9

Aboriginal and Non-Aboriginal Labour-Market, Education, and Occupational Distinctions in Friendship Centre and Gap Communities Across Canada

Ben Brunnen

Introduction

This chapter utilizes 2006 Statistics Canada census data to gain an in-depth understanding of the education, labour-market, and occupational characteristics of Aboriginal and non-Aboriginal populations in friendship centre and non-friendship centre (i.e., gap) communities with small, medium, and large Aboriginal populations.[1] Specifically, this chapter seeks to answer the following questions:

- How do Aboriginal and non-Aboriginal labour-force participation, employment, and unemployment rates differ among friendship centre and gap communities with small, medium, and large Aboriginal populations?
- How do Aboriginal and non-Aboriginal educational attainments differ among friendship centre and gap communities with small, medium, and large Aboriginal populations? To what extent do labour-market outcomes vary with education?
- Do the occupational profiles of Aboriginal and non-Aboriginal people differ in friendship centre and gap communities with small, medium, and large Aboriginal populations? For given education levels, are Aboriginal people employed in comparable occupations?

Answers to these questions will provide valuable new insight into the education and labour-market realities confronting the off-reserve Aboriginal population across Canada, and will assist policy-makers in better understanding Aboriginal and non-Aboriginal education, occupation, and labour-market outcomes in friendship centre and gap communities.

Labour-Force Variations

This section analyzes Aboriginal and non-Aboriginal labour-force activity, with a focus on variations between friendship centre and gap communities with small, medium, and large Aboriginal populations. The three labour-force measures

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utilized herein are the participation rate, the employment rate, and the unemployment rate. These labour-force measures are defined below:

- **The participation rate** is defined as the number of individuals in the labour force (both employed and unemployed) divided by the population 15 years and older. The participation rate in general provides an indication of a group's affinity to participate in the labour force, and implies variations in propensities to attend school, retire, or become homemakers. The higher the participation rate, the greater the proportion of the population employed and seeking employment.
- **The employment rate** is defined as the number of people employed divided by the population 15 years and older. As the employment rate approaches the participation rate, the labour market approaches full employment.
- **The unemployment rate** is defined as the number of people unemployed divided by the number of people participating in the labour force. The unemployment rate is useful in that it measures discrepancies only within the labour force; it excludes individuals who have chosen to opt out of the labour force for any reason, including retirement and child rearing. One must be actively looking for work to be unemployed.

Aboriginal and Non-Aboriginal Labour-Force Variations

The participation-, employment-, and unemployment-rate distributions for the Aboriginal and non-Aboriginal populations in all communities (both friendship centre and gap) are presented in **Figures 9.1** through **9.3** on pages 221 and 222.

As **Figure 9.1** indicates, Aboriginal and non-Aboriginal participation rates are normally distributed (i.e., bell shaped) with means of 64.7% and 69.8% respectively. While both distributions peak in the 60% to 70% range, the non-Aboriginal participation-rate distribution is shifted to the right of the Aboriginal distribution, indicating that the non-Aboriginal population generally participates in the labour force to a greater extent relative to the Aboriginal population.

Figure 9.2 depicts Aboriginal and non-Aboriginal employment-rate distributions. While both Aboriginal and non-Aboriginal employment rates are normally distributed with means of 55.6 and 65.9 respectively, the Aboriginal employment-rate distribution peaks in the 50% to 60% range—which is in a lower range relative to the non-Aboriginal population, whose distribution peaks in the 60%–70% range. When comparing employment- and participation-rate distributions, clearly the non-Aboriginal population is experiencing greater success in securing employment.

A comparison of unemployment-rate distributions (**Figure 9.3**) confirms the unemployment disparity confronting Aboriginal people. Aboriginal unemployment rates are normally distributed (albeit somewhat skewed to the right), with

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a mean of 14.5%. Non-Aboriginal unemployment rates tend to be concentrated in the 0% to 10% range with a mean of 6.3%—indicating a far lower average unemployment rate, as well as far less variation across communities.[2]

While these findings suggest a clear Aboriginal and non-Aboriginal unemployment-rate discrepancy, it is instructive to understand the statistical significance of this difference. Tests of statistical significance provide a basis on which to ascertain the extent to which observed variations in sample data translate into actual population variations. Significance is usually measured in terms of confidence levels. Anything above the 95% confidence level provides strong evidence that the observed differences would actually occur in the population, anything between 90% and 95% confidence provides moderate evidence, and anything below 90% does not provide sufficient evidence that the observed differences would actually occur (Albright, Winston, and Zappe 2006: 492).

When observed variations are insignificant (i.e., below 90% confidence), there is no proven compelling need for intervention, as there is not sufficient evidence to suggest that the observed sample differences actually exist in the population. However, when the observed differences are statistically significant, decision-makers can be confident that the need for intervention is real and legitimate. Consequently, where data permit, this report focuses on identifying statistically significant variations in the data set, and drawing relevant conclusions.

Simply speaking, to be significant at the 95% level, if the entire Aboriginal and non-Aboriginal populations, on average, exhibited different participation, employment, and unemployment rates, then only five random samples out of one hundred would provide evidence that they are not different (Albright, Winston, and Zappe 2006: 493). The clearest method for interpreting significance is the

