

no
disk
of the

Final
version

7220-1201

Final Report
Patterns of Employment, Unemployment
and Poverty

Part One

Prepared By

Stewart Clatworthy

Jeremy Hull

Neil Loughran

Four Directions Consulting Group

January, 1995

Four Directions Consulting Group

410 - 112 Market Avenue, Winnipeg Manitoba, R3B 0P4
Telephone: (204) 944-0007 FAX: (204) 943-7958

Contents

	Page
Summary and Conclusions	v
Section 1: Introduction	1
Section 2: Concepts, Definitions and Data Sources	3
The Aboriginal Population	3
Geographical Constructs	9
Section 3: A Profile of Aboriginal Education and Training Characteristics	13
Educational Attainment	13
Highest Level of Schooling	14
Educational Certification	21
Occupational Training	34
Attendance in Post-Secondary Programs	34
Post-Secondary Success	47
Education and Aboriginal Culture	52
Summary: Education and Training Characteristics	55
Section 4: Factors Affecting Aboriginal Post-Secondary Attendance and Completion	58
Introduction	58
The Statistical Approach	60
Attendance in Non-University, Post-Secondary Programs	65

Contents (Cont'd)

	Page
Completion of Non-University, Post-Secondary Programs	69
Attendance in University Programs	80
Completion of University Degrees	86
Summary: Post-Secondary Attendance and Completion	91
 Section 5: A Profile of Selected Aboriginal Labour Market Circumstances	 94
Labour Force Participation Rates	94
Unemployment Rates	105
1990 Work Status	115
Industry and Occupation Structure	123
Employment by Industry Group	125
Employment by Occupational Group	144
Employment Earnings and Income Sources	164
Average 1990 Employment Earnings	164
Share of Income Derived From Employment	167
Perceived Barriers to Employment	169
Lack of Jobs in the Area	172
Inappropriate Education or Work Experience	178
Lack of Job Information	182
Being Aboriginal	182
Lack of Child Care Access	191
Summary	194

Contents (Cont'd)

	Page
Section 6: Factors Affecting Selected Aboriginal Labour Market Outcomes	200
Labour Force Participation Rates	200
Labour Force Participation in the Far North Region	200
Labour Force Participation in the Mid-North and Southern Region	209
Participation and the Ability to Speak an Aboriginal Language	215
Employment Rates	225
Employment in the Far North Region	226
Employment in the Mid-North and Southern Regions	232
Employment and Occupational Training Completion	236
Employment and Duration of Occupational Training	246
Employment and Financial Assistance for Occupational Training	261
1990 FYFT Employment Status	264
1990 FYFT Employment in the Far North Region	266
1990 FYFT Employment in the Mid-North and Southern Regions	271
Summary: Factors Affecting Selected Aboriginal Labour Market Outcomes	274
Section 7: Profile of Aboriginal Business Ownership and Self-Employment	280
Incidence of Business Ownership	281
Business Ownership and Location	285
Business Ownership and Magnitude of Business Control	291
Business Ownership by Sector	294
Business Ownership and Education	297

Contents (Cont'd)

	Page
Business Ownership and Financing	297
Business Ownership and the Labour Force	301
Business Ownership and income	308
Summary	313
 Section 8: Factors Affecting Aboriginal Business Ownership and Self-Employment	 316
Determinants of Business Ownership	316
Determinants of Successful Business Ownership	322
Business Status, Highest Level of Schooling and Location of Residence	323
Business Status, Highest Level of Schooling and Type of Business	326
Business Status, Location and Size of Business	329
Business Status, Period of Commencement and Sources of Financing	331
Summary	337
 Section 9: Future Growth in the Aboriginal Labour Force	 341
Projected Labour Force Growth	341
Projected Employment Growth	351
Summary	360
 Bibliography	 361
 Appendix A: Parameter Estimates Associated With Logit Models	

Summary and Conclusions

In this study, data from the Aboriginal Peoples Survey and the 1991 Census of Canada are used to examine several aspects of the education, training, labour market behaviour and business ownership patterns of Canada's Aboriginal population. In addition to presenting an extensive descriptive profile of the above dimensions of the population, the report presents the results of series of statistical analyses which are designed to explore the role of a variety of factors that are believed to influence the participation and success of Aboriginal peoples in education and training activities, in the labour market, and in starting and operating a business. Estimates of future growth in the Aboriginal labour force age group and the relationship of this growth to projected labour demand are also provided in the report.

The main report is structured into nine sections. Section 1 identifies the study's scope and objectives. Key concepts and definitions, as well as the study's main data sources are discussed in Section 2. A profile of the education and training characteristics of the population is provided in Section 3. Section 4 presents the results of statistical analyses designed to examine factors affecting Aboriginal participation in post-secondary education and training programs and factors influencing successful completion of these programs. Section 5 provides a profile of Aboriginal labour market circumstances. The results of statistical analyses of various factors affecting Aboriginal labour market outcomes are presented in Section 6. Patterns of Aboriginal business ownership and self-employment are

contained in Section 7. Statistical analyses of selected factors affecting Aboriginal business ownership rates and business outcomes are discussed in Section 8. Section 9 provides estimates of growth in the Aboriginal labour force age group during the 1991-2006 time period and examines the relationship between this growth and the projected demand for labour over this time period.

Summary of Main Findings

The study's main findings are summarized below:

Education and Training

- In spite of an increasing proportion of the Aboriginal population having attended post-secondary programs, as a whole the population continues to lack educational credentials, particularly in the form of high school and post-high school certification. Less than 40 percent of the Aboriginal population aged 15 or more years who are not attending school full time, report certification at or beyond the high school level. Less than 4 percent of the population report university degrees.
- Large geographic variations exist in levels of educational attainment among the Aboriginal population. In relation to other groups, off-reserve residents, especially those residing in southern urban areas report the highest levels of educational attainment. Aboriginal residents in the far north region and on-reserve report the lowest levels of educational attainment.
- Sizable differences in educational attainment also exist among identity groups. Non-status Indians report the highest levels of educational attainment. Although lagging those of non-status Indians, levels of educational attainment among Metis also exceed those of registered Indians and Inuit by a large margin.

- Educational levels of the Aboriginal population are higher among older individuals than among youth, suggesting that many Aboriginal people have enrolled and completed educational programs after spending some period of time out of school.
- Data concerning high school completion and post-secondary attendance suggest that entry into post-high school programs may present less of a barrier to Aboriginal students, than high school graduation per se.
- Aboriginal post-secondary students tend to be concentrated within a narrow range of fields of study, particularly trades and applied sciences among males, and commerce, business administration and health care among females.
- High school certification plays the major role in completion of university and non-university, post-secondary programs. While lack of high school completion does not prevent some Aboriginal students from completing post-secondary programs, they are much more likely to have success if they have completed high school. This is especially true for those enrolled in university programs.
- Rates of completion of non-university, post-secondary programs are strongly influenced by age, suggesting that those who are older have had more time to complete their education and/or that a larger proportion of older (as opposed to younger) students are successful.
- The ability to speak an Aboriginal language does not appear to affect entry into non-university, post-secondary programs. It does, however, appear to reduce the likelihood of successfully completing both university and non-university, post-secondary programs. This finding suggests that cultural and/or social barriers may exist for Aboriginal students within the Canadian post-secondary education environment, and/or that students coming from more isolated communities may not be provided with as strong a preparation for higher education as other students.

- Single parenthood does not present a barrier to entry into non-university, post-secondary programs. On the contrary, lone parents are more likely than others to participate in such programs.

Labour Market Circumstances

- In 1991, roughly 72 percent of Aboriginal males and 53 percent of Aboriginal females were active in the labour force. Rates of participation, however, varied widely among identity groups, being highest among non-status Indians and lowest among registered Indians. Labour force participation rates among Inuit also lagged those of non-status Indians and Metis.
- As expected, rates of participation tend to be higher among males and among older individuals, a situation consistent with that documented (elsewhere) for the non-Aboriginal population.
- In relation to individuals lacking a high school certificate, individuals with high school certificates have a much higher rate of labour force participation, regardless of gender. The positive effects of education on labour force participation, beyond the high school level, appear to be pronounced only among Aboriginal females.
- Although rates of participation are lower among lone parents, the presence of children at home does not appear to reduce levels of labour force participation among other marital status groups. Lone-parenthood, rather than the presence of children per se, appears to be a more limiting factor in Aboriginal labour force participation.
- Quite large differentials in labour force participation rates exist between the Aboriginal populations residing on and off reserve. Participation rates among reserve residents are sharply lower than those of off-reserve residents. Among off-reserve residents, variations in rates of participation among the far north, mid-north and southern geographic zones are not pronounced.

- Rates of labour force participation vary widely among provinces/regions being highest in Ontario, British Columbia and Northern Canada and lowest in the Atlantic and Prairie regions and the province of Quebec.
- Although rates of participation do not vary among individuals who do and do not participate in traditional cultural activities, individuals with Aboriginal language speaking ability report substantially lower rates of participation than others.
- Nearly 25 percent of the active Aboriginal labour force (who were not attending school full time) were unemployed at the time of the census. Rates of unemployment are significantly higher among youth, males, and registered Indians.
- Unemployment rates are strongly patterned over highest level of schooling among both males and females. Among males, individuals lacking a high school certificate are 7.3 times more likely than those with a university degree (1.6 times more likely than those with a high school certificate) to be unemployed. Unemployment rates among males with post-secondary schooling, but no university degree) are roughly comparable to those of high school graduates. A similar pattern of unemployment over education groups exists among females.
- Unemployment rates among lone parents are higher than those of all other marital/parental status groups, regardless of gender. Rates among other marital/parental status groups do not vary greatly. Lone parenthood appears to not only lower rates of participation but also the likelihood of employment among those who do participate.
- Not surprisingly, unemployment rates are found to vary widely among geographic zones and among province/regions. In relation of other zones, rates of unemployment are highest among on-reserve residents and residents of the far north. Unemployment rates among southern residents, especially those residing in rural areas are substantially lower. In relation to all other provinces/regions, Aboriginal unemployment rates are lowest in Ontario and highest in the Atlantic region. Little variation in rates of unemployment exists among the other provinces/ regions.

- In general, occupational training is linked to positive labour market outcomes. Completion of occupational training programs is found to have a sizable positive effect on employment. However, those who completed shorter courses (of less than 4 weeks duration) are found to have higher rates of employment than those who completed longer training courses.
- Those who received financial support in the form of training allowances during their occupational training courses are less likely to be employed than those who did not receive such assistance.
- Less than 44 percent of the Aboriginal identity population that was employed in 1990 worked on a full-year and full-time basis (FYFT). FYFT employment rates do not vary much by gender group but are significantly higher among older workers than youth.
- Among female workers, rates of FYFT employment do not vary greatly by identity group. Among males, however, FYFT employment is much more common among non-status Indians. Rates of FYFT employment are especially low among registered Indian males.
- The likelihood of FYFT employment among Aboriginal workers increases with education level. The effect appears to be most pronounced for individuals with a university degree, who are about 2.2 times more likely to work FYFT than individuals who lack a high school certificate. Individuals with a high school certificate are also much more likely to work FYFT than those who lack a certificate.
- Patterns of FYFT employment over geographic zones differ among males and females. Among males, residents of reserves report lower levels of FYFT employment than off-reserve residents. Among females rates of FYFT employment on reserve are roughly comparable to those of off-reserve residents.

- In relation to other provinces/regions, Aboriginal workers in the provinces of Ontario and Quebec report the highest rates of FYFT employment. Rates of FYFT employment in the Prairie region are roughly equivalent to the national average. All other provinces/regions report rates of FYFT below the national average.
- Census data on employment by industry group reveal large differences in the industrial structure of the employment base of Aboriginal and non-Aboriginal workers. In relation to non-Aboriginal workers, Aboriginal workers are over-represented in seven industry groups, including: fishing/trapping/logging/forestry, mining/oil/gas/quarrying, hospitality industries, and local, provincial and federal government services. Aboriginal workers are under-represented in agriculture, manufacturing, wholesale trade, finance/insurance, real estate/insurance agents, and business services.
- Aboriginal workers are especially over-represented in government services, which account for more than 15 percent of all Aboriginal workers (a level roughly twice that of non-Aboriginal workers). Over-representation in government services is most prevalent among registered Indian and Inuit workers. More than 29 percent of all registered Indian workers hold jobs in government services, nearly four times the level of non-Aboriginal workers. More than 24 percent of Inuit workers are employed in government services, roughly three times the level of non-Aboriginal workers. In relation to non-Aboriginal workers, Aboriginal workers are over-represented in government services in all geographic locations considered in this study.
- Industries directly dependent upon public financing sources (including government services, education and health services) account for more than 47 percent of the jobs located on reserve, a level nearly twice that off reserve. In relation to the off-reserve context, manufacturing and other tertiary sector jobs form a much smaller component of the on-reserve employment base.

- Although Aboriginal workers hold the majority of jobs located on reserve, roughly 39 percent of all reserve jobs are held by non-Aboriginal people. Aboriginal workers hold the majority of on-reserve jobs in the primary sector, government services and education/health services. Aboriginal workers hold a minority of the on-reserve jobs in manufacturing, as well as, other tertiary services.
- Large differences are also identified between Aboriginal and non-Aboriginal workers in terms of occupational groups. Although the proportion of Aboriginal and non-Aboriginal workers in senior management is roughly equal, Aboriginal workers are under-represented in middle management, professional occupations, and in skilled or technical occupations and over-represented in intermediate level and support worker/labourer level occupations.
- Differences between the occupational distribution of jobs held by Aboriginal and non-Aboriginal workers are greater among males than females. With the exception of senior management occupations, which form a fairly small component of all occupations, the distributions of occupations held by Aboriginal and non-Aboriginal females are quite similar. The occupational levels of Aboriginal and non-Aboriginal males, however, are similar only with respect to employment levels in senior management.
- In relation to all other identity groups, registered Indians are considerably more likely to be employed in senior management occupations, a situation which appears to result from on-reserve governmental structures. Senior management occupations form about 2.8 percent of all jobs located on reserve, a level nearly three times higher than off reserve.
- Average 1990 employment earnings across all groups of Aboriginal workers total about \$17,370. Average employment earnings are highest among non-status Indian workers, who earn roughly \$5,300 more than registered Indian and Inuit workers and \$2,600 more than Metis workers.

- Among FYFT workers, Aboriginal workers in urban areas report the highest average employment earnings (\$25,400), roughly \$1,000 higher than off-reserve rural workers, and \$5,300 higher than workers residing on reserve.
- Employment earnings accounted for roughly 73.5 percent of the total individual (monetary) income of Aboriginal population in 1990, although considerable variability existed among provinces/regions. In relation to other provinces/regions, employment earnings account for a much larger share of the total income in northern Canada and the province of Ontario. The share of income from employment among the Aboriginal populations of the Atlantic region, Quebec and the Prairie region is significantly lower than the national average.
- Employment earnings form a much larger share of the total income of the Aboriginal population residing off-, as opposed to on-reserve.
- Lack of local/regional job opportunities is perceived most commonly as an employment barrier among unemployed Aboriginal individuals. More than 68 percent of the individuals who sought work in 1990 or 1991 identified this factor as a barrier.
- Inappropriate education and/or work experience was cited as an employment barrier by roughly 44 percent of the Aboriginal individuals who looked for work in 1990 or 1991. Lack of information about available jobs was identified as an employment barrier by 27 percent of those who sought work during this time frame.
- Being Aboriginal was regarded by 18 percent of those who looked for work in 1990 or 1991 as an employment barrier, although this view was expressed much more commonly by registered Indians (23 percent) and by residents of reserves, especially those located in the southern region. Aboriginal residents of the far north and southern off-reserve, rural areas were least likely to cite this factor as an employment barrier.

- Lack of child care access was identified as an employment barrier by roughly 10 percent of the Aboriginal individuals who sought work in 1990 or 1991. As expected, Aboriginal females (especially parents) were considerably more likely than males to identify this factor as an employment barrier.

Business Ownership and Self-Employment

- Roughly 21 percent of the Aboriginal labour force age group reported owning or having owned a business. Approximately 12 percent of the population reported current business ownership (and/or income from self-employment). Levels of business ownership and/or self-employment are similar among non-status Indians, Metis and Inuit. A substantially lower incidence of business ownership/self-employment, however, is found among registered Indians.
- The incidence of current ownership among Aboriginal people is higher than the incidence of prior ownership. This may be a consequence of increased proportions of the Aboriginal population residing off-reserve, higher levels of educational attainment, more accessible financing, or assimilation into the general economy.
- As expected, the 25-54 year age group shows the highest incidence of business ownership. It is not surprising that the incidence of business ownership among males is nearly twice that of females.
- The incidence of business ownership is substantially higher for Aboriginal people who live off reserve, as opposed to on reserve. Among the provinces/regions, the incidence of business ownership is highest in British Columbia and Northern Canada. All other provinces/regions show a similar, but much lower, incidence of ownership.

- Incidence of business ownership increases with level of schooling, being highest among university graduates and lowest among individuals lacking high school certificates. Individuals with some post-secondary education or with university degrees are roughly twice as likely as those lacking high school certificates to be business owners.
- Roughly 85 percent of Aboriginal business owners are active in the labour force, and 86 percent of those in the labour force are employed. By skill group, the largest proportions of owners are in the skilled trades and intermediate level skill groups. The lowest proportion is in the senior management skill group. By occupation, owners are most commonly found in middle management; sales and service; trades, skilled and intermediate transport and equipment operators; and primary industries.
- Most Aboriginal business owners own only one business. As well, most owners have either no employees or 1 to 5 employees. In general, current businesses are smaller than prior businesses.
- The highest percentages of business ownership are in the trade accommodation, and food services sector, the construction sector, and primary products sector. Higher concentrations of ownership might be expected in these sectors because of their local nature and general ease of access. Very few Aboriginal businesses operate in the manufacturing sector.
- A large majority of Aboriginal business owners received financing from sources other than bank or trust companies, Aboriginal development corporations, or government. Surprisingly, after "other" sources, the next most frequent source of financing is bank or trust companies. Governments and Aboriginal development corporations have been much less frequent sources of financing. From 1981 to 1991, the incidence of financing by Aboriginal development corporations and by "other" sources increased while the incidence of financing by government decreased. The incidence of financing by bank and trust companies also appears to have declined, but only since 1986.

- In general, the distribution of income for Aboriginal people who are current business owners is strongly skewed towards higher levels of income when compared to that of prior owners or to those who never owned a business. Although current business ownership appears to contribute to higher incomes, prior owners also tend to earn higher incomes than individuals who never owned a business. Factors which underlie both current and prior business ownership appear to contribute to higher incomes.

- In comparison to those who have never owned a business and to prior business owners, current owners show a substantially higher proportion of income from employment and a substantially lower proportion of income from government. The proportions of income from investments are similar for all groups. Most Aboriginal business owners take their business income as employment income.

- The incidence of business ownership in the urban south and the rural south is higher than in any other location, regardless of level of schooling. This may result from greater or more stable product demand, lower expected costs of doing business, and fewer obstacles from legal, socio-political and dependency factors.

- The success rate in terms of continuing ownership for Aboriginal business owners with some post secondary or university education, is low especially relative to those with a high school certificate.

- Rates of continuing business ownership tend to be higher among business owners on reserve, suggesting that once an Aboriginal person enters into business on a reserve certain locational advantages such as reduced competition or greater access to government financial assistance are able to overcome other locational disadvantages.

- The highest level of ownership stability is in the professional/finance sector. This finding might reflect a particularly advantageous balance of demand and supply factors facing owners of such businesses. The relative stability of ownership identified for primary industries may result from continuous subsidization of many producers by governments, and the fact that many of these owners engage in a series of complementary and seasonally appropriate, business and employment activities during the year.
- Findings concerning business size, which suggest higher failure rates among larger business, are consistent with the hypotheses that business skill levels, capital requirements, market factors and socio-cultural factors all inhibit the long term success of larger sized Aboriginal businesses.
- In general, owners who received government or Aboriginal development corporation financing have been better able to continue as business owners. These financing sources may be able to do a better job of targeting and providing business assistance, and they may be more apt to provide larger amounts of financing or more frequent re-capitalization than other sources of financing. As well, relative to bank and trust companies at least, they may be more able to concentrate on the financing of businesses on reserves (which appear to be more successful in terms of longevity).
- The variation over time and the recent large decline in the rates of continuing ownership for recipients of Aboriginal development corporation financing suggests that there may be problems with the focus, organization or processes of financing by this source. Nevertheless, rates of continuing ownership among owners financed through these corporations are comparable to those of owners financed through banks and trust companies. The decline and variability over time in rates of continuing ownership among recipients of government financing suggests that there may be similar problems with financing by this source. Rates of continuing ownership for recipients of bank and trust company financing have remained generally stable over time. Owners financed through other sources such as equipment and inventory suppliers, franchisees, bands, and friends and relatives, as a group, have not performed as well in terms of continuing ownership.

- Study findings concerning period of business commencement, to the effect that business longevity reinforces itself are consistent with the findings of many studies of non-Aboriginal and Aboriginal small businesses. In light of the emphasis placed on longevity as a causal factor for greater longevity by some of the literature concerning government financing programs, it is interesting that there is a relatively small increment in the probability of continuing ownership over time. The finding that owners who commenced business after (as opposed to prior to) 1986 show an increased probability of not being successful may also point to the recent economic downturn as a causal factor; or, it may indicate that most of the viable business niche - entrepreneurial talent combinations are becoming exhausted.

Future Labour Force Growth and Labour Demand

- The Aboriginal population of labour force age is expected to grow rapidly over the next 15 years, achieving a level roughly 50 percent larger than that in 1991. The rate of growth is expected to vary among provinces/regions, being largest in Ontario and in the western provinces.
- Employment growth will depend on the employment rates achieved by the Aboriginal labour force. If an employment rate equal to the Canadian norm is to be achieved, Aboriginal employment will need to grow by more than 80 percent over the next 15 years.
- In order to achieve employment rates similar to the Canadian norm, employment among Aboriginal youth and women will need to grow substantially.
- If it is desired that the Aboriginal labour force should have the same occupational distribution as Canadians generally, very large increases in employment in certain occupations, such as sales, services (skilled and unskilled), middle management, skilled trades, and social service, government and educational professions will be required. This suggests that substantial Aboriginal education and training programs would be required in these fields.

- In order to maintain the employment rates at their current levels on reserves, some 21,000 new jobs will need to be created on reserves by the year 2006. If employment rates on reserves are to increase to levels approximating Canadian norms, some 63,000 new jobs on reserves will be needed (a 150 percent increase over present levels). This suggests that without substantial reserve economic development, levels of off-reserve migration are likely to increase.

Conclusions

Although the research conducted for this study has touched upon a rather large and diverse range of issues, the analyses lead to a number of more general observations and conclusions. In this regard, we caution the reader that the formal statistical analyses conducted for this study were constrained by data limitations which prevented some potentially important factors from being considered. The inclusion of other factors in the analyses could produce additional or differing findings and suggest alternative explanations for the relationships explored in this study.

Considerable differences in educational, labour market and business outcomes have been identified among Aboriginal identity groups. These differences, which are not attributable to other factors considered in our analyses, suggest the possibility that differing cultural characteristics of the identity groups work to enhance or inhibit educational and training success, employment opportunities and prospects, and business success.

Further evidence of the role of cultural factors is suggested by the study's results concerning the effects of Aboriginal language ability on education and training performance and labour market circumstances. Although the ability to speak an Aboriginal language does not appear to reduce the likelihood of participation in post-secondary education programs, those who speak an Aboriginal language are considerably less likely to complete such programs. In addition, Aboriginal language speakers are less likely to participate in the labour force or to be employed. These findings suggest that cultural or social barriers may exist for Aboriginal peoples within the Canadian post-secondary education environment and in the labour market.

The analyses have also identified quite large differences in the labour market circumstances and the education and training program performance of various demographic groups within the Aboriginal population. In relation to all other groups, young males have been found to experience the greatest difficulties in obtaining employment and FYFT employment. In addition, Aboriginal youth in general appear to be much less likely than older individuals to succeed in post-secondary educational and training programs or in business.

Several aspects of our analyses also attest to the labour market difficulties experienced by Aboriginal lone parents. In relation to all other marital/parental status groups, lone parents are much less likely to participate in the labour market and to obtain employment. As lone parents form a very large segment of all Aboriginal families, improvements to the economic well-being of many Aboriginal children are

likely to hinge upon the achievement of greatly improved labour market circumstances among lone parents. In the absence of such improvements, it is difficult to envision how a significant reduction in the levels of poverty and child poverty currently experienced by the Aboriginal population can be accomplished.

Levels of educational attainment and labour market circumstances of reserve residents lag behind those of off-reserve residents by a large margin. Moreover, the benefits (in terms of labour market outcomes) associated with education among reserve residents tend to be quite small in relation to the returns to education among residents of other locations. This situation suggests the existence of structural differences between on- and off-reserve labour markets, which have the effect of reducing the importance of schooling and educational certification to employment on reserve. In short, educational characteristics play a much reduced role in the job allocation process on, as opposed to off, reserve.

Key dimensions of the differences between the on- and off-reserve labour markets relate to the industrial and occupational structure of the employment base. In sharp contrast with the context off reserve, a sizable majority of the on-reserve employment base consists of jobs which are directly dependent upon public financing (e.g. governmental, education and health care services). In light of the serious and persistent fiscal problems which confront governments at all levels, concerns must exist about the longer term sustainability of on-reserve economies which are so heavily dependent on public financing. Diversification of reserve economic bases would seem to be critical to furthering Aboriginal goals of economic self-determination and self-government.

Although less pronounced than on reserve, Aboriginal labour in the off-reserve context is also highly concentrated in industries and occupations which are heavily dependent upon public resources. In the off-reserve context, continued improvements to Aboriginal employment circumstances in the future may depend upon the population's ability to increase penetration of the private sector labour market.

Our analyses of the relationships among education, labour market behaviour and business ownership clearly confirm the value of high school certification and university completion, while at the same time raising questions about the appropriateness and effectiveness of non-university, post-secondary education. The comparatively weak labour market outcomes of this group suggest that current post-secondary programming is not linked effectively to the job market, at least for Aboriginal students.

The study has also identified a generally positive link between occupational training and labour market outcomes. Completion of occupational training programs clearly contributes to higher levels of employment. At the same time, however, our analyses raise questions about the relative value of longer (as opposed to shorter) occupational training courses and about the role of student living allowances. In this regard, data reveal that those who received allowances for occupational training were less likely to be employed than those who completed training without assistance. This result may, to some extent, reflect the use of longer term training programs as a means of income support, rather than as a vehicle for obtaining marketable skills.

Our analyses of Aboriginal business ownership and self-employment patterns reveal that a surprisingly large proportion of the adult population (more than one-fifth) own (or have owned) a business or are self-employed. Roughly 12 percent of the population currently own at least one business. Rates of business ownership, however, are found to be highly variable by location: being lowest on reserve and highest in southern areas. The comparatively low level of ownership on reserve may be attributable to several factors including difficulties obtaining financing, weak demand, historical dependency or social-political cultures that are not supportive of business ownership. Higher levels of ownership in southern off-reserve areas may result from greater or more stable product/service demand, lower expected costs of doing business, and fewer obstacles from legal and socio-political factors.

Although the likelihood of business ownership is lower among on-reserve residents, on-reserve business owners report lower rates of business failure than their off-reserve counterparts. This situation may reflect certain locational advantages such as reduced competition, *captive* markets or greater access to government financial assistance.

Education appears to be positively correlated with the likelihood of business ownership among the Aboriginal population. Individuals with post-secondary schooling report the highest rates of business ownership. Higher levels of education, however, do not appear to translate into lower rates of business failure.

Analyses also suggest that business failures are more common among larger, as opposed to smaller, businesses, a finding consistent with the hypothesis that business skill and capital requirements, market factors and socio-cultural factors all work to inhibit the long term success of larger-sized Aboriginal businesses.

Most Aboriginal businesses received financing from sources other than government or Aboriginal development corporations. Between 1981 and 1991, the incidence of financing from Aboriginal development corporations has increased while that by government has decreased. In general, owners who received government or Aboriginal development corporation financing appear to have lower rates of business failure. This finding suggests that, in relation to other financing sources (e.g. banks and trust companies, non-institutional sources), government and Aboriginal development corporations may be able to do a better job of targeting and providing business assistance and/or be more apt to provide larger amounts of financing or re-capitalization to Aboriginal businesses.

The study's results also suggest that business failure rates have increased in the post-1986 period, especially among businesses financed through government or Aboriginal development corporations. Although reasons for this pattern are not clear, the results may reflect a number of factors including the recent economic downturn, the saturation of viable business niche-entrepreneurial talent combinations, or difficulties with the focus, organization or processes of financing from these sources. In the case of Aboriginal development corporations, however, business failure rates during the post-1986 period, continued to be lower than those of all other sources of financing.

Canada has embraced the principle of employment equity for Aboriginal peoples as well as other segments of the population. This principle implies that Aboriginal peoples should be represented in various occupations in proportion to the size of their labour force population. To reach this goal by the year 2006 would require an 84 percent increase in the number of Aboriginal people employed across Canada, and it would require a substantial shift in the occupational distribution of Aboriginal labour force. These developments, in turn, imply that Aboriginal education and skill levels need to be both raised and diversified. The occupations in which Aboriginal people are under-represented are often those requiring higher levels of general education and specific skill training.

As we move from the bigger picture to a more detailed examination of labour force growth among different segments of the population, it becomes apparent that the employment equity challenge is even greater. Among the on-reserve Aboriginal population, employment would need to more than double in order to achieve an employment rate similar to that of the general Canadian population, yet reserves are generally characterized by weak local economies, lack of economic development and a relatively less educated labour force. In addition, the employment success of Aboriginal youth and women, in particular, would need to increase dramatically in order to reach the equity objective. It is clear that employment equity for Canada's Aboriginal population represents a major challenge, encompassing education, training, and economic development, with significant implications for migration patterns and the viability of Aboriginal communities.

Section 1

Introduction

This report presents the results of a research initiative designed to explore several facets of the relationship between Canada's Aboriginal population and the labour market. Part One of this broader initiative provides for analyses of secondary data pertaining to four main dimensions of Aboriginal employment. These dimensions include:

- the determinants of (or factors affecting) selected labour market outcomes (e.g. labour force participation, unemployment and work status);
- the economic returns to education and training, including the labour market experiences of post-secondary graduates;
- the characteristics of Aboriginal businesses and business owners, including the self-employed, and analysis of the determinants of selected business outcomes; and
- estimates of future growth in size of the Aboriginal labour force and the sources and extent of the growth in demand for such labour.

-
1. Part Two of the research initiative is concerned with the more detailed analysis of the determinants of Aboriginal labour market outcomes and provides for a comparison of Aboriginal and non-Aboriginal labour market circumstances. This work is being undertaken by researchers from McMaster University and employs micro-level data from the 1991 Census of Canada.

The report presents the results of a series of descriptive and statistical analyses of the educational and training characteristics of the Aboriginal labour force, selected Aboriginal labour market outcomes, and business ownership patterns. In addition, some estimates of growth in the Aboriginal labour force age group during the 1992 - 2006 time period and the relationship of these estimates to projected growth in the demand for labour are also provided.

The remainder of the report is organized into nine sections. Section 2 provides a brief discussion of the study's data sources and the concepts and definitions used in the research. Section 3 provides a profile of selected educational and training characteristics of the Aboriginal population. Section 4 presents the results of a series of statistical analyses designed to identify and measure the effect of several factors on Aboriginal attendance in post-secondary educational programs and on the successful completion of these educational programs. Section 5 provides a profile of selected Aboriginal labour market circumstances including indicators of labour force participation, unemployment, 1990 work status, industry and occupation characteristics, perceived barriers to participation and employment, and employment earnings. The results of statistical analyses focusing on factors affecting Aboriginal labour market outcomes are presented in Section 6. Section 7 provides a description of Aboriginal business ownership and self-employment patterns. The results of statistical analyses concerning factors affecting business ownership/self-employment and selected business outcomes are contained in Section 8. Measures of the projected growth of the Aboriginal labour force age group during the 1991-2006 period and the relationship of this growth to projected labour demand are provided in Section 9.

Section 2

Concepts, Definitions and Data Sources

This section of the report provides a brief description of key concepts and definitions used in this study and their relationship to the study's main data sources.

The concepts and definitions relate to:

- defining the Aboriginal population and sub-groups within the population; and
- the schemes used to define geographical sub-markets within the national labour market.

The Aboriginal Population

Most of the statistical data presented in the report derive from either the 1991 Census of Canada or the Aboriginal Peoples Survey (APS). The 1991 Census and the Aboriginal Peoples Survey provide alternative sources of statistical information concerning Canada's Aboriginal population. The 1991 Census 2B Form can be used to define the Aboriginal population and Aboriginal sub-groups on the basis of *ethnic origin* and registered Indian status.¹ The Aboriginal Peoples Survey sampled the population that reported Aboriginal ethnic origins (or registered Indian status) on the Census, but collected data only for that sub-group of individuals that *identified* with an Aboriginal group (i.e. the concept of Aboriginal identity).

1. A portion of Canada's registered Indian population does not have Aboriginal ethnic origins (e.g. some non-Indian women who gained status by marriage under the pre-1985 Indian Act (Section 11-1(f)). These individuals are considered to be members of the Aboriginal populations by the Census and were included in the sample surveyed by the Aboriginal Peoples Survey.

Roughly 40 percent of the population that reported Aboriginal ethnic origins (on the Census) did not identify with an Aboriginal group on the Aboriginal Peoples Survey.

For the most part, data contained in the report derive from the Aboriginal Peoples Survey (APS) and relate to the population that identified with an Aboriginal group. In this study, we refer to this population as the *Aboriginal Identity Population*.

Many elements of the analyses further differentiate this population on the basis of Aboriginal identity group. Five sub-groups of the population are considered, including:

- **registered Indian** (individuals that identified North American Indian as their only identity group (or who reported a non-Aboriginal ethnic origin) *and* who also reported being registered under the Indian Act);
- **non-status Indian** (individuals that identified North American Indian as their only identity group, but who did *not* report registration under the Indian Act);
- **Metis** (individuals that identified Metis as their only identity group);
- **Inuit** (individuals that identified Inuit as their only identity group); and
- **other Aboriginal** (individuals that identified as North American Indian but who did not report their registration status and individuals that identified with more than one Aboriginal group).

The Aboriginal identity population measured by the Aboriginal Peoples Survey totaled 625,710 individuals. This estimate should not be interpreted as a measure

of the size of the entire Aboriginal identity population, as several of Canada's Indian reserves refused to participate in the 1991 Census and/or Aboriginal Peoples Survey. The effects of non-enumeration on this study are largely unknown, but relate most importantly to registered Indians, who account for the vast majority (about 95 percent) of the Aboriginal population residing on Indian reserves. The effect of non-enumeration on other identity groups is not believed to be of significant consequence to this study.

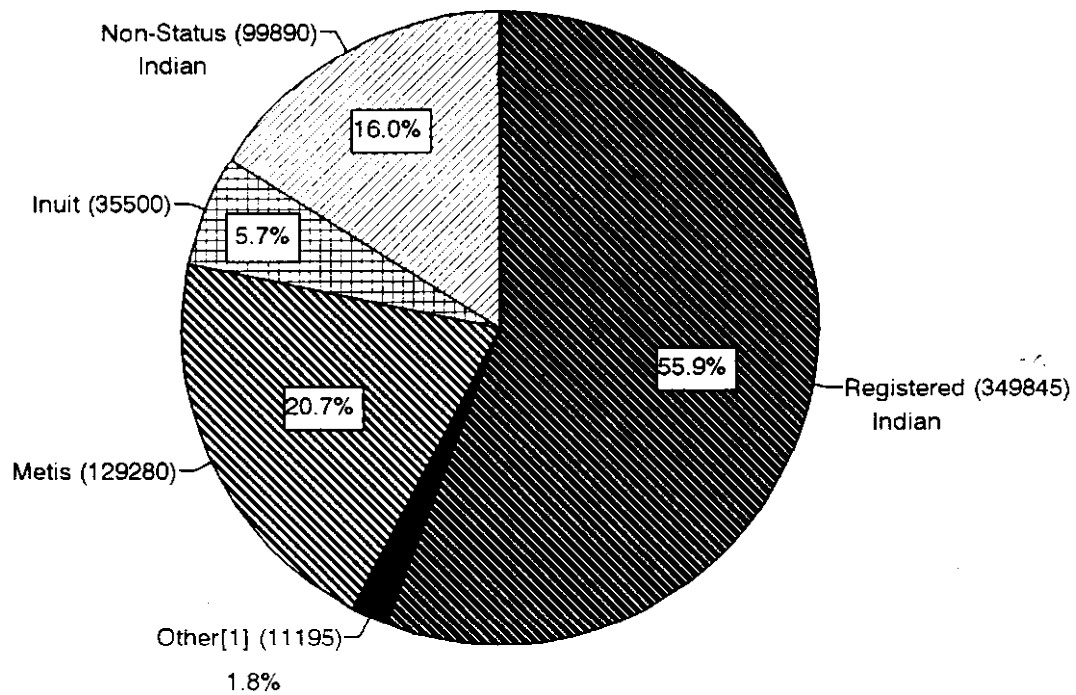
As illustrated in Figure 1, registered Indians accounted for the majority (about 56 percent) of the Aboriginal identity population surveyed by the APS. Metis formed the second largest component and accounted for about 21 percent of the total. Approximately 16 percent of the total identified as non-status (i.e. not registered) Indians and about 6 percent identified as Inuit. The final sub-group, which we refer to as other Aboriginal, represented a fairly small residual population (11,995 individuals [or less than 2 percent of the total]) that could not be assigned confidently to one of the main identity groups.

Sampling properties of the Aboriginal Peoples Survey limit the level of detail at which analysis can be undertaken. Some dimensions of Aboriginal labour market circumstances cannot be adequately explored within the context of cross-classified APS data due to high sampling errors and data suppression. As a consequence, a few components of this study rely on data derived from the 1991 Census and relate to the population reporting Aboriginal ethnic origins (i.e. the Aboriginal ancestry population). These components include analyses of the industry and

1. Readers interested in the nature and extent of non-enumeration for 1991 Census and Aboriginal Peoples Survey should consult the User's Guide to 1991 Aboriginal Data available through Statistics Canada.

Figure 1

Aboriginal Identity Population Showing Distribution by Identity Group,
Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991

[1] Includes North American Indian population with unknown registration status and population with multiple responses to identity.

Excludes population residing on non-enumerated Indian reserves.

occupational structure of the employed Aboriginal labour force and of various geographical labour sub-markets.

Some components of the study's analyses of the 1991 Census data also subdivide the Aboriginal ancestry population according to Aboriginal ethnic origin. Ancestry sub-groups are similar to the identity groups (discussed previously) and include:

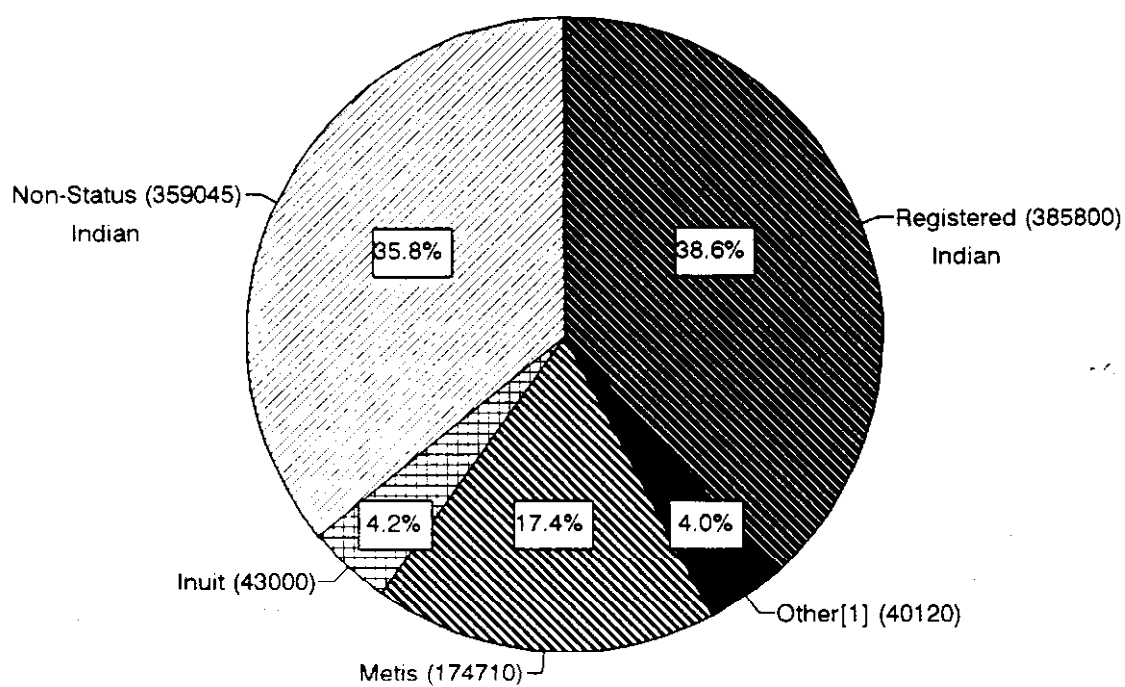
- **registered Indian** (individuals who reported North American Indian ethnic origin (as their only Aboriginal ethnic origin) *and* who also reported being registered under the Indian Act;
- **non-status Indian** (individuals who reported North American Indian ethnic origin (as their only Aboriginal ethnic origin), but who did *not* report registration under the Indian Act;
- **Metis** (individuals that reported Metis as their only Aboriginal ethnic origin);
- **Inuit** (individuals that reported Inuit as their only Aboriginal ethnic origin); and
- **other Aboriginal** (individuals that reported more than one Aboriginal ethnic origin).

The study does not distinguish between single (i.e. Aboriginal only) and multiple (i.e. Aboriginal and one or more non-Aboriginal) responses to ethnic origin.

According to the 1991 Census, the Aboriginal ancestry population totaled 1,002,675 individuals, roughly 60 percent larger than the population that identified with an Aboriginal group on the APS. Figure 2 illustrates the distribution of the

Figure 2

Aboriginal Ancestry Population Showing Distribution by Sub-Group,
Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

[1] Includes individuals that reported more than one Aboriginal ethnic origin.

Excludes population residing on non-enumerated Indian reserves.

Aboriginal ancestry population by sub-group. Registered Indians formed the largest segment of this population and accounted for roughly 39 percent of the total.

Non-status (i.e. not registered) Indians formed the second largest component of the population and accounted for about 36 percent of the total. Metis represented roughly 17 percent of the total population and Inuit formed about 4 percent. Individuals reporting multiple Aboriginal ethnic origins also accounted to about 4 percent of the total population.

In relation to the Aboriginal identity population, the Aboriginal ancestry population contains a much larger proportion of non-status (i.e. not registered) Indians and lower shares of Registered Indians, Metis and Inuit. This situation results from the much higher rates of "non-identification" with an Aboriginal group associated with individuals reporting non-status (i.e. not registered) Indian ethnic origin. More than 70 percent of this Aboriginal ethnic group did not identify with an Aboriginal group on the APS.

As in the case of the Aboriginal identity population, the Aboriginal ancestry population estimated by the 1991 Census should not be viewed as an accurate estimate of the total population of Aboriginal ancestry, as several Indian reserves refused to be enumerated. Although the impact of non-enumeration on this study remains unknown, it is likely to be significant only for the registered Indian component of the Aboriginal ancestry population.

Geographical Constructs

Labour market outcomes can be expected to be influenced not only by personal attributes (such as age, gender and education) but also by the characteristics of

the local and regional labour market. These characteristics (which include such factors as industry and occupational mix, wage structures, demand/supply imbalances, etc.) affect labour market behaviour by shaping and constraining the set of employment opportunities. Although it is not possible in this study to document or examine the effects of individual labour market characteristics on labour market outcomes, it is possible to control for broad variations in labour market characteristics by structuring the analyses over geographical locations. In this regard, the study employs four geographic constructs, including:

- provinces and regions;
- far north/mid north/southern zones;
- on/off reserve; and
- levels within the rural/urban hierarchy.

Although it is conceptually possible to devise a single variable which incorporates all of these geographical perspectives, constraints associated with the sample size and sampling properties of the APS make the use a single variable impractical. As an alternative, various aspects of the study have been examined separately for specific geographical perspectives or for combinations of two or three of the perspectives.

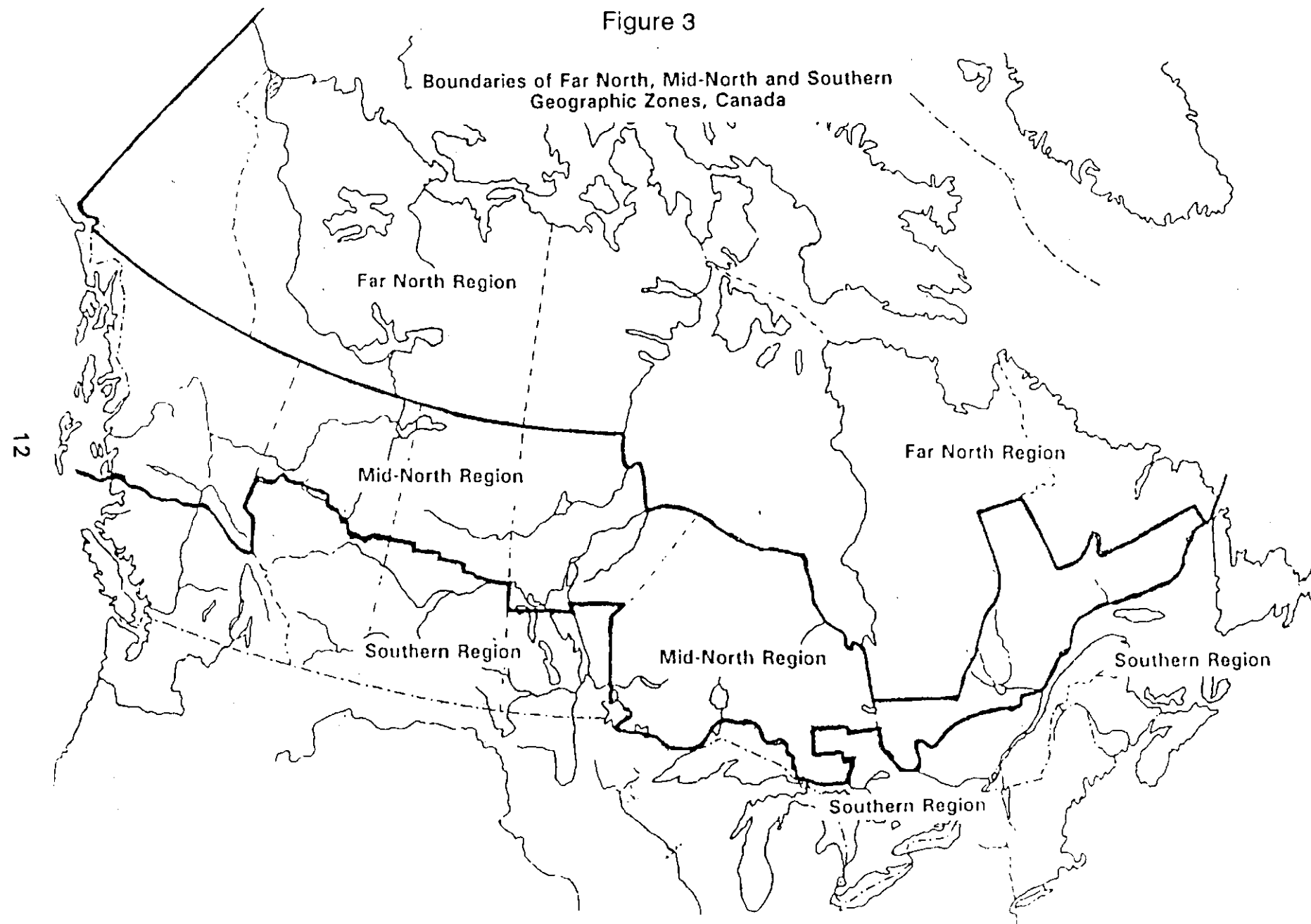
The provincial/regional geography construct differentiates among Canada's provinces, regions and territories. Due to small population sizes, data for Newfoundland, Nova Scotia, New Brunswick and Prince Edward Island have been group to form the Atlantic region. Similarly, data for Yukon and Northwest Territories have been combined to form a Northern Canada region. Due to similarities in their

economic bases, data for Manitoba, Saskatchewan and Alberta have also been combined to form the Prairie region. Provincial level data are reported for Quebec, Ontario and British Columbia.

The far north/mid north/southern zonal geography construct is used to control for widely recognized differences in the economic bases of these regions of Canada. In this regard, the study employs an operational definition developed for the Royal Commission on Aboriginal Peoples by Siggner [1993]. The geographic zones are identified in Figure 3.

Many of the study's components document Aboriginal labour market circumstances for on- and off-reserve locations, often in conjunction with other geographic perspectives. Off-reserve locations are further disaggregated into three groups according to the Census rural/urban definition and by size of the urban centre. These groups include rural areas, smaller urban centres (including all urban centres which are *not* designated as census metropolitan areas) and large urban centres (including all centres designated as census metropolitan areas [CMA]). We use the term **urban non-CMA** to refer to smaller urban centres and the term **CMA** to refer to the large urban centres.

Figure 3



Section 3

A Profile of Aboriginal Education and Training Characteristics

This section of the report provides a profile of several key aspects of the education and training characteristics of Canada's Aboriginal identity population. The profile identifies general patterns of educational attainment and occupational training for various age, gender and Aboriginal identity groups, as well as for the Aboriginal identity populations residing in various provinces/regions and other geographic areas of Canada. Data concerning recent rates of participation in and completion of various education and training programs are also described.

All data and analyses presented in this section of the report relate to the Aboriginal identity population, as defined through the APS. Individuals that are presently attending school (or post-secondary programs) on a full-time basis have been excluded.

Educational Attainment

In the following two sub-sections Aboriginal educational attainment is approached in two different ways. First, the *highest level of schooling* of the Aboriginal population is described. Highest level of schooling assumes an educational progression from elementary and secondary school through post-secondary and university education. It therefore assumes that those who have "some post-secondary education" have a higher level of education than those who only have a high school certificate. In part, this tends to imply that those with some post-secondary education have completed their high school certification.

The reality is more complex. "Post-secondary education" is a very broad category which refers to trades schools, technical and vocational education and university education. Many of those who have completed some post-secondary courses have not, in fact, completed high school. This is increasingly true for Aboriginal students, who are more likely than others to enter post-secondary programs under mature admissions programs, and for whom a variety of special entry programs have been established. It is not clear that someone with partial post-secondary education but without a high school certificate has a "higher level of education" or (as will be seen below) better employment opportunities than someone with a high school certificate only.

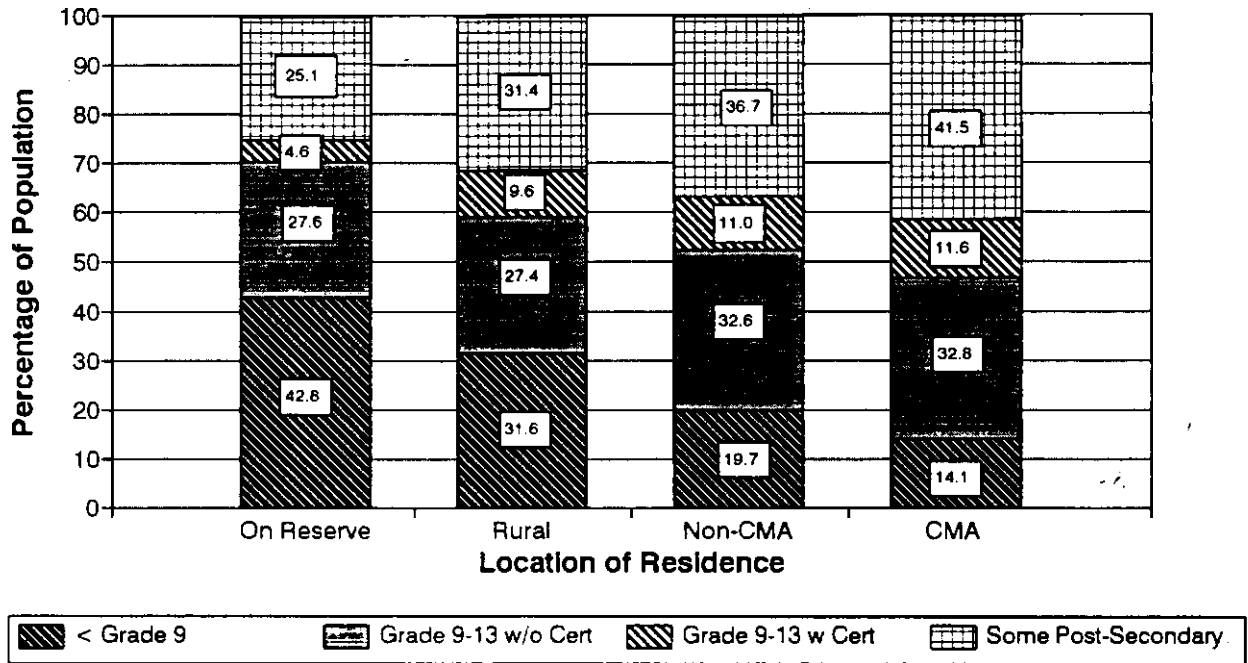
Accordingly, the second approach to educational attainment focuses on the highest level of *educational certification* which provides a more precisely defined indicator of educational progress. Under this approach the key points of achievement are completion of a high school certificate, completion of a post-secondary certificate or diploma, and completion of a university degree. Those who have neither completed a high school certificate nor a post-secondary certificate or degree are included as part of the group with less than high school completion, even if they have partially completed a post-secondary program. However, even under this approach the post-secondary category remains quite broad and varied, and it still presents problems of interpretation.

Highest Level of Schooling

The majority of the Aboriginal population in Canada has not attained high school completion or higher education. As shown in Figure 4, there is a steady progression towards increasing levels of educational attainment from reserves to rural

Figure 4

**Aboriginal Identity Population 15+ Not Attending School Full Time
Showing Highest Level of Schooling by Location of Residence**



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

areas, smaller urban areas (non-CMA urban areas), and large cities (Census Metropolitan Areas or CMA's). Among the Aboriginal residents of reserves 43 percent have less than grade 9 education, while among those living in CMA's only 14 percent have less than grade 9. Conversely, the proportion who have completed high school or at least some post-secondary education is 30 percent of the on-reserve Aboriginal population, compared to 53 percent among the Aboriginal population living in CMA's.

Table 1 shows the distribution of educational attainment in the different regions of Canada for various age and gender groups. In this table four levels of schooling are distinguished: those without a high school certificate, those who have completed a high school certificate but have not taken any further education, those with some post-secondary education short of a university degree, and those with at least one university degree. The post-secondary category includes those who have completed a certificate or diploma regardless of the type of institution which they attended (university, technical school, trades school).

Table 1 reveals that about 59 percent of men and 57 percent of women across Canada who are no longer in school have not completed or gone beyond high school. This figure is higher among younger than older Aboriginal people, with about two thirds of Aboriginal men and women under the age of 25 having left school without completing high school or higher education. It may be surprising to note that older Aboriginal men and women are more likely to have completed high school or taken some post-secondary education. This is because of the larger number among the older age group who have taken post-secondary education. A comparison of the younger and older age groups for either gender shows that fewer of the older group have a high school certificate only, but many more have

Table 1

**Distribution of the Aboriginal Population 15+ Not Attending School Full Time
By Age, Gender, Highest Level of Schooling and Province/Region of Residence**

Population Group And Educational	Atlantic Region	Quebec	Ontario	Prairie Region	British Columbia	Northern Canada	Canada
Males, 15-24							
No High School Certificate	61.8	66.7	63.8	73.3	58.5	73.3	68.2
High School Certificate Only	15.7	11.0	18.9	12.5	18.4	5.8	14.0
Any Post-Sec, No Degree	22.5	21.6	17.2	14.0	23.1	20.9	17.7
University Degree	0.0	1.0	0.1	0.1	0.0	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Males, 25+							
No High School Certificate	50.3	56.0	50.7	60.6	50.9	60.2	56.1
High School Certificate Only	6.2	9.7	9.7	4.8	10.9	3.1	7.3
Any Post-Sec, No Degree	39.1	30.5	35.5	32.0	34.5	35.3	33.4
University Degree	4.2	3.6	4.1	2.5	3.7	1.2	3.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total, Males, 15+							
No High School Certificate	52.8	58.1	53.0	63.4	52.4	63.4	58.6
High School Certificate Only	8.2	10.0	11.3	6.5	12.4	3.7	8.7
Any Post-Sec, No Degree	35.6	28.9	32.2	28.1	32.3	31.8	30.2
University Degree	3.3	3.1	3.4	2.0	2.9	0.9	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Females, 15-24							
No High School Certificate	61.0	67.5	56.7	72.5	52.9	74.3	66.1
High School Certificate Only	16.2	10.0	15.0	11.1	18.9	5.8	12.7
Any Post-Sec, No Degree	22.4	21.4	27.3	16.2	28.3	20.1	20.8
University Degree	0.4	1.3	1.0	0.3	0.1	0.2	0.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Females, 25+							
No High School Certificate	49.0	58.7	49.2	57.4	45.7	66.3	54.0
High School Certificate Only	9.2	11.1	11.1	6.5	8.9	5.2	8.4
Any Post-Sec, No Degree	37.5	26.2	34.8	32.4	42.2	27.2	33.8
University Degree	4.1	4.0	4.8	3.6	3.2	1.1	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total, Females, 15+							
No High School Certificate	51.5	60.1	50.5	60.9	47.0	68.2	56.5
High School Certificate Only	10.7	10.9	11.8	7.6	10.8	5.4	9.3
Any Post-Sec, No Degree	34.4	25.4	33.5	28.7	39.5	25.5	31.2
University Degree	3.4	3.6	4.1	2.9	2.6	0.8	3.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Custom tabulation of 1991 Aboriginal Peoples Survey data.

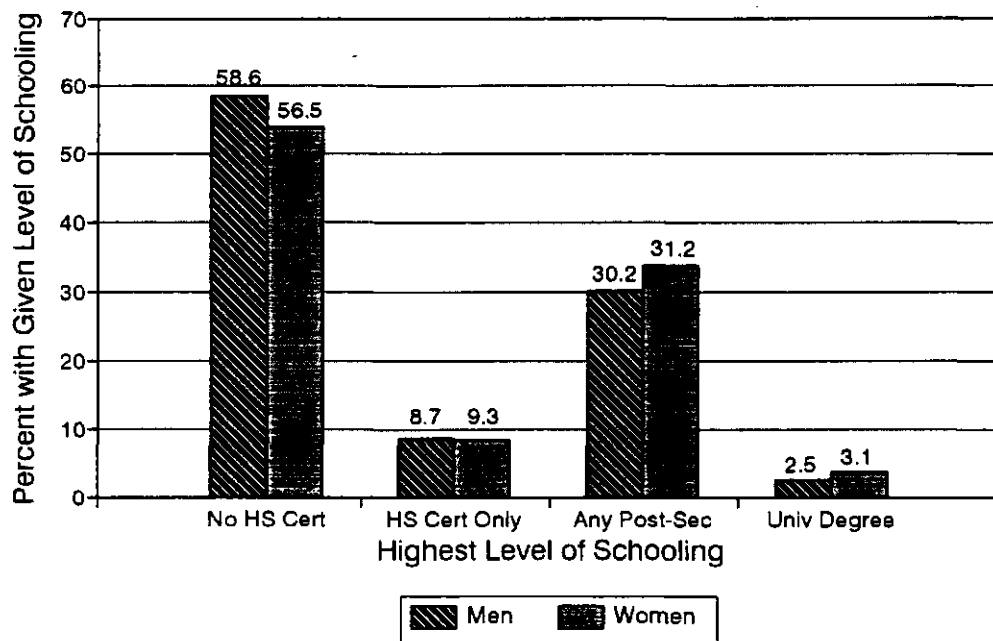
some post-secondary. Since high school completion rates among the Aboriginal population have generally been increasing over the years, the data in the table suggest that many Aboriginal people have continued their education at the post-secondary level after a period of time spent out of school.

The pattern described above generally holds for each of the provincial/regional areas of Canada shown in the table. In the Atlantic region, Ontario and British Columbia, the differences between the younger and older age groups are especially pronounced. It may also be seen that educational attainment is generally higher in these three regions, and that it is lowest in Northern Canada and in the Prairie region.

As Figure 5 illustrates, there are not major differences between Aboriginal men and women in levels of schooling. Men are more likely to have left school prior to completing high school, and women are more likely to have taken some post-secondary education, but the general pattern for both groups is similar.

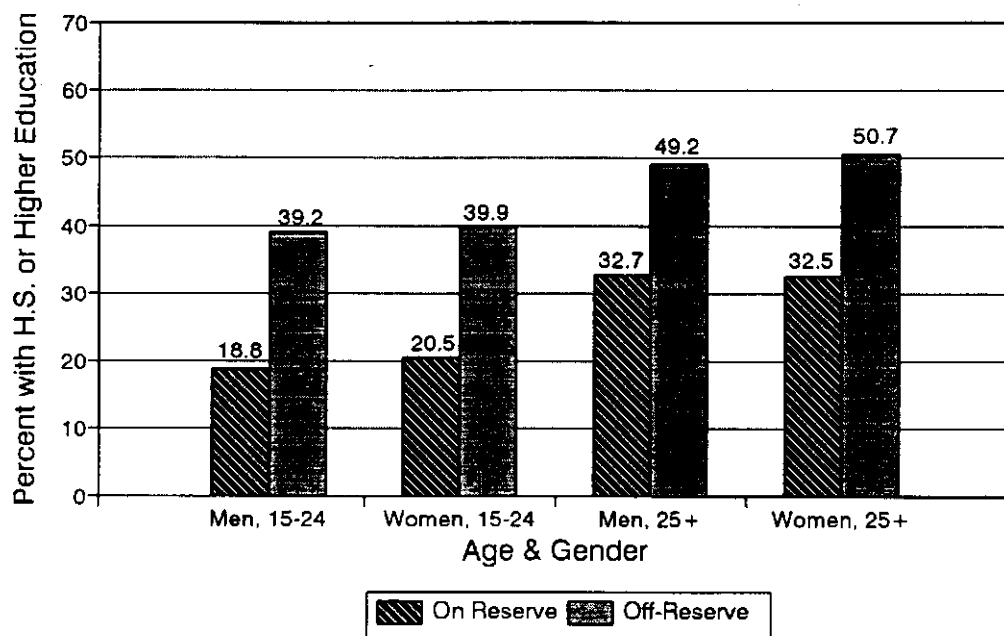
As shown in Figure 6, age and on/off-reserve residency are related to educational attainment. The Aboriginal population over the age of 25 is more likely to have completed high school or taken some post-secondary education than the population 15-24 years old. In addition, there is a large gap between the on- and off-reserve populations in educational attainment. These factors combine with the result that about 20 percent of younger men and women living on reserve have attained high school or higher schooling, while about 50 percent of older men and women living off reserve have had high school or higher education.

Figure 5
Aboriginal Population 15+ Not Attending School Full Time
By Gender and Highest Level of Schooling,
Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 6
Percent of Aboriginal Population 15+ Not Attending School Full Time
With High School or Higher Schooling
By Age, Gender, and On/Off Reserve Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

On the other hand, gender seems to have little affect on likelihood of completing high school or higher certification. Figure 7 provides an illustration of the increasing level of education among youth and older individuals residing on and off reserve.

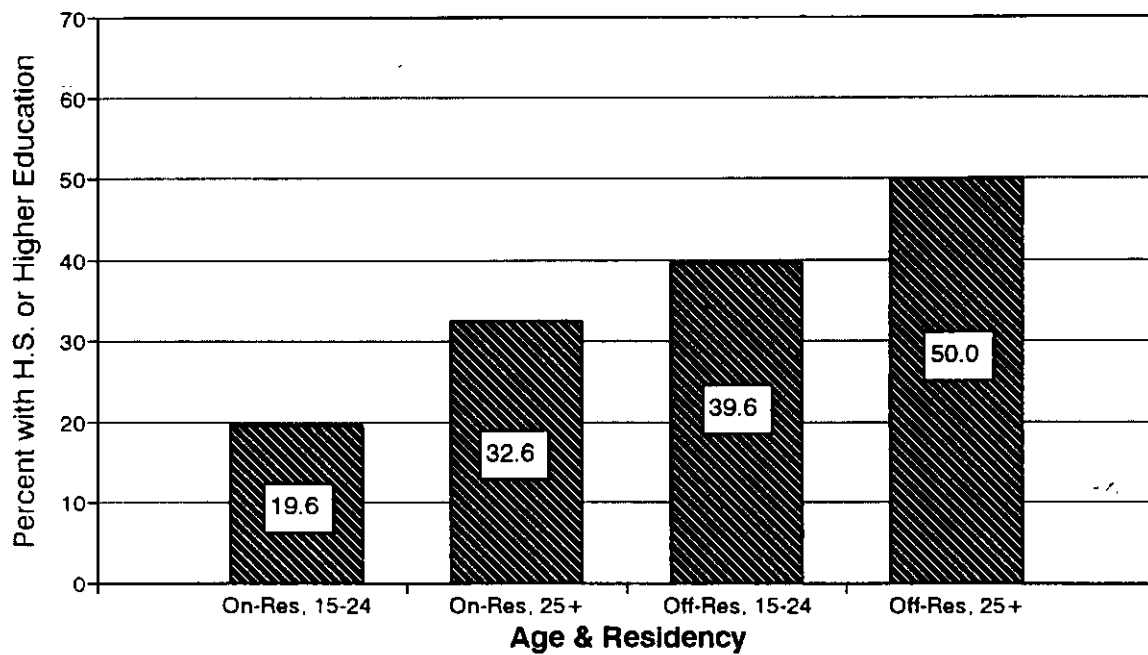
Educational Certification

Past research concerning the Aboriginal population and others has suggested that the various levels of certification, such as completion of a high school certificate or a university degree, represent important thresholds which affect an individual's further education, employment and income. This measure of educational attainment differs from the highest level of schooling concept in that it focuses on the completion of key educational milestones, rather than on participation in various levels of education.

As Figure 8 shows, the majority of the Aboriginal population has not attained a high school graduation or other post-high school certification, such as a trades, technical or vocational certificate, and this is true for both men and women. Perhaps surprising is the fact that a larger number of the population have obtained some sort of post-high school certificate than have obtained a high school certificate alone. Twenty-one (21) percent of men and 19 percent of women have a non-university, post-high school certificate of some sort. These figures may be compared to the 14 percent of men and 17 percent of women who have high school graduation certificates only.

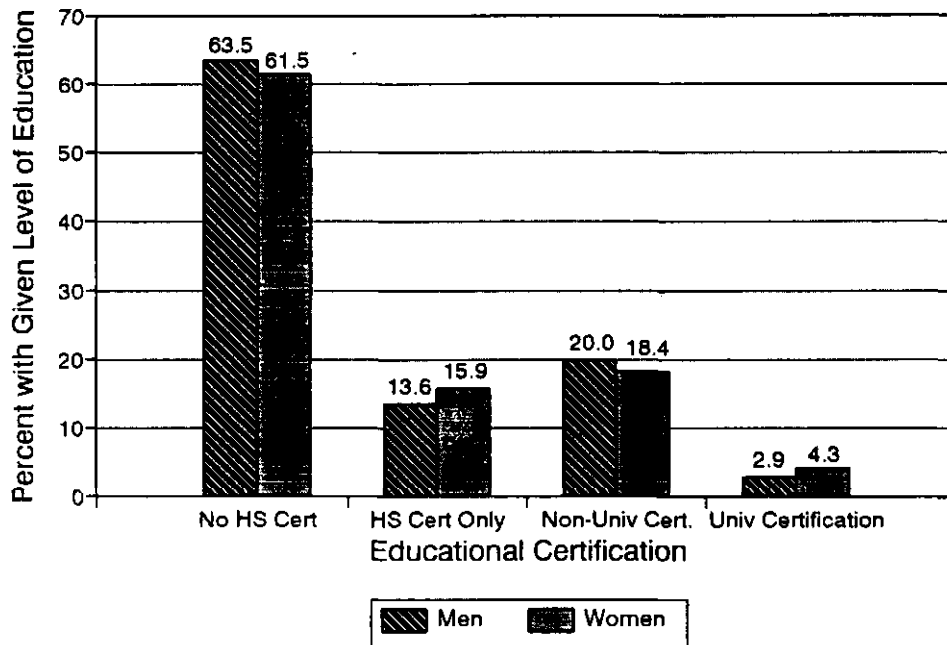
The figure refers to the *highest* level of certification. Therefore those who have obtained high school certificates as well as post-high school certificates or degrees

Figure 7
Percent of Aboriginal Population 15+ Not Attending School Full Time
With High School Completion or Higher Schooling
By Age and On/Off Reserve Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 8
Aboriginal Population 15+ Not Attending School Full Time
By Educational Certification and Gender
Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

have been included with the post-high school certification groups. Figure 8 therefore suggests that while relatively few Aboriginal students complete high school, those who do are likely to experience success with further education or training. The impediments to the educational success of Aboriginal students appear to be greatest at the elementary/secondary school level, rather than at the post-secondary level.

The figure also shows that Aboriginal men are more likely than Aboriginal women to obtain non-university, post-high school certificates, while Aboriginal women are more likely to obtain university certification (including university certificates, diplomas and degrees).

Figure 8 may be compared to Figure 5 above to see how the different definitions of educational attainment affect the view of Aboriginal educational success. When the more narrow concept of educational certification is used, the number shown as having less than high school or high school completion is greater than when the highest level of schooling concept is used. On the other hand, the number who are shown in the post-secondary category is much smaller when the educational certification concept is used. The balance between men and women is also affected slightly. While more women have some post-secondary education (as defined by highest level of schooling), more men than women have actually completed post-secondary certificates or diplomas (as defined by highest level of certification). Further analysis shows that about 16 percent of those with some post-secondary education (as defined by highest level of schooling) have neither completed either a high school certificate nor a post-secondary certificate.

Table 2 shows the percentage distribution of the population by educational certification and by province or region for each age and gender group. This table reveals similar differences among the provinces and regions to those identified in Table 1 (which was based on highest level of schooling). Aboriginal people residing in Northern Canada and in the Prairie region have lower levels of educational certification than those in the other regions.

In particular, only 32 percent of Aboriginal women in Northern Canada have high school or higher education compared to 45 percent of Aboriginal women nationally. In addition, very few Aboriginal residents of Northern Canada have completed university degrees. British Columbia, the Atlantic region and Ontario have the highest levels of education.

Figure 9 provides a regional north/south comparison of educational certification levels. The graph shows the percentage of the population which has received high school or post-high school certification. There are higher proportions of the population with educational certification in the south as compared to the northern regions. The figure also shows that those living off reserve are more likely to have educational certification than those living on reserve. For example, in the mid-north region, 38 percent of men living off reserve have some type of educational certification, while only 20 percent of men living on reserve have such certification. In the southern region, the educational certification levels among on-reserve residents are also lower than off reserve. There are also differences among the southern off-reserve male population, but they tend to be smaller. For example, 49 percent of men living in CMAs have attained high school or higher certification compared to 46 percent of men living in smaller urban areas, and 43 percent of

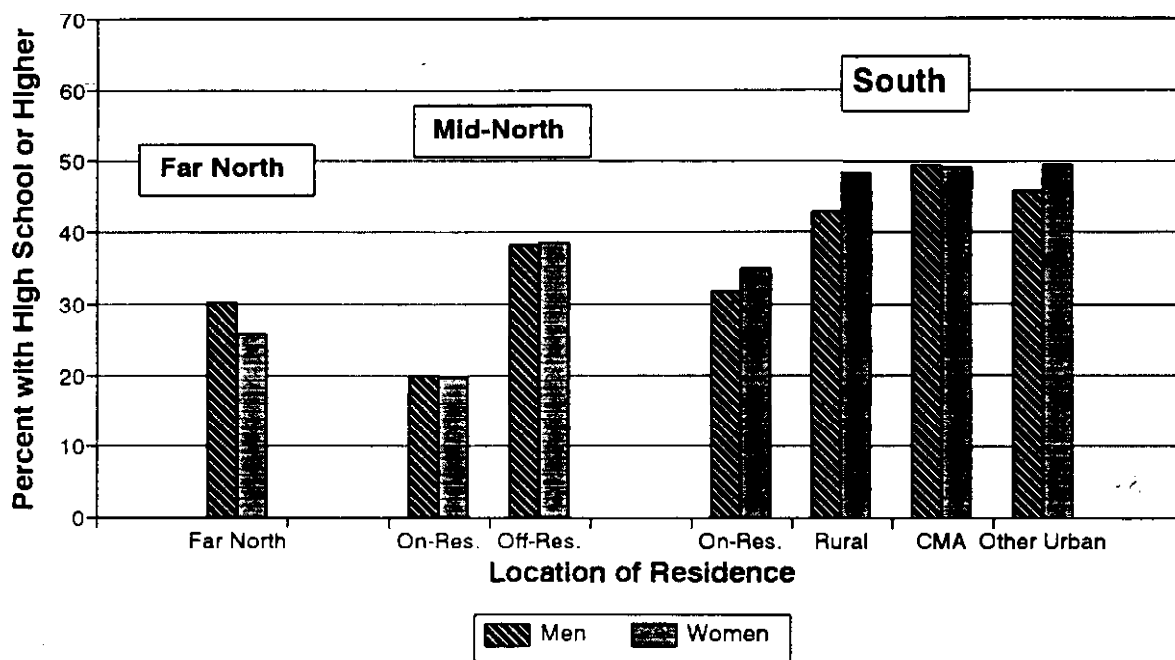
Table 2

**Distribution of the Aboriginal Population 15+ Not Attending School Full Time
By Age, Gender, Educational Certification and Province/Region of Residence**

Population Group And Educational Attainment	Atlantic Region	Quebec	Ontario	Prairie Region	British Columbia	Northern Canada	Canada
Males, 15-24							
No High School Certificate	64.7	71.7	65.8	77.0	63.1	81.6	72.2
High School Certificate Only	20.9	15.5	26.8	17.1	26.3	7.9	19.5
Any Post-Sec, No Degree	14.1	11.4	7.6	5.8	10.6	10.6	8.1
University Degree	0.0	1.4	0.0	0.1	0.0	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Males, 25+							
No High School Certificate	54.8	60.4	55.0	66.3	55.5	67.4	61.3
High School Certificate Only	10.2	12.9	15.9	9.4	16.6	5.6	12.0
Any Post-Sec, No Degree	29.6	22.3	24.2	21.4	24.2	25.1	23.1
University Degree	5.2	4.5	4.8	2.9	3.8	1.9	3.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total, Males, 15+							
No High School Certificate	56.9	62.5	57.0	68.6	57.0	70.8	63.5
High School Certificate Only	12.5	13.3	17.8	11.1	18.6	6.2	13.6
Any Post-Sec, No Degree	26.4	20.3	21.2	18.0	21.5	21.6	20.0
University Degree	4.1	3.9	4.0	2.3	3.0	1.4	2.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Females, 15-24							
No High School Certificate	62.4	72.2	62.2	76.4	58.5	81.0	70.7
High School Certificate Only	21.7	16.2	25.6	17.1	31.7	9.1	20.3
Any Post-Sec, No Degree	15.5	10.5	11.3	5.9	9.7	9.9	8.4
University Degree	1.2	1.3	1.1	0.7	0.1	0.0	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Females, 25+							
No High School Certificate	52.2	61.7	52.9	63.7	51.2	71.8	59.1
High School Certificate Only	16.7	16.0	18.1	12.5	16.4	10.0	14.7
Any Post-Sec, No Degree	24.6	16.0	22.9	18.7	27.7	16.6	21.0
University Degree	6.6	6.2	6.0	5.1	4.6	1.6	5.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total, Females, 15+							
No High School Certificate	54.2	63.4	54.5	66.6	52.6	74.0	61.5
High School Certificate Only	17.7	16.1	19.5	13.6	19.3	9.8	15.9
Any Post-Sec, No Degree	22.8	15.1	20.9	15.8	24.3	15.0	18.4
University Degree	5.5	5.4	5.2	4.1	3.8	1.2	4.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Figure 9
Percent of Aboriginal Population 15-64, Not Attending School Full Time
Who Have Completed High School or Higher Certification Levels
By Gender and Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

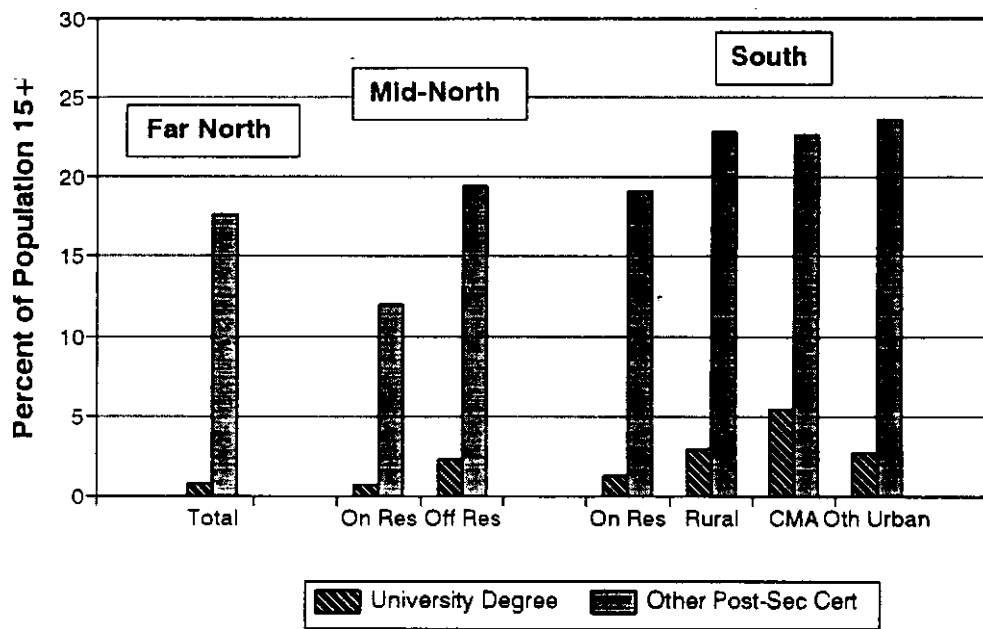
men living in rural areas. Among southern, off-reserve Aboriginal women there is almost no difference in educational certification between urban and rural areas.

Figure 10 provides a similar, regional look at the attainment of post-secondary certification. It is clear from the figure that university degrees represent a very small component of post-secondary certification attained by Aboriginal students. In the mid-north and southern regions, on-reserve certification levels are substantially lower than those among the off-reserve population. University degrees are most common in the CMAs where more than 5 percent of the Aboriginal population have degrees.

Figure 11 shows age and gender differences in post-secondary certification rates. Aboriginal people between 15 and 30 years of age are much less likely to have received a university degree or other post-secondary certification than those 31 or older. Women are somewhat more likely than men to have received a university degree, while men are more likely to have received other post-secondary certification.

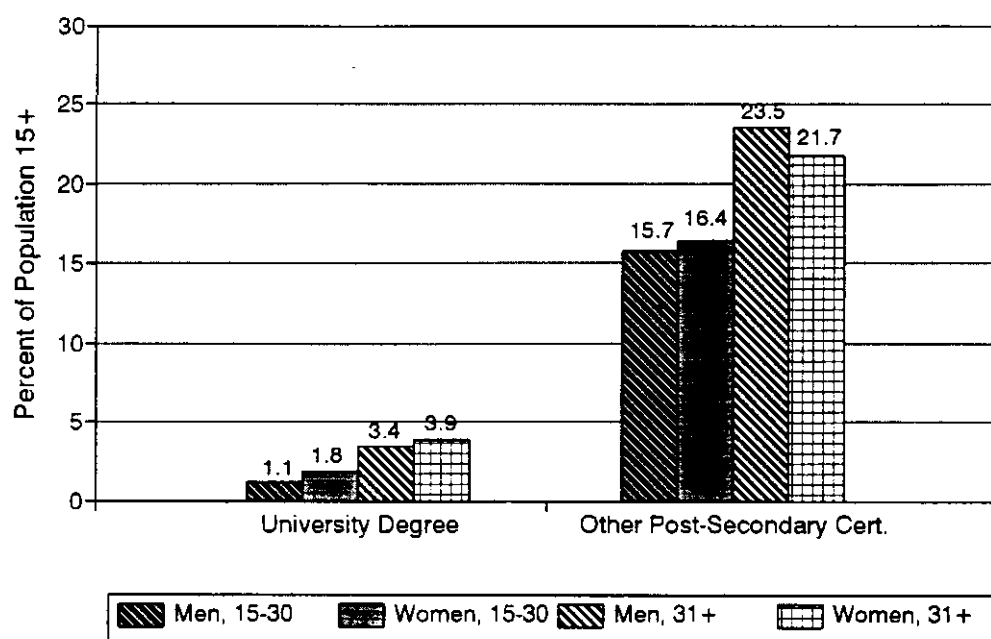
Striking differences exist between Aboriginal men and women in terms of their post-secondary fields of study as shown in Figure 12. More than 60 percent of Aboriginal men with post-secondary certificates are found within the Engineering and Applied Science field compared to 7 percent of Aboriginal women. Women are not nearly as concentrated as men in a single field, but are especially likely to be found in the Commerce, Management and Business Administration field, and to a lesser degree, in the Health and Education fields.

