriginal, and wife aboriginal/husband non-aboriginal, in order to assess the possible influence of intermarriage on aboriginal fertility. The findings are consistent with the minority status insecurities and pronatalist subculture hypotheses. It is concluded that although there is some degree of aboriginal assimilation to the mainstream Canadian society through intermarriage and socioeconomic improvements, pronatalist norms tend to counteract the pace of fertility decline among aboriginal peoples.

## **Résumé**

La présente étude compare la fécondité des populations autochtones et celle des autres populations canadiennes. Trois hypothèses sont formulées : celle des caractéristiques de l'assimilation; celle des insécurités liées au statut minoritaire; et celle de sous-culture nataliste. Nous utilisons des données tirées du Recensement du Canada de 1991, bandes échantillon à grande diffusion (dossier famille) pour vérifier ces hypothèses. La population autochtone étudiée est divisée en trois sous-groupes: époux/épouse autochtone, époux autochtone/épouse non autochtone, et épouse autochtone/époux non autochtone, en vue d'évaluer l'incidence possible des mariages mixtes sur la fécondité autochtone. Les résultats semblent étayer l'hypothèse des insécurités liées au statut minoritaire et celle de sous-culture nataliste. Nous concluons que, bien qu'il y ait un certain degré d'assimilation autochtone dans la société canadienne ordinaire par le biais des mariages mixtes et des progrès socioéconomiques, les normes natalistes tendent à amortir le déclin de la fécondité parmi les populations autochtones.

**Key Words:** aboriginal fertility, assimilation, minority status, pronatalist norms

## **Introduction**

Until fairly recently, little was known about the fertility patterns of aboriginal population in Canada. Romaniuc (1993) has shown that the aboriginal birth rate of 47 per 1000 population in the mid-sixties declined to 28 per 1000 by 1980. The impetus for this decline was attributed to socioeconomic modernization. Notwithstanding significant long-term fertility declines, the fertility transition of the aboriginal peoples appears to have slowed down recently (Trovato, 1987; Romaniuc, 1993). In fact, according to Health Canada (1997), the birth rate of registered Indians in 1991 was 29.5 per 1000 population<sup>1</sup>. Pronatalist subculture of aboriginal peoples and their dependence on the welfare system may have contributed to retarding the fertility transition (Romaniuc, 1993)<sup>2</sup>. The purpose of this study is to compare the fertility of aboriginal people with that of non-aboriginal Canadians during 1991. Three hypotheses specific to the analysis of racial and ethnic fertility differentials are elaborated and tested with 1991 census data.

## **Minority Group Status and Fertility**

Based on an extensive analysis of Catholic/Protestant fertility differences in the Netherlands during the early 1950s, Van Heek (1956) postulated that the high fertility of Catholics was partly influenced by Church teachings against contraceptive use<sup>3</sup>. Thus, high Catholic fertility was attributed to the ideology of

Catholicism. Following Van Heek (1956), Day (1968) proposed that Catholic pronatalism increases fertility under two preconditions: (1) when there exists a high level of economic development in a given setting, and (2) when the Catholics are a numerically and politically important minority. Therefore, the above average fertility of Catholics in some countries (e.g., Netherlands, Ireland) was interpreted as an outcome of a particularized ideology involving the embracing of Church scriptures against the use of contraception on the one hand, and the group's quest for political and economic advancement on the other.

Goldscheider and Uhlenberg (1969) later argued that minority group status influences fertility independently of social, economic and demographic factors. In the absence of pronatalist group values or ideologies, the insecurities of minority status, coupled with a strong desire for upward mobility, will serve to reduce fertility below the level of majority group members. This thesis assumes that social psychological insecurities among minority couples emanate from their experience of prejudice and discrimination against them. Evidence in support of this hypothesis in the United States was found in connection with the Jews, the Chinese and the Japanese, all being low fertility groups who also have a history of prejudice and discrimination and enjoy some measure of economic success. Goldscheider and Uhlenberg (1969) also found that although Blacks have, as a group, above average fertility, only among the most upwardly mobile subset of this group, fertility was below that of Whites.

Sly (1970), compared the fertility of Whites and non-Whites in the United States during 1960 on the expectation that if education, income, and occupation are controlled simultaneously in a statistical analysis, the family size differential would disappear. Interestingly, he found varying effects of these characteristic variables on fertility depending on the geographic region. Minority status explained the fertility difference between Whites and non-Whites in the southern region of the country, but characteristic differences played a primary role in the differential outside this locality.