Figure 9.1: Aboriginal and Non-Aboriginal Participation

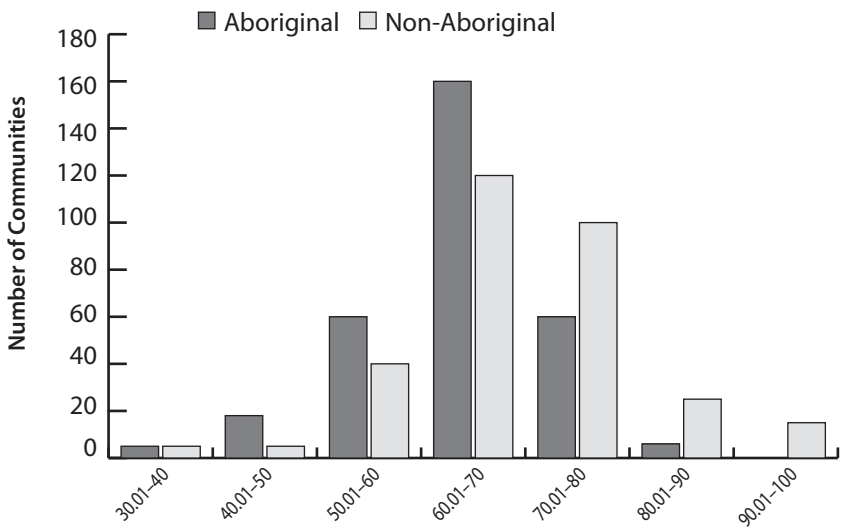

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Figure 9.2: Aboriginal and Non-Aboriginal Employment

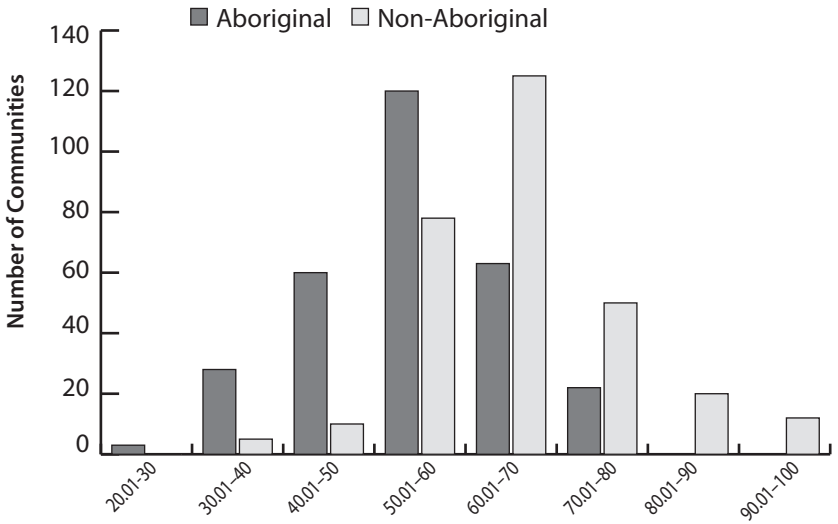
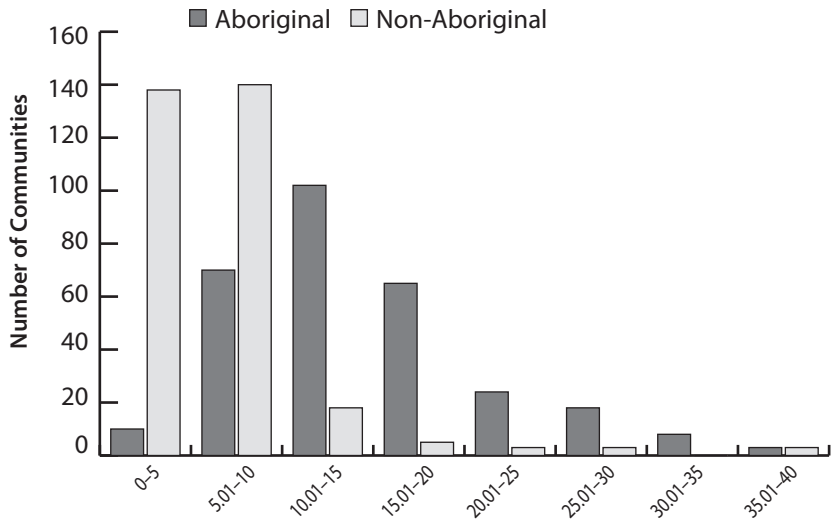


Figure 9.3: Aboriginal and Non-Aboriginal Unemployment



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p-value. A p-value of 0.05 indicates significance at the 95% confidence level. That is, there is 95% confidence that the sample differences represent true population differences. Similarly, a p-value of 0.01 indicates significance at the 99% confidence level.

Table 9.1 (below) presents the average participation, employment, and unemployment rates of Aboriginal and non-Aboriginal populations in all communities, along with the p-values of a difference of means test for the Aboriginal and non-Aboriginal participation, employment, and unemployment rates.[3] As is evidenced by **Table 9.1**, Aboriginal and non-Aboriginal labour-force characteristics differ substantially: the participation-rate gap is -5.1%, the employment-rate gap is 10.2%, and the unemployment-rate gap is 8.2%. In terms of statistical significance, the p-values for the difference of means tests in **Table 9.1** are extremely small, and indicate that there is 99% confidence that these observed differences are reflective of actual population differences. These findings leave little doubt that Aboriginal participation, employment, and unemployment rates are poorer than those of the non-Aboriginal population.

Labour-Force Variations by Friendship Centre and Aboriginal Population Size

This section seeks to further understand the Aboriginal and non-Aboriginal labour-market disparities by focusing on variations by Aboriginal population size and friendship centre presence.

Aboriginal/Non-Aboriginal Labour-Force Ratios

When comparing Aboriginal to non-Aboriginal labour-force outcomes for friendship centre and gap communities, it is instructive to compare relative labour-market conditions in each community. This is because it is the relative (rather than absolute) Aboriginal-to-non-Aboriginal unemployment, participation, and employment rates that matter. For example, if both Aboriginal and non-Aboriginal unemployment rates are 15% in a single community, then the labour-market challenges in the community are not necessarily Aboriginal-specific, but are the result of the community-wide economy. Alternatively, if the Aboriginal unemployment rate is three times that of the non-Aboriginal population, then an Aboriginal-non-Aboriginal gap exists in the community, and this gap needs to be addressed to achieve labour-force parity.