Figure 10
Percent of Aboriginal Population 15+ Not Attending School Full Time
By Type of Post-Secondary Certification
Region, and On/Off Reserve Residency, Canada, 1991



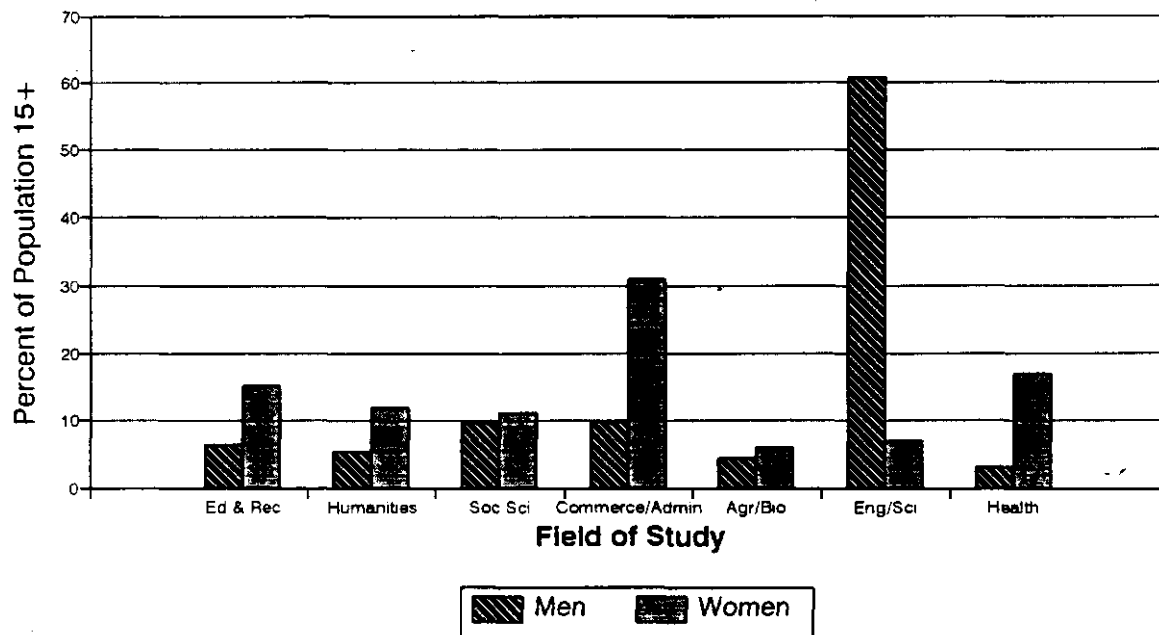
Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 11
Percent of Aboriginal Population 15+
Not Attending School Full Time
With University Degree or Other Post-Secondary Certification



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 12
Aboriginal Population 15+ Not Attending School Full Time
With at Least One Post-High School Degree or Certificate
By Gender and Field of Study, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

As shown in Figure 13, those with university degrees are distributed among the fields of study quite differently from those with other post-secondary certificates. Those with university degrees tend to be in the Education, Social Science and Humanities fields of study, while those with other post-secondary certificates tend to be in the Engineering & Applied Science, Commerce & Business Administration, and Health fields.

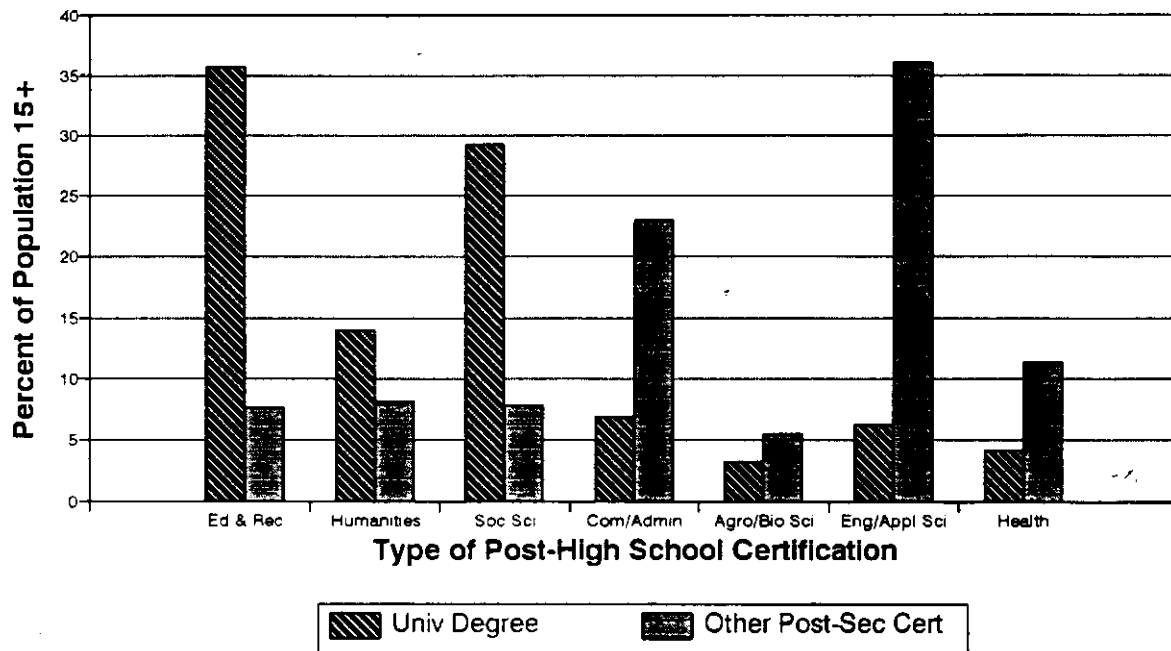
To summarize, Aboriginal educational attainment data suggests that a majority of the Aboriginal population have completed high school or at least *participated* in post-high school educational programs. However, less than half of the Aboriginal population has actually obtained formal educational certification at any level from high school through university. Most post-secondary certification among the Aboriginal population takes the form of non-university certification.

The data suggest that the achievement of formal educational certification continues to present a barrier to Aboriginal students. In addition, it has been found that those in the north and mid-north regions, those residing on reserves and in the Prairie region have experienced less educational success than others.

The data also suggest that older Aboriginal people have attained significantly higher educational levels than younger Aboriginal people. It was also found that there are differences in the patterns of attainment between Aboriginal men and women, with men more likely to achieve success in non-university programs, and women more likely to achieve success in high school and university. Moreover, male and female Aboriginal post-secondary students are highly concentrated in specific, but different, fields of study.

Figure 13

**Aboriginal Population 15+ Not Attending School Full Time
With at Least One Post-High School Degree or Certificate
By Type of Certification and Field of Study, Canada, 1991**



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Occupational Training

The occupational training experience of the Aboriginal population is shown in Table 3 by region, gender and age group. The table is based on the response to the occupational training questions contained in the APS, and refers to the most recent training course reported by an individual. The table shows that completion of occupational training is higher among the 25-44 year-old age group and is similar among men and women. Those in the 25-44 year-old age group were twice as likely to have reported completing an occupational training course as those in the 45-64 year-old age group. Those who reported having completed occupational training courses were more-or-less evenly divided between those whose courses were less than four weeks in length and those whose courses were four weeks long or longer.

Those living off reserve were more likely to have completed occupational training courses than those living on reserve, in both the mid-north and southern regions. This was especially true for shorter training courses. As Figure 14 shows this was true for both men and women. The figure also shows that more occupational training was reported among residents of the southern region than among those living in the mid-north. However, residents of the far north region were as likely as those in the southern region to report having completed occupational training.

Attendance in Post-Secondary Programs

This sub-section of the report describes the characteristics of those who have *attended* university and non-university post-secondary programs. The characteristics considered include age, gender, Aboriginal identity, high school completion and marital/parental status.

Table 3

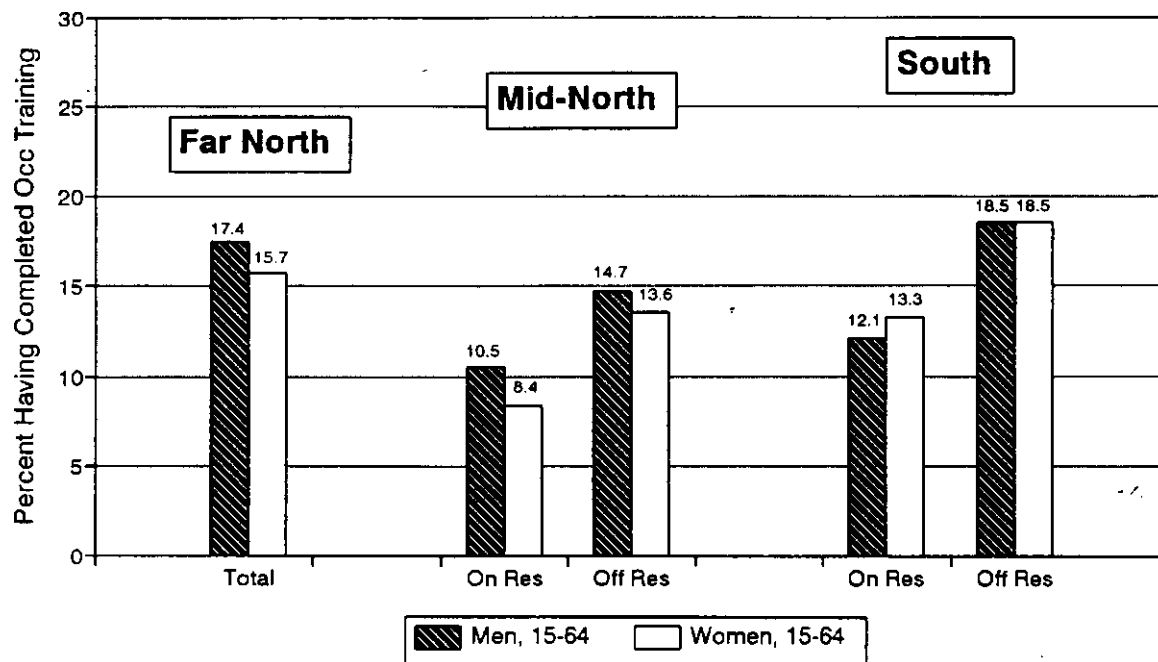
**Aboriginal Identity Population Aged 15 - 64 Years and Not Attending School Full Time
Showing Distribution (%) by Occupational Training Participation, Age and Gender Group
Canada, 1991**

Gender Group and Occupational Training Participation	Age Group (Years)			
	15 - 24	25 - 44	45 - 64	Total
Males	100.0	100.0	100.0	100.0
No Course Taken or Not Completed	71.9	74.4	78.3	74.7
Completed Course 4 + Weeks	5.7	9.1	4.2	7.3
Completed Course < 4 Weeks	6.0	9.3	5.0	7.6
Other [1]	16.4	7.3	12.4	10.0
Females	100.0	100.0	100.0	100.0
No Course Taken or Not Completed	74.1	76.3	79.2	76.4
Completed Course 4 + Weeks	8.5	9.3	5.3	8.2
Completed Course < 4 Weeks	4.5	8.8	4.2	6.8
Other [1]	13.0	5.6	11.3	8.5

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

[1] Other includes: training not stated, completion not stated, length of course stated and not applicable.

Figure 14
Percent of Aboriginal Population 15-64 Not Attending School Full Time
Who Have Completed At Least One Occupational Training Course
By Age, Gender and Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

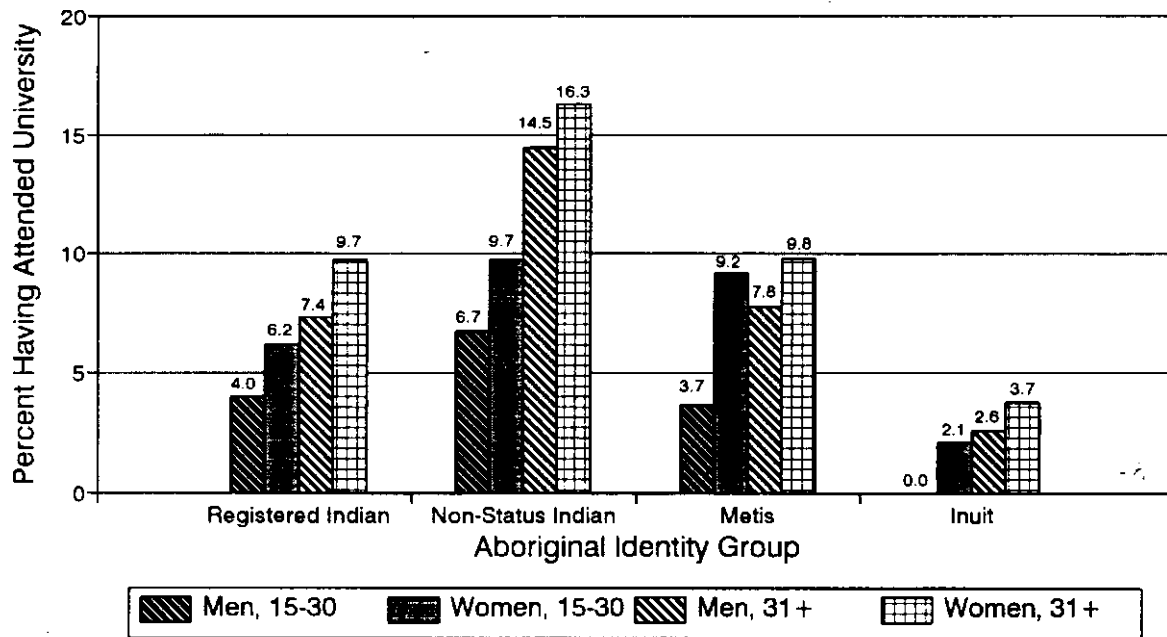
Figure 15 provides a comparison of university attendance rates by age, gender and Aboriginal identity group. Overall, 8 percent of the Aboriginal population over 15 years of age have attended university. As the figure shows, Aboriginal women are more likely to have attended university than Aboriginal men, regardless of which Aboriginal identity group is considered. In addition, those over 31 years of age are more likely than those between the ages of 15 and 30 to have attended university.

The figure also compares the four Aboriginal identity groups. Non-Status Indians have substantially higher rates of having attended university than the other groups. Registered Indians and Metis have generally similar rates of university attendance, while Inuit have lower rates.

Figure 16 provides similar information concerning non-university, post-secondary attendance. As would be expected, based on the educational attainment data discussed above, the proportion of the Aboriginal population having attended non-university, post-secondary programs is much higher than the proportion having attended university. For example, among Registered Indian women 31 years old or older, less than 10 percent report having attended university, compared to more than 25 percent who report having attended other post-secondary programs.

However, in general, the same pattern is found for non-university attendance as for university attendance. That is, women and those over 31 years old are more likely to have attended than are men or those under 31. In addition, non-Status Indians are more likely to have attended non-university than the other Aboriginal identity groups.

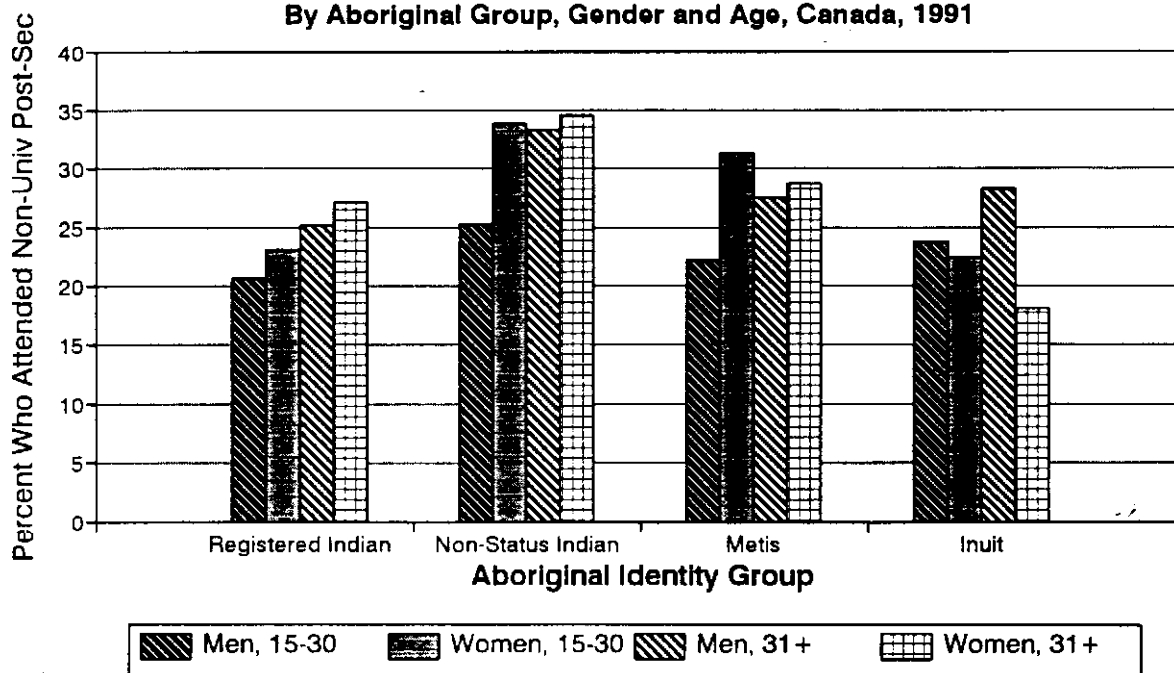
Figure 15
Proportion of the Aboriginal Population 15+ Not Attending School Full Time
Who Have Attended University, By Aboriginal Group, Gender and Age
Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 16

**Proportion of the Aboriginal Population 15 + Not Attending School Full Time
Who Have Attended Non-University Post-Secondary Programs
By Aboriginal Group, Gender and Age, Canada, 1991**



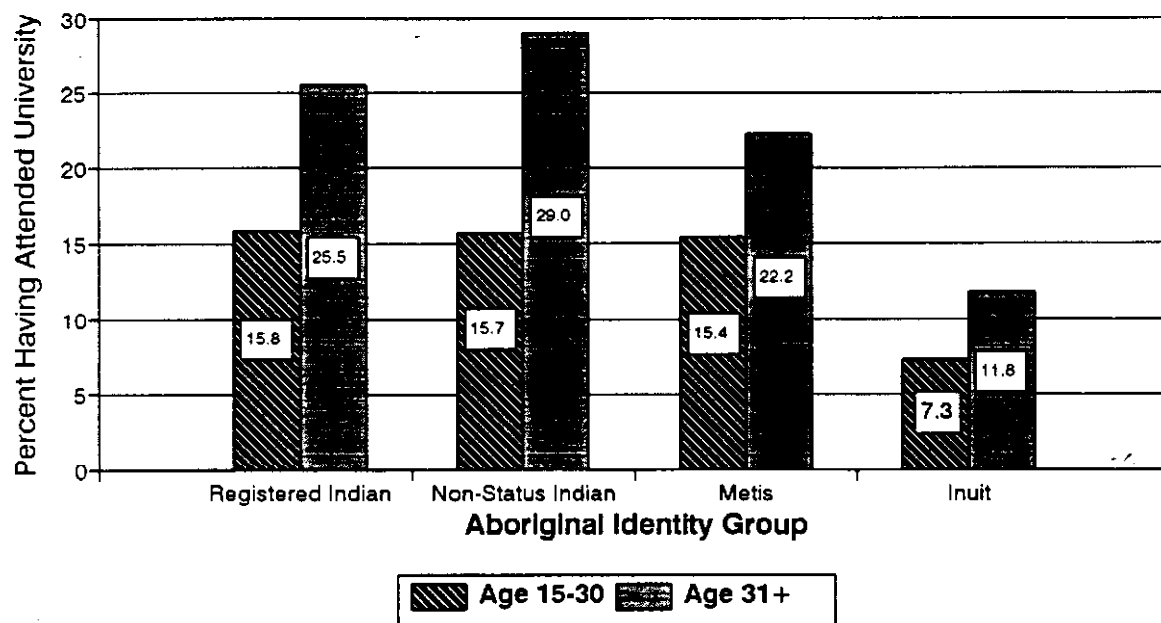
Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

However, there are a couple of departures from the general pattern. First, young Metis women are more likely to have attended non-university programs than older Metis women. Second, Inuit men are more likely to have attended non-university programs than Inuit women, in contrast to the pattern among other Aboriginal groups.

Questions were raised previously about the relationship between high school completion and further education. Figure 17 illustrates the percentage of those *with a high school certificate* who have attended university by age group and Aboriginal identity. There is a large gap in university attendance between younger and older Aboriginal people. However, the overall percentages of university attendance are much higher among the high school graduates in comparison with the general population. Similar data were examined concerning those who have not completed high school and it was found that almost none of population without a high school certificate had ever attended university. Presumably, high school graduation or the equivalent is a prerequisite for entry into university in virtually all cases.

Figures 18 and 19 illustrate the effect of high school graduation on attendance in non-university, post-secondary programs. As shown in Figure 18, more than half of those with a high school certificate have attended non-university, post-secondary programs. Those over 31 years old are, again, more likely to have attended non-university programs, although the effect of age on non-university attendance is smaller than the effect on university attendance. Also in contrast to the university attendance data (Figure 17), Figure 18 shows that the Inuit were more likely to have attended non-university programs than the other Aboriginal groups.

Figure 17
Proportion of the Aboriginal Population Not Attending School Full Time
With High School Certificate
Who Have Attended University, By Aboriginal Group and Age, Canada, 1991

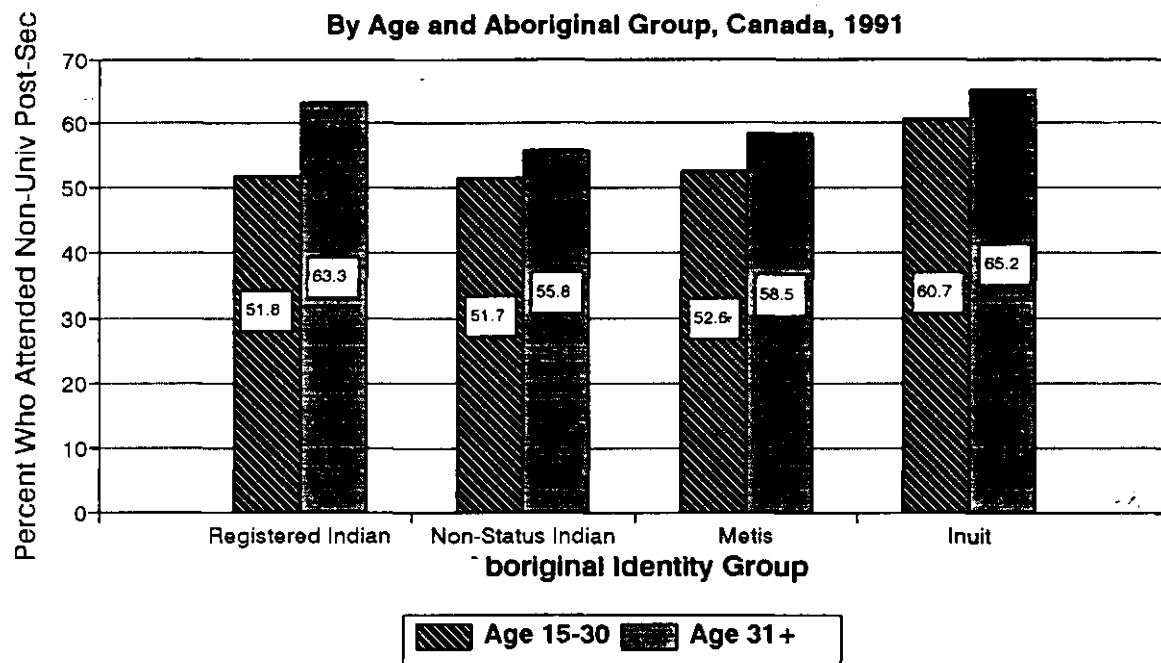


Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 18

**Proportion of the Aboriginal Population Not Attending School Full Time
With High School Certificate**

**Who Ever Attended Non-University Post-Secondary
By Age and Aboriginal Group, Canada, 1991**



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

As shown in Figure 19, fewer than 10 percent of the Aboriginal population who did not receive a high school certificate have attended non-university, post-secondary programs. There is little difference among age groups and among Aboriginal identity groups in this regard.

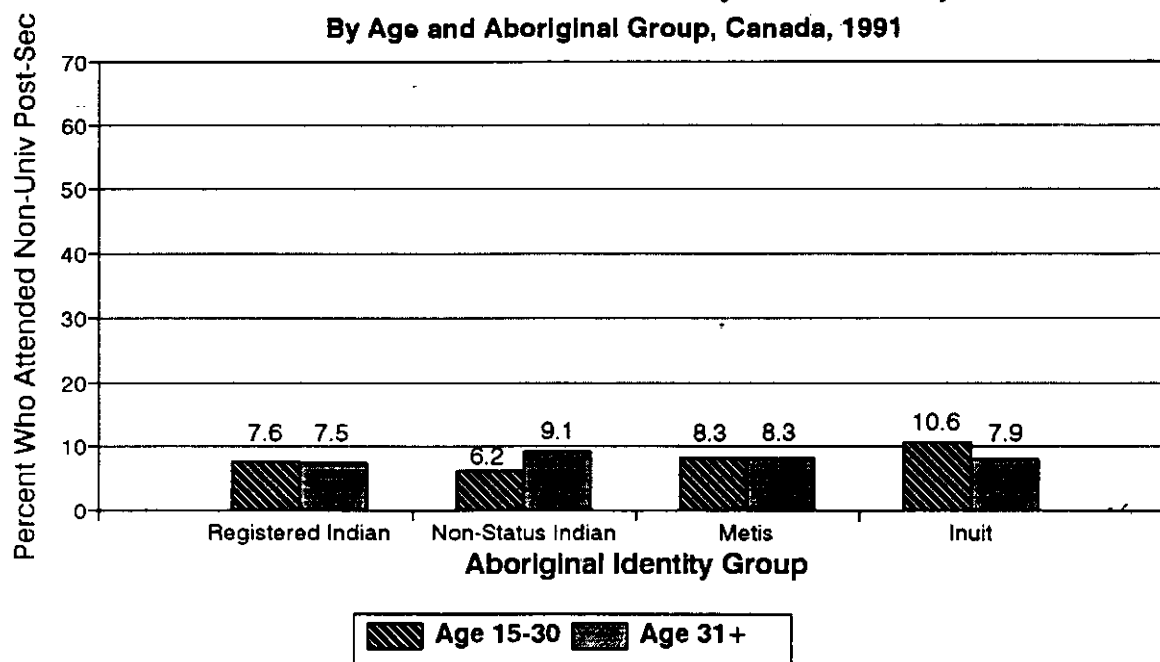
An additional factor that may be related to post-secondary attendance is marital and parental status. It has often been suggested that parenting responsibilities present an obstacle to those wishing to attend university or technical schools. Moreover, lone parents are seen as having greater difficulty in this regard than married parents. Figures 20 and 21 are intended to provide some perspective on this issue.

As Figure 20 shows, there is little evidence that parental responsibilities inhibit attendance at university. Except for male lone parents, a very small population group, rates of university attendance among parents are equal to, or higher than, those of the "Other" group. Similarly, non-university, post-secondary attendance rates among parents tend to be higher than those among others (see Figure 21).

In summary, Aboriginal post-secondary attendance is influenced by several factors, including age, gender and Aboriginal identity group. However, based on the data presented above it appears that the most important factor is high school completion, and that this is true for both university and non-university attendance. On the basis of aggregate-level data, marital/parental status does not appear to be a major factor affecting attendance rates.

Figure 19

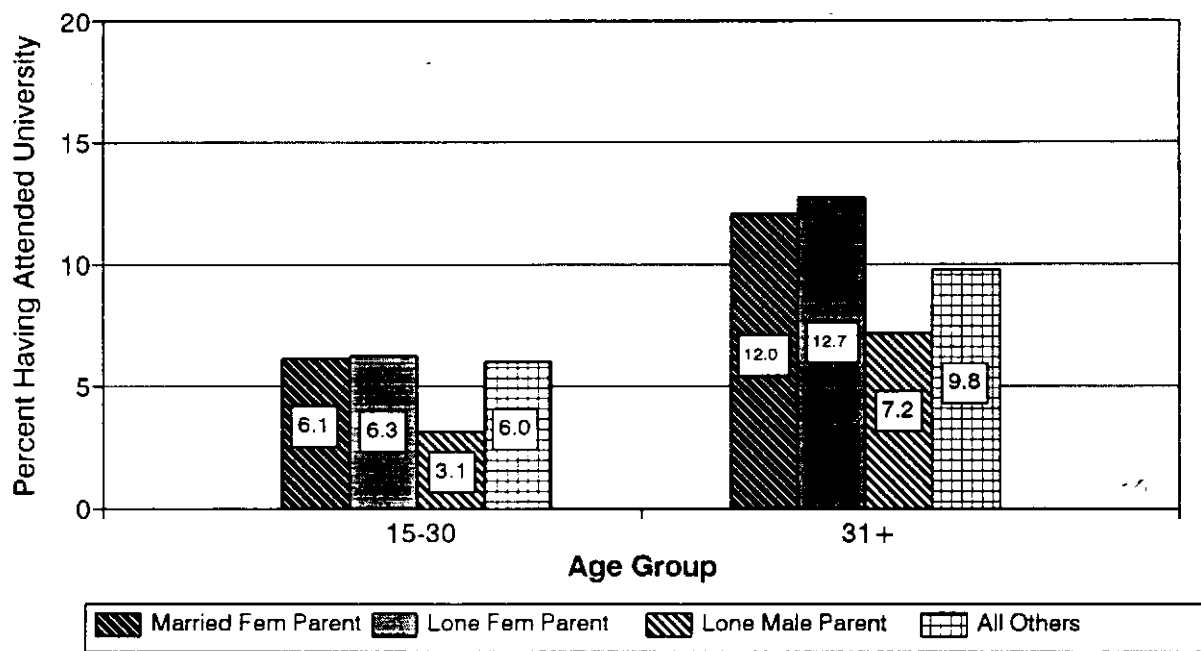
**Proportion of the Aboriginal Population Not Attending School Full Time
Without High School Certificate
Who Ever Attended Non-University Post-Secondary
By Age and Aboriginal Group, Canada, 1991**



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 20

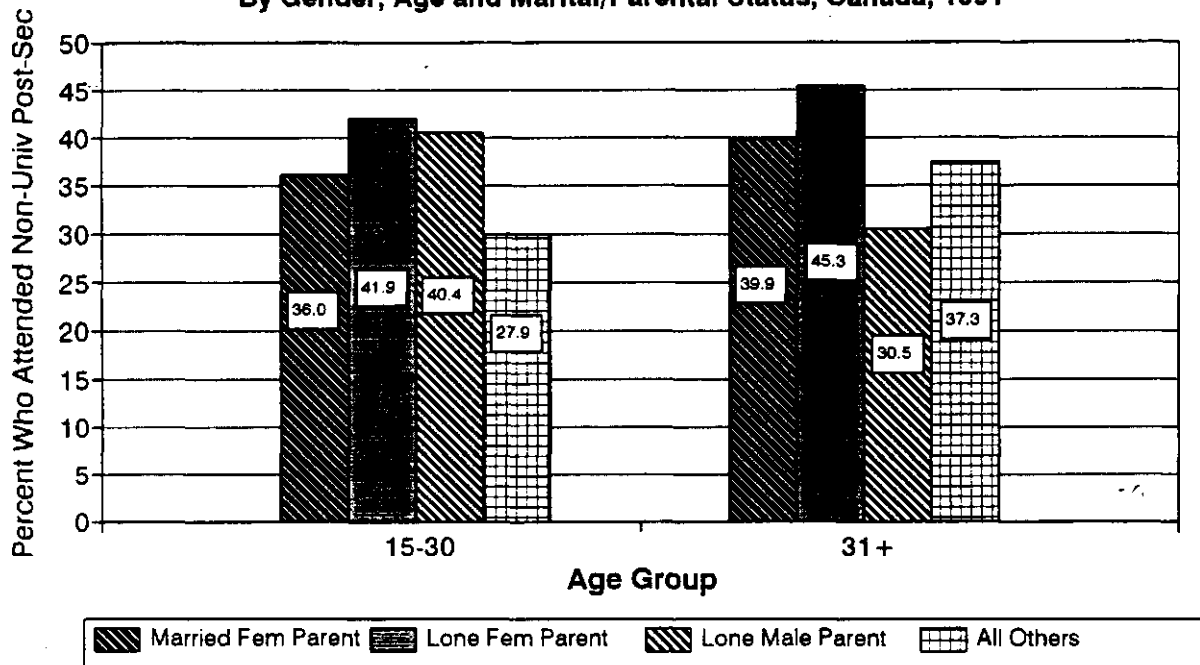
**Proportion of the Aboriginal Population 15+ And Not Attending School Full Time
Who Have Attended University, By Age, Marital/Parental Status and Gender**



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 21

**Proportion of the Aboriginal Population 15+ And Not Attending School Full Time
Who Have Attended Non-University Post-Secondary
By Gender, Age and Marital/Parental Status, Canada, 1991**



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

● Post-Secondary Success

In the previous sub-section, factors related to attendance were examined. In this sub-section, a similar description of factors related to post-secondary success is provided. For the purposes of this description, post-secondary success has been defined as the number having received a given certificate or degree, as a proportion of all those who have attended, but are not currently attending that type of post-secondary program. The success rates are based on questions in the APS which were asked only to those between the ages of 15 and 49 years.

Based on these parameters, three types of success rates have been defined, as follows.

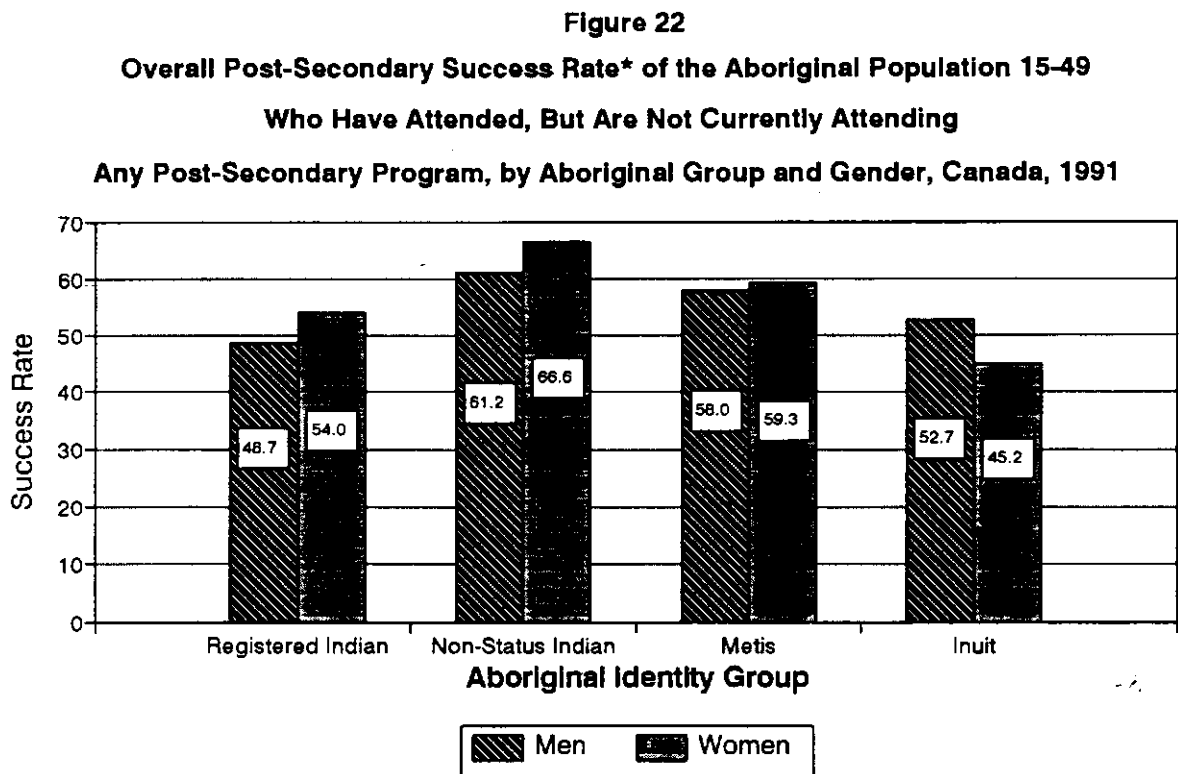
- ***Overall Post-Secondary Success Rate*** -- The number of former post-secondary attenders who have received any post-secondary diploma, certificate or degree, as a proportion of the total number of former attenders of any type of post-secondary program.
- ***Post-Secondary Non-Degree Success Rate*** -- The number of former post-secondary attenders who have received any post-secondary diploma or certificate other than a university degree, as a proportion of the estimated total number of former non-university, post-secondary attenders.
- ***University Degree Success Rate*** -- The number of former post-secondary attenders who have received a university degree, as a proportion of the estimated total number of former university attenders.

-
1. The number of former post-secondary attenders between the ages of 15 and 49 had to be estimated for the two post-secondary sub-groups -- the former university attenders and the former non-university attenders. These estimates were derived from data concerning total former attenders for ages 15 or older for each category.

Figure 22 illustrates the overall post-secondary success rates of Aboriginal men and women by Aboriginal identity group. Success rates range from about 45 percent among Inuit women to over 65 percent among non-status Indian women, with an average rate (not shown in the figure) of 55 percent. In other words, slightly more than half of all those who formerly attended any post-secondary programs received some type of certificate or degree. The figure shows that non-status Indians have had the greatest overall success, followed by the Metis. For all the groups except the Inuit, women have had overall higher success rates than men, however, the reverse is true among the Inuit.

Figure 23 illustrates the post-secondary, non-degree success rates for the same population groups. As might be expected, non-university post-secondary rates are higher than the overall success rates, with rates ranging from about 50 percent among Inuit women to about 75 percent among non-status Indian women. The pattern for non-university success rates is much the same as for the overall success rates.

Figure 24 illustrates the university degree success rates for the same groups. As expected, the university degree success rates are lower than the non-university post-secondary rates, ranging from about 20 percent among Inuit women to about 40 percent among non-status Indian women. Non-status Indians and Metis have the highest university degree success rates, followed by registered Indians and Inuit.

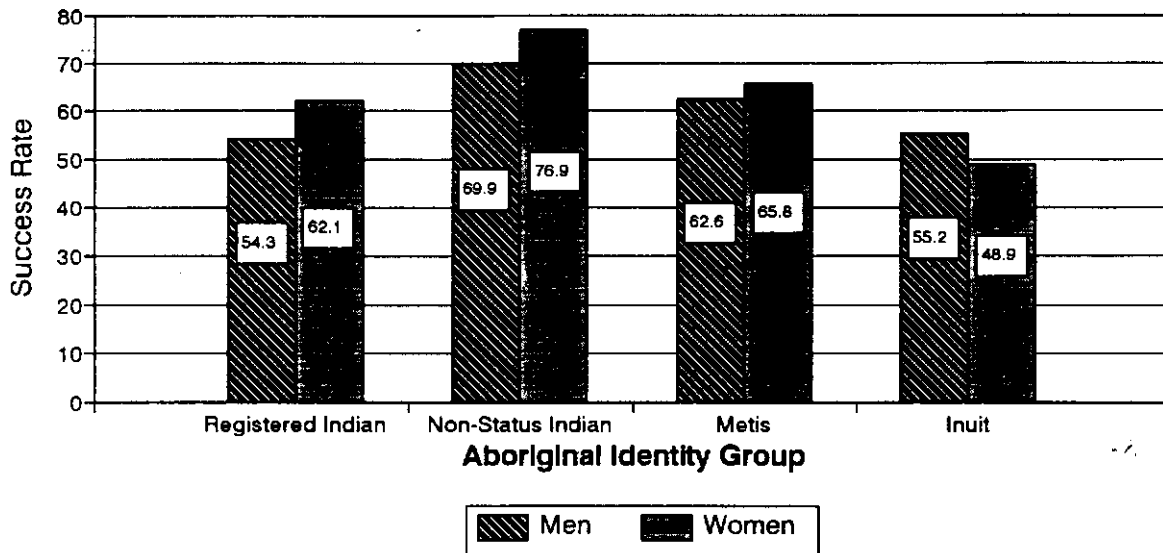


* The number who have received any post-secondary or trades certificate, diploma or university degree, as a proportion of the number who have attended any post-secondary program.

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 23

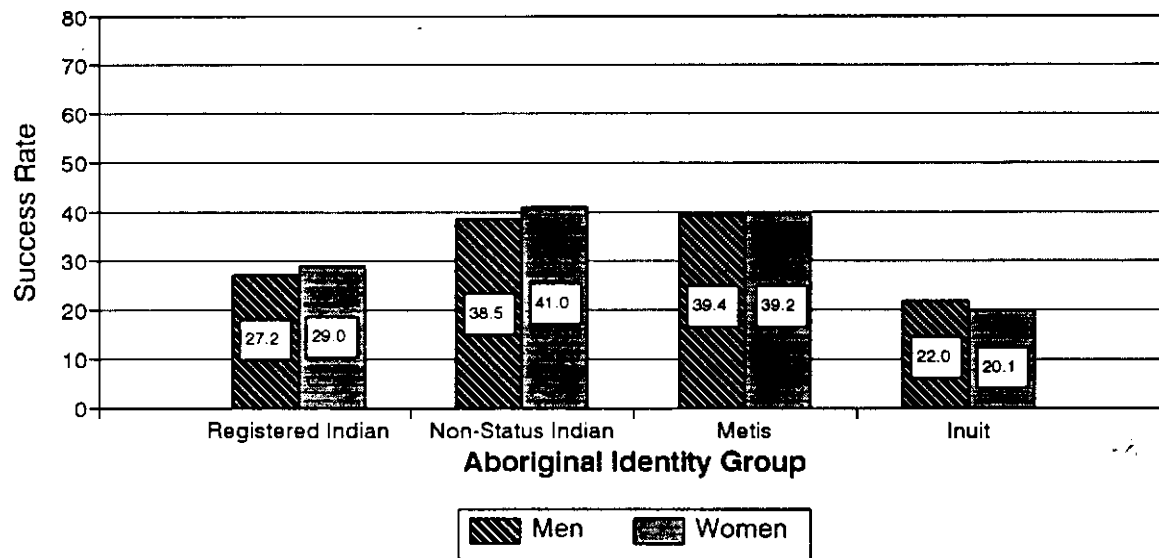
**Post-Secondary Non-Degree Success Rate* of the Aboriginal Population 15-49
Who Have Attended, But Are Not Currently Attending
A Post-Secondary Program, by Aboriginal Group and Gender, Canada, 1991**



* The number who have received any post-secondary or trades certificate or diploma other than a university degree as a proportion of the population who have attended a non-university post-secondary program.

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 24
University Degree Success Rate* of the Aboriginal Population 15-49
Who Have Attended, But Are Not Currently Attending
A University Program, by Aboriginal Group and Gender, Canada, 1991



* The number who have received a university degree (with or without other post-secondary certificates), as a proportion of the population who have attended a university program.

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

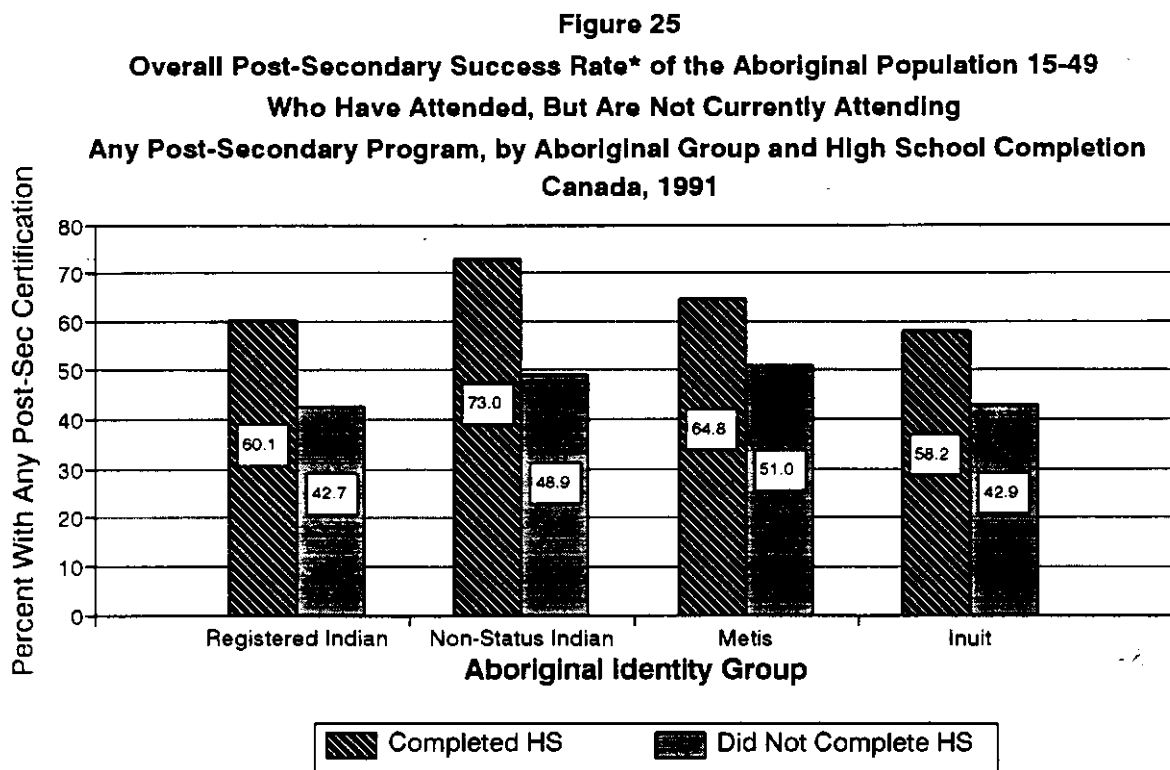
As shown in Figure 25, overall post-secondary success rates are higher for those who completed high school than for those who did not. Success rates for high school completers ranged from about 58 percent among the Inuit to about 72 percent among non-status Indians. The success rates of those who did not complete high school ranged from 40 to 50 percent. Due to methodological difficulties, separate estimates are not available for the university and non-university attenders.

As previously noted, marital/parental status is thought to have an effect on student success. This relationship is examined in Figure 26. The figure does not support the idea that marital status or child care responsibilities are a major impediment to post-secondary success. However, it should be kept in mind that the marital/parental status of the individuals is as of 1991, while their post-secondary attendance may have occurred a number of years earlier.

In summary, the review of success indicators suggests that slightly more than half of Aboriginal students who enroll in post-secondary programs achieve success. The success rate is substantially higher for Aboriginal students in non-university programs, and it is also substantially higher for those who have previously completed high school.

Education and Aboriginal Culture

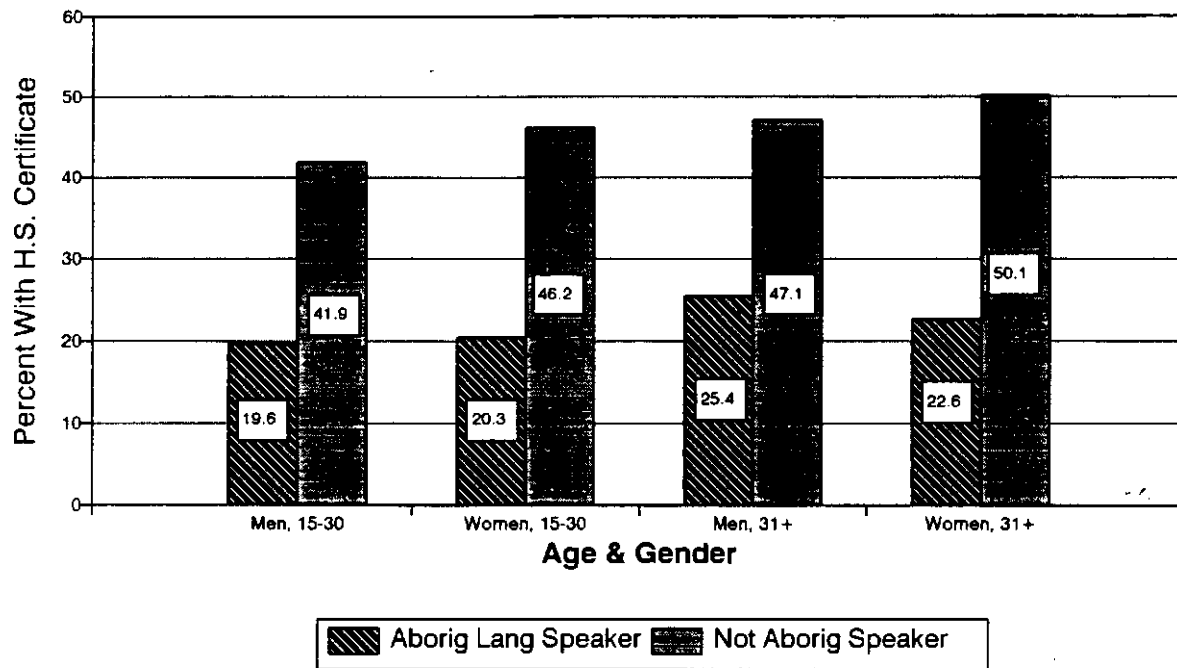
The APS provided several indicators of attachment of the population to traditional Aboriginal culture. We have focused on one of these which seemed to have the strongest relationship to educational attainment: the ability to speak an Aboriginal language.



* The number who have received any trades or post-secondary certificate, diploma or degree, as a proportion of the number who have attended any post-secondary program.

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 27
Proportion of the Aboriginal Population 15+ Not Attending School Full Time
Who Have Obtained High School Certificates, By Age, Gender
And Ability to Speak An Aboriginal Language, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

As shown in Figure 27 those who speak an Aboriginal language are less likely to have received high school or higher certification. While the figure suggests that age and gender make little difference in educational success, those who speak an Aboriginal language seem to have much less academic success than those who lack this ability. This raises the issue of how well or appropriately the schools meet the needs of Aboriginal language speakers. At the same time language use may be seen as connected to other factors, such as degree of geographic isolation, which may independently affect educational success.

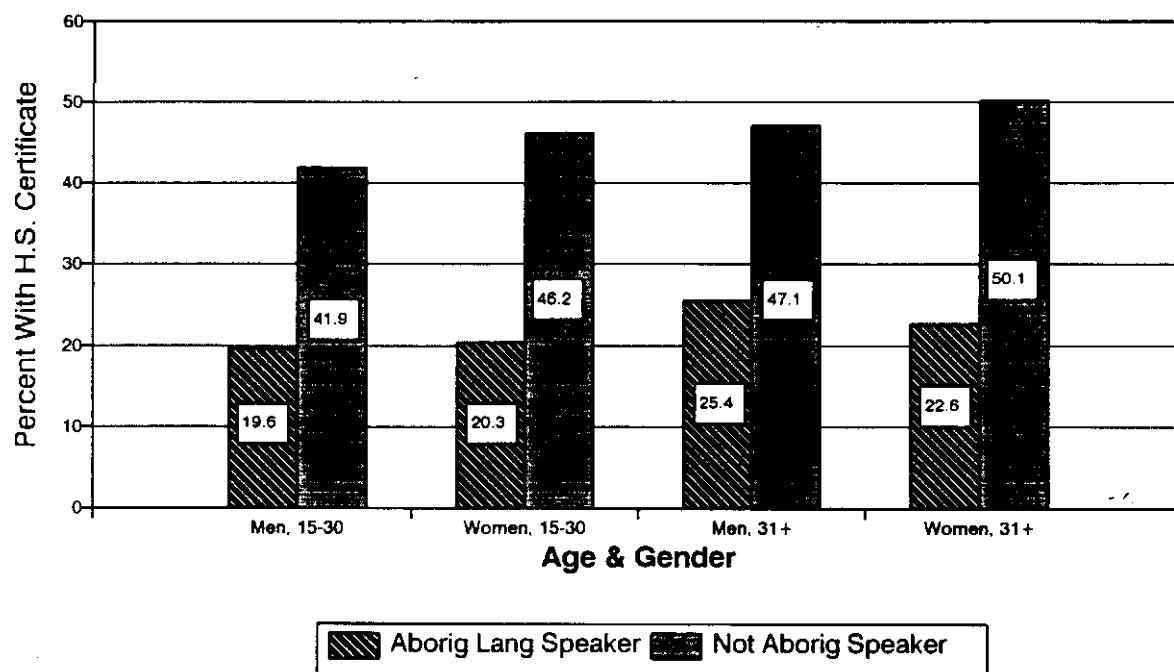
Summary: Education and Training Characteristics

This section of the report has provided a brief description of some key dimensions of the educational and training characteristics of Canada's Aboriginal Identity population. In this regard, the study has identified the following general findings:

- In spite of an increasing proportion of the Aboriginal population having attended post-secondary programs, as a whole the population continues to lack educational credentials, particularly in the form of high school and post-high school certification.
- There is a pattern of increasing educational qualifications with increased age, indicating that many Aboriginal people have enrolled in educational programs after a period of time spent out of school.
- The data concerning high school completion and post-secondary attendance suggest that entry into post-high school programs may present less of a barrier to Aboriginal students, than high school graduation per se.
- While high school completion has not been a prerequisite for post-secondary attendance, Aboriginal students with high school certificates are much more likely to be successful in post-high school studies than those without high school certificates.

Figure 27

**Proportion of the Aboriginal Population 15+ Not Attending School Full Time
Who Have Obtained High School Certificates, By Age, Gender
And Ability to Speak An Aboriginal Language, Canada, 1991**



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

- There are large geographic variations in educational attainment among the Aboriginal population, particularly between those living on and off reserve and between the north and south.
- There are differences among Aboriginal groups in educational attainment, with non-status Indians experiencing the greatest success.
- Aboriginal post-secondary students tend to be concentrated within a limited range of fields of study, particularly trades and applied sciences among men, and commerce, business administration and health among women.
- Those with the ability to speak an Aboriginal language have had less educational success than others.

Although several other relationships are suggested by the aggregate level data, many of the factors considered in this descriptive analysis are likely to be interrelated to a high degree. As such, it is premature to reach conclusions concerning the relationship of individual factors to Aboriginal education and training participation and outcomes. The following section of this report presents the results of a series of statistical analyses which are designed to identify and measure some of these relationships more accurately.

Section 4

Factors Affecting Aboriginal Post-Secondary Attendance and Completion

Introduction

Educational attainment and occupational training have often been identified as key factors influencing the success of individuals in the labour market. Success in the labour market may be seen as the outcome of several stages of skill development, beginning with success at the elementary/secondary level of schooling, entry into post-secondary programs, completion of post-secondary programs, and entry into the labour market. The analyses presented in this section of the study are designed to gain additional insight into the education and training aspects of this broader process.

The analyses focus on post-high school education, including university education and other post-secondary education. This focus was largely dictated by the availability of suitable data from the Aboriginal Peoples Survey and 1991 Census.¹ Each of the analytical models constructed incorporates high school completion as a variable, thereby gaining some perspective on the influence of success at the secondary school level.

As used here, "post-secondary" is an inclusive term referring to university, community college, technical and trades programs leading to certification. Post-

1. The APS contains a number of questions concerning the location of schooling in relation to the respondent's place of residence, the extent of Aboriginal content in the school program, and whether respondents had Aboriginal teachers. However, the structure of the questions does not allow for analysis of outcomes of schooling in relation to these issues.

secondary education is, in turn, divided into university education and other post-secondary education. For each type of post-secondary education two issues are examined: the likelihood of participating in post-secondary education, and the likelihood of completing post-secondary education. Four separate analytical models have been constructed to explore these post-secondary education issues.

For a variety of reasons the various models were based on different population groups. Readers are cautioned to pay close attention to which populations are being considered in each of the models. Discussion of the different population groups and the reasons for using these groups is provided in introductory discussion associated with the individual analyses.

On a related matter, it should be noted that data available to the analyses are in the form of cross-classifications (multi-way cross-tabulations). The reliance upon cross-classified data imposes a number of constraints on the analyses. These constraints relate to the type of analytical approach available for identifying and measuring relationships, the scope and content of the analyses (i.e. the range of *explanatory* variables which can be included in the analyses) and the way in which individual variables can be configured (i.e. the level of detail which can be incorporated in the variable [e.g. the number of age groups]).

Data limitations prevent the inclusion of many potentially relevant control variables in the analyses. As a consequence, the analyses focus on the role of a specific sub-set of control variables, which (on the basis previously presented descriptive analyses and prior education and labour market research) appear to be the most important in terms of influencing post-secondary attendance and completion.

Readers should be cautioned that other factors which could not be included in this study (due to data constraints) could lead to alternative findings and explanations of causal relationships.

The Statistical Approach

The format of the data available to this study necessitates the use of categorical modeling procedures. The specific procedure used is a form of hierarchical loglinear modeling known as the *logit model*. This model can be structured to identify and measure the relationship between a dichotomous dependent variable (such as post-secondary attendance status) and one or more independent (or control) variables. The model provides estimates of not only the main effects of the independent variables but also the effects associated with various, specific combinations of independent variables (i.e. interaction effects).

We can illustrate the method using the example of non-university, post-secondary attendance rates. This model explores the relationship between non-university, post-secondary attendance status (the dependent variable) and six independent variables (including age, gender, Aboriginal identity, marital/parental status, Aboriginal language ability and high school certification status) for Aboriginal individuals who are aged 15 or more years and not attending school on a full-time basis.

Data for this model are structured in the form of a 7-way (I,J,K,L,M,N,O) contingency table (i.e. cross-tabulation) in which the dimensions pertain to non-university, post-secondary attendance status, age, gender, Aboriginal identity, marital/parental status, Aboriginal language ability and high school certification status, respectively.

Let $f_{ijklmno}$ and $F_{ijklmno}$ represent, respectively, the observed and expected number of individuals in all (i,j,k,l,m,n,o) cells of the table, with the subscripts referring to the following categories:

Non-University, Post-Secondary Attendance Status (I = 2)

- i = 1, ever attended non-university, post-secondary institution
- i = 2, never attended non-university, post-secondary institution

Age (J = 2)

- j = 1, 15 - 30 years of age
- j = 2, 31 or more years of age

Gender (K = 2)

- k = 1, male
- k = 2, female

Aboriginal Identity (L = 4)

- l = 1, Registered Indian
- l = 2, non-status Indian
- l = 3, Metis
- l = 4, Inuit

Marital/Parental Status (M = 2)

- m = 1, lone parent
- m = 2, all others

Aboriginal Language Ability (N = 2)

- n = 1, ability to speak an Aboriginal language
- n = 2, no ability to speak an Aboriginal language

High School Certification Status (O = 2)

- o = 1, no high school certificate
- o = 2, high school certificate

Let N represent the total number of observations in the table, such that:

$$\sum f_{ijklmno} = \sum F_{ijklmno} = N \quad [1].$$

The logit, ψ , is defined as the natural logarithm of the ratio of post-secondary, non-university attenders to non-attenders in every 6-way combination of the levels of the other six variables. Thus:

$$\psi_{ijklmno} = \log (F_{1ijklmno}/F_{2ijklmno}) \quad [2]$$

Goodman (1971) and others outline procedures for decomposing the logit into independent and additive components of the main effects and interactions related to the six explanatory (control) variables. In this example, the model of interest can be written as:

$$\begin{aligned} \psi_{ijklmno} = & \mu + \beta_j^J + \beta_k^K + \beta_l^L + \beta_m^M + \beta_n^N + \beta_o^O \\ & + \beta_{jk}^{JK} + (\text{other two variable combinations}) \\ & + \beta_{jkl}^{JKL} + (\text{other three variable combinations}) \\ & + \beta_{jklm}^{JKLM} + (\text{other four variable combinations}) \\ & + \beta_{jklmn}^{JKLMN} + (\text{other five variable combinations}) \\ & + \beta_{jklmno}^{JKLMNO} \quad [3] \end{aligned}$$

where μ is a constant representing the grand mean of the logits; β_j^J is the j th parameter pertaining to the age factor (β_1^J and β_2^J denote the difference from the grand mean associated with an age of 15-30 years and 31 or more years, respectively -- and similarly for the other five main effects). β_{jk}^{JK} is the jk th parameter

representing the age * gender interaction; for example β_{11}^{JK} denotes the deviation from the sum of the grand mean and the main effects (β_1^J and β_1^K) attributable to being 15-30 years of age *and* male -- similarly for the other parameters and the other 14 two-variable interactions.

β_{jkl}^{JKL} refers to the *jk*/th parameter of the age * gender * Aboriginal identity interaction (and similarly for the other 19 three-variable interactions). β_{jklm}^{JKLM} is the *ijklm*th parameter of the age * gender * Aboriginal identity * marital/parental status interaction (and similarly for the other 14 four-variable interactions). β_{jklmn}^{JKLMN} is the *ijklmn*th parameter of the age * gender * Aboriginal identity * marital/parental status * Aboriginal language interaction (and similarly for the other 5, five-variable interactions). β_{jklmno}^{JKLMNO} is the *ijklmno*th parameter associated with the single six-variable interaction.

The effects must satisfy the following conditions:

$$\sum_j \beta_j^J = 0 \quad [4]$$

$$\sum_j \beta_{jk}^{JK} = \sum_k \beta_{jk}^{JK} = 0 \quad [5]$$

$$\sum_j \beta_{jkl}^{JKL} = \sum_k \beta_{jkl}^{JKL} = \sum_l \beta_{jkl}^{JKL} = 0 \quad [6]$$

$$\sum_j \beta_{jklm}^{JKLM} = \sum_k \beta_{jklm}^{JKLM} = \sum_l \beta_{jklm}^{JKLM} = \sum_m \beta_{jklm}^{JKLM} = 0 \quad [7]$$

$$\sum_j \beta_{jklmn}^{JKLMN} = \sum_k \beta_{jklmn}^{JKLMN} = \sum_l \beta_{jklmn}^{JKLMN} = \sum_m \beta_{jklmn}^{JKLMN} = \sum_n \beta_{jklmn}^{JKLMN} = 0 \quad [8]$$

$$\sum_j \beta_{jklmno}^{JKLMNO} = \sum_k \beta_{jklmno}^{JKLMNO} = \sum_l \beta_{jklmno}^{JKLMNO} = \sum_m \beta_{jklmno}^{JKLMNO} =$$

$$\sum_n \beta_{jklmno}^{JKLMNO} = \sum_o \beta_{jklmno}^{JKLMNO} = 0 \quad [9]$$

The model comprises, therefore, six main effects and 57 interactions, each associated with a set of parameters pertaining to the respective variables. The parameters are both independent and additive.

It is possible to convert the parameter estimates to a measure of the probability of a specific outcome event occurring. In the case of our example, we are interested in arriving at estimates of the non-university, post-secondary attendance rate (NUPSR) or the probability of an individual having attended a non-university, post-secondary institution (given that the individual is not presently attending school full time). This probability can be derived from:

$$NUPSR_{jklmno} = 1 \div (1 + e^{-\psi_{jklmno}}) \quad [10].$$

As some of the main effects and interactions may not be statistically significant in the sense that they do not affect the logit values, the task is to isolate a model containing specific effects in equation [3] which are especially important in explaining the variations in the logit values. A procedure commonly referred to as step-wise logit analysis been used to identify the best fit models. Using a forward selection method, one effect at a time is chosen for inclusion in the model starting with the lowest order (main) effects and proceeding to higher order interaction effects. At each step, a significance test (*Chi-square* [X^2]) determines whether to retain or delete the added effect. The inclusion process continues until no additional effect satisfies the significance criteria (in our models, $p = .975$).¹

1. Readers interested in this procedure may consult Goodman [1971] and Chapters 5 and 6 of the SPSS/PC+ Advanced Statistics User's Guide - Version 5 [see Norusis, 1994]). The models were estimated using the SPSS Hierarchical Loglinear Program. A similar statistical program is available in the BIOMED statistical program series of the University of California, Berkley.

The procedure also imposes a hierarchical condition on the inclusion of effects. In order for an interaction effect to be added to the model, all lower order effects involved in the interaction must already be included in the model. Thus, for example, for an age * gender interaction to added, the main effects of both age and gender must also be included in the model.¹

Attendance in Non-University, Post-Secondary Programs

As revealed in Table 4, the best fit model of attendance in non-university, post-secondary programs includes five main effects (high school certification, marital/parental status, age, Aboriginal identity, and gender) and 13 interaction terms. Note that Aboriginal language ability is not included in the best-fit model since it was found not to be significant. The five significant main effects account for almost 97 percent of the total X^2 variation, and high school certification alone accounts for 95 percent of the total variation. The various two-way and three-way interaction effects (although statistically significant) collectively account for only one percent of the total variation.

In total, the model accounts for almost 98 percent of the total X^2 variation. However, the residual X^2 of 1997.43 with 90 degrees of freedom indicates that a statistically significant level of variation remains unaccounted for by the effects included in the model. Other factors in addition to those considered in the model

1. The logit analysis does not require the hierarchical condition. We have imposed this condition as there is little theoretical or empirical basis in the labour market literature (and for that matter in social science generally) for assuming the existence of interaction effects in the absence of the main effects.

Table 4

**Stepwise Logit Analysis of Probability of Attending Non-University Post-Secondary Programs
Among the Aboriginal Population, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square		Change in d.f.	R	% of Variation
1	--	95760.48	124	--		--	--	--
2	H	4596.00	123	91164.48	*	1	0.952	95.2
3	M	3987.49	122	608.51	*	1	0.958	0.6
4	A	3500.95	121	486.54	*	1	0.963	0.5
5	I	3300.86	118	200.09	*	3	0.966	0.2
6	G	3231.31	117	69.55	*	1	0.966	0.1
7	H * A	2933.22	116	298.09	*	1	0.969	0.3
8	G * I	2711.31	113	221.91	*	3	0.972	0.2
9	A * G	2623.94	112	87.37	*	1	0.973	0.1
10	I * M	2532.85	109	91.09	*	3	0.974	0.1
11	I * A	2459.80	106	73.05	*	3	0.974	0.1
12	H * I	2404.78	103	55.02	*	3	0.975	0.1
13	A * M	2376.56	102	28.22	*	1	0.975	0.0
14	G * M	2353.59	101	22.97	*	1	0.975	0.0
15	H * G	2329.71	100	23.88	*	1	0.976	0.0
16	H * A * I	2207.92	97	121.79	*	3	0.977	0.1
17	A * G * I	2097.94	94	109.98	*	3	0.978	0.1
18	H * A * G	2042.49	93	55.45	*	1	0.979	0.1
19	H * G * I	1997.43	90	45.06	*	3	0.979	0.0

* Significant at $p = .995$

H = High School Certification; M = Marital/Parental Status; A = Age;
I = Aboriginal Identity Group; G = Gender

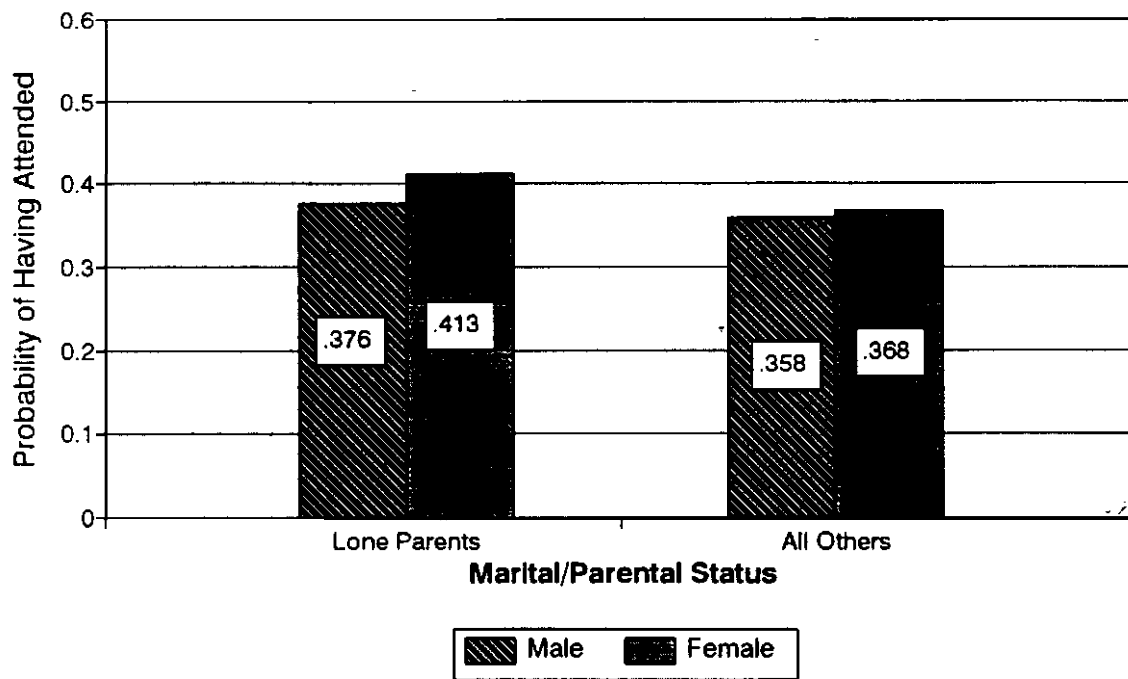
Source: Data from the Aboriginal Peoples Survey, 1991.

must therefore play a role in affecting Aboriginal non-university, post-secondary attendance.

Table A1 in the report's appendix identifies the parameter estimates associated with the effects identified by the model. Completion of high school, as might be expected, is the major factor affecting whether the Aboriginal population attends non-university, post-secondary programs. The model estimates that those with a high school certificate are more than twice as likely to attend non-university post-secondary programs as those without a high school certificate. Main effects associated with the other variables account for relatively little of the variation. Surprisingly, lone parents are more likely than others to attend non-university, post-secondary programs. The model also indicates that women are more likely than men to attend non-university post-secondary programs, and that those over 31 years of age are slightly more likely to have attended than those who are younger. The higher participation rate among women is consistent with many other studies of Aboriginal education.

The model identified an interaction effect between marital/parental status and gender (see Figure 28). The effect of lone parent status on participation rates is greater among Aboriginal women than among Aboriginal men. This suggests that lone parent status may not be as great a barrier to participation in post-secondary education as is sometimes thought. Another possible explanation for the pattern is that the financial pressure on lone parents motivates them to pursue post-secondary education. It should be noted, however, that it is impossible to determine from the APS data what the marital/parental status of the respondents was at the time that they were attending post-secondary programs.

Figure 28
Estimated Probability of Attending Non-University Post-Secondary Programs
By Gender and Marital/Parental Status, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

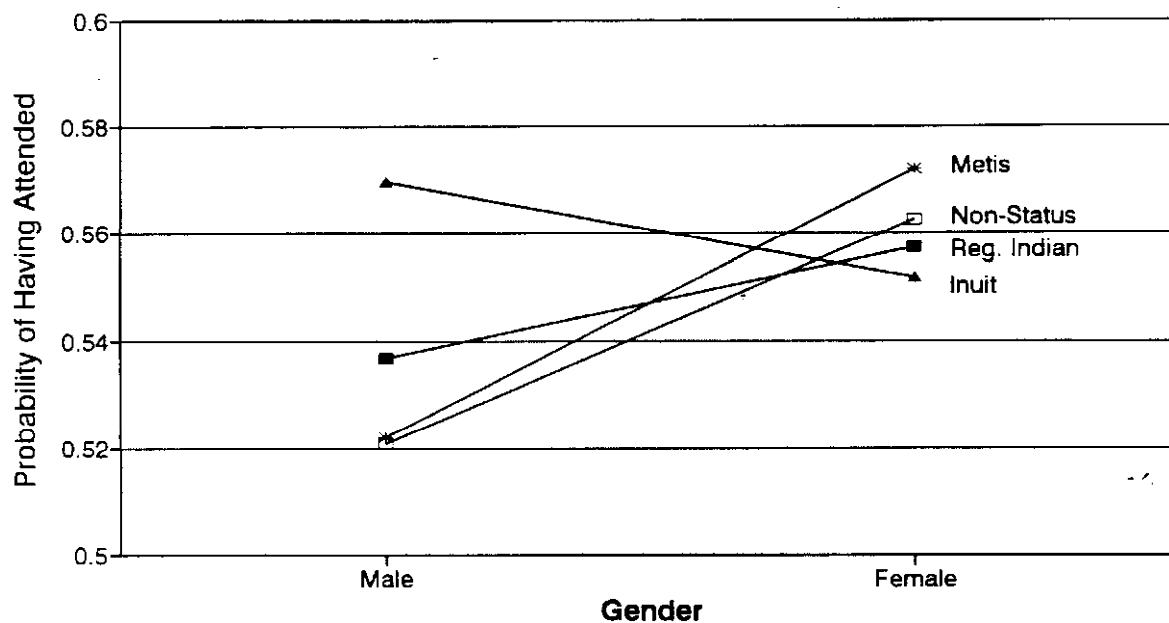
Aboriginal identity is also a significant factor, with Inuit being more likely to attend non-university, post-secondary programs than other Aboriginal groups. The interaction involving Aboriginal identity, gender and high school completion reveals that among Metis, non-status Indians and registered Indians, women are more likely to attend non-university, post-secondary programs than men. Among Inuit, however, male attendance rates exceed those of females. It may be that the labour market and training programs available in the northern regions where most Inuit live favour occupations traditionally filled by men (see Figure 29).

There was no significant effect of Aboriginal language ability on non-university, post-secondary attendance. If the ability to speak an Aboriginal language is a reflection of a more traditional cultural orientation, it seems that such an orientation does not increase or decrease participation in post-secondary programs.

Completion of Non-University, Post-Secondary Programs

The population between the ages of 15 and 49 who previously attended any post-secondary program is used as the basis for the analysis of factors affecting completion of post-secondary programs. (The choice of this age group is dictated by the APS survey which only asked certain key questions of this age group.) This population excludes those currently enrolled in school on a full-time basis. The analysis compares those who have completed at least one post-secondary certificate other than a university degree, to all others who have attended any post-secondary programs in the past. Those who have received university certificates and diplomas are included within the group of completers. The dependent variable, therefore, can be interpreted as the probability of having completed a non-

Figure 29
 Estimated Probability of Attending Non-University Post-Secondary Programs
 Among Those With High School Certificates, By Aboriginal identity Group
 Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

degree post-secondary certificate, given that the individual commenced a post-secondary program.

It should be kept in mind that the dependent variable can not be interpreted as a precise "completion rate" for two reasons. First, the base population includes some number of people who attended university degree programs only and who did not intend to complete any other type of certificate.¹ Inclusion of this group in the base population will tend to reduce the completion rates. Second, the completion rates do not specify a consistent time period for completion of the certificates. Some members of the population have had much longer to complete their programs than others. This is addressed to some extent by the age variable, but not in a precise manner. The results of the analysis should therefore be taken as relative indicators rather than estimates of how many post-secondary students within a given population are likely to complete the programs within a set time period. It should also be kept in mind that the range of post-secondary certificates and programs which are included within this analysis is quite broad, and that the length and nature of these programs vary greatly. The completion rate variable is a broad indicator which is used here to explore factors which may have a bearing on post-secondary success.

This model incorporates five independent variables: high school certification, age group, gender, Aboriginal identity group, and ability to speak an Aboriginal language. Marital/parental status could not be included in the analysis due to a lack of data. Two age categories are used: (1) those between the ages of 15 and 24,

1. Limitations of the APS/Census data base preclude a more precise definition of the population.

and (2) those between the ages of 25 and 49. The remaining independent variables are defined in the same way as in the preceding analysis of non-university, post-secondary attendance.

Table 5 identifies the best fit model of the probability of completing non-degree, post-secondary programs. The model includes five main effects (age, high school certification, Aboriginal language ability, Aboriginal identity, and gender) which collectively account for about 72 percent of the total X^2 variation. Age and high school certification are the two most significant variables, accounting for more than 60 percent of the total variation. The ability to speak an Aboriginal language and Aboriginal identity also have substantial effects, while gender is a relatively minor factor. Seven, two-way interaction effects are significant, particularly those involving Aboriginal identity group. Collectively the interaction effects account for 6.5 percent of the total variation. All effects included in the model are highly significant.

In total, the model accounts for 78 percent of the total X^2 variation. The residual X^2 of 1450.02 with 29 degrees of freedom indicates that a statistically significant level of variation remains unaccounted for by the effects included in the model. Other factors in addition to those considered in the model must therefore play a role in affecting Aboriginal non-university, post-secondary completion. It is also likely that data which more precisely measure completion rates would provide an improved basis for estimating factors affecting completion.

Parameter estimates associated with the various effects included in the model are contained in Table A2. Age and high school certification are important factors in

Table 5

**Stepwise Logit Analysis of Probability of Completing Non-University Certificate
Among the Aboriginal Population, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square		Change in d.f.	R	% of Variation
1	--	6670.43	51	--		--	--	--
2	A	4764.92	50	1905.51	*	1	0.286	28.6
3	H	2569.65	49	2195.27	*	1	0.615	32.9
4	S	2182.76	48	386.89	*	1	0.673	5.8
5	I	1937.32	45	245.44	*	3	0.710	3.7
6	G	1881.31	44	56.01	*	1	0.718	0.8
7	A * I	1748.01	41	133.3	*	3	0.738	2.0
8	H * I	1654.10	38	93.91	*	3	0.752	1.4
9	S * I	1553.23	35	100.87	*	3	0.767	1.5
10	S * G	1494.33	34	58.9	*	1	0.776	0.9
11	I * G	1465.54	31	28.79	*	3	0.780	0.4
12	A * H	1457.81	30	7.73	*	1	0.781	0.1
13	H * S	1450.02	29	7.79	*	1	0.783	0.1

* Significant at p = .995

A = Age; H = High School Certification; S = Aboriginal Language Speaking Ability;
I = Aboriginal Identity Group; G = Gender

Source: Data from the Aboriginal Peoples Survey, 1991.

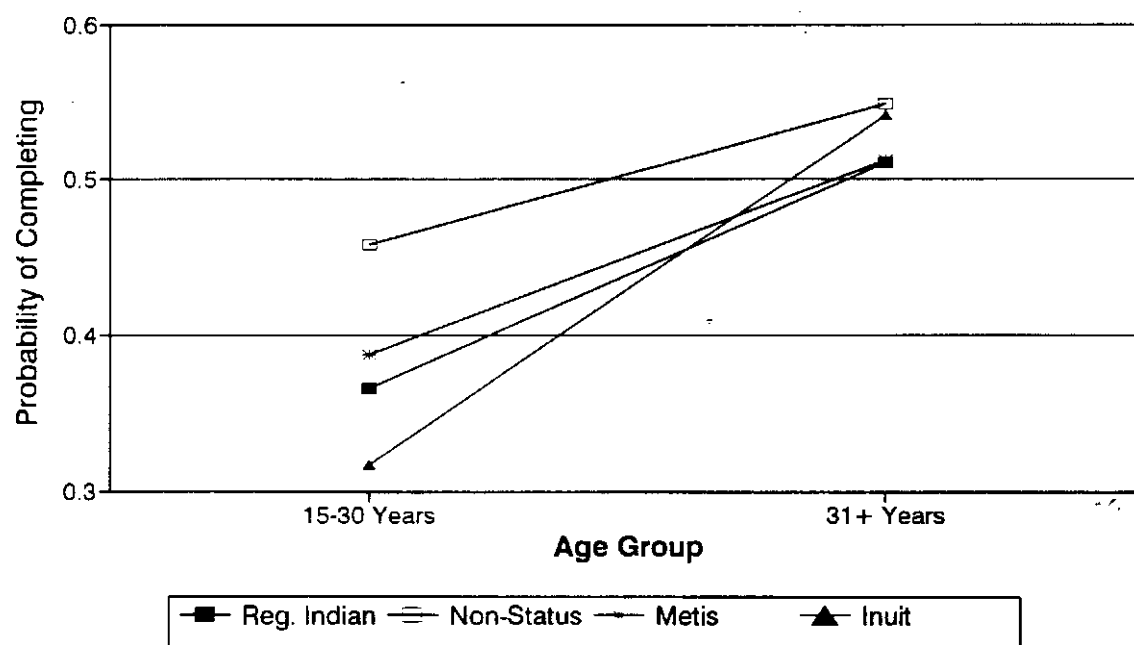
post-secondary success among Aboriginal students, age having the largest effect.

Parameters associated with the main effects of the model imply the following:

- The estimated completion rate for the 15-30 year old age group is 15 percentage points lower than that of individuals who are more than 31 years old (all other things being equal). The most likely explanation for this is the greater length of time that older people have had to complete their certification.
- Individuals with a high school certificate are roughly 9 percent more likely to complete post-secondary certification than those who do not have a high school certificate.
- The model estimates lower completion rates among Aboriginal language speakers than among non-Aboriginal language speakers.
- Higher completion rates are estimated among non-status Indians than among other Aboriginal identity groups.
- Little difference is identified in completion rates between men and women.

As shown in Figure 30, the effects of age on completion rates differ among Aboriginal identity groups. For each Aboriginal group, the older population is much more likely to have completed a post-secondary certificate, but the impact of age is much larger among the Inuit than among the other groups. It is not clear why this pattern would exist. Similarly, the impact of having obtained a high school certificate is different among the different Aboriginal identity groups. While it is important for all the groups, it is especially important among the non-status Indian population (see Figure 31).