Ritchey (1975) studied the fertility variation between Black and White wives aged 15 to 44. He regressed children ever born on education and labour force status, and found strong support for a minority group status effect. That is, at higher levels of education, Blacks had lower average family size than Whites. In another study based on American data, Johnson (1979) discovered that at low levels of education, Blacks had higher fertility than Whites, but at university level their fertility converged with that of Whites. Johnson (1979) interpreted this result as supporting the characteristics-assimilation hypothesis and therefore a refutation of the minority-status insecurity thesis.

In Canada, Trovato (1987) used multivariate methods to test five hypotheses pertaining to the fertility differential between aboriginal peoples and non-aboriginal Canadians during 1961, 1971 and 1981. His findings supported four of his hypotheses (the modernization thesis of fertility decline, the fertility-enhancing effect of modernization thesis, the characteristics-assimilation hypothesis of fertility, and the pronatalist subculture thesis). He found no support for the minority-status insecurities hypothesis (although he did find an

insignificant negative interaction effect of the ethnicity with urban residence, suggesting that aboriginal peoples in urban areas may experience some feelings of insecurity associated with upward mobility). It was proposed that aboriginal subculture on the one hand, and the discontinuous nature of modernization, on the other, have served to enhance reproductive performance among aboriginal peoples, therefore slowing their fertility transition<sup>4</sup>. This suggests that while modernization generally implies long-term declines in aboriginal fertility, the above average reproductive levels of this group will likely persist for some time into the future. The present study extends the earlier research on aboriginal fertility (Trovato, 1987; and Romaniuc 1993) by examining more recent data from the 1991 census of Canada.

## **Hypotheses**

### **Characteristics-assimilation Thesis**

The most widely recognized change in reproductive behaviour associated with modernization is the shift from high to low fertility (Davis, 1963; Easterlin, 1983)<sup>5</sup>. During such a process, the fertility of subgroups in the larger society are expected to eventually converge (Goldscheider and Uhlenberg, 1969). This is the main proposition inherent in the characteristics-assimilation hypothesis. This thesis states that when education, income, occupation, and rural-urban residence levels converge between two groups, their fertility difference should disappear (Bogue 1969; Goldscheider and Uhlenberg 1969; Petersen 1969; Bean and Marcum, 1978).

Over recent decades, Canadian aboriginal peoples have been improving their participation in post-secondary school, there has also been a significant movement from rural to urban areas, as well as improvements in housing conditions (Ministry of Citizenship and Culture, 1983; Romaniuc, 1987; Trovato, 1987)<sup>6</sup>. Moreover, there has been some tendency among aboriginal peoples to intermarry with non-aboriginal Canadians. In fact, endogamy levels among Native Indian and Inuit populations declined from 91.8 percent in 1961 to 76.8 percent in 1971 (McVey and Kalbach, 1995). These developments suggest that there has been an increasing level of assimilation among the aboriginal peoples in Canada.

Consistent with the characteristics-assimilation thesis one would anticipate a lower level of childbearing among aboriginal women married to non-aboriginal men as compared to aboriginal women married to aboriginal spouses on the assumption that marriage to a non-aboriginal person reflects some measure of assimilation to the larger society. Furthermore, if education, income and occupation are equalized through statistical standardization, the fertility difference between Canadian aboriginal peoples and non-aboriginal Canadians should disappear. Stated differently, the hypothesis implies that in multivariate analysis, an independent effect of aboriginal group membership on fertility would disappear once social demographic characteristics (i.e. education, income, etc.) are introduced as statistical controls.

### **Minority-status Insecurity Thesis**

The insecurities hypothesis predicts that even when groups are similar socially, demographically, and economically, the social-psychological insecurities of minority group status will continue to exert an independent effect on fertility. For example, in historical situations where Catholics were a disadvantaged minority, the desire to improve their political and social condition in conjunction with the Church's doctrine against contraception served to raise their fertility in relation to the majority group in their society (Day, 1968). However, it is also the case that many racial/ethnic groups who face insecurities do not have an identifiable religious ideology against the use of birth control (Trovato and Burch, 1980). Under this condition, insecurities coupled with the desire for upward mobility, should lead to reduced levels of reproduction in relation to the larger society, as the curtailment of fertility is a strategy to attain and maintain socioeconomic gains.