Table 9.1: Aboriginal and Non-Aboriginal Labour-Force Statistics

	Participation Rate	Employment Rate	Unemployment Rate
Aboriginal Average	64.7%	55.6%	14.5%
Non-Aboriginal Average	69.8%	65.9%	6.3%
Difference	-5.1%	-10.2%	8.2%
P-value	<0.001	<0.001	<0.001

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The Aboriginal-to-non-Aboriginal labour-market gap is incorporated into the labour-market analysis by dividing Aboriginal participation, employment, and unemployment rates by those of the non-Aboriginal population. The result is a labour-market ratio. When the participation-, employment-, and unemployment-rate ratios equal one, Aboriginal and non-Aboriginal rates are at parity. When the ratios are greater than one, Aboriginal rates exceed non-Aboriginal rates. Participation and employment-rate ratios that are greater than or equal to one and unemployment-rate ratios that are less than one are favourable to the Aboriginal population.[4]

Aboriginal Population Size

Labour-force outcomes can vary depending on the Aboriginal population size of a community. Communities with small Aboriginal populations, for instance, may offer fewer of the support services necessary to assist Aboriginal people to fully participate in the labour force. Indeed, the Aboriginal population in an urban community can be comprised of any combination of Aboriginal identity groups representing a variety of educational and workplace backgrounds, and necessitating any combination of transition, social, health, and/or cultural support services. According to Brunnen and Jankovic (2009: 26), "this depth and complexity is precisely why efforts to improve off-reserve Aboriginal labour-market outcomes need to take a holistic approach to individuals and align with all of their social, cultural, and economic needs, aspirations and expectations." Communities with small Aboriginal populations likely lack the capacity to provide the holistic supports necessary to facilitate Aboriginal labour-market success.

Tests as to whether significant labour-market differences exist based on Aboriginal population size revealed that individuals in communities in the data set defined as having small Aboriginal populations (with 0 to 500 Aboriginal people 15 and older), medium (501 to 1,000), and large (1,001+), generally exhibit significantly different average participation, employment, and unemployment rates at the 90% to 95% confidence level, relative to the entire data set. Consequently, this analysis separates the data set into communities with small, medium, and large Aboriginal populations following the above criteria.

Small Aboriginal Population Communities

The data set contains 34 communities with small Aboriginal populations: 11 with friendship centres and 23 without. The distributions of Aboriginal/non-Aboriginal employment rate ratios for these communities are presented in **Figure 9.4** on page 225. The employment rate is useful as a single indicator in that it implicitly captures participation- and unemployment-rate dynamics.

As **Figure 9.4** indicates, the average employment-rate ratio for friendship centre communities is 0.97, and the ratios are relatively normally distributed around the mean. The average gap community employment-rate ratio is somewhat lower at 0.70, and the distribution is skewed to the right, with the mode value of

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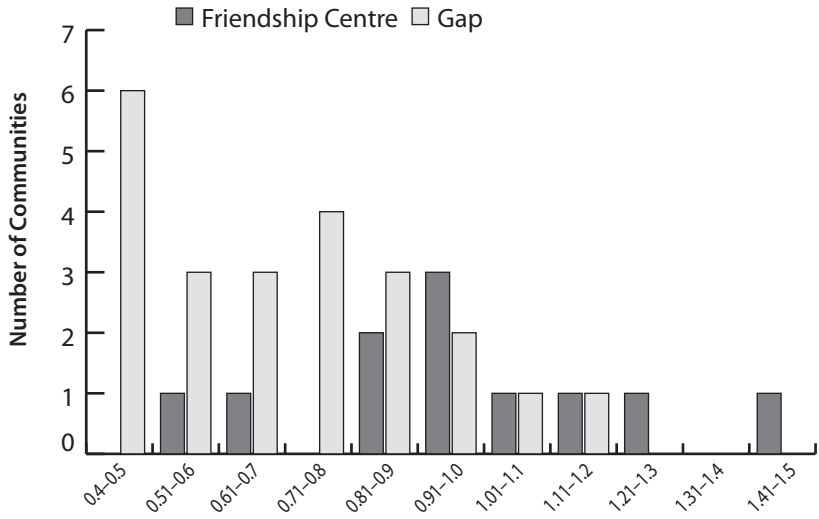
Figure 9.4: Employment-Rate Ratios, Small Aboriginal Population Communities



six communities exhibiting ranges of 0.4 to 0.5 (the lowest range on the scale). **Table 9.2** (below) presents the results of a difference of means test for employment-, participation-, and unemployment-rate ratios in friendship centre and gap communities with small Aboriginal populations. The p-values for the participation and employment ratio differences are significant at the 99% confidence level. This presents convincing evidence that, on average, gap community employment- and participation-rate ratios are lower than those of friendship centre communities. However, the difference of means test for average unemployment-rate ratios does not reveal a significant difference at the 90% confidence level. These findings suggest that the presence of a friendship centre in communities with small Aboriginal populations is positively linked to Aboriginal participation in the labour force, but not necessarily with success in securing and retaining employment.

Table 9.2: Friendship Centre-Gap Labour-Force Statistics, Small Aboriginal Population

	Participation Rate Ratio	Employment Rate Ratio	Unemployment Rate Ratio
Friendship Centre Average	1.00	0.97	0.31
Gap Average	0.83	0.70	0.12
Difference	0.17	0.17	0.19
P-value	<0.005	<0.005	0.13

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Analyzing the correlation coefficient is a useful approach for understanding whether a relationship exists between two variables. A coefficient value close to 1 indicates a strong positive relationship between two variables, a value of 0 indicates no relationship, and a value of negative 1 indicates a strong negative relationship. The correlation coefficient between employment rate ratios and friendship centre presence is 0.51, which suggests a somewhat positive relationship. Correlation, however, does not necessarily imply causation. To understand the influence of friendship centres on employment-rate ratios in communities with small Aboriginal populations, a two variable ordinary least squares regression analysis is helpful. Regression analyses are useful for understanding the quantitative causal impact of one variable on another. The results of an ordinary least squares regression measuring the impact of friendship centre presence on employment ratios is presented in Equation 1:

Equation 1: Employment Rate Ratio = 0.70 + 0.27 (friendship centre)

This equation indicates that the presence of a friendship centre increases the employment rate ratio by 0.27 in these communities. A p-value of 0.002 reveals that this relationship is significant at the 99% confidence level.