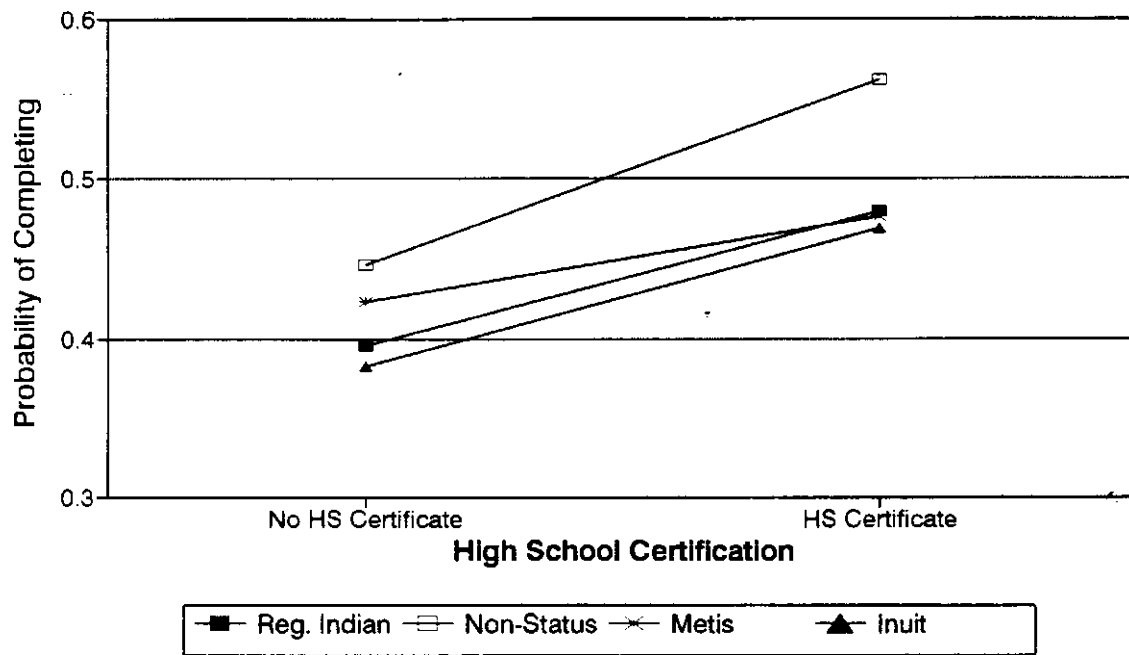
Figure 30
 Estimated Probability of Completing Non-University Post-Secondary Programs
 By Age and Aboriginal Identity, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 31

Estimated Probability of Completing Non-University Post-Secondary Programs
By High School Certification and Aboriginal Identity, Canada, 1991



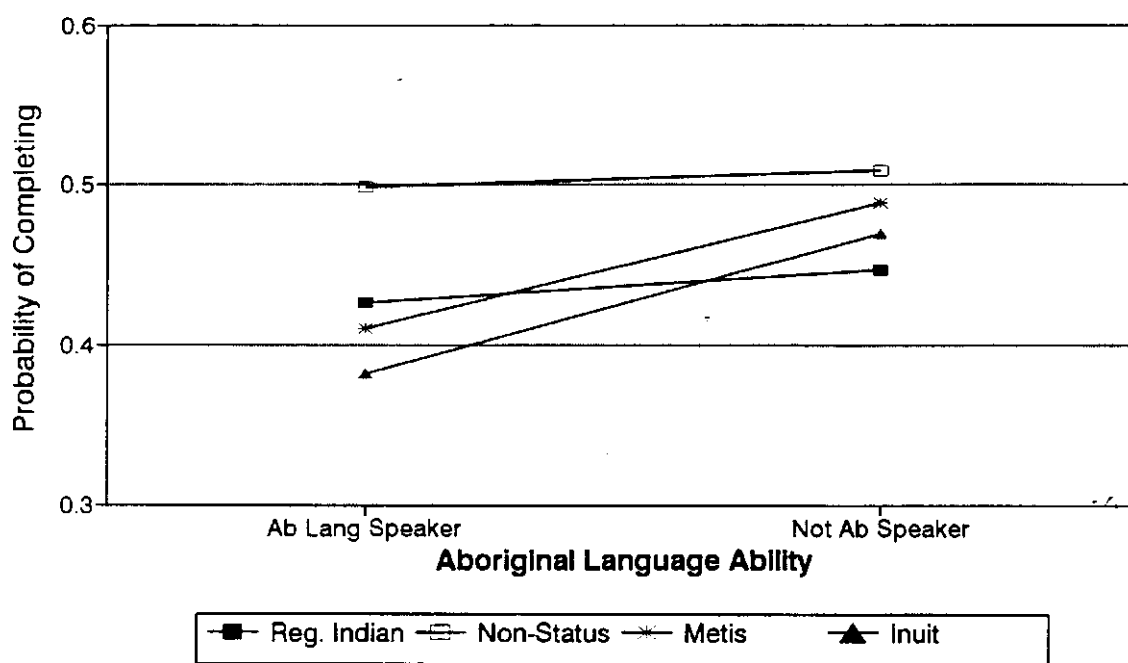
Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

The model also identifies an interaction between Aboriginal language ability and Aboriginal identity. For registered Indians and non-status Indians, the ability to speak an Aboriginal language has little impact on the completion rates estimated by the model. However, among the Metis and Inuit, Aboriginal language speakers have a much lower probability of completing a non-university, post-secondary program than non-speakers (see Figure 32). Last, there is also an interaction between gender and Aboriginal language ability. The completion rate predicted by the model for Aboriginal women who do not speak an Aboriginal language is about 49 percent, compared to about 42 percent among women who do speak an Aboriginal language. Among men the difference in completion rates between Aboriginal language speakers and non-speakers is much smaller (see Figure 33).

The analysis results suggest that there is a complex pattern of Aboriginal identity, Aboriginal language use, age and previous education which influence the post-secondary success of Aboriginal students. While it does not appear that Aboriginal language ability poses a barrier to entry into post-secondary education, it is associated with a lower post-secondary completion rate. Aboriginal language use may reflect a more traditional orientation or perhaps a greater degree of isolation among the Aboriginal-speaking group.

The results of this model are difficult to interpret and much of the variation in non-degree, post-secondary completion rates remains unexplained. This suggests that the variables included within the model do not adequately reflect the factors affecting post-secondary completion. Indeed, the nature of the post-secondary completion rate variable may be part of the problem, in that it spans a wide range of specific training programs and institutional arrangements.

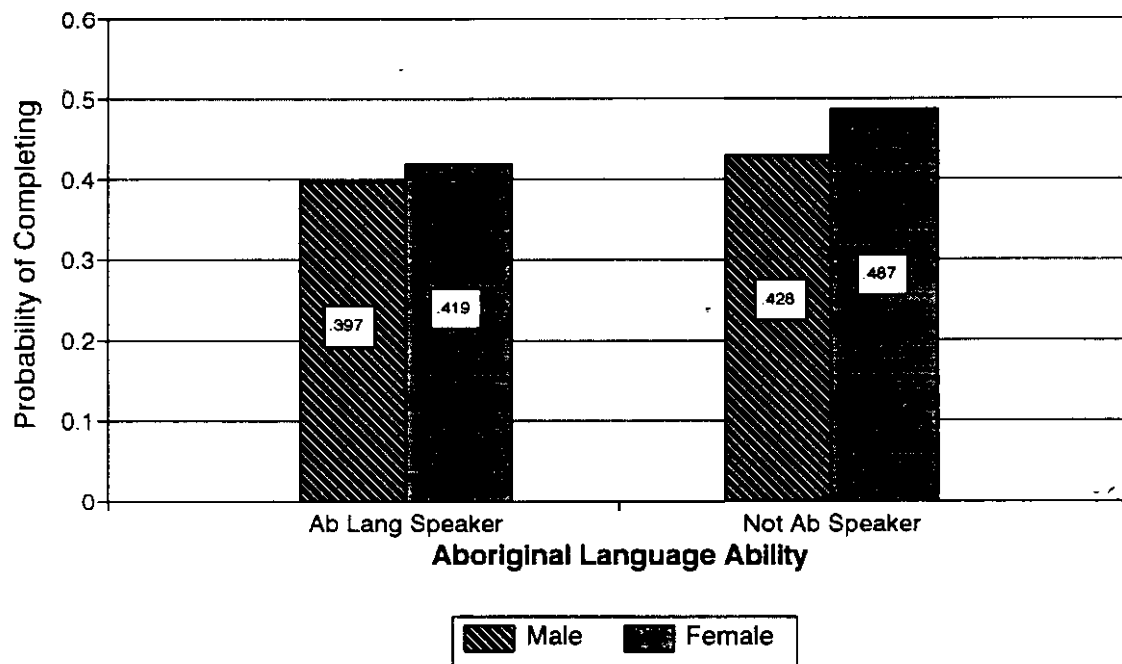
Figure 32
 Estimated Probability of Completing Non-University Post-Secondary Programs
 By Aboriginal Language Ability and Aboriginal Identity, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 33

Estimated Probability of Completing Non-University Post-Secondary Programs
By Aboriginal Language Ability and Gender, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Attendance in University Programs

In order to analyze the factors affecting participation in university programs, the population who previously attended university programs is compared to the population who never attended university. Those currently enrolled in school on a full time basis (including university programs) are excluded from the analysis to ensure that the individuals being examined have completed their education, at least for the time being. The dependent variable can be interpreted as the probability of having attended university programs.

This model incorporates four independent variables: high school certification, age group, gender, and Aboriginal identity group. Due to insufficient data, two variables, marital/parental status, and ability to speak an Aboriginal language, could not be included in the analysis. The independent variables are defined in the same way as in the analysis of non-university, post-secondary attendance (discussed previously).

As revealed in Table 6, the best fit model of the probability of attending university, post-secondary programs includes all four main effects (high school certification, age, Aboriginal identity, and gender) and five interaction effects. The main effects account for 98 percent of the total X^2 variation, and high school certification alone accounts for 94 percent of the total variation. Two-way and three-way interaction effects collectively account for less than one percent of the total variation. All effects included are highly significant.

Table 6

**Stepwise Logit Analysis of Probability of Attending University Programs
Among the Aboriginal Population, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change In Chi-Square		Change In d.f.	R	% of Variation
1	--	52107.87	63	--		--	--	--
2	H	3393.08	62	48714.79	*	1	0.935	93.5
3	A	1948.90	61	1444.18	*	1	0.963	2.8
4	G	1346.51	60	602.39	*	1	0.974	1.2
5	I	957.67	57	388.84	*	3	0.982	0.7
6	H * A	857.35	56	100.32	*	1	0.984	0.2
7	A * G	797.76	55	59.59	*	1	0.985	0.1
8	H * I	722.72	52	75.04	*	3	0.986	0.1
9	G * I	653.62	49	69.1	*	3	0.987	0.1
10	A * I	622.78	46	30.84	*	3	0.988	0.1

* Significant at p = .995

H = High School Certification; A = Age; G = Gender; I = Aboriginal Identity Group

Source: Data from the Aboriginal Peoples Survey, 1991.

● Although the effects included in the model account for almost 98 percent of the total X^2 variation. However, the residual X^2 of 622.78 with 46 degrees of freedom indicates that a statistically significant level of variation remains unaccounted for by the effects included in the model.

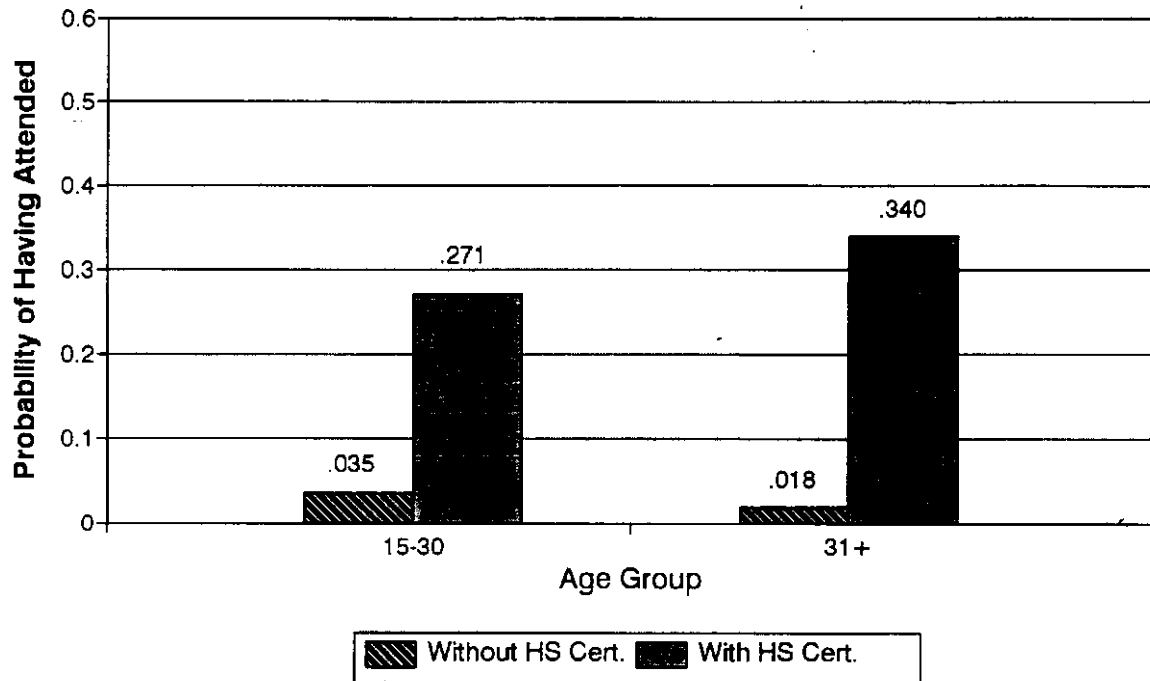
Table A3 in the report's appendix identifies the parameter estimates for all of the effects included in the model. Completion of high school, as might be expected, is the major factor affecting whether the Aboriginal population attends university.

The model's main effects reveal the following relationships:

- Roughly 30 percent of Aboriginal people with a high school certificate attend university compared to less than 3 percent of those without a high school certificate.
- Individuals aged 15 to 30 years of age are more likely to attend university than those 31 years of age or older.
- Aboriginal women are more likely to attend university than Aboriginal men.
- Among the four Aboriginal identity groups, non-status Indians are most likely to attend university, while registered Indians are least likely.

In addition to these main effects, the model identifies interactions among several variables. As shown in Figure 34, among the population 31 or more years of age, the effect of having a high school certificate is even greater than it is for those under 31 years of age. Among those with a high school certificate, the older population is substantial more likely to attend university, but among the population

Figure 34
Estimated Probability of Attending University
By Age Group and High School Certification, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

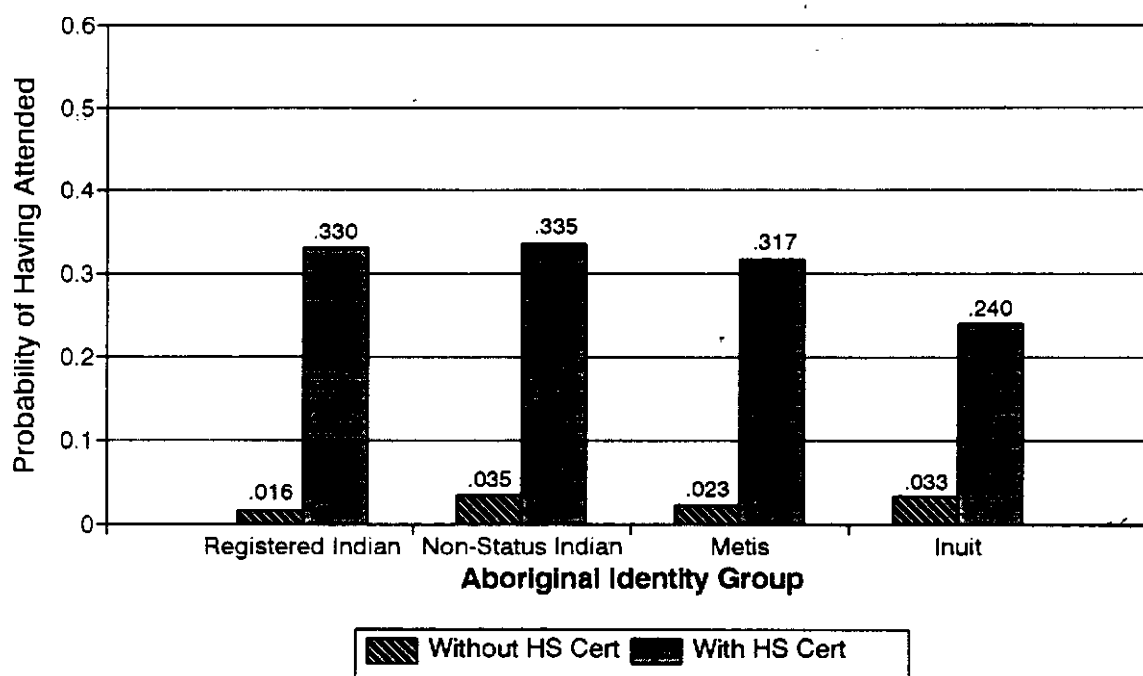
without a high school certificate, the younger population is more likely to attend university. This suggests that it may have become easier in more recent years for Aboriginal students to enter university without high school certification.

The model also identifies an interaction between high school certification and Aboriginal identity group. As shown in Figure 35, among those who have completed high school certificates, there is relatively little difference in university participation among registered Indians, non-status Indians and Metis, while the Inuit participation rate is substantially lower. A different pattern exists among those without a high school certificate, with registered Indians having a lower university participation rate than the other groups, and Inuit having a relatively high participation rate. This suggests that registered Indians have had greater difficulty in gaining entry to university through such alternate routes as mature admissions programs, compared to the other groups. This may be partly related to geographic access among registered Indians who are more likely to live in rural or remote areas than non-status Indians and Metis.

There is also some evidence, in the form of reserve school evaluations, that the quality of the education obtained by reserve residents suffers by comparison to the education provided in other communities.¹ If this is true, it may be that those registered Indian students who lack the usual entry requirement of a high school certificate are less likely than other Aboriginal students to meet the skill requirements for alternative admissions programs. At the same time, it is not clear why the pattern among the Inuit is so different.

1. See Hull, Phillips and Polyzoi (1995).

Figure 35
Estimated Probability of Attending University By High School Certification And
Aboriginal Identity, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

● Completion of University Degrees

The population between the ages of 15 and 49 who previously attended any post-secondary program is used as the basis for the analysis of factors affecting completion of university programs. (The choice of age group was dictated by key APS questions which were asked of only this age group.) This population excludes those currently enrolled in school on a full-time basis. The analysis compares those who have completed a university degree to all others who have attended any post-secondary program. The dependent variable, therefore, reflects the probability of post-secondary attenders having completed a university degree.

It should be kept in mind that the dependent variable cannot be interpreted as a precise "completion rate" for two reasons. First, the base population includes those who have attended any type of post-secondary program, whether at a university, a technical college or some other post-secondary school. Since the majority of post-secondary attenders did not attend university, the use of this base population results in reduced completion rates. Second, the completion rates do not specify a consistent time period for completion of the degrees. Some members of the population have had much longer to complete their programs than others. The results of the analysis should therefore be taken as relative indicators rather than estimates of how many university students within a given population are likely to complete degrees within a set time period. Moreover, because the university degree completion rate is measured against the broad population of post-secondary attenders, it is actually a compound measure which is made up of: (a) the likelihood of pursuing a university degree as opposed to other post-secondary paths, multiplied by: (b) the likelihood that those who enter university will

complete a degree. Given the data limitations of the Census and APS these two factors cannot be separated in the analysis.

This model incorporates three independent variables: high school certification, gender, and ability to speak an Aboriginal language. The Aboriginal population with university degrees is relatively small and it was found that the age, Aboriginal identity group and marital/parental status variables could not be included in the analysis due to lack of data. The three independent variables are defined in the same way as in the analysis of non-university post-secondary attendance.

As revealed in Table 7, the best fit model of the probability of completing a university degree includes three main effects (high school certification, gender and Aboriginal language ability). High school certification by itself accounts for about 95 percent of the total X^2 variation. Apart from high school certification, the ability to speak an Aboriginal language is the most significant variable, although it accounts for less than 2 percent of the total variation. In addition to the main effects, two interaction effects are significant.

In total, the model accounts for nearly 100 percent of the total X^2 variation. The residual X^2 of 5.38 with 2 degrees of freedom indicates that the model as a whole is statistically significant; that is, the amount of variation remaining unaccounted for is not significantly different from zero.

Table 7

**Stepwise Logit Analysis of Probability of Completing University Degree
Among the Aboriginal Population, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square		Change in d.f.	R	% of Variation
1	--	4415.21	7	--		--	--	--
2	H	214.88	6	4200.33	*	1	0.951	95.1
3	S	135.65	5	79.23	*	1	0.969	1.8
4	G	98.44	4	37.21	*	1	0.978	0.8
5	H * S	49.21	3	49.23	*	1	0.989	1.1
6	H * G	5.38	2	43.83	*	1	0.999	1.0

* Significant at $p = .995$

H = High School Certification; S = Aboriginal Language Speaking Ability; G = Gender

Source: Data from the Aboriginal Peoples Survey, 1991.

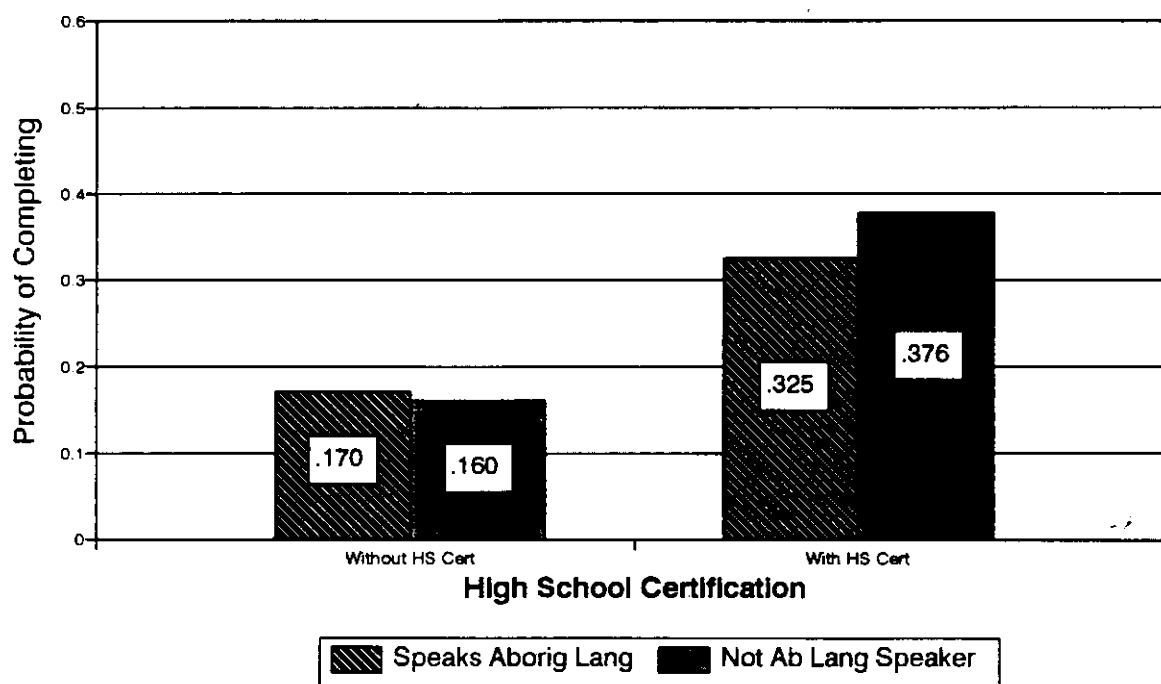
Table A4 in the report's appendix identifies the parameter estimates associated with various effects identified in the model. The main effects of the model reveal that:

- The estimated completion rate for high school graduates is more than twice the completion rate of those who have not obtained high school certificates.
- The effects of gender and Aboriginal language ability, while significant, are small. Aboriginal women are more likely than Aboriginal men to complete university degrees, and those who speak an Aboriginal language are less likely than those who don't to complete university degrees.

As shown in Figure 36, the model identifies different effects of Aboriginal language ability groups for those with and without high school certification. Among those who do not have a high school certificate, the ability to speak an Aboriginal language increases the probability of completing a degree, while among those with a high school certificate, Aboriginal language speakers are less likely to complete a degree. This result may reflect a complex interaction involving language ability, cultural isolation, quality of education and university success. One possible interpretation is that Aboriginal language ability is associated with both helpful and detrimental factors.

On the one hand, those who speak an Aboriginal language are likely to come from more remote or northern areas. It may be that the quality of the education received in these areas, affected by geographic isolation, suffers by comparison to other areas. On the other hand, based on the theory that fluency in a first language provides a conceptual and psychological resource which can facilitate the

Figure 36
Estimated Probability of Completing A University Degree
By Aboriginal Language Ability and High School Certification, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

● learning of a second language and strengthen general self-confidence when operating in a foreign culture (Cummins, 1989), Aboriginal language ability may contribute to academic success. The positive aspects of Aboriginal language ability may be reinforced to a greater degree in special university programs designed for Aboriginal students. Students in such programs may be more likely than other Aboriginal students to lack a high school certificate.

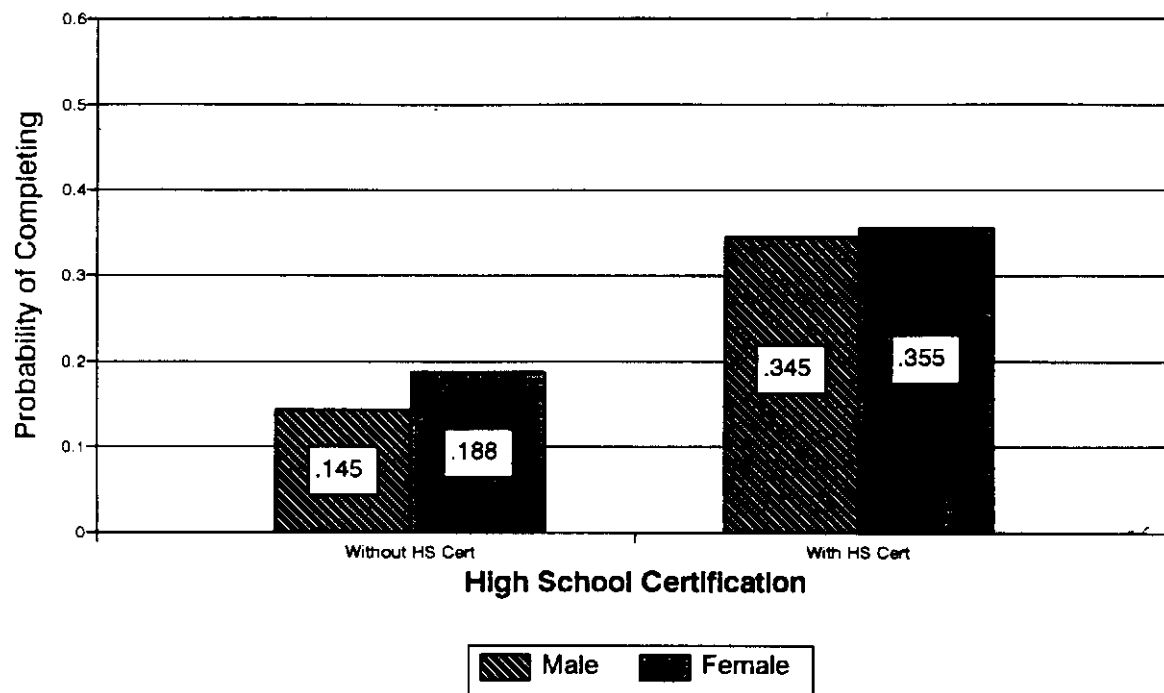
As shown in Figure 37, the impact on university completion rates of having obtained a high school certificate is different among men and women. Among those without high school certificates, women have substantially higher completion rates than men. However, the gap between men and women is much smaller among those with high school certificates.

Summary: Post-Secondary Attendance and Completion

Results of the analyses provide support for several major conclusions. First, high school completion plays the major role in both attendance and completion of university and non-university, post-secondary programs. As revealed in Section 3, many Aboriginal post-secondary students have not completed high school. While lack of high school completion does not prevent some Aboriginal students from completing post-secondary programs, they are much more likely to have success if they have previously completed high school. This is especially true for those enrolled in university programs.

Second, age is also an important factor related to the completion of non-university, post-secondary programs. Two interpretations can be placed on this: that those who are older have had more time to complete their education; or that more

Figure 37
Estimated Probability of Post-Secondary Attenders Completing A University Degree
By Gender and High School Certification, Canada, 1991



Source: Custom tabulation from the 1991 Aboriginal Peoples Survey.

mature students are more successful. The present analysis does not resolve the extent to which either or both of these interpretations are correct.

Third, the ability to speak an Aboriginal language is not a significant factor affecting entry into non-university, post-secondary programs. However, it is a factor related to the *completion* of post-secondary programs, such that those who speak an Aboriginal language are less likely to complete both university and non-university, post-secondary programs. This suggests at least two possibilities: that cultural or social barriers exist for Aboriginal students within the Canadian post-secondary education environment and/or that those who speak an Aboriginal language are likely to come from more traditional communities or families in which the preparation for higher education is relatively weak. It may also be noted that Aboriginal language ability seems to be related to high school completion. There may, therefore, be an indirect relationship between Aboriginal language ability and entry into non-university, post-secondary programs.

Fourth, it was found that being a single parent does not present a barrier to entry into non-university, post-secondary programs; on the contrary, lone parents are more likely than others to attend such programs.

Although these analyses are exploratory they suggest that the focus of attention concerning Aboriginal post-secondary success should be on high school completion, the quality of high school education, and issues of social and cultural adjustment of Aboriginal students within the post-secondary environment.

Section 5

A Profile of Selected Aboriginal Labour Market Circumstances

Introduction

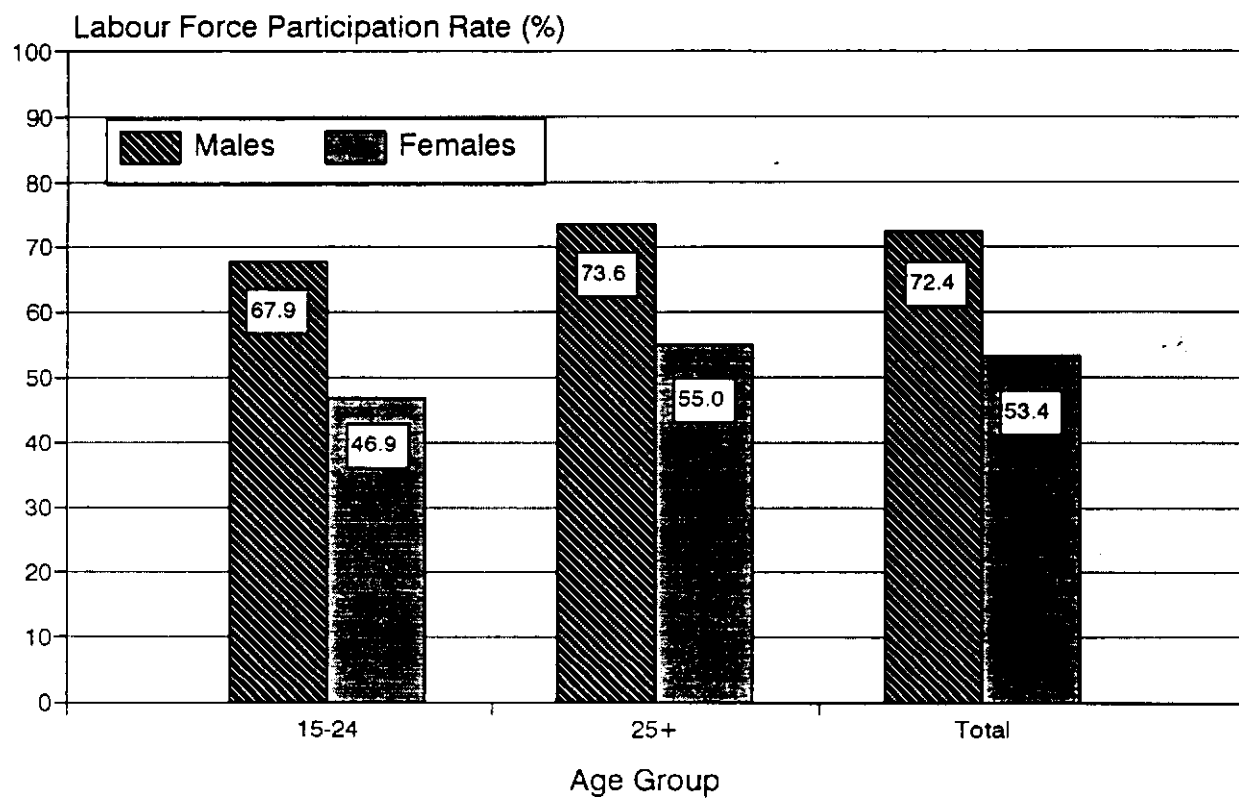
This section of the report presents selected indicators of Aboriginal labour market outcomes. The indicators presented in this section include labour force participation rates, unemployment rates, 1990 work status (i.e. full year/full time employment), employment by industry and occupational group, employment earnings and sources of income, and perceived barriers to employment. With the exception of data concerning employment by industry and occupation group, all data reported in this section of the report relate to the Aboriginal identity population, as defined by the Aboriginal Peoples Survey. Unless otherwise noted, the APS data reported in this section exclude individuals attending school on a full-time basis. Data concerning employment by industry and occupational group are derived from the 1991 Census and relate to the Aboriginal ancestry population aged 15 or more years and not attending school full time. Comparable census data concerning employment by industry and occupational group among the non-Aboriginal population are also presented.

Labour Force Participation Rates

As illustrated in Figure 38, most of the adult Aboriginal identity population that was not attending school on a full time basis was actively participating in the labour force in 1991. As expected, rates of labour force participation in 1991 were considerably higher (nearly 1.4 times higher) for Aboriginal males than females among both younger (i.e. 15-24 years) and older (25 or more years) adults. Participation rate differences between young and older adults were substantially

Figure 38

Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Labour Force Participation Rate by Age and Gender Group, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

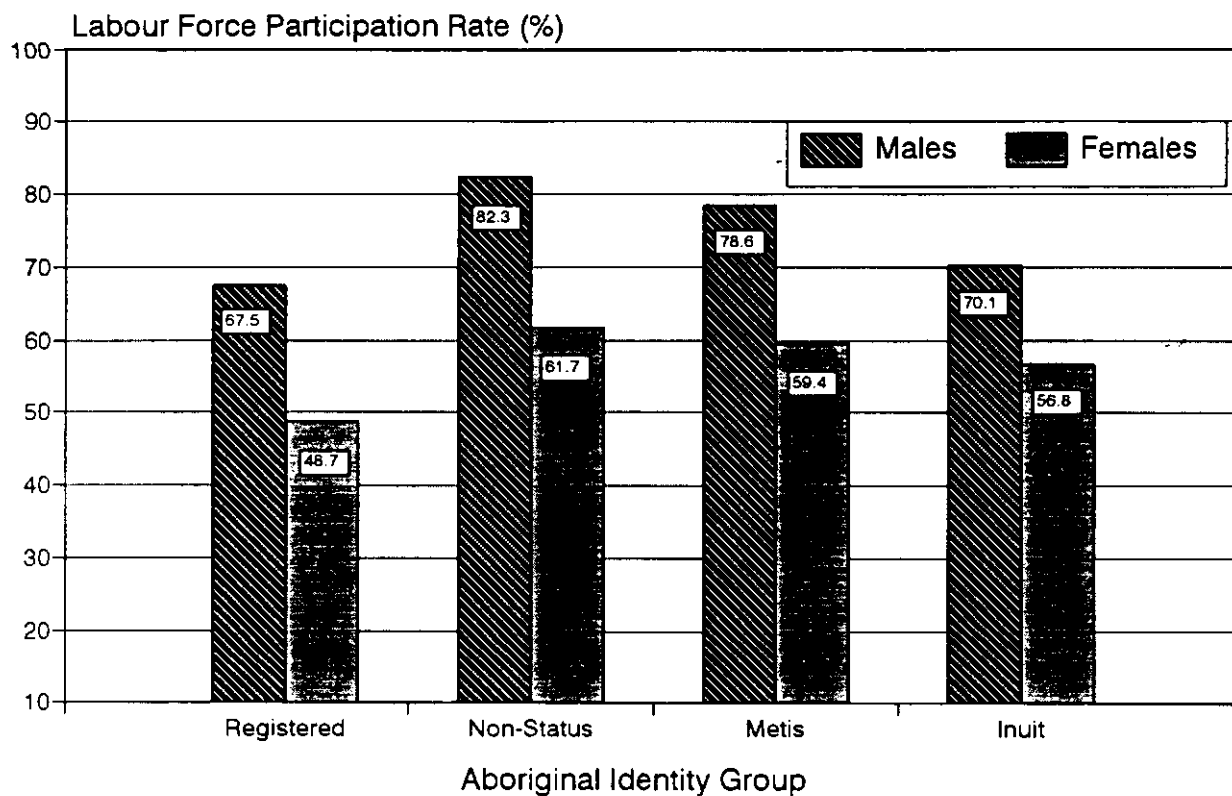
● smaller than those associated with gender. Among males, participation rates were roughly eight (8) percent higher among individuals 25 or more years of age (as opposed to 15-24 years of age). Among females, participation rates among the older age group were roughly 17 percent higher than among youth. The relatively small scale of the increase in participation rates associated with age (especially among males) suggests that although some increase in the overall level of Aboriginal labour force participation may result in the future from the demographic process of aging, the size of the "aging" effect is likely to be quite small.

As illustrated in Figure 39, labour force participation rates appear to vary significantly among identity groups within the Aboriginal population and display a similar pattern for males and females. Among both gender groups, participation rates were highest among non-status Indians and lowest among registered Indians. Participation rates among Metis were slightly lower (about 3.5 percent lower) than those reported by non-status Indians. Participation rates among Canada's Inuit populations were lower than those of non-status Indians and Metis but higher than those of registered Indians. Although requiring more formal analysis, it is unlikely that participation rate differences among identity groups result from differences in age structure, as the population age structures of each of these groups tend to be similar.

Figure 40 illustrates the patterns of male and female labour force participation by highest level of schooling. Among both gender groups, participation rates are sharply higher among individuals who have attained a high school certificate or higher level of education. The effects of education beyond the high school

Figure 39

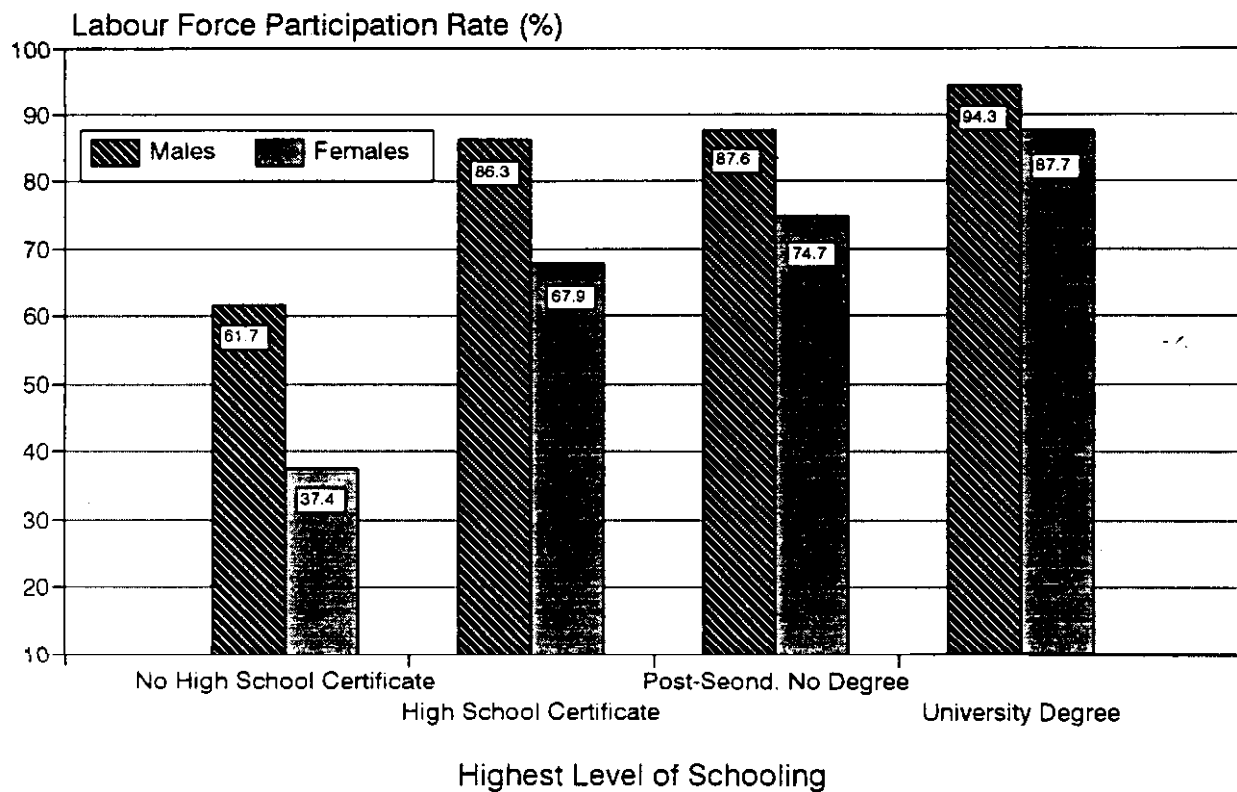
Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Labour Force Participation Rate by Identity Group and Gender, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Figure 40

Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Labour Force Participation Rate by Highest Level of Schooling and Gender, Canada, 1991



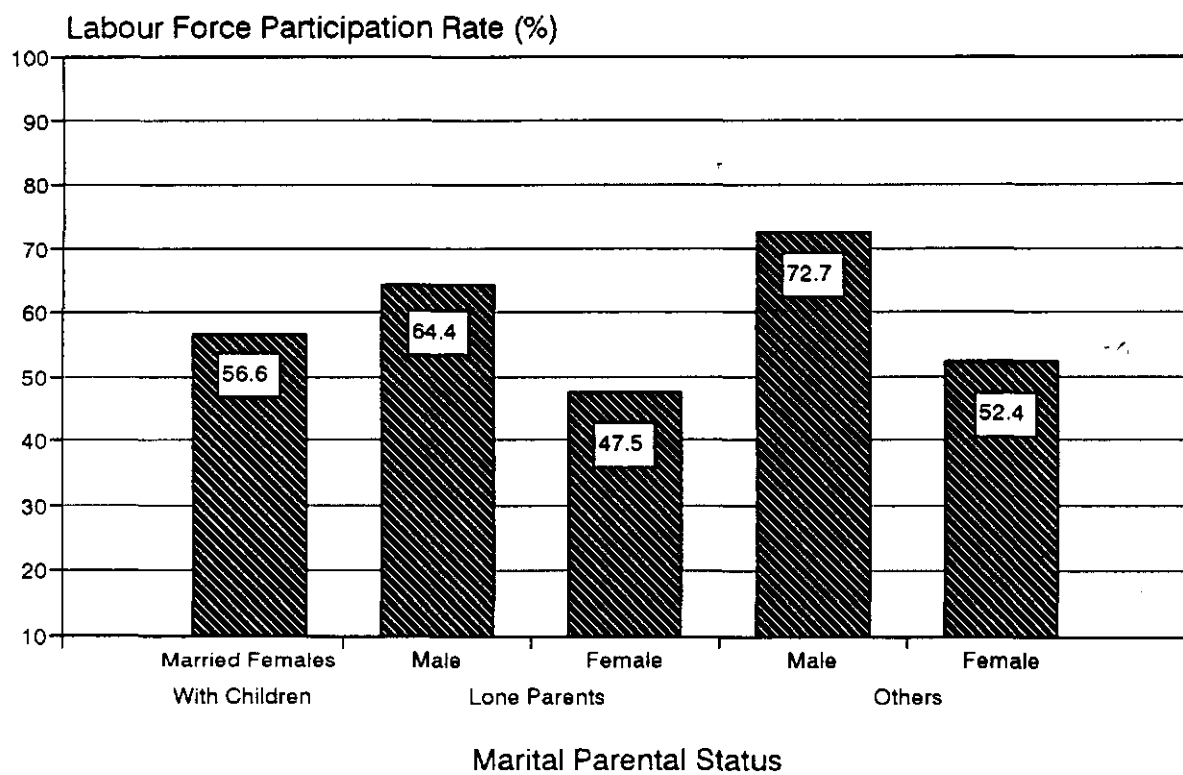
Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

certificate level on labour force participation rates appear to be pronounced only among Aboriginal females. Among Aboriginal females, individuals who had obtained a university degree were roughly 1.3 times more likely to be active in the labour force than those with a high school certificate only. Although Aboriginal males with university degrees reported higher levels of participation, the differences between this group and that with a high school certificate only, was not large (94.3 percent to 86.3 percent). The figure also suggests that higher education levels serve to greatly reduce the size of the gender differential in participation rates.

Responsibilities for the care and rearing of children have been documented in many labour market studies to depress levels of labour force participation, especially among females. Figure 41, which illustrates labour force participation rates for several marital/parental status groups, suggests that the effect of the presence of children at home on labour force participation among the Aboriginal identity population is not large. Although both male and female lone parents reported lower rates of participation than other marital/parental status groups, married females with children at home reported higher participation rates than females without children. Although corresponding data for married males with children at home were not available to the study, data for the other marital/parental status groups suggest that lone parent status, rather than the presence of children represents a more significant barrier to participation in the labour force. Although the presence of children does not appear to lower participation rates among females, this factor may influence other dimensions of labour market behaviour (e.g. unemployment levels and work status [i.e. full time/part time]).

Figure 41

Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Labour Force Participation Rate by Marital/Parental Status, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

As illustrated in Figure 42, rates of labour force participation vary by geographic zone of residence. In general, differences in participation levels between the far north, mid-north and southern zones do not appear to be large. Participation rates of reserve residents, however, are sharply lower than those of off-reserve residents among both gender groups and in both the mid-north and southern geographic zones. Little variation in rates of participation appear to exist among either males or females between off-reserve residents in the mid-north and southern zones. Among males, the participation rate of off-reserve residents in these zones range from 77.7 to 80.7 percent. Among females residing off reserve in these zones, participation rates varied from 54.7 percent to 62.2 percent.

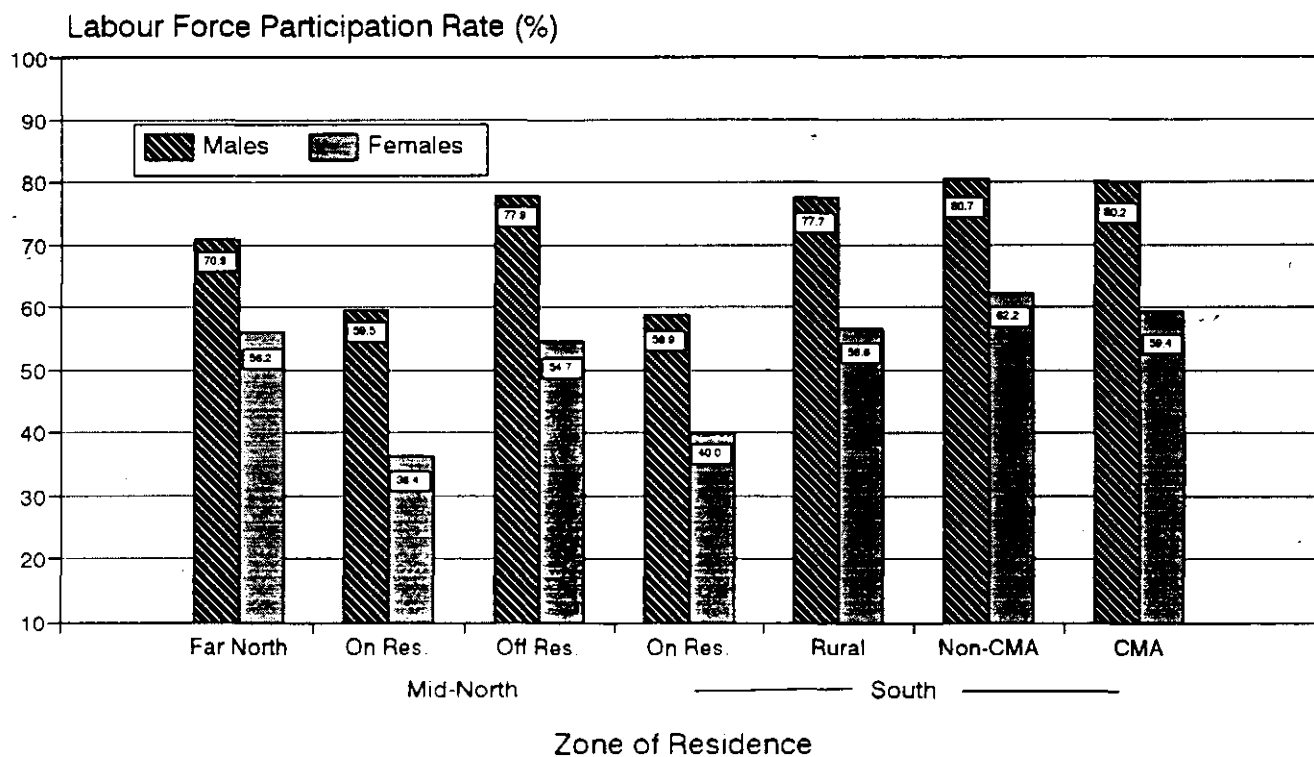
Larger variations in Aboriginal rates of labour force participation appear to exist between provinces and regions (see Figure 43). In relation to other areas, participation rates among both males and females were higher in the provinces of Ontario and British Columbia and in the northern Canada region. Participation rates in the Atlantic and Prairie regions and in the province of Quebec were of similar magnitude, but lower than those reported for the populations of the other provinces/regions.

As revealed in Figure 44 those who are able to speak an Aboriginal language are less likely to be active labour force participants. Rates of labour force participation among Aboriginal language speakers are approximately 20 percent lower than those who do not. This situation exists among both gender groups and for youth and older individuals.

In contrast with the use of Aboriginal languages, there does not appear to be a connection between labour force participation and participation in traditional

Figure 42

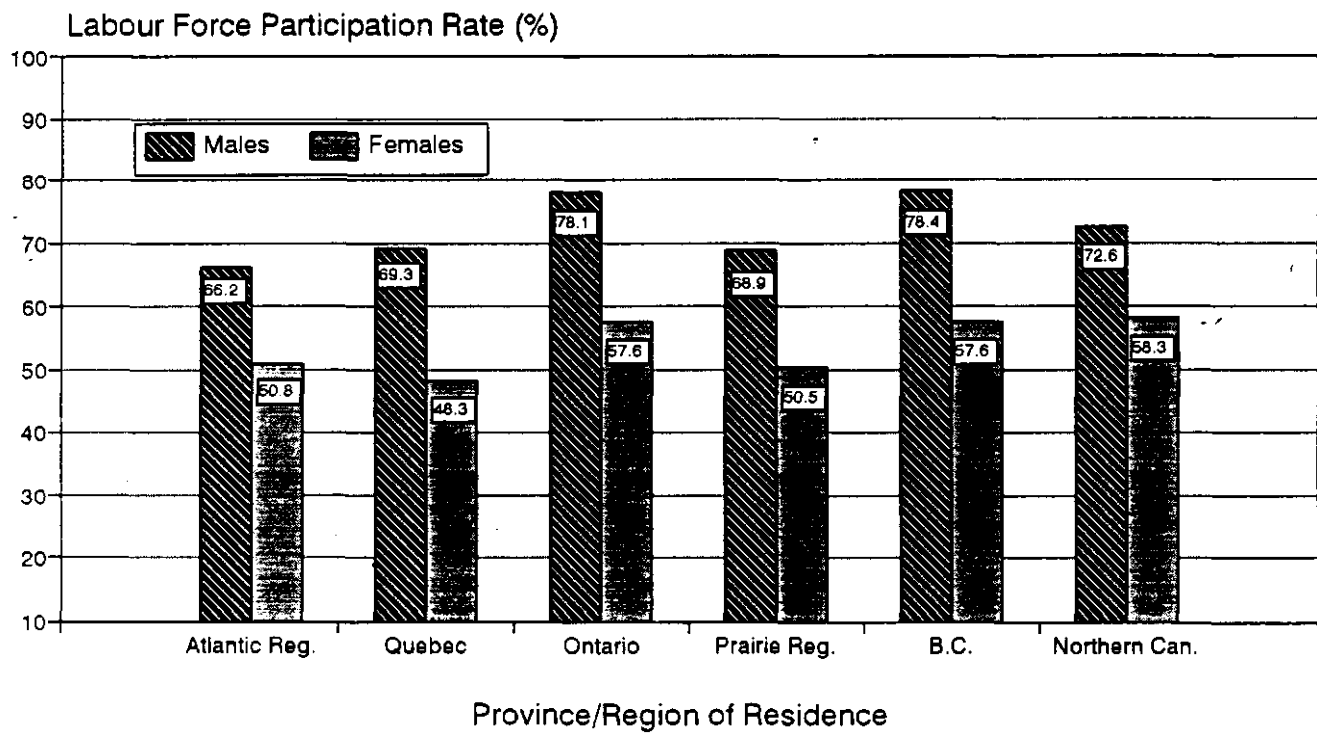
Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Labour Force Participation Rate by Zone of Residence and Gender, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Figure 43

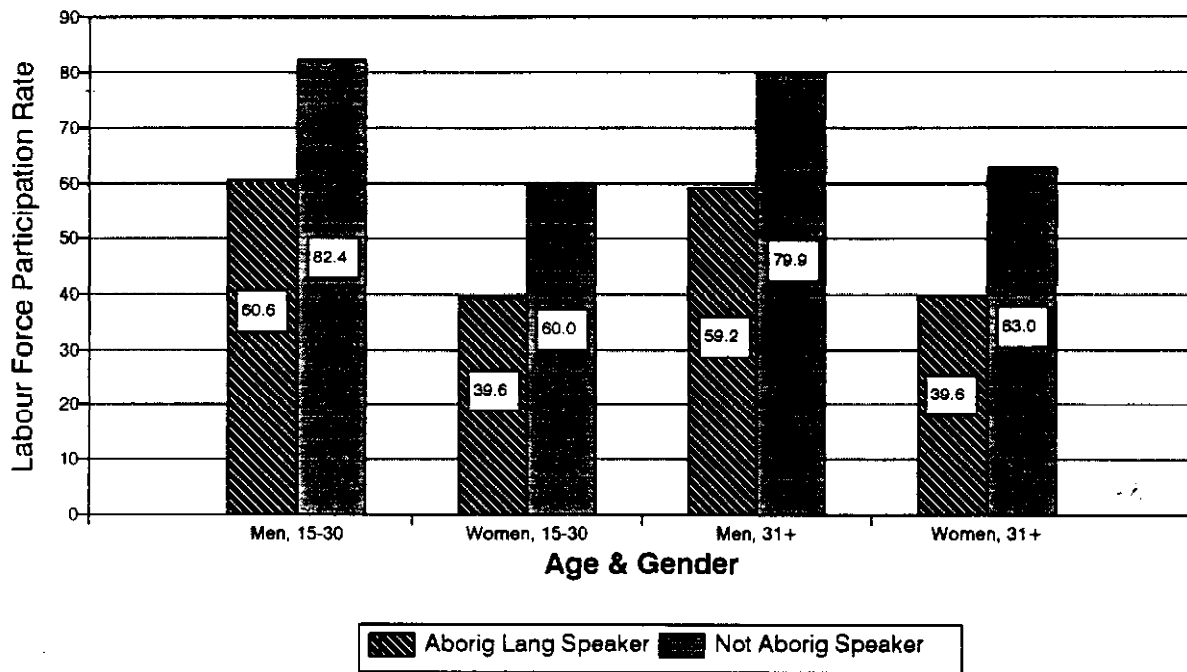
Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Labour Force Participation Rate by Province/Region of Residence and Gender, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Figure 44

**Labour Force Participation Rates of the Aboriginal Population 15+
Not Attending School Full Time, By Age, Gender
And Ability to Speak An Aboriginal Language, Canada, 1991**



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

cultural activities. As illustrated in Figure 45, the difference in labour force participation between those who do and do not participate in such activities is relatively small, and not clearly patterned over age and gender groups.

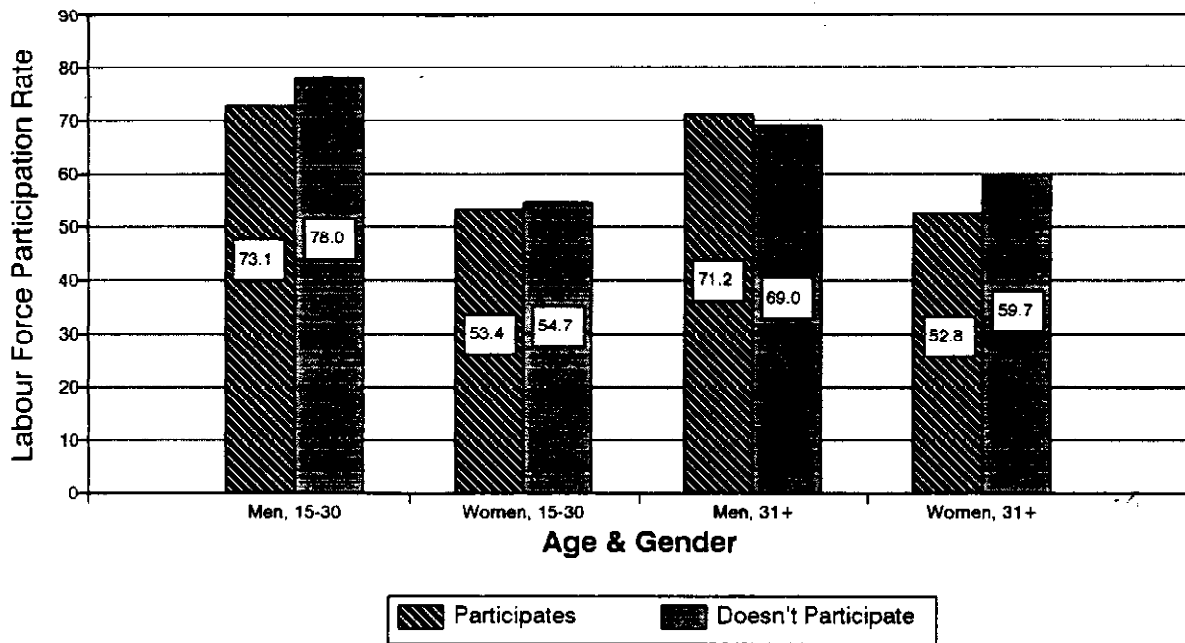
Unemployment Rates

In 1991, the unemployment rate among the Aboriginal identity population (not attending school full time) was 24.6 percent (roughly 48,785 individuals). Figure 46, which presents unemployment rates by age and gender group, reveals that unemployment rates were higher among youth (36.2 percent compared to 22.0 percent among older adults) and among males (27.6 percent compared to 21.1 percent among females). Males accounted for roughly 61 percent of the unemployed Aboriginal identity population. Youth (males and females) represented about 27 percent of the unemployed population.

Among males, unemployment rates were highest among registered Indians (32.3 percent) and lowest among non-status Indians (17.8 percent) [see Figure 47]. Unemployment rates among both Metis and Inuit males were approximately 26 percent, roughly the mid-point between the unemployment rates reported by registered and non-status Indians. Inuit reported the highest rate of unemployment among females (25.5 percent). Registered Indian, non-status Indian and Metis females reported unemployment rates of 22.9, 19.1 and 16.9 percent, respectively. With the exception of the non-status Indian population, unemployment levels among females were lower than among males. Gender differences in unemployment rates appear to be large only in the case of registered Indians and Metis. Among these two identity groups, males were more than 1.4 times more likely to report unemployment than females.

Figure 45

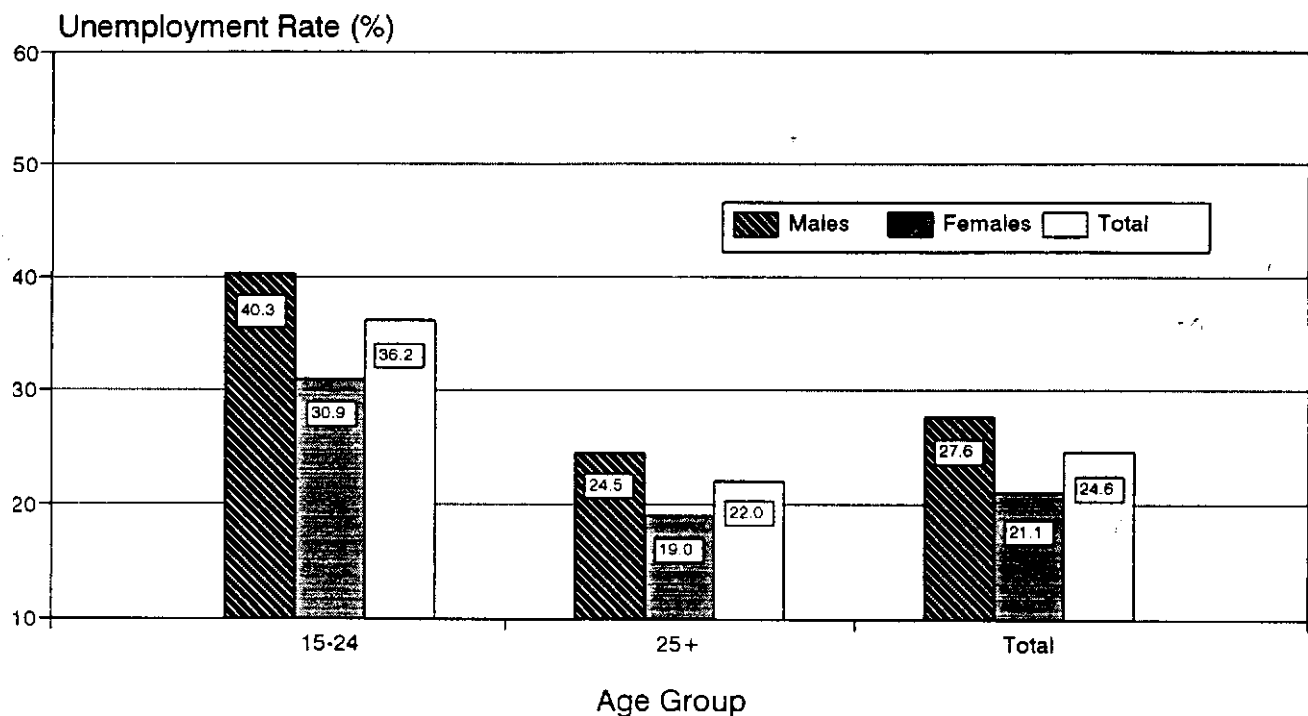
**Labour Force Participation Rates of the Aboriginal Population 15+
Not Attending School Full Time, By Age, Gender
And Participation in Traditional Activities, Canada, 1991**



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 46

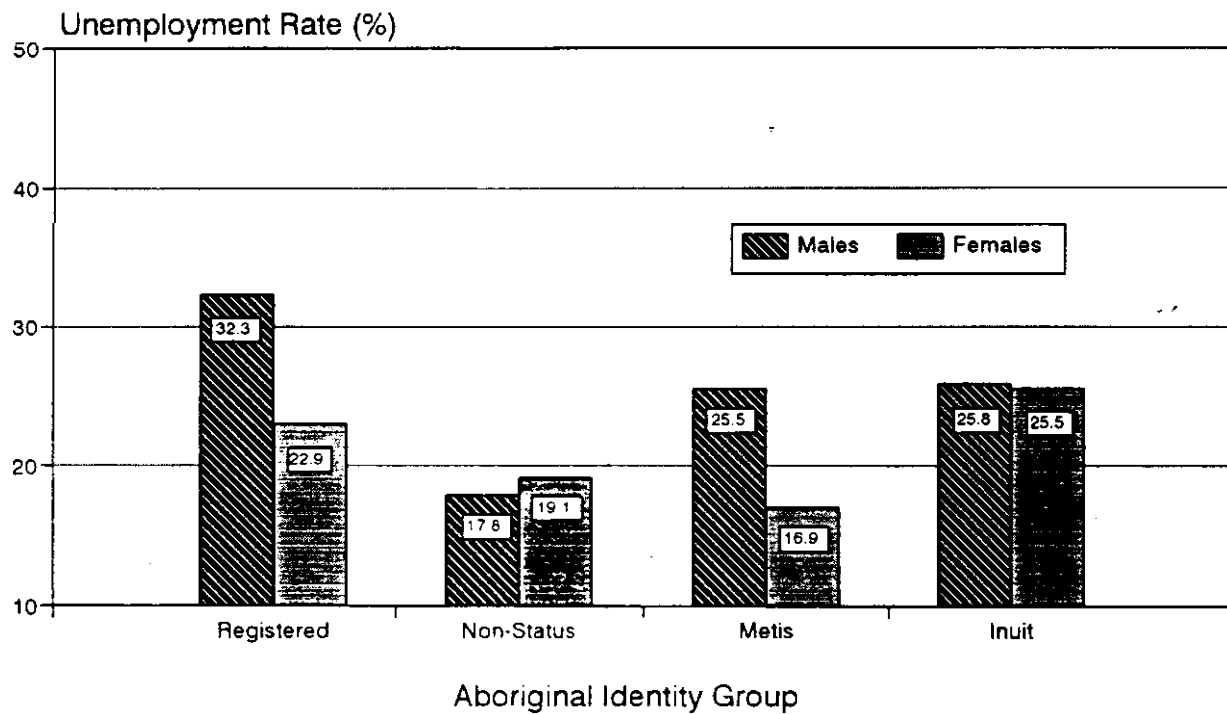
Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Unemployment Rate by Gender and Age Group, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Figure 47

Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Unemployment Rate by Gender and Identity Group, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

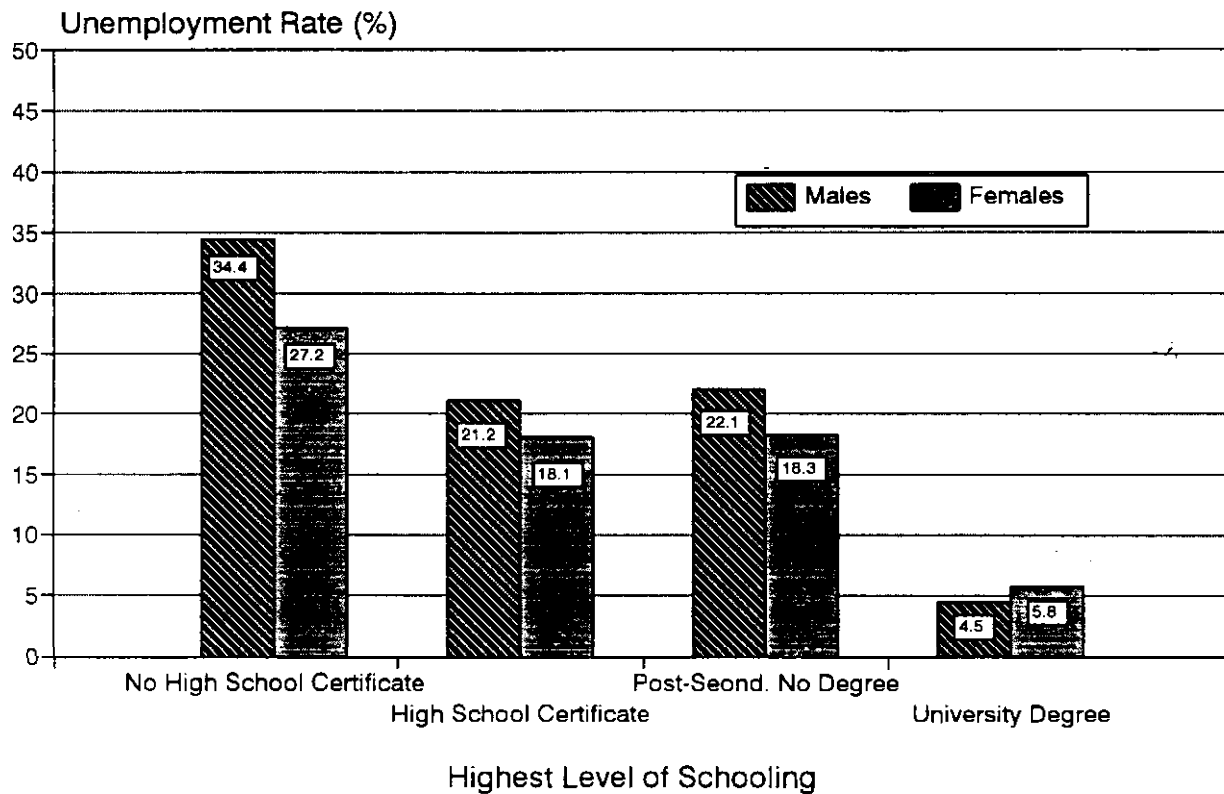
As illustrated in Figure 48, unemployment rates are strongly patterned over education levels among both males and females. For example, the unemployment rate among males who had not obtained a high school certificate was 7.3 times higher than that of males with a university degree and 1.6 times higher than that of males with a high school certificate. Among females, individuals without a high school certificate were 4.7 times more likely to report unemployment than those with a university degree and 1.5 times more likely to be unemployed than those with a high school certificate.

Among both gender groups, unemployment levels among individuals that had undertaken post-secondary education but not obtained a university degree did not differ greatly from those of individuals who had obtained a high school certificate only. This finding (in concert with our earlier findings concerning participation rates) suggests that in terms of the likelihood of employment, post-secondary education without a university degree is roughly equivalent to high school completion.

Unemployment rates among various marital/parental status groups are illustrated in Figure 49. In relation to all other marital/parental status groups, married females with children at home reported the lowest unemployment rates (19.6 percent). Unemployment rates were highest among lone parents, regardless of gender. Although isolation of the effects of marital/parental status requires additional analysis, aggregate level data suggest that the effects of the presence of children on unemployment rates may not be large, except in the case of lone parents. Lone parenthood appears to not only reduce the likelihood of participation in the labour force, but also reduce the likelihood of employment among active labour force participants.

Figure 48

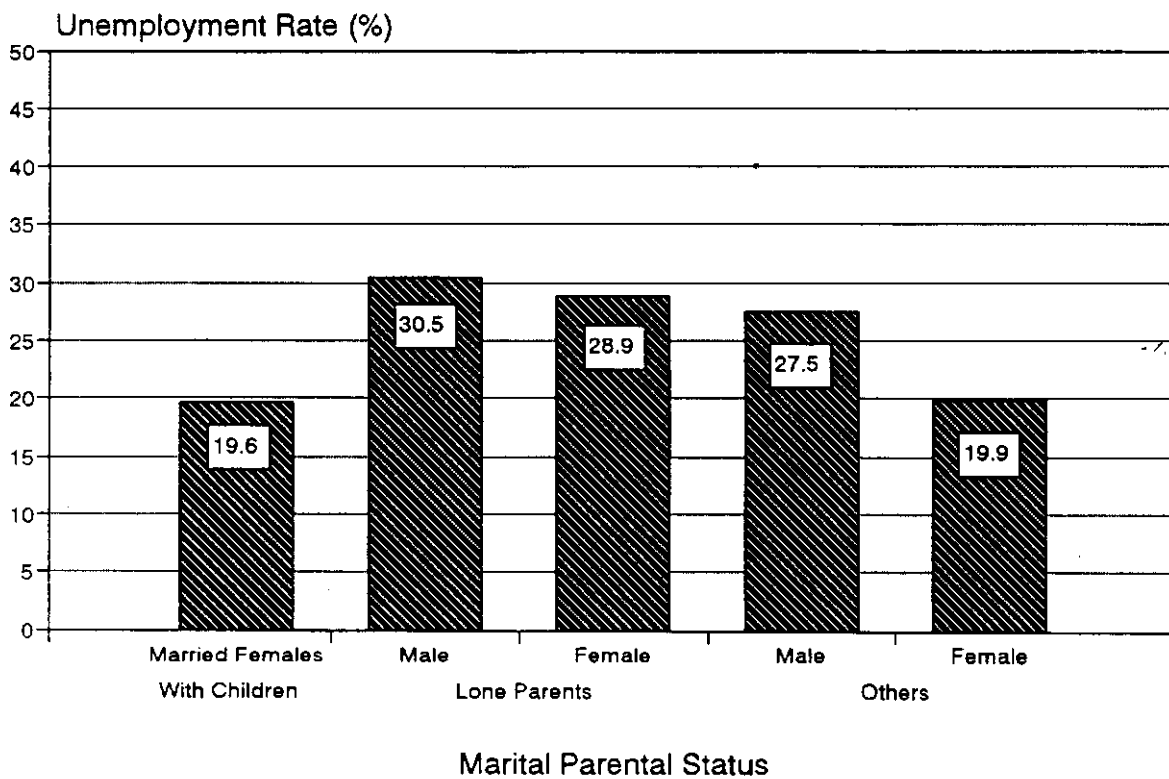
Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Unemployment Rate by Highest Level of Schooling and Gender, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Figure 49

Aboriginal Identity Population Aged 15 or More Years and Not Attending
School Full Time Showing Unemployment Rate by
Marital/Parental Status, Canada, 1991



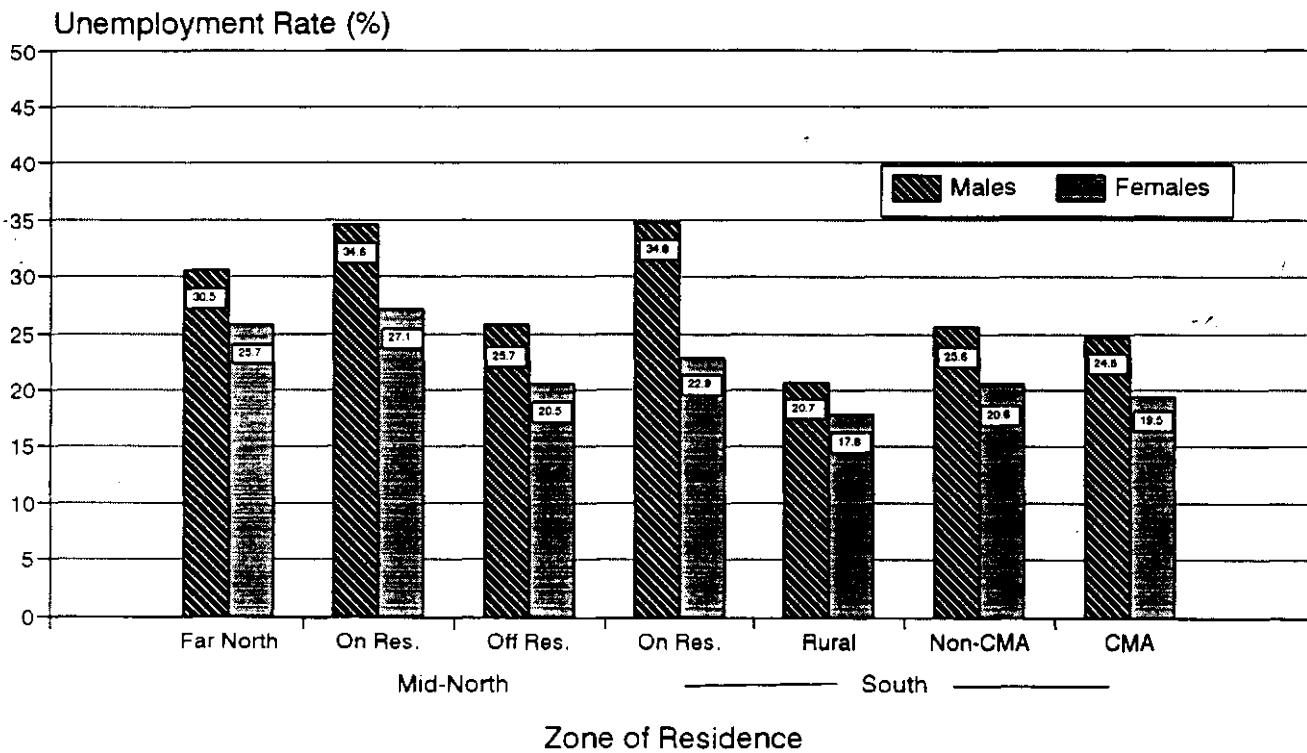
Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

● Rates of unemployment among the Aboriginal identity population varied widely among geographic zones (Figure 50) and among provinces/regions (Figure 51). Among all zones and provinces/regions considered in this study, however, rates of unemployment were lower among females than males. In relation to the other geographic zones, both male and female unemployment rates were highest among reserve residents and residents in the far north geographic zone. Unemployment rates among both gender groups were lowest in rural areas located in the southern geographic zone. Unemployment rate differences between small and large urban centres were not large for either gender group.

As illustrated in Figure 51, wider variations in unemployment rates were reported among provinces and regions. In relation to all other provinces/regions, the population residing in the province of Ontario reported much lower unemployment rates (19.2 percent among males and 14.2 percent among females). Unemployment rates among the Aboriginal identity population residing in the Atlantic region exceeded those of all other regions by a sizable margin. Unemployment rates among the Aboriginal population of the Atlantic region were more than twice as large as those reported by Ontario's Aboriginal population. Little variation in rates of unemployment was identified among the Aboriginal populations residing in the Prairie region, British Columbia or Northern Canada. In these regions male unemployment rates ranged between 29 and 30 percent and female rates ranged between 22 and 26 percent.

Figure 50

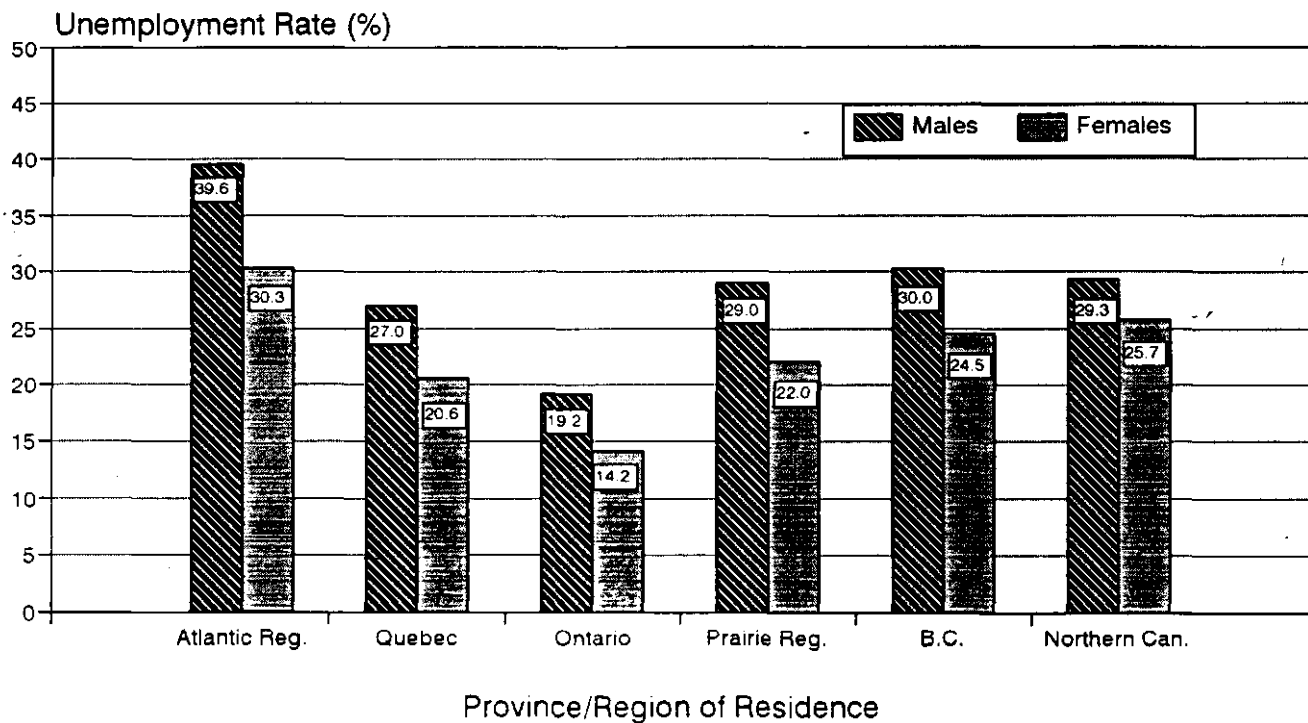
Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time Showing Unemployment Rate by Zone of Residence and Gender, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Figure 51

Aboriginal Identity Population Aged 15 or More Years and Not Attending
School Full Time Showing Unemployment Rate by
Province/Region of Residence and Gender, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

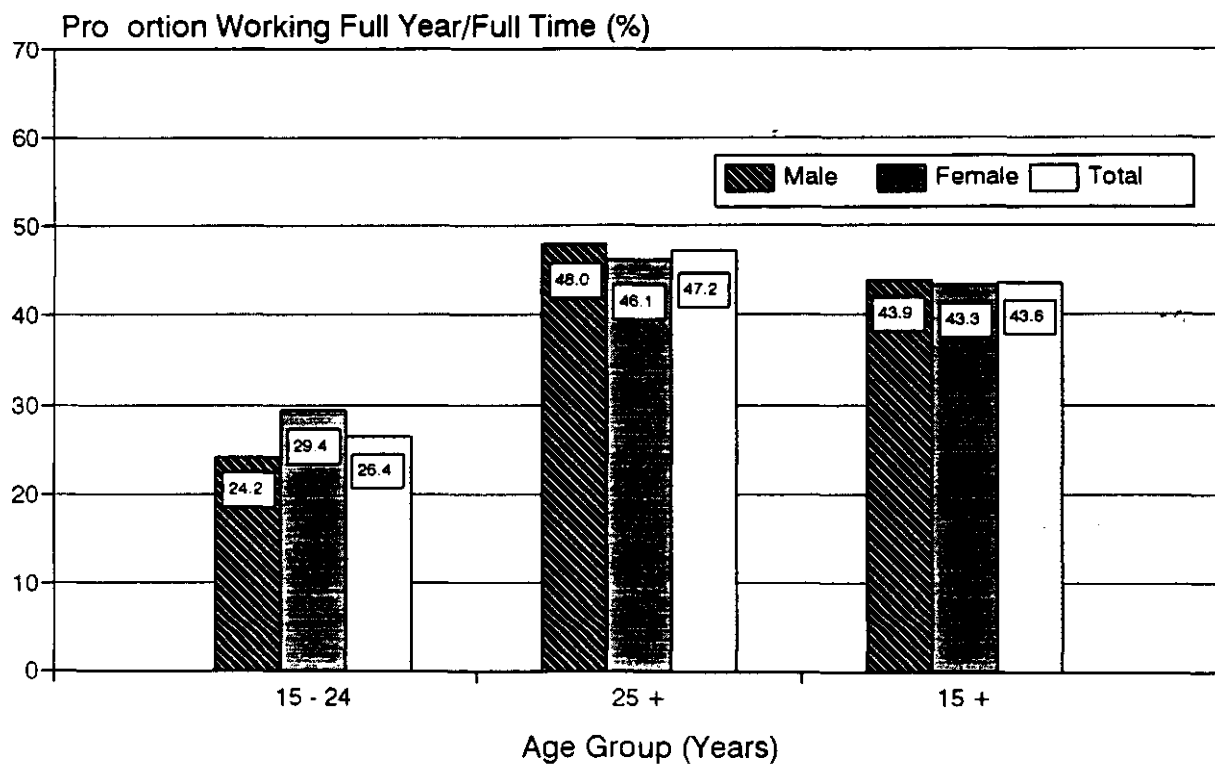
1990 Work Status

A total of 175,245 individuals from the Aboriginal identity population aged 15 or more years of age and not attending school reported employment in 1990. This represented roughly 55 percent of the total population of labour force age that was not attending school full time and about 88 percent of the active 1991 labour force. Among the male population of labour force age that was not attending school full time, roughly 57 percent reported employment during 1990. The 1990 employment rate of the corresponding female population was about 47 percent.