Concerning aboriginal peoples, this hypothesis calls for a significant negative interaction effect of ethnicity with socioeconomic status (e.g., education, income). Therefore, in this analysis it is anticipated that at high levels of socioeconomic status, aboriginal couples will have fewer children than non-aboriginal Canadians.

### **Pronatalist Subculture Thesis**

Belonging to a minority group which prescribes to pronatalist norms or has ideological prohibitions against the use of efficient contraceptive methods, should, all things being equal, enhance fertility. Goldscheider and Uhlenberg (1969) proposed that if a group shares a particularized pronatalist ideology (for instance, strong preference for sons), it will tend to have high fertility. Concerning aboriginal peoples, it has been argued that their subculture embraces strong pronatalist norms (Trovato, 1987; Romaniuc, 1993). In this connection, Romaniuc has stated that for Canadian aboriginals:

Marriage, partly displaced by common-law arrangements, remains a widely adhered to norm. The social stigma of illegitimacy, never too strong, is even less so now. Adoption outside of the group is often actively resisted by the community. Although admittedly widespread, birth control-contraception and particularly abortion- is met with public disapproval.... Such are some of the manifestations of what may be called the pronatalist subculture and which seem to impede the small family norms, prevalent in Canadian mainstream society, to permeate the masses of aboriginal people as easily as one would expect given their long association. (Romaniuc, 1993: 12)

On the basis of these arguments, we anticipate that aboriginal peoples will have higher fertility than non-aboriginal Canadians, independent of characteristics main effects and their interactions with ethnicity.

### **Data and Methods**

The data for this study were taken from the 1991 Canadian census, Public Use Microdata Family File (PUMF). The unit of analysis is women aged 15-49, who are currently married or living with common-law partners. Since the number of aboriginal women in the PUMF is small compared to that of non-aboriginal women, all aboriginal women in the file are included for analysis<sup>7</sup>. Moreover, because the size of the non-aboriginal subset is very large, a 10% subsample is drawn<sup>8</sup>. The total number of cases included in the analysis is 6,622, of which 1,832 are aboriginal.

The dependent variable is the number of children ever born (CEB) alive to women aged 15 years and older. Since CEB is a cumulative measure, age is partitioned into two broad categories in the multivariate analysis to differentiate current fertility (i.e., 15-34 years) from completed fertility (35-49 years).

The independent variables include ethnicity, age of women, education of husband, education of wife, occupation of husband, occupation of wife, total income of husband, and total income of wife. These SES variables are selected because they are considered to be good indicators of socioeconomic status and have been used widely in previous research. The magnitude and direction of the effects of these variables and their interactions with ethnicity in explaining CEB in multiple regression will provide statistical indication for either supporting or rejecting our hypotheses.

Ethnicity is measured by three categorical variables reflecting three husband-wife combinations: (1) both husband and wife aboriginal (H/W aboriginal), (2) husband aboriginal, wife non-aboriginal (H aboriginal), (3) wife aboriginal, husband non-aboriginal (W aboriginal). The reference category for these variables is non-aboriginal Canadian couples. Our expectation is that, as reflected in the postulates of the characteristics-assimilation hypothesis, intermarried aboriginal couples will have fertility levels intermediate to the H/W aboriginal couples and non-aboriginal Canadians.

Education is measured as the number of years of formal schooling. Since this variable is classified by the census into ten categories, mid-points were calculated to approximate an interval scale<sup>9</sup>. Occupation is measured as a dummy variable where 1 signifies professionals and 0 all other occupations. Total income (personal income of husband or wife) is measured in actual dollars.

Left out of this analysis is age at marriage, as unfortunately, it was not included in the 1991 census.

### Descriptive Overview

Table 1 shows age-specific means and standard deviations for three aboriginal husband-wife subgroups and the non-aboriginal couples. Generally, when both spouses are aboriginal, fertility tends to be high and non-aboriginal women have the lowest means. Mixed ethnicity, on the other hand, tends to be associated with intermediate fertility levels.