While Equation 1 suggests some evidence of a causal relationship between friendship centres and employment-rate ratios, the adjusted R-squared value for the equation is 0.23, which suggests that additional variables need to be added to the equation to improve the explanatory strength of the model.[5] This significant positive relationship, yet weak explanatory capability of the equation, is consistent with the friendship centre service-delivery model, which does not deliver employment services directly, but refers clients to the available labour-market support services in the community. Increasing the explanatory power of the model could require the inclusion of variables related to the presence of labour-market support services in these communities. Such an analysis, however, is beyond the scope of this report.

To understand which communities can potentially benefit from greater Aboriginal labour-market supports and/or a friendship centre, it is instructive to identify the outlying communities in the data set. Based on the distributions presented in **Figure 9.4**, it is apparent that outlying gap communities are those that exhibit employment-rate ratios between 0.4 and 0.5 (the bar on the far left). These communities are all in sparsely populated regions of Canada and their ratios are presented in **Table 9.3** on the following page.

Medium Aboriginal Population Communities

Medium Aboriginal population communities are defined as communities with Aboriginal populations of 501 to 1,000 persons fifteen years and older. The data set consists of 47 medium Aboriginal population communities: 16 friendship centre and 31 gap communities. The distributions of Aboriginal/non-Aboriginal employment-rate ratios for medium Aboriginal population communities are presented in **Figure 9.5** on the following page.

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Table 9.3: Gap Community Employment-Rate Ratio Outliers, Small Aboriginal Population

Community	Employment Rate Ratio
Sanikiluaq	0.43
Repulse Bay	0.46
Hall Beach	0.46
Clyde River	0.48
Kimmirut	0.49
Old Crow	0.50

The friendship centre average employment-rate ratio is 0.85, which is 0.09 higher than the gap community ratio of 0.76. While the friendship centre community ratio is relatively normally distributed around the mean, the gap community distribution is somewhat bimodal—with peaks at 0.6 to 0.7 and 1.0 to 1.1—suggesting that the medium Aboriginal population gap communities are not a homogenous group. A difference of means test for significance reveals that only average employment-rate ratios are significantly different at the 95% confidence level (see **Table 9.4** on page 228). A correlation coefficient of 0.21 suggests the relationship between employment-rate ratios and friendship centre presence is relatively weak, and a least squares regression confirms that no significant causal relationship exists between employment-rate ratios and friendship centre status at the 90% level. The bimodal nature of the gap community distribution likely affects this relationship.

Figure 9.5: Employment-Rate Ratios, Medium Aboriginal Population Communities

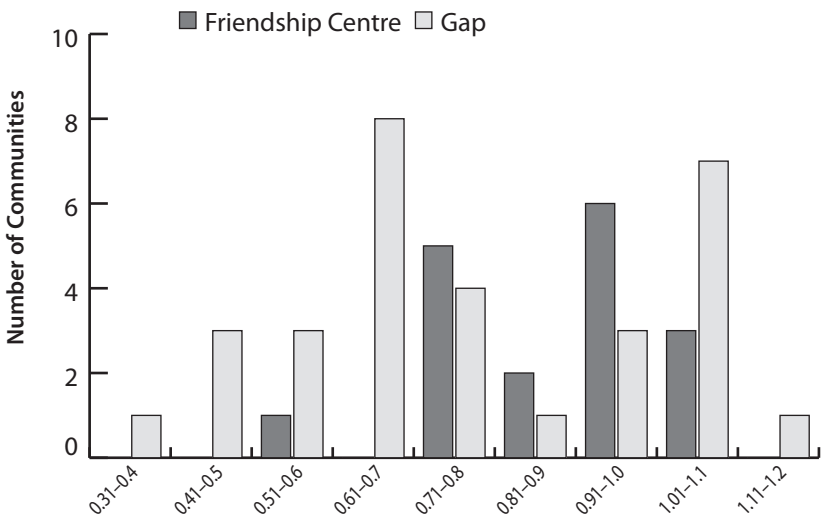

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Table 9.4: Friendship Centre-Gap Labour-Force Statistics, Medium Aboriginal Population Communities

	Participation Rate Ratio	Employment Rate Ratio	Unemployment Rate Ratio
Friendship Centre Average	0.92	0.85	0.08
Gap Average	0.85	0.76	0.08
Difference	0.70	0.09	0.00
P-value	0.08	0.05	0.40

Table 9.5: Gap Community Employment-Rate Ratio Outliers, Medium Aboriginal Population

Community	Employment Rate Ratio
Division No. 21, Unorganized	0.35
Igloolik	0.44
Fort McPherson	0.45
Cape Dorset	0.48
Kugluktuk	0.50
Pond Inlet	0.52
Gjoa Haven	0.56

Table 9.6: Gap Community Employment-Rate Ratio, Positive Outliers, Medium Aboriginal Population

Community	Employment Rate Ratio
Saint-Jérome	0.88
Okotoks	0.92
Hope	0.96
Moncton	0.97
Port Coquitlam	1.01
Yellowhead County	1.02
Saint-Jean-sur-Richelieu	1.03
Saint John	1.03
Newmarket	1.03
Guelph	1.04
Leduc	1.04
Steinbach	1.18

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Despite the lack of causation, the distributions in **Figure 9.5** indicate that there are a number of gap community outliers in the data set. These communities are sparsely populated and have ratios less than 0.6 (see **Table 9.5** on page 228). **Figure 9.5** also identifies a number of gap communities that are positive outliers with employment-rate ratios higher than the friendship centre communities (see **Table 9.6** on page 228).