As illustrated in Figure 52, less than 44 percent of the Aboriginal identity population that was employed in 1990 worked on a full-time basis throughout the year. The likelihood of working on a full-year/full-time (FYFT) basis did not vary greatly between gender groups. Among youth, working females reported higher levels of full-year, full-time employment. The reverse situation was identified among older workers. Among both gender groups, workers 25 or more years of age were considerably more likely than those aged 15 to 24 years to have worked on a full-year/full-time basis during 1990. In the case of males, older workers were more than twice as likely to report full-year/full-time employment. Among females, older workers were about 1.6 times more likely than younger workers to be employed on a full-year/full-time basis. These differentials among age groups within the Aboriginal identity population are similar to those identified in studies of non-Aboriginal labour market behaviour and probably reflect the greater difficulties experienced by youth in general with respect to acquiring stable, full-time employment.

Figure 52

Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time and Who Worked in 1990 Showing Proportion That Worked Full Year and Full Time by Age and Gender Group
Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

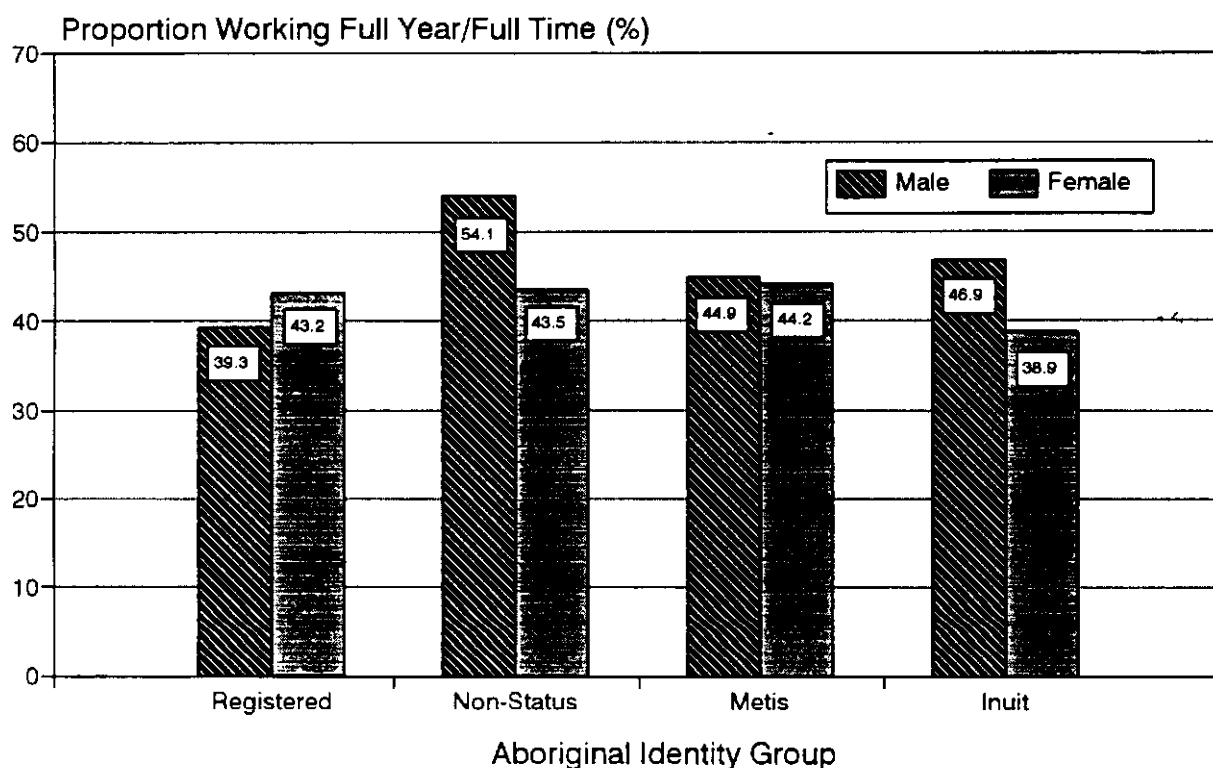
As illustrated in Figure 53, the likelihood of males working on a full-year/full-time basis varied widely among Aboriginal identity groups. Full-year/full-time employment was most common among non-status Indian males (54.3 percent of workers) and least common among registered Indian males (39.3 percent of workers). Roughly 45 and 47 percent of male, Metis and Inuit workers reported employment on a full-year/full-time basis in 1990, respectively. In relation to male workers, rates of full-year/full-time employment among female workers were less variable over identity groups. Among registered Indian, non-status Indian and Metis females, rates of full-year/full-time employment ranged from 43.2 to 44.2 percent. Inuit females reported slightly lower levels of full-year/full-time employment (38.9 percent).

Data concerning the 1990 work status of various education groups clearly suggests that the likelihood of full-year/full-time employment increases with education levels (see Figure 54). The effect of education appears to be most pronounced for individuals with a university degree. Among males, individuals with a university degree were roughly 2.2 times more likely to have worked on a full-year/full-time basis in 1990 than individuals without a high school certificate. Females with a university degree were about 1.6 times more likely than those lacking high school certificates to have been employed full-year and full-time.

Although the effect of education is most significant for university graduates, the data also suggest that high school certification increases the likelihood of full-year/full-time employment. Males with a high school certificate were about 1.3 times more likely than those without a certificate to report full-year/full-time employment. Females with a high school certificate were roughly 1.2 times more likely to report full-year/full-time employment than those lacking a high school

Figure 53

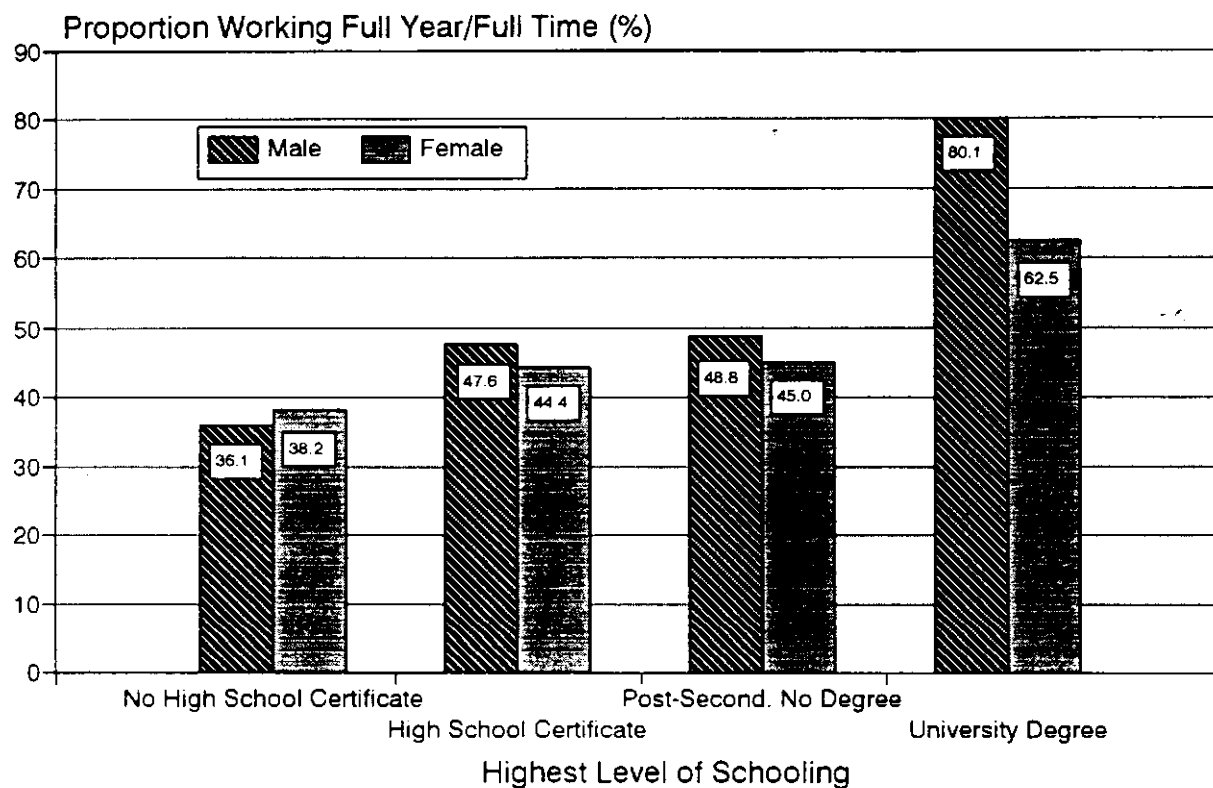
Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time and Who Worked in 1990 Showing Proportion That Worked Full Year and Full Time by Identity Group and Gender, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Figure 54

Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time and Who Worked in 1990 Showing Proportion That Worked Full Year and Full Time by Gender and Highest Level of Schooling, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

certificate. No significant differences appear to exist between individuals with a high school certificate and those who undertook post-secondary education but did not obtain a university degree, on this aspect of labour market behaviour.

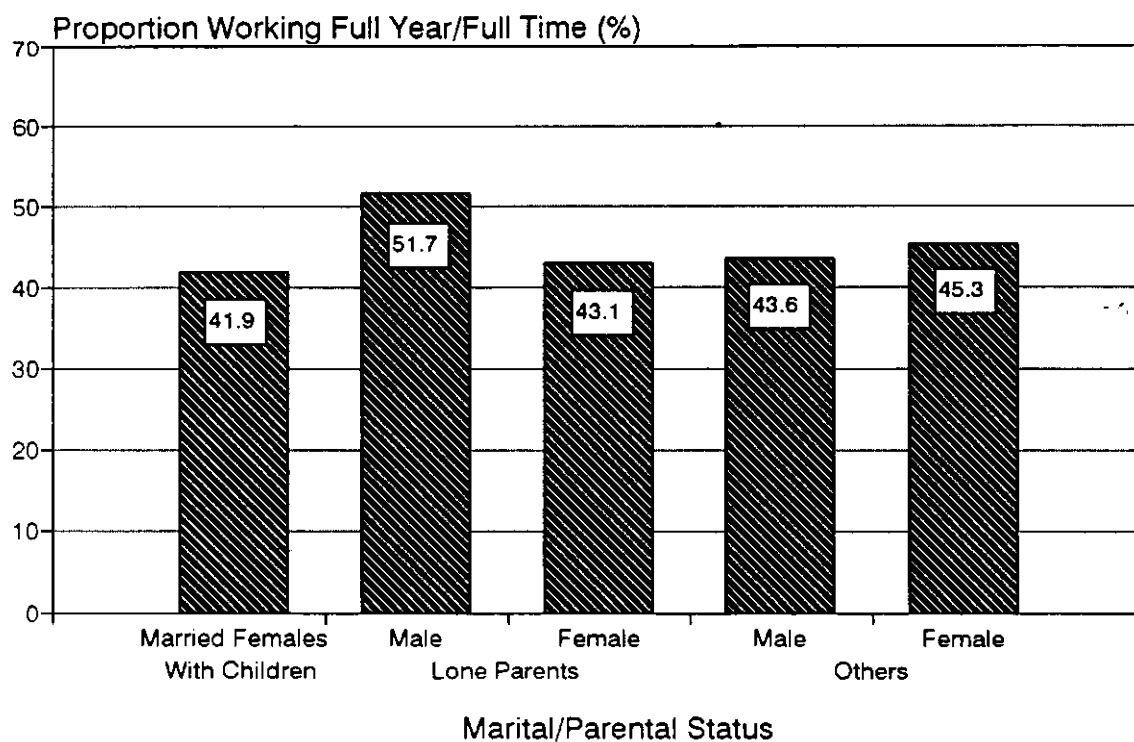
At the aggregate level, few differences exist among marital/parental status groups with respect to full-year/full-time employment (Figure 55). In relation to other groups, male lone parents reported the highest levels of full-year/full-time employment. Variations among the remaining groups were not large.

Figure 56 illustrates variations in full-year/full-time employment among males and females residing in various geographic zones. Among male workers, residents of reserves located in both the mid north and southern regions reported the lowest levels of full-year/full-time employment. This situation most likely reflects the seasonal nature of primary sector employment which forms a larger component of the economic base of Indian reserves. Lower rates of full-year/full-time employment on reserve, however, relate only to males. Among females workers residing in the mid-north region, no differences in the rate of full-year/full-time employment were found to exist. Among female workers residing in the southern zone, on-reserve residents reported rates of full-year/full-time employment greater than those of their counterparts residing in both rural areas and smaller urban centres. The rate of full-year/full-time employment among females workers was marginally higher among CMA residents (49.6 percent) than on-reserve residents (44.4 percent).

Among male workers residing in the southern zone, the likelihood of full-year/full-time employment was sharply higher off reserve than on reserve. Data for male

Figure 55

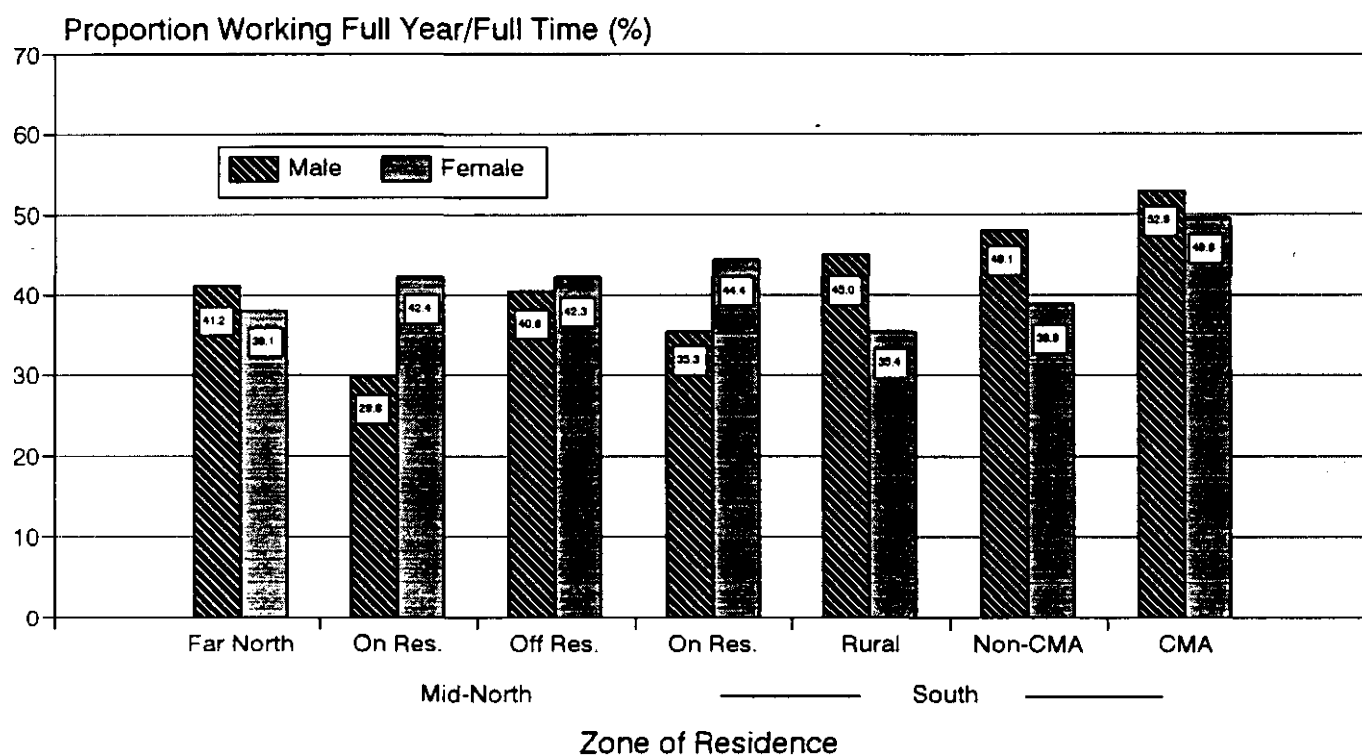
Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time and Who Worked in 1990 Showing Proportion That Worked Full Year and Full Time by Marital/ Parental Status, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Figure 56

Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time and Who Worked in 1990 Showing Proportion That Worked Full Year and Full Time by Gender and Zone of Residence, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

workers in this zone, also reveal higher levels of full-year/full-time employment in urban areas, especially CMA's.

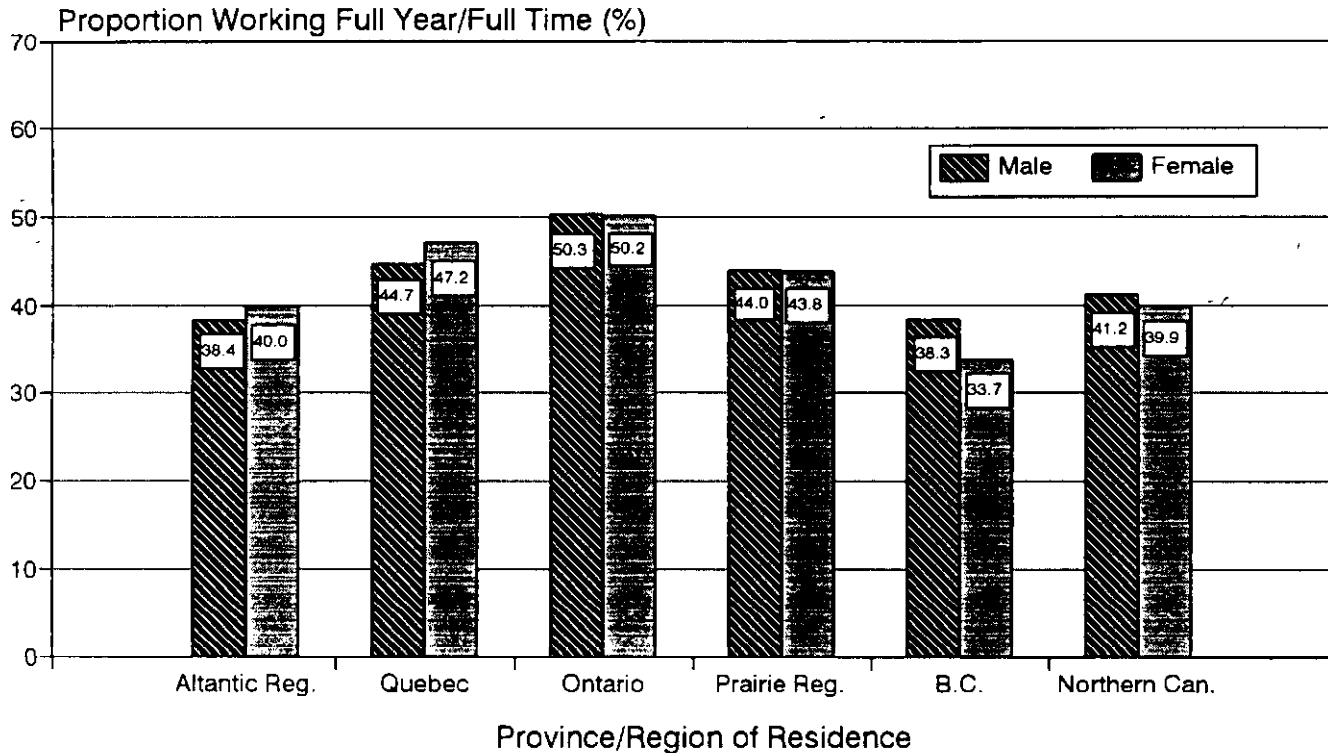
As illustrated in Figure 57, Aboriginal workers in the provinces of Ontario and Quebec reported the highest rates of employment on a full-year/full-time basis. In both provinces, rates of full-year/full-time employment exceeded the national average for both males and females. Rates of full-year/full-time employment among Aboriginal workers in the Prairie region were roughly equivalent to the national average. In all other provinces and regions, the proportion of workers employed on a full-year/full-time basis was below the national average. In relation to all other regions, Aboriginal workers in the province of British Columbia reported the lowest levels of full-year/full-time employment, a reflection perhaps of the importance of seasonal resource extraction industries to that province's economy.

Industry and Occupational Structure

This sub-section of the report is based on data obtained from the 1991 Census of Canada for the population reporting Aboriginal ethnic origins. Comparable data are also reported for the population which did not report Aboriginal ethnic origins. We refer to this population as the non-Aboriginal population. Data concerning employment (at the time of the Census) by industry and occupational group are structured by place of work using provincial/regional, on/off reserve, and rural, small urban and large urban geographical constructs. The data allow for not only a comparison of Aboriginal and non-Aboriginal employment by industry and occupation, but also comparison of the employment bases of various geographical areas (for example on versus off reserve). All industry and occupational group data presented in this interim report relate primarily to the Canada level. Provincial/

Figure 57

Aboriginal Identity Population Aged 15 or More Years and Not Attending School Full Time and Who Worked in 1990 Showing Proportion That Worked Full Year and Full Time by Gender and Province/Region of Residence, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

regional level data have also been compiled, but most of these data are not presented in this interim report.

Employment by Industry Group

Industry group data relate to the 2 digit Standard Industrial Classification (SIC) coding system. For purposes of simplifying the presentation of the data, several aspects of the analysis further aggregate industry groups into five main industry sectors. These sectors include primary industry (including agriculture, fishing and trapping, forestry and mining/quarrying/oil and gas extraction), manufacturing, government services (including local, provincial and federal level services), education and health services, and all other tertiary industries. This latter sector includes a large number of non-governmental service industries. Of these, retail trade, hospitality services and construction represent the largest (2-digit level) industry groups.

Table 8 presents the distribution of Aboriginal and non-Aboriginal employment by industry group at the national level. The right-most column of the table contains a ratio relating the proportion of Aboriginal and non-Aboriginal employment in each industry group. This ratio can be interpreted as the odds of an Aboriginal, as opposed to non-Aboriginal, worker being employed in each industry group.

As revealed in the table, several quite large differences exist with the respect to industry structure of Aboriginal and non-Aboriginal employment. In relation to non-Aboriginal workers, Aboriginal workers are "over-represented" in seven industry groups. These groups include fishing and trapping, logging and forestry, mining/oil/gas/quarrying, hospitality industries, and local, provincial and federal

Table 8

Population Employed Showing Industry Group by Ethnic Group, Canada, 1991

Industry Group	[1]		[2]		Total	%	Ratio [1]/[2]
	Aboriginal	%	Non- Aboriginal	%			
Agricultural and Related	7330	2.2	490240	3.9	497570	3.8	0.6
Fishing and Trapping	2570	0.8	34050	0.3	36620	0.3	2.8
Logging and Forestry	5550	1.6	73770	0.6	79320	0.6	2.8
Mining, Oil/Gas and Quarrying	6655	2.0	168230	1.3	174885	1.3	1.5
Manufacturing	36005	10.7	1823730	14.4	1859735	14.3	0.7
Construction and Related	22630	6.7	754510	6.0	777140	6.0	1.1
Transportation and Storage	14530	4.3	519615	4.1	534145	4.1	1.0
Communications and Utilities	11100	3.3	443260	3.5	454360	3.5	0.9
Wholesale Trade	11295	3.3	553890	4.4	565185	4.3	0.8
Retail Trade	39160	11.6	1635130	12.9	1674290	12.9	0.9
Finance and Insurance	8350	2.5	544240	4.3	552590	4.2	0.6
Real Estate and Insur. Agents	3820	1.1	216370	1.7	220190	1.7	0.7
Business Services	13735	4.1	719835	5.7	733570	5.6	0.7
Federal Government Services	15430	4.6	406115	3.2	421545	3.2	1.4
Provincial Government Services	9690	2.9	282595	2.2	292285	2.2	1.3
Local Government Services	25870	7.7	302575	2.4	328445	2.5	3.2
Education Services	22130	6.6	904595	7.1	926725	7.1	0.9
Health and Social Services	31140	9.2	1187930	9.4	1219070	9.4	1.0
Hospitality Industries	27380	8.1	774605	6.1	801985	6.2	1.3
All Other Groups	23125	6.9	832735	6.6	855860	6.6	1.0
All Industry Groups	337500	100.0	12668000	100.0	13005500	100.0	1.0

Source: Custom tabulations from the 1991 Census of Canada, 1991.

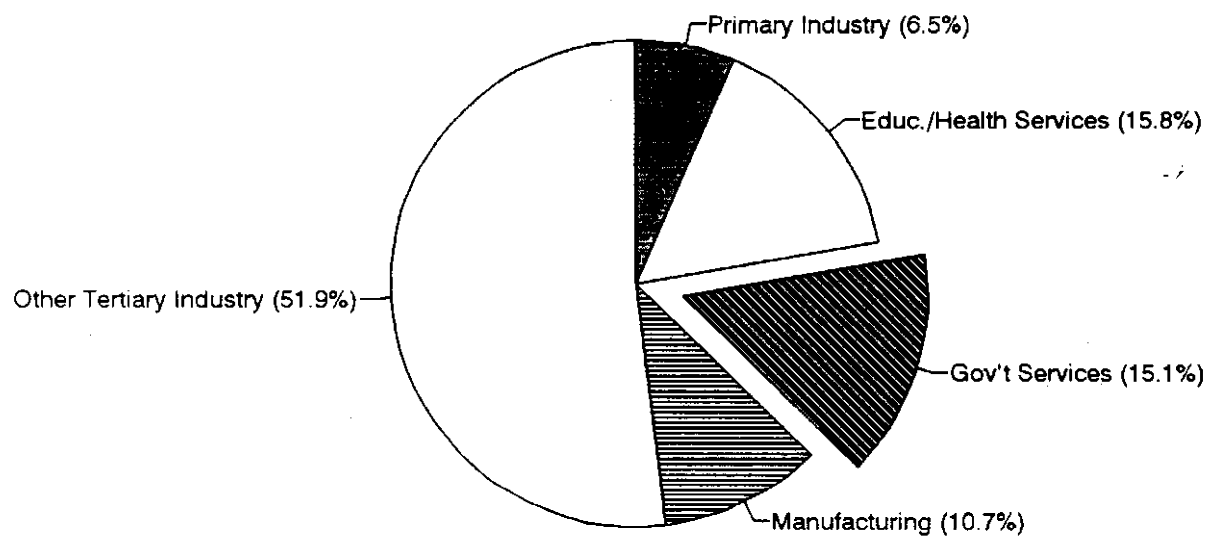
government services. Aboriginal workers are "under-represented" in six industrial groups, including agriculture, manufacturing, wholesale trade, finance/insurance, real estate/insurance agents and business services. In all other industry groups, the share of Aboriginal employment is roughly equal to the share of non-Aboriginal employment.

Figures 58 and 59 illustrate the distribution of Aboriginal and non-Aboriginal employment for the five main industry sectors discussed in the introduction to this section of the interim report. The figures identify several key differences in the industrial structure of Aboriginal and non-Aboriginal employment. Most striking is the much larger share of Aboriginal employment concentrated in government services. More than 15 percent of Aboriginal workers were employed in this sector in 1991, a level nearly twice that of non-Aboriginal workers. In relation to non-Aboriginal employment, manufacturing and other tertiary sector industries account for a smaller share of Aboriginal employment. The share of employment accounted for primary industries and education/health services is roughly comparable for both the Aboriginal and non-Aboriginal groups.

As revealed in Table 9, quite large differences in the industry structure of employment exist among Aboriginal groups. In general, the industry sector distribution of employment among non-status Indian workers is quite similar to that identified among non-Aboriginal workers. Although employment concentrations in primary sector industries and in education/health services do not vary widely among Aboriginal groups, sharp differences among the groups exist with respect to employment in other sectors. The most striking difference relates to the much higher

Figure 58

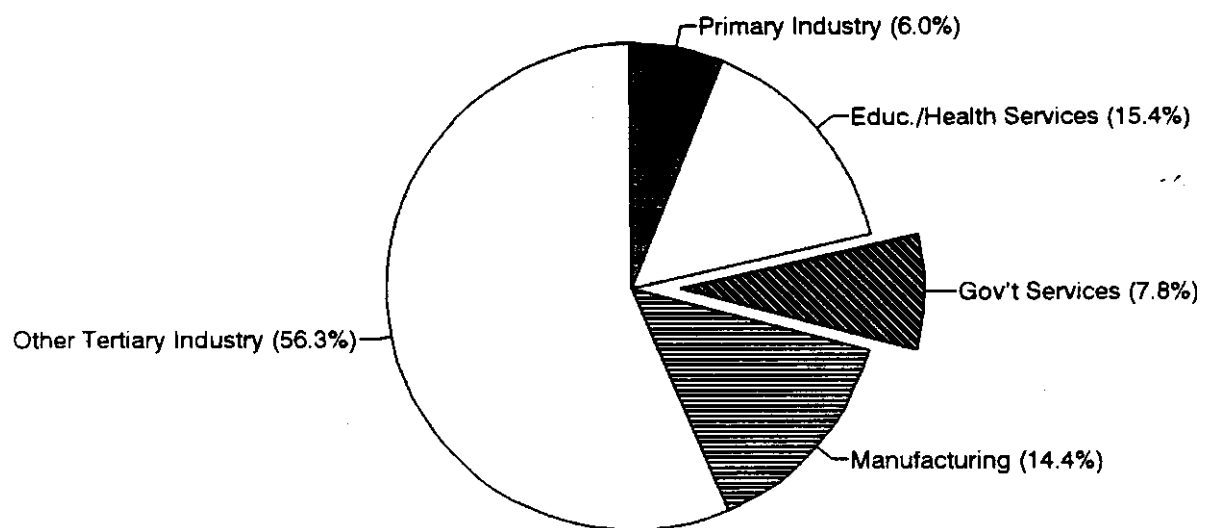
Employed Aboriginal Population Showing Industry Sector
Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Figure 59

Employed Non-Aboriginal Population Showing Industry Sector
Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Table 9

**Aboriginal Identity Population Showing Distribution of Employed Labour Force
by Industry Sector and Identity Group, Canada, 1991**

Industry Sector	Aboriginal Identity Group				Total
	North American Indian Registered	Non-Status	Metis	Inuit	
Primary Industry	7.9	5.4	8.0	4.6	6.5
Manufacturing	8.1	13.1	9.4	5.2	10.7
Government Services	29.2	9.6	11.3	24.4	15.1
Educ./Health Services	17.7	14.8	14.7	17.7	15.8
Other Tertiary Industry	37.1	57.1	56.6	48.1	51.9

Source: Custom tabulations from the 1991 Census of Canada.

concentrations of registered Indian and Inuit employment in the government services sector. In the case of registered Indians, more than 29 percent of all workers are employed in this sector. More than 24 percent of all jobs held by Inuit workers are also in the government sector. By way of comparison, government sector employment accounts for roughly 11 percent and 10 percent of the jobs held by Metis and non-status Indians, respectively.

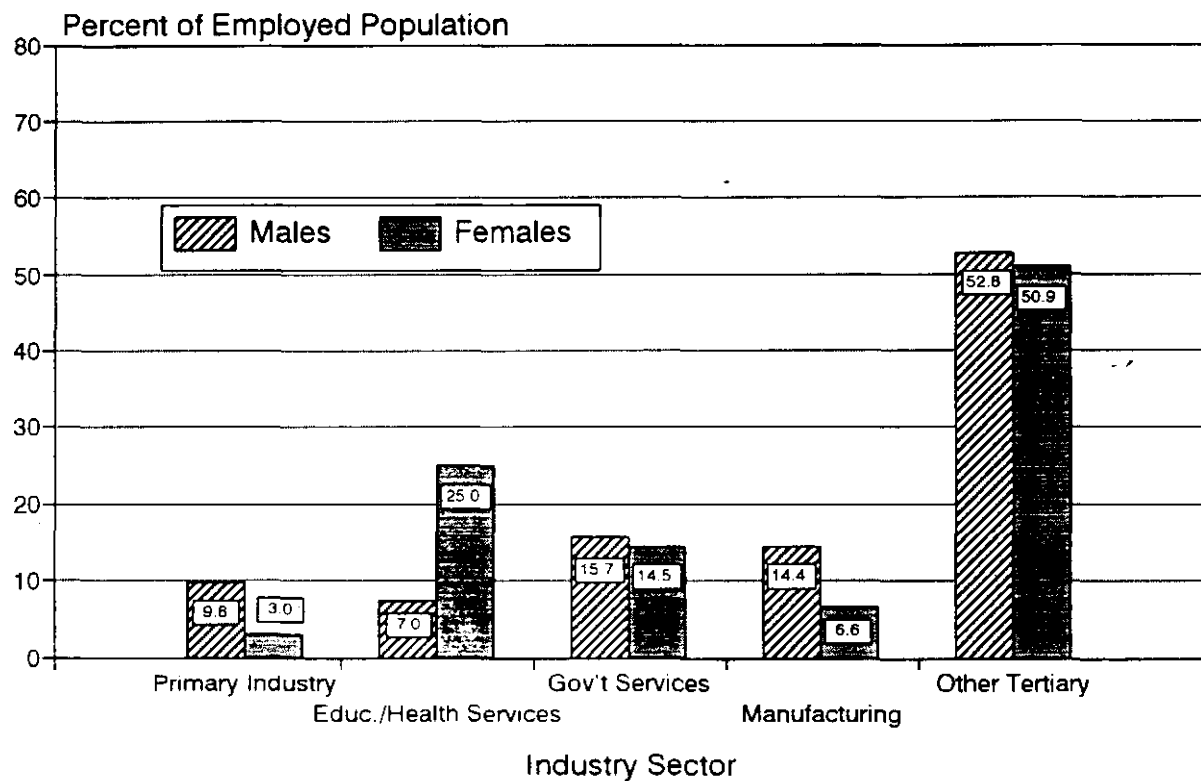
Employment in the manufacturing sector is much more common among non-status Indian workers. In 1991, roughly 13 percent of all non-status Indian employment occurred in this sector. Manufacturing employment accounts for roughly 9, 8 and 5 percent of total jobs of Metis, registered Indian and Inuit workers, respectively. Other tertiary sector industries represent the largest employment sector for all groups, but account the majority of jobs, only in the case of non-status Indians and Metis.

As expected some key differences exist in the industrial distribution of jobs held by Aboriginal men and women. The general nature of these differences is illustrated in Figure 60. In relation to Aboriginal female employment, male employment is much more heavily concentrated in primary industries and in manufacturing and much less heavily concentrated in education/health services. Male employment was also more concentrated than female employment in government services and in other tertiary sector industries, however, gender differences in this regard are not large.

Given the significance of gender differences in the industrial structure of employment, Aboriginal/non-Aboriginal employment was examined for gender groups.

Figure 60

Employed Aboriginal Population Showing Industry Sector by Gender Group,
Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

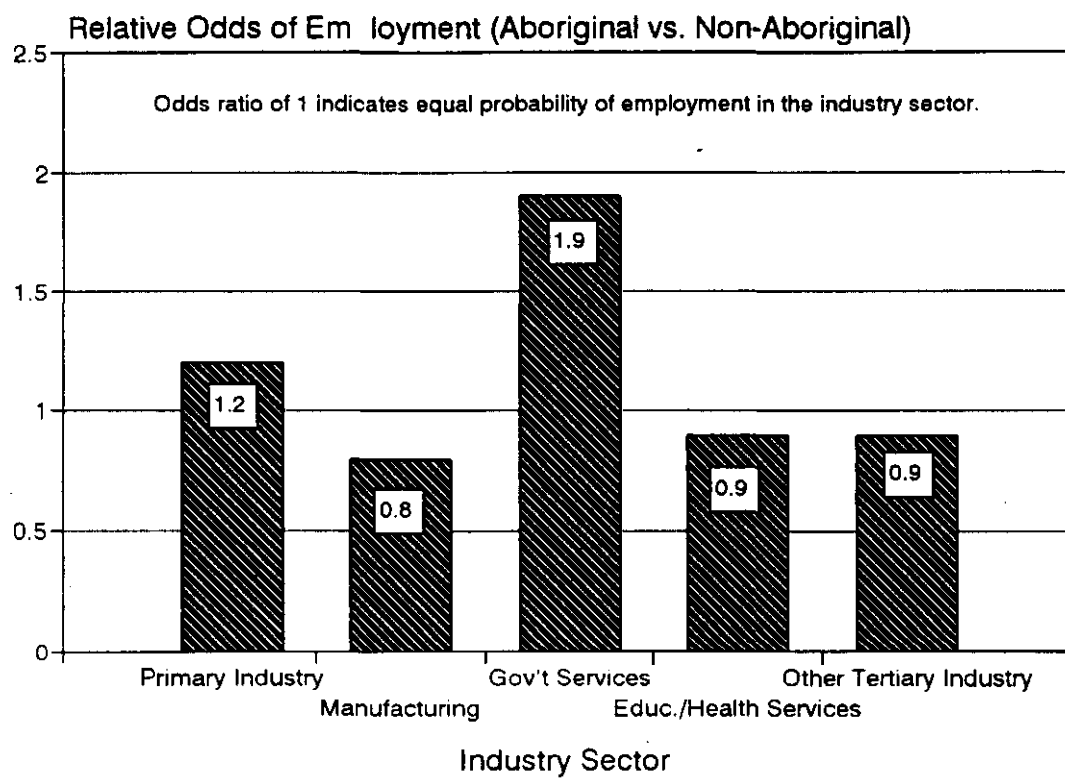
Figure 61 provides a summary of this comparison for males. The figure displays the relative odds of an Aboriginal, as opposed to non-Aboriginal, male being employed in each industry sector. Odds ratios exceeding one indicate that Aboriginal males are more likely than non-Aboriginal males to be employed in a sector. Conversely, odds ratios below one indicate a greater likelihood among non-Aboriginal, as opposed to Aboriginal male employment in a sector. As revealed in the figure, Aboriginal males are more likely than non-Aboriginal males to be employed in primary sector industries and in government services. An Aboriginal male worker, for example, is roughly 1.9 times as likely as a non-Aboriginal male worker to be employed in government services. In relation to their non-Aboriginal counterparts, Aboriginal male workers are less likely to be employed in education/health services, other tertiary sector industries and in manufacturing.

Figure 62 presents similar data for female workers. As in the case of males, Aboriginal female workers are much (roughly 2 times) more likely than non-Aboriginal female workers to be employed in government services. The likelihood of employment in other tertiary sector industries is the same for both groups of workers. Aboriginal female workers are less likely to be employed in all other industry sectors.

As noted in the introduction to this section, the data can be organized to identify the industry structure of all jobs which are located in specific geographic areas. Figures 63 and 64 present data on the industry structure of the employment base on and off reserve. These data highlight several significant structural differences between the on- and off-reserve economies. In comparison with the employment

Figure 61

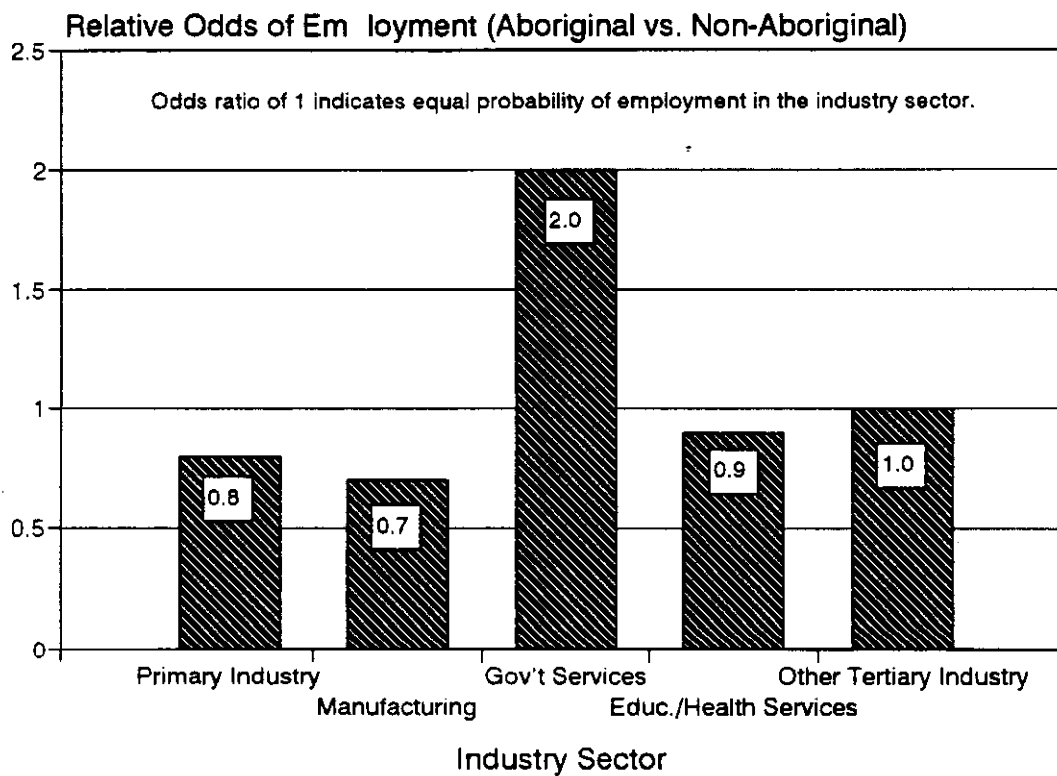
Relative Odds of an Aboriginal, as Opposed to Non-Aboriginal Male
Being Employed in Selected Industry Sectors, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Figure 62

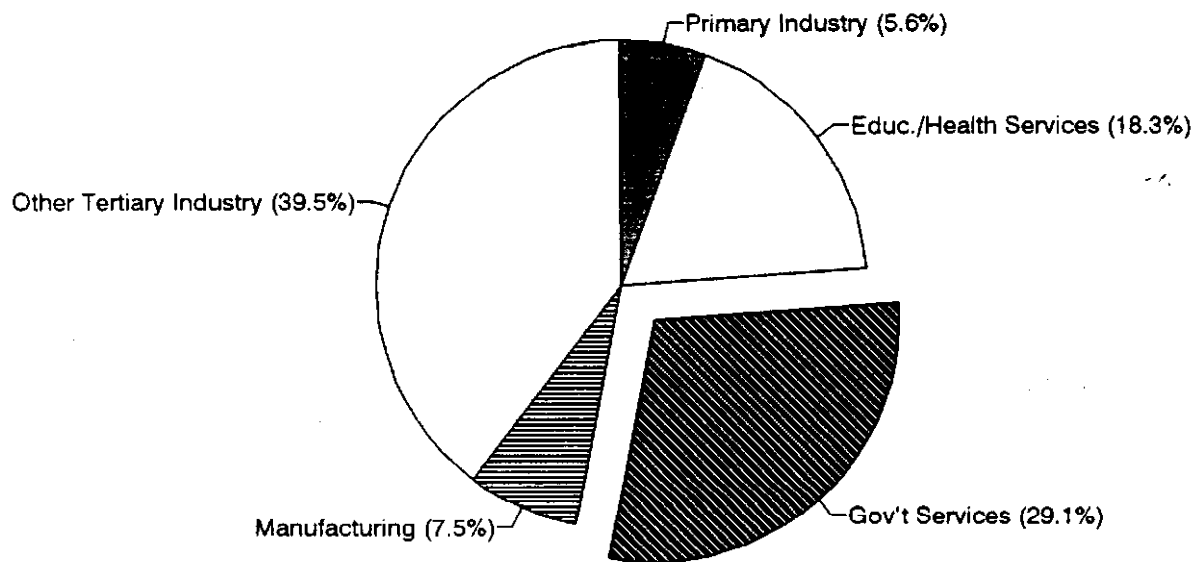
Relative Odds of an Aboriginal, as Opposed to Non-Aboriginal, Female
Being Employed in Selected Industry Sectors, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Figure 63

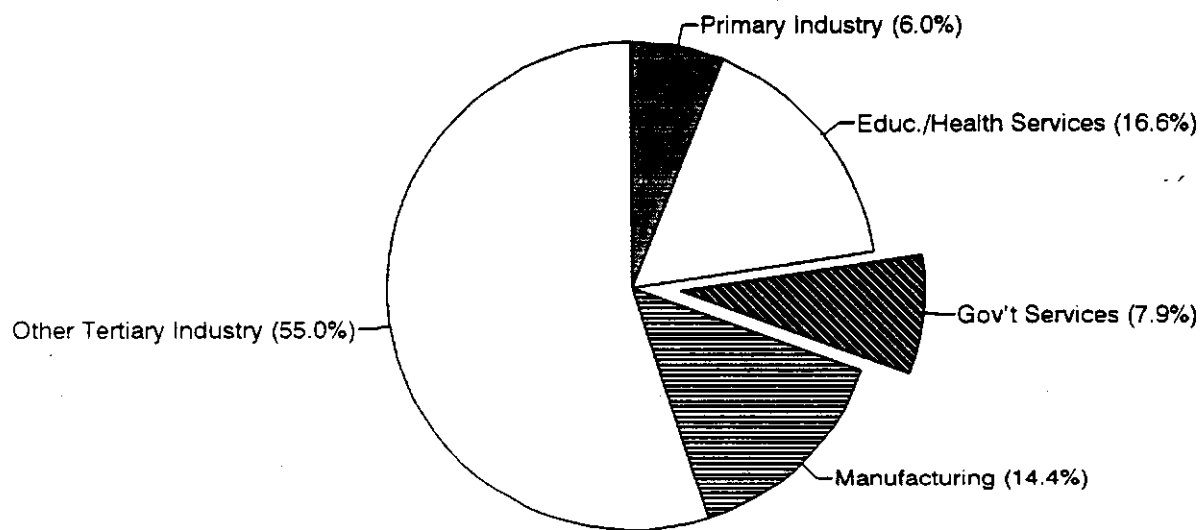
Population Working On Reserve Showing Industry Sector
Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Figure 64

Population Working Off Reserve Showing Industry Sector
Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

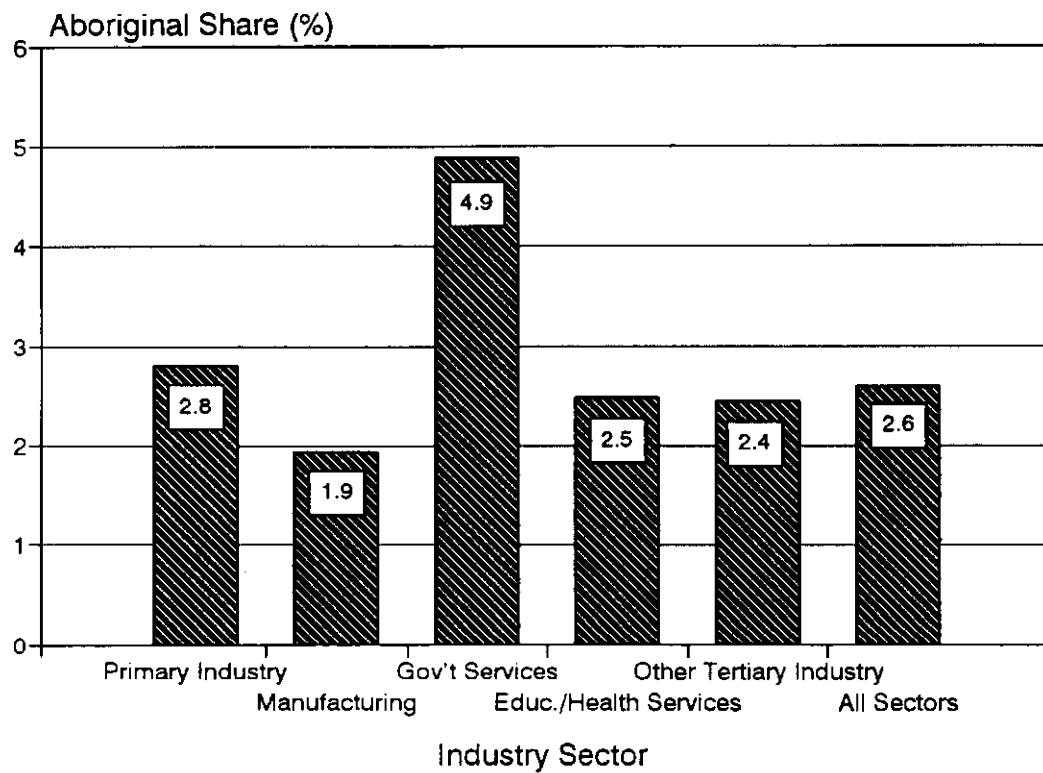
base off reserve, the reserve employment base contains a much higher (roughly 3.7 times larger) concentration of government service jobs. Government services jobs represent more than 29 percent of all jobs on reserve, compared to under 8 percent of the jobs located off reserve. This difference results from the much higher concentrations of local government service jobs on reserve.

The employment base on reserve also contains a higher concentration of education/health services jobs, although differences between the two locations with respect to this industry sector are not large. All other industry sectors (i.e. primary, manufacturing and other tertiary industries) form a smaller component of the reserve, as opposed to the off-reserve, employment base. The largest difference in this regard relates to manufacturing jobs which formed roughly twice as large a share of off-reserve employment base. Other tertiary sector industries are also much more common off reserve.

Data concerning the Aboriginal proportion or share of jobs provides an indicator of the extent to which Aboriginal workers have penetrated (or are concentrated in) jobs in various industry sectors. Data compiled for the national level are presented in Figure 65. Across all industry sectors, Aboriginal workers hold roughly 2.6 percent of all jobs. Although forming only 2.6 percent of all employed workers, Aboriginal workers hold roughly 4.9 percent of all government service jobs. Aboriginal workers are also more concentrated (than non-Aboriginal workers) in primary sector jobs, but "under-represented" in jobs within the education/health sector, other tertiary sector industries and manufacturing. Among these sectors, under-representation is most pronounced for manufacturing jobs.

Figure 65

Aboriginal Share of Employed Labour Force by Industry Sector,
All Areas, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

As revealed in Table 10, which presents similar data for provinces and regions, the general pattern identified at the national level applies in almost all provinces/regions. In all provinces/regions, Aboriginal workers are significantly "over-represented" in government services jobs and significantly "under-represented" in manufacturing jobs. The Aboriginal share of jobs in the education/health sector and other tertiary industries is slightly smaller than the Aboriginal share of all jobs in most provinces/regions. The Aboriginal share of employment in primary industries exceeds the Aboriginal share of total employment only in British Columbia.

Figures 66 to 69 further explore the issue of the extent of Aboriginal representation in various industry sectors among various on- and off-reserve locations. Not surprisingly, Aboriginal workers hold the majority (about 61.2 percent) of all job located on reserve (Figure 66). The Aboriginal share of on-reserve jobs, however, varies widely among industry sectors, from a high of 92.8 percent for government service jobs to a low of 21.5 percent for manufacturing jobs. Aboriginal workers hold the majority of jobs in the primary sector, government services and in education/health services. Aboriginal workers are "under-represented" in manufacturing, as well as other tertiary sector industries. In both of these sectors, Aboriginal workers form a minority of workers.

In rural areas (Figure 67), Aboriginal workers account for roughly 3.9 percent of all workers. Aboriginal workers, however, account for more than 13 percent of government service jobs, a level roughly 3.4 times larger the Aboriginal share of all rural jobs. Aboriginal workers are also over-represented in education/health sector jobs in rural areas, but under-represented in both primary sector and manufacturing jobs. The share of Aboriginal workers in other tertiary sector jobs is roughly equivalent to the average for all industry sectors.

Table 10

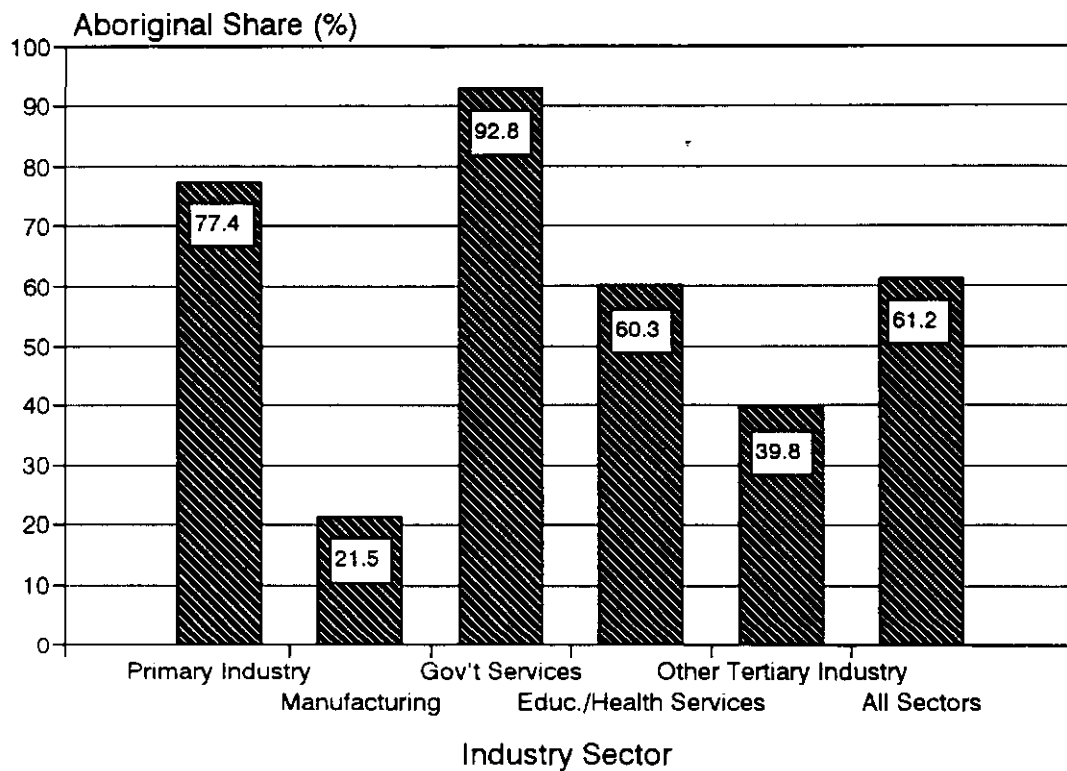
Aboriginal Share of Employed Population by Industry Sector and Province/Region of Employment, Canada, 1991

Industry Sector	Province/Region of Employment						Canada Total
	Atlantic Region	Quebec	Ontario	Prairie Region	British Columbia	Northern Canada	
Primary Industry	1.3	1.6	1.9	2.8	6.4	27.1	2.8
Manufacturing	1.3	1.4	1.6	3.6	3.9	25.4	1.9
Government Services	2.8	3.0	3.3	9.0	6.7	37.9	4.9
Educ./Health Services	1.6	1.7	1.9	4.3	3.2	27.0	2.5
Other Tertiary Industry	1.6	1.7	1.9	4.1	3.2	27.8	2.4
All Industry Sectors	1.7	1.7	1.9	4.3	3.7	30.5	2.6

Source: Custom tabulations from the 1991 Census of Canada.

Figure 66

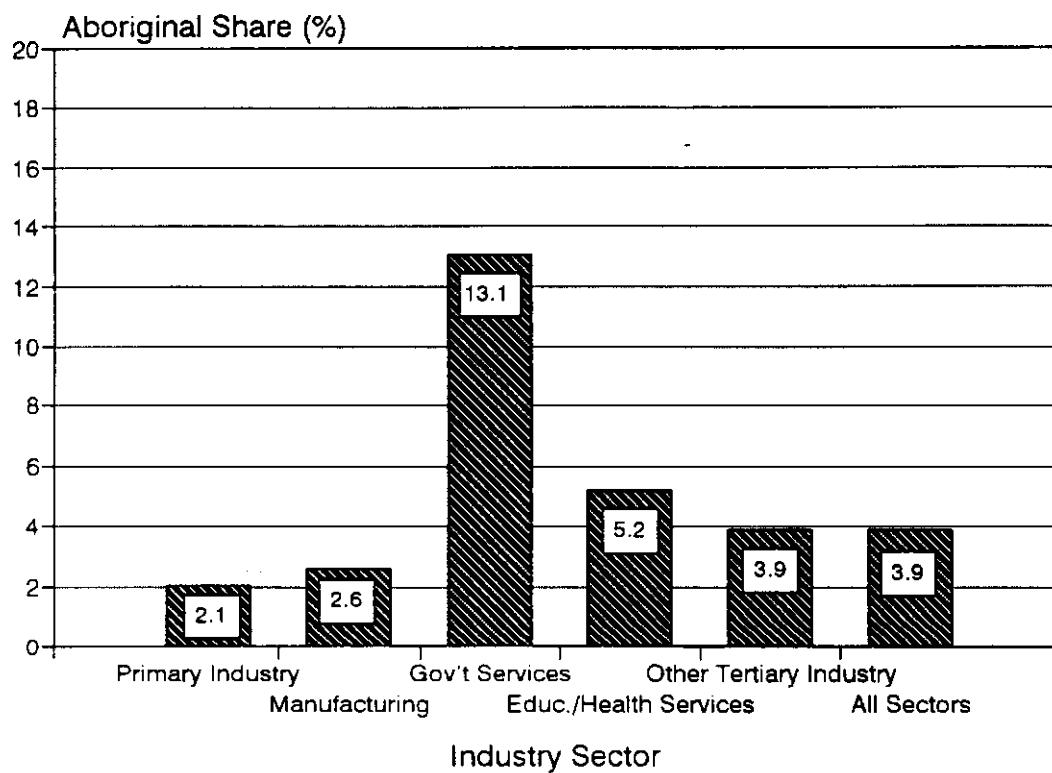
Aboriginal Share of Employed Labour Force by Industry Sector,
On Reserve, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Figure 67

Aboriginal Share of Employed Labour Force by Industry Sector,
Rural Areas, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

As illustrated in Figure 68, Aboriginal workers form approximately 3.2 percent of employed labour force in smaller urban (i.e. non-CMA) areas. In these areas, Aboriginal workers are over-represented in two industry sectors: including government services where they hold 4.7 percent of all jobs and primary sector jobs where they hold 4.1 percent of all jobs. Aboriginal workers are under-represented in all other industry sectors.

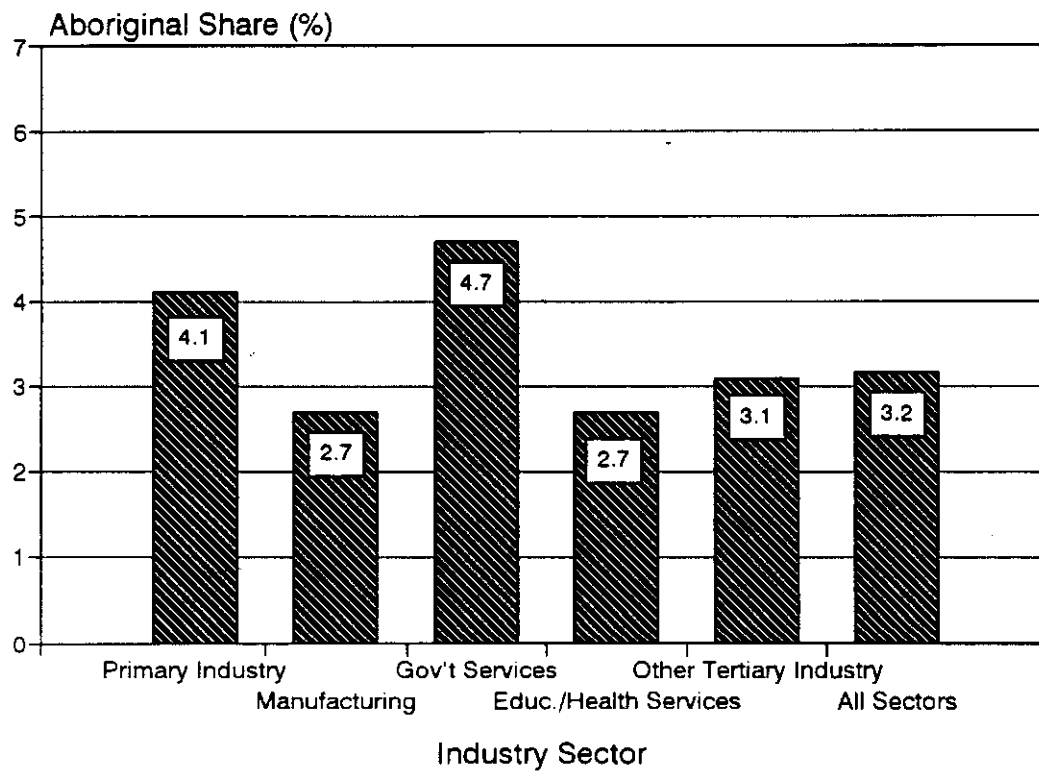
In large urban centres (i.e CMA's), the segmentation of Aboriginal employment by industry sector appears to be somewhat less pronounced than in other locations (Figure 69). In large centres, Aboriginal workers account for about 1.9 percent of all workers. Roughly comparable Aboriginal employment shares are reported in primary sector, education/health services and other tertiary sector jobs. As in all other locations, Aboriginal workers are over-represented in government service jobs and under-represented in jobs in the manufacturing sector.

Employment by Occupational Group

The occupational data employed in this study are organized according to the National Occupation Classification (NOC) at the 2-digit level. Some further aggregation of 2-digit groups has been undertaken to merge similar occupations for which small levels of employment were reported. In total, data are reported for 26 occupational categories, as identified in Table 11. One of the features of the NOC system is the ability to aggregate occupational groups into a hierarchy reflecting occupational level and skill requirements. For purposes of this study, many aspects of the analysis condense the 26 occupational groups into six occupational levels. These levels include senior management, middle management, professionals, skilled trades/technicians, intermediate level workers, and support workers/

Figure 68

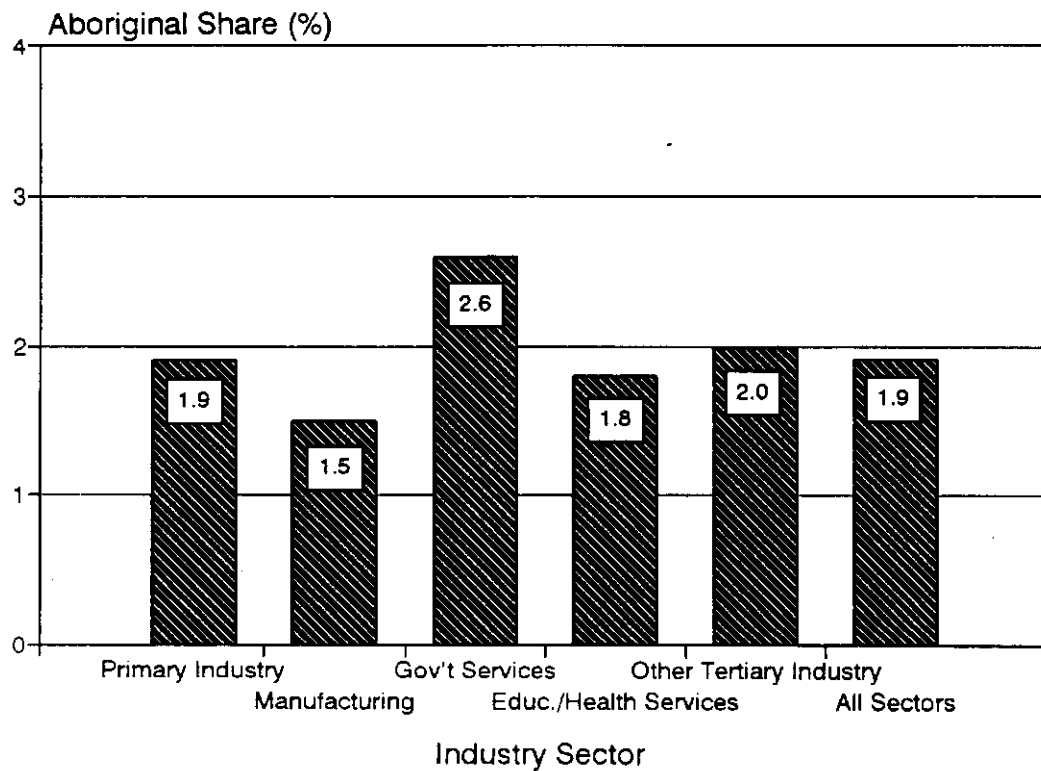
Aboriginal Share of Employed Labour Force by Industry Sector,
Urban Non-CMA Areas, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Figure 69

Aboriginal Share of Employed Labour Force by Industry Sector,
Urban CMA Areas, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

labourers. All data presented at this level of aggregation are also available at the 26 occupational group level of detail.

As in the case of industry data, the occupational group data are organized by place of work. This allows for a comparisons of the occupational structure of the employment bases of various geographical areas.

Table 11 identifies the distribution of Aboriginal and non-Aboriginal employment by occupational group. The right-most column of the table presents ratio of the proportion of Aboriginal to non-Aboriginal employment in each occupational group. This ratio can be interpreted as the likelihood of an Aboriginal worker, as opposed to non-Aboriginal worker, being employed in each occupational group. The data reveal that in relation to non-Aboriginal workers, Aboriginal workers are much more likely to be employed in seven (7) occupational groups. These occupations include legal/social service/government para-professionals, and intermediate level workers and elemental jobs in sales/services, intermediate level workers and labourers in transportation/equipment operation, and intermediate level workers and labourers in primary sector industries. Aboriginal workers are significantly less likely than non-Aboriginal workers to be employed in six (6) occupational groups. These groups include middle management, business/finance professionals, natural/applied science professionals, health care professionals, skilled primary sector occupations and supervisors/skilled operators in processing and manufacturing. Among all other occupational groups, the odds of employment are roughly comparable between Aboriginal and non-Aboriginal workers.

Table 11

Employed Population Showing Occupation Group by Ethnic Group, Canada, 1991

Occupation Group	[1]		[2]		Total	%	Ratio [1]/[2]
	Aboriginal	%	Non- Aboriginal	%			
Senior Management	3505	1.0	132350	1.0	135855	1.0	1.0
Middle and Other Management	21040	6.2	1169435	9.2	1190475	9.2	0.7
Business/Finance Professionals	2815	0.8	196325	1.5	199140	1.5	0.5
Skilled Administrative/Business	20855	6.2	900900	7.1	921755	7.1	0.9
Clerical	34870	10.3	1376140	10.9	1411010	10.8	1.0
Natural/Applied Science Professionals	4615	1.4	327315	2.6	331930	2.6	0.5
Natural/Applied Science Technicians	6200	1.8	291615	2.3	297815	2.3	0.8
Health Care Professionals	5205	1.5	360665	2.8	365870	2.8	0.5
Health Care Technicians	3705	1.1	161405	1.3	165110	1.3	0.9
Health Care Support Workers	4120	1.2	144365	1.1	148485	1.1	1.1
Social Science/Education/Gov't Service Professionals	18190	5.4	743625	5.9	761815	5.9	0.9
Legal, Social Service, Education Para-Professionals	5985	1.8	110450	0.9	116435	0.9	2.0
Art and Culture Professionals	3510	1.0	130355	1.0	133865	1.0	1.0
Art, Culture and Recreation Technicians	4790	1.4	167200	1.3	171990	1.3	1.1
Skilled Sales and Services	16415	4.9	668140	5.3	684555	5.3	0.9
Intermediate Sales and Services	40575	12.0	1313085	10.4	1353660	10.4	1.2
Elemental Sales and Services	39355	11.7	1077530	8.5	1116885	8.6	1.4
Skilled Trades, Transport and Equipment Operators	29330	8.7	1079155	8.5	1108485	8.5	1.0
Intermediate Transportation, Equipment Operation	21420	6.3	603240	4.8	624660	4.8	1.3
Trades Helpers and Labourers	10240	3.0	172060	1.4	182300	1.4	2.2
Skilled Primary Industry Occupations	6755	2.0	346995	2.7	353750	2.7	0.7
Intermediate Primary Industry Occupations	7465	2.2	192425	1.5	199890	1.5	1.5
Primary Industry Labourers	6090	1.8	102195	0.8	108285	0.8	2.2
Supervisors/Skilled Operators, Processing/Manufacturing	1890	0.6	92090	0.7	93980	0.7	0.8
Operators and Assemblers, Processing/Manufacturing	13815	4.1	608265	4.8	622080	4.8	0.9
Processing/Manufacturing Labourers	4730	1.4	200670	1.6	205400	1.6	0.9
All Occupation Groups	337500	100.0	12668000	100.0	13005500	100.0	1.0

Source: Custom tabulations from the 1991 Census of Canada.

The main differences between the structure of Aboriginal and non-Aboriginal occupations are revealed in Table 12, which displays employment data for the seven main occupational levels. As revealed in the table, the proportion of Aboriginal workers with senior management jobs is the same as that of non-Aboriginal workers (about 1 percent of all jobs). Aboriginal workers are under-represented in middle management, professions, and in skilled or technical occupations; and over-represented in intermediate level and support worker/labourer occupations.

As illustrated in Figure 70, sizable differences exist between the occupational structure of jobs held by Aboriginal males and females. In relation to Aboriginal female workers, male workers are considerably more likely to hold jobs in senior management (2.4 times more likely), middle management (1.3 time more likely), skilled or technical occupations (1.3 times more likely) and intermediate levels occupations (1.2 times more likely). Aboriginal female workers are more concentrated than male workers in professional occupations and in support worker/labourer level occupations.

As revealed in Table 13, occupational differences between Aboriginal males and females are quite similar to those which exist among non-Aboriginal workers. In light of the occupational differences of gender groups, indicators comparing the occupational distribution of Aboriginal and non-Aboriginal workers have been constructed for both gender groups. These indicators, in the form of Aboriginal/non-Aboriginal ratios, appear in the two right-most columns of Table 13 and are displayed in Figures 71 (for males) and 72 (for females). Among males, Aboriginal workers are under-represented in three occupations levels including professions, middle management and senior management. In the case of senior management

Table 12

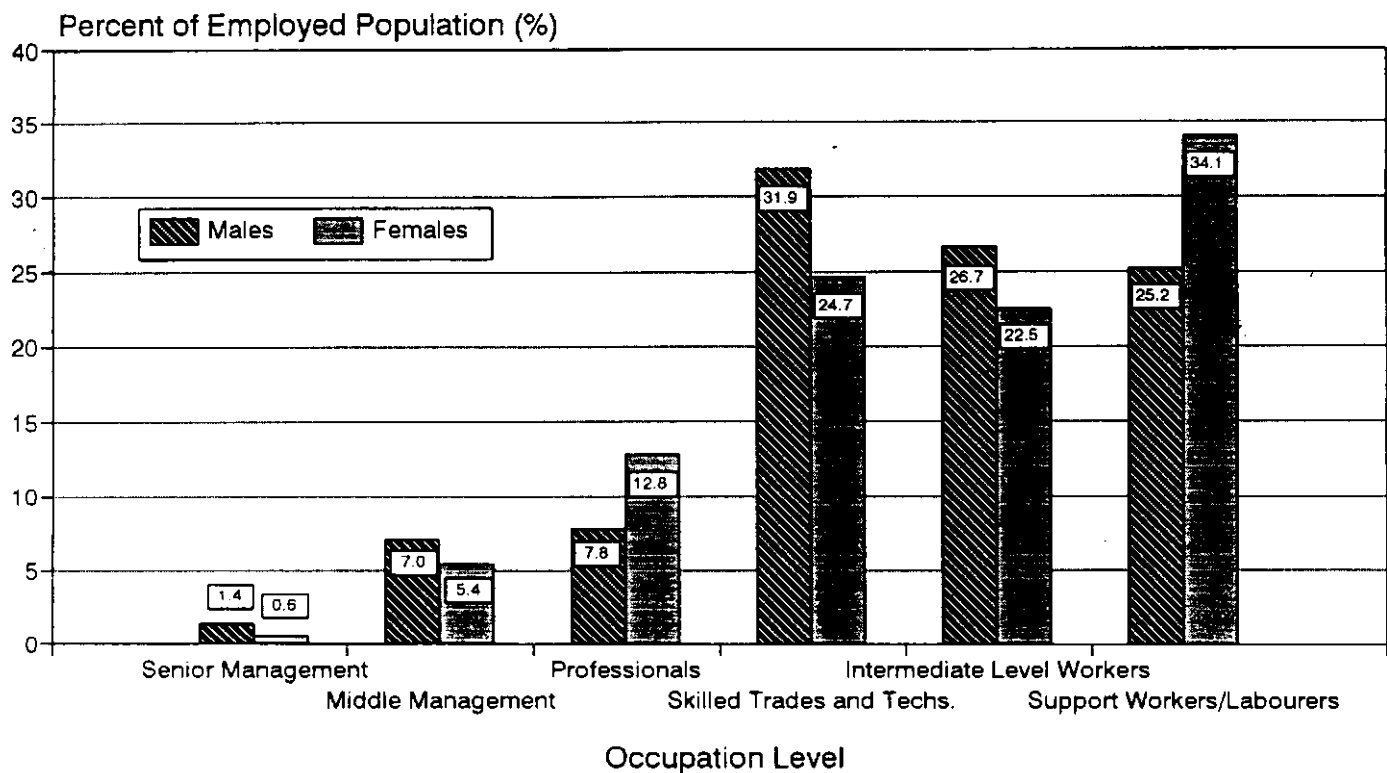
Employed Population Showing Occupational Level by Ethnic Group, Canada, 1991

Occupational Level	Ethnic Group				
	Aboriginal	[1] %	Non- Aboriginal	[2] %	Ratio [1]/[2]
Senior Management	3505	1.0	132350	1.0	1.0
Middle Management	21040	6.2	1169435	9.2	0.7
Professionals	34335	10.2	1758285	13.9	0.7
Skilled Trades and Technicians	95925	28.4	3817950	30.1	0.9
Intermediate Level Workers	83275	24.7	2717015	21.4	1.2
Support Workers and Labourers	99405	29.5	3072960	24.3	1.2
Total All Levels	337500	100.0	12668000	100.0	1.0

Source: Custom tabulations from the 1991 Census of Canada.

Figure 70

Employed Aboriginal Population Showing Distribution by Occupation Level
and Gender Group, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Table 13

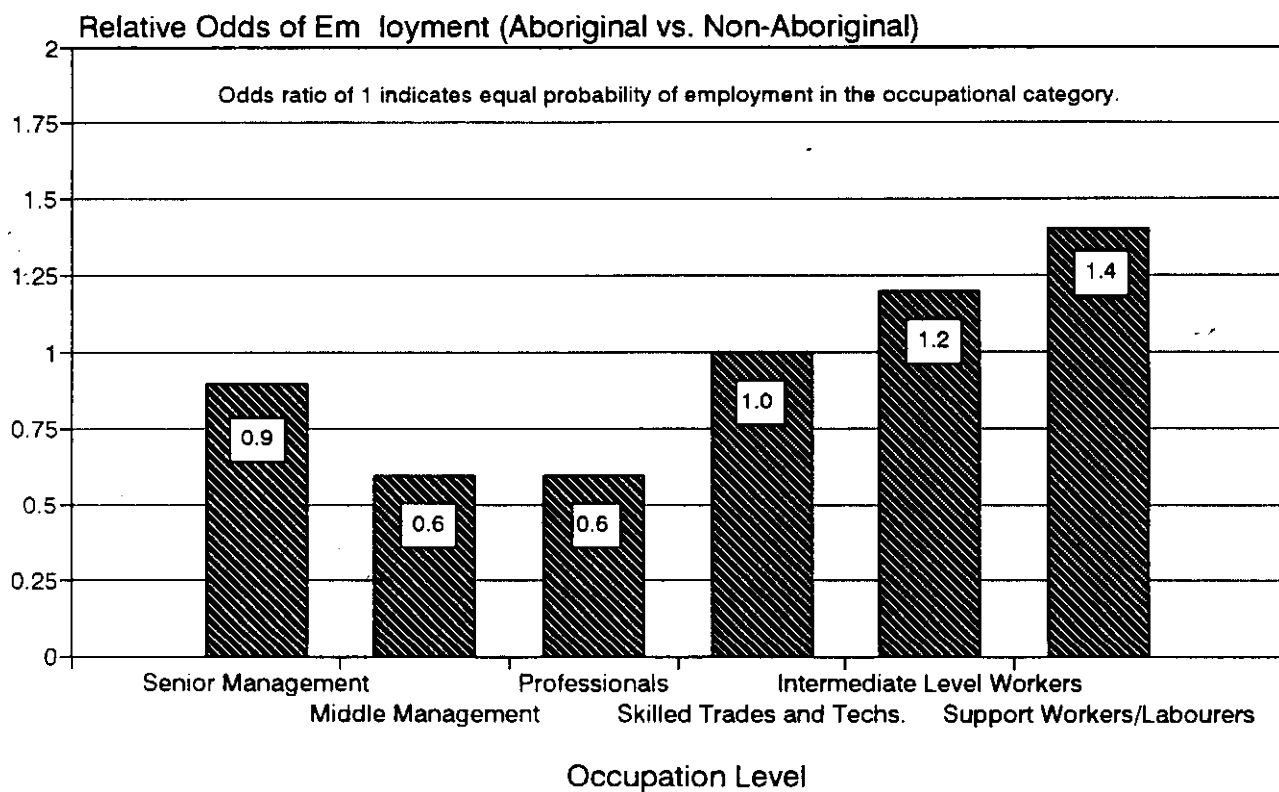
Employed Population Showing Occupational Level by Ethnic Group and Gender, Canada, 1991

Occupational Level	Aboriginal				Non-Aboriginal				Ratios			
	Males	[1] %	Females	[2] %	Males	[3] %	Females	[4] %	[1]/[2]	[3]/[4]	[1]/[3]	[2]/[4]
Senior Management	2540	1.4	965	0.6	110320	1.6	22030	0.4	2.4	4.1	0.9	1.5
Middle Management	12315	7.0	8725	5.4	814685	11.7	354750	6.2	1.3	1.9	0.6	0.9
Professionals	13630	7.8	20700	12.8	860050	12.3	898235	15.8	0.6	0.8	0.6	0.8
Skilled Trades and Technicians	55995	31.9	39945	24.7	2321980	33.3	1495970	26.3	1.3	1.3	1.0	0.9
Intermediate Level Workers	46970	26.7	36310	22.5	1576880	22.6	1140140	20.0	1.2	1.1	1.2	1.1
Support Workers and Labourers	44335	25.2	55080	34.1	1291615	18.5	1781350	31.3	0.7	0.6	1.4	1.1
Total All Levels	175765	100.0	161735	100.0	6975530	100.0	5692470	100.0	1.0	1.0	1.0	1.0

Source: Custom tabulations from the 1991 Census of Canada.

Figure 71

Relative Odds of an Aboriginal, as Opposed to Non-Aboriginal, Male
Being Employed at Selected Occupational Levels, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

occupations, the extent of under-representation is not large. Aboriginal males are significantly over-represented in intermediate levels occupations and among support worker/labourer occupations. No differences among Aboriginal and non-Aboriginal male workers are identified with respect to the likelihood of employment in skilled trades and technical occupations.