Table 1

Average Number of Children Ever Born to the  
Currently Married/Common-law Women,  
Aged 15-49, by Ethnicity and Age, Canada: 1991

Age	H/W Aboriginal	H Aboriginal, W Other	W Aboriginal H Other	Non- Aboriginal Group
15-19	1.43 (.74)	1.08 (.51)	1.11 (.33)	1.10 (.32)
20-24	2.14 (1.12)	1.37 (.69)	1.65 (.97)	1.25 (.54)
25-29	2.89 (1.57)	2.00 (.85)	2.01 (1.08)	1.74 (.86)
30-34	3.39 (1.69)	2.19 (1.10)	2.27 (1.21)	2.02 (.91)
35-39	3.72 (1.93)	2.47 (1.01)	2.54 (1.03)	2.23 (.93)
40-44	4.36 (1.93)	2.57 (.93)	2.91 (1.35)	2.32 (1.06)
45-49	5.28 (2.31)	2.82 (2.07)	3.58 (2.04)	2.46 (1.18)
All ages	3.36 (1.91)	2.19 (1.11)	2.41 (1.35)	2.12 (1.01)
N	1,039	320	473	4,790

Standard deviations in parentheses.

Table 2 shows that aboriginal women have more children than their non-aboriginal counterparts across all levels of schooling of both husbands as well as wives, though among aboriginal peoples, the higher the education, the lower the fertility. Aboriginal women married to aboriginal husbands have, on average, more children than the other couples, irrespective of occupation or income. However, with regard to the income measures for the husband/wife aboriginal subgroup (H/W aboriginal), high income is associated with increasing fertility.

### **Multivariate Analysis**

Considering only main effects, the first three equations in Table 3 show that, as expected, age and aboriginal ethnicity have positive effects on CEB. Years of schooling of husband as well as of the wife have negative effects on fertility. Wife's income depresses fertility, while that of husband's increases it.

Concerning the pronatalist hypothesis, the positive effect of aboriginal ethnicity on CEB does not disappear when socioeconomic variables are statistically controlled (Tables 3 and 4). Although the effect of ethnicity is positive across the three couple subgroups, its magnitude is much stronger for the H/W aboriginal subgroup ( $b=1.254$  in Table 3) than for the other two couple categories ( $b=.166$  and  $.046$  for H aboriginal and W aboriginal, respectively). This suggests that the intermarrying of aboriginal peoples with non-aboriginal Canadians acts to weaken the effects of ethnicity on fertility as compared to endogamous aboriginal couples. If one extrapolates this result to the future, it suggests that as more aboriginal peoples marry outside of their group, their fertility will tend to fall in line with the fertility of the larger society<sup>10</sup>.

Years of schooling of husbands ( $b=-.029$ ), education of wives ( $b=-.043$ ) and income of wives ( $b=-.114$ ) all have significant negative effects on CEB among the H/W aboriginal couples. These coefficients suggest that a year increase in schooling of husbands is associated with a .029 decrease in children ever born, a year increase in schooling of wives produces a decrease in fertility by .043, and a unit increase in income of wives entails a .0000097 decrease in completed family size. Thus, education of wives is more important in lowering fertility than that of men.

Equation 4 in Table 3 shows that the interaction of ethnicity with education for both husbands and wives in the H/W aboriginal subgroup ( $b=-.097$  and  $-.091$ , respectively) has significant negative effects on children ever born. Moreover, the interaction of ethnicity and wife's education has a significant negative effect on CEB ( $b=-.064$  and  $-.06$ ) for the H aboriginal and W aboriginal subgroups as well (equations 5 and 6). These findings suggest that at higher levels of education, aboriginal people reduce their family size below that of non-aboriginal peoples. This result is consistent with the expectations of the minority status insecurities thesis.

**Table 2**  
**Average Number of Children Ever Born**  
**per 1000 Currently Married/Common-law Women**  
**by Ethnicity and Selected Characteristics, Canada: 1991**