While it is beyond the scope of this report to analyze the factors that influence the employment-rate ratio success of these communities, these communities could be further researched to identify best practices.

Large Aboriginal Population Communities

Large Aboriginal population communities are defined as communities with Aboriginal populations greater than 1,000 persons 15 years and older. The data set consists of 223 communities including 89 friendship centre and 134 gap communities. The distribution of the Aboriginal to non-Aboriginal employment-rate ratios in these communities is presented in **Figure 9.6** (below).

The friendship centre average employment-rate ratio is 0.85, which is actually lower than the gap community employment-rate ratio of 0.91. A test for significance for the difference of means reveals that friendship centre labour-force measures are significantly different than those of gap communities at the 99% confidence level (see **Table 9.7** on page 230). While unemployment-rate ratios are better in friendship centre communities, participation- and employment-rate ratio differences are negative (i.e., rates are better in gap communities), which is a counterintuitive result.

Figure 9.6: Employment-Rate Ratios, Large Aboriginal Population Communities

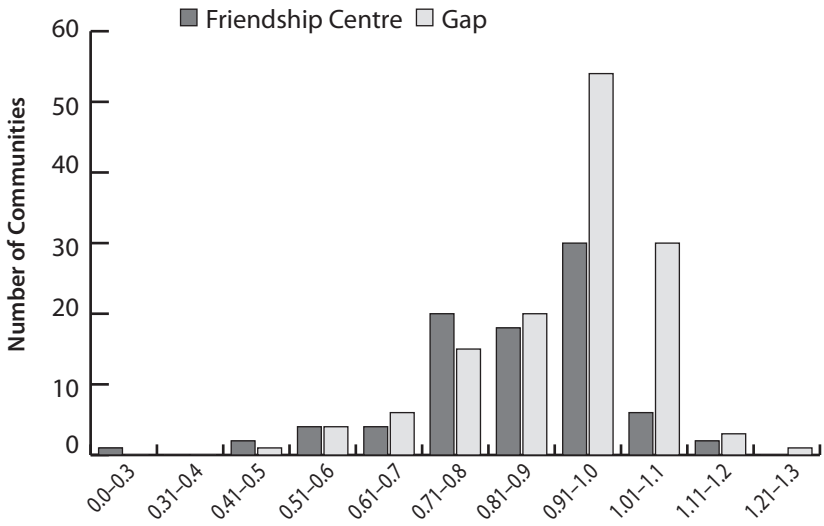

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Table 9.7: Friendship Centre-Gap Labour-Force Statistics, Large Aboriginal Population Communities

	Participation Rate Ratio	Employment Rate Ratio	Unemployment Rate Ratio
Friendship Centre Average	0.93	0.85	0.068
Gap Average	0.98	0.91	0.086
Difference	-0.05	-0.06	-0.018
P-value	0.002	<0.001	<0.001

A regression analysis confirms a significant negative relationship between employment-, participation-, and unemployment-rate ratios and the presence of a friendship centre. The respective magnitudes of these relationships are presented in Equations 2, 3, and 4:

Equation 2: Participation rate ratio = 0.982 – 0.052 (friendship centre)

Equation 3: Employment rate ratio = 0.915 – 0.068 (friendship centre)

Equation 4: Unemployment rate ratio = 0.085 – 0.018 (friendship centre)

The adjusted R-squared values for all of these equations range from 0.03 to 0.04, which suggest that the influence of a friendship centre on labour-market ratios is weak at best.

One possible explanation for the negative participation- and employment-rate ratio differences in large Aboriginal population communities is that these communities may offer greater support services (e.g., housing, training, education, treatment, family counselling) in response to the demand created by a large Aboriginal population, which may enable greater flexibility in choosing to enter the workforce. These programs and services would very likely be within the referral and/or service-delivery scope of the local friendship centre, which serves as the conduit to connect Aboriginal people to the services they need—enabling greater flexibility for clients to choose to withdraw from the workforce to raise a family, attend post-secondary institutions, seek treatment or counselling, or whatever else may be the case.

This explanation is also consistent with the negative relationship between the unemployment-rate ratio and the presence of a friendship centre in large Aboriginal population communities. The friendship centre could be linking Aboriginal people to relatively extensive career-development and placement programs available in these communities.

While it is unclear whether lower participation- and employment-rate ratios are a desirable outcome in large Aboriginal population communities, reduced unemployment rates are certainly desirable. **Table 9.8** on page 231 lists unemployment-rate ratios for the outlying gap communities that are likely to benefit the most from a friendship centre.

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Table 9.8: Gap Community Unemployment-Rate Ratio Outliers, Large Aboriginal Population

Community	Unemployment Rate Ratio
De Salaberry	0.42
Ste. Anne	0.28
Whitecourt	0.22
Taché	0.22
Ajax	0.17
Medicine Hat	0.17
Mountain View County	0.17

The distributions in **Figure 9.6** indicate that there is one friendship centre community with a far lower employment-rate ratio (0.26) than any other large Aboriginal population community in the data set (gap or otherwise). This community is La Loche, and it may prove instructive to identify particular challenges confronting Aboriginal people in this area.

Educational Variations

Education is often cited as a contributing factor to labour-market success. This section analyzes Aboriginal and non-Aboriginal education levels, and considers the influence of educational attainment on Aboriginal and non-Aboriginal labour-market outcomes in friendship centre and gap communities of various Aboriginal population sizes.

Aboriginal and Non-Aboriginal Educational Attainment

Figure 9.7 on page 232 depicts the educational attainments of the Aboriginal and non-Aboriginal populations based on the 2006 census, separated into five categories: less than high school completion; high school certificate or equivalent; trade certificate, apprenticeship; college or university diploma/certificate below the bachelor level; and bachelor's degree or higher. While comparable proportions of Aboriginal and non-Aboriginal people possess a high school diploma or trade certificate, stark contrasts exist at the less-than-high-school and bachelor's-degree levels.