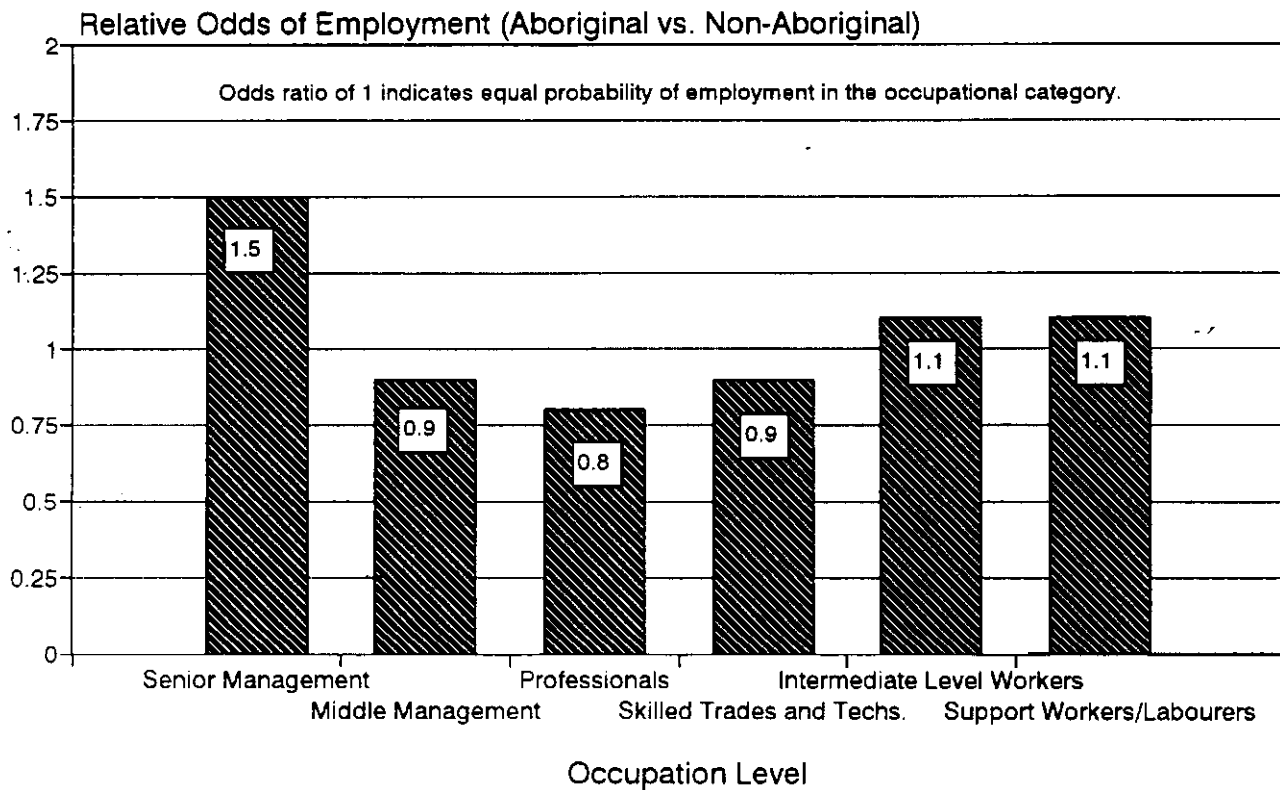
The situation among female workers (Figure 72) differs from that of male workers. In relation to non-Aboriginal females, Aboriginal females are much (about 1.5 times) more likely to be employed in senior management occupations. Aboriginal females are also over-represented in intermediate and support/labourer level occupations, although differences between the two populations are not pronounced. Aboriginal females are less likely than non-Aboriginal females to be employed in middle management, professional and skilled trades/technical occupations, however, the difference between the two groups is large only in the case of professional occupations.

In general, the patterns appearing in Figures 71 and 72 suggest that dissimilarity between Aboriginal and non-Aboriginal occupations is much greater among males than females. With the exception of senior management occupations, which form a fairly small component of all occupations, differences in the occupational levels of Aboriginal and non-Aboriginal female workers are not large. The occupational levels of Aboriginal and non-Aboriginal males, however, are similar only with respect to employment levels in senior management occupations.

As suggested by Table 14, the distribution of employment by occupational level is generally similar among Aboriginal ancestry groups. Only one significant difference

Figure 72

Relative Odds of an Aboriginal, as Opposed to Non-Aboriginal, Female
Being Employed at Selected Occupational Levels, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Table 14

**Employed Aboriginal Population Showing Distribution by Occupational Level
and Aboriginal Ancestry Group, Canada, 1991**

Occupational Level	Aboriginal Ancestry Group				Total[1]
	North American Indian Registered	North American Indian Non-Status	Metis	Inuit	
Senior Management	2.1	0.7	0.5	1.1	1.0
Middle Management	4.1	7.7	5.7	5.6	6.2
Professionals	9.9	10.7	8.1	10.2	10.2
Skilled Trades/Techs.	27.0	28.9	29.4	28.4	28.4
Intermediate Level Workers	24.8	24.3	26.0	24.7	24.7
Support Workers/Labourers	32.1	27.7	30.3	29.5	29.5
Employed Labour Force	93565	163660	56210	12300	337500

Source: Custom tabulations from the 1991 Census of Canada.

[1] Includes individuals with multiple Aboriginal ethnic origins.

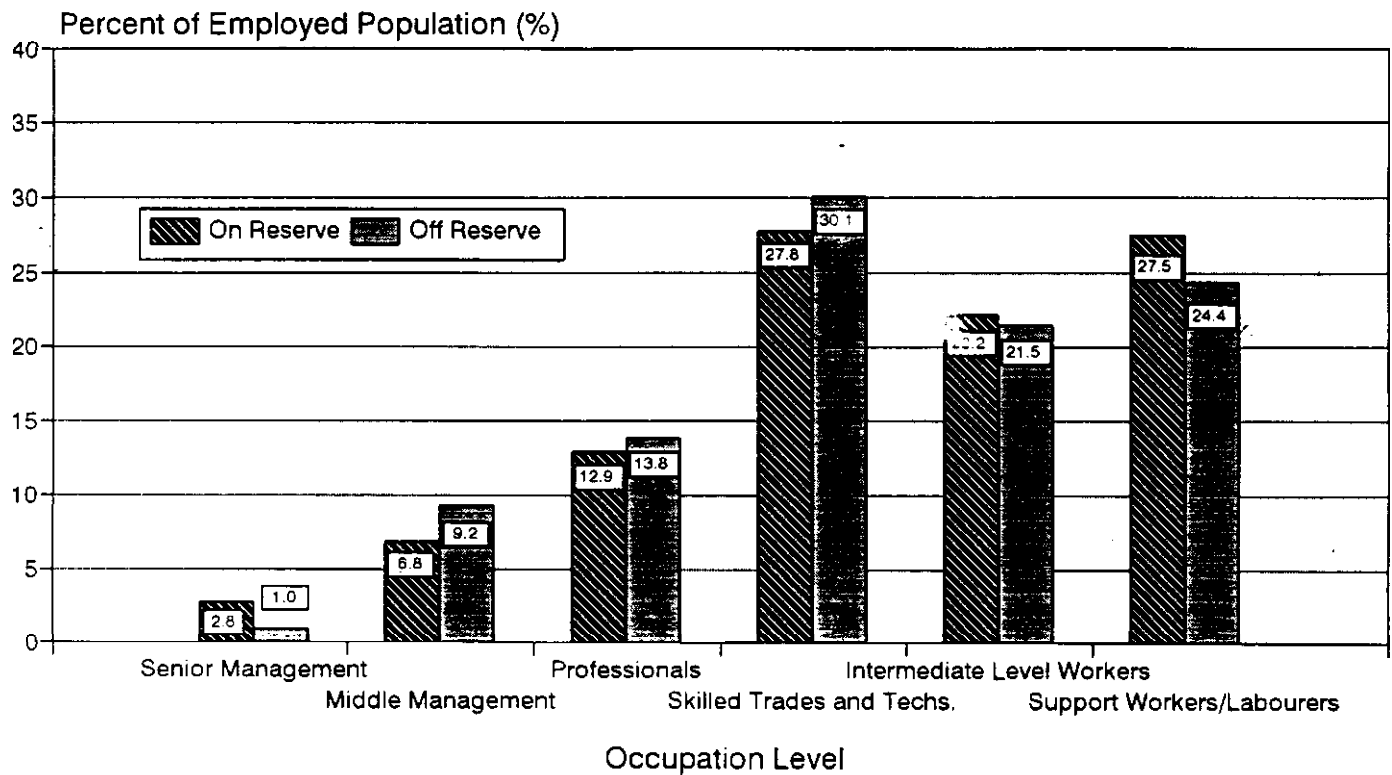
● among the groups is suggested by the data. In relation to all other groups, registered Indians are considerably more likely (at least twice as likely) to be employed in senior management occupations. This situation may result from the reserve-based governmental structures, which account for a large segment of the employment base on Indian reserves.

This explanation of the high level of senior management jobs held by registered Indians appears to be supported by data concerning the occupational structure of jobs located on and off reserve. These data are summarized in Figure 73. The data reveal that senior management occupations account for 2.8 percent of all jobs located on reserve, a level roughly 2.8 times higher than that off reserve. The on-reserve labour market also contained larger concentrations of intermediate and support worker/labourer level occupations. Middle management, professional and skilled trades/technical occupations form a smaller segment of the on-, as opposed to off-reserve, employment base.

Figures 74 to 77 illustrate the share of total jobs held by Aboriginal workers at various occupational levels on reserve and in various types of off-reserve locations. As illustrated in Figure 74, the Aboriginal share of on-reserve employment varies widely among occupational levels. The Aboriginal share of on reserve jobs exceeds the average for all jobs in only two occupational categories, senior management and support worker/labourer level occupations. In all other occupational categories, and especially in the middle management categories, the Aboriginal share of employment is significantly lower than the on-reserve average.

Figure 73

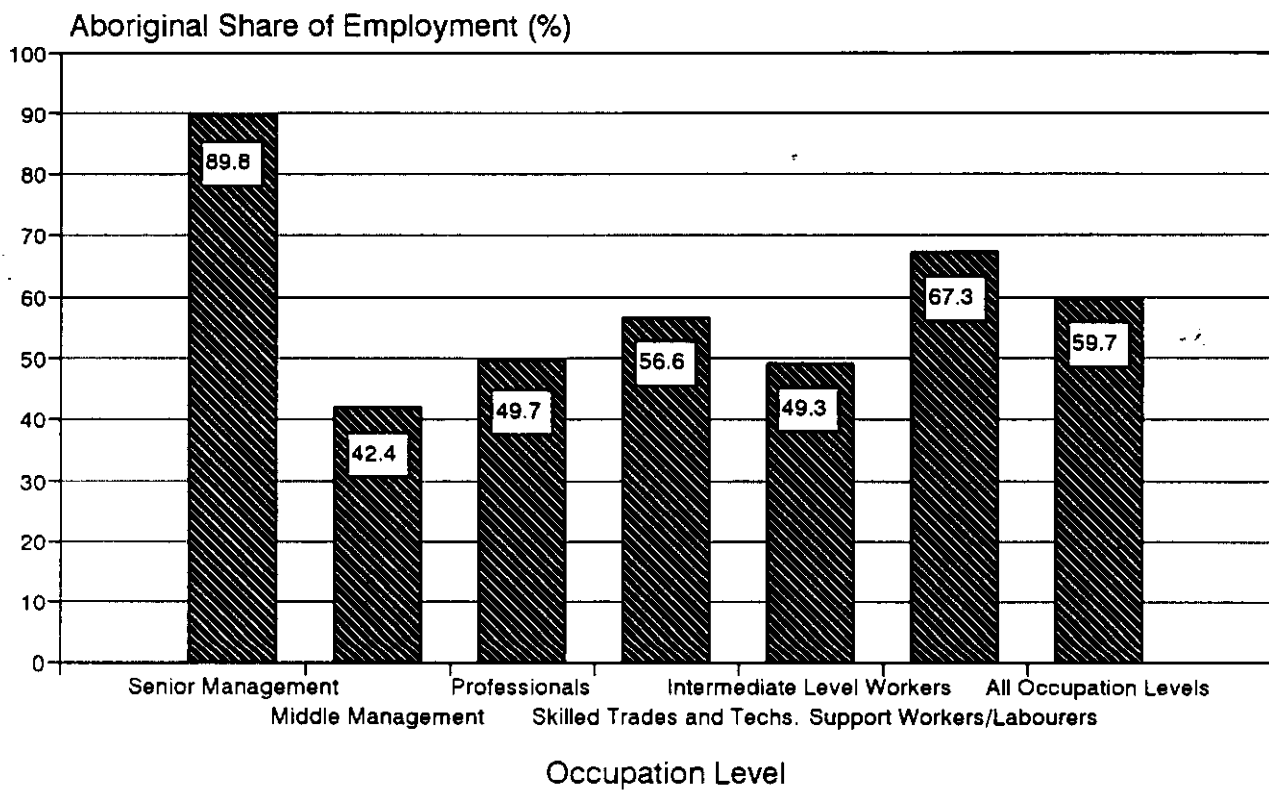
Employed Population Showing Distribution by Occupation Level
and Location of Employment, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Figure 74

Aboriginal Share of Employed Labour Force by Occupation Level,
Labour Force Employed On Reserve, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

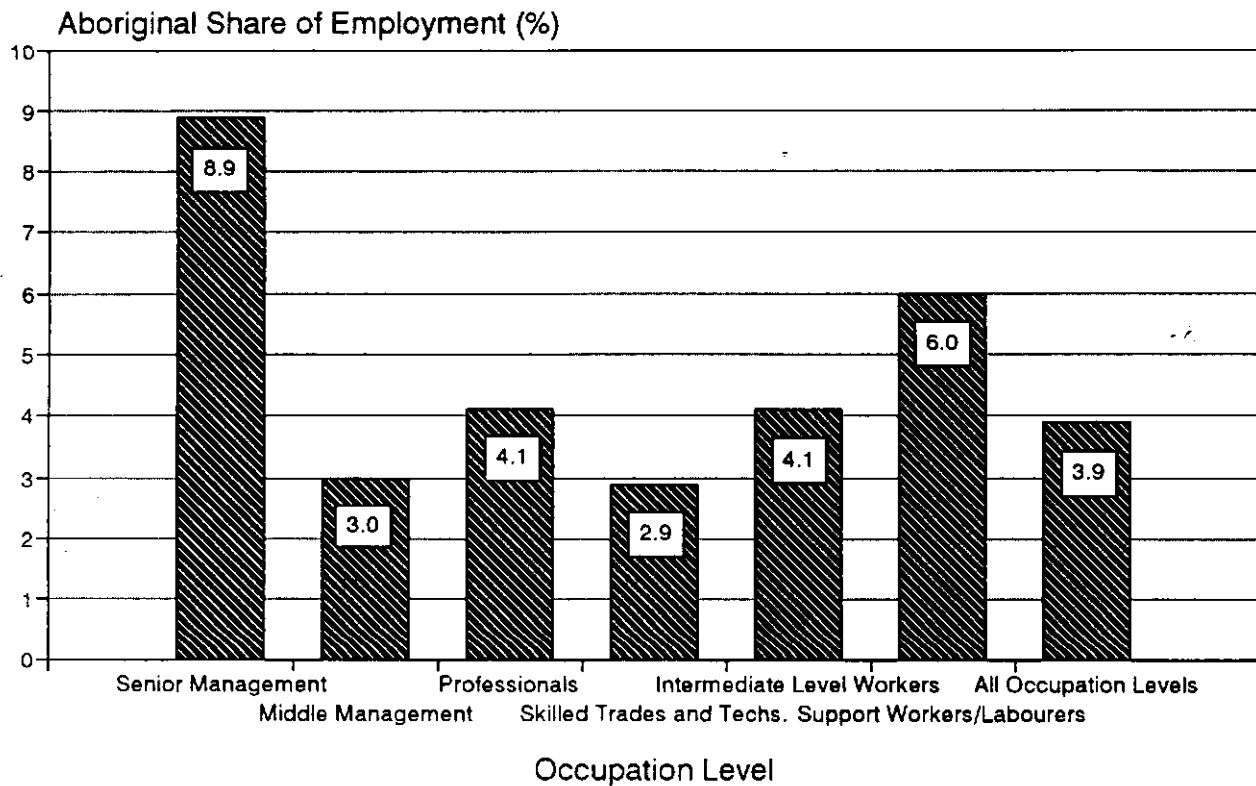
In off-reserve rural areas (Figure 75), Aboriginal workers account for roughly 3.9 percent of the employed labour force. As in the case on reserve, Aboriginal employment levels vary widely among occupational levels in rural areas. Aboriginal workers hold nearly 9 percent of the senior management occupations in rural areas, roughly 2.3 times the Aboriginal share of total employment. Aboriginal workers in rural areas are also much more concentrated in support worker/labourer level occupations where they hold roughly 6 percent of all jobs. Aboriginal employment levels in professional and intermediate level occupations exceed the average for all occupations in rural areas by a smaller margin. Aboriginal participation in middle management and in skilled trades/technical occupations is significantly lower than the average over all occupational categories.

In both small (Figure 76) and large (Figure 77) urban centres, the Aboriginal share of employment exceeds the average for all occupation groups in only two occupational categories, intermediate level workers and support worker/labourer level occupations. The level of Aboriginal participation in skilled trades/technical occupations is roughly equivalent to the average for all occupations. Aboriginal workers are under-represented in all other occupational categories.

Collectively, the data presented in Figures 74 to 77 suggest that apart from structural differences in the employment base of various on- and off-reserve locations, Aboriginal participation (and the role of Aboriginal workers) differs between labour market contexts. In on-reserve locations, Aboriginal participation in the labour market is slanted toward senior management occupations and low level (labourer) occupations. In urban areas, Aboriginal participation is much more focused on intermediate and lower level jobs.

Figure 75

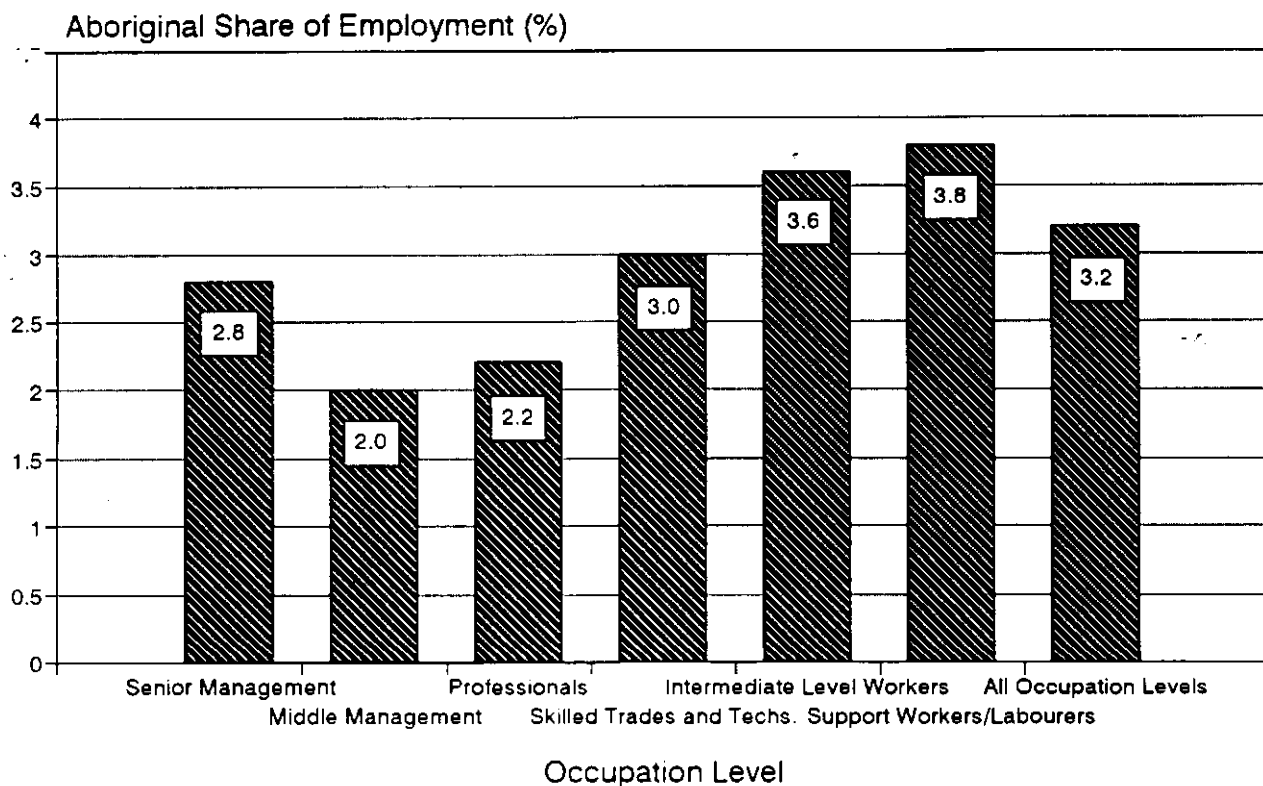
Aboriginal Share of Employed Labour Force by Occupation Level,
Labour Force Employed in Rural Areas, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Figure 76

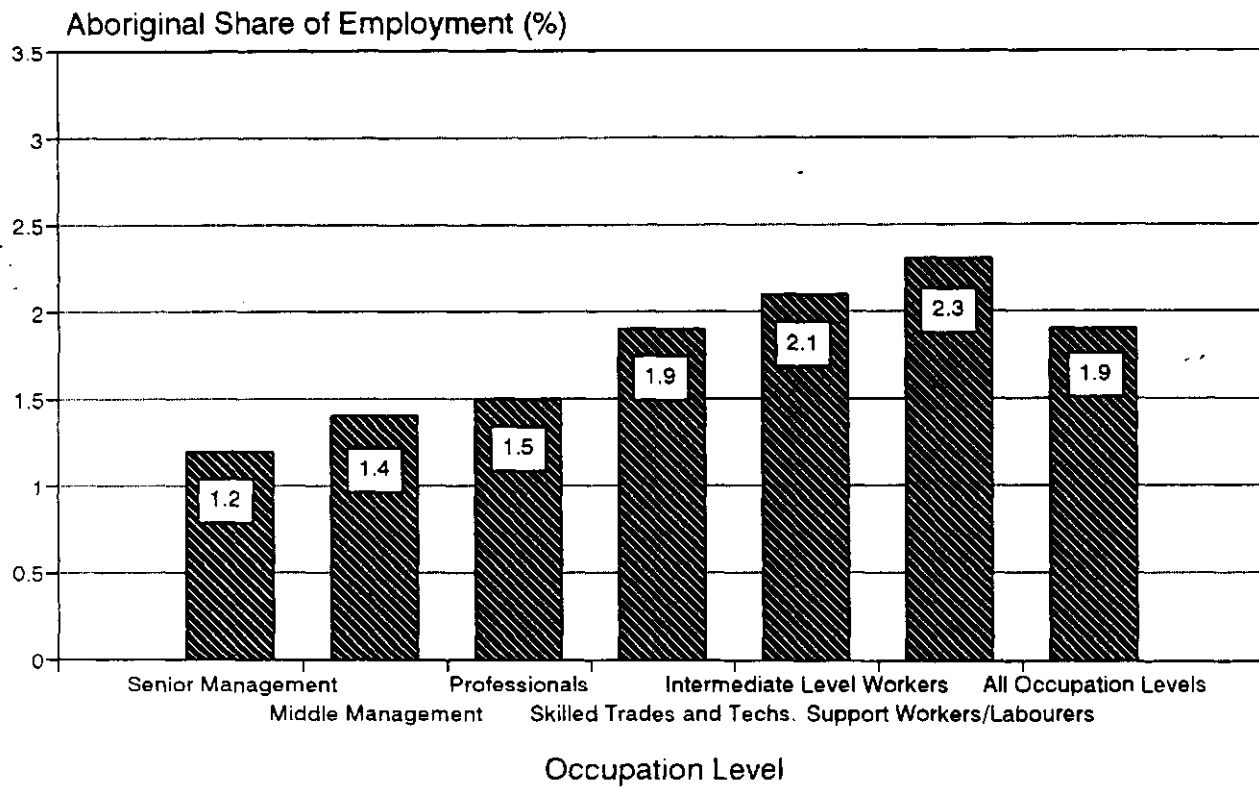
Aboriginal Share of Employed Labour Force by Occupation Level,
Labour Force Employed in Urban Non-CMA Areas, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

Figure 77

Aboriginal Share of Employed Labour Force by Occupation Level,
Labour Force Employed in CMA Areas, Canada, 1991



Source: Custom tabulations from the 1991 Census of Canada.

● Employment Earnings and Income Sources

This sub-section of the report presents some highly aggregated data concerning the average employment earnings of Canada's Aboriginal identity population and the proportion of total individual income derived through employment sources in 1990. This aspect of the labour market outcomes of Canada's Aboriginal population is not explored at length in this report, as other research supported by the Royal Commission on Aboriginal Peoples examines this issue in great detail (see George et. al. 1994).

Average 1990 Employment Earnings

Table 15 presents data on the average employment earnings of individuals who worked for varying numbers of weeks in the 1990. Average 1990 employment earnings across all groups of workers totaled approximately \$17,367, although sizable variations existed among identity groups. Average employment earnings were substantially higher among non-status Indian (\$21,035) and Metis (\$18,467) than among registered Indian (\$15,791) and Inuit (\$15,690) workers. Among workers who worked throughout the majority of 1990 (i.e. 40 or more weeks) earnings differentials among identity groups tended to be less pronounced. Nevertheless, registered Indian earnings lagged those of other identity groups by a large margin.

Figure 78, which presents data for Aboriginal individuals who worked throughout most of the 1990 period (i.e. 40 or more weeks), reveals large differences in average employment earnings by place of residence. Aboriginal workers residing on reserve reported the lowest average earnings (\$20,109), a level sharply below

Table 15

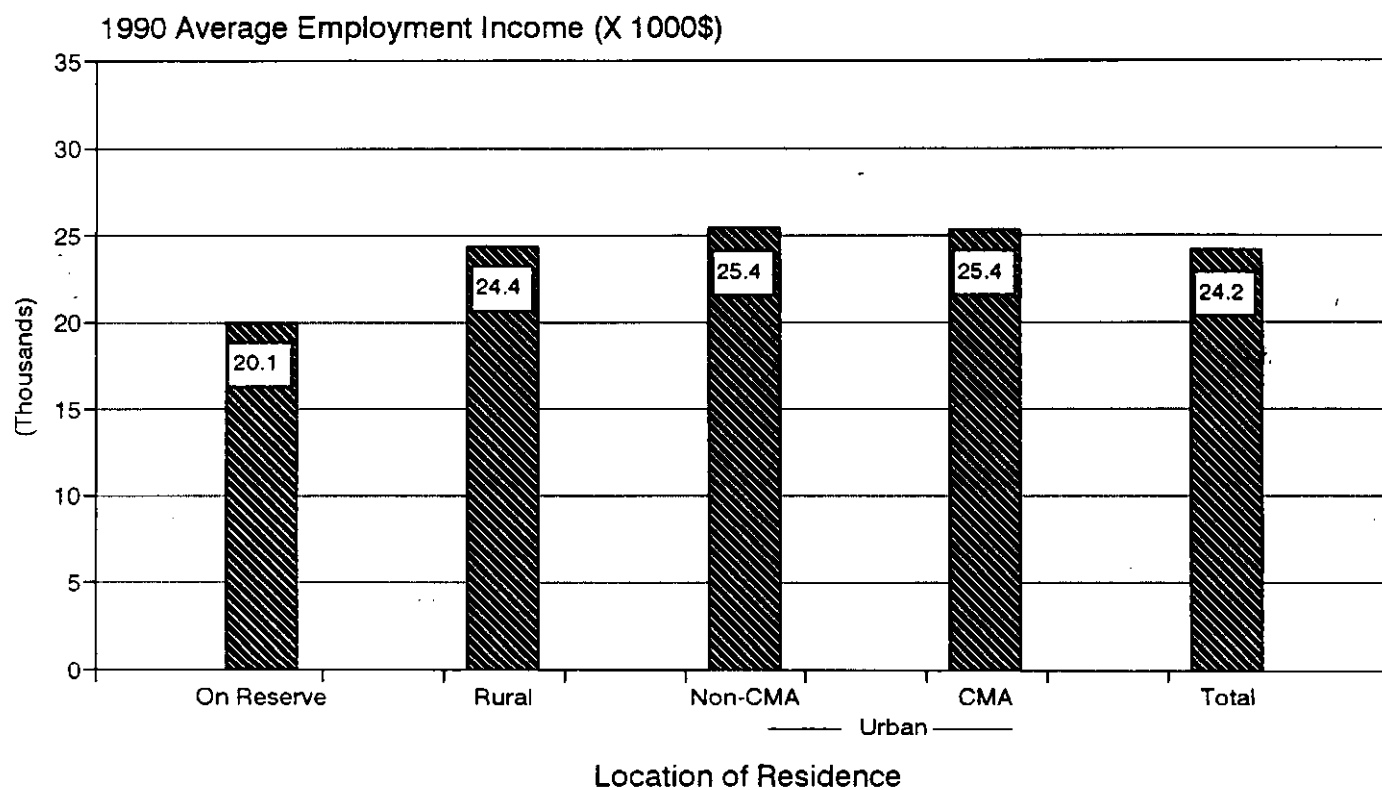
Aboriginal Identity Population Aged 15+ Years Showing Average 1990 Employment
Income (\$) by Aboriginal Identity Group and Number of Weeks Worked In 1990,
Canada, 1991

Number of Weeks Worked	Aboriginal Identity Group				
	Registered Indian	Non-status Indian	Metis	Inuit	Total
Worked 1 - 26 Weeks	6272	7322	7884	5756	6743
Worked 27 - 39 Weeks	13097	14865	16031	13910	14200
Worked 40 + Weeks	22930	26963	24208	24068	24167
Total	15791	21035	18467	15690	17367

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 78

Aboriginal Identity Population Aged 15+ Years That Worked 40 or More Weeks in 1990 Showing Average 1990 Employment Income by Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

that of off-reserve residents. Aboriginal workers residing in urban centres reported the highest average employment earnings (nearly \$25,400), roughly \$1,000 higher than their rural counterparts. Earnings differentials between on- and off-reserve locations may reflect the differing income taxation contexts of registered Indians residing on and off reserve.

It should also be noted that some portion of the earnings variations among identity groups is likely to be attributable to the broader wage differentials among provinces/regions of Canada and the uneven distribution of identity groups across provinces/regions. The effect of this factor is investigated by Kuhn et. al. (1994).

Share of Income Derived From Employment

As employment earnings constitute the main self-generated source of monetary income, the share of total individual income derived through employment earnings provides a rough measure of the importance of employment income to the economic well-being and level of economic self-determination of Aboriginal peoples.

Table 16 presents the distribution of total 1990 individual income by source for the Aboriginal identity populations residing in various provinces and regions. As revealed in the table, employment earnings accounted for roughly 73.5 percent of total individual incomes of Aboriginal peoples in 1990. Considerable variability, however, existed among provinces/regions. In relation to other provinces/regions, employment earnings formed a considerably larger share of total income among the Aboriginal populations residing in northern Canada (79.9 percent) and the province of Ontario (77.4 percent). The share of total income from employment sources in

Table 16

**Aboriginal Identity Population Aged 15+ Years Showing Distribution
of Total 1990 Individual Income by Income Source and
Province/Region of Residence, Canada, 1991**

Province/Region of Residence	Income Source (%)		
	Employment	Government Transfers	Other Sources
Atlantic Region	68.5	29.9	1.5
Quebec	70.8	26.4	2.7
Ontario	77.4	18.8	3.7
Prairie Region	71.2	26.8	2.9
British Columbia	73.6	22.2	4.0
Northern Canada	79.9	18.4	1.5
All Provinces/Regions	73.5	23.3	3.1

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

the Atlantic region (68.5 percent), Quebec (70.8 percent) and the Prairie region (71.2 percent) was significantly below the national Aboriginal average of 73.5 percent.

As revealed in Table 17, the contribution of employment earnings to the total individual income of the Aboriginal population varied markedly between on- and off-reserve locations and between on-reserve locations in the mid-north and southern regions. The share of income derived from employment among reserve residents was sharply lower than that of off-reserve residents in both the mid-north and southern regions, but was especially pronounced in the southern region (see Figure 79). In this area, employment sources accounted for only about 60 percent of the income of the Aboriginal population living on reserve. By way of comparison, employment earnings formed more than 75 percent of the income of the Aboriginal population residing in off-reserve locations in the south. The share of income from employment sources among the Aboriginal populations of the far north and living off reserve in the mid-north region was roughly comparable to that of the populations living off reserve in the south.

Perceived Barriers to Employment

Although several earlier studies of Aboriginal labour market conditions have reported on most the labour market indicators presented previously in this section of the report, the issue of perceived barriers to employment has rarely been examined in prior work. Data collected by the Aboriginal Peoples Survey concerning respondent perceptions of employment barriers provide an opportunity to explore this issue. These data were collected for all individuals who looked for work during the

Table 17

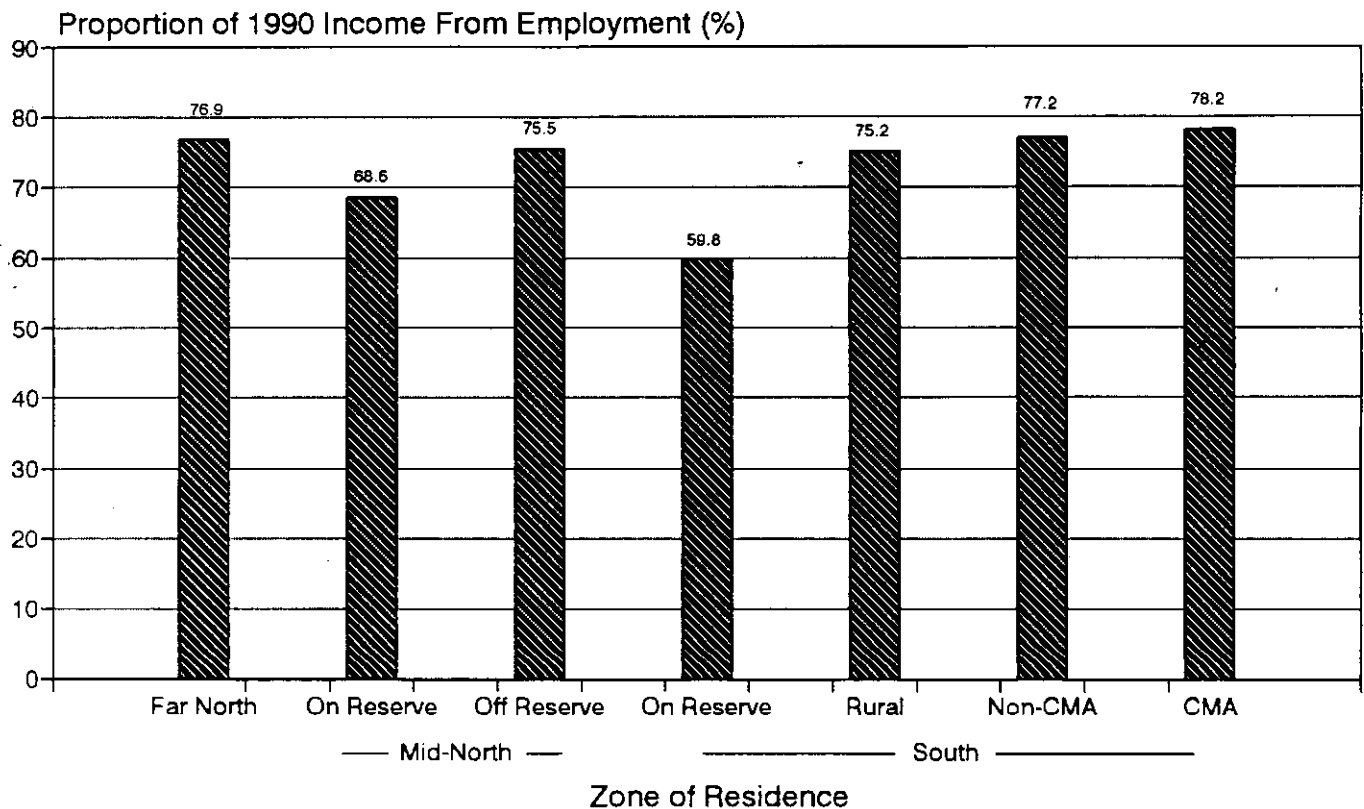
**Aboriginal Identity Population Aged 15+ Years Showing Distribution
of Total 1990 Individual Income by Income Source and
Geographic Zone of Residence, Canada, 1991**

Geographic Zone of Residence	Income Source (%)		
	Employment	Government Transfers	Other Sources
Far North	76.9	21.5	1.4
Mid North On Reserve	68.6	28.9	2.3
Mid North Off Reserve	75.5	21.4	2.9
South On Reserve	59.8	37.9	2.1
South Rural	75.2	19.9	4.7
South Urban Non-CMA	77.2	19.5	3.1
South Urban CMA	78.2	17.6	4.0
Total All Zones	73.5	23.3	3.1

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 79

Aboriginal Identity Population Aged 15+ Years Showing Proportion of
Total 1990 Individual Income Derived From Employment Sources by
Geographic Zone of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

1990 or 1991. In addition to obtaining responses in an open-ended format, the APS asked respondents about five specific barriers related to:

- the lack of jobs in the area,
- inappropriate education or work experience,
- difficulties obtaining child care,
- the lack of job information, and
- being an Aboriginal person.

Lack of Jobs in the Area

More than 68 percent of respondents who looked for work in 1990 or 1991 perceived a lack of job opportunities in the area where they reside to have been a barrier to obtaining employment. In relation to the other closed-end responses, this factor was cited most frequently as an employment barrier. Table 18 presents more detailed information on this issue for specific identity sub-groups residing in various geographical contexts.

At the national level, the Inuit (73.6 percent) and registered Indian (70.4 percent) populations were most likely to identify lack of jobs as a barrier to employment. By way of comparison, roughly 63 percent of non-status Indians and 65 percent of Metis identified this factor as a barrier.

To a large extent, differences between identity groups appear to result from residing in different geographical contexts. As both the Inuit and registered Indian

Table 18

Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
 Showing Proportion That Perceives Lack of Jobs in Area as a Barrier to Employment
 by Geographic Zone of Residence and Aboriginal Identity Group, Canada, 1991

Geographic Zone and Identity Group	Lack of Jobs in Area		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Far North	7510	2665	73.8
Registered Indian	2465	930	72.6
Non-status Indian	285	120	70.4
Metis	920	340	73.0
Inuit	3790	1240	75.3
Mid-North On Reserve	9135	2325	79.7
Registered Indian	8480	2215	79.3
Non-status Indian	220	35	86.3
Metis	365	70	83.9
Inuit	na	na	na
Mid-North Off Reserve	7905	4155	65.5
Registered Indian	3835	2165	63.9
Non-status Indian	985	620	61.4
Metis	2955	1340	68.8
Inuit	na	na	na
South On Reserve	11000	3145	77.8
Registered Indian	10620	3040	77.7
Non-status Indian	120	40	75.0
Metis	165	35	82.5
Inuit	na	na	na
South Rural	6760	2330	74.4
Registered Indian	2355	1555	60.2
Non-status Indian	1845	910	67.0
Metis	2370	640	78.7
Inuit	na	650	na

Table 18 (Cont'd)

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work In 1990
Showing Proportion That Perceives Lack of Jobs in Area as a Barrier to Employment
by Geographic Zone of Residence and Aboriginal Identity Group, Canada, 1991**

Geographic Zone and Identity Group	Lack of Jobs in Area		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
South Urban Non-CMA	8095	4320	65.2
Registered Indian	4070	2080	66.2
Non-status Indian	2045	895	69.6
Metis	1785	1205	59.7
Inuit	na	na	na
South Urban CMA	14230	11125	56.1
Registered Indian	6540	4825	57.5
Non-status Indian	2965	2535	53.9
Metis	4100	3310	55.3
Inuit	na	na	na
All Zones	64620	30065	68.2
Registered Indian	38360	16155	70.4
Non-status Indian	8475	4885	63.4
Metis	12660	6950	64.6
Inuit	4175	1500	73.6

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

populations are more likely than other identity groups to live in northern and remote areas with highly constrained job markets, it is not surprising that these two groups are more likely to perceive limited job opportunities. The geography-specific data contained in the table lend support to this notion. The Aboriginal populations residing on reserve, in southern rural areas and in the far north perceived the lack of jobs to be a barrier more frequently than their counterparts in the urban south and in off-reserve areas in the mid-north (areas which are also most commonly urban). As expected, perceived lack of job opportunities was viewed as a barrier least often among residents of urban areas, especially large urban centres (i.e. CMA's). In all areas, however, a majority of respondents identified the lack of jobs as a barrier.

As revealed in Table 19, lack of jobs was identified as a barrier to employment more commonly among males (72.5 percent) than females (63 percent). Differences between youth and older individuals with respect to this issue were not pronounced for either gender group.

Lack of jobs in the area was identified as an employment barrier much more commonly among individuals who lacked a high school certificate (71.8 percent compared to 62.7 percent among individuals with high school certificates). This situation was identified for all identity groups (see Table 20).

Table 19

Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
Showing Proportion That Perceives Lack of Jobs in Area as a Barrier to Employment
by Age and Gender Group, Canada, 1991

Age and Gender Group	Lack of Jobs in Area		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Males	37915	14365	72.5
15-30 Years	11125	4440	71.5
31+ Years	26785	9920	73.0
Females	26710	15695	63.0
15-30 Years	8020	4225	65.5
31+ Years	18695	11470	62.0
Total	64630	30065	68.3
15-30 Years	19150	8665	68.8
31+ Years	45480	21395	68.0

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Table 20

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
Showing Proportion That Perceives Lack of Jobs In Area as a Barrier to Employment
By Aboriginal Identity Group and High School Completion Status, Canada, 1991**

Aboriginal Identity and High School Completion Group	Lack of Jobs In Area		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
No High School Certificate	41450	16295	71.8
Registered Indian	26005	9250	73.8
Non-status Indian	4070	2005	67.0
Metis	7605	3735	67.1
Inuit	3230	1040	75.6
High School Certificate	23175	13765	62.7
Registered Indian	12360	6905	64.2
Non-status Indian	4405	2830	60.9
Metis	5055	3210	61.2
Inuit	945	465	67.0
Total	64620	30065	68.2
Registered Indian	38360	16155	70.4
Non-status Indian	8475	4885	63.4
Metis	12660	6950	64.6
Inuit	4175	1500	73.6

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Inappropriate Education or Work Experience

Inappropriate education and/or work experience represented the second most frequently cited barrier to employment among Aboriginal individuals who looked for work in 1990 or 1991. Nationally, almost 44 percent of respondents identified this factor as an employment barrier. As revealed in Table 21 variations in the proportion of respondents citing this barrier did not vary widely by geographic zone of residence. Residents in southern urban areas and in off-reserve locations in the mid-north region were slightly more likely than others to identify this factor as an employment barrier.

Table 22, which presents data for age and gender groups, reveals that youth are more likely than older individuals to perceive their education and/or work experience to be an employment barrier. This situation, which is more pronounced among males, appears to be consistent with earlier results which highlight the greater labour market difficulties experienced by Aboriginal youth, especially males.

As expected, individuals lacking high school certificates were considerably more likely than those with certificates to identify inappropriate education and/or work experience as an employment barrier (see Table 23). Nearly 48 percent of the respondents who lacked high school certificates identified this factor. By way of comparison, roughly 38 percent of respondents with high school certificates identified this factor. Among this latter group, work experience (as opposed to inappropriate education) may be the more common barrier to obtaining employment.

Table 21

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
Showing Proportion That Perceives Inappropriate Education/Experience as a Barrier to
Employment by Geographic Zone of Residence, Canada, 1991**

Inappropriate Education/Experience			
Geographic Zone	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Far North	4035	6100	39.8
Mid-North On Reserve	4700	6535	41.8
Mid-North Off Reserve	5310	6665	44.3
South On Reserve	6090	7965	43.3
South Rural	3725	5345	41.1
South Urban Non-CMA	5515	6860	44.6
South Urban CMA	11650	13635	46.1
All Zones	41015	53100	43.6

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Table 22

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
Showing Proportion That Perceives Inappropriate Education/Experience as a Barrier to
Employment by Age and Gender Group, Canada, 1991**

Age and Gender Group	Inappropriate Education/Experience		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Males	21975	29930	42.3
15-30 Years	12785	15040	45.9
31+ Years	9190	14890	38.2
Females	19040	23175	45.1
15-30 Years	10750	12175	46.9
31+ Years	8290	11000	43.0
Total	41020	53100	43.6
15-30 Years	23535	27215	46.4
31+ Years	17485	25890	40.3

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Table 23

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
Showing Proportion That Perceives Inappropriate Education/Experience as a Barrier to
Employment By High School Completion Status, Canada, 1991**

High School Completion Group	Inappropriate Education/Experience		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
No High School Certificate	27225	30135	47.5
High School Certificate	13800	22965	37.5
Total	41015	53100	43.6

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Lack of Job Information

Lack of information about available jobs was identified by roughly 27 percent of all respondents as a barrier to employment (see Table 24). In general, the pattern of responses across geographic zones on this issue is similar to that identified for the lack of jobs factor, suggesting the possibility that respondents may not have clearly distinguished between the two issues. In relation to residents of other geographic areas, residents of reserves were considerably more likely to identify this factor as an employment barrier.

As revealed in Table 25, the proportion of respondents citing lack of job information as an employment barrier did not vary greatly among age and gender groups, although males and youth tended to identify this factor as a barrier more frequently. Larger differences existed among individuals with and without high school certificates (see Table 26). Roughly 30 percent of respondents who lacked high school certificates identified lack of job information as an employment barrier compared to roughly 23 percent of high school graduates.

Being Aboriginal

Approximately 18 percent of all respondents perceived that being Aboriginal was a barrier to obtaining employment in 1990 and 1991 (see Table 27). This view was expressed most commonly by registered Indians (23.2 percent) and least commonly by non-status Indians (9.5 percent). The proportions of Metis (12.9 percent) and Inuit (13.1 percent) respondents holding this view were higher than that of non-status Indian respondents, but significantly lower than that of registered Indian respondents.

Table 24

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
Showing Proportion That Perceives Lack of Job Information as a Barrier to Employment
by Geographic Zone of Residence and Aboriginal Identity Group, Canada, 1991**

Geographic Zone and Identity Group	Lack of Job Information		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Far North	2370	7765	23.4
Mid-North On Reserve	3720	7450	33.3
Mid-North Off Reserve	2780	9115	23.4
South On Reserve	4920	9135	35.0
South Rural	2235	6820	24.7
South Urban Non-CMA	2725	9590	22.1
South Urban CMA	6750	18515	26.7
All Zones	25500	68390	27.2

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Table 25

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
Showing Proportion That Perceives Lack of Job Information as a Barrier to Employment
by Age and Gender Group, Canada, 1991**

Age and Gender Group	Lack of Job Information		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Males	14870	36905	28.7
15-30 Years	8380	19370	30.2
31+ Years	6490	17535	27.0
Females	10635	31485	25.2
15-30 Years	6035	16840	26.4
31+ Years	4595	14650	23.9
Total	25500	68390	27.2
15-30 Years	14415	36205	28.5
31+ Years	11085	32180	25.6

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Table 26

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
Showing Proportion That Perceives Lack of Job Information as a Barrier to Employment
By Aboriginal Identity Group and High School Completion Status, Canada, 1991**

Aboriginal Identity and High School Completio Group	Lack of Job Information		
	Percelved Barrier	No Percelved Barrier	% Percelving Barrier
No High School Certificate	17135	40065	30.0
High School Certificate	8370	28325	22.8
Total	25500	68390	27.2

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Table 27

Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
 Showing Proportion That Perceives Being Aboriginal as a Barrier to Employment
 by Geographic Zone of Residence and Aboriginal Identity Group, Canada, 1991

Geographic Zone and Identity Group	Being Aboriginal		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Far North	1245	8860	12.3
Registered Indian	485	2905	14.3
Non-status Indian	45	350	11.4
Metis	na	1230	na
Inuit	685	4290	13.8
Mid-North On Reserve	2430	8735	21.8
Registered Indian	2280	8125	21.9
Non-status Indian	40	210	16.0
Metis	90	340	20.9
Inuit	na	na	na
Mid-North Off Reserve	2150	9800	18.0
Registered Indian	1325	4615	22.3
Non-status Indian	155	1425	9.8
Metis	660	3600	15.5
Inuit	na	na	na
South On Reserve	3605	10420	25.7
Registered Indian	3495	10045	25.8
Non-status Indian	40	125	24.2
Metis	45	160	22.0
Inuit	na	na	na
South Rural	1050	8030	11.6
Registered Indian	470	2790	14.4
Non-status Indian	235	2355	9.1
Metis	445	2575	14.7
Inuit	na	na	na

Table 27 (Cont'd)

Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
 Showing Proportion That Perceives Being Aboriginal as a Barrier to Employment
 by Geographic Zone of Residence and Aboriginal Identity Group, Canada, 1991

Geographic Zone and Identity Group	Being Aboriginal		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
South Urban Non-CMA	2025	10210	16.6
Registered Indian	1410	4665	23.2
Non-status Indian	205	2725	7.0
Metis	380	2545	13.0
Inuit	na	na	na
South Urban CMA	4710	20550	18.6
Registered Indian	3060	8250	27.1
Non-status Indian	675	4830	12.3
Metis	860	6515	11.7
Inuit	na	na	na
All Zones	17220	76615	18.4
Registered Indian	12535	41390	23.2
Non-status Indian	1260	12020	9.5
Metis	2505	16970	12.9
Inuit	735	4890	13.1

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

To some extent, the differentials identified among identity groups appear to be attributable to residence location. Reserve residents (which are comprised largely of registered Indians) were considerably more likely than residents of all other areas to identify being Aboriginal as an employment barrier. This perception was held most commonly among residents of southern reserves where more than 25 percent of respondents identified this factor as a barrier to employment. The proportion of respondents residing in southern urban areas and off-reserve areas in the mid-north region (which also tend to be largely urban) that identified this factor as an employment barrier ranged between 16.6 and 18.6 percent. Residents of the far north (12.3 percent) and southern rural areas (11.6 percent) were the least likely to view being Aboriginal as an employment barrier. In almost all areas, registered Indians were the most likely to report being Aboriginal as a barrier.

Perceptions that being Aboriginal was a barrier to employment did not vary greatly among age or gender groups (see Table 28). Males and older individuals tended to identify this factor more commonly, although the size of differences among age and gender groups identified in the table could result from differences in other factors (educational levels or residence locations).

In relation to high school graduates, individuals without high school certificates were considerably more likely to identify being Aboriginal as an employment barrier (20.5 percent compared to 15.1 percent among high school graduates). Among both education groups, being Aboriginal was perceived as a barrier most commonly by registered Indians (see Table 29).

Table 28

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
Showing Proportion That Perceives Being Aboriginal as a Barrier to Employment
by Age and Gender Group, Canada, 1991**

Age and Gender Group	Being Aboriginal		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Males	9990	41695	19.3
15-30 Years	2735	12665	17.8
31+ Years	7255	29030	20.0
Females	7230	34925	17.2
15-30 Years	1885	10270	15.5
31+ Years	5340	24650	17.8
Total	17220	76615	18.4
15-30 Years	4625	22940	16.8
31+ Years	12595	53675	19.0

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Table 29

Aboriginal Identity Population Aged 15+ Years and Who Looked For Work in 1990
 Showing Proportion That Perceives Being Aboriginal as a Barrier to Employment
 By Aboriginal Identity Group and High School Completion Status, Canada, 1991

Aboriginal Identity and High School Completion Group	Being Aboriginal		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
No High School Certificate	11700	45500	20.5
Registered Indian	8560	26255	24.6
Non-status Indian	640	5460	10.5
Metis	1830	9460	16.2
Inuit	560	2675	17.3
High School Certificate	5520	31115	15.1
Registered Indian	3975	15145	20.8
Non-status Indian	620	6565	8.6
Metis	670	7510	8.2
Inuit	175	1215	12.6
Total	17220	76615	18.4
Registered Indian	12535	41390	23.2
Non-status Indian	1260	12020	9.5
Metis	2505	16970	12.9
Inuit	735	4890	13.1

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Lack of Child Care Access

In relation all other factors, lack of child care access was perceived least frequently as an employment barrier among Aboriginal individuals who looked for work in 1990 and 1991. At the national level, roughly 10 percent of respondents identified this factor as an employment barrier (see Table 30). Although differences were not pronounced, individuals residing in southern CMA's (10.2 percent), in the far north region (10.3 percent) and in off-reserve locations in the mid-north region (11.5 percent) were more likely than residents of other areas to identify child care access as a barrier.

As expected, females (especially parents) were considerably more likely than males to identify child care as an employment barrier (see Table 31). More than 23 percent of all female parents identified this factor as an employment barrier.

Although cited less frequently than among female parents, male lone parents identified lack of child care access as a barrier to employment more commonly than did others. Approximately 12.9 percent of male lone parents reported lack of child care access as a barrier to employment in 1990 and 1991.

Table 30

**Aboriginal Identity Population Aged 15+ Years and Who Looked For Work
In 1990 Showing Proportion Reporting Child Care Access as an Employment
Barrier by Geographic Zone of Residence, Canada, 1991**

Geographic Zone of Residence	Lack of Child Care		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Far North	1040	9070	10.3
Mid-North On Reserve	1035	10145	9.3
Mid-North Off Reserve	1370	10565	11.5
South On Reserve	1240	12780	8.8
South Rural	825	8260	9.1
South Urban Non-CMA	1020	11265	8.3
South Urban CMA	2570	22695	10.2
All Zones	9100	84765	9.7

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Table 31

Aboriginal Identity Population Aged 15+ Years and Who Looked For Work
In 1990 Showing Proportion Reporting Child Care Access as an Employment
Barrier by Gender and Parental Status, Canada, 1991

Gender and Parental Status Group	Lack of Child Care		
	Perceived Barrier	No Perceived Barrier	% Perceiving Barrier
Total	9100	84765	9.7
Parents	6080	20615	22.8
Others	3020	64150	4.5
Males	2185	49585	4.2
Parents	175	1180	12.9
Others	2010	48405	4.0
Females	6915	35185	16.4
Parents	5910	19435	23.3
Others	1010	15750	6.0

Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

● Summary

This section of the report has examined several dimensions of the labour market characteristics of Canada's Aboriginal identity population. The study's key findings in this regard are summarized below:

- Labour force participation rates vary widely among identity groups being highest for non-status Indians and Metis and lowest for registered Indians. Rates of participation among Inuit are lower than those of non-status Indians and Metis, but higher than those of registered Indians.
- As expected, rates of labour force participation are higher among males and among older individuals, a situation consistent with the participation rate patterns of the non-Aboriginal labour force age group.
- In relation to individuals lacking a high school certificate, individuals with high school certificates have a much higher rate of labour force participation, regardless of gender. The positive effects of education on labour force participation beyond the high school level appear to be pronounced only for Aboriginal females.
- Although rates of labour force participation are lower among lone parents, the presence of children at home does not appear to reduce levels of labour force participation among other marital status groups. Lone-parenthood, rather than the presence of children per se appears to be a more limiting factor in Aboriginal labour force participation.
- Quite large differentials in labour force participation rates are identified between the Aboriginal populations residing on and off reserve. Participation rates among reserve residents are sharply lower than rates among off-reserve residents. Among off-reserve residents, variations in participation rates among north/mid-north/south geographic zones are not pronounced.

- Rates of labour force participation vary more widely among provinces/regions being highest in Ontario, British Columbia and Northern Canada and lowest in the Atlantic and Prairie regions and the province of Quebec.
- Regardless of age or gender group, individuals with Aboriginal language speaking ability report substantially lower rates of labour force participation. Rates of participation among individuals who did and did not participate in traditional cultural activities do not vary greatly.
- Nearly 25 percent of the active Aboriginal labour force (who were not attending school full time) were unemployed at the time of the census. Rates of unemployment are significantly higher among youth, males, and registered Indians.
- Unemployment rates are strongly patterned over highest level of schooling among both males and females. Among males, individuals lacking a high school certificate are 7.3 times more likely than those with a university degree (1.6 times more likely than those with a high school certificate) to be unemployed. Rates of unemployment among males with post-secondary schooling (but no university degree) are roughly comparable to those of high school graduates. A similar pattern of unemployment over education groups exists among females.
- Unemployment rates among lone parents are higher than those of all other marital/parental status groups, regardless of gender. Rates among other marital/parental status groups do not vary greatly. Lone parenthood appears to not only lower rates of participation but also the likelihood of employment among those who do participate.
- Not surprisingly, unemployment rates also vary widely among geographic zones and among province/regions. In relation to other zones, rates of unemployment are highest among on-reserve residents and residents of the far north. Unemployment rates among southern residents, especially those residing in rural areas are substantially lower. In relation to all other provinces/regions, Aboriginal unemployment rates are lowest in Ontario and highest in the Atlantic region. Little variation in rates of unemployment exists among the other provinces/regions.

- Less than 44 percent of the Aboriginal identity population that was employed in 1990 worked on a full-year and full-time basis. FYFT employment rates do not vary much by gender group but are significantly higher among older workers than youth.
- Among female workers, rates of FYFT employment do not vary greatly by identity groups. Among males, however, FYFT employment is much more common among non-status Indians. Rates of FYFT employment are especially low among registered Indian males.
- The likelihood of FYFT employment among Aboriginal workers increases with education level. The effect appears to be most pronounced for individuals with a university degree, who are about 2.2 times more likely to work FYFT than individuals who lacked a high school certificate. Individuals with a high school certificate are also much more likely to work FYFT than those who lacked a certificate.
- Patterns of FYFT employment over geographic zones differ among males and females. Among males, residents of reserves report lower levels of FYFT employment than off-reserve residents. Among females rates of FYFT employment on reserve are roughly comparable to those of off-reserve residents.
- In relation to other provinces/regions, Aboriginal workers in the provinces of Ontario and Quebec report the highest rates of FYFT employment. Rates of FYFT employment in the Prairie region are roughly equivalent to the national average. All other provinces/regions report rates of FYFT below the national average.
- Census data on employment by industry group reveal large differences in the industrial structure of the employment base of Aboriginal and non-Aboriginal workers. In relation to non-Aboriginal workers, Aboriginal workers are significantly over-represented in seven industry groups, including: fishing/trapping/logging/forestry, mining/oil/gas/quarrying, hospitality industries, and local, provincial and federal government services. Aboriginal workers are significantly under-represented in agriculture, manufacturing, wholesale trade, finance/insurance, real estate/insurance agents, and business services.

- Aboriginal workers are especially over-represented in government services, which accounts for more than 15 percent of all Aboriginal workers, a level roughly twice that of non-Aboriginal workers. Over-representation in government services is especially pronounced among registered Indian and Inuit workers. More than 29 percent of all registered Indian workers hold jobs in government services, nearly four times the level of non-Aboriginal workers. More than 24 percent of Inuit workers are employed in government services, roughly 3 times the level of non-Aboriginal workers. In relation to non-Aboriginal workers, Aboriginal workers are over-represented in government services in all geographic locations considered in this study.

- Industries directly dependent upon public financing sources (including government services, education and health services) account for more than 47 percent of the jobs located on reserve, a level nearly twice that off-reserve. In relation to the off-reserve context, manufacturing and other tertiary sector jobs form a much smaller component of the on-reserve employment base.

- Although Aboriginal workers hold the majority of jobs located on reserve, roughly 39 percent of all reserve jobs are held by non-Aboriginal people. Aboriginal workers hold the majority of on-reserve jobs in the primary sector, government services and education/health services. Aboriginal workers hold a minority of the on-reserve jobs in manufacturing, as well as, other tertiary services.

- Large differences were also identified between Aboriginal and non-Aboriginal workers in terms of occupational groups. Although the proportion of Aboriginal and non-Aboriginal workers in senior management is roughly equal, Aboriginal workers are under-represented in middle management, professional occupations, and in skilled or technical occupations and over-represented in intermediate level and support worker/labourer level occupations.

- Differences between the occupational distribution of jobs held by Aboriginal and non-Aboriginal workers are greater among males than females. With the exception of senior management occupations, which form a small component of all occupations, the distribution of occupations held by Aboriginal and non-Aboriginal workers are quite similar. The occupational levels of Aboriginal and non-Aboriginal males, however, are similar only with respect to employment levels in senior management.

- In relation to all other identity groups, registered Indians are considerably more likely to be employed in senior management occupations, a situation which appears to result from on-reserve governmental structures. Senior management occupations form about 2.8 percent of all jobs located on reserve, a level nearly three times higher than off reserve.
- Average 1990 employment earnings across all groups of Aboriginal workers totaled about \$17,370. Average employment earnings are highest among non-status Indian workers, who earn roughly \$5,300 more than registered Indian and Inuit workers and \$2,600 more than Metis workers.
- Among FYFT workers, Aboriginal workers in urban areas report the highest average employment earnings (\$25,400), roughly \$1,000 higher than off-reserve rural workers, and \$5,300 higher than workers residing on reserve.
- Employment earnings accounted for roughly 73.5 percent of the total individual (monetary) income of the Aboriginal population in 1990, although considerable variability exists among provinces/regions. In relation to other provinces/regions, employment earnings account for a much larger share of the total income in northern Canada and the province of Ontario. The share of income from employment among the Aboriginal populations of the Atlantic region, Quebec and the Prairie region is significantly lower than the national average.
- Employment earnings form a much larger share of the total income of the Aboriginal population residing off, as opposed to on reserve.
- Lack of local/regional job opportunities was perceived most commonly as an employment barrier among Aboriginal individuals. More than 68 percent of the individuals who sought work in 1990 or 1991 identified this factor as a barrier.
- Inappropriate education and/or work experience was cited as an employment barrier by roughly 44 percent of the Aboriginal individuals who looked for work in 1990 or 1991. Lack of information about available jobs was identified as an employment barrier by 27 percent of those who sought work during this time frame.

- Being Aboriginal was regarded by 18 percent of those who looked for work in 1990 or 1991 as an employment barrier, although this view was expressed much more commonly by registered Indians (23 percent) and by residents of reserves, especially those located in the southern region. Aboriginal residents of the far north and southern rural areas were least likely to cite this factor as an employment barrier.
- Lack of child care access was identified as an employment barrier by roughly 10 percent of the Aboriginal individuals who sought work in 1990 or 1991. As expected, Aboriginal females (especially parents) were considerably more likely than males to identify this factor as an employment barrier.

Section 6

Factors Affecting Selected Aboriginal Labour Market Outcomes

Introduction

This section of the report presents the results of a series of statistical analyses designed to examine various aspects of the relationship between Canada's Aboriginal population and the labour market. The analyses extend our earlier work by quantifying the relationships among selected outcomes including labour force participation, employment and full-year, full-time (FYFT) employment and several underlying factors (e.g. age, gender, education levels) which are expected to influence these outcomes. These statistical relationships are explored within the context of cross-classified data from the 1991 Aboriginal Peoples Survey.

Labour Force Participation Rates

Three logit models have been constructed to explore various factors affecting Aboriginal labour force participation rates. Two of these models are quite similar and differ primarily in terms of geographic focus. These models examine the labour force participation rates of various age, gender, Aboriginal identity and highest level of schooling groups in the far north and mid-north/southern geographic regions. The third model focuses on the relationship between Aboriginal labour force participation and Aboriginal language ability.

Labour Force Participation in The Far North Region

In this model, the relationships among labour force participation (the dependent variable) and four independent variables including age, gender, Aboriginal Identity

and highest level of schooling are explored for the Aboriginal population residing in the far north region. The population includes individuals aged 15 or more years who were not attending school on a full-time basis. The dependent variable (i.e. labour force participation status) differentiates between individuals who were or were not active in the labour force according to the standard labour force survey definition. The age variable distinguishes between individuals aged 15-24 years and those 25 or more years of age. The Aboriginal identity variable is structured into four groups: registered Indians, non-status Indians, Metis and Inuit. Highest level of schooling contains three categories including no high school certificate, high school certificate and some post-secondary.

As revealed in Table 32, the best fit model of labour force participation in the far north region includes all four main effects (i.e. age, gender, Aboriginal identity and highest level of schooling) as well as, five interaction effects. The four main effects account for approximately 87 percent of the total X^2 variation. In relation to the other main effects, highest level of schooling and gender account for a much larger proportion of the variation in labour force participation. Interaction effects account for an additional 5.7 percent of the total variation in labour force participation. The most important of these interaction effects involve age by highest level of schooling ($A * E$), and highest level of schooling by Aboriginal identity ($E * I$).

Although the effects included in the model are highly significant (statistically), the model accounts for only 93 percent of the total variation in labour force participation. As indicated by the residual X^2 (285.98) and degrees of freedom (23), a statistically significant level of variation remains unaccounted for by the variables and effects included in this model. Clearly factors in addition to those considered

Table 32

Stepwise Logit Analysis of Aboriginal Labour Force Participation Rates in the Far North, Canada, 1991

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square	Change in d.f.	R	% of Variation
1	--	4075.25	46	--	--	--	--
2	E	1290.40	44	2784.85	** 2	0.683	68.3
3	G	637.15	43	653.25	** 1	0.844	16.0
4	I	532.54	40	104.61	** 3	0.869	2.6
5	A	515.82	39	16.72	** 1	0.873	0.4
6	A * E	439.91	37	75.91	** 2	0.892	1.9
7	E * I	358.37	31	81.54	** 6	0.912	2.0
8	G * I	316.36	28	42.01	** 3	0.922	1.0
9	A * I	293.86	25	22.50	** 3	0.928	0.6
10	G * E	285.98	23	7.88	* 2	0.930	0.2

* Effect significant at $p = .975$

** Effect significant at $p = .995$.

Source: Data from the Aboriginal Peoples Survey, 1991.

Number of Observations = 30,660.

A - Age G - Gender I - Aboriginal Identity E - Highest Level of Schooling

in the model are also important to explaining Aboriginal labour force participation levels in the far north region.¹

Table A5, in the report's appendix, identifies the parameter estimates (i.e. the β coefficients) associated with the full range of effects (both main and interaction) included in the labour force participation model for the far north region. Although all of the main effects (age, gender, Aboriginal identity and highest level of schooling) are statistically significant, the model's parameters reveal that the age effect is quite small, implying that this factor, by itself, does not greatly influence rates of Aboriginal labour force participation in this region. Parameter estimates for the remaining effects, however, are quite large, and reveal the following patterns:

- High school graduates exhibit a rate of labour force participation in the far north roughly 17 percent higher than non-graduates. The effect of undertaking post-secondary education is the same as that associated with high school graduation.
- The rate of labour force participation among males in the far north is substantially higher than that of females. If all other factors are held constant, the rate of labour force participation among males is roughly 10 percent higher than that of females.
- Labour force participation rates also vary widely among Aboriginal identity groups, being highest among Metis and registered Indians and lowest among Inuit and non-status Indians.

1. It is also possible that the fit of the model could be greatly improved through reconfiguration of some of the independent variables. Additional categories for age and/or highest level of schooling could serve to reduce the amount of unexplained variation. Data constraints, however, did not allow for additional categories to be included in the model.

As noted in the previous section of the report, the labour force participation model for the far north region also contains several significant interaction effects. These interaction effects imply that the general trends associated with the main effects vary among population sub-groups with specific combinations of characteristics. As illustrated in Figure 80, for example, the effects of highest level of schooling on labour force participation differ between males and females. Although high school graduation results in a significant increase in participation for both gender groups, the effect of post-secondary education differs for males and females. Among females, individuals with post-secondary education exhibit lower rates of participation than those with high school certificates. The effect is reversed among males. Although the possibility clearly exists that unobserved factors (e.g. marital/parental status) may account for these differences, this finding may also suggest that the effects of post-secondary schooling on participation are indeed different among males and females in the far north region.

As illustrated in Figure 81, a similar pattern of participation exists between age groups. The model's parameters suggest that the effect of obtaining a high school certificate on participation is greater among younger (as opposed to older) individuals, while the effect of post-secondary education is reversed for the two age groups. Older individuals with post-secondary education display much higher rates of participation than similarly educated younger individuals.

The effects of highest level of schooling on labour force participation are also different among Aboriginal identity groups. As illustrated in Figure 82, the effect on labour force participation of obtaining high school certification is greater for non-status Indians and Metis. For these two groups, however, participation rates are lower for individuals with post-secondary education than for those with high

Figure 80

Estimated Probability of Participating in the Labour Force by
Gender Group and Highest Level of Schooling,
Aboriginal Identity Population Residing in the Far North,
Canada, 1991

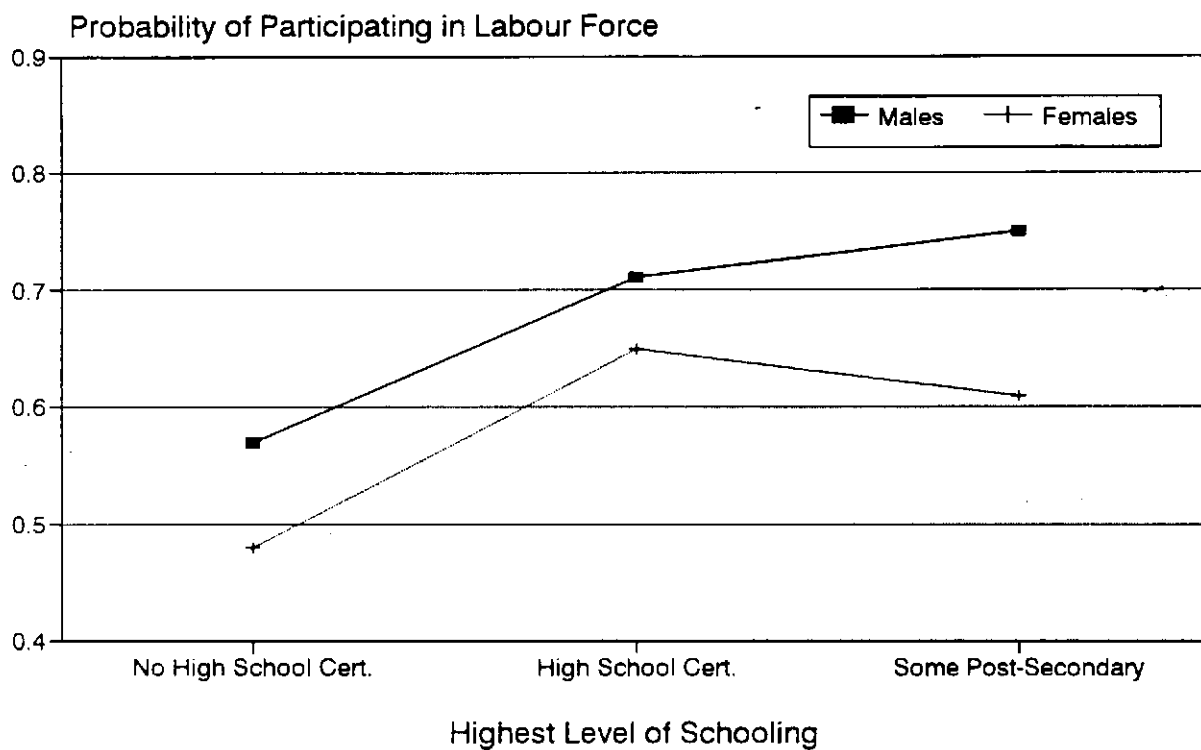


Figure 81

Estimated Probability of Participating in the Labour Force by
Age Group and Highest Level of Schooling,
Aboriginal Identity Population Residing in the Far North,
Canada, 1991

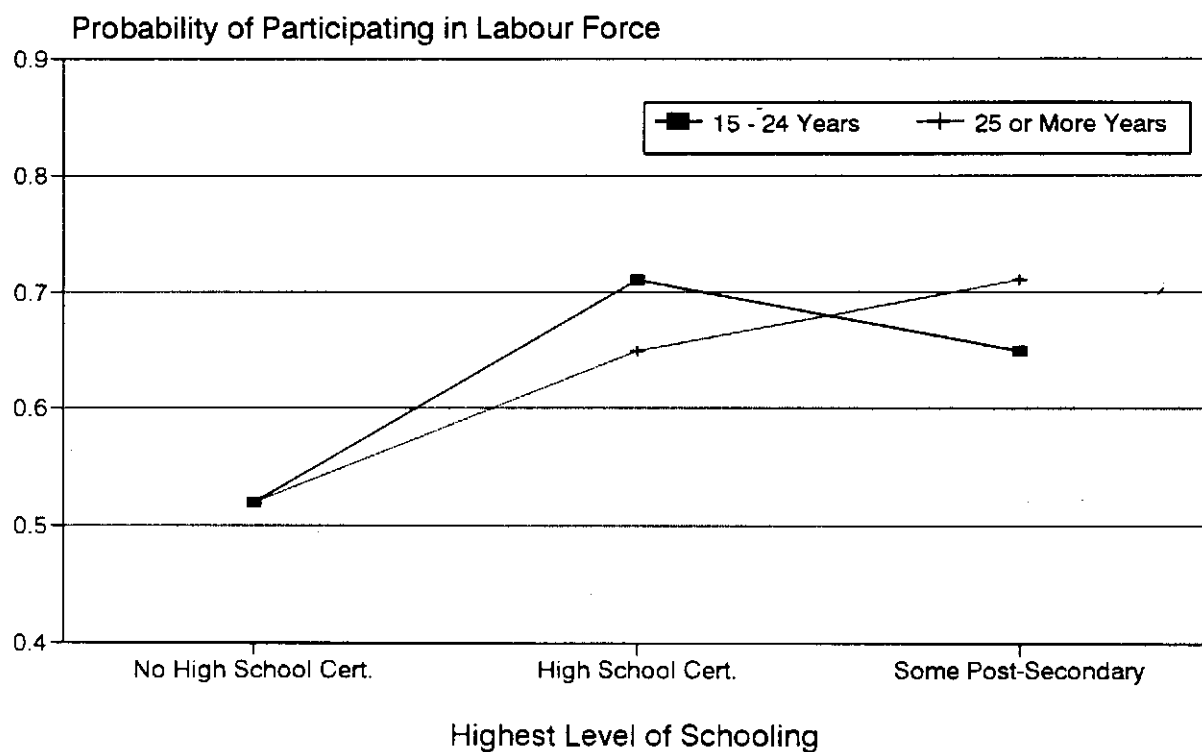
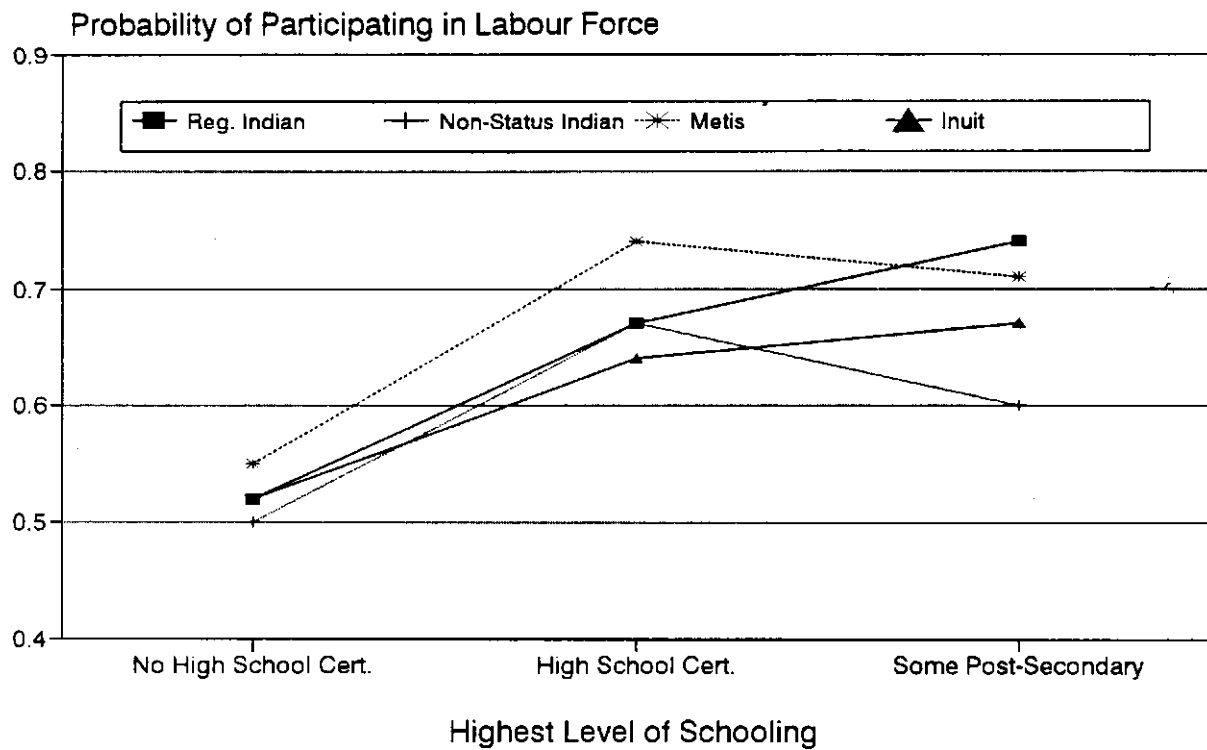


Figure 82

Estimated Probability of Participating in the Labour Force by
Aboriginal Identity and Highest Level of Schooling,
Aboriginal Identity Population Residing in the Far North,
Canada, 1991



school certificates. The situation among registered Indians and Inuit are similar to one another, but different from that of the other two groups. Among both registered Indians and Inuit, participation rates are not only markedly higher among those with, as opposed to without, high school certificates, but also higher among those with post-secondary education than those with high school certificates. In other words, post-secondary education appears to further enhance labour force participation among registered Indians and Inuit, but not among non-status Indians and Metis.

The results of our analysis of labour force participation in the far north are, to a large extent, consistent with our expectations and prior research. In general, males are more likely than females, and older individuals are slightly more likely than youth to be active in the labour force. In addition, non-status Indians and Metis are more likely than other identity groups to be participating in the labour force.

Analysis results concerning the effects of education on labour force participation in the far north region are quite complex. Although the study confirms the positive effect of achieving high school certification on labour force participation, the effect of post-secondary education is positive only among specific segments of the Aboriginal population, including registered Indians, Inuit, older individuals and males).

Reasons for the differential effects of highest level of schooling on participation are unclear, but may reflect several factors which could not be incorporated into the

statistical model. These factors include:

- the effects of other variables (e.g. marital/parental status),
- differences in the quality, nature or types of the skills possessed by various groups with the same highest level of schooling, and/or
- differences in the sub-regional or local labour markets in which various population sub-groups are employed or seeking work.

Labour Force Participation in the Mid-North and Southern Region

The labour force participation model for the mid-north/southern region explores the effects of five variables including age, gender, Aboriginal identity, highest level of schooling, and location of residence. Age, gender and highest level of schooling are configured in the same way as the far north model. Insufficient observations (resulting in data suppression) concerning the Inuit population in the mid-north/southern region resulted in the exclusion of this identity group from the model. As such, the Aboriginal identity variable for the mid-north/southern model distinguishes among three groups, registered Indians, non-status Indians and Metis. The location of residence variable contains four categories, including on reserve, off reserve in the mid-north region, southern rural areas and southern urban areas.

Table 33 reveals the sequence of steps involved in fitting the labour force participation model for the mid-north and southern regions. Overall, the terms included in the model account for roughly 94 percent of the total variation in labour force participation rates. The model consists of all five main effects, as well as, 10 interaction effects. The five main effects collectively account for roughly 88

Table 33

**Stepwise Logit Analysis of Aboriginal Labour Force Participation Rates in the Mid-North and
Southern Regions, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square		Change in d.f.	R	% of Variation
1	--	57041.16	141	--		--	--	--
2	E	26810.12	139	30231.04	**	2	0.530	53.0
3	G	13125.26	138	13684.86	**	1	0.770	24.0
4	L	7335.74	135	5789.52	**	3	0.871	10.1
5	A	7055.59	134	280.15	**	1	0.876	0.5
6	L * A	6463.45	131	592.14	**	3	0.887	1.0
7	I	6209.42	129	254.03	**	2	0.891	0.4
8	E * I	5588.34	125	621.08	**	4	0.902	1.1
9	L * I	5219.62	119	368.72	**	6	0.908	0.6
10	G * I	5076.07	117	143.55	**	2	0.911	0.3
11	G * E	4865.31	115	210.76	**	2	0.915	0.4
12	G * E * I	4631.36	111	233.95	**	4	0.919	0.4
13	L * E	4519.34	105	112.02	**	6	0.921	0.2
14	L * E * I	4001.25	93	518.09	**	12	0.930	0.9
15	A * E	3834.26	91	166.99	**	2	0.933	0.3
16	A * L * E	3622.66	85	211.60	**	6	0.936	0.4

** Effect significant at $p = .995$.

Source: Data from the Aboriginal Peoples Survey, 1991.

Number of Observations = 280,140.

A - Age G - Gender I - Aboriginal Identity E - Highest Level of Schooling L - Location of Residence

percent of the total variation in labour force participation. Highest level of schooling, gender and location of residence represent the most significant main effects in terms of accounting for variation in labour force participation. In relation to these variables, the contribution of both age and Aboriginal identity is substantially lower.

With the exception of the inclusion of the location variable, the general structure of the model (in terms of effects) is quite similar to that identified for the Aboriginal population of the far north region. The same set of interaction terms among gender, age, Aboriginal identity and highest level of schooling are common to both the far north and mid-north/southern models. The mid-north/southern model, however, also contains several interaction terms involving the location of residence variable.