Cohort	H/W Aboriginal		H Aboriginal W Other		W Aboriginal H Other		Non-aboriginal Group	
Years of Schooling (Husbands)								
No Schooling	5.9	(2.5)	3.0	(3.0)	—		2.7	(1.1)
1-8 years	3.9	(2.1)	2.5	(1.3)	3.1	(1.9)	2.4	(1.2)
9-13 years	3.0	(1.7)	2.1	(1.0)	2.3	(1.2)	2.1	(0.9)
14-18+	2.8	(1.5)	2.3	(0.9)	2.4	(1.1)	2.1	(0.9)
Years of Schooling (Wives)								
No Schooling	6.5	(2.2)	—		6.0	(—)	2.7	(1.5)
1-8 years	4.0	(2.0)	2.8	(1.5)	3.2	(1.7)	2.5	(1.3)
9-13 years	3.0	(1.7)	2.1	(1.0)	2.2	(1.2)	2.1	(1.0)
14-18+	3.0	(1.6)	1.9	(1.1)	2.2	(1.2)	2.0	(0.9)
Occupation (Husbands)								
Professional	3.4	(1.7)	2.2	(1.4)	2.2	(1.4)	2.1	(0.9)
Other	3.3	(1.9)	2.2	(1.3)	2.4	(1.3)	2.1	(1.0)
Occupation (Wives)								
Professional	3.1	(1.7)	2.0	(1.2)	2.6	(1.2)	2.0	(0.9)
Other	3.4	(1.9)	2.2	(1.4)	2.4	(1.4)	2.1	(1.0)
Income (Husbands)								
Lowest - 4,999	3.0	(1.8)	2.1	(1.8)	2.4	(1.8)	2.1	(1.1)
5,000-49,999	3.5	(1.9)	2.2	(1.2)	2.4	(1.2)	2.1	(1.0)
50,000-highest	3.7	(2.0)	2.3	(1.2)	2.4	(1.2)	2.2	(0.9)
Income (Wives)								
Lowest - 4,999	3.4	(2.0)	2.2	(1.4)	2.4	(1.4)	2.3	(1.1)
5,000-49,999	3.2	(1.8)	2.1	(1.3)	2.3	(1.3)	2.0	(0.9)
50,000-highest	4.5	(2.1)	1.5	(1.4)	2.7	(1.4)	1.9	(0.8)
N	1039		320		473		4790	

Standard deviations is parentheses.

Table 3. Multiple Regression Results of Children Ever Born with and without Interaction Effects of Ethnicity, Canada: 1991.

Independent Variables	(1) H/W Aboriginal b(Beta)	(2) H Aboriginal b(Beta)	(3) W Aboriginal b(Beta)	(4) H/W Aboriginal b(Beta)	(5) H Aboriginal b(Beta)	(6) W Aboriginal b(Beta)
Age of Women	.058 (.319)*	.044 (.301)*	.046 (.307)*	.056 (.307)*	.044 (.302)*	.046 (.305)*
Ethnicity (aboriginal)	1.254 (.364)*	.166 (.039)*	.046 (.307)*	2.825 (.82)*	.826 (.197)*	1.31 (-.356)*
Years of Schooling of H	-.029 (-.079)*	-.008 (-.025)	-.010 (-.031)*	-.007 (-.018)	-.008 (-.027)	-.008 (-.025)
Years of Schooling of W	-.043 (-.102)*	-.026 (-.076)*	-.027 (-.074)*	-.020 (-.047)*	-.023 (-.065)*	-.022 (-.062)*
Occupation of Husband	0.102 (.024)	.018 (.006)	.012 (.004)	.002 (.0005)	.014 (.004)	.012 (.004)
Occupation of Wife	0.088 (.021)	.065 (.021)	.084 (.026)	.035 (.008)	.051 (.016)	.049 (.015)
Income of Husband	.0000016 (.032)*	.00000086 (.022)	.00000059 (.015)	.00000026 (.005)	.00000076 (.019)	.00000068 (.017)
Income of Wife	-.0000097 (-.114)*	-.0000099 (-.155)*	-.0000095 (-.144)*	-.0000105 (-.123)*	-.0000098 (-.153)*	-.0000099 (-.149)*
Ethnicity x Education H				-.097 (-.293)*	.003 (.007)	-.033 (-.107)*
Ethnicity x Education W				-.091 (-.279)*	-.064 (.008)	-.060 (-.189)*
Ethnicity x Occupation H				.319 (.023)	.147 (.008)	-.087 (-.005)
Ethnicity x Occupation W				-.163 (-.014)	.312 (.021)	.401 (.035)*
Ethnicity x Income H				.000013 (.096)*	.0000022 (.017)	-.00000089 (-.009)
Ethnicity x Income W				.0000083 (.034)*	-.0000037 (-.016)	.000006 (.030)
Constant	0.978	1.058	1.018	.583	1.021	.959
R <sup>2</sup>	.26	.11	.12	.28	.11	.12

\*p ≤ .05. Standardized regression coefficients in parentheses

Considering equations 4, 5, and 6 in Table 3, the effects of aboriginal ethnicity are still significant and positive even after all other main and interaction terms are controlled ( $b=2.825$ ,  $.826$ , and  $1.31$  for H/W aboriginal, H aboriginal, and W aboriginal, respectively). The magnitude as well as strength of relationships in these equations are greater than in the previous equations (i.e. 1, 2, 3). This result provides statistical support for the pronatalist thesis of fertility.