As **Figure 9.7** indicates, 43% of Aboriginal people possess less than a high school diploma, compared to 25% of non-Aboriginal people—a differential of 18 percentage points. Conversely, only 5% of Aboriginal people possess a bachelor's degree or higher, compared to 17% of non-Aboriginal people.

Aboriginal and non-Aboriginal educational attainments tend to be similarly distributed across communities of all Aboriginal population sizes, in that large disparities exist at the less-than-high-school and bachelor's-degree levels. Communities with small Aboriginal populations, however, have the largest

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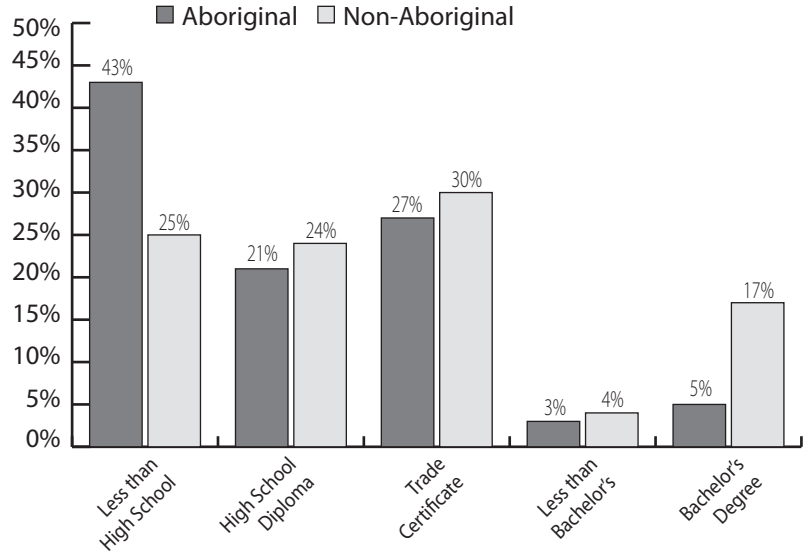
Figure 9.7: Average Educational Attainment, All Communities



Aboriginal-to-non-Aboriginal education gap with, on average, more than half of the Aboriginal population (52%) possessing less than a high school diploma.

Medium-sized Aboriginal population communities display the best educational outcomes—both in terms of absolute numbers and relative to the non-Aboriginal population. For example, these communities have fewer Aboriginal people with less than a high school certificate and more with bachelor's degrees relative to small and large communities, as well as relative to the non-Aboriginal population in medium-sized Aboriginal population communities. These findings suggest that communities with small Aboriginal populations stand to benefit the most from an increased focus on education, particularly at the high-school level.

Labour-Force Variations by Educational Attainment

Figures 9.8 to **9.10** on pages 233 and 234 depict Aboriginal and non-Aboriginal participation, employment, and unemployment rates by education level. In terms of labour-force participation (**Figure 9.8**), while total Aboriginal participation rates are, on average, less than those of non-Aboriginal people (65% vs. 70%), Aboriginal participation rates exceed those of non-Aboriginal people for each of the less-than-high-school, high-school, and trade-certificate categories. Interestingly, as both Aboriginal and non-Aboriginal people obtain a high school diploma or equivalent, their willingness to participate in the labour force increases substantially (from 47% to 73%, and 46% to 69% respectively). These findings suggest that Aboriginal and non-Aboriginal participation rates tend to be comparable for all education levels.

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From an employment-rate perspective, **Figure 9.9** indicates that total Aboriginal employment rates are 10% below those of non-Aboriginal people (56% vs. 66%). This difference is most notable at the less-than-high school and bachelor's-degree levels, where the differentials are 5 and 6 percentage points respectively.

Figure 9.10 presents Aboriginal and non-Aboriginal unemployment rates by education level, which indicates that Aboriginal unemployment rates exceed those of non-Aboriginal people for all education levels. However, as education levels improve, unemployment rates decrease for both groups. In fact, with the exception of the trade certificate, the Aboriginal to non-Aboriginal gap consistently declines as education increases (but does not close entirely).

One of the more interesting findings in **Figure 9.10** is that the largest Aboriginal unemployment-rate-gap decrease occurs when individuals move from the less-than-high-school to high-school education level—both relative to the non-Aboriginal population (a decrease from 12 to 6 percentage points), and in terms of absolute Aboriginal unemployment rates (a decrease from 21 to 13 percentage points). These findings clearly indicate that attaining a high school diploma is the single greatest thing an Aboriginal individual can do to improve his or her employment prospects, which is compelling given that 43% of Aboriginal people possess less than a high school diploma.

Figure 9.8: Average Participation Rate by Education Level

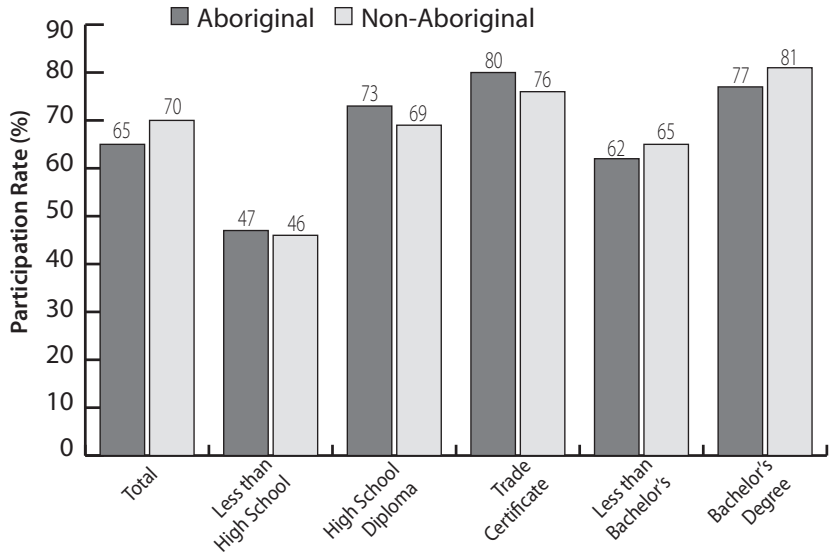

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Figure 9.9: Average Employment Rate by Education Level