Parameter estimates for the mid-north/southern labour force participation model are contained in Table A6 in the report's appendix. With respect to the main effects, the model's results are generally similar to those identified for the far north region:

- Participation rates among individuals with a high school certificate are roughly 15 percent higher than those with no high school certificate. Individuals with post-secondary education are slightly (about 1 percent) more likely than those with a high school certificate to be participating in the labour force;
- Rates of participation among males are roughly 12 percent higher than those of females;
- Participation rates among older individuals are roughly 2 percent higher than those of youth;

- Participation rates among non-status Indians are roughly 3 percent higher than those of other identity groups. Participation levels among registered Indians and Metis are of similar magnitude;
- Individuals residing off reserve, especially in the southern region are more likely to participate in the labour force. Participation rates of Aboriginal individuals in the southern region are roughly 10 percent higher than those residing on reserve and roughly 4 percent higher than those residing off reserve in the mid-north region.

As in the far north region, the general trends identified for the main effects vary for groups with specific combinations of attributes. Although a large number of interaction terms are statistically significant, most of these interactions result in only small variations to the trends identified for the main effects. Two interaction effects, however, (one involving gender, Aboriginal identity and highest level of schooling and a second involving age, location and highest level of schooling) suggest larger departures from the trends of the main effects.

Figures 83 and 84, which illustrate the interaction effect involving age, location and highest of schooling, reveal that:

- Among youth (i.e. 15-24 years), the effect of high school certification on participation tends to be greater in southern areas (either rural or urban). Among older individuals, high school certification has the greatest effect in southern rural areas and in off-reserve areas in the mid-north;
- Among youth, post-secondary education results in a further increase in participation only on reserve. In all other areas, youth with post-secondary education are less likely than those with high school certificates to be participating in the labour force;

Figure 83

Estimated Probability of Participating in the Labour Force Among
Aboriginal Identity Population Aged 15 -24 Years by Location of
Residence and Highest Level of Schooling, Population Residing
in the Mid-North and Southern Regions, Canada, 1991

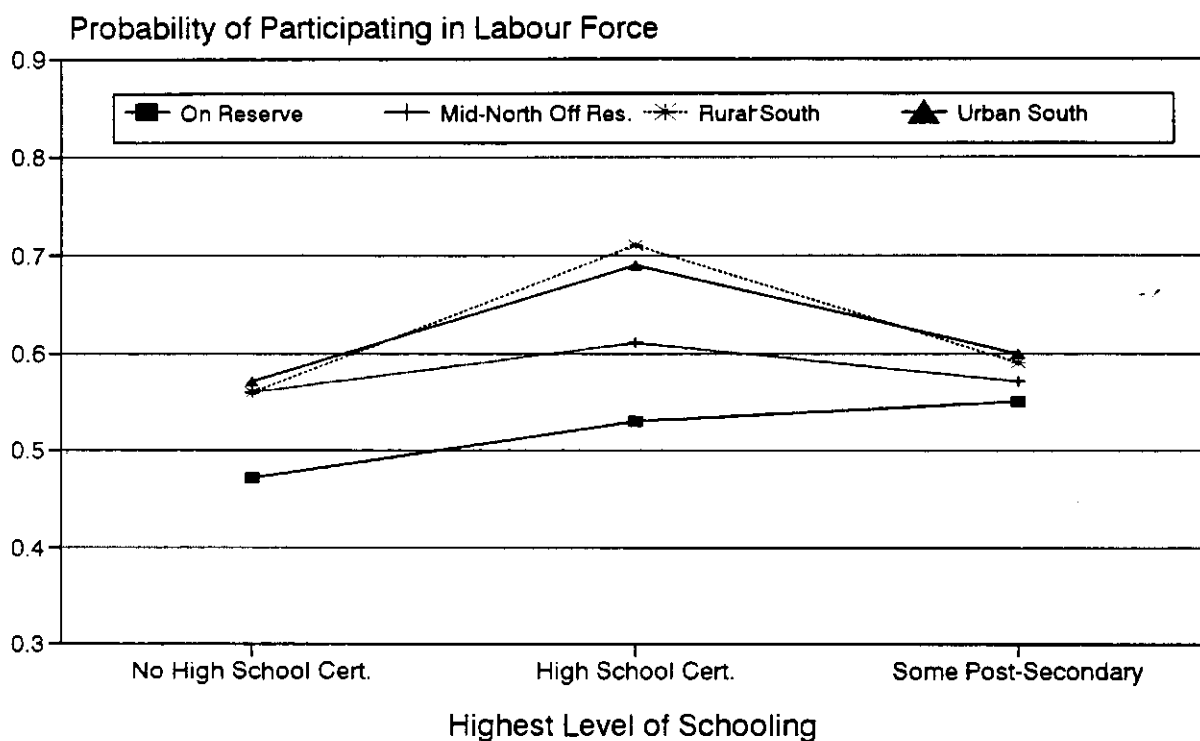
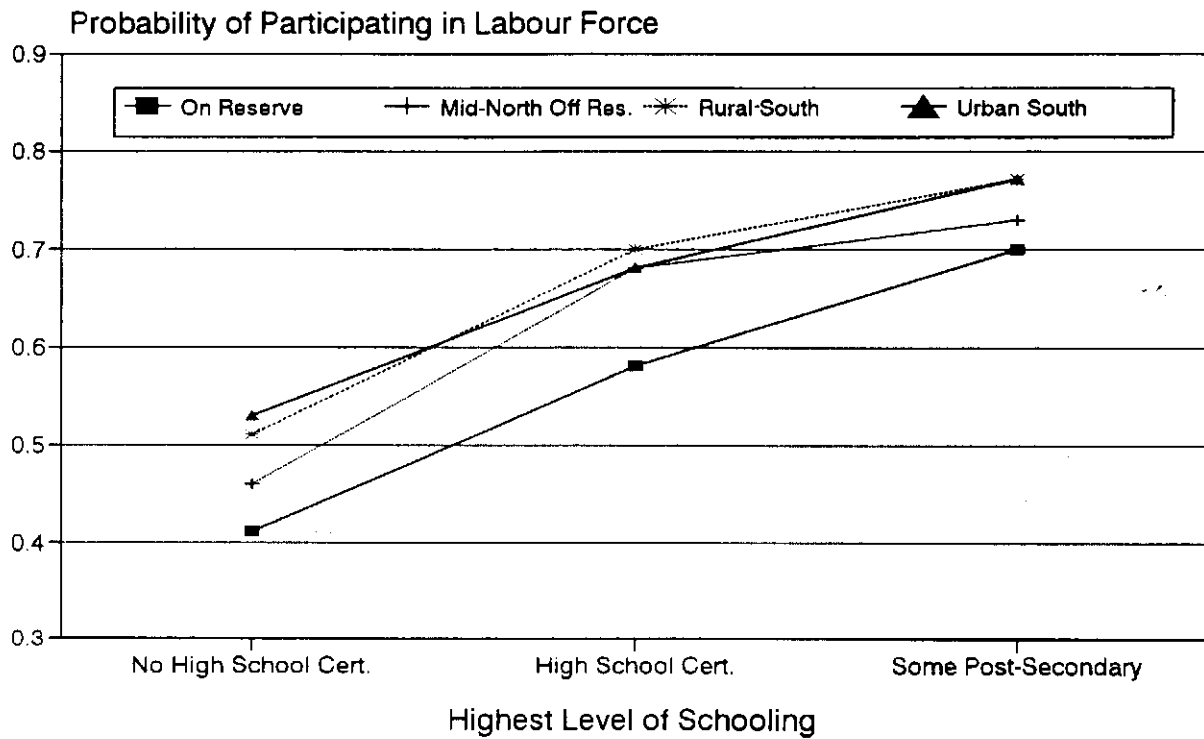


Figure 84

Estimated Probability of Participating in the Labour Force Among
Aboriginal Identity Population Aged 25+ Years by Location of
Residence and Highest Level of Schooling, Population Residing
in the Mid-North and Southern Regions, Canada, 1991



- Among older individuals, participation rates among of individuals with post-secondary education exceed those of individuals with high school certificates in all locations. The size of this effect is greatest among on-reserve residents and residents of southern urban areas.

The nature of the effects associated with the interaction term involving gender, Aboriginal identity and highest level of schooling are illustrated in Figures 85 and 86. The model's findings in this regard imply that:

- Rates of labour force participation are considerably less variable over identity groups within the female, as opposed to, male population;
- High school certification has a larger positive effect on participation rates among females than males;
- Post-secondary education does not result in a significant further increase in participation among females or among non-status Indian males. In the case of non-status Indian males, individuals with high school certificates are considerably more likely to be participating than those with post-secondary education. Among registered Indian and Metis males, however, individuals with post-secondary education are more likely to be participating in the labour force than individuals with a high school certificate.

Participation and the Ability to Speak an Aboriginal Language

The preceding analyses have examined labour force participation in relation to Aboriginal identity, location, age, education and gender. In this analysis, the focus is on the relationship of Aboriginal language ability to labour market participation. Aboriginal language ability is one of two indicators of attachment to traditional Aboriginal culture which were explored as part of the descriptive phases of this study, the other being participation in traditional activities. Readers may recall that

Figure 85

Estimated Probability of Participating in the Labour Force Among
Male Aboriginal Identity Population Aged 15+ Years by
Aboriginal Identity Group and Highest Level of Schooling,
Mid-North and Southern Regions, Canada, 1991

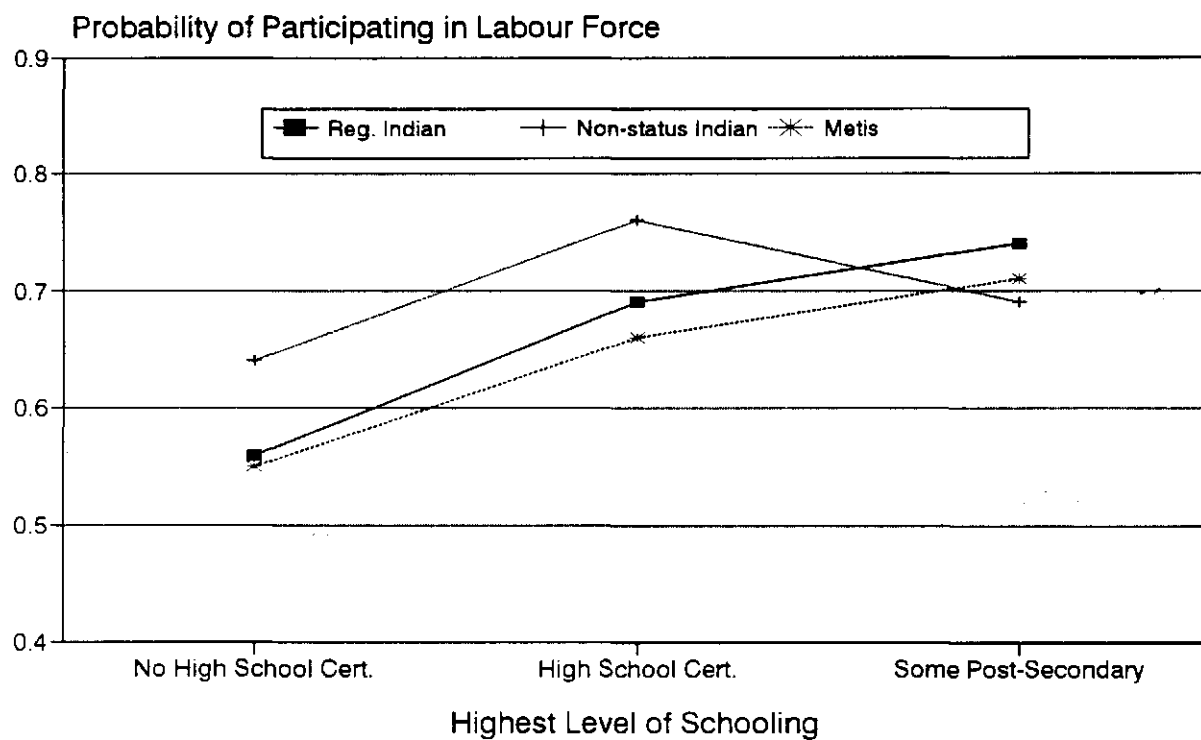
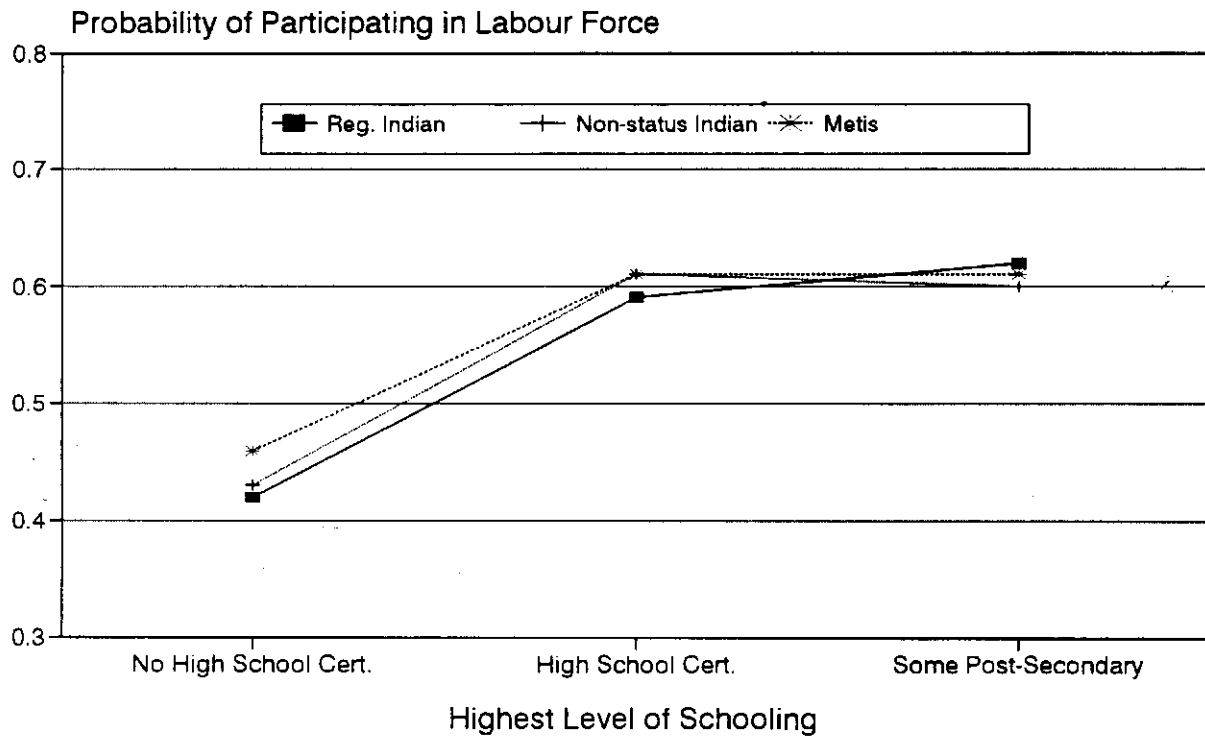


Figure 86

Estimated Probability of Participating in the Labour Force Among
Female Aboriginal Identity Population Aged 15+ Years by
Aboriginal Identity Group and Highest Level of Schooling,
Mid-North and Southern Regions, Canada, 1991



descriptive analyses did not show a strong relationship between participation in traditional activities and other labour market or educational variables, but they did suggest that Aboriginal language ability was related to both educational attainment and labour force activity. In this analysis, we attempt to explore more formally the effects of Aboriginal language ability on a key dimension of labour market behaviour, labour force participation.

The analysis concerns the population 15 years of age or older and not attending school full time. The dependent variable reflects the probability of actively participating in the labour force, or the "labour force participation rate" defined using the standard labour force survey concept.

The analysis compares the participation rates of those who speak an Aboriginal language and those who do not. Aboriginal language ability is defined as the ability to carry on a conversation in an Aboriginal language. In addition, this model incorporates four other independent variables: high school certification, gender, age and location of residence. High school certification is made up of two categories: (1) those who have obtained a high school certificate, and (2) those who have not. The two age categories are: (1) 15 to 30 years of age, and (2) 31 years of age or older. The four location of residence categories include: (1) the far north (including both on and off-reserve residents), (2) on-reserve residents (apart from the far north), (3) mid-north off-reserve residents, and (4) south off-reserve residents.

As revealed in Table 34, the best fit model of the probability of participating in the labour force includes all five main effects (high school certification, gender, Aboriginal language ability, location of residence and age). High school certification

Table 34

**Stepwise Logit Analysis of Aboriginal Labour Market Participation Rates
Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change In Chi-Square		Change In d.f.	R	% of Variation
1	--	59865.26	63	--		--	--	--
2	H	27614.15	62	32251.11	*	1	0.539	53.9
3	G	13284.65	61	14329.5	*	1	0.778	23.9
4	S	6004.66	60	7279.99	*	1	0.900	12.2
5	L	2808.56	57	3196.1	*	3	0.953	5.3
6	A	2746.88	56	61.68	*	1	0.954	0.1
7	H * S	2435.19	55	311.69	*	1	0.959	0.5
8	G * A	2201.83	54	233.36	*	1	0.963	0.4
9	A * L	1819.36	51	382.47	*	3	0.970	0.6
10	L * G	1466.79	48	352.57	*	3	0.975	0.6
11	S * L	1212.66	45	254.13	*	3	0.980	0.4
12	H * G	1159.61	44	53.05	*	1	0.981	0.1
13	S * G	1127.56	43	32.05	*	1	0.981	0.1
14	H * L	1107.52	40	20.04	*	3	0.981	0.0

* Significant at p = .995

H = High School Certification; G = Gender; S = Aboriginal Language Speaking Ability;
L = Location of Residence; A = Age

Source: Data from the Aboriginal Peoples Survey, 1991.

accounts for about 54 percent, and gender for about 24 percent, of the total X^2 variation. Aboriginal language ability is the third most important variable, accounting for about 12 percent of the variation. Taken together, the five main effects account for about 95 percent of the variation in the X^2 . Eight significant interaction effects are also included in the model.

In total, the model accounts for about 98 percent of the total X^2 variation. The residual X^2 of 1107.52 with 40 degrees of freedom indicates that a statistically significant level of variation remains unaccounted for by the effects included in the model, implying that factors in addition to those considered in the model likely play a role in affecting Aboriginal labour force participation rates.

Parameter estimates associated with the various effects included in this model are contained in Table A7 in the report's appendix. The main effects of the model reveal the following relationships:

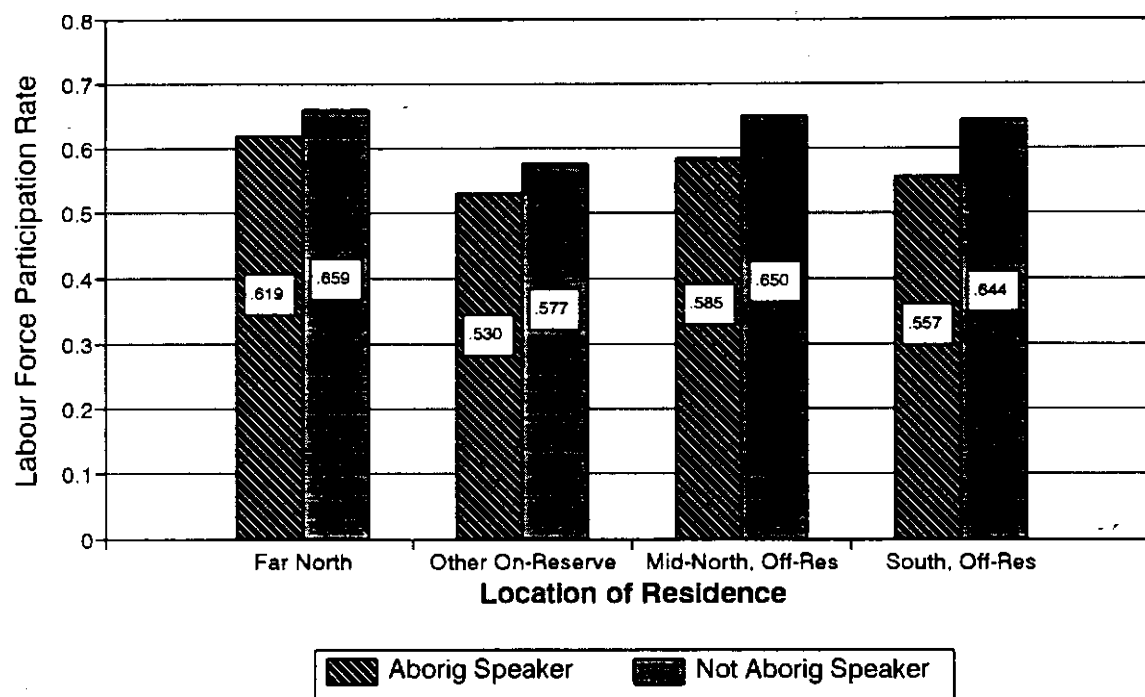
- Those with a high school certificate or higher certification are estimated to have a labour force participation rate roughly 14 percent higher than those without any certification.
- The labour force participation rate among Aboriginal males is estimated to be more than 11 percentage points higher than the rate among Aboriginal females.
- Those who speak an Aboriginal language are estimated to have a labour force participation rate that is about 6 percent lower than those who do not speak an Aboriginal language.
- The labour force participation rate is 9 percent lower among those living on reserve, 4 percent lower among those living off-reserve in the south, and 2 percent lower among those living off-reserve in the mid-north than those living in the far north.

- There is relatively little difference in the estimated labour force participation rates of the younger and older segments of the Aboriginal population.

The large effects of high school certification and gender on labour force participation identified by the model are as expected and consistent the results of our earlier models of labour force participation. The inverse relationship between Aboriginal language ability and labour market participation is unclear because the variable itself could have more than one meaning. The ability to speak an Aboriginal language may be seen as an indication of attachment to traditional culture, as a specific skill, or as a barrier to communications in a mainstream English or French-speaking environment. If Aboriginal language ability is seen as attachment to traditional culture, it may also suggest a degree of cultural and social isolation. In some contexts, such as in communities where there are many Aboriginal language speakers, Aboriginal language ability is likely to represent an employment asset. However, the results of the model suggest that for the purposes of employment in the general labour market, Aboriginal language ability is an indicator of cultural or social differences which inhibit participation in the labour force.

Figure 87 illustrates the interrelationship between Aboriginal language ability and location of residence. The general pattern with respect to the main effect of location is modified slightly by Aboriginal language ability. Going from left to right on the graph, or in other words, going from a more isolated to a less isolated environment, the gap between Aboriginal language speakers and non-speakers grows

Figure 87
Estimated Labour Force Participation Rates By Aboriginal Language Ability
And Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

steadily. When the ratios of the participation rates of non-speakers to speakers are calculated for each type of location, the results are as follows:

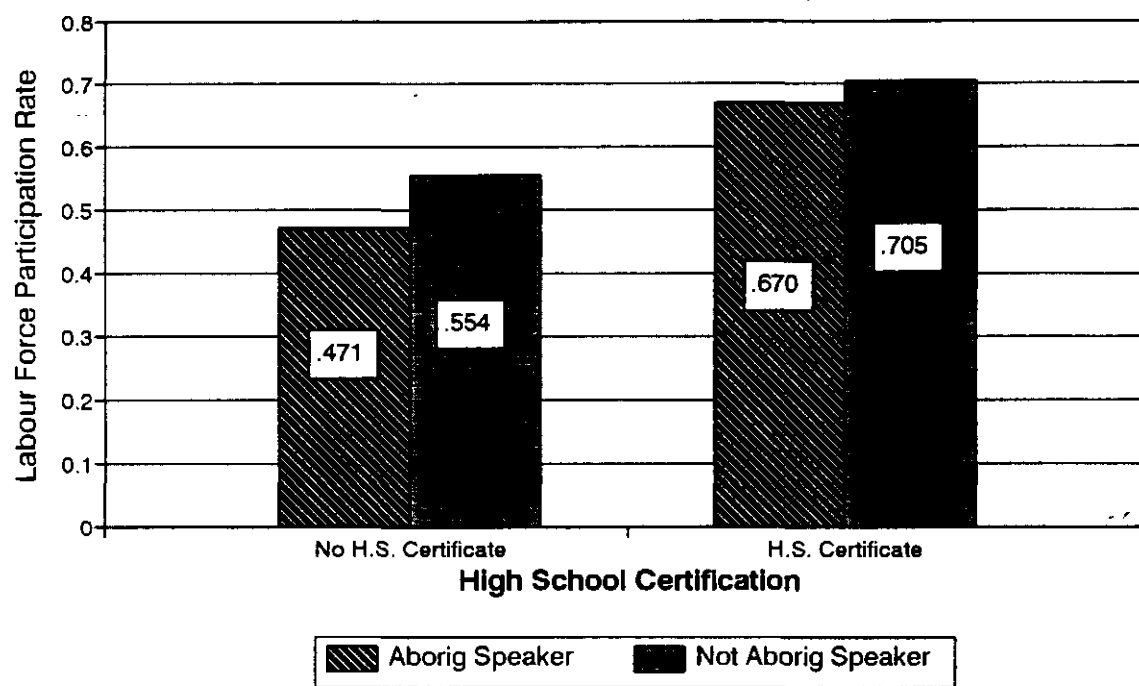
Table 35
Ratio of Labour Force Participation Rates
(Non Aboriginal Speakers/Aboriginal Speakers)
By Location of Residence, Canada, 1991

Far North	1.06
On-Reserve	1.09
Mid-North, Off-Reserve	1.11
South, Off-Reserve	1.16

The progression from northern and on-reserve communities to southern and off-reserve communities can be seen as a transition from communities where Aboriginal languages are more likely to be spoken to communities where Aboriginal languages are less often spoken. The results suggest that the ability to speak an Aboriginal language is an indicator of lower attachment to the labour market, but that it is less of an inhibitor to labour force participation in an Aboriginal-speaking environment.

Figure 88 illustrates the interaction between high school certification and Aboriginal language ability. This indicates that the difference in labour force participation rates between Aboriginal language speakers and non-speakers is largely reduced among those with high school or higher certification. Completion of a high school

Figure 88
Estimated Labour Force Participation Rates By Aboriginal Language Ability
And High School Certification, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

certificate or other post-secondary certification generally implies a willingness and ability to adapt to the mainstream Canadian cultural environment. Even if the high school education is obtained in an isolated Aboriginal community, the content of the education is similar to the content of schooling elsewhere in Canada. Moreover, the completion of high school may also be an indicator of the motivation to participate in mainstream Canadian institutions, including the labour market. It is possible that those Aboriginal language speakers who complete high school have become, in a sense, "bicultural," and accordingly, better able to achieve success within the Canadian mainstream despite social and cultural barriers which may exist.

Employment Rates

A total of five statistical models have been constructed to examine Aboriginal employment rates. The initial two models explore the relationship between the employment status of the active force (i.e. employed or unemployed as defined using the standard concepts of the Labour Force Survey) and the same set of independent (or control) variables included in the labour force participation rate models. As in the case of the labour force participation analyses, these employment rate models are constructed separately for the Aboriginal populations residing in the far north and in the mid-north/southern regions.

The remaining three models focus on the effects of selected occupational training characteristics on the employment rate of the total labour force age group. In these models, the employment rate measures the proportion of the total labour force age group which is employed.

Employment in The Far North Region

Table 36 provides a summary of the sequence of steps involved in fitting the employment rate model in the far north region and the effects included in the model. As revealed in the table, the model accounts for 89 percent of the total variation in employment rates, however, a statistically significant level of residual variation in employment rates remains unaccounted for by the factors included in the model.

Effects associated with each of the four independent variables were identified as significant. Collectively, these effects accounted for roughly 70 percent of the observed variation in employment rates. Age represents the most powerful factor, followed by highest level of schooling, Aboriginal identity and gender. In addition to the main effects, the model identified five statistically significant interaction terms. These terms included a single interaction involving Aboriginal identity and highest level of schooling, and a series of four interactions involving various combinations of age, gender and Aboriginal identity. Collectively, the interaction terms accounted for about 20 percent of the observed variation in Aboriginal employment rates in the far north.

Parameter estimates associated with the employment rate model of the far north region are contained in Table A8 in the report's appendix. Analysis of the parameters for the main effects reveals the following relationships:

- Employment rates among older individuals are approximately 5 percent higher than those of youth (i.e. 15-24 years);
- Employment rates are also roughly 5 percent higher among females than males;

Table 36

Stepwise Logit Analysis of Aboriginal Employment Rates in the Far North, Canada, 1991***

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square	Change in d.f.	R	% of Variation
1	--	1078.99	45	--	--	--	--
2	A	658.75	44	420.24	** 1	0.389	38.9
3	E	488.27	42	170.48	** 2	0.547	15.8
4	I	382.61	39	105.66	** 3	0.645	9.8
5	G	327.74	38	54.87	** 1	0.696	5.1
6	E * I	242.85	32	84.89	** 6	0.775	7.9
7	A * G	200.19	31	42.66	** 1	0.814	4.0
8	G * I	155.92	28	44.27	** 3	0.855	4.1
9	A * I	136.78	25	19.14	** 3	0.873	1.8
10	A * G * I	123.14	22	13.64	** 3	0.886	1.3

** Effect significant at $p = .995$.

*** Employment rate is referenced in terms of the active labour force aged 15 or more years and not attending school full time.

Source: Data from the Aboriginal Peoples Survey, 1991.

Number of Observations = 19,400.

A - Age G - Gender I - Aboriginal Identity E - Highest Level of Schooling

- Rates of employment among individuals with high school certificates are about 7 percent higher than those of individuals without high school certificates, but about 2 percent lower than those with post-secondary schooling.
- Sizable differentials in employment rates exist among identity groups. Employment rates among non-status Indians are approximately 6, 8 and 10 percent higher than those of Inuit, registered Indians, and Metis, respectively.

As illustrated in Figure 89, the effects of highest level of schooling vary among Aboriginal identity groups. In relation to other identity groups, employment rates among registered Indians are higher for those with no high school certification and those with high school certificates. Among those with post-secondary education, however, registered Indian employment rates are considerably lower than those of other identity groups and considerably lower than registered Indians with or without high school certificates. For all other identity groups, the effect of post-secondary education is to elevate employment rates above those of individuals with high school certificates.

As illustrated in Figures 90 and 91, the effects of Aboriginal identity on employment rates are most significant among females and youth. Employment rates among young, registered Indian males are substantially lower than those of all other age, gender and identity groups. Young, non-status Indian females, on the other hand, reported the highest rates of employment (at least 13 percent higher than all other groups). Age has the effect of reducing the extent of variation in employment rates among identity groups and between gender groups. This results primarily from the effects of age which increase employment more for males than females.

Figure 89

Estimated Probability of Active Labour Force Being Employed by
Aboriginal Identity Group and Highest Level of Schooling,
Aboriginal Identity Population Residing in the Far North Region,
Canada, 1991

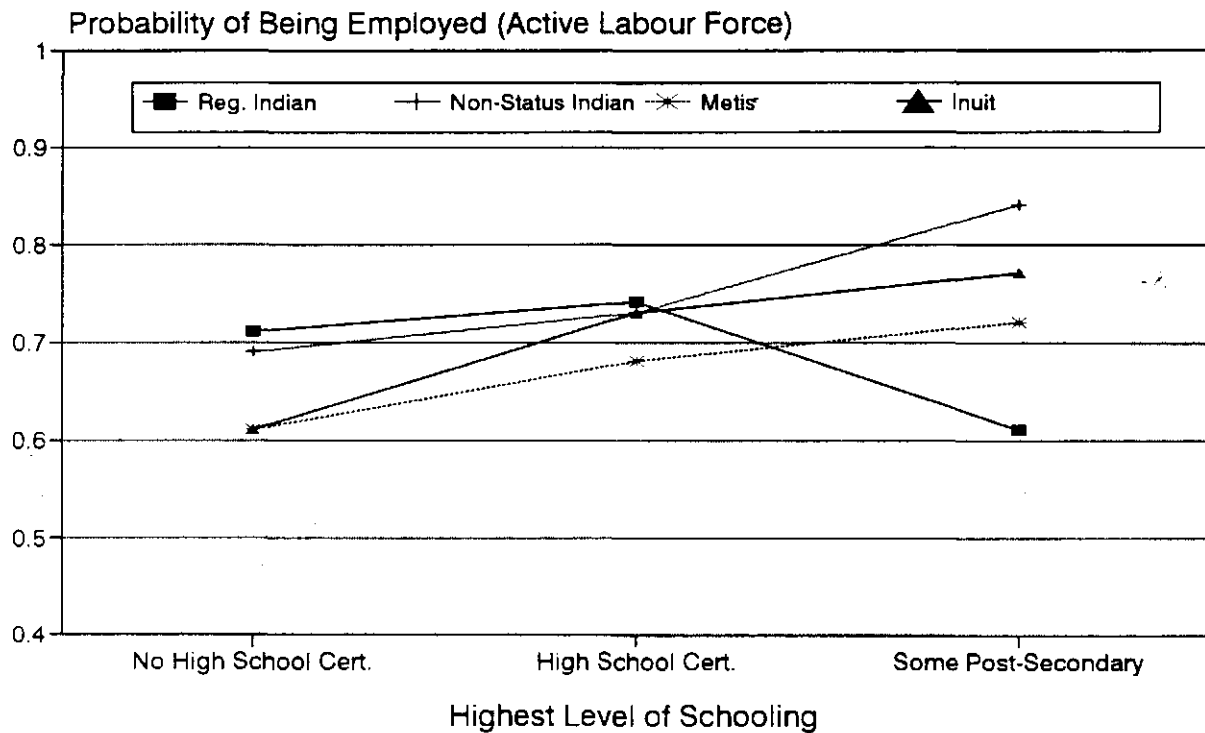


Figure 90

Estimated Probability of Active Labour Force Aged 15-24 Years
Being Employed by Gender and Aboriginal Identity Group,
Aboriginal Identity Population Residing in the Far North Region,
Canada, 1991

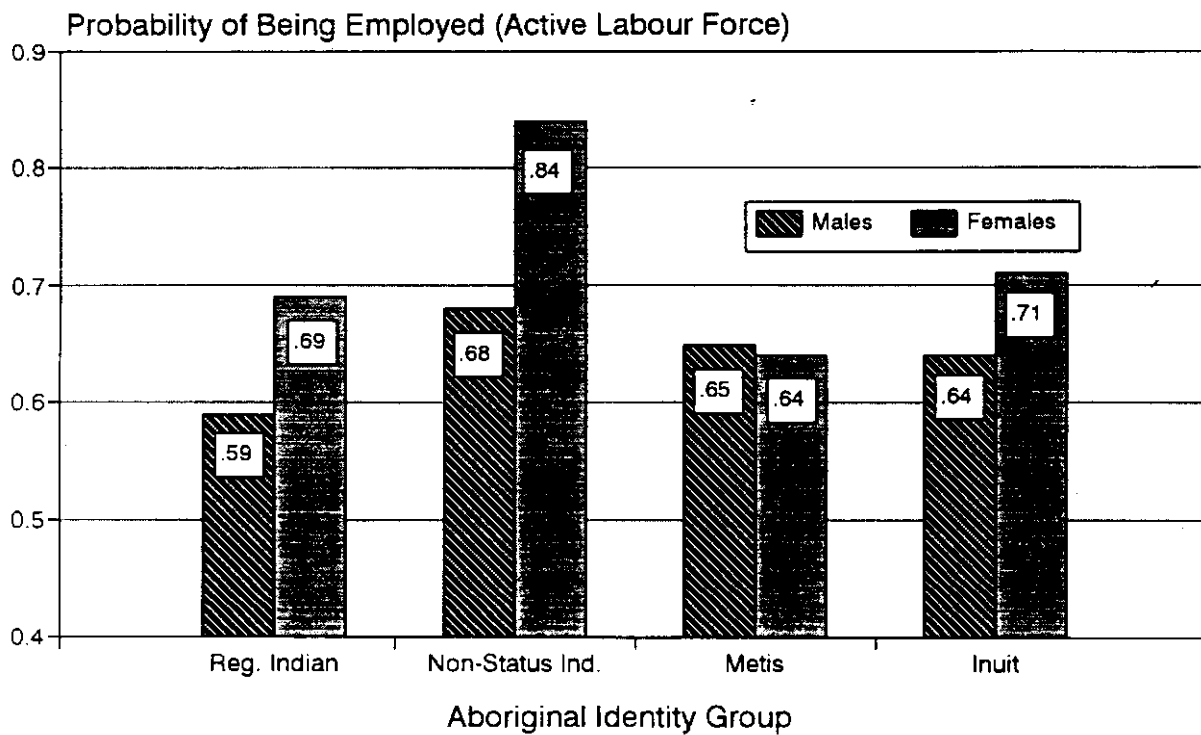
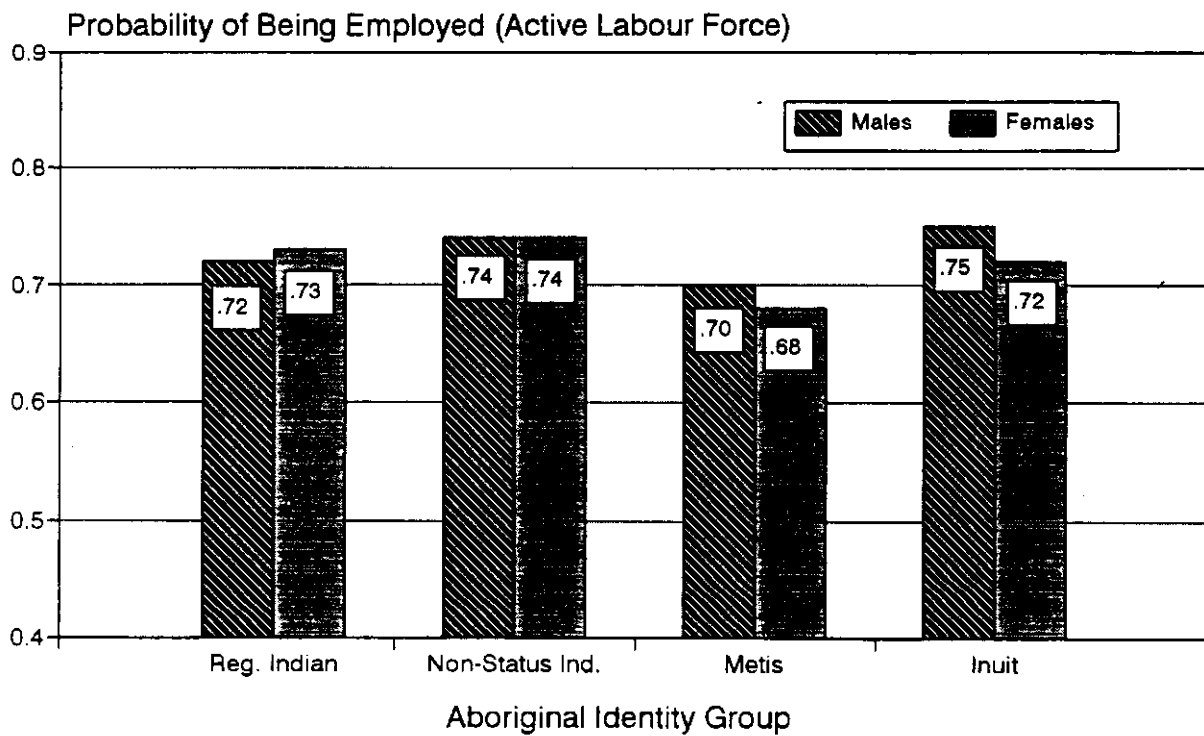


Figure 91

Estimated Probability of Active Labour Force Aged 25 or More Years
Being Employed by Gender and Aboriginal Identity Group,
Aboriginal Identity Population Residing in the Far North Region,
Canada, 1991



● Employment in The Mid-North and Southern Regions

With the exception of the dependent variable, the employment rate model for the mid-north/southern region uses the same variables as the labour force participation model constructed for this region (and discussed previously). Table 37 identifies the sequence of steps involved in fitting the model and the various effects identified as statistically significant. As revealed in the table, the model of employment rates for the mid-north/southern region is quite complex involving not only the five main effects of age, gender, Aboriginal identity, highest level of schooling and location of residence, but also a large number of interaction effects involving most combinations of the independent variables. Overall, the model accounts for roughly 89 percent of the variation in Aboriginal employment rates in this region. The main effects of the independent variables account for approximately 67 percent of the total variation in employment rates. Of the main effects, highest level of schooling, age and Aboriginal identity represent the most significant factors in terms of accounting for variation in employment rates.

Although the main effects of gender and location account for a relatively small portion of the total variation in employment rates, several important interaction terms involving these variables and highest level of schooling are identified by the model.

Parameter estimates associated with the employment rate model in the mid-north/southern region are contained in Table A9 in the report's appendix. In general, the direction and magnitude of the main effects associated with age, gender, Aboriginal identity and highest level of schooling are similar to those identified in the

Table 37

**Stepwise Logit Analysis of Aboriginal Employment Rates in the Mid-North and Southern Regions,
Canada, 1991 *****

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square	Change in d.f.	R	% of Variation
1	--	11892.34	142	--	--	--	--
2	E	8244.31	140	3648.03	** 2	0.307	30.7
3	A	6148.82	139	2095.49	** 1	0.483	17.6
4	G	5353.92	138	794.90	** 1	0.550	6.7
5	I	4047.08	136	1306.84	** 2	0.660	11.0
6	L	3892.23	133	154.85	** 3	0.673	1.3
7	G * I	3524.73	131	367.50	** 2	0.704	3.1
8	L * I	3316.16	125	208.57	** 6	0.721	1.8
9	A * E	3137.10	123	179.06	** 2	0.736	1.5
10	E * L	3039.05	117	98.05	** 6	0.744	0.8
11	E * I	2972.50	113	66.55	** 4	0.750	0.6
12	E * L * I	2536.95	101	435.55	** 12	0.787	3.7
13	A * L	2499.53	98	37.42	** 3	0.790	0.3
14	G * L	2472.28	95	27.25	** 3	0.792	0.2
15	G * L * I	2222.34	89	249.94	** 6	0.813	2.1
16	E * G	2209.79	87	12.55	** 2	0.814	0.1
17	G * L * E	2046.77	81	163.02	** 6	0.828	1.4
18	A * I	2021.85	79	24.92	** 2	0.830	0.2
19	G * L * E * I	1554.75	67	467.10	** 12	0.869	3.9
20	A * E * I	1391.59	63	163.16	** 4	0.883	1.4
21	A * L * E	1279.03	57	112.56	** 6	0.892	0.9

** Effect significant at $p = .995$.

Number of Observations = 173,135.

*** Employment rate is referenced in terms of the active labour force aged 15 or more years and not attending school full time.

Source: Data from the Aboriginal Peoples Survey, 1991.

A - Age G - Gender I - Aboriginal Identity E - Highest Level of Schooling L - Location of Residence

employment rate model constructed for the far north region. The model's parameters for the main effects reveal that:

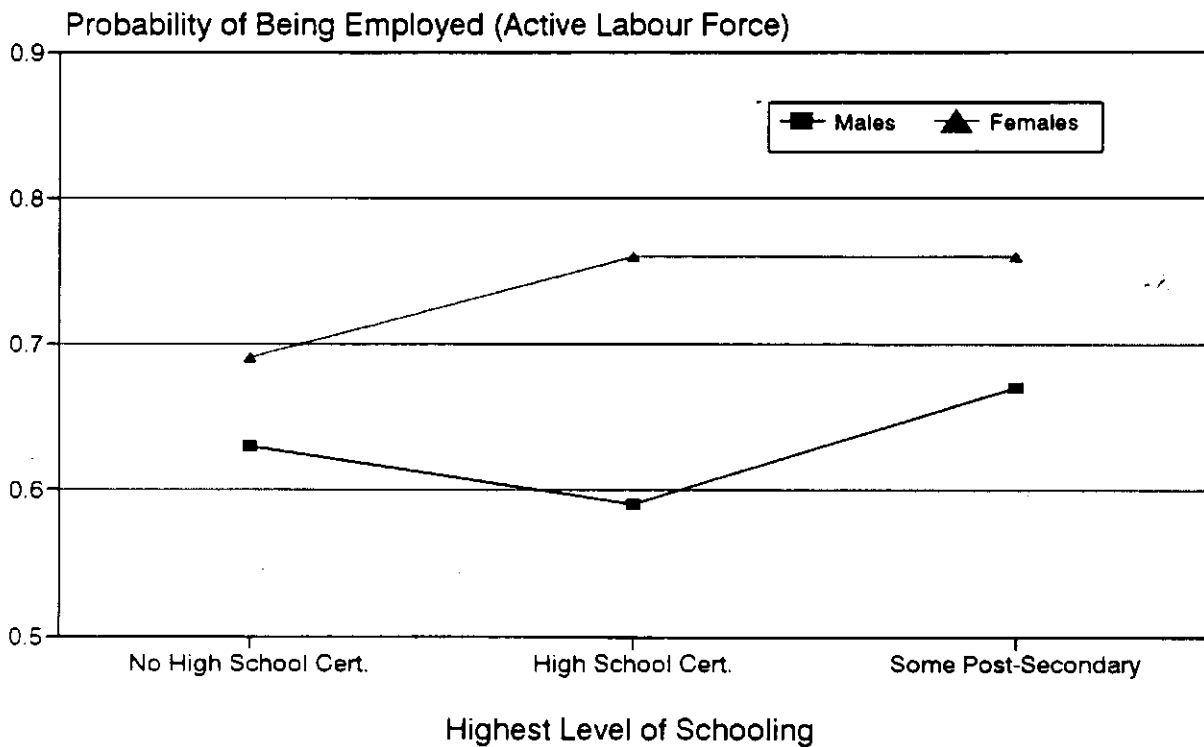
- Employment rates among older individuals are roughly 6 percent higher than those of youth;
- The employment rate of females is approximately 4 percent higher than that of males;
- Employment rates among non-status Indians are roughly 4 and 5 percent higher than those of Metis and registered Indians, respectively; and
- Individuals with high school certificates have employment rates which exceed those of individuals without certificates by roughly 8 percent. The effect of post-secondary education on employment rates in the mid-north/southern region is roughly comparable to that of high school certification.

The main effect associated with location of residence implies that the employment rates of individuals residing off reserve are roughly 7 to 8 percent higher than those of reserve residents. Employment rate differentials attributable to various types of off-reserve locations are quite small (less than 2 percent).

The model's interaction effects involving gender, highest level of schooling and location of residence reveal that among active labour force participants, females residing on reserve are much more likely than their male counterparts to be employed. This situation, which is illustrated in Figure 92, is not attributable to other variables in the model and exists over all highest level of schooling categories and among all Aboriginal identity groups. Figure 92 also reveals that the effects of highest level of schooling among males residing on reserve differs considerably

Figure 92

Estimated Probability of Active Labour Force Being Employed by
Gender Group and Highest Level of Schooling, Aboriginal Identity
Population Residing On Reserve in the Mid-North and
Southern Regions, Canada, 1991



from that of the main effect for this variable. Among males residing on reserve, individuals lacking high school certificates reported higher employment rates than those with high school certificates, a finding which contrasts with the situation identified for males residing off reserve (as illustrated in Figure 93 for southern urban areas).

Parameters for the interaction term involving highest schooling and location of residence (Figure 94) reveal that the positive effect on employment rates associated with higher levels of schooling are much larger in off-, as opposed to on-, reserve contexts. In off-reserve areas, individuals with a high school certificate or post-secondary education are much more likely than those lacking a high school certificate to be employed. The positive effect of higher levels of schooling in on-reserve contexts is, by comparison, much smaller.

The differential effects of highest level of schooling on and off reserve may reflect structural differences in the mix of occupations on and off reserve (e.g. a larger shortage of occupations requiring higher skill levels or higher educational certification levels may exist in on-, as opposed to off-, reserve locations). The results, however, may also reflect a labour market context on reserve in which jobs are more likely to be allocated on the basis of criteria other than highest level of schooling.

Employment and Occupational Training Completion

The population between the ages of 15 and 64 who are not attending school full time is used as the basis for this model. This population focuses on the labour force age group, and provides for the sub-division of the labour force into youth

Figure 93

Estimated Probability of Active Labour Force Being Employed by
Gender Group and Highest Level of Schooling, Aboriginal Identity
Population Residing in Southern Urban Areas, Canada, 1991

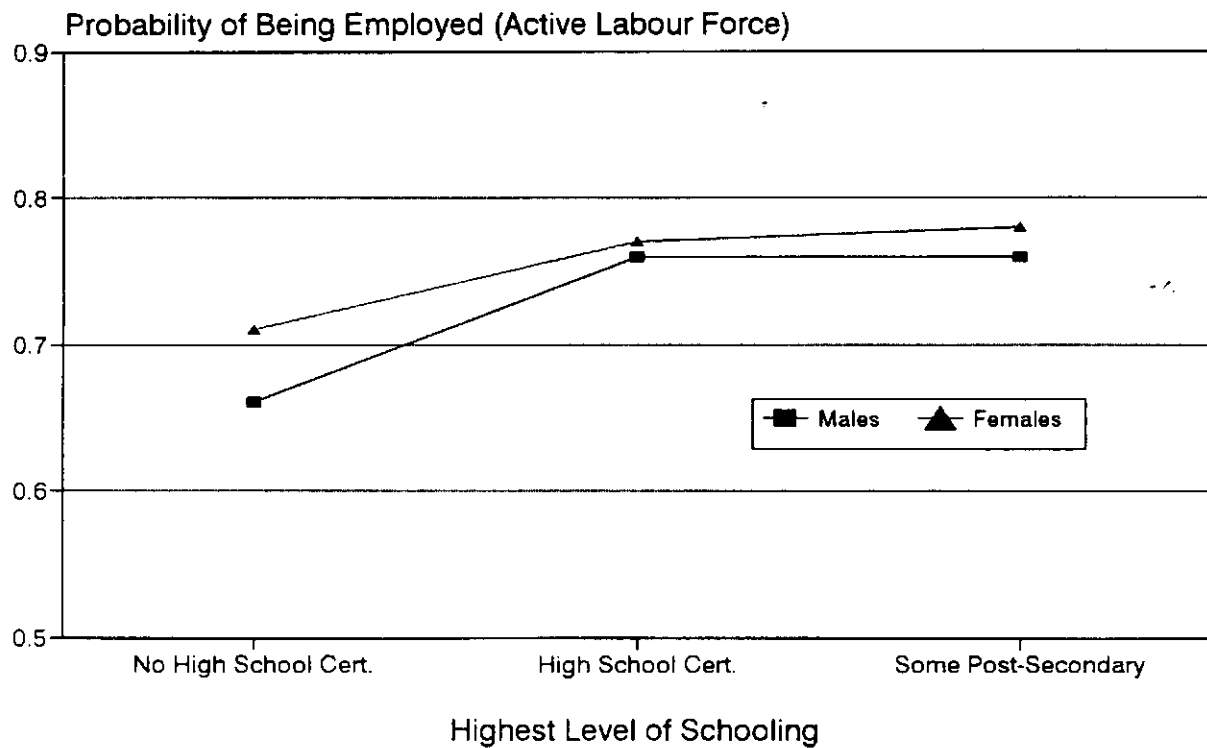
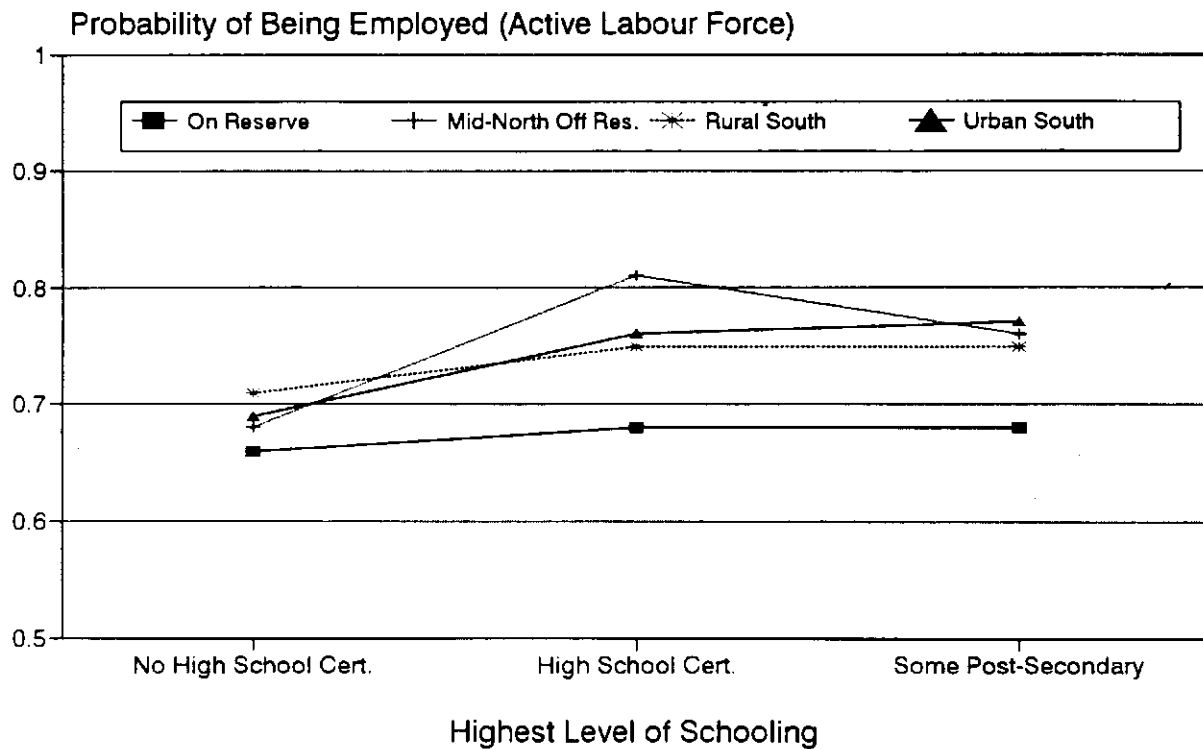


Figure 94

Estimated Probability of Active Labour Force Being Employed by
Location of Residence and Highest Level of Schooling,
Aboriginal Identity Population Residing in the Mid-North and
Southern Regions, Canada, 1991



(15-24 years old) and older (25-64 years old) components. The dependent variable is structured to identify the probability of being employed, regardless of whether the individual is active in the labour force. This variable may be interpreted as an employment rate of the total labour force. (This is different from the "employment rate of the active labour force" which was used as the dependent variable in the preceding analyses).

The analysis compares those who have completed any type of occupational training course or program between January 1990 and the time of the APS, to those who either did not take any occupational training course during this period, or who did take occupational training but did not complete the course or program. This is based on the APS question which refers to "on-the-job training or classroom training such as a computer course, a drug or alcohol course, etc."

In addition to the occupational training completion variable, this model incorporates four other independent variables: educational certification, gender, age and location of residence. As discussed in Section 3 of this report, the "educational certification" variable is defined differently from the more usual "highest level of schooling" variable. Educational certification, as used here, refers to specific levels of certification. Three levels are used: those with no educational certification at the high school or post-secondary levels, those with a high school certificate only (but no post-secondary certification), and those with any type of post-secondary certification (including university, trades and other non-university certification). Those who have attended a post-secondary program but have not obtained any type of certificate, diploma or degree are not included in the post-secondary certification group. Instead, they are categorized as having a high school certificate (if they have one) or as having no certification.

This variable therefore focuses on credentials rather than more general levels of educational attainment. This results in a smaller portion of the population in the "post-secondary" group and a larger number in the "no certification" group.

Although it would have been desirable to separate those with university degrees from those with other types of post-secondary credentials, the small size of the university degree population made this impossible.

The other three variables in the model are gender, age and location of residence.

Two age categories are used: 15-24 years, and 25-64 years. The four location of residence categories are: (1) the far north (including both on and off-reserve residents), (2) on-reserve residents (apart from the far north), (3) mid-north off-reserve residents, and (4) south off-reserve residents.

As shown in Table 38, the best fit model of the probability of employment includes five main effects (educational certification, occupational training completion, gender, location of residence and age). Educational certification accounts for about 55 percent, and occupational training completion for about 15 percent, of the total X^2 variation. Taken together, the five main effects account for about 93 percent of the variation. Nine significant interaction effects are also included in the model.

In total, the model accounts for 97 percent of the total X^2 variation. The residual X^2 of 1385.71 with 64 degrees of freedom indicates that a statistically significant level of variation remains unaccounted for by the effects included in the model, suggesting that factors in addition to those considered in the model may play a role in affecting Aboriginal employment rates.

Table 38

**Stepwise Logit Analysis of Aboriginal Employment Rates in Canada, 1991
(In Relation to Completion of Occupational Training)**

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square		Change in d.f.	R	% of Variation
1	--	45906.98	95	--		--	--	--
2	C	20745.56	93	25161.42	*	2	0.548	54.8
3	O	13760.91	92	6984.65	*	1	0.700	15.2
4	G	9512.33	91	4248.58	*	1	0.793	9.3
5	L	5392.94	88	4119.39	*	3	0.883	9.0
6	A	3071.03	87	2321.91	*	1	0.933	5.1
7	C * G	2685.9	85	385.13	*	2	0.941	0.8
8	L * A	2307.82	82	378.08	*	3	0.950	0.8
9	L * G	2017.17	79	290.65	*	3	0.956	0.6
10	C * O	1778.47	77	238.7	*	2	0.961	0.5
11	C * A	1588.17	75	190.3	*	2	0.965	0.4
12	O * G	1491.67	74	96.5	*	1	0.968	0.2
13	C * L	1412.62	68	79.05	*	6	0.969	0.2
14	A * G	1397.77	67	14.85	*	1	0.970	0.0
15	O * L	1385.71	64	12.06	**	3	0.970	0.0

* Significant at p = .995

** Significant at p = .990

C = Educational Certification; O = Completion of Occupational Training; G = Gender;

L = Location of Residence; A = Age

Source: Data from the Aboriginal Peoples Survey, 1991.

Parameters associated with the effects included in the model are contained in Table A10 in the report's appendix. The main effects of the model reveal that:

- Those who have a high school certificate have a probability of being employed which is about 14 percentage points higher than those who don't. However, completion of further post-secondary certificates has little effect on the likelihood of employment.
- The estimated probability of being employed among those who have completed an occupational training course is roughly 12 percent higher than among those who have not taken or not completed occupational training.
- On-reserve residents are less likely to be employed than off-reserve residents. Among off-reserve residents, there is little difference between those living in the south and the mid-north.
- Men are more likely to be employed than women, and those over 25 years of age are more likely to be employed than those who are younger.

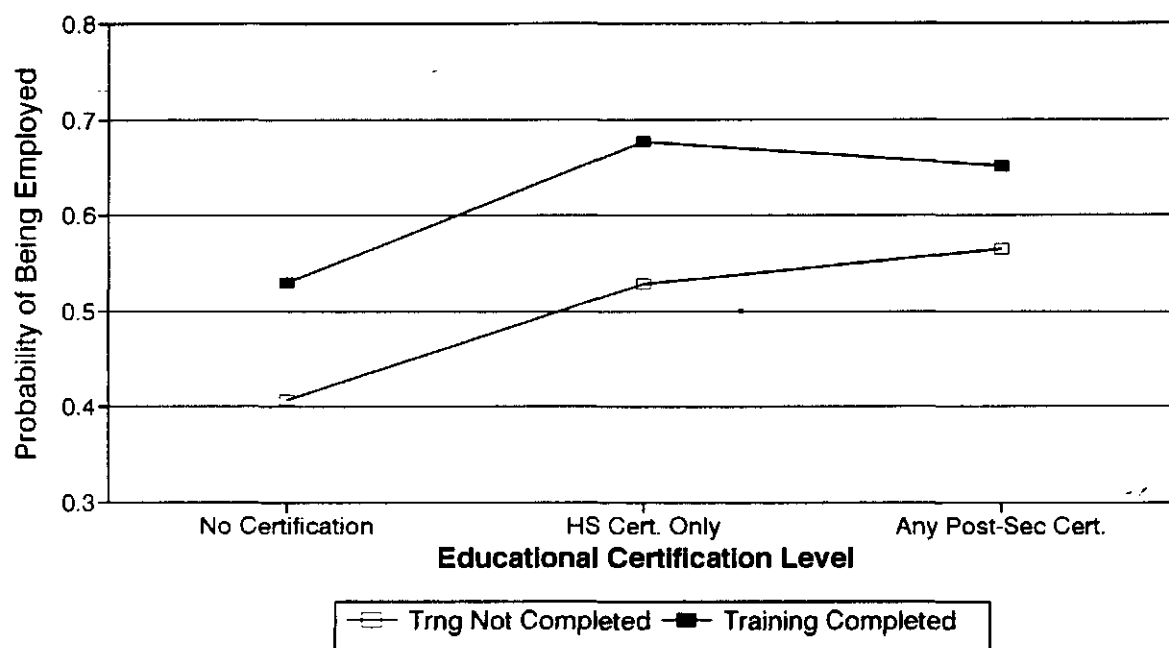
The two-way interaction effects, while not large, provide some qualifiers to the main effects listed above. The model indicates an interaction between educational certification and gender, such that the gap in employment rates between men and women becomes smaller with higher levels of certification. In other words, women receive greater benefits from high school and post-secondary certification than do men, at least in terms of employment rates. The model also indicates that there is a larger difference in employment rates between men and women in the south and mid-north than there is in the far north, where there is almost no difference in predicted employment rates between men and women.

The effect of age on employment is also different in different locations and for different levels of educational certification. The difference in employment rates between youth and others is greatest among on-reserve residents, and smallest among southern, off-reserve residents. The model also indicates that the gap between the younger and older populations is greater for those without certification than for those with high school or post-secondary certification.

Figure 95 illustrates the effects associated with the interaction between educational certification and completion of occupational training. Those who have completed occupational training have higher rates of employment, regardless of their level of educational certification. However, the difference between occupational training completers and non-completers is smaller among those with post-secondary certification. In fact, the model indicates that among those who have completed occupational training, those with high school certificates are more likely to be employed than those with post-secondary certification. This negative effect of post-secondary certification could indicate that the many of those who take occupational training are doing so because they have experienced some problem in the labour market, or are in the process of changing occupations. If so, this would help explain a somewhat lower employment rate among this group.

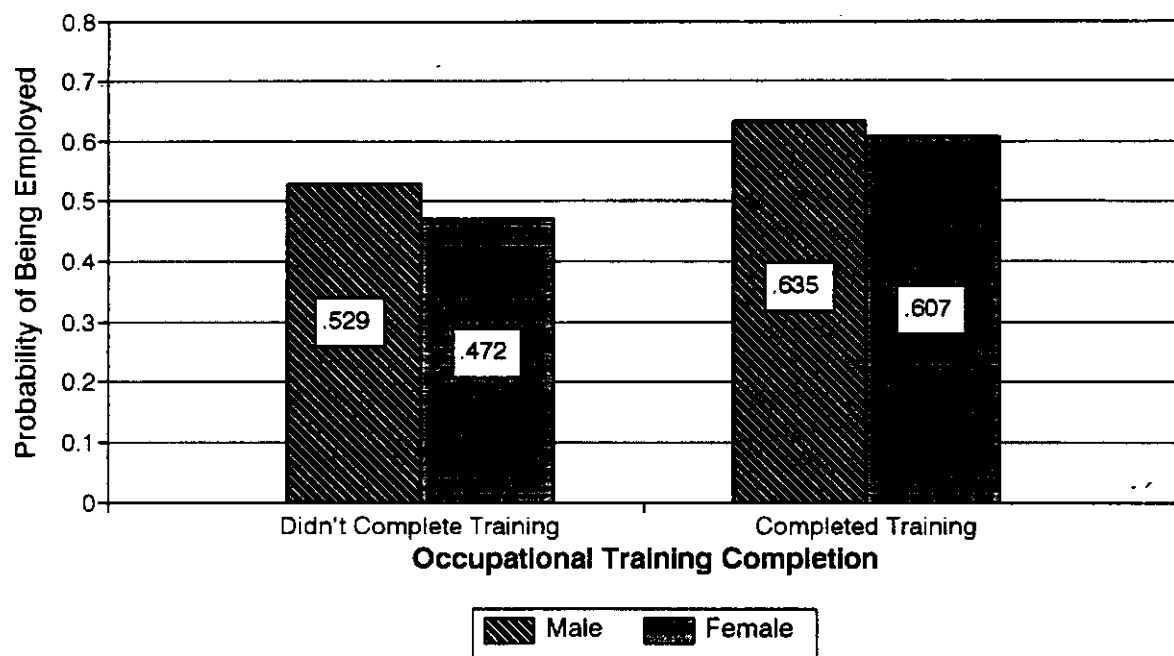
Figure 96 illustrates the relationship between occupational training and gender. While completion of occupational training is associated with higher employment rates for both men and women, it provides a greater benefit to women than to men, such that the difference in employment rates between men and women who have completed occupational training is smaller than the difference between men and women who have not completed training.

Figure 95
Estimated Probability of Being Employed By Occupational Training Completion
And Educational Certification, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 96
Estimated Probability of Being Employed By Occupational Training Completion
And Gender, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 97 illustrates the relationship between occupational training and location of residence. In all locations, completion of occupational training provides a substantial benefit in terms of employment rates. For both completers and non-completers, employment rates are substantially lower for on-reserve residents than for others, reflecting reserve labour market conditions.

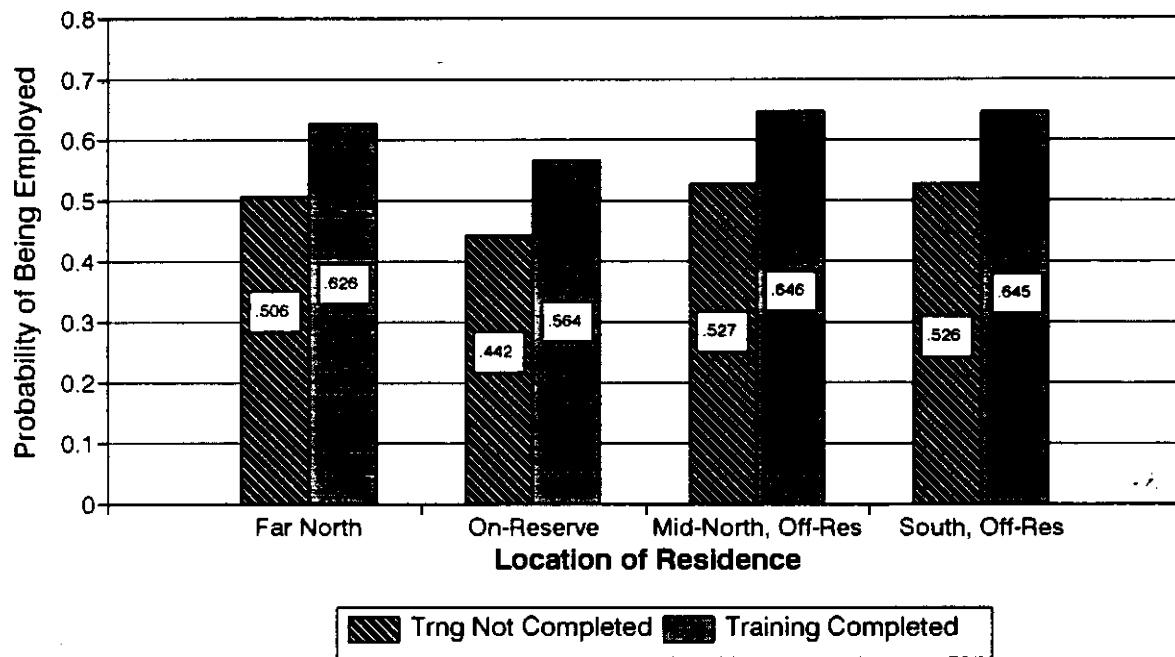
The model identified an interaction effect between educational certification and location of residence, as shown in Figure 98. Regardless of location of residence, high school certification is associated with a sharp increase in employment rates. However, post-secondary certification provides little improvement in employment rates, if any. Among those living off-reserve, in the mid-north and south, those with post-secondary certification have slightly lower employment rates than those with only high school certification. Again, on-reserve residents have much lower employment rates than others. Employment rates are highest among the two off-reserve groups in the mid-north and south. The relatively low level of employment among those with post-secondary certification could reflect, in part, the cyclical effects of labour demand in particular industries. Some post-secondary graduates are likely to be in trades in which labour demand fluctuates in response to broader economic conditions, such as in the construction trades.

Employment and Duration of Occupational Training

This model concerns those between the ages of 15 and 64 who are not attending school full time and who have completed an occupational training course. It is therefore a subset of the general population. It is similar to the group referred to as "completers" in the previous model, but omits those for whom the length of training is unknown. Again, the focus is on the labour force age group. The

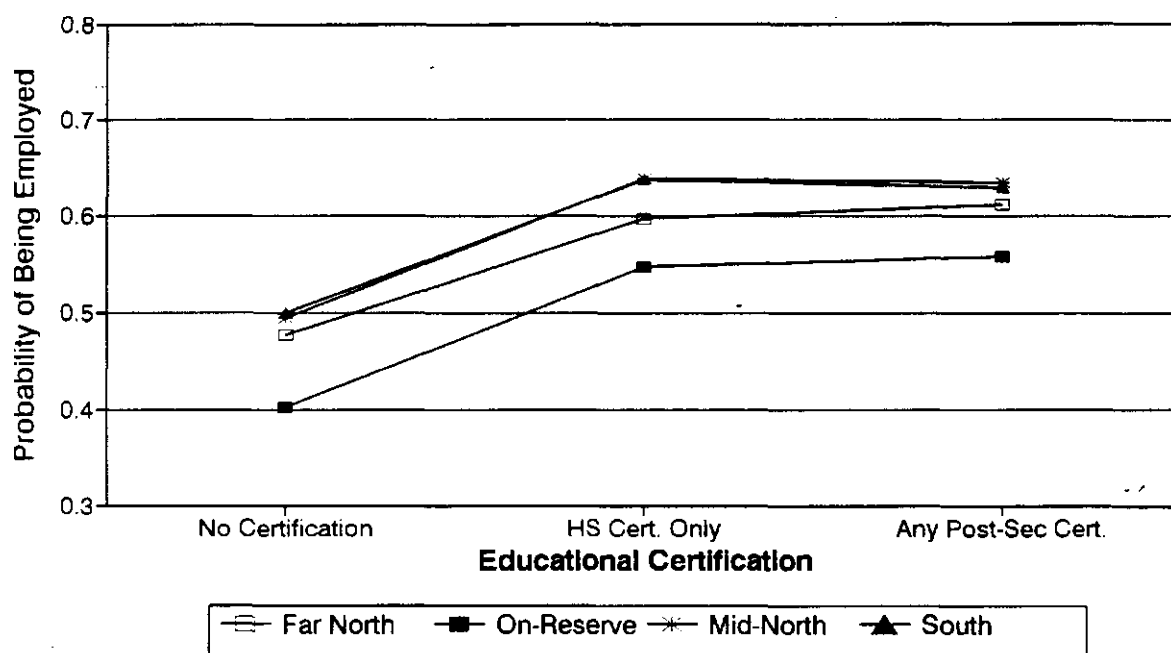
Figure 97

Estimated Probability of Being Employed By Occupational Training Completion
And Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 98
 Estimated Probability of Being Employed By Educational Certification
 And Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

dependent variable reflects the probability of being employed, regardless of the individual's labour force status.

The analysis compares the employment status of those who have completed occupational training courses of less than four weeks in duration, to those who have completed occupational training courses of four or more weeks in duration, during the period from January, 1990 until the time of the APS. The definition of occupational training is as in the previous model.

In addition to the duration of occupational training variable, this model incorporates four other independent variables: educational certification, gender, age and location of residence. These variables are defined in the same way as in the previous model (see discussion above). Again, the educational certification variable focuses on educational credentials rather than highest level of schooling.

As shown in Table 39, the best fit model of the probability of employment includes all five main effects (educational certification, occupational training completion, gender, location of residence and age) and 16 interaction terms. Educational certification accounts for about 33 percent, and occupational training completion for about 27 percent, of the total X^2 variation. Taken together, the five main effects account for about 72 percent of the variation.

Overall, the model accounts for 94 percent of the total X^2 variation. The residual X^2 of 418.44 with 37 degrees of freedom indicates that a statistically significant level of variation remains unaccounted for by the effects included in the model, implying that factors in addition to those considered in the model may play an

Table 39

**Stepwise Logit Analysis of Aboriginal Employment Rates in Canada, 1991
(In Relation to Duration of Occupational Training)**

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square		Change in d.f.	R	% of Variation
1	--	6928.89	95	--		--	--	--
2	C	4621.21	93	2307.68	*	2	0.333	33.3
3	D	2773.34	92	1847.87	*	1	0.600	26.7
4	L	2398.96	89	374.38	*	3	0.654	5.4
5	A	2026.29	88	372.67	*	1	0.708	5.4
6	G	1910.2	87	116.09	*	1	0.724	1.7
7	D * L	1688.15	84	222.05	*	3	0.756	3.2
8	C * A	1508.55	82	179.6	*	2	0.782	2.6
9	C * D	1323.96	80	184.59	*	2	0.809	2.7
10	L * G	1178.7	77	145.26	*	3	0.830	2.1
11	L * A	1066.21	74	112.49	*	3	0.846	1.6
12	A * G	976.77	73	89.44	*	1	0.859	1.3
13	C * G	938.47	71	38.3	*	2	0.865	0.6
14	C * L	897.32	65	41.15	*	6	0.870	0.6
15	D * A	882.99	64	14.33	*	1	0.873	0.2
16	D * G	874.18	63	8.81	*	1	0.874	0.1
17	D * L * G	775.37	60	98.81	*	3	0.888	1.4
18	L * A * G	700.78	57	74.59	*	3	0.899	1.1
19	C * D * L	601.57	51	99.21	*	6	0.913	1.4
20	C * L * G	510.94	45	90.63	*	6	0.926	1.3
21	C * L * A	449.69	39	61.25	*	6	0.935	0.9
22	C * D * A	418.44	37	31.25	*	2	0.940	0.5

* Significant at $p = .995$

C = Educational Certification; D = Duration of Occupational Training;
L = Location of Residence; A = Age; G = Gender

Source: Data from the Aboriginal Peoples Survey, 1991.

important role in affecting the employment rates of those completing occupational training.

Table A11 in the report's appendix identifies the parameter estimates associated with the model. Parameters for the main effects of the model reveal that:

- Among those who have completed occupational training courses, those with high school certificates have higher employment rates than those with either higher or lower levels of educational certification. As expected, those without any certification have the lowest employment rate, but those with post-secondary certification also have lower employment rate than those with high school certification only.
- Among those who have completed occupational training, those who have completed courses of four weeks or more have lower employment rates than those who have completed courses of less than four weeks.
- Among occupational training program completers, those who are 25 years old or older have higher employment rates than those under 25.
- There is little difference in employment rates between men and women who have completed occupational training courses.

Several of the main effects are surprising, particularly the finding that the length of occupational training is inversely related to employment. A possible explanation for this would be that those who take longer training courses are more likely to do so while they are not working than those who take shorter training courses which are more often sponsored or encouraged by an employer. It may be that the longer training courses will enhance the individual's employability or income in the longer term, but that, in the short term a proportion of those who took longer

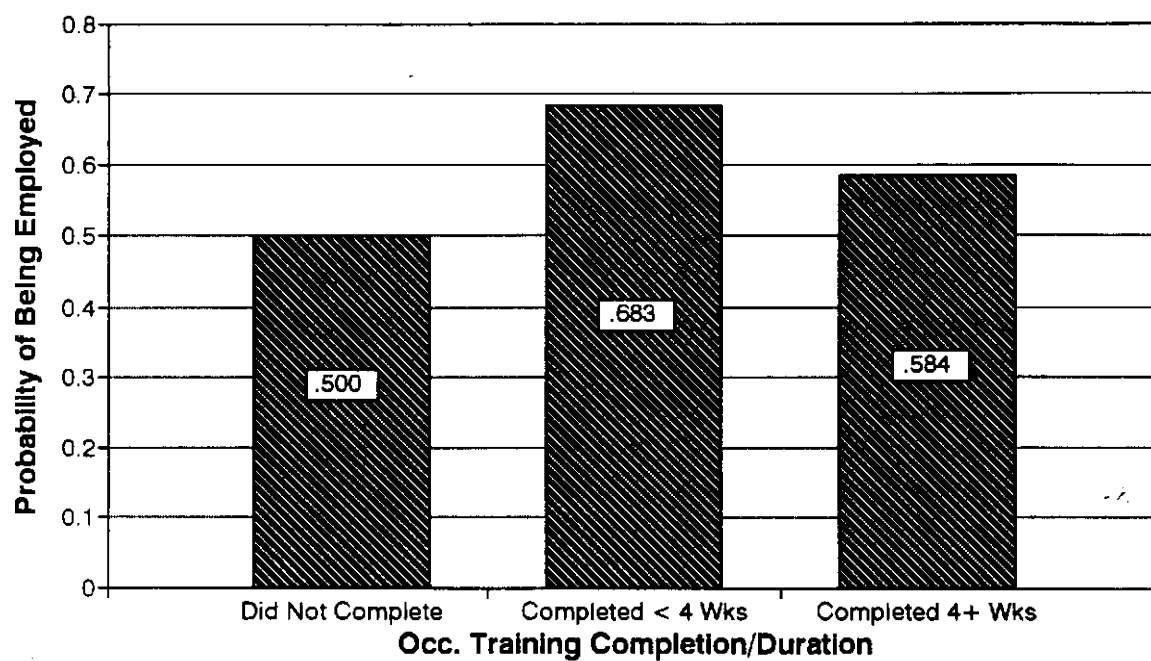
courses during a period of unemployment continue to be unemployed. Further, those who take longer training courses may do so because they cannot find work and wish to upgrade their skills. To the extent that this is true, training is a consequence of employment status, rather than the reverse. A second possible explanation, which is not inconsistent with the first explanation, is that occupational training courses provide an alternative source of income to people during periods of unemployment in the form of training allowances. However, such allowances are more likely to be associated with longer training courses. Therefore, those who are unemployed and seeking an alternative form of income to social assistance might be attracted to longer training courses.

It is also possible that the longer training courses which are being provided do not match the needs of the labour market. Indeed, it may be inherently more difficult for those who provide longer training courses to keep them abreast of labour market needs and developments because of the greater investment of development and delivery resources they require, and the greater length of time needed to organize and deliver new courses.

Although this result is surprising, it should be kept in mind that both groups of completers, that is those who took shorter and longer courses, have substantially higher employment rates than those who have not completed training. This is illustrated in Figure 99 which combines the estimates from this model with the estimated employment rate for non-completers from the previous model.

The finding that those with high school certificates who have completed occupational training have higher employment rates than those with post-secondary certification is also surprising. (This finding was discussed in relation to the previous

Figure 99
Estimated Probability of Being Employed By Occupational Training Completion
And Duration, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

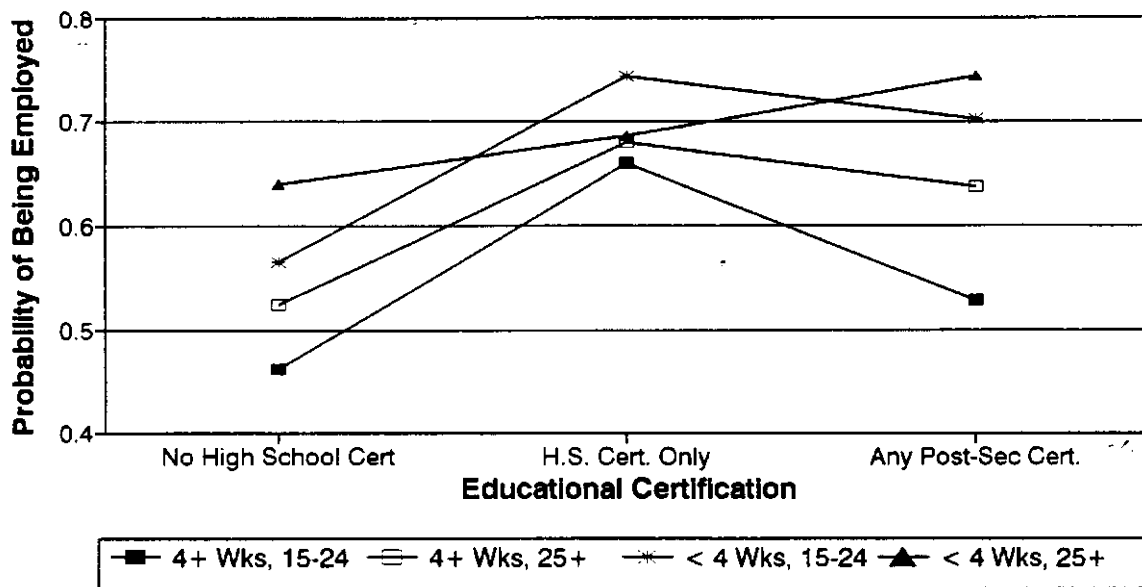
model.) The third main effect that is of interest is the finding that there is virtually no difference in employment rates between men and women who have completed occupational training. This reinforces the general pattern of higher levels of educational and training tending to reduce the gap in employment and labour force participation rates between men and women.

Figure 100 illustrates the relationships among educational certification, age and duration of training as estimated by the model. Three of four sub-groups follow the pattern identified as part of the main effects, with the highest employment rate found among those with high school certificates only. The exception to this pattern is the population 25 years old or older who have completed shorter training courses. Among this group, employment rates for those with high school certificates are lower than would be expected from the general pattern.