Looking back at the main effects equations 1, 2, and 3 in Table 3, we see that the impact of ethnicity on children ever born is much greater for H/W aboriginal subgroup, it is even lower for the H aboriginal subgroup, and lowest for the W aboriginal category. Perhaps aboriginal women who marry non-aboriginal men are more likely to live in urban areas (off-reserve), and thus more inclined to possess higher levels of education and to use more contraception as compared to their endogamous peers (Romaniuc, 1987). This finding is consistent with our expectations based on the postulates of the characteristics-assimilation thesis.

In Table 3 again, the magnitude of the ethnic effect in equation 4, for the H/W aboriginal class ( $b=2.825$ ,  $\text{Beta}=.82$ ) is higher than for the other two couple combinations (equations 5 and 6). This suggests that aboriginal couples adhere more strongly to pronatalism than do couples where only one of the partners is aboriginal. Insofar as this is true, intermarriage of aboriginal peoples has a remarkable influence in lowering fertility. In the long run, intermarriage will likely play a significant role in bringing down aboriginal fertility to the overall Canadians' level.

Table 4

Zero-order Effects of Ethnicity on Children Ever Born, Canada: 1991

Independent Variable	(1) H/W Aboriginal	(2) H Aboriginal W Aboriginal	(3) W Aboriginal H Other
	b (Beta)	b (Beta)	b (Beta)
Ethnicity (aboriginal)	1.235 (.358)*	.065 (.015)	.284 (.077)*
Constants	2.122	2.122	2.122
R <sup>2</sup>	.13	.0002	.006

\*  $p \leq .05$

Tables 5 and 6 show separate regression results for women aged 15-34 and 35-49. For the younger subset, husband's income and wife's income have counteracting effects on CEB: positive in the case of husbands and negative for wives (Table 5, equations 1, 2, 3). Similar to the result seen in Table 3, Tables 5 and 6 provide further support for the minority status insecurities hypothesis and the pronatalist subculture thesis.

In Tables 5 and 6 (equations 1, 2, and 3) the positive effects of ethnicity on children ever born is always lower for the younger women than for the older ones in all the three couple combinations. This suggests that being aboriginal is less important in terms of childbearing among the younger women. In both younger and older age groups, the effect of ethnicity is considerably stronger among H/W aboriginal subgroup than intermarried couples. This indicates that intermarriage entails some degree of assimilation in terms of fertility, to the larger Canadian society.

### **Conclusions**

This study analyzed the cumulative fertility (CEB) of Canadian aboriginal women as compared to non-aboriginal Canadian women. Three hypotheses were specified and tested with 1991 census data: the characteristics-assimilation thesis, the minority status insecurities, and the pronatalist subculture hypotheses. Our results suggest that assimilation, through intermarriage and socioeconomic gain, has strong effects on aboriginal fertility. Our findings are also consistent with the postulates of the pronatalist subculture thesis that pronatalist norms are of some consequence among aboriginal peoples. While social economic characteristics differences between aboriginal and non-aboriginal Canadians partly account for the higher fertility of aboriginal peoples, pronatalist values also play a role in this fact. It was also found that educated aboriginal peoples have relatively low fertility. This result falls in line with the expectations of the minority status insecurities hypothesis, which calls for lower aboriginal fertility at upper levels of socioeconomic achievement. Further research is needed to explore more fully the dynamics of aboriginal assimilation and how this process affects their fertility preferences. A longitudinal approach would therefore seem necessary.

There are some limitations in the 1991 census data which hindered our analysis. First, during the census data collection, enumeration was not permitted or was interrupted before it could be completed on some Indian reserves and Indian settlements. In addition, some communities were enumerated late or the data collected were of poor quality (Statistics Canada, 1991). A total of 78 geographical areas had to be excluded from the census. Second, we restricted our study to single ethnic origin data. It is not clear what effects multiple ethnic origin data would have on our results. This remains an area of further exploration.

Table 5. Multiple Regression Results of Children Ever Born for Women Aged 15-34, Canada: 1991.