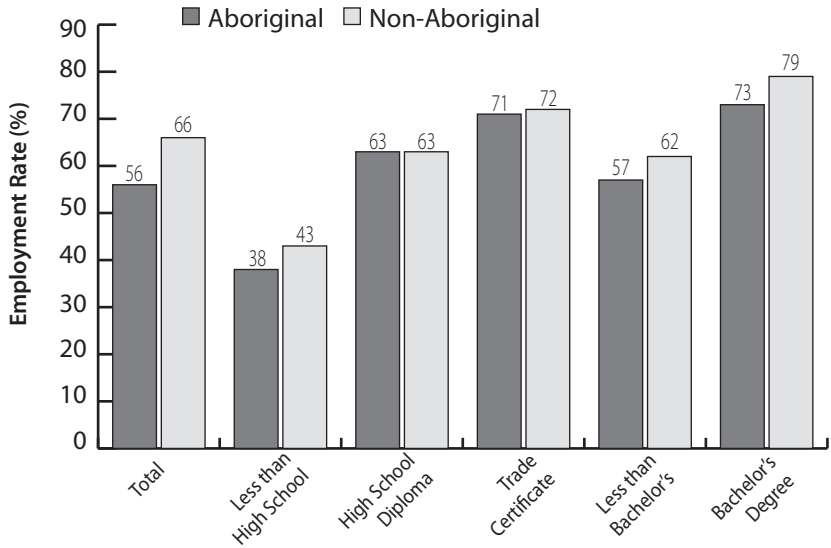
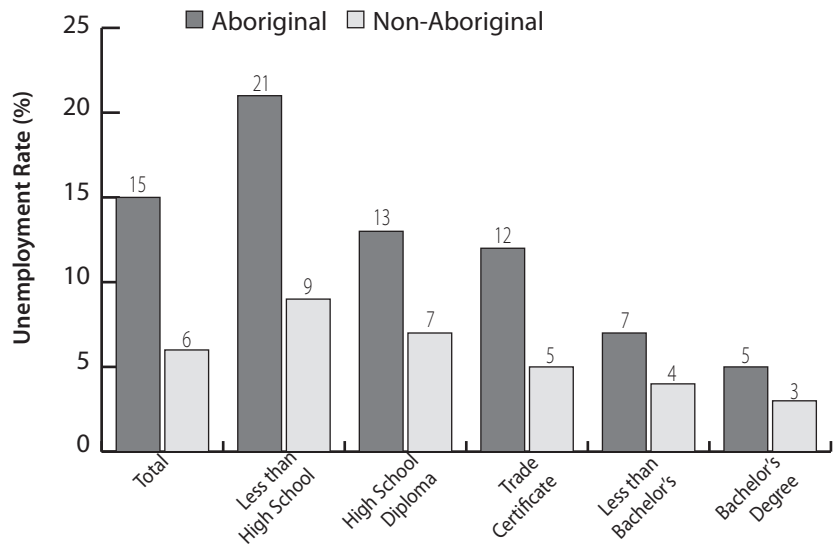


Figure 9.10: Average Unemployment Rate by Education Level



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Education and Labour-Force Variations by Friendship Centre Presence

Given that obtaining a high school certificate or equivalency is the single greatest thing an Aboriginal individual can do to improve his or her unemployment-rate prospects, combined with the relatively high proportion of Aboriginal people represented in this educational category (43%), this section analyzes Aboriginal participation, employment, and unemployment rates in friendship centre and gap communities for the less-than-high-school education level.[6] **Figure 9.11** (below) depicts the distribution of the percentage of Aboriginal people with less than a high school diploma in gap and friendship centre communities. The average proportion of Aboriginal people with less than high school is 42% in friendship centre communities and 44% in gap communities. While not a substantial difference, this distinction is significant at the 90% confidence level (p-value of 0.09). Consequently, it could be concluded that residents in gap communities have a lower high school completion rate.

Table 9.9 on page 236 depicts the outlying communities from **Figure 9.11**, where the proportion of the Aboriginal population with less than high school completion is 70% or higher. All of the 18 communities listed in **Table 9.9** are derived from the sparsely populated data set, and only Senneterre and La Loche are friendship centre communities. Many of these communities have high relative Aboriginal populations, and only 2 have non-Aboriginal populations greater than 150: Senneterre and Mackenzie No. 23.

Figure 9.11: Distribution of Less-than-High-School Percentage

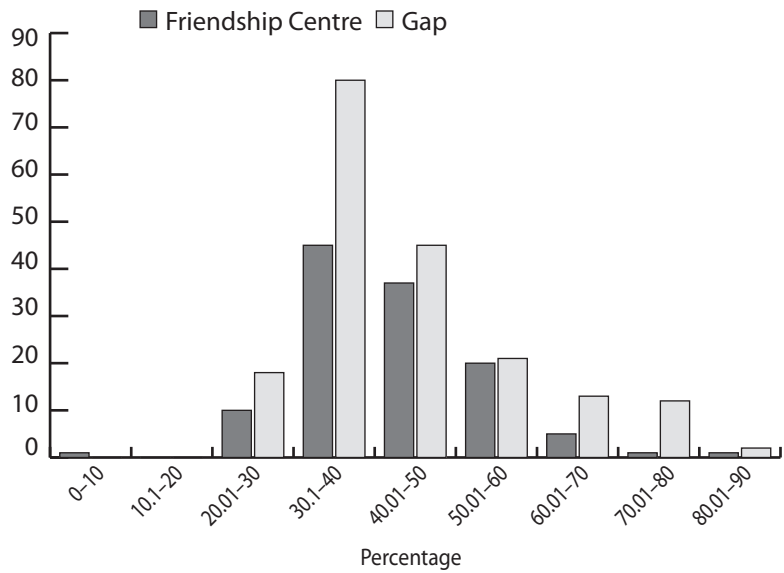

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Table 9.9: Outlying Communities — Aboriginal Population with Less than High School Completion