It was hypothesized in relation to the previous model, that the relatively lower employment rates among those with post-secondary certification results from people seeking training during periods of unemployment, or conversely experiencing unemployment as a result of a decision to take further training for the purpose of occupational mobility. If so, then those over 24 years age with high school certificates are more likely than others to take shorter training courses while unemployed. Perhaps because they are older, this group is more likely to seek to improve their occupational circumstances through short training courses, rather than being satisfied with the employment opportunities provided by a high school certificate alone. At the same time, this would suggest that these older workers are no more likely than younger workers to engage in longer training courses which involve a greater time and financial commitment and therefore greater risk.

Figure 100

Estimated Probability of Being Employed by Educational Certification,
Duration of Occupational Training and Age, Canada, 1991



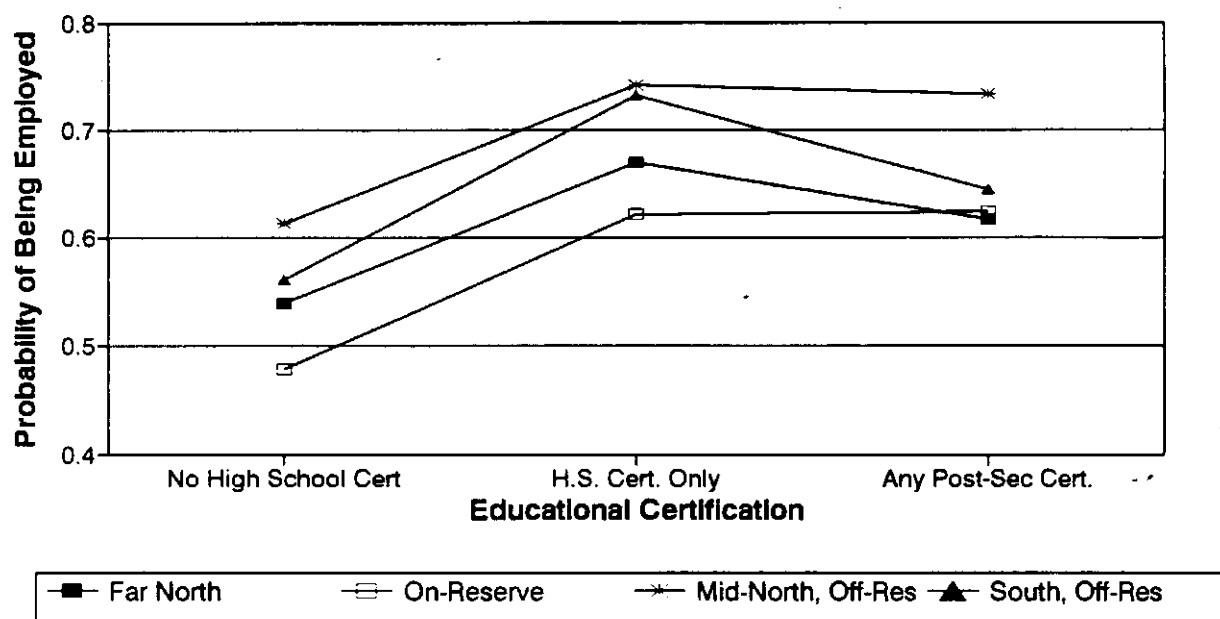
Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

As shown in Figure 101, employment rates are much higher among those with high school certificates than among those without certificates, in all four types of locations. However, the model indicates that there is no improvement in employment rates among those with post-secondary certificates. In fact, for those living in the far north, or in the south, those with post-secondary certification have lower employment rates than those with high school certification only. This finding is similar to the findings of other models described above. The relatively weak performance of those with post-secondary education seems to be consistent regardless of which educational variable is used, highest level of schooling or educational certification. This suggests that the post-secondary education being obtained by the Aboriginal labour force may not be pertinent to available jobs, or that other factors are creating barriers to entry into jobs for those with post-secondary education, more so than for those with high school certificates.

There may be less demand in the far north and in southern areas for those with post-secondary education because of differences in the regional labour markets. For example, in the far north, the labour market tends to be dominated by government and monopoly sector employers. Oishi (1985) found that the Aboriginal labour force in the Northwest Territories increased their employment in both these sectors between 1971 and 1981, but that the skill levels of the jobs they obtained tended to be relatively low.

The analysis also identified an interaction effect involving educational certification, duration of occupational training and location of residence. (See Figures 102 through 104). Among those without any educational certificates, those who

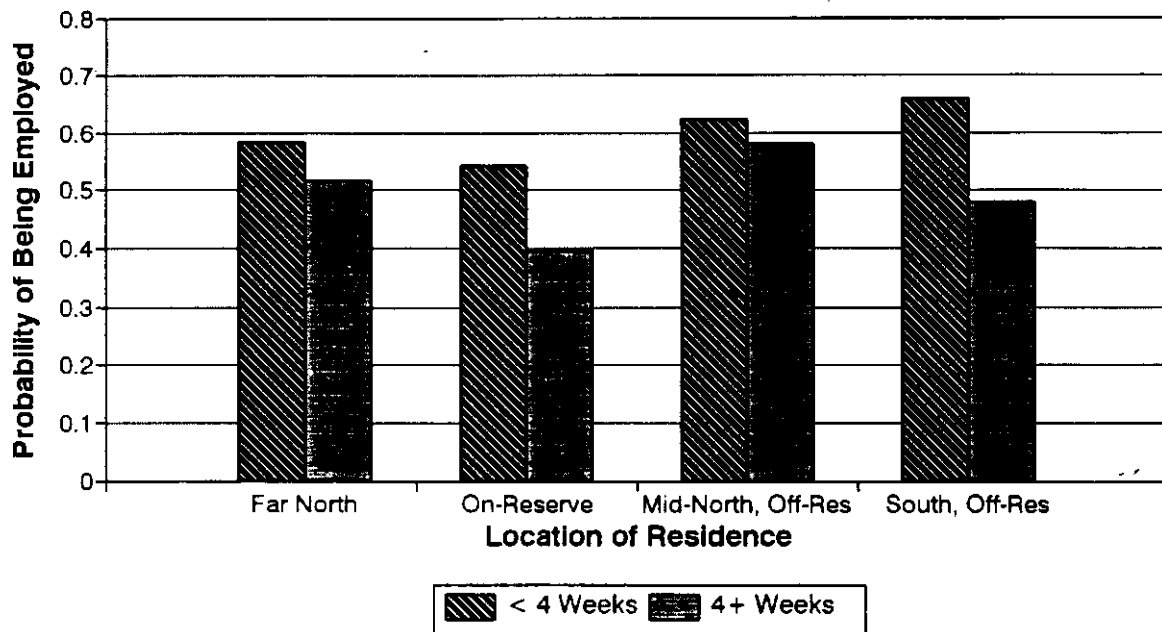
Figure 101
 Estimated Probability of Being Employed by Educational Certification
 And Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 102

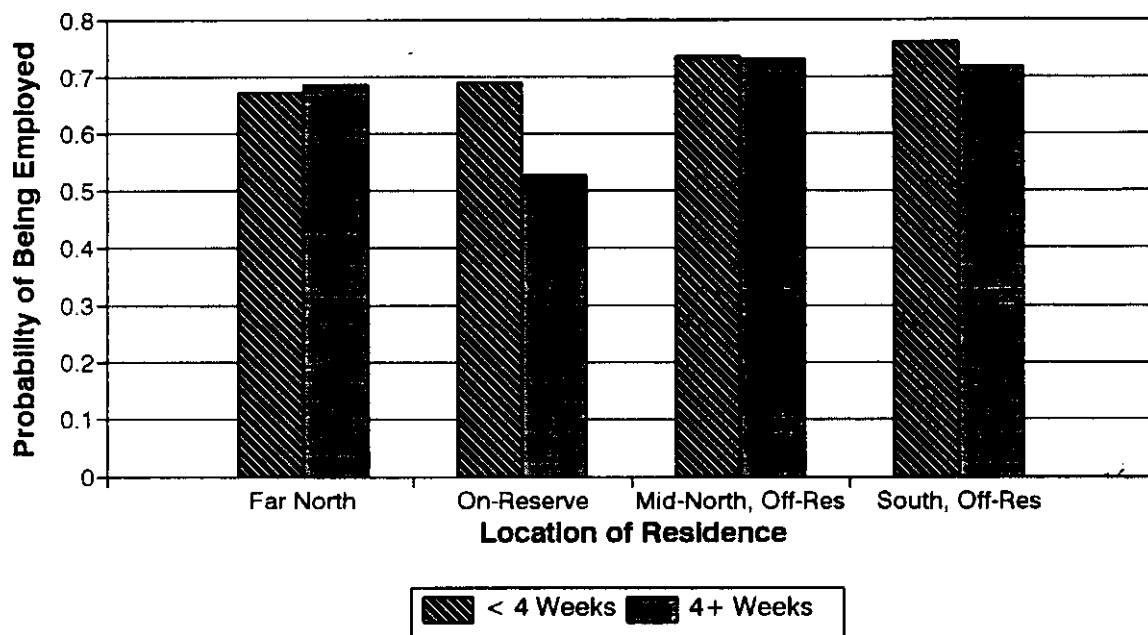
Estimated Probability of Being Employed Among Those Without Any Certification
By Duration of Training and Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 103

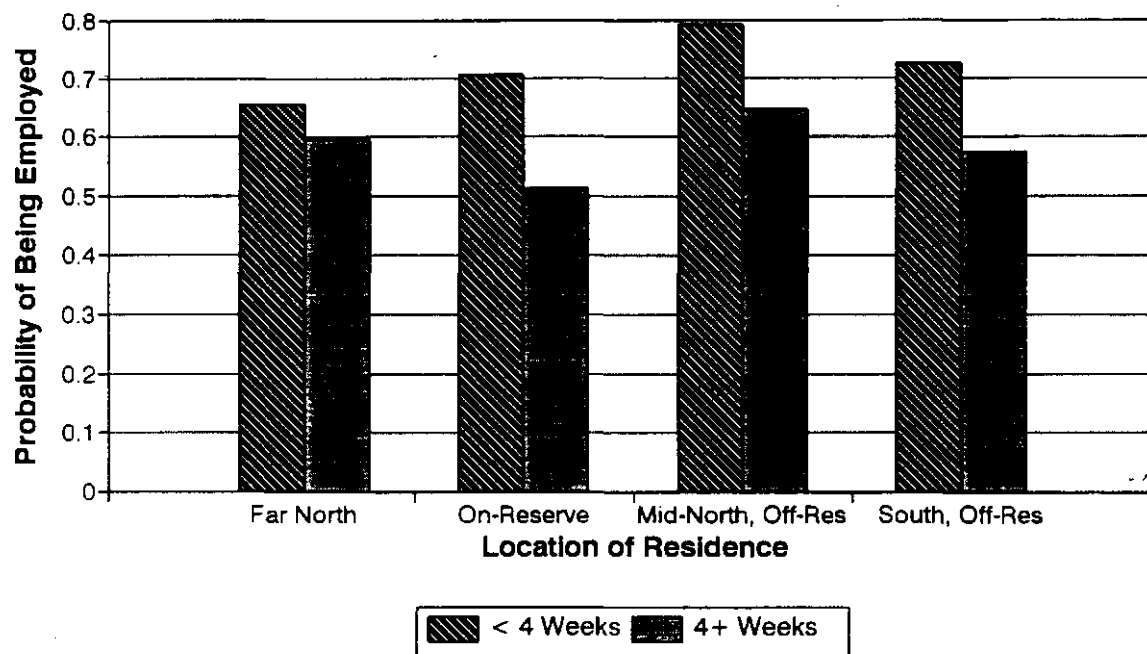
Estimated Probability of Those With High School Certificates Being Employed
By Duration of Training and Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

Figure 104

Estimated Probability of Those With Post-Secondary Certification Being Employed
By Duration of Training and Location of Residence, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

completed shorter training courses have higher employment rates than those who completed longer training courses, regardless of which region they live in. There is also some variation in the extent of the difference in employment rates, with the greatest difference identified among on-reserve residents and southern off-reserve residents (see Figure 102). The same holds true for those with post-secondary certification. While the employment rates are higher than among those with no certification, those who have completed shorter courses are more likely to be employed than those who completed longer courses (see Figure 104).

By comparison, there is little difference between the two occupational training groups among those with high school certificates only. In all regions apart from the reserves, employment rates are similar for those who completed longer and shorter courses. However, among reserve residents there continues to be a large gap in employment rates. If it is generally true that those who take longer training courses are likely to do so during periods of unemployment, this is not apparently true for those with high school certificates only (unless they live on reserves). For this group, longer term training is apparently more closely connected with employment, and provides a similar benefit in terms of employment rates as does shorter term training. However, such employment benefits do not appear to be as readily available on reserves.

Employment and Financial Assistance for Occupational Training

This model concerns those between the ages of 15 and 64 who are not attending school full time and who have completed an occupational training course of four weeks or longer. It is therefore a further subset of the population of those who have completed training. Those who took shorter training courses are omitted as

financial assistance data were not collected for those who took training courses of less than one week duration. Again, the focus is on the labour force age group. The dependent variable reflects the probability of being employed, regardless of labour force status.

The analysis compares those who have received financial assistance to those who did not. The definition of occupational training is as in the previous model. In addition to the duration of occupational training variable, this model incorporates four other independent variables: high school certification, gender, age and location of residence. High school certification is made up of two categories: those who have obtained a high school certificate, and those who have not. The other independent variables are defined in the same way as in the previous models (see above).

As revealed in Table 40, the best fit model of the probability of employment includes all five of the main effects (high school certification, financial assistance, age, gender and location of residence). High school certification accounts for about 52 percent, and occupational training completion for about 10 percent, of the total X^2 variation. Taken together, the five main effects account for about 75 percent of the variation. The model also contains 10 interaction effects which collectively account for about 11 percent of the total variation in employment status.

Overall, the model accounts for about 86 percent of the total X^2 variation. The residual X^2 of 425.44 with 34 degrees of freedom indicates that a statistically significant level of variation remains unaccounted for by the effects included in the model.

Table 40

Stepwise Logit Analysis of Aboriginal Employment Rates in Canada, 1991
(In Relation to Receipt of Financial Assistance for Occupational Training)

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square	Change in d.f.	R	% of Variation
1	--	2942.34	63	--	--	--	--
2	H	1402.8	62	1539.54 *	1	0.523	52.3
3	FA	1109.22	61	293.58 *	1	0.623	10.0
4	A	954.89	60	154.33 *	1	0.675	5.2
5	G	849.89	59	105 *	1	0.711	3.6
6	L	729.51	56	120.38 *	3	0.752	4.1
7	A * L	657.47	53	72.04 *	3	0.777	2.4
8	G * L	587.96	50	69.51 *	3	0.800	2.4
9	H * A	565.58	49	22.38 *	1	0.808	0.8
10	H * L	548.71	46	16.87 *	3	0.814	0.6
11	A * G	538.6	45	10.11 *	1	0.817	0.3
12	H * G	522.46	44	16.14 *	1	0.822	0.5
13	FA * G	505.44	43	17.02 *	1	0.828	0.6
14	H * L * G	463.37	40	42.07 *	3	0.843	1.4
15	A * L * H	441.52	37	21.85 *	3	0.850	0.7
16	A * L * G	425.44	34	16.08 *	3	0.855	0.5

* Significant at $p = .995$

H = High School Certification; FA = Receipt of Financial Assistance;
A = Age; G = Gender; L = Location of Residence

Source: Data from the Aboriginal Peoples Survey, 1991.

Table A12 in the report's appendix identifies the parameter estimates associated with the model's effects. Keeping in mind that this model is concerned only with those who have completed occupational training courses of four or more weeks, parameters for the main effects of the model reveal that:

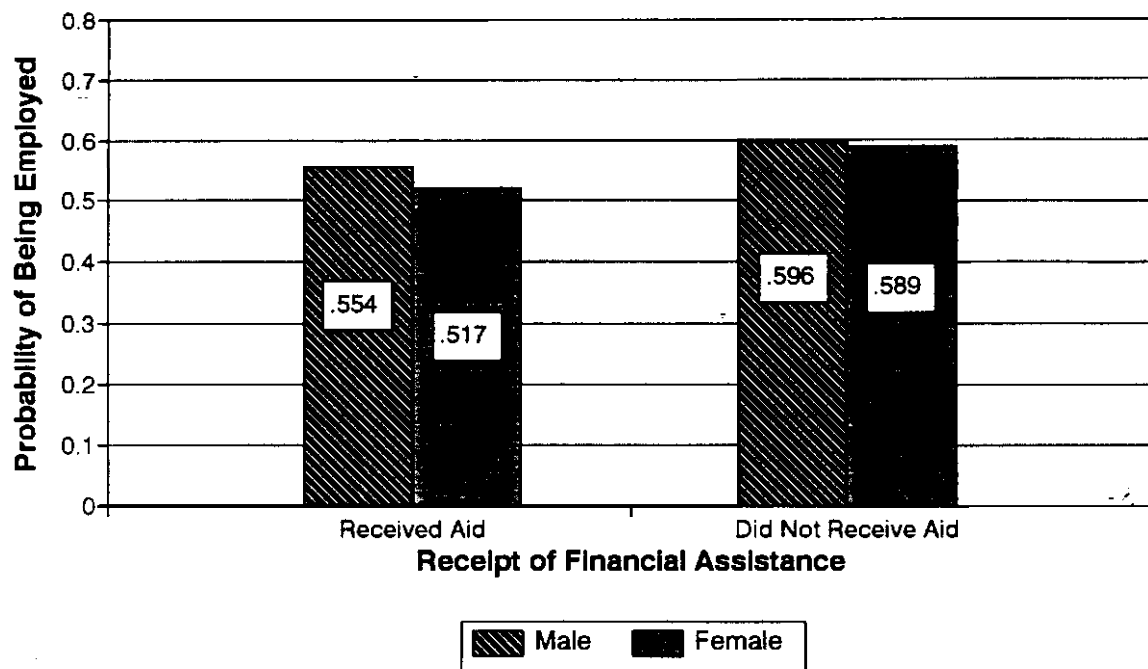
- High school certification, as expected, has a major impact on employment. The employment rate of those with a high school certificate is about 13 percent higher than those without a high school certificate.
- Receipt of financial assistance is the next most significant factor, and has a negative impact on employment. Those who received financial assistance during training exhibit an employment rate roughly 5 percent lower than those who did not receive such assistance.
- As expected those over 25 years of age are more likely to be employed than those who are younger, and men are more likely to be employed than women.
- In relation to other areas, employment rates among reserve residents are lower.

Figure 105 illustrates the relationship between receipt of financial assistance, gender and employment. Among both men and women, those who received financial assistance are less likely to be employed than those who did not. Since eligibility for financial assistance is often based on past employment difficulties, it might be expected that those who receive such assistance will continue to experience such difficulties.

1990 FYFT Employment Status

This aspect of our analysis examines, for those who worked in 1990, factors affecting the likelihood of employment on a full-year and full-time (FYFT) basis, as

Figure 105
Estimated Employment Rates Of Those Who Completed 4+ Weeks of Training
By Gender and Receipt of Financial Assistance, Canada, 1991



Source: Custom tabulations from the 1991 Aboriginal Peoples Survey.

opposed to, a part-year and/or part-time basis. In an effort to control for the effects of school attendance on the likelihood of FYFT employment, the analyses exclude those individuals who reported attending school on a full-time basis at the time of the census. As with several of the other labour market outcomes discussed previously, separate models of 1990 FYFT employment status have been constructed for the far north and mid-north/southern regions. The independent variables of age, gender, Aboriginal identity and highest level of schooling are defined in the same fashion as those used in the far north and mid-north/south analyses of labour force participation.

1990 FYFT Employment in the Far North Region

Table 41 identifies the statistically significant effects included in the model of 1990 FYFT employment for the far north region. Effects included in the model account for roughly 88 percent of the total variation in 1990 FYFT employment rates. A statistically significant level of residual variation ($X^2 = 152.97$ with 21 degrees of freedom) remains accounted for by the effects included in the model implying that other factors (which are not contained in the model) are likely to influence FYFT employment rates among Aboriginal workers in the far north region.

The model's main effects of age, gender, Aboriginal identity and highest level of schooling account for roughly 66 percent of the total variation in 1990 FYFT employment status. In addition to the main effects, five interaction terms are identified to be statistically significant. The most important of the interaction terms involve gender, Aboriginal identity and highest level of schooling.

Table 41

Stepwise Logit Analysis of Aboriginal FYFT Employment Status (1990) in the Far North, Canada, 1991***

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square	Change in d.f.	R	% of Variation
1	--	1321.65	46	--	--	--	--
2	A	857.13	45	464.52	** 1	0.351	35.1
3	E	574.32	43	282.81	** 2	0.565	21.4
4	G	555.45	42	18.87	** 1	0.580	1.4
5	I	449.97	39	105.48	** 3	0.660	8.0
6	G * I	366.57	36	83.40	** 3	0.723	6.3
7	E * I	282.54	30	84.03	** 6	0.786	6.4
8	E * G	238.71	28	43.83	** 2	0.819	3.3
9	E * G * I	170.70	22	68.01	** 6	0.871	5.1
10	A * G	152.97	21	17.73	** 1	0.884	1.3

* Effect significant at $p = .975$ ** Effect significant at $p = .995$.

*** Employment status referenced in terms of full year-full time and part year or part time employment.

Source: Data from the Aboriginal Peoples Survey, 1991.

Number of Observations = 17320.

A - Age G - Gender I - Aboriginal Identity E - Highest Level of Schooling

Parameter estimates for the model are contained in Table A13 in the report's appendix. The model's main effects reveal that:

- Rates of FYFT employment among older workers are roughly 11 percent higher than among employed youth.
- Rates of FYFT employment among workers with a high school certificate are roughly 13 percent higher than those lacking a high school certificate and roughly 4 percent higher than those with post-secondary education.
- Rates of FYFT employment among non-status Indian workers are approximately 3, 4, and 5 percent higher than those of Inuit, Metis and registered Indian workers, respectively.
- The likelihood of FYFT employment is not greatly affected by gender. The rate of FYFT employment in the far north region is about 1 percent higher among males than females.

Figures 106 and 107 illustrate the nature of the effects associated with the model's interaction term involving gender, Aboriginal identity and highest level of schooling. Figure 106 reveals that with the exception of Inuit males (for whom the likelihood of FYFT employment does not vary much by highest level of schooling), rates of FYFT employment are markedly higher among individuals with, as opposed to lacking, a high school certificate. Among all groups, but especially among registered Indians, males with post-secondary education are less likely than those with high school certificates to report FYFT employment.

The situation among females (Figure 107) is quite different. Among both registered Indian and non-status females, the likelihood of FYFT employment does not vary for individuals with or without high school certificates. Registered Indian and non-status Indian females with post-secondary education, however, are more likely

Figure 106

Estimated Probability of Working Full-Year and Full-Time in 1990
by Aboriginal Identity Group and Highest Level of Schooling,
Males Residing in the Far North and Who Worked in 1990,
Canada, 1991

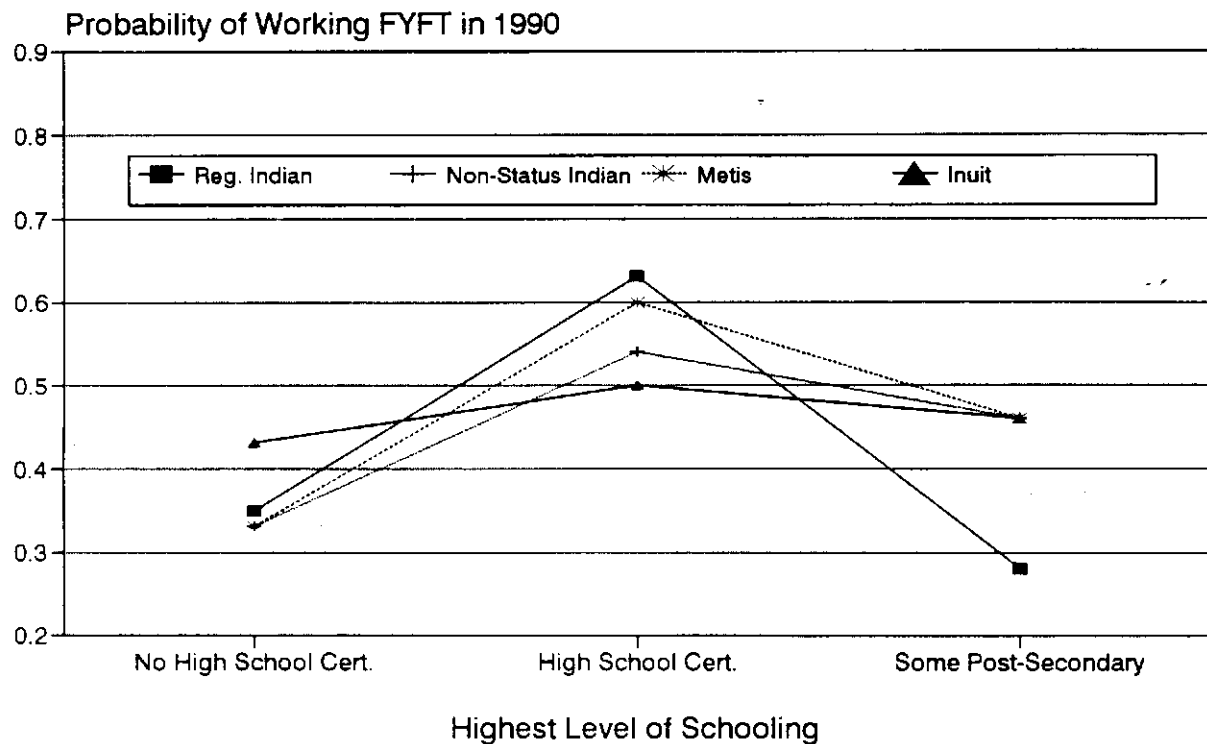
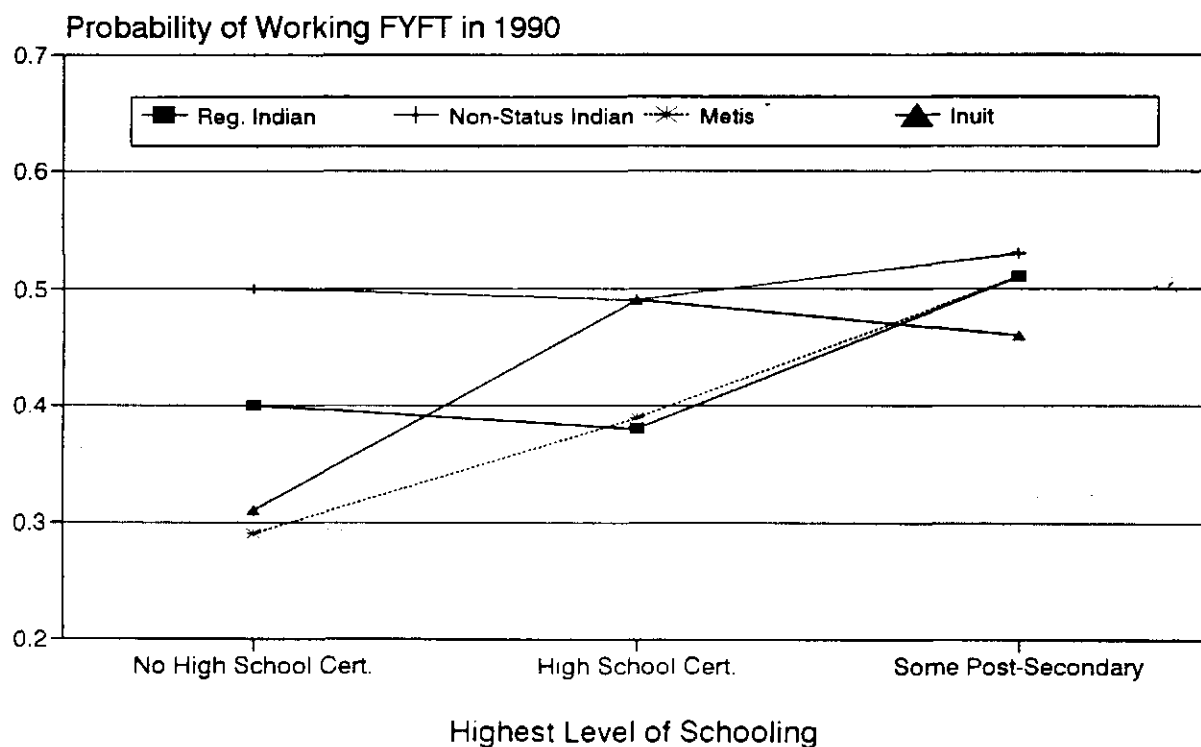


Figure 107

Estimated Probability of Working Full-Year and Full-Time in 1990
by Aboriginal Identity Group and Highest Level of Schooling,
Females Residing in the Far North and Who Worked In 1990,
Canada, 1991



than those with lower levels of schooling to be employed FYFT. In the case of Inuit and Metis, females with high school certificates are much more likely to work FYFT than those lacking a high school certificate. For Metis women, the chances of FYFT employment are further enhanced for those with post-secondary education.

1990 FYFT Employment in the Mid-North and Southern Regions

Table 42 provides a summary of the statistically significant effects identified in the 1990 FYFT employment model for Aboriginal workers residing in the mid-north and southern regions. Overall, the model accounts for about 90 percent of the variation in 1990 FYFT employment rates. As with the other models presented in this section of the report, a significant level of residual variation in FYFT employment rates remained unaccounted for by the model. This model differs from those presented earlier in this section, in that the model's five main effects (of age, gender, Aboriginal identity, highest level of schooling and location of residence) account for a smaller share (about 60 percent) of the total variation in the dependent variable. The model also contains a larger number of significant interaction terms (19 in total). The most important of these include 11 interaction effects involving various combinations of age, gender, Aboriginal identity and location, which collectively account for about 25 percent of the total variation in 1990 FYFT employment rates. Eight additional terms involving interactions of age with other variables, although significant, account for only 5 percent of the total variation in 1990 FYFT employment rates.

Table 42

Stepwise Logit Analysis of Aboriginal FYFT Employment Status (1990) in the Mid-North and Southern Regions, Canada, 1991***

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square	Change in d.f.	R	% of Variation
1	--	12294.26	143	--	--	--	--
2	A	8465.87	142	3828.39	**	1	0.311
3	E	6680.85	140	1785.02	**	2	0.457
4	I	6178.56	138	502.29	**	2	0.497
5	L	5064.27	135	1114.29	**	3	0.588
6	G	4965.57	134	98.70	**	1	0.596
7	G * L	4156.86	131	808.71	**	3	0.662
8	G * I	3977.85	129	179.01	**	2	0.676
9	E * L	3711.43	123	266.42	**	6	0.698
10	E * I	3617.61	119	93.82	**	4	0.706
11	G * E	3502.80	117	114.81	**	2	0.715
12	G * E * I	3242.34	113	260.46	**	4	0.736
13	A * G	3144.64	112	97.70	**	1	0.744
14	I * L	3029.55	106	115.09	**	6	0.754
15	E * I * L	2628.33	94	401.22	**	12	0.786
16	A * E	2589.99	92	38.34	**	2	0.789
17	A * G * E	2460.38	90	129.61	**	2	0.800
18	A * L	2415.79	87	44.59	**	3	0.804
19	A * G * L	2351.32	84	64.47	**	3	0.809
20	A * I	2340.92	82	10.40	**	2	0.810
21	G * E * L	1968.64	76	372.28	**	6	0.840
22	G * I * L	1788.37	70	180.27	**	6	0.855
23	G * E * I * L	1470.32	58	318.05	**	12	0.880
24	A * E * I	1350.44	54	119.88	**	4	0.890
25	A * I * L	1276.67	48	73.77	**	6	0.896

** Effect significant at $p = .995$.

*** Employment status referenced in terms of full year-full time and part year or part time employment.

Source: Data from the Aboriginal Peoples Survey, 1991.

Number of Observations = 152,955.

A - Age G - Gender I - Aboriginal Identity E - Highest Level of Schooling L - Location of Residence

Table A14 in the report's appendix identifies the parameter estimates associated with the model's effects. With respect to the main effects, the parameters imply that:

- The rate of FYFT employment (in 1990) among older workers is roughly 11 percent higher than that of youth;
- The FYFT employment rate among individuals with high school certificates or post secondary education is about 5 percent higher than that of individuals lacking a high school certificate;
- The FYFT employment rate of non-status Indians is roughly 4 and 5 percent higher than those of Metis and registered Indian workers, respectively;
- The FYFT employment rate of Aboriginal workers in southern urban areas is approximately 3, 6, and 7 percent higher than those of workers residing in off-reserve areas in the mid-north region, southern rural areas, and on reserve, respectively;
- Differences in the FYFT employment rates of males and females are small. The rate of FYFT employment among males is roughly 2 percent higher than that among females.

Parameters associated with the model's various interaction effects involving gender, Aboriginal identity, highest level of schooling and location of residence suggest that the effects of highest level of schooling on FYFT employment are quite different for specific sub-groups of Aboriginal workers. Among registered Indian workers (both male and female) on reserve, for example, the model's parameters reveal that individuals with higher levels of schooling are less likely than those with lower levels of schooling to report FYFT employment in 1990.

This pattern, which is opposite to the main effect of highest of schooling, is illustrated in Figure 108. A similar pattern is identified for registered Indian workers residing in southern urban areas. Among registered Indians residing in these location higher levels of schooling do not appear to result in higher levels of FYFT employment. The effects of highest level of schooling among registered Indians residing in other locations, however, are consistent with the main effect of the variable (i.e. higher levels of schooling contribute to higher rates of FYFT employment).

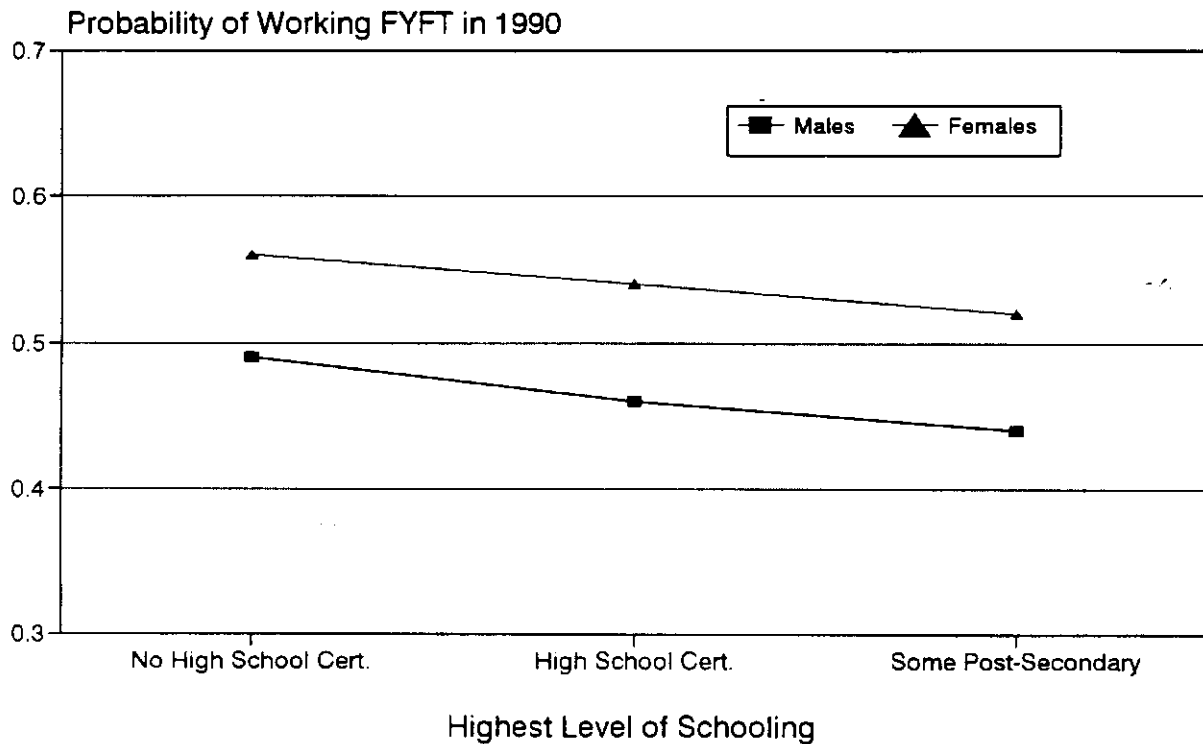
Although statistically significant, parameters associated with most of the remaining interaction effects tend to be either small or do not suggest the existence of clearly defined trends.

Summary: Factors Affecting Selected Aboriginal Labour Market Outcomes

The analyses presented in this section of the report have explored the effects of educational, ethno-demographic, and locational characteristics on selected labour market outcomes of Canada's Aboriginal identity population. Although each of the statistical models presented account for a sizable majority (90 or more percent) of the variations in Aboriginal labour market outcomes, several of the models contain a significant level of *unexplained* residual variation. The independent (or control) variables included in the analyses (age, gender, Aboriginal identity, highest level of schooling and location of residence) are clearly important but are not, by themselves, sufficient to explain the dimensions of Aboriginal labour market behaviour investigated in this section of the report.

Figure 108

Estimated Probability of Working Full-Year and Full-Time in 1990
by Gender Group and Highest Level of Schooling, Registered
Indians Residing On Reserve in the Mid-North and Southern
Regions, Canada, 1991



Nevertheless, the analyses serve to uncover a number of important relationships among the variables. For example, considerable variations in labour market outcomes exist among Aboriginal identity groups and are not attributable to the other factors considered in the models. In the far north region, non-status Indians and Inuit are found to enjoy higher levels of employment and higher levels of FYFT employment than registered Indians or Metis. In the mid-north/southern region, non-status Indians are more likely to be employed and to work on a full-year/full-time basis than either registered Indians or Metis. These differences suggest the possibility that differing cultural characteristics of the identity groups work to enhance or inhibit the likelihood of obtaining employment and FYFT employment.

Quite large differences in the labour market circumstances of various demographic groups within the Aboriginal labour force are also identified in the analyses. In relation to other groups, young males are found to experience the greatest difficulties in obtaining employment and FYFT employment, regardless of their other characteristics. This situation mirrors that of broader society, but appears to be magnified among the Aboriginal population.

The analyses also reveal that the labour market circumstances of reserve residents lag behind those of off-reserve residents by a large margin. Moreover, the benefits (in terms of labour market outcomes) of education among reserve residents tend to be quite small in relation to the benefits identified for residents of other locations. This situation suggests the existence of structural differences between on- and off-reserve labour markets which have the effect of reducing the importance of education to employment in on-reserve contexts (relative to off-reserve contexts).

Analyses results concerning the effects of education reveal that in relation to individuals with lower levels of schooling, high school graduates enjoy much higher rates of labour force participation, employment and FYFT employment. Post-secondary education (as it has been incorporated into the analyses) is found to result in little additional improvement in Aboriginal labour market outcomes. This finding, which is unexpected, raises some concerns about the employment results associated with post-secondary educational initiatives. In this regard, readers should bear in mind that descriptive data (presented in our earlier report) suggest very clearly a large positive effect on labour participation and employment associated with obtaining a university degree. Unfortunately, data constraints did not permit the effect associated with obtaining a university degree to be measured in our analyses. Although university graduates are included in the post-secondary schooling category of our analyses, they represent a small minority (about 8 percent) of the population reporting post-secondary schooling. As such, this category is largely measuring the effects of other post-secondary educational initiatives. The weak labour market outcomes for post-secondary graduates, the vast majority of them being non-university graduates, suggests that the current post-secondary programming is not linked effectively to the job market, at least for Aboriginal students.

As in the case of completion of post-secondary programs (as discussed in Section 4 of this report), it was found that the ability to speak an Aboriginal language has a negative impact on labour market participation. This is viewed as a possible indicator of social or cultural differences between this segment of the Aboriginal population and the culture of the workplace. It was also found that in areas where Aboriginal languages are most likely to be spoken, the ability to speak an Aboriginal language is less of a deterrent to labour force participation than in other areas.

In general, occupational training is linked to positive labour market outcomes.

Completion of occupational training programs was found to have a substantial positive effect on employment. However, those who completed shorter courses (less than four weeks in duration) were found to have higher rates of employment than those who completed longer courses. This may be because those who enroll in longer training programs are more likely to be unemployed to begin with, while those in shorter courses are more likely to already be employed at the time of training. Third, it was found that those who received financial assistance in the form of student allowances during their occupational training courses were somewhat less likely to be employed than those who did not receive financial assistance. In this case, financial assistance may define a population experiencing long term employment difficulties.

Occupational training variables were related to a number of other variables, including educational certification. In particular, completion of occupational training courses, particularly longer courses, was found to have a negative effect on employment when combined with completion of post-secondary certification. This result, somewhat unclear and disturbing, again raises the question of the quality and appropriateness of current post-high school training and education options, at least in terms of their connection to the job market.

The analyses in this section clearly confirm the value of high school certification and occupational training, while at the same time raising questions about the appropriateness or effectiveness of post-secondary education. The employment outcomes identified here may reflect the types of post-secondary training programs in which Aboriginal students are likely to enroll, since descriptive data show that

Aboriginal post-secondary students tend to be concentrated in relatively few fields of study. The study's results also raise questions about the relative value of longer occupational training courses, and about the role of student living allowances. In this regard, the analyses' results are consistent with the hypothesis that longer term training programs are being used frequently as a means of income support rather than as a vehicle for obtaining marketable skills.

While the analyses presented above identify a number of important relationships, many other potentially important factors could not be adequately explored using the available data. For example, educational certification and location of residence were found to be linked to labour market circumstances. The analysis assumed that educational certification affects employment, but the reverse situation could also be true. That is, availability of various types of employment could affect individuals' educational decisions. Similarly, migration decisions are affected by employment availability, as well as by the individual's educational level. It is likely that individuals make a series of educational and migration decisions in light of local and other employment opportunities. Data were not available to this study to explore these more complex relationships.

Section 7

Profile of Aboriginal Business Ownership and Self-Employment

In this section of the report, data from the 1991 Aboriginal Peoples Survey are used to describe several dimensions of business ownership and self-employment among Aboriginal people. These dimensions include the incidence of ownership, the magnitude of control exercised by Aboriginal owners, the sectoral distribution of business ownership, financing of business ownership, and owner income and education characteristics.

Although the APS queried respondents concerning current and prior ownership of businesses and provides one basis for defining the population of Aboriginal business people, several individuals who reported income from self-employment in 1990 (on the census) did not report business ownership (on the APS). As these individuals can also be construed to be business owners (i.e. sole proprietors), they have been included in the population of business owners for purposes of identifying the incidence of business ownership. The APS business ownership data, in combination with the census data on income from self-employment gives rise to three population groups in terms of business ownership status. These groups include:

- ***current business owners*** - individuals who reported current business ownership on the APS and/or who reported income from self-employment in 1990,
- ***prior business owners*** - individuals who reported prior (but not current) business ownership, and

- ***non-owners*** - individuals who did not report current or prior business ownership and who also did not report income from self-employment in 1990.

Although the categories identified above are used consistently throughout most of the analyses presented in this section, readers should note that data concerning specific business characteristics (e.g. period of commencement, sources of financing, industry group, and number of employees) were collected only for that sub-set of individuals who reported either current or prior ownership on the APS. In such cases, the population of business owners excludes individuals who reported 1990 income from self-employment. Readers are urged to consult the footnotes to the statistical tables for clarification of population group definitions.

It should also be noted that the data and analyses presented in this section are descriptive and no tests of statistical significance of relationships among variables are presented. As a consequence, any comments made concerning hypotheses and causality should be viewed as preliminary and interpreted with caution. The results of more formal statistical analyses of some of the issues raised in this section are presented in the following section of this report.

Incidence of Business Ownership

Data presented in Table 43 indicate a generally similar incidence of business ownership among non-status Indians, Metis and Inuit. A substantially lower incidence of business ownership, however, is identified among registered Indians. The lower incidence of business ownership among registered Indians is consistent with arguments that registered Indians exhibit more dependent, less risk taking traits, and/or that a higher proportion of registered Indians live on reserves and

Table 43

**Aboriginal Identity Population Aged 15 or More Years Showing Distribution by Business Ownership/
Self-Employment Status and Aboriginal Identity Group, Canada, 1991**

Business Ownership/ Self-Employment Status	Percent of Identity Group Population						
	Total	Total	Registered	Non-Status	Metis	Inuit	Other[1]
Current or Prior Business Owners/Self-employed	37850	11	9	19	16	12	21
Current Business Owners/Self-employed	25275	8	6	12	10	10	12
Prior Business Owners	12575	4	3	7	6	2	9
Never Owned Business	265715	89	91	81	84	88	79
Total	303565	100	100	100	100	100	100

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Percentages refer to proportion of the identity group population that reported ownership/
self-employment status.

[1] Other includes North American Indians with unknown identity and individuals reporting multiple responses to identity.

therefore experience problems obtaining financing because of inability to offer property as security, and that the on-reserve, politico-social culture is generally antagonistic to business ownership.

Not surprisingly, given the penetration of the formal economy into many Aboriginal communities and the relatively recent attention given to business ownership among Aboriginal people, for all identity groups the incidence of current ownership is higher than the incidence of prior ownership.¹ The greatest relative difference between levels of current and prior ownership is found among the Inuit for whom the incidence of current ownership is around five times the incidence of prior ownership. Differences between current and prior ownership levels among other identity groups are of similar magnitude, with the incidence of current ownership roughly two times the incidence of prior ownership.

Table 44 shows that, as expected, for all Aboriginals the 25-54 age group has the highest incidence of business ownership at approximately 15 percent. A roughly comparable rate of ownership exists among individuals 55 or more years of age. By way of comparison, business ownership is considerably less common among the 15-24 age group (roughly 3 percent). For the 15-24 age group, the relative incidence of current ownership is around three times the incidence of prior ownership, such a large spread is to be expected within this youthful group. For the 25-54 age group this spread is around two times. For the 55+ age group, who are

1. The higher incidence of current, as opposed to prior, ownership may also be partially accounted for the fact that individuals reporting self-employment income (but not business ownership) are included in the current owners category. As the Census does not collect data concerning prior self-employment income, this group is not contained in the prior owners category.

Table 44

**Aboriginal Identity Population Aged 15 or More Years Showing Business Ownership/
Self-Employment Status by Age Group, Canada, 1991**

Business Ownership/ Self-Employment Status	Age Group					
	15-24 Years		25-54 Years		55+ Years	
	Number	%	Number	%	Number	%
Current or Prior Business Owners/Self-employed	2115	3	29970	15	5765	14
Current Business Owners/Self-employed	1640	3	20700	10	2940	7
Prior Business Owners	480	1	9275	5	2820	7
Never Owned Business	60540	97	168760	85	36420	86
Total	62660	100	198735	100	42180	100

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Percentages refer to proportion of the age group population that reported ownership status.

generally withdrawing from formal economic activity, there is no difference between the incidence of current ownership and the incidence of prior ownership.¹

As revealed in Table 45, business ownership is considerably more (nearly twice as) common among Aboriginal males than females. However, there appears to be little difference between the relative incidence of current ownership to prior ownership for males in comparison to females. The higher incidence of business ownership among Aboriginal males parallels the larger society where gender roles (and other factors) have inhibited business ownership by females.

Business Ownership and Location

Table 46 indicates that among the provinces/regions, the incidence of business ownership among Aboriginal people is highest in British Columbia and Northern Canada (roughly 15 percent). All other provinces/regions exhibit a slightly higher incidence of ownership in the 11-13 percent range. With an incidence of current ownership nearly four times the incidence of prior ownership, Northern Canada shows the greatest differences between current and prior ownership levels. All other provinces/regions show an incidence of current ownership around two times the incidence of prior ownership. At this point, it is not known whether the relatively high incidence of business ownership in British Columbia and Northern Canada reflects the general socioeconomic culture in these areas, the absence of sizable reserve populations, or some combination of unique, serendipitous factors.

1. Considering that individuals reporting self-employment income are included in the current owners category, but not in the prior owners group, this finding suggests that the incidence of business ownership among those who did not report self-employed earnings has declined over time.

Table 45

**Aboriginal Identity Population Aged 15 or More Years Showing
Business Ownership/Self-Employment Status by Gender Group,
Canada, 1991**

Business Ownership/ Self-Employment Status	Gender Group			
	Males		Females	
	Number	%	Number	%
Current or Prior Business Owners/Self-employed	23505	17	14350	9
Current Business Owners/Self-employed	15730	11	9550	6
Prior Business Owners	7775	5	4800	3

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Percentages refer to proportion of the population for each gender group.

Table 46

**Aboriginal Identity Population Aged 15 or More Years Showing Business Ownership/
Self-Employment Status by Province/Region of Residence, Canada, 1991**

Province/Region of Residence	Business Ownership/Self-Employment Status					
	Total Owners		Current Owners[1]		Prior Owners	
	Number	%	Number	%	Number	%
Atlantic Region	1440	12	1015	8	430	4
Quebec	3760	12	2625	9	1135	4
Ontario	7235	13	4730	8	2505	4
Prairie Region	14370	11	9355	7	5015	4
British Columbia	8310	15	5425	10	2885	5
Northern Canada	2730	14	2125	11	610	3

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Percentages refer to proportion of the total provincial/regional population.

The incidence of business ownership is substantially higher for Aboriginal people who live off, as opposed to on reserve (see Table 47). For Aboriginal people residing on reserve, however, the incidence of current business ownership is three times the incidence of prior business ownership. In the off-reserve context, the incidence of current business ownership is just over twice the incidence of prior business ownership. Again, the lower incidence of ownership on reserve may be

The incidence of business ownership is substantially higher for Aboriginal people who live off, as opposed to on reserve (see Table 47). For Aboriginal people residing on reserve, however, the incidence of current business ownership is three times the incidence of prior business ownership. In the off-reserve context, the incidence of current business ownership is just over twice the incidence of prior business ownership. Again, the lower incidence of ownership on reserve may be linked to the lower incidence of registered Indian ownership (as identified earlier) and hypothesizes that on-reserve, registered Indians exhibit more dependent, less risk-taking traits, and that on-reserve residence results in problems obtaining financing because of the inability to offer property as security.

Table 48 presents data concerning the regional distribution of current and prior business ownership for all Aboriginal respondents. The largest concentration of Aboriginal business owners occurs in southern urban areas (roughly 43 percent of all business owners). Substantially lower proportions of Aboriginal business owners reside off reserve in the rural south (17 percent), off reserve in the mid-north region (12 percent), in the far north (11 percent), and in southern and mid-north reserves (10 and 7 percent, respectively). Collectively, reserve residents account for only about 17 percent of all Aboriginal business owners.

Table 47

**Aboriginal Identity Population Aged 15 or More Years Showing
Business Ownership/Self-Employment Status by On/Off-Reserve
Residency, Canada, 1991**

Business Ownership/ Self-Employment Status	Location of Residence			
	On Reserve		Off Reserve	
	Number	%	Number	%
Current or Prior Business Owners/Self-employed	7795	8	30060	14
Current Business Owners/Self-employed	5880	6	19395	9
Prior Business Owners	1915	2	10660	5

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Percentages refer to proportion of the total population residing on
or off reserve.

Table 48

**Aboriginal Identity Population Aged 15 or More Years Showing Business Ownership/
Self-Employment Status by Geographic Zone of Residence, Canada, 1991**

Geographic Zone of Residence	Business Ownership/Self-Employment Status					
	Total Owners		Current Owners		Prior Owners	
	Number	%[1]	Number	%[2]	Number	%[2]
All Locations	37850	100	25275	67	12575	33
Far North	4070	11	3340	82	725	18
Mid North	7085	19	4965	70	2115	30
Off Reserve	4395	12	2860	65	1535	35
On Reserve	2685	7	2110	79	580	22
South	26700	71	16965	64	9740	36
Off Reserve	22760	60	14220	62	8545	38
Rural	6410	17	4820	75	1590	25
Urban	16350	43	9400	57	6955	43
On Reserve	3935	10	2745	70	1195	30
On Reserve, All Locations	6620	17	4855	73	1775	27

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Total and current owners include individuals with 1990 income from self-employment.

[1] Percentages refer to proportion of total owners.

[2] Percentages refer to proportion of total owners within each geographic zone.

● Business Ownership and Magnitude of Business Control

As revealed in Table 49, 89 percent of Aboriginal business owners own one business, 9 percent own two businesses, and only 2 percent own three or more businesses. Ownership of multiple businesses is most common on reserves located in the mid-north region (where 15 percent of business owners report more than one business) and off reserve in rural southern areas (where 13 percent report owning more than one business). In general, multiple business ownership on reserve is relatively high, 13 percent of these business people own multiple businesses. Ownership of multiple businesses is lowest in the far north region where 8 percent own more than one business and in the urban south where 9 percent own more than one business.

Table 50 presents data concerning the size of Aboriginal owned businesses as measured by the number of employees. The data are structured by current and prior ownership and by period of business commencement. Among all owners (i.e. both current and prior) 33 percent reported no employees, 54 percent reported 1 to 5 employees, and 13 percent reported 6 or more employees. The largest proportion of larger businesses commenced operation prior to 1981, the lowest proportion of larger businesses commenced operation in the post-1986 period. In general, current businesses are smaller than prior businesses for all periods of commencement. This may reflect higher failure rates among larger businesses and/or a relative reduction in the magnitude of available financing over time.

Table 49

Aboriginal Business Owners Showing Distribution by Number of Businesses Owned and Geographic Zone of Residence, Canada, 1991

Geographic Zone of Residence	Number of Businesses Owned							
	1 Business		2 Businesses		3 + Businesses		Total	%
	Number	%	Number	%	Number	%		
All Locations	15635	89	1595	9	310	2	17540	100
Far North	950	92	60	6	20	2	1030	100
Mid North	2840	88	310	10	75	2	3225	100
Off Reserve	1945	89	190	9	40	2	2175	100
On Reserve	895	85	125	12	30	3	1050	100
South	11850	89	1230	9	210	2	13290	100
Off Reserve	9900	89	1000	9	180	2	11080	100
Rural	3395	87	420	11	85	2	3900	100
Urban	6505	91	580	8	95	1	7180	100
On Reserve	1950	89	225	10	30	1	2205	100
On Reserve, All Locations	2845	88	350	11	60	2	3255	100

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Data relate only to current business owners.

Data exclude individuals with 1990 income from self-employment who did not report current ownership.

Table 50

**Aboriginal Business Owners Showing Distribution by Number of Employees
and Business Status, Canada, 1991**

Number of Employees and Business Status	Period of Business Commencement							
	Total		Pre-1981		1981 - 1986		Post-1986	
	Number	%	Number	%	Number	%	Number	%
Current or Prior Business Owners	25765	100	8620	100	5475	98	10840	100
No Employees	8415	33	2520	29	1640	29	3955	36
1-5 Employees	13840	54	4575	53	3175	57	5735	53
6-24 Employees	2880	11	1185	14	660	12	960	9
25 or More Employees	630	2	340	4	*	*	190	2
Current Business Owners	15155	100	3675	100	2815	99	8370	100
No Employees	5140	34	1175	32	885	31	3015	36
1-5 Employees	8155	54	2000	54	1635	58	4355	52
6-24 Employees	1460	10	325	9	295	10	830	10
25 or More Employees	400	3	175	5	*	*	170	2
Prior Business Owners	10625	100	4940	100	2670	98	2450	99
No Employees	3280	31	1345	27	755	28	940	38
1-5 Employees	5690	54	2575	52	1545	57	1380	56
6-24 Employees	1420	13	860	17	370	14	130	5
25 or More Employees	235	2	160	3	*	*	*	*

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Data exclude individuals with income from self-employment in 1990 who did not report current business ownership.

* Data suppressed.

Business Ownership by Sector

Tables 51 and 52 present data concerning the distribution of Aboriginal business ownership by industrial sector. The highest percentages of business owners are in trade, accommodation, and food services (36 percent), construction (22 percent), and primary products (17 percent). High concentrations of ownership might be expected in these sectors because of their local nature and general ease of access. Ten (10) percent of Aboriginal businesses operate in the transportation and communication, and in the finance, insurance and real estate sectors. Only 4 percent of businesses operate in the manufacturing sector.

Within the trade, accommodation, and food services sector, the most common business is retail trade (27 percent of all businesses). Within the primary products sector, agriculture (8 percent of all businesses), and fishing and trapping (6 percent of all businesses) are most common. Within transport and communications, transport and storage, the principal area of ownership is transportation and storage with 9 percent of all Aboriginal business owners.

Comparison of the distribution of current to prior business owners suggests that there has been a relative shift in business ownership towards the primary products, transportation and communications, and finance, insurance, and real estate industries. Data also suggest that there has been shift away from manufacturing, construction, and trade, accommodation and food services.

Table 51

**Aboriginal Business Owners Aged 15 or More Years Showing Business Status by
Main Type of Business Owned, Canada, 1991**

Main Type of Business	Business Status					
	Total Owners		Current Owners		Prior Owners	
	Number	%	Number	%	Number	%
Primary Products	3925	17	2685	20	1240	13
Manufacturing	945	4	330	2	610	6
Construction	5125	22	2785	21	2340	24
Transportation, Storage, Commun./Other Utilities	2370	10	1505	11	860	9
Wholesale, Retail Trade, Accom., Food/Beverage Services	8310	36	4345	33	3960	41
Finance, Insurance, Real Estate, Insurance/Business Services	2195	10	1645	12	560	6
Total All Types	22870	100	13295	100	9570	100

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Data exclude individuals with income from self-employment in 1990 who did not report current or prior business ownership.

Table 52

**Aboriginal Business Owners Aged 15 or More Years Showing Business Status
by Main Type of Business, Canada, 1991**

Main Type of Business	Business Status					
	Total Owners		Current Owners		Prior Owners	
	Number	%	Number	%	Number	%
Agriculture and Related Services	1730	8	1170	9	560	6
Fishing and Trapping	1480	6	1105	8	370	4
Logging and Forestry	665	3	390	3	270	3
Mining, Quarrying and Oil Wells	50	0	20	0	40	0
Manufacturing	945	4	330	2	610	6
Construction	5125	22	2785	21	2340	24
Transportation and Storage	2120	9	1320	10	795	8
Communication/Other Utilities	250	1	185	1	65	1
Wholesale Trade	320	1	230	2	90	1
Retail Trade	6205	27	3170	24	3035	32
Finance and Insurance	45	0	50	0	*	*
Real Estate/Insurance Agents	295	1	240	2	55	1
Business Services	1855	8	1355	10	505	5
Accom., Food/Beverage Services	1785	8	945	7	835	9
Total - All Types	22870	100	13295	100	9570	100

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Data exclude individuals with income from self-employment in 1990 who did not report business ownership status.

* Data suppressed.

Business Ownership and Education

The incidence of business ownership is strongly patterned over highest level of schooling (see Table 53). Roughly 22 percent of Aboriginal individuals with university degrees reported either current or prior business ownership. By way of comparison, the incidence of ownership among individuals without high school certificates, with high school certificates only, and with some post-secondary education (but no degree), was 9, 11 and 17 percent, respectively. A similar pattern over highest level of schooling categories was identified for the incidence of current (as well as prior) business ownership.

Table 54 identifies the incidence of current or prior business ownership for various highest level of schooling groups by geographic zone of residence. The table reveals that among all highest level of schooling groups, the incidence of business ownership is higher among Aboriginal peoples living in southern off-reserve areas (especially rural areas) than for those in all other areas. With the exception of the far north region, where the incidence of ownership among individuals lacking high school certificates exceeds that of high school graduates, ownership is more common among individuals with higher levels of schooling, regardless of location of residence.

Business Ownership and Financing

As revealed in Table 55, roughly 75 percent of all Aboriginal business owners received financing from sources other than bank or trust companies, Aboriginal development corporations, or government. Surprisingly, and contrary to the belief held by many in government and the Aboriginal community, the next most frequent source of financing is bank or trust companies at roughly 27 percent.

Table 53

**Aboriginal Identity Population Aged 15 or More Years Showing Business Ownership/Self-Employment Status
by Highest Level of Schooling, Canada, 1991**

Business Ownership/ Self-Employment Status	Highest Level of Schooling							
	No HS Certificate		HS Certificate		Some Post-Second.		University Degree	
	Number	%	Number	%	Number	%	Number	%
Current or Prior Business Owners/Self-Employed	16290	9	3135	11	16430	17	1975	22
Current Business Owners/ Self-Employed	11130	6	2390	8	10415	11	1320	15
Prior Business Owners	5160	3	745	3	6010	6	655	7
Never Owned Business	166355	91	25400	89	81105	83	6920	78
Total	182645	100	28535	100	97535	100	8895	100

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Current owners includes individuals with income from self-employment in 1990.

Table 54

**Aboriginal Identity Population Aged 15 or More Years Showing Number or Business Owners (and Incidence)
by Highest Level of Schooling and Geographic Zone of Residence, Canada, 1991**

Highest Level of Schooling	Geographic Zone of Residence										
	All Locations	Far North	Mid-North Region			Southern Region					On Reserve Total
			Total	On Reserve	Off Reserve	Total	On Reserve	Off Reserve	Rural	Urban	
No High School Certificate % Business Owners	16290 9	2445 12	3960 7	1780 6	2180 9	9885 9	1790 6	8095 11	2540 15	5555 9	3570 6
High School Certificate % Business Owners	3135 11	145 9	420 7	90 6	330 8	2570 12	175 7	2405 13	890 24	1515 10	265 7
Post-Secondary, No Degree % Business Owners	16430 17	1430 17	2520 12	775 10	1745 13	12480 18	1865 14	10615 19	2655 28	7960 18	2640 13
University Degree % Business Owners	1975 22	45 18	170 13	30 11	140 14	1765 24	105 18	1655 24	330 36	1325 23	135 16
Total % Business Owners	37830 12	4065 13	7070 8	2675 7	4395 10	26700 13	3935 9	22770 15	6415 21	16355 13	6610 8

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.
Includes individuals with income from self-employment in 1990.
Percentages refer to the incidence of business ownership.

Table 55

**Aboriginal Business Owners Showing Number (and Incidence) of Owners by Source of Business
Financing and Business Status, Canada, 1991**

Source of Financing and Business Status	Period of Business Commencement							
	Total		Pre-1981		1981-1986		Post-1986	
	Number	%[1]	Number	%[1]	Number	%[1]	Number	%[1]
Bank or Trust Company	7915	27	2875	29	1855	29	3070	25
Current	4775	27	1265	28	1015	30	2435	26
Prior	3140	26	1610	29	840	28	635	21
Aboriginal Development Corporation	2525	10	515	6	610	10	1330	11
Current	1855	11	330	7	350	10	1125	12
Prior	670	6	185	3	260	9	205	7
Government	2280	8	900	10	685	11	635	6
Current	1585	9	555	12	445	13	555	6
Prior	695	6	345	6	240	8	80	3
Other Sources	21930	75	7335	71	4465	71	9310	76
Current	13165	75	3315	72	2380	71	7130	76
Prior	8765	73	4020	71	2085	70	2180	74

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

[1] Percentages refer to the incidence of financing from each source and may not sum to 100 due to multiple financing sources.

Data exclude individuals with income from self-employment in 1990 who did not report business ownership status.

Aboriginal development corporations were identified as financing sources by roughly 10 percent of business owners. Approximately 8 percent of Aboriginal business owners reported government financing sources. Data structured by period of business commencement suggest that Aboriginal development corporations and "other sources" have been more frequent financiers of recently started businesses while financing from banks or trust companies and especially from government sources has declined over time.

Table 56 presents source of financing data for all business owners by location of residence. The location-specific data concerning the incidence of financing by source shows some interesting divergences from the aggregate pattern described above. For example, the incidence of financing by bank and trust companies is much lower in the far north and on reserves than it is for other locations. Aboriginal development corporations are almost entirely engaged with reserves, they are seldom a source of financing for off-reserve owners. As well, government is a relatively infrequent financier of business owners located off reserve. Other sources of financing are used particularly frequently in the urban south. As well, in the south this source of financing is being tapped much more frequently over time.

Business Ownership and the Labour Force

Data concerning relationships between current business ownership and owner labour force activity are presented in Tables 57, 58 and 59. Table 57 indicates that, at the national level, 85 percent of business owners are active in the labour force and 86 percent of those active in the labour force are employed. The highest levels of labour force participation among business owners occur off reserve in the mid north region (91 percent) and in southern off-reserve areas (88-92 percent).

Table 56

**Aboriginal Business Owners Showing Number (and Incidence) of Owners by
Source of Financing, Period of Business Commencement and Geographic Zone
of Residence, Canada, 1991**

Source of Financing and Zone of Residence	Period of Business Commencement							
	Total		Pre-1981		1981 - 1986		Post-1986	
	Number	%	Number	%	Number	%	Number	%
Bank or Trust Company	7910	27	2865	28	1855	30	3070	25
Far North	390	22	105	21	115	22	170	23
Mid North	1585	30	585	37	300	28	675	28
Off Reserve	1285	35	490	40	215	30	575	34
On Reserve	300	19	100	26	85	25	100	13
South	5930	26	2180	27	1440	30	2220	24
Off Reserve	5340	28	2005	28	1300	32	1995	25
Rural	2005	36	920	42	445	42	645	30
Urban	3340	24	1080	22	855	29	1350	23
On Reserve	585	18	175	17	145	21	230	17
On Reserve, All Locations	885	18	275	19	230	22	330	15
Aboriginal Development Corporation	2520	9	515	5	615	10	1325	11
Far North	265	15	*	*	80	15	150	20
Mid North	720	14	410	26	125	12	420	18
Off Reserve	375	10	115	9	35	5	220	13
On Reserve	345	22	45	12	90	26	200	26
South	1535	7	325	4	410	9	775	8
Off Reserve	620	3	70	1	210	5	320	4
Rural	220	4	*	*	*	*	*	*
Urban	400	3	*	*	*	*	*	*
On Reserve	915	28	255	24	200	29	430	31
On Reserve, All Locations	1260	26	300	21	290	28	630	29
Government	2285	8	900	9	685	11	635	5
Far North	270	15	100	20	70	13	85	11
Mid North	540	10	155	10	175	17	190	8
Off Reserve	325	9	100	8	120	17	95	6
On Reserve	215	13	55	14	50	14	95	12
South	1470	7	640	8	440	9	360	4
Off Reserve	1000	5	425	6	330	8	240	3
Rural	445	8	*	*	*	*	*	*
Urban	565	4	*	*	*	*	*	*
On Reserve	465	14	215	20	110	16	120	9
On Reserve, All Locations	680	14	270	19	160	15	215	10

Table 56 (Cont'd)

**Aboriginal Business Owners Showing Number (and Incidence) of Owners by
Source of Financing, Period of Business Commencement and Geographic Zone
of Residence, Canada, 1991**

Source of Financing and Zone of Residence	Period of Business Commencement							
	Total		Pre-1961		1961 - 1986		Post-1986	
	Number	%	Number	%	Number	%	Number	%
Other Sources	21920	74	7340	72	4465	72	9315	76
Far North	1210	68	305	62	370	70	500	67
Mid North	3415	65	1080	68	700	66	1445	61
Off Reserve	2350	64	825	68	460	64	960	57
On Reserve	1065	67	255	65	240	70	490	64
South	17300	77	5955	73	3395	72	7370	79
Off Reserve	15245	79	5340	75	3005	74	6480	81
Rural	3885	71	1515	68	745	70	1545	71
Urban	11360	83	3830	79	2265	76	4935	85
On Reserve	2050	62	615	58	390	56	885	64
On Reserve, All Locations	3115	64	870	60	630	61	1375	64

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Percentages refer to the incidence of financing by source within each geographic zone.

Percentage for each zone may not sum to 100 due to multiple financing sources.

* Data suppressed.

Data exclude individuals with income from self-employment in 1990 who did not report business ownership status.

Table 57

**Aboriginal Business Owners Showing Labour Force Participation and
Employment Status by Geographic Zone of Residence, Canada, 1991**

Geographic Zone of Residence	Labour Market Indicator			
	Number	Labour Force Part. Rate [%]	Employment Rate [%]	Unemployment Rate [%]
All Regions	25275	85	86	14
Far North	3340	71	79	21
Mid North	4970	83	83	17
Off Reserve	2865	91	84	16
On Reserve	2105	72	81	19
South	16965	89	89	11
Off Reserve	14215	91	89	11
Rural	4820	88	92	8
Urban	9400	92	88	12
On Reserve	2750	79	83	17
On Reserve, All Regions	4855	76	82	17

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.
Data include individuals with income from self-employment in 1990.
Employment and unemployment rates relate to the active labour force.

The lowest levels of labour force participation among business owners are in the far north (71 percent) and on reserve in the mid-north region (72 percent). In general, employment rates by location parallel labour force participation rates.

Table 58 presents data concerning the occupational skill levels of Aboriginal business owners. The largest segments of business owners relate to skilled trades (34 percent of all owners) and intermediate level workers (23 percent). Senior management occupations account for the smallest proportion of Aboriginal business owners (2 percent). Data for current and prior owners reveals a larger proportion of current (as opposed to prior) owners in middle management, and skilled trades and technicians.¹

More detailed information concerning the occupational characteristics of business owners is provided in Table 59. In relation to other occupational groups, business owners are more likely to be employed in management (14 percent), sales and service (20 percent), trades and skilled or intermediate level transport and equipment operation (21 percent) and primary industries (12 percent). Data on current and prior owners reveals a larger concentration among current owners in management occupations, professional/technical occupations in arts and culture, and in primary industries. In relation to prior business owners, current owners are less likely to be employed in clerical occupations, professional and para-professional occupations other than in arts and culture, sales and service occupations, and in processing and manufacturing occupations.

1. Readers should note that some portion of the difference between current and prior business owners may result from the inclusion of individuals who reported self-employment income in the current business owners category.

Table 58

**Aboriginal Business Owners Showing Occupational Skill Group and
and Business Status, Canada, 1991**

Occupational Skill Group	Business Status					
	Total Owners[1]		Current Owners		Prior Owners	
	Number	%	Number	%	Number	%
Senior Management	795	2	580	3	220	2
Middle Management	3630	11	2765	12	860	9
Professionals	3175	10	2270	10	910	10
Skilled Trades and Technicians	11225	34	8390	36	2830	30
Intermediate Level Workers	7665	23	5280	23	2390	25
Support Workers and Labourers	6140	19	3865	17	2275	24
Total - All Levels	32630	100	23150	100	9485	100

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

Total and current owners include individuals with income from self-employment in 1990.

Table 59

**Aboriginal Business Owners Showing Occupation Group and Business Status,
Canada, 1991**

Occupation Group	Business Status					
	Total Owners[1]		Current Owners		Prior Owners	
	Number	%	Number	%	Number	%
Management	4425	14	3345	14	1080	11
Professionals and Skilled in Administrative, Business and Finance	1885	6	1340	6	545	6
Clerical	1640	5	945	4	685	7
Professionals and Technical in Natural and Applied Sciences	600	2	425	2	175	2
Health	545	2	380	2	165	2
Professionals and Paraprofes- sionals in Social Sciences and Services, Law, Education, Govern- ment Service and Religion	2375	7	1375	6	1000	11
Professionals, Technical and Skilled in Art and Culture	1375	4	1160	5	210	2
Sales and Service	6450	20	4255	18	2205	23
Trades, Skilled and Intermediate Transport and Equipment Operators	6855	21	4830	21	2030	21
Trades Helpers, and Construction Labourers	1100	3	660	3	445	5
Primary Industry	4040	12	3630	16	410	4
Processing and Manufacturing	1340	4	805	3	535	6
Total - All Types	32630	100	23150	100	9485	100

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

[1] Data include individuals with income from self-employment in 1990.

Business Ownership and Income

In general, the distribution of income for Aboriginal people who are current business owners is strongly skewed towards higher levels of income compared to the distribution of income for those who are prior owners or who never owned a business (see Table 60). Among current business owners, the proportion receiving an annual income (from all sources) exceeding \$30,000 is 14 percentage points higher than for those who were either prior owners or who never owned a business. In relation to other groups, current business owners are also over-represented in the \$20,000-29,999 income range and under-represented in lower income groups.

The income distributions of current and prior owners are more alike than are the distributions of either: (1) current owners compared to those who never owned a business, or (2) prior owners compared to those who never owned a business. For example, a rough comparative measure of the distributions is the net difference in percentage point shift from the two lowest income groups, less than \$5,000 and \$5,000-9,999, to the two highest income groups, \$20,000-29,999 and over \$30,000. Between current owners and those who never owned a business this net difference is +12 percentage points. Between prior owners and those who never owned a business this difference is +8 percentage points. Between current owners and prior owners, however, the difference is only +3 percentage points. These findings suggest that factors other than current business ownership (i.e. factors which underlie *both* current and prior business ownership), contribute to higher incomes.

Table 60

**Aboriginal Identity Population Aged 15 or More Years Showing Distribution by Income Group, Business Ownership Status
and Geographic Zone of Residence, Canada, 1991**

Geographic Zone of Residence	Total Owners(1)					Current Owners					Prior Owners					Prior Owners or Never In Business					Never In Business				
	(\$*1000)					(\$*1000)					(\$*1000)					(\$*1000)					(\$*1000)				
	< 5	5-<10	10-<20	20-<30	30+	< 5	5-<10	10-<20	20-<30	30+	< 5	5-<10	10-<20	20-<30	30+	< 5	5-<10	10-<20	20-<30	30+	< 5	5-<10	10-<20	20-<30	30+
All Locations	16	14	26	18	25	16	14	25	19	25	17	14	29	15	25	27	15	21	10	11	27	15	21	10	10
Far North	21	17	24	14	23	22	19	25	14	20	16	8	20	16	39	30	15	19	10	13	30	15	19	9	13
Mid North	18	13	25	21	24	16	11	25	22	27	22	17	25	17	19	34	19	25	11	11	34	19	25	11	11
Off Reserve	15	10	22	24	29	12	7	21	27	34	21	16	24	19	21	29	21	25	12	17	30	17	25	11	17
On Reserve	22	17	30	15	16	21	16	30	15	17	24	20	29	13	14	39	21	25	10	5	39	21	24	10	5
South	15	14	27	18	26	15	14	25	19	26	16	14	30	14	26	30	17	25	13	13	31	17	25	13	13
Off Reserve	14	9	26	18	26	14	14	24	20	28	14	14	30	14	28	27	16	19	15	18	28	16	19	15	15
Rural	19	13	26	17	25	16	13	24	20	27	29	13	29	9	19	31	15	26	14	14	31	15	26	14	14
Urban	12	14	27	18	29	13	15	24	20	28	11	14	30	15	30	26	16	26	15	17	27	16	26	15	16
On Reserve	23	17	29	16	15	22	15	29	17	18	26	21	30	15	9	41	21	24	8	5	42	21	24	8	5
On Reserve, All Locations	22	17	29	16	16	21	16	29	16	17	25	20	29	14	11	40	21	25	9	5	41	21	24	9	5

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

{1} Data refer to percentages of each business ownership status group in each location.
Data include individuals who reported self-employment income in 1990.

Table 61 shows percent of income by source for current and prior Aboriginal business owners, and for those Aboriginal persons who never owned a business. In comparison to those who have never owned a business, current owners receive a substantially higher proportion of income from employment (+ 13 percentage points for all locations) and a substantially lower proportion of income from government (-13 percentage points for all locations). The proportion of income from investments does not vary greatly. It is apparent that most Aboriginal business owners take their business income as employment income, not as investment income. This finding is not surprising given the small size of most Aboriginal owned businesses. As well, the distribution of income by source for prior business owners sits roughly midway between the distribution by source for current owners and the distribution by source for those who never owned a business. This finding too is not surprising, for a variety of possible reasons we would expect current and previous business owners to have better employment prospects than those who have never owned a business.

As for percent income by source per location, if we compare current Aboriginal business owners to those who never owned a business we find that the greatest change from government sources of income to employment sources of income occurs for those located on reserves (a +42 percentage point shift from government sources to employment sources). We also find, when comparing current owners to those who never owned a business, that the least change from government to employment sources of income occurs for those located in the far north (a +7 percentage point shift).

Comparing percent income by source for current Aboriginal business owners to percent income by source for those who were prior owners indicates that the

Table 61

**Aboriginal Population Aged 15 or More Years Showing Distribution of Income by Income Source, Business Status
and Geographic Zone of Residence, Canada, 1991**

Geographic Zone of Residence	Total Owners[1]					Business Status					Prior Owners				
	% Income by Source					Current Owners					% Income by Source				
						% Income by Source									
	Total	Employ- ment	Invest- ment	Govern- ment	Other	Total	Employ- ment	Invest- ment	Govern- ment	Other	Total	Employ- ment	Invest- ment	Govern- ment	Other
All Locations	36750	82.1	1.0	14.6	2.1	24790	84.4	0.7	12.8	1.8	11955	77.1	1.6	18.5	2.7
Far North	4020	80.9	0.4	17.2	1.5	3320	79.1	0.5	18.8	1.6	695	86.4	0.6	12.0	1.0
Mid North	6830	80.4	0.5	17.5	1.5	4875	81.8	0.4	16.2	1.5	1955	76.4	1.1	21.2	1.1
Off Reserve	4240	83.6	0.6	13.8	2.0	2820	85.7	0.5	11.7	2.1	1425	78.4	0.9	18.9	1.8
On Reserve	2580	73.4	0.2	25.5	0.7	2055	74.3	0.3	24.7	0.7	530	69.5	0.9	28.9	0.7
South	29905	82.7	1.2	13.5	2.4	16595	86.1	1.1	10.9	1.9	9310	76.3	1.8	18.6	3.2
Off Reserve	22105	83.7	1.5	12.3	2.5	13925	87.1	1.1	9.7	2.1	8180	77.4	2.0	17.0	3.6
Rural	6220	81.3	1.0	15.2	2.5	4715	84.9	1.2	12.6	1.3	1510	87.5	0.7	25.5	6.3
Urban	15885	84.5	1.6	11.3	2.5	9210	88.1	1.4	8.4	2.1	6675	79.1	2.3	15.6	3.0
On Reserve	3800	75.4	0.6	22.8	1.0	2670	79.3	0.8	18.6	1.1	1130	63.3	0.4	35.8	0.5
On Reserve, All Locations	6380	74.6	0.4	23.5	0.8	4725	77.1	0.6	20.3	0.9	1660	65.3	0.6	30.8	0.6

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

[1] Data include individuals with income from self-employment in 1990.

Table 61 (Cont'd)

Aboriginal Population Aged 15 or More Years Showing Distribution of Income by Income Source, Business Status and Geographic Zone of Residence, Canada, 1991

Geographic Zone of Residence	Business Status									
	Prior or Never Business Owners					Never In Business				
	% Income by Source					% Income by Source				
	Total	Employ- ment	Invest- ment	Govern- ment	Other	Total	Employ- ment	Invest- ment	Govern- ment	Other
All Locations	250970	71.4	0.9	25.3	2.2	239015	71.1	0.9	25.6	2.2
Far North	23605	76.5	0.4	22.1	0.8	22910	76.2	0.4	22.4	0.8
Mid North	68295	66.7	0.3	30.9	2.0	66340	66.4	0.3	31.2	2.0
Off Reserve	34910	73.7	0.4	23.1	2.5	33485	73.5	0.4	23.3	2.5
On Reserve	33385	55.1	0.2	43.4	1.1	32855	54.9	0.2	43.6	1.1
South	159080	72.5	1.2	23.5	2.5	149770	72.3	1.2	23.8	2.5
Off Reserve	120615	75.4	1.3	20.3	2.9	112435	75.3	1.2	20.5	2.8
Rural	21920	72.6	1.5	21.8	4.0	20410	73.0	1.6	21.5	3.8
Urban	98700	76.0	1.3	20.0	2.6	92025	75.8	1.2	20.3	2.6
On Reserve	38470	57.4	1.0	40.4	1.1	37340	57.2	1.0	40.5	1.1
On Reserve, All Locations	71855	56.3	0.6	40.9	1.1	70195	56.1	0.6	41.0	1.1

Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

[1] Data include individuals with income from self-employment in 1990.

greatest change from government sources of income to employment sources of income occurs for those located in the off-reserve rural south (a +30 percentage point shift) and in the on-reserve south (a +33 percentage point shift). The least change from government to employment sources of income occurs for those located on reserves in the mid-north region (a +9 percentage point shift).

Summary

Data from the 1991 Aboriginal Peoples Survey have been used in this section of the report to describe a number of dimensions of business ownership by Aboriginal people. These dimensions include incidence of ownership by identity group, location, age, sex, education, and owner labour force characteristics; magnitude of control exercised by owners; sectoral distribution of ownership; financing of business ownership; and owner income characteristics. The study's findings in this regard are summarized below:

- A generally similar incidence of business ownership and/or self-employment exists among non-status Indians, Metis and Inuit. A substantially lower incidence of business ownership, however, is found among registered Indians. This finding is consistent with arguments that registered Indians exhibit more dependent, less risk-taking traits; and/or that a high proportion of registered Indians live on reserves and therefore experience problems obtaining financing because of inability to offer property as security, and that on-reserve, political-social culture is generally antagonistic to business ownership.
- As expected, the 25-54 age group shows the highest incidence of business ownership. As well, it is not surprising that the incidence of business ownership among males is nearly twice that of females.