Independent Variables	(1) H/W Aboriginal b(Beta)	(2) H Aboriginal b(Beta)	(3) W Aboriginal b(Beta)	(4) H/W Aboriginal b(Beta)	(5) H Aboriginal b(Beta)	(6) W Aboriginal b(Beta)
Age of Women	.101 (.332)*	.081 (.317)*	.079 (.302)*	.099 (.326)*	.082 (.321)*	.078 (.299)*
Ethnicity (aboriginal)	.992 (.361)*	.156 (.048)*	.241 (.083)*	2.109 (.769)*	.937 (.290)*	.942 (.326)*
Years of Schooling of H	-.028 (-.076)*	-.006 (-.022)	-.006 (-.019)	.005 (.015)	.004 (-.013)	-.003 (-.012)
Years of Schooling of W	-.058 (-.144)*	-.031 (-.097)*	-.034 (-.103)*	-.061 (-.151)*	-.029 (-.091)*	-.029 (-.088)*
Occupation of Husband	.064 (.015)	-.028 (-.009)	-.052 (-.016)	-.045 (-.011)	-.045 (-.014)	-.044 (-.014)
Occupation of Wife	.081 (.019)	.085 (.027)	.095 (.029)	.130 (.031)	.046 (.015)	.048 (.015)
Income of Husband	.0000026 (.047)*	.0000021 (.047)*	.0000022 (.051)*	.0000017 (.030)	.0000022 (.049)*	.0000023 (.051)*
Income of Wife	-.0000011 (-.119)*	-.0000012 (-.188)*	-.0000011 (-.164)*	-.0000012 (-.131)*	-.0000012 (-.184)*	-.0000012 (-.177)*
Ethnicity x Education H				-.118 (-.461)*	-.027 (-.101)	-.022 (-.089)*
Ethnicity x Education W				—	-.032 (-.115)	-.053 (-.215)*
Ethnicity x Occupation H				.185 (.015)	.274 (.019)	.124 (-.011)
Ethnicity x Occupation W				-.406 (-.041)*	.686 (.053)*	.395 (.041)
Ethnicity x Income H				.000045 (.038)	-.0000026 (-.023)	.00000017 (.002)
Ethnicity x Income W				.0000076 (.036)	-.0000091 (-.041)	.0000011 (.066)*
Constant	.047	.009	.078	-.322	-.072	.027
R <sup>2</sup>	.25	.13	.12	.27	.13	.12

\*p ≤ .05. Standardized regression coefficients in parentheses

Note: In equation (4) the interaction of ethnicity with wife's education caused problems of collinearity. This term was removed and a new equation was computed as shown in this table.

Table 6. Multiple Regression Results of Children Ever Born for Women Aged 35-49, Canada: 1991.

Independent Variables	(1) H/W Aboriginal b(Beta)	(2) H Aboriginal b(Beta)	(3) W Aboriginal b(Beta)	(4) H/W Aboriginal b(Beta)	(5) H Aboriginal b(Beta)	(6) W Aboriginal b(Beta)
Age of Women	.036 (.107)*	.023 (.092)*	.028 (.107)*	.052 (.289)*	.024 (.092)*	.028 (.105)*
Ethnicity (aboriginal)	1.749 (.414)*	.218 (.043)*	.498 (.116)*	1.073 (.719)*	.901 (.178)*	1.583 (.369)*
Years of Schooling of H	-.024 (-.071)*	-.009 (-.034)	-.013 (-.045)*	-.029 (-.082)*	-.012 (-.042)	-.011 (-.390)
Years of Schooling of W	-.037 (-.091)*	-.027 (-.082)*	-.024 (-.070)*	-.044 (-.106)*	-.022 (-.068)*	-.022 (-.064)*
Occupation of Husband	.111 (.027)	.054 (.017)	.058 (.018)	.125 (.023)*	.056 (.018)	.054 (.017)
Occupation of Wife	.087 (.022)	.056 (.018)	.077 (.025)	.128 (.031)*	.052 (.017)	.050 (.016)
Income of Husband	.00000097 (.020)	.00000007 (.00019)	-.00000041 (-.011)	-.00000081 (-.016)	-.00000072 (-.022)	-.00000011 (-.003)
Income of Wife	-.00000093 (-.113)*	-.00000088 (-.144)*	-.00000088 (-.137)*	-.000011 (-.129)*	-.0000086 (-.140)*	-.0000087 (-.136)*
Ethnicity x Education H				-.032 (-.255)*	.031 (.072)	-.027 (-.074)*
Ethnicity x Education W				-.047 (-.362)*	-.084 (-.199)*	-.042 (-.110)
Ethnicity x Occupation H				.112 (.019)	-.239 (-.010)	-.216 (-.011)
Ethnicity x Occupation W				.162 (.036)	.043 (.003)	.379 (.030)
Ethnicity x Income H				-.00000043 (-.010)	.00000079 (.006)	-.0000088 (-.083)*
Ethnicity x Income W				.00000058 (.007)	-.0000042 (-.019)	-.0000032 (-.015)
Constant	1.69	1.95	1.76	1.43	1.91	1.73
R <sup>2</sup>	.26	.05	.06	.18	.05	.06