Community	Aboriginal			Non-Aboriginal			Unemployment Rate Ratio
	Population	Less than High School (%)	Less than High School Unemployment Rate (%)	Population	Less than High School (%)	Less than High School Unemployment Rate (%)	
Tuktoyaktuk	525	69.5	41.2	100	45.0	40.0	1.0
Clyde River	485	70.1	28.0	25	0.0	0.0	n/a
Kugaaruk	370	70.3	20.8	35	28.6	1.0	20.8
Taloyoak	455	70.3	33.3	40	37.5	1.0	33.3
Mackenzie No. 23	960	70.8	30.6	3,960	64.8	1.0	30.6
Cape Dorset	720	70.8	26.7	85	0.0	0.0	n/a
Fort Good Hope	380	71.1	32.1	35	0.0	0.0	n/a
Arctic Bay	405	71.6	28.6	45	22.2	1.0	28.6
Baker Lake	985	72.6	27.3	130	19.2	1.0	27.3
Senneterre	950	72.6	25.0	6,800	42.1	12.7	2.0
Gjoa Haven	605	72.7	34.1	55	36.4	1.0	34.1
Igloolik	815	73.0	17.8	85	17.6	1.0	17.8
Qikiqtarjuaq	305	73.8	40.0	25	40.0	1.0	40.0
Arviat	1,120	76.8	19.4	110	9.1	1.0	19.4
Sanikiluaq	420	78.6	25.9	30	0.0	0.0	n/a
Hall Beach	370	81.1	28.0	20	0.0	0.0	n/a
La Loche	2,125	81.4	43.0	145	17.2	1.0	43.0
Repulse Bay	420	84.5	43.2	25	40.0	1.0	43.2

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When analyzing labour-force gaps in these communities, it is important to understand the absolute size of the non-Aboriginal population, as well as the ratio of Aboriginal people to non-Aboriginal people in each community, as these factors provide a sense of the context of the community disparities. Communities with relatively low non-Aboriginal population counts but high Aboriginal to non-Aboriginal labour-force disparities for a given education level, create the perception of major labour-market inequities when, in fact, this could be the result of a small non-Aboriginal population skewing the data set.

All of the communities listed in **Table 9.9** can benefit from a greater focus on improved high-school graduation rates and labour-market outcomes. However, the communities that should be the highest priority for greater Aboriginal labour-market supports and/or friendship centre referral services are those with:

1. Comparably-sized Aboriginal and non-Aboriginal populations
2. A comparable number of Aboriginal and non-Aboriginal people with less than a high school diploma
3. A high Aboriginal to non-Aboriginal "less-than-high-school" unemployment-rate ratio

It is these communities that have relatively diverse populations and relatively similar Aboriginal to non-Aboriginal educational attainments, yet significant Aboriginal to non-Aboriginal unemployment-rate disparities. The one **Table 9.9** community that satisfies these criteria is Mackenzie No. 23, which exhibits relatively high Aboriginal and non-Aboriginal populations and comparable high school non-completion rates, but an unemployment-rate ratio of 30.6 for this education level.

Occupational Variations

This section compares Aboriginal and non-Aboriginal occupational outcomes by educational attainment, friendship centre presence, and Aboriginal population size. Occupations are classified into ten general sectors based on the Statistics Canada National Occupational Classification (NOC) system: (1) management, (2) business, finance, and administrative, (3) natural and applied sciences, (4) health, (5) social science, education, government, and religion, (6) art, culture, recreation, and sport, (7) sales and service, (8) trades, transport, and equipment operators, (9) primary industry, and (10) processing, manufacturing, and utilities.

Aboriginal and Non-Aboriginal Occupational Variations

Figure 9.12 on page 238 depicts average Aboriginal and non-Aboriginal occupational classifications for all communities in the data set. Aboriginal people are under-represented in the management, business, and science categories; relatively evenly represented in the social science, education, government, health, and manufacturing categories; and overrepresented in the sales and service, trades, and primary industry categories.

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Occupational Variations by Education Level

Focusing on educational attainment, **Table 9.10** on page 239 depicts Aboriginal and non-Aboriginal occupational ratios by education level. When the ratio is less than one, Aboriginal people are under-represented in the category; when the ratio exceeds one, Aboriginal people are overrepresented in the category; and when the ratio equals one, Aboriginal and non-Aboriginal rates are at parity. The "total" education category presents a useful benchmark to compare the component education levels and depicts the information presented in **Figure 9.12** in ratio format. Generally speaking, as Aboriginal education levels increase, Aboriginal representation declines in sales and service occupations and increases in management occupations, relative to the non-Aboriginal population. Additionally, Aboriginal representation in trades, primary industry, and manufacturing occupations tends to be relatively lower at the bachelor's level and higher at the high-school and trades-certificate levels.

While the ratios presented in **Table 9.10** present a useful comparison of relative Aboriginal and non-Aboriginal occupational representation by education level, they do not capture the magnitude of these distinctions. For example, while the Aboriginal to non-Aboriginal social science occupation ratio at the less-than-high-school level is 1.96, only 3% of Aboriginal people and 1% of non-Aboriginal people are represented in this occupational category (**Figure 9.13**). Consequently, in addition to the ratios, it is instructive to understand the proportion of Aboriginal and non-Aboriginal people represented in these occupations. **Figures 9.13** to **9.16** present the distributions of Aboriginal and non-Aboriginal occupational outcomes by education level. Generally speaking, as education levels improve, a

Figure