- The incidence of business ownership is substantially higher for Aboriginal people who live off reserve than it is for those who live on reserves. Among the provinces/regions, the incidence of business ownership among Aboriginal people is highest in British Columbia and Northern Canada. All other provinces/regions show a similar, but much lower, incidence of ownership.
- The incidence of business ownership increases with level of schooling being highest among university graduates and lowest among individuals lacking high school certificates. Individuals with some post-secondary education or with university degrees are roughly twice as likely as those lacking high school certificates to be business owners.
- Roughly 85 percent of Aboriginal business owners are active in the labour force, and 86 percent of those in the labour force are employed. By skill level, the largest proportion of owners are in skilled trades and intermediate level workers. The lowest proportion are in senior management. By occupation, owners are most commonly found in management; sales and service; trades, skilled and intermediate transport and equipment operators; and primary industries.
- Most Aboriginal business owners own only one business. As well, most owners have either no employees or 1 to 5 employees.
- The highest percentages of business ownership are in the trade accommodation, and food services sector, the construction sector, and primary products sector. Higher incidence of ownership might be expected in these sectors because of their local nature and general ease of access. Very few Aboriginal businesses operate in the manufacturing sector.
- For all periods of business commencement a large majority of Aboriginal business owners received financing from sources other than bank or trust companies, Aboriginal development corporations, or government. Surprisingly, after "other" sources, the next most frequent source of financing is bank or trust companies. Governments and Aboriginal development corporations have been much less frequent sources of financing.

From 1981 to 1991, the incidence of financing by Aboriginal development corporations and by "other" sources increased while the incidence of financing by government decreased. The incidence of financing by bank and trust companies also appears to have declined, but only since 1986.

- In general, the distribution of income for Aboriginal people who are current business owners is strongly skewed towards higher levels of income when compared to the distribution of income for Aboriginal people who were prior owners, or when compared to the distribution of income for those who never owned a business. Although current business ownership appears to contribute to higher incomes, prior owners also tend to earn higher incomes than individuals who never owned a business. Factors which underlie both current and prior business ownership appear to contribute to higher incomes.
- In comparison to those who have never owned a business, current owners show a substantially higher proportion of income from employment and a substantially lower proportion of income from government. The proportion of income from investments are similar for all groups. It is apparent that most Aboriginal business owners take their business income as employment income. As well, the distribution of income by source for prior business owners sits roughly midway between the distributions by source for current owners and for those who never owned a business.

Section 8

Factors Affecting Aboriginal Business Ownership and Self-Employment

In this section of the report, data from the Aboriginal Peoples Survey are used to examine selected factors that may causally impact on two important questions concerning Aboriginal business ownership. The first question is what factors lead to business ownership? The second question is what factors result in successful, that is, longer term, business ownership? We address these two questions in succession below.

Determinants of Business Ownership

Given the relatively small size of the population of Aboriginal business owners and the reliance upon cross-tabulated data, it is not possible to examine the role of several potentially important determinants of business ownership. Our focus in this regard, relates to three factors, which on the basis of the descriptive analyses presented in Section 7 appear to strongly influence the likelihood of business ownership. These factors include gender, highest level of schooling and location of residence. The logit model is constructed in a fashion which identifies the effects of these three variables on the probability of business ownership. The dependent variable, business ownership status, differentiates between two population groups; those who own or have owned a business (or who reported 1990 self-employment income) and those who never owned a business. The highest level of schooling variable distinguishes among three groups: individuals with no high school certificate, individuals with a high school certificate but no further education, and individuals with at least some post-secondary or university education.

The location of residence variable has five categories, including: the far north region (far north), off reserve in the mid-north region (mid-north), southern off-reserve rural areas (rural south), southern off-reserve urban areas (urban south), and on reserve locations in either the mid-north or southern regions (on reserve). Each of these locations is conceived to present a different package of attributes concerning the nature, quantity and competition over business niches.

Steps involved in fitting the logit model are identified in Table 62. The best fit model includes all three of the main effects of gender, residence location and highest level of schooling. Collectively, the main effects account for roughly 92 percent of the total variation in business ownership status. The model also includes a significant interaction effect involving highest level of schooling and residence location. This effect accounted for an additional 3.5 percent of the variation in business ownership status. Although the terms included in the model explain 95 percent of the original chi-square variation, a statistically significant residual chi-square remains unaccounted for by the model, suggesting that additional factors (not included in the model) also influence business ownership status.

Parameter estimates for the model of business ownership status are contained in Table A15 in the report's appendix. Analysis of the parameters for the main effects reveals the following relationships:

- Location of residence has the largest impact on the probability of business ownership. According to the main effect of location, residents from the rural south show the highest probability of business ownership. Residents from the urban south are 6 percentage points less likely than residents of the rural south to own a business. Residents from the far north, the mid north and on reserve show the lowest probabilities of business ownership (10 to 12 percentage points lower than the probability of residents of the rural south).

Table 62

**Stepwise Logit Analysis of Aboriginal Business Status
By Location of Owner, Gender and Schooling, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square		Change in d.f.	R	% of Variation
1	-	12557.76	29	-		-	-	-
2	G	8387.72	28	4170.04	**	1	0.332	33.2
3	E	4281.02	26	4106.70	**	2	0.659	32.7
4	L	1065.34	22	3215.68	**	4	0.915	25.6
5	E*L	631.85	14	433.49	**	8	0.950	3.5

** Significant at p = .995

Number of Observations: 297625

Source: Data from the Aboriginal Peoples Survey, 1991.

G = Gender

E = Highest level of schooling

L = Location of residence

- The probability of business ownership is highest for those with at least some post-secondary or university education. For those with no high school certificate it is 6 percentage points lower. Those who completed high school but with no further schooling show the lowest probability (roughly 9 percentage points lower than for those who have at least some post-secondary or university education).
- The main effect of gender reveals that males are 8 percentage points more likely than females to be business owners.

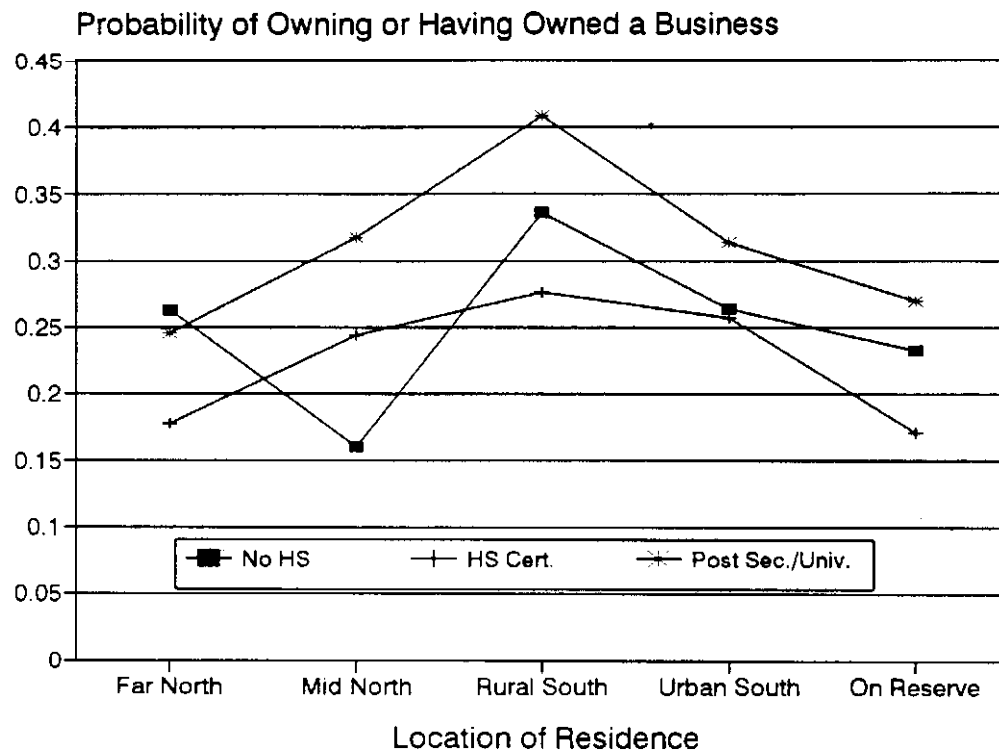
The interaction effect of highest level of schooling by location of residence, which is illustrated in Figure 109 implies the following:

- Only for those living in the mid-north is there a clear pattern of increasing probability of ownership linked to higher levels of schooling.
- The rural south shows probabilities of ownership that are higher than any of the other locations across all levels of schooling.
- Some post secondary or university education has the greatest positive impact on the probability of ownership in the mid-north, rural south and urban south.
- A high school certificate with no further schooling (the lowest probability of ownership by schooling) has its greatest negative effect on probability of ownership in the far north and on reserve.
- No high school certificate has its greatest positive impact on the probability of ownership in the far north and rural south. It has its most negative impact in the mid north.

Findings concerning the main effect of location of residence (which reveal lower probabilities of business ownership in the far north, mid-north and on reserve)

Figure 109

Estimated Probability of Business Ownership by Location of Residence
and Highest Level of Schooling, Aboriginal Identity Population
Aged 15 or More Years, Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991.

are consistent with a number of hypotheses. One hypothesis is that due to inadequate demand there are few vacant business niches in the far north, in the mid-north, and on reserve. A second hypothesis suggests that due to more volatile demand (e.g. resource projects, government programs), many business niches in the far north, in the mid north, and on reserve are not stable. A third hypothesis might be that due to higher transportation costs, energy costs, and lower productivity there are significantly higher costs to operating businesses in the far north, in the mid north, and on reserve. A fourth hypothesis is that legal conditions concerning security from local political interference and security for financing inhibit on-reserve business development. The fifth hypothesis is that there are cultural or dependency barriers to business development in more isolated and culturally separate Aboriginal communities.

The findings concerning the main effect of highest level of schooling are also consistent with a number of hypotheses. It may be that those Aboriginal persons with at least some post-secondary or university education have the ability to tap into a much greater number of business niches. In particular, affirmative action contracting by Aboriginal and non-Aboriginal governments and some non-Aboriginal private firms (e.g. northern resource extraction firms) presents a near captive market for many skilled Aboriginal owners. As well, perhaps those Aboriginal persons holding a high school certificate with no further schooling are more likely to not have sufficient skills for business ownership, but perhaps they also are sufficiently well educated to have a better chance of finding employment from other sources (i.e. from sources other than self-employment) compared to those with no high school certificate. It should be noted, however, that other factors which could not be included in the model may be partially responsible for these results. For example, there could also be an age effect since younger people are

more likely to fall into the high school certificate with no further schooling group and (as our descriptive analyses suggest) younger people are much less likely to be business owners.

Two hypotheses are consistent with the findings concerning the main effect of gender. One hypothesis suggests that for the Aboriginal population, as well as the larger non-Aboriginal population, 'role-stereotypical' socialization and education, gender discrimination, and differences in risk-taking by gender, cause a much higher proportion of males than females to become business owners. As well, some Aboriginal and non-Aboriginal persons have asserted that, for cultural and/or local political reasons, gender roles and gender discrimination may be exacerbated within the larger Aboriginal community, and that these tendencies may be especially strong within communities with high concentrations of Aboriginal people.

Mutually reinforcing are the positive skill effects of some post secondary or university education and the locational advantages of residence in the rural and urban south. In addition, the locational advantages of the south (off reserve) appear to moderate the educational disadvantages of no high school or a high school certificate with no further schooling.

The Determinants of Successful Business Ownership

A series of logit models have been constructed to explore selected factors influencing business success, if success is defined as longer term business existence. These models are structured to identify the probability of an individual being a *current* business owner, given that the individual ever owned a business. The dependent variable (current versus prior business ownership) provides a crude

proxy for relative length of ownership or successful ownership.¹ As a proxy for length of ownership, the dependent variable leaves much to be desired. The APS data, however, do not delineate the length of the periods of current or prior ownership. The current versus prior ownership variable, although conceptually weak, constitutes the only variable available from the Aboriginal People's Survey to possibly shed light on factors that may affect the longer term success of Aboriginal business ownership. The current, rather skimpy, literature on Aboriginal business development is especially weak on longitudinal data and analysis.

As the universe of current and prior business owners is quite small, it is possible to include only a few independent variables in the logit analyses. An initial model examines the relationships between business status (current or prior), highest level of schooling and location of residence. Other models, discussed later in this section, explore the relationships between business status and other combinations of variables. Given the limitations surrounding the dependent variable and the inability to consider the effects of a wide range of variables simultaneously, the analyses should be viewed as exploratory.

Business Status, Highest Level of Schooling and Location of Residence

The first logit model estimates the effects of highest level of schooling and location of residence on the probability of being a current (as opposed to prior) business owner. As in the previously discussed model, highest level of schooling

1. This indicator should not be construed as success or continuity of a business *per se*. A given owner may have owned a succession of businesses over time. As well, a given business may have been sold to another Aboriginal or non-Aboriginal person who continues to operate the business.

contains three values (no high school certificate, high school certificate with no further schooling, and at least some post-secondary or university education). Due to data suppression, location of residence is represented by only two values: off reserve and on reserve. Each of the two locations is conceived to present a different package regarding the nature, quantity and competition over business niches.

The logit model utilizes only the main effects of schooling and location. As revealed in Table 63, the model accounted for nearly 89 percent of the total variation in business status. Nevertheless, a statistically significant level of unaccounted for variation remained, implying that factors other than those included in the model are likely to influence business status. Of the two main effects, highest level of schooling accounted for the vast majority of the variation in the dependent variable.

Parameter estimates associated with the model are contained in Table A16 in the report's appendix. Analysis of these estimates suggests the following relationships:

- The probability of being a current (as opposed to prior) owner is greatest among owners holding a high school certificate with no further schooling. Owners with no high school certificate are 28 percentage points less likely to be continuing (i.e. current) owners and those with some post secondary or university education are 30 percentage points less likely to be continuing owners.
- Owners residing on reserve are about 3 percent more likely than their counterparts off reserve to be current (as opposed to prior) owners.

Table 63

**Stepwise Logit Analysis of Aboriginal Business
Status By Schooling and Location of Owner, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change In Chi-Square		Change In d.f.	R	% of Variation
1	-	2027.17	5	-		-	-	-
2	E	372.96	3	1654.21	**	2	0.816	81.6
3	L	227.05	2	145.91	**	1	0.888	7.2

** Significant at $p = .995$

Number of Observations: 36355

Source: Data from the Aboriginal Peoples Survey, 1991.

E = Highest level of schooling

L = Location of residence

● The findings concerning the main effect of highest level of schooling may indicate that the relative availability and level of benefits from employment for Aboriginal people with some post secondary or university education are such that, coupled with the normally high failure rate for new small businesses, the failure rate of ownership by Aboriginal persons with these educational advantages is especially high. These findings may also indicate that some important skills learned (or not learned) by those with some post secondary or university education are not well translated into practical business behaviour.

The findings regarding the main effect of location might indicate that once an Aboriginal person enters into business on a reserve certain locational advantages such as reduced competition, greater access to government financial assistance (for both initial capitalization and re-capitalization) are able to overcome the locational disadvantages described in the discussion respecting the choice of entering into business ownership.

Business Status, Highest Level of Schooling and Type of Business

A second logit model has been constructed to identify the relationship between business status (i.e. current versus prior), highest level of schooling and type of business (as measured by industry sector). As in the previously discussed model, highest level of schooling is structured into three categories. The type of business variable differentiates among five aggregate Standard Industrial Classification (SIC) groups, including: primary industries, manufacturing/utility/wholesale industries, construction industries, professional/financial services, and retail/food/accommodation industries.

Table 64 identifies the sequence of steps involved in fitting the model. As in the case of the previous model, only the main effects of the two independent variables are included in the model. As revealed in the table, the model does not fit the data very well and accounts for only about 66 percent of the total variation in business status.

Parameter estimates associated with the model are identified in Table A17 in the report's appendix. Effects associated with the highest level of schooling variable are consistent with those identified in the previous model. The model's parameters with respect to the type of business variable reveal that owners of professional/financial businesses are most likely to be current, as opposed to prior, owners. In relation to these owners, owners of primary industry businesses are roughly 7 percent less likely to be current owners. Owners of construction, retail/food/accommodation, and manufacturing/utility/wholesale owners are 13, 15, and 18 percent less likely than professional/financial business owners to be current owners, respectively.

The relative stability of ownership in the professional/finance sector might reflect two forces: (1) the fact that there are relatively few Aboriginal owned businesses in this sector; and, if a substantial number of these businesses are located within Aboriginal communities, there would be little local competition (i.e. there would be a small quantity of service supplied given the quantity of demand) and (2) that in certain circumstances Aboriginal organizations, governments and individual Aboriginal customers may prefer to patronize the Aboriginal owned business (creating to some extent a captured market). The finding regarding the stability of businesses within primary industries might surprise some who are familiar with Aboriginal communities. They may argue that these industries are particularly unstable

Table 64

**Stepwise Logit Analysis of Aboriginal Business
Status By Standard Industrial Code and Schooling, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square		Change in d.f.	R	% of Variation
1	-	1331.08	13	-		-	-	-
2	SIC	621.69	9	709.39	**	4	0.533	53.3
3	E	459.03	7	162.66	**	2	0.655	12.2

** Significant at $p = .995$

Number of Observations: 20745

Source: Data from the Aboriginal Peoples Survey, 1991.

E = Highest level of schooling

SIC = Standard Industrial classification group

due to relative ease of entry into the industry, competitive pressures in the industry, and volatile product demand. However, many of these businesses have been continually subsidized by governments and many of them are located in more remote areas. Therefore, many of the owners have few other business and employment opportunities, and many engage in a series of complementary and seasonally appropriate, business and employment activities during the year (e.g. fishing, trapping and forestry).

Business Status, Location and Size of Business

This model examines the relationship between business status (i.e. current versus prior owner), location of owner residence and size of business as measured by the number of employees. The location of residence variable is structured to distinguish among four types of locations, including: the far north, mid-north off reserve areas, southern off reserve areas, and reserves. Size of business includes three categories: no employees, 1 to 5 employees and 6 or more employees.

Table 65, which provides a summary of the steps involved in fitting the model, reveals that the main effects of two independent variables jointly account for only about 26 percent of the variation in business status. Obviously, other very important independent variables have not been included in the model.

The model's parameter estimates, which are contained in Table A18, reveal (as expected) that the effects of location of residence are consistent with those identified in the initial business status model. Parameter estimates related to size of business reveal that smaller businesses owners (i.e. those with no or fewer than six employees) are more likely (about 4 percent more likely) than owners of larger

Table 65

**Stepwise Logit Analysis of Aboriginal Business
Status By Location of Owner and Size of Business, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change In Chi-Square		Change In d.f.	R	% of Variation
1	-	621.42	11	-		-	-	-
2	L	499.20	8	122.22	**	3	0.197	19.7
3	EM	459.34	6	39.86	**	2	0.261	6.4

** Significant at p = .995

Number of Observations: 23085

Source: Data from the Aboriginal Peoples Survey, 1991.

L = Location of residence

EM = Size of business (number of employees)

businesses to be current (as opposed to prior) owners. This finding (although not striking in terms of magnitude) is consistent with the hypothesis held by many of those involved in the field of Aboriginal business development that business skill levels, market factors and socio-cultural factors all weigh heavily against the long term success of larger size Aboriginal owned businesses. Socio-cultural factors may include lower levels of skill and experience, or an ill-fit between formalized organization structures and processes, and more "organic" Aboriginal social patterns. The small probability difference between owners with no employees and owners with 1-5 employees (about 1 percent) may reflect the fact that most owners are self-employed in their own business. These owners may, therefore, have either responded "no employees" or "1-5 employees" to the APS.

Business Status, Period of Commencement and Sources of Financing

The final logit model is structured to explore the relationships between business status, period of business commencement and source of financing. Source of financing includes four categories: bank or trust company, Aboriginal development corporation, government, and other sources. Each of these sources of financing is conceived to present a different package of benefit availability and access costs/demands. The period of commencement variable is structured into three time periods, including: pre-1981, 1981-1986, and post-1986.

An initial version of this model was constructed to include only the main effects of the two independent variables. As revealed in Table 66, the two main effects accounted for about 72 percent of the variation in business status. The source of financing variable accounted for the majority of 'explained' variation.

Table 66

**Stepwise Logit Analysis of Aboriginal Business Status
By Period of Business Commencement and Source of Finance, Canada, 1991**

Step	Effect Added	Chi-Square	d.f.	Change in Chi-Square		Change in d.f.	R	% of Variation
1	-	657.18	11	-		-	-	-
2	FS	212.96	8	444.21	**	3	0.676	67.6
3	P	185.52	9	27.44	**	2	0.718	4.2

** Significant at $p = .995$

Number of Observations: 16035

Source: Data from the Aboriginal Peoples Survey, 1991.

FS = Source of financing

P = Period of business commencement

Parameter estimates for this model are contained in Table A19 of the report's appendix. Analysis of the parameters leads to the following observations:

- Owners who received financing from government are most likely to be continuing (i.e. current as opposed to prior) business owners. Those who received financing from Aboriginal development corporations are only 1 percentage point less likely to be continuing owners. In comparison with owners who received financing from government, those who received financing from banks or trust companies and from other sources are 12 and 14 percentage points, respectively, less likely to be continuing owners.
- Owners that commenced business prior to 1981 are most likely to be continuing owners. Those owners who commenced business from both 1981-1986 and since 1986 are roughly 3 percentage points less likely (than those who started their business pre-1981) to be continuing owners.

Three possible explanations seem reasonable given the main effect finding concerning source of financing. Firstly, government and Aboriginal development corporation financing sources may be able to do a relatively better job of screening for and providing assistance to nascent Aboriginal businesses. Secondly, government and Aboriginal development corporation financing sources may be more apt to provide larger amounts of financing or more frequent re-capitalization than bank/trust companies or other sources of financing. Thirdly, governments and Aboriginal development corporations, relative to bank and trust companies at least, concentrate on the financing of businesses on reserves and, as noted in the discussion concerning previous models of business status, Aboriginal businesses on reserves appear to be more successful in terms of longevity.

The findings concerning the main effect of period of business commencement for pre-1981 commencements are consistent with the findings of many studies concerning non-Aboriginal and Aboriginal small businesses to the effect that business longevity reinforces itself. Length of operation is both a screen for basic strengths within the entrepreneur and the business, and it enables these strengths to be built upon and the weaknesses to be ferreted out of the business. What is surprising, in light of the emphasis placed on business longevity as a causal factor for yet greater longevity by some of the literature from or about government financing programs (the logic of or empirical basis for this argument is rarely articulated in any detail), is the relatively small probability differences among the three periods. Perhaps Aboriginal business ownership is much more unstable than non-Aboriginal business ownership even over the medium to long term. Perhaps many pre-1981 commencement businesses that ceased operations were not reported by APS respondents? The finding that owners who commenced business after 1986 show a lower probability of continuing may also point to a higher probability of failure during the recent economic downturn, or it may indicate that most of the viable business niche - ownership talent combinations have been exhausted.

Because of the strong *a priori* possibility of interaction between source of financing and period of business commencement and the importance of this model to government policy, a saturated model (i.e. one which includes all possible terms) was also constructed. A saturated model exactly reproduces the frequency distribution of the underlying contingency table and in this instance allows for the estimation of parameters for the interaction term involving period of commencement and source of financing.

The results of interaction effects identified in the saturated model are presented in

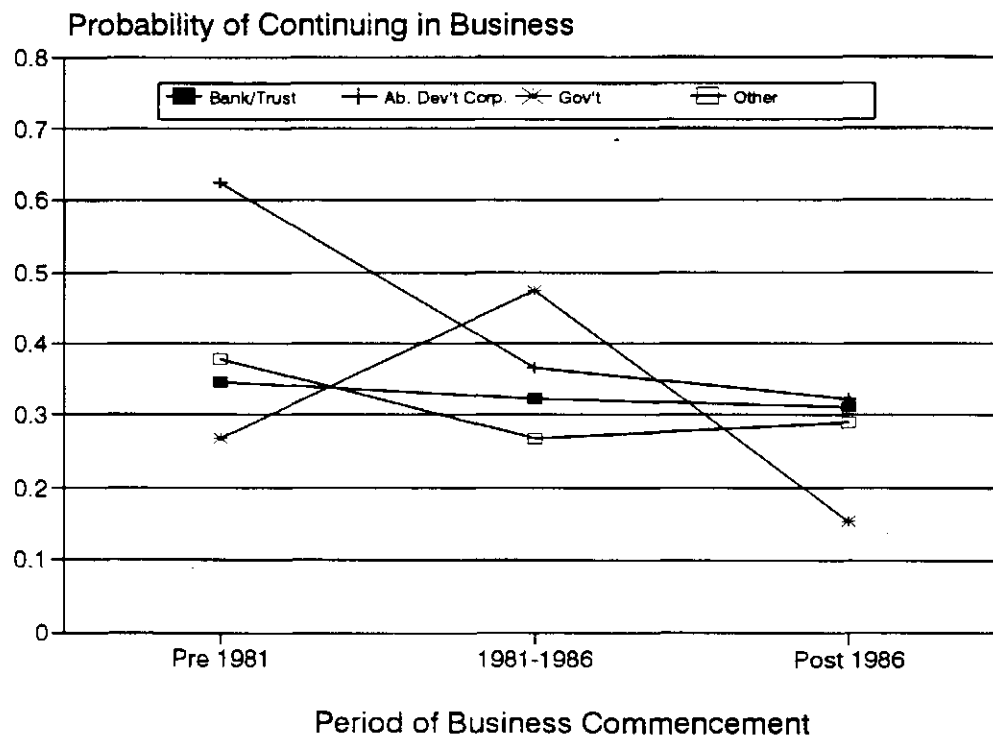
Figure 110 and summarized below:

- In general, the probability of continuing business ownership declined from the pre-1981 period to the post-1986 period for recipients of financing from all sources. This was especially so for recipients of financing from Aboriginal development corporations. From the earliest to the latest period, the probability of continuing ownership for recipients of financing from Aboriginal development corporations fell 30 percentage points. The probability of continuing ownership for recipients of financing from banks and trust companies showed the least decline, falling only 4 percentage points.
- The probability of continuing ownership for recipients of financing from government, especially, but also from Aboriginal development corporations showed the least stability over time. From the pre-1981 period to the 1981-1986 period, the probability of continuing ownership for recipients of financing from governments improved 20 percentage points, but from 1981-1986 to the post-1986 period it fell 31 percentage points. (In terms of the probability of continuing ownership per period, government went from the worst, to the best, then back to the worst performing financier over time.)

The finding that the probability of continuing ownership declined over time for all sources of financing also may indicate that most of the viable business niche - ownership talent combinations have been exhausted. The recent large decline in the probability of continuing ownership for recipients of financing from governments indicates that there may be problems with the focus, organization or processes of financing by this source. Although the decline and instability in the probability of continuing ownership for recipients of financing from Aboriginal development corporations may also indicate the existence of problems with the focus, organization or processes of financing by this source, it should be noted that the lowest probability of continuing ownership for businesses financed

Figure 110

Probability of Continuing in Business by Main Source of Financing
and Period of Business Commencement, Aboriginal Business Owners,
Canada, 1991



Source: Custom tabulations from the Aboriginal Peoples Survey, 1991

through this source is the same as the probability for banks and trust companies. Perhaps as Aboriginal development corporations have become established and as they have become increasingly strapped for capital they have begun to operate much like bank and trust companies. Other sources of financing, such as equipment and inventory suppliers, franchisees, bands, and friends and relatives, as a group, have not performed as well in terms of continuing ownership by their financial recipients.

The probability of continuing ownership for recipients of financing from bank and trust companies has remained stable and shows only a minimal decline over time. Perhaps this is because bank and trust companies tend to deal or select out with lower risk clients.

Summary

In general, the findings of the analyses facilitate explanations in terms of rational behavioural choices by people confronting various combinations of internal and external factors. Utilization of "traditional cultural" factors (as opposed to current socio-political behavioural attributes), while not uninteresting or invalid, are not necessary to reasonable explanations of most of the findings.

Although data and methodological weaknesses did not allow for simultaneous consideration of the effects of various factors, there is general consistency among the findings of the various models. This lends credence to the overall reliability of the findings. The findings also appear to be generally consistent with the author's

intuitive understanding of longitudinal data recently collected for dissertation research from nearly 2,000 files on government financed Aboriginal business development in northern Manitoba.

Key findings of the analyses are summarized below:

- Probabilities of business ownership in the urban south and the rural south are higher than any of the other locations across all levels of schooling. This may result from greater or more stable product demand, lower expected costs of doing business, and fewer obstacles from legal, socio-political and dependency factors. Also with respect to location of ownership, only on reserve is there a clear pattern of increasing probability of ownership linked to higher levels of schooling. In the rural south there is an inverse relationship between probability of ownership and highest level of schooling.
- With respect to education, Aboriginal persons with at least some post-secondary or university education show a higher probability of ownership than do Aboriginal persons with any other level of schooling. Those with some post secondary or university education appear to have the ability to tap into a much greater number of business niches. Those Aboriginal persons holding a high school certificate with no further schooling have a relatively low probability of ownership. This may result from insufficient skills for business ownership or greater opportunities for employment and income from other sources.
- Not surprisingly, for various reasons applicable to the general population, and perhaps reinforced in Aboriginal communities, females have a lower probability of ownership than males.
- The success rate in terms of continuing ownership for Aboriginal business owners with some post secondary or university education, is low especially relative to those with high school certificates. This may indicate that the availability of, and level of benefits from, employment are such that, coupled with the normally high failure rate for new small businesses, the failure rate for business owners with this level of schooling is especially high. Perhaps these findings also indicate that some important skills are not learned or, if learned, are not translated into practical business behaviour.

- It appears that once an Aboriginal person enters into business on a reserve certain locational advantages such as reduced competition or greater access to government financial assistance are able to overcome other locational disadvantages.

- The highest relative stability of ownership is in the professional/finance sector. This finding might reflect a particularly advantageous balance of demand and supply factors facing owners of these businesses. The relative stability of ownership within primary industries may result from continuous subsidization of many producers by governments, and the fact that many such owners engage in a series of complementary and seasonally appropriate, business and employment activities during the year.

- The findings concerning business size, which suggest higher failure rates among larger business, are consistent with the hypothesis that business skill levels, capital requirements, market factors and socio-cultural factors all inhibit the long term success of larger sized Aboriginal owned businesses.

- In general, owners who received government or Aboriginal development corporation financing have been better able to continue as business owners. These sources may be able to do a relatively better job of targeting and providing business assistance, and they may be more apt to provide larger amounts of financing or more frequent re-capitalization than bank/trust companies or other sources of financing. As well, relative to bank and trust companies at least, they may be more able to concentrate on the financing of businesses on reserves (which appear to be more successful in terms of longevity).

- The findings concerning period of business commencement, to the effect that business longevity reinforces itself are consistent with the findings of many studies of non-Aboriginal and Aboriginal small businesses. However, in light of the emphasis placed on longevity as a causal factor for greater longevity by some of the literature concerning government financing programs, it is interesting that there is a relatively small change in the probability of continuing ownership over the medium to longer term. The finding that owners who commenced business after 1986 show an increased probability of not being

successful may also point to the recent economic downturn as a causal factor; or, it may indicate that most of the viable business niche - entrepreneurial talent combinations have been exhausted. As well, the probability of continuing ownership declined over time for all sources of financing.

- The variation over time and the recent large decline in the probability of continuing ownership for recipients of financing from Aboriginal Development Corporations indicates that there may be problems with the focus, organization or processes of financing by this source. Nevertheless, rates of continuing ownership among owners financed through these corporations are comparable to those of owners financed through banks and trust companies. The decline and variation over time in the probability of continuing ownership among recipients of financing from government indicates that there may also be problems with the focus, organization or processes of financing by this source. Rates of continuing ownership for recipients of bank and trust company financing have remained stable and show only a minimal decline over time. Perhaps bank and trust companies tend to deal with lower risk clients. Owners financed through other sources such as equipment and inventory suppliers, franchisees, bands, and friends and relatives, as a group, have not performed as well in terms of continuing ownership.

Section 9

Future Growth of the Aboriginal Labour Force

Previous sections of this report have described the Aboriginal labour force, including occupational and industrial distribution, geographic distribution, employment and labour force participation rates. This section of the report presents estimates of the projected growth of the Aboriginal labour force for the 1992-2006 time period and the geographic distribution of this projected growth. In addition, the section provides an overview of projected Aboriginal employment, relating this to occupational distributions. A comparison is also made between the current occupational distribution of the employed Aboriginal labour force, and a possible "target" for Aboriginal employment in various occupations. The comparison is designed to illustrate the extent to which increased Aboriginal employment may be desirable in various occupations. Last, the implications of population growth for employment in on-reserve and off-reserve locations is discussed.

Estimates of employment growth for the 1991-2006 period are based (in part) on population projections of the Aboriginal identity population prepared for the Royal Commission on Aboriginal Peoples by Statistics Canada (Norris et. al, 1995). Labour demand data used in this section of the report are derived from the NOC Based Demand Model of the Canadian Occupational Projection System (COPS).

Projected Labour Force Growth

As shown in Table 67 and Figure 111, the Aboriginal labour force population (ages 15 through 64) is expected to increase by more than 72,000 during each of the next three five year periods. By 2006 the Aboriginal labour force population is

Table 67

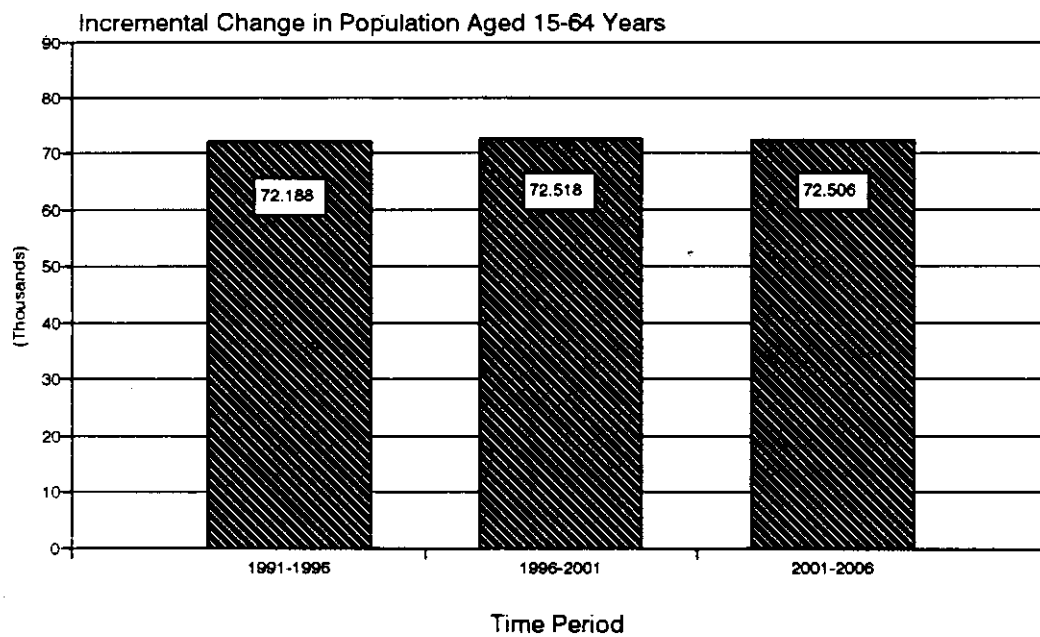
**Projected Growth In Aboriginal Identity Population Aged 15-64 Years by Identity Group
and Time Period, Canada, 1991-2006 (Projected)**

Aboriginal Group	Projection Period									
	1991 Pop.	% of Pop.	1991-1996		1996-2001		2001-2006		1991-2006	
			Growth	% of Growth	Growth	% of Growth	Growth	% of Growth	Growth	% of Growth
Registered Indian	271154	61.8	51668	70.9	49324	67.4	41951	57.2	142943	65.2
% Change	---		19.1		15.3		11.3		52.7	
Non-Status Indian	62914	14.3	5636	7.7	8373	11.4	12720	17.4	26729	12.2
% Change	---		9.0		12.2		16.5		42.5	
Metis	83454	19.0	12512	17.2	12037	16.4	14060	19.2	38609	17.6
% Change	---		15.0		12.5		13.0		46.3	
Inuit	21106	4.8	3026	4.2	3486	4.8	4580	6.2	11092	5.1
% Change	---		14.3		14.4		16.6		52.6	
Total	438628	100.0	72842	100.0	73220	100.0	73311	100.0	219373	100.0
	---		16.6		14.3		12.5		50.0	

Source: Aboriginal population projections prepared by _____.

Figure 111

Projected Growth in Aboriginal Identity Population Aged 15-64 Years
By Five Year Time Period, Canada, 1991-2006 (Projected)



expected to be 50 percent higher than it was in 1991. Growth is expected to be most rapid during the initial five year period, gradually slowing over the next ten years. In relation to other identity groups, population growth is expected to be greatest among the registered Indian population, which is projected to account for about 65 percent of total growth over the 15 year period. However, the registered Indian share of total Aboriginal population growth will decline over the period, while the shares of the other Aboriginal populations, particularly the non-status Indian population are expected to increase.¹

Table 68 provides data on the rate of population growth by location of residence. As revealed in the table, there is considerable variation across provinces/regions in the projected 15 year rate of population growth, ranging from about 42 percent in Quebec to 62 percent in Saskatchewan (see Figure 112). Aboriginal population growth is expected to be greatest in absolute numbers in Ontario and the western provinces (see Figure 113). At the national level, the projected rate of growth is expected to be a higher among the on-reserve population than among the off-reserve rural and urban populations. The result is that the population growth on reserves (in absolute numbers) is expected to be about the same as population growth in urban areas, with much less of the growth occurring in off-reserve rural areas (see Figure 114). The table also reveals that there are large differences among provinces and regions in the rates and shares of population growth attributed to on-reserve, rural and urban populations. For example, in British Columbia, 70

1. Shifts over time in the distribution of growth among identity groups results from a number of factors. In addition to fertility changes, future growth among groups will be influenced from additional Bill C-31 registrants and the effects of Bill C-31's rules governing entitlement to Indian registration.

Table 68

**Projected Growth in the Aboriginal Identity Population Aged 15-64 Years by Location of Residence
and Time Period, Canada, 1991-2006 (Projected)**

Residence Location	Projection Period									
	1991-1996		1996-2001		2001-2006		1991-2006			
	1991	% of Pop.	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth
Atlantic Region										
On-Reserve	7038	42.3	1194	41.2	1306	46.3	1224	43.9	3724	43.8
% Change	---		17.0		15.9		12.8		52.9	
Rural	6253	37.6	527	18.2	626	22.2	819	29.4	1972	23.2
% Change	---		8.4		9.2		11.1		31.5	
Urban	3347	20.1	1179	40.7	888	31.5	739	26.5	2806	33.0
% Change	---		35.2		19.6		13.6		83.8	
Total	16639	100.0	2898	100.0	2820	100.0	2786	100.0	8504	100.0
% Change	---		17.4		14.4		12.5		51.1	
Quebec										
On-Reserve	20047	46.1	3751	61.4	4011	65.2	3753	63.0	11515	63.2
% Change	---		18.7		16.9		13.5		57.4	
Rural	10997	25.3	473	7.7	862	14.0	1294	21.7	2629	14.4
% Change	---		4.3		7.5		10.5		23.9	
Urban	12443	28.6	1891	30.9	1275	20.7	909	15.2	4075	22.4
% Change	---		15.2		8.9		5.8		32.7	
Total	43487	100.0	6113	100.0	6149	100.0	5961	100.0	18223	100.0
% Change	---		14.1		12.4		10.7		41.9	
Ontario										
On-Reserve	27966	31.6	4986	33.9	4920	34.4	4147	31.0	14053	33.1
% Change	---		17.8		14.9		11.0		50.3	
Rural	12155	13.7	1233	8.4	2005	14.0	2521	18.8	5759	13.6
% Change	---		10.1		15.0		16.4		47.4	
Urban	48284	54.6	8489	57.7	7385	51.6	6716	50.2	22590	53.3
% Change	---		17.6		13.0		10.5		46.8	
Total	88407	100.0	14705	100.0	14312	100.0	13382	100.0	42399	100.0
% Change	---		16.6		13.9		11.4		48.0	

Table 68

**Projected Growth in the Aboriginal Identity Population Aged 15-64 Years by Location of Residence
and Time Period, Canada, 1991-2006 (Projected)**

Residence Location	Projection Period									
	1991-1996		1996-2001		2001-2006		1991-2006			
	1991	% of Pop.	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth
Manitoba										
On-Reserve	23207	36.2	4655	41.1	4799	41.7	4637	39.8	14091	40.8
% Change	---		20.1		17.2		14.2		60.7	
Rural	10830	16.9	-904	-8.0	595	5.2	1200	10.3	891	2.6
% Change	---		-8.3		6.0		11.4		8.2	
Urban	29983	46.8	7575	66.9	6116	53.1	5828	50.0	19519	56.6
% Change	---		25.3		16.3		13.3		65.1	
Total	64022	100.0	11324	100.0	11512	100.0	11663	100.0	34499	100.0
% Change	---		17.7		15.3		13.4		53.9	
Saskatchewan										
On-Reserve	20084	37.9	4064	37.9	4505	41.4	4463	40.2	13032	39.8
% Change	---		20.2		18.7		15.6		64.9	
Rural	10105	19.1	1	0.0	846	7.8	1429	12.9	2276	7.0
% Change	---		0.0		8.4		13.0		22.5	
Urban	22766	43.0	6664	62.1	5538	50.9	5207	46.9	17409	53.2
% Change	---		29.3		18.8		14.9		76.5	
Total	52952	100.0	10734	100.0	10884	100.0	11100	100.0	32718	100.0
% Change	---		20.3		17.1		14.9		61.8	
Alberta										
On-Reserve	20943	30.5	3753	33.8	4060	36.7	3918	34.7	11731	35.1
% Change	---		17.9		16.4		13.6		56.0	
Rural	10546	15.4	1592	14.3	2026	18.3	2408	21.3	6026	18.0
% Change	---		15.1		16.7		17.0		57.1	
Urban	37193	54.2	5759	51.9	4982	45.0	4972	44.0	15713	46.9
% Change	---		15.5		11.6		10.4		42.2	
Total	68680	100.0	11107	100.0	11065	100.0	11297	100.0	33469	100.0
% Change	---		16.2		13.9		12.4		48.7	

Table 68

**Projected Growth in the Aboriginal Identity Population Aged 15-64 Years by Location of Residence
and Time Period, Canada, 1991-2006 (Projected)**

Residence Location	Projection Period									
	1991-1996		1996-2001		2001-2006		1991-2006			
	1991	% of Pop.	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth	% of Growth
British Columbia										
On-Reserve	29339	38.4	8342	74.6	8300	70.7	7755	65.0	24397	70.0
% Change	---		28.4		22.0		16.9		83.2	
Rural	10891	14.3	1280	11.4	1848	15.7	2316	19.4	5444	15.6
% Change	---		11.8		15.2		16.5		50.0	
Urban	36137	47.3	1559	13.9	1592	13.6	1850	15.5	5001	14.4
% Change	---		4.3		4.2		4.7		13.8	
Total	76365	100.0	11181	100.0	11741	100.0	11925	100.0	34847	100.0
% Change	---		14.6		13.4		12.0		45.6	
Northern Canada										
On-Reserve	4735	19.9	306	7.4	334	8.3	244	5.6	884	7.0
% Change	---		6.5		6.6		4.5		18.7	
Rural	13324	55.9	1597	38.7	1890	46.8	2547	58.0	6034	48.1
% Change	---		12.0		12.7		15.2		45.3	
Urban	5791	24.3	2227	54.0	1810	44.8	1604	36.5	5641	44.9
% Change	---		38.5		22.6		16.3		97.4	
Total	23853	100.0	4127	100.0	4036	100.0	4394	100.0	12557	100.0
% Change	---		17.3		14.4		13.7		52.6	
Canada Total										
On-Reserve	153359	35.3	31050	43.0	32232	44.4	30146	41.6	93428	43.0
% Change	---		20.2		17.5		13.9		60.9	
Rural	85103	19.6	5796	8.0	10696	14.7	14537	20.0	31029	14.3
% Change	---		6.8		11.8		14.3		36.5	
Urban	195945	45.1	35345	49.0	29589	40.8	27822	38.4	92756	42.7
% Change	---		18.0		12.8		10.7		47.3	
Total	434407	100.0	72188	100.0	72518	100.0	72506	100.0	217212	100.0
% Change	---		16.6		14.3		12.5		50.0	

Figure 112

Projected Growth (%) in Aboriginal Identity Population Aged 15-64 Years
by Province/Region of Residence, Canada, 1991-2006 (Projected)

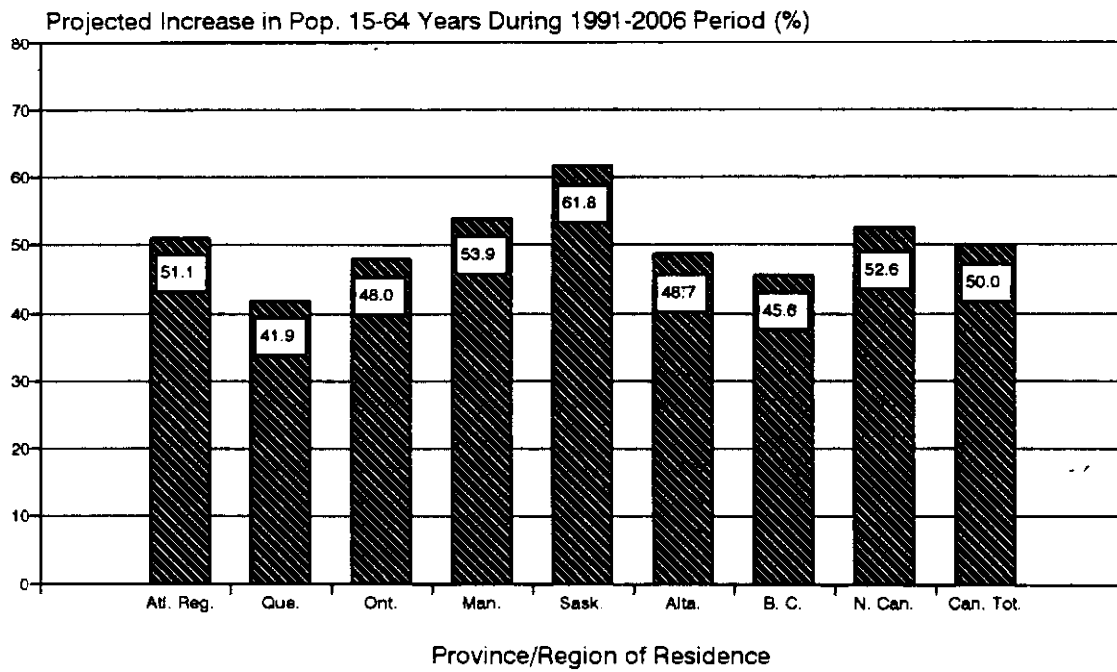


Figure 113

Distribution of Projected Growth in Aboriginal Identity Population Aged 15-64 Years
by Province/Region of Residence, Canada, 1991-2006 (Projected)

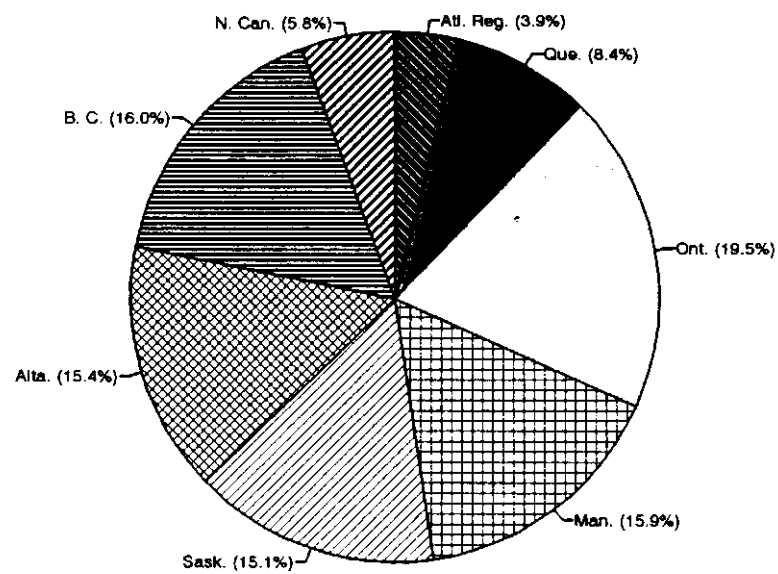
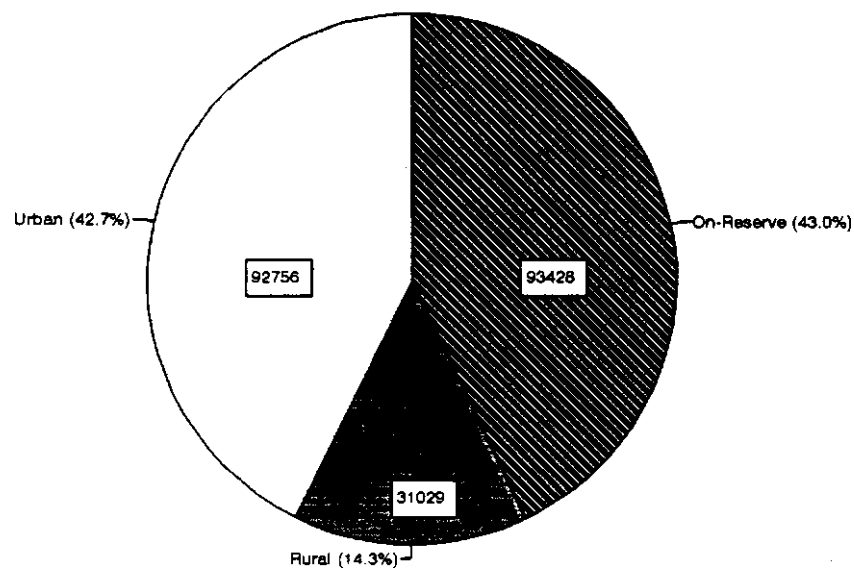


Figure 114

Projected Growth in Aboriginal Identity Population Aged 15-64 Years
by Location of Residence, Canada, 1991-2006 (Projected)



percent of Aboriginal population growth is expected to occur on reserves, while in Ontario only 33 percent of the growth is expected to occur on reserves.

Projected Employment Growth

As of 1991 the Aboriginal labour force population (15-64) was 438,628, of whom an estimated 217,750 were employed.¹ The labour force population is expected to increase to 658,001 in 2006. Table 69 provides two estimates of the number Aboriginal people employed in 2006. The first estimate assumes that there will be no change in Aboriginal employment rates over the 15 year period from 1991 to 2006. (Employment rates are defined as the number employed as a proportion of the total labour force age group.) Separate employment rates are used for the younger and older segments of the population since youth employment rates are much lower than those for the older population. The result is an estimated 326,161 Aboriginal people employed in 2006, an increase of 108,411 or almost 50 percent.

The second estimate is based on a hypothetical policy objective that Aboriginal employment rates should increase to the same level as in the general Canadian population by the year 2006. Using these employment rates, the estimated number of employed Aboriginal people in 2006 would be 399,901, an increase of

1. The Aboriginal identity population aged 15-64, as estimated by Statistics Canada for use in their projections, is higher than the estimate derived from the APS. Statistics Canada made several adjustments to the baseline Aboriginal identity population to account for the population residing on non-enumerated reserves and other sources of population under-coverage. The estimates of the employed population included in this section of the report are based on the amended Statistics Canada data and have been derived by applying the employment rate (as determined from the unadjusted APS data) to the adjusted labour force population, as estimated by Statistics Canada.

Table 69

**Projected Employment Among the Aboriginal Population, 15-64
Canada, 1991 - 2006**

Population/Parameter	Age Group		
	15-24	25-64	Total
A. 1991 Base Population			
Aboriginal Population 15-64, 1991	95,735	342,886	438,628
Aboriginal Employment Rate, 1991	0.362	0.534	***
Estimated 1991 Aboriginal Employment	34,702	183,048	217,750
B. Projected Aboriginal Employment Using 1991 Aboriginal Employment Rates			
Projected Ab. Population, 15-64, 2006	146,531	511,470	658,001
Aboriginal Employment Rate, 1991	0.362	0.534	***
Estimated 1991 Aboriginal Employment	53,114	273,046	326,161
C. Projected Aboriginal Employment Using 1991 Canada Total Employment Rates			
Canada Total Employment Rate, 1991	0.565	0.620	***
Projected 2006 Aboriginal Employment	82,790	317,111	399,901
D. Projected Growth in Aboriginal Employment			
Based on Aboriginal Employment Rates	18,412	89,998	108,411
Growth Rate, 1991 - 2006 (%)	53.1	49.2	49.8
Based on Canada Total Employment Rates	48,088	134,063	182,151
Growth Rate, 1991 - 2006 (%)	138.6	73.2	83.7

*** Employment rates for the 15-64 year old population were not used in the calculations.

Sources: [Aboriginal population projections prepared by _____]
Custom tabulations from the 1991 Aboriginal Peoples Survey.

182,151 or about 84 percent. In order to achieve this employment rate, the Aboriginal youth employment rate would have to increase dramatically, from about 36 percent to 57 percent. Under this projection scenario, the number of young Aboriginal people who are employed would have to more than double. Although the table does not provide separate data for men and women, the higher projection would require the employment rate of Aboriginal women to increase to a much greater extent than that of men. This reflects the fact that the labour force participation rates of Aboriginal men are much closer to the Canadian norm than those of Aboriginal women. (See Figure 38 on page 95 of this report.)

The expected growth in the employed Aboriginal population may be related to estimates of occupational growth in Canada (derived from COPS). For the increased Aboriginal employment to occur, Aboriginal people will have to find work in occupations experiencing growth. An overview of projected occupational growth over the 1991 through 2006 period is provided in Table 70. As the table shows, some 2.8 million new jobs are expected by the year 2006.

The greatest numbers of new jobs are expected in the sales and services occupations in skilled, intermediate and support level jobs. The projection also suggests there will be substantial numbers of jobs in clerical and administrative occupations, skilled trades and transportation occupations, social science, education and health professions, and middle management occupations. Labouring jobs and those in primary industry, processing and manufacturing will experience less growth according to the projection.

Table 71 compares the 1991 distribution of the Aboriginal employed labour force (see Table 11 on page 148 of this report) to the projected 2006 distribution of

Table 70

Canada - Occupational Distribution and Growth, 1991 - 2000

Occupation (NOC)	Projected Employment			Projected Growth / Period			
	1991	1996	2006	1991 - 1996		1991 - 2006	
				Number	Percent	Number	Percent
Senior Management	124,425	131,462	150,284	7,037	5.7	25,859	20.8
Middle Management	1,131,078	1,203,828	1,400,521	72,750	6.4	269,443	23.8
Professional Occupations	1,715,963	1,842,035	2,125,416	126,072	7.3	409,453	23.9
Business & Finance	192,607	208,012	237,718	15,405	8.0	45,111	23.4
Natural & Applied Science	318,774	337,075	380,290	18,301	5.7	61,516	19.3
Health Care	359,071	379,944	467,080	20,873	5.8	108,009	30.1
Soc. Science, Education, Govt Servi	719,663	781,067	881,245	61,404	8.5	161,582	22.5
Art and Culture	125,848	135,937	159,083	10,089	8.0	33,235	26.4
Skilled Trades & Technicians	3,735,795	3,957,011	4,536,245	221,216	5.9	800,450	21.4
Administration & Business	874,108	936,847	1,080,788	62,739	7.2	206,680	23.6
Natural & Applied Science	284,708	295,521	330,546	10,813	3.8	45,838	16.1
Health Care	161,514	172,400	211,310	10,886	6.7	49,796	30.8
Law, Soc. Service, Edcn, Religion	110,965	121,504	140,183	10,539	9.5	29,218	26.3
Art, Culture, Rec & Sport	161,214	174,460	204,334	13,246	8.2	43,120	26.7
Sales and Services	666,460	735,505	887,866	69,045	10.4	221,406	33.2
Trades, Transport. & Equip Op	1,050,704	1,085,372	1,216,397	34,668	3.3	165,693	15.8
Primary Industry	331,924	340,250	360,915	8,326	2.5	28,991	8.7
Processing & Manufacturing	94,198	95,152	103,905	954	1.0	9,707	10.3
Intermediate Level Workers	2,634,660	2,804,198	3,209,858	169,538	6.4	575,198	21.8
Sales and Services	1,252,628	1,360,067	1,620,894	107,439	8.6	368,266	29.4
Transport. & Equip. Operating	590,358	613,957	688,279	23,599	4.0	97,921	16.6
Interm. Workers, Primary Industry	179,133	187,881	199,309	8,748	4.9	20,176	11.3
Operators & Assemblers - Proc & M	612,541	642,293	701,377	29,752	4.9	88,836	14.5
Support Workers and Labourers	2,997,878	3,192,266	3,703,936	194,388	6.5	706,058	23.6
Clerical	1,336,681	1,414,238	1,609,357	77,557	5.8	272,676	20.4
Health Care Support	146,239	158,531	191,164	12,292	8.4	44,925	30.7
Elemental Sales and Services	1,055,728	1,141,235	1,372,943	85,507	8.1	317,215	30.0
Trades Helpers, Labourers	160,292	169,508	193,700	9,216	5.7	33,408	20.8
Labourers in Primary Industry	96,619	99,829	111,033	3,210	3.3	14,414	14.9
Labourers - Proc, Manuf & Utils.	202,319	208,925	225,739	6,606	3.3	23,420	11.6
Total	12,339,800	13,130,801	15,126,261	791,001	6.4	2,786,461	22.6

Source: 1993 COPS Projection, NOC Based Demand Model, Fixed Coefficients.

Note: Does not include Northwest Territories, Yukon, on-reserve population, institutional populations, military, or employment by legislatures.

Table 71

Comparison of Aboriginal and Projected Canadian Occupational Distributions

Occupation (NOC)	Canada Total (2006)	Aboriginal Pop. (1991)	Difference
Senior Management	1.0	1.0	0.01
Middle Management	9.3	6.2	-3.06
Professional Occupations (sub-total)	14.1	10.4	
Business & Finance	1.6	0.8	-0.77
Natural & Applied Science	2.5	1.4	-1.11
Health Care	3.1	1.8	-1.29
Soc. Science, Education, Govt Services	5.8	5.4	-0.43
Art and Culture	1.1	1.0	-0.05
Skilled Trades & Technicians (sub-total)	30.0	28.5	
Administration & Business	7.1	6.2	-0.95
Natural & Applied Science	2.2	1.8	-0.39
Health Care	1.4	1.1	-0.30
Law, Soc. Service, Edcn, Religion	0.9	1.8	0.87
Art, Culture, Rec & Sport	1.4	1.4	0.05
Sales and Services	5.9	4.9	-0.97
Trades, Transport. & Equip Op	8.0	8.7	0.66
Primary Industry	2.4	2.0	-0.39
Processing & Manufacturing	0.7	0.6	-0.09
Intermediate Level Workers (sub-total)	21.2	24.6	
Sales and Services	10.7	12.0	1.28
Transport. & Equip. Operating	4.6	6.3	1.75
Interm. Workers, Primary Industry	1.3	2.2	0.88
Operators & Assemblers - Proc & Manuf	4.6	4.1	-0.54
Support Workers and Labourers (sub-total)	24.5	29.4	
Clerical	10.6	10.3	-0.34
Health Care Support	1.3	1.2	-0.06
Elemental Sales and Services	9.1	11.7	2.62
Trades Helpers, Labourers	1.3	3.0	1.72
Labourers in Primary Industry	0.7	1.8	1.07
Labourers - Proc, Manuf & Utils.	1.5	1.4	-0.09
Total	100.0	100.1	
Similarity Index *			10.86

Sour 1993 COPS Projection, NOC Based Demand Model, Fixed Coefficients.
Custom tabulations from the 1991 Aboriginal Peoples Survey.

Note Does not include Northwest Territories, Yukon, on-reserve population, institutional populations, military, or employment by legislatures.

* Similarity index is the sum of the absolute values of the differences in distribution, divided by 2.

total Canadian employment (derived from Table 70). The two distributions may be compared by calculating a "dissimilarity index." This index may be interpreted as the percentage of the Aboriginal (or non-Aboriginal) labour force which would have to change occupations in order to have a similar distribution to that of the general employed labour force. The dissimilarity index of 10.86 suggests that roughly 11 percent of the Aboriginal population would need to change occupational categories to result in an occupational distribution which conform to the projected national distribution in the year 2006. Since these occupational categories are fairly broad, it is likely that the dissimilarity index would increase if more detailed information were available.

Another way of looking at this question is to estimate the increase in employment that would be required among the Aboriginal labour force in each occupation in order to conform to the Canadian occupational distribution. Table 72 estimates these numbers, based on the assumption that the "target" is for Aboriginal people to be employed at the same rate and in the same occupations as other Canadians.

As the table shows, Aboriginal employment would have to increase by about 182,000, or 84 percent, to reach this target. By comparing the targeted employment distribution to the 1991 employment distribution, the rates of employment growth which would be necessary among the Aboriginal population can be calculated for each occupational group. For several occupations, Aboriginal employment would have to double or triple in order to reach the target. The occupations which would require the largest absolute increase in numbers of Aboriginal workers include the sales and service occupations (at various skill levels), middle management occupations, clerical occupations, administrative occupations, skilled trades, and social work, education and government professionals.

Table 72

**Aboriginal Population, 15-64, Comparing Actual 1991 Employment
To "Target" 2006 Employment, Canada**

Occupation (NOC)	Actual 1991		"Target" 2006 *		Difference	
	Number	Distribution (Column %)	Number	Distribution (Column %)	Target - Actual	(Change %)
Senior Management	2,178	1.0	3,973	1.0	1,795	82.5
Middle Management	13,501	6.2	37,026	9.3	23,526	174.3
Professional Occupations	22,646	10.4	56,191	14.1	33,545	148.1
Business & Finance	1,742	0.8	6,285	1.6	4,543	260.8
Natural & Applied Science	3,049	1.4	10,054	2.5	7,005	229.8
Health Care	3,920	1.8	12,348	3.1	8,429	215.1
Soc. Science, Education, Govt Services	11,759	5.4	23,298	5.8	11,539	98.1
Art and Culture	2,178	1.0	4,206	1.1	2,028	93.1
Skilled Trades & Technicians	62,059	28.5	119,927	30.0	57,868	93.2
Administration & Business	13,501	6.2	28,573	7.1	15,073	111.6
Natural & Applied Science	3,920	1.8	8,739	2.2	4,819	123.0
Health Care	2,395	1.1	5,587	1.4	3,191	133.2
Law, Soc. Service, Edcn, Religion	3,920	1.8	3,706	0.9	(213)	(5.4)
Art, Culture, Rec & Sport	3,049	1.4	5,402	1.4	2,354	77.2
Sales and Services	10,670	4.9	23,473	5.9	12,803	120.0
Trades, Transport. & Equip Op	18,944	8.7	32,159	8.0	13,214	69.8
Primary Industry	4,355	2.0	9,542	2.4	5,187	119.1
Processing & Manufacturing	1,307	0.6	2,747	0.7	1,441	110.3
Intermediate Level Workers	53,567	24.6	84,861	21.2	31,294	58.4
Sales and Services	26,130	12.0	42,852	10.7	16,722	64.0
Transport. & Equip. Operating	13,718	6.3	18,196	4.6	4,478	32.6
Interm. Workers, Primary Industry	4,791	2.2	5,269	1.3	479	10.0
Operators & Assemblers - Proc & Manuf	8,928	4.1	18,543	4.6	9,615	107.7
Support Workers and Labourers	64,019	29.4	97,923	24.5	33,904	53.0
Clerical	22,428	10.3	42,547	10.6	20,119	89.7
Health Care Support	2,613	1.2	5,054	1.3	2,441	93.4
Elemental Sales and Services	25,477	11.7	36,297	9.1	10,820	42.5
Trades Helpers, Labourers	6,533	3.0	5,121	1.3	(1,412)	(21.6)
Labourers in Primary Industry	3,920	1.8	2,935	0.7	(984)	(25.1)
Labourers - Proc, Manuf & Utils.	3,049	1.4	5,968	1.5	2,919	95.8
Total	217,968	100.0	399,901	100.0	181,933	83.5

Sources: 1993 COPS Projection, NOC Based Demand Model, Fixed Coefficients; Custom tabulations from the 1991 Aboriginal Peoples Survey.

* "Target" assumes that the Aboriginal employment rate and distribution are the same as among the general Canadian population in 2006.

Table 72 also shows that in some occupations Aboriginal employment is already greater than would be necessary to meet the 2006 targets. These include labourers, trades helpers, and paraprofessionals in social services and education. Table 72 implies that major improvements in the education and training of the Aboriginal labour force would be required to allow more Aboriginal people to obtain employment in occupations in which they have not traditionally been employed.

A similar analysis was undertaken in relation to location of residence. In Table 73, the estimated 1991 Aboriginal employment by location is compared to two possible employment targets for the year 2006. The first target assumes a continuation of the employment rates which prevailed in each location in 1991. The second target assumes that employment rates are intended to increase to Canadian norms by the year 2006.

As the table shows, maintaining the status quo would require a 50 percent increase in jobs over the next 15 years, including 21,000 jobs on reserves and 78,000 jobs off reserves. However, in order to achieve an employment rate similar to the general population, more than 63,000 jobs would have to be created on reserves (including both the mid-north and southern regions). In other words, there would have to be a 150 percent increase in reserve employment for Aboriginal people. Currently, a high proportion of reserve employment is in public administration (see Table 8 on page 126 of this report). It seems unlikely that there will be a sustained high rate of growth in public sector employment on reserves. This suggests that substantial and successful economic development would have to occur to create these jobs. On the other hand, if something like the number of jobs suggested by target "B" cannot be achieved, the result is likely to be increased migration out of reserves to areas where there are more jobs.

Table 73

**Aboriginal Identity Population 15-64, Comparing Actual 1991 Employment
To Projected 2006 Employment, By Location of Residence**

Location	1991 Employment	2006 Projected Employment (Target A*)	2006 Projected Employment (Target B*)	Projected Growth in Employment 1991 to 2006			
				Target A	(%)	Target B	(%)
Far North Total	20,390	30,542	38,614	10,152	49.8	18,224	89.4
Mid-North Total	51,552	77,218	104,648	25,666	49.8	53,096	103.0
On-Reserve	19,384	29,035	49,640	9,651	49.8	30,255	156.1
Off-Reserve	32,153	48,161	55,015	16,008	49.8	22,862	71.1
South Total	145,808	218,401	256,639	72,593	49.8	110,831	76.0
On-Reserve	23,063	34,545	56,381	11,482	49.8	33,318	144.5
Off-Reserve	122,745	183,856	200,258	61,111	49.8	77,513	63.1
Rural	24,061	36,041	38,580	11,979	49.8	14,519	60.3
Urban	98,676	147,804	161,678	49,128	49.8	63,002	63.8
CMAs	68,785	103,031	113,773	34,246	49.8	44,988	65.4
Non- CMAs	29,891	44,773	47,906	14,882	49.8	18,014	60.3
Canada Total	217,750	326,161	399,901	108,411	49.8	182,151	83.7

* Target A assumes no change in employment rates or geographic distribution among the Aboriginal population.

Target B assumes no change in geographic distribution, but assumes that Aboriginal employment rates increase to equal the 1991 rates among the general Canadian population.

Sources: Aboriginal population projections prepared by _____; Custom tabulations from the 1991 Aboriginal Peoples Survey.

Summary

This brief review of Aboriginal labour force growth and its relationship to projected labour demand has reached the following conclusions:

- The Aboriginal labour force population is expected to grow rapidly over the next 15 years, achieving a level roughly 50 percent larger than that in 1991. The rate of growth is expected to vary among provinces/regions, being largest in Ontario and in the western provinces.
- Employment growth will depend on the employment rates achieved by the Aboriginal labour force. If an employment rate equal to the Canadian norm is to be achieved, Aboriginal employment will need to grow by more than 80 percent over the next 15 years.
- In order to achieve employment rates similar to the Canadian norm, employment among Aboriginal youth and women will need to grow substantially.
- If it is desired that the Aboriginal labour force should have the same occupational distribution as Canadians generally, very large increases in employment in certain occupations, such as sales, services (skilled and unskilled), middle management, skilled trades, and social service, government and educational professions will be required. This suggests that substantial Aboriginal education and training programs would be required in these fields.
- In order to maintain the employment rates at their current levels on reserves, some 21,000 new jobs will need to be created on reserves by the year 2006. If employment rates on reserves are to increase to levels approximating Canadian norms, some 63,000 new jobs on reserves will be needed (a 150 percent increase over present levels). This suggests that without substantial reserve economic development, levels of off-reserve migration are likely to increase.

Bibliography

- Apikan Limited. *Study Results: Aboriginal Economic Enterprises: Success and Failure*, Ottawa, 1991.
- Armstrong, Robin. "Factors of Indian Economic Development on Reserve: An Empirical Approach." Ottawa: Indian and Northern Affairs Canada (no date).
- Armstrong, Robin, Jeff Kennedy and Peter Oberle. **University Education and Economic Well-Being: Indian Achievement and Prospects**. Ottawa: Indian and Northern Affairs, 1990.
- Bannerjee, A.K. Paul, Jahangir Alam, and Paul De Civita. "Wage Gap Between Aborigines and Non-Aborigines in Canada: An Empirical Analysis," paper presented to the Annual Meeting of the Canadian Economics Association, Kingston, June 2-4, 1991.
- Beal, Carl. **Possible Futures: Feasibility Study for a Northern Campus of the Saskatchewan Indian Federated College**. S.I.F.C., April, 1991.
- Bherer, Harold; Sylvie Gagnon and Jacinte Roberge, *Wampum and Letters Patent. Exploratory Study of Native Entrepreneurship*. Halifax: The Institute for Research on Public Policy, 1990.
- Canadian Council for Native Business, *Aboriginal Economic Programs, 100 Successful Aboriginal Businesses (The Aboriginal One Hundred)*. Toronto: Canadian Council for Native Business, 1991.
- Clatworthy, Stewart J., **The Demographic Composition and Economic Circumstances of Winnipeg's Native Population**, Indian Demographic Workshop, Implications for Policy and Planning, Statistics Canada and DIAND, Ottawa, 1980.
- Clatworthy Stewart J., **Patterns of Native Employment in the Winnipeg Labour Market**, Labour Market Development Task Force, Technical Study No. 6, Supply and Service Canada, Ottawa, 1981.
- Clatworthy, Stewart J., **Issues Concerning the Role of Native Women in the Urban Labour Market**, Labour Market Development Task Force, Technical Study No. 5, Supply and Services Canada, Ottawa, 1981.
- Clatworthy, Stewart J. **The Effects of Education on Native Behaviour in the Urban Labour Market**. Winnipeg: Institute of Urban Studies, 1981.
- Clatworthy, Stewart J., **Economic Circumstances of Native Peoples in Selected Western Metropolitan Areas**, Institute of Urban Studies, Winnipeg, 1982.
- Clatworthy, Stewart J., **The Effect of Length of Time in the City on Native Behaviour in the Urban Labour Market**, Institute of Urban Studies, Winnipeg, 1982.
- Clatworthy, Stewart J. and J. Hull, **Native Economic Conditions in Regina and Saskatoon**, Department of Regional Industrial Expansion, Regina, 1983.

Clatworthy, Stewart J., **An Overview of Socio-economic Circumstances Related to the Economic Development of Canada's Native Population**, Department of Industry, Science and Technology, Ottawa, 1989.

Clatworthy, Stewart J. **Final Evaluation of the Winnipeg Core Area Agreement Employment and Affirmative Action Program**, Winnipeg Core Area Agreement, 1991.

De la Barre, Kenneth. **A bibliography on labour, employment and training in the Canadian North**. [INAC Departmental Library - Z7164 L1 D44]

DPA Group, *Program Evaluation of the Indian Economic Development Fund - Final Report*. The DPA Group Inc., 1985.

DPA Group Inc. **Post-Secondary Education Assistance Evaluation Study Final Report**. Prepared for the Evaluation Branch, Corporate Policy, Indian and Northern Affairs Canada, January, 1985.

Driben, Paul and Robert Trudeau, *When Freedom is Lost: The Dark Side of the Relationship Between Government and the Fort Hope Band*. Toronto: University of Toronto Press, 1983.

Drost, Helmar, and Tim Eryou, "Education/Training and Labour Force Status: A Cross-Section Study of Canadian Natives," paper presented to the Annual Meeting of the Canadian Economics Association, Kingston, June 2-4, 1991.

Ellis, Larry. **Post-Secondary Education Programs: A Cost-Benefit Assessment of Saskatchewan Indian Student Participation**, May, 1990.

George, Peter and Peter Kuhn. "Expanding Employment in the Canadian Economy," in **Sharing the Harvest: The Road to Self-Reliance**. Ottawa: Minister of Supply and Services Canada, 1993. (Report of the National Round Table on Aboriginal Economic Development and Resources.)

George, Peter and Peter Kuhn. "The Size and Structure of Native-White Wage Differentials in Canada," revised version of McMaster University Department of Economics Working Paper No. 92-12, February, 1993.

George, P., P. Kuhn and A. Sweetman, "A Comparative Analysis of Aboriginal and Non-Aboriginal Canadians Using 1991 Census Public Use Microdata", prepared for the Royal Commission on Aboriginal Peoples, Ottawa, 1994 (Mimeo).

Goodman, L. "The analysis of multidimensional contingency tables, stepwise procedures and direct estimation methods for building models of multiple classifications, *Technometrics*, 13:33-61, 1971.

Hagey, N. Janet, Gilles Larocque, & Catherine McBride. **Highlights of Aboriginal Conditions, 1981-2001; Part III: Economic Conditions**. Ottawa: Quantitative Analysis & Socio-demographic Research Working Paper Series 89-3, Finance and Professional Services, Indian and Northern Affairs Canada, December, 1989.

- Hanse, Lise C.. Thirty-five dollars: the politics of economic development on Nipissing Reserve." *The Canadian Journal of Native Studies*, 2:2, 1982.
- Hikel, Ron., *Evaluation of the Northern Development Agreement Programs 1 and 2*. Winnipeg: Stevenson Kellogg Ernst & Whinney, 1987.
- Hull, Jeremy. "Aboriginal People and the Labour Movement in Manitoba," in **Hard Bargains; the Manitoba Labour Movement Confronts the 1990s**, E. Black and J. Silver, eds., Manitoba Federation of Labour, Manitoba Labour History Series, 1991.
- Hull, Jeremy. "Socio-Economic Factors and Native Education in Canada," *Canadian Journal of Native Education*, Vol. 17, No. 1 (1990).
- Hull, Jeremy. **Overview of the Educational Characteristics of the Registered Indian Population of Canada**. Ottawa: Indian and Northern Affairs Canada, 1987.
- Hull, J., E. Polyzoi and R. Phillips. "Indian Control and the Delivery of Special Education Services to Students in Band-Operated Schools in Manitoba," *Alberta Journal of Educational Research* 41:1 (March, 1995).
- Illingworth, Jay., "The Special Agricultural and Rural Development Agreement: A Pioneer in Canadian Aboriginal Economic Development." Research paper submitted to the Department of Political Science, Carlton University, Ottawa, 1992.
- Indian and Northern Development Canada, "Task Force on Indian Economic Development - Summary of the Report to the Deputy Minister, Indian and Northern Affairs Canada, Ottawa, 1986.
- Industry, Science and Technology Canada, *Survey of Aboriginal Businesses Which Received ISTC Assistance*. Ottawa: Industry, Science and Technology Canada, 1992.
- Industry, Science and Technology Canada, *Aboriginal Small Business Profiles and Survival Benchmarks: A Review of SARDA Commercial Undertakings 1982 to 1988 (Draft)*. Ottawa: Aboriginal Economic Programs; Industry, Science and Technology Canada, 1990.
- J. Phillip Nicholson Policy and Management Consultants Inc, *Selected Successful Native Enterprises, A Review*. Report prepared for the Native Economic Development Program, Ottawa, 1984.
- Jenkins, John G., "Government policy and native entrepreneurship in the Canadian North." *The Business Quarterly* Winter, 1977.
- Jorgenson, J., "Indians and the Metropolis", in J. Waddell and M. Watson (eds.), *The American Indian in Urban Society*, Boston: Little, Brown and Company, 1971.
- Kimmel, J., **Rural Wages and Returns to Education: Differences Between Whites, Blacks and American Indians**, W.E. Upjohn Institute for Employment Research, Working Paper 94-27, July, 1994.

Labour market position of Aboriginal peoples in Canada: programs and [INAC Departmental Library - E98 E6 L32]

Lamothe, Bernard. **Schooling, vocational training and economic activity in Nunavik:** [INAC Departmental Library - E100 A32 L35]

Landa, Michael John., *Easterville: A Case Study in the Relocation of a Manitoba Native Community*. M.A. Thesis. Winnipeg: University of Manitoba, 1969.

Lee, Linda. **Post-Secondary Accessibility for Frontier Students**. Winnipeg: Planning and Research Branch, Manitoba Department of Education, June, 1983.

Lemmon, J.C. and Layne Kirkpatrick., *Native Entrepreneurs in Canada*. London: School of Business Administration, The University of Western Ontario, 1990.

Lithman, Yngve Georg., *Communities Apart: A Case Study of a Canadian Indian Reserve Community*. Winnipeg: University of Manitoba Press, 1984.

McBride, Marie-Anik Gagné, & Kathryn Atwell. **Characteristics of Public Administration Employment On-Reserve; 1986 Census**. Ottawa: Quantitative Analysis & Socio-demographic Research Working Paper Series 90-2, Finance and Professional Services, Indian and Northern Affairs Canada, September, 1990.

Martin, Deborah G. **Patterns and Trends of University Achievement of Indian Graduates**. Prepared for the Research Branch, Indian Affairs, October 31, 1979.

Mooney, K., "Urban and Reserve Coastal Salish Employment: A Test of Two Approaches to the Indian's Niche in North America", *Journal of Anthropological Research*, 32: 1976, 390-410.

Norusis, M. J. **SPSS/PC+ Advanced Statistics - Version 5.0**. SPSS Inc., Chicago, Illinois, 1992, 1994

Oishi, Mitsuko. **Native Education and Labour Market Segmentation**. [INAC Departmental Library - E98 E6 O57]

Onchiota Corporation., *A Review of Community Economic Development in Selected Native Communities*. Prepared for the Native Economic Development Corporation, (no date).

Patrinos, Harry A., and Chris N. Sekellariou, "North American Indians in the Canadian Labour Market: A Decomposition of Wage Differentials," *Economics of Education Review*, Vo. 11 (1992), 257-66.

Peters, Evelyn, and Mark W. Rosenberg, **Indian Attachment to the Labour Force**. Ottawa: Department of Indian Affairs and Northern Development, August, 1992.

Regional Industrial Expansion, Dept. of., "Consultations with Native People on DRIE Native Economic Programs." Ottawa: DRIE, 1988.

Ross, David P. and Peter J. Usher. **Education as an Investment for Treaty Indians in Saskatchewan: The Economic Costs and Benefits**. Prepared for the Office of the Treaty Commissioner, Saskatoon, Saskatchewan, April, 1992.

- Salasan Associates Inc. **An Evaluation of Program 9, The Northern Manitoba Affirmative Action Program, Northern Development Agreement.** Conducted under contract to Regional Industrial Expansion, Canada. February, 1987.
- Sanders, Douglas., *Legal Aspects of Economic Development of Indian Reserve Lands.* Ottawa: Indian and Northern Affairs Canada, 1976.
- Saskatchewan Department of Education. **Inner-City Dropout Study,** Regina, February, 1985.
- Saskatchewan Institute of Applied Science and Technology. **Aboriginal Graduate Employment Statistics Report; 1993 and 1993 Employment Statistics.** Saskatoon: The Author, June, 1984.
- Sorkin, A., "The Economic Basis of Indian Life", *Annals of the AAPSS*, 436, 1978: 1-12.
- Shaw, R. Paul. "The Burden of Unemployment in Canada," *Canadian Public Policy*, Vol. XI, No. 2 (June, 1985).
- Stanbury, W.T. "The Education Gap: Urban Indians in British Columbia," *BC Studies*, No. 19 (Autumn, 1973).
- Stanbury, W.T., **Success or Failure: Indians in Urban Society,** Vancouver, U.B.C. Press, 1975.
- Wannamaker, D.G., *The Communities Economic Development Fund: A Review and Evaluation of Leading Efforts, 1971-1980. A Practicum Submitted as Partial Fulfillment of the Requirements for the Degree of Master of Natural Resource Management.* Winnipeg: Natural Resource Institute, University of Manitoba, 1981.
- Wein, Fred., *Rebuilding the Economic Base of Indian Communities: the Micmac in Nova Scotia.* Montreal: Institute for Research on Public Policy, 1986.
- Weppner, R., "Urban Economic Opportunities: The Example of Denver", in J. Waddell and M. Watson (eds.), *The American Indian in Urban Society*, Boston: Little, Brown and Company, 1971.
- Working Margins Consulting Group. **Study of Indian and Inuit Community Training Needs and Programs,** prepared for Indian and Northern Affairs Canada, Ottawa, 1988.
- Working Margins Consulting Group. **Evaluation of Indian Educational Counselling Services in Manitoba,** prepared for Island Lake Tribal Council, Winnipeg, 1989.
- Working Margins Consulting Group. **Evaluation of Employment and Affirmative Action in the Second Core Area Agreement** prepared for Industry Science and Technology Canada, Winnipeg, 1991.
- Working Margins Consulting Group. **Review of post-school Indian education in Saskatchewan,** prepared for the Office of the Treaty Commissioner (Saskatchewan), Saskatoon, 1992.