\*p .05. Standardized regression coefficients in parentheses

In general, our findings are consistent with earlier works in the area of ethnicity and fertility (Van Heek, 1956; Day, 1968; Goldscheider and Uhlenberg, 1969; Sly, 1970; Bean and Marcum, 1978; Trovato and Burch, 1980; Ram and Romaniuc, 1985; Trovato, 1981, 1987). Pronatalist norms of aboriginal people appear to be a significant source of high fertility, serving to delay a convergence in fertility level with the larger society. Discrimination and insecurities experienced by highly educated minority couples has the effect of suppressing completed family size, a situation similar to Blacks in the United States, where as a group they have above average fertility, but upwardly mobile members of the Black community have lower fertility than Whites.

Finally, Canadian aboriginal peoples are becoming increasingly integrated to the broader Canadian society; they are now actively seeking a higher prominence in the society, and their pronatalist values should gradually erode over time. The exact timing of fertility convergence with the larger society is uncertain.

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#### *Endnotes:*

1. This rate is only for the registered Indians unlike the census measure of children ever born, in which all the aboriginal peoples such as Metis and Inuit are included (i.e., those who filled out the census questionnaire).
2. The welfare system in advanced societies is viewed as a factor in fertility transition. It is often argued that the socialization of the unemployment insurance, care of the sick, old age security, have an effect of weakening the motivation for having children. In the case of aboriginal peoples, the dependency on welfare, the amount of which is determined, to some extent, by the size of the family; and the increase in the number of unwed mothers as they may draw higher welfare benefits than those legally married, may affect fertility in a negative way (Romaniuc, 1993).
3. The Dutch birth rate was among the highest of all west European countries before 1940. Among the Dutch people, Dutch Catholics had the highest birth rate (Van Heek, 1956).
4. The discontinuity of modernization is the irregular nature of modernization where "individuals may be modern in one sphere, and traditional in another" (Schnaiberg, 1970). For example, the James Bay Indians of Canada began to

adopt bottlefeeding instead of breastfeeding in the late 1960s, but "there was no evidence of wide spread acceptance of modern methods of birth control" (Trovato, 1987). The shift from breastfeeding to bottlefeeding resulted in a reduction of the women's postpartum infecundability intervals, increasing their overall fertility (Romaniuc, 1981; Romaniuc, 1984).

5. On the social and demographic side, modernization involves significant alterations in fertility, mortality, and migration: in place of residence; in family size and structure; in the educational system; and in public health services (Easterlin, 1983: 563).

6. The Canadian censuses 1971 and 1981 shows that women in secondary and higher level had less number of children ever born than those who had low level of education in every age group (Ram and Romaniuc, 1985; Romaniuc, 1987).

7. In the 1991 census, "aboriginal peoples" include Inuit, Metis, and North American Indians.

8. There may be sampling error in this case, since 10 percent sample is drawn out of PUMF sample which is already a sample of the census. For example, while taking the sample of a sample, the latter sample may be ethnically biased with one ethnic group representing more than the other groups or age biased like one particular age group women representing more than the other age groups, etc.

9. Mid-points were assigned as shown below:

Census Coding	Mid-points
no schooling	0.0
1-4 years of schooling	2.5
5-8 years of schooling	6.5
9-13 years of schooling	11.0
14-17 years of schooling	15.5
18 or more years of schooling	19.0

10. Although, a recent article in Ottawa Citizen (March 28, 1998) reports that about 34 percent of Canadian aboriginal peoples are marrying non-aboriginal Canadians and that aboriginal peoples are migrating from rural to urban areas and are mixing with non-aboriginal peoples in schools (including post secondary schools) and workplace, it is difficult to predict "complete assimilation" with certainty from our cross-sectional data analysis. One reason is that aboriginal peoples are aware of the fact that their "full status" government facilities become "reduced status" through intermarriage with non-aboriginal peoples under the Bill C-31 legislation introduced in 1985 which might ultimately lead to the extinction of the First Nations. On the one hand, aboriginal peoples seem to enjoy living in "White society," while most of them do not want to lose the benefits and the recognition as "First Nations" (Spears, 1998).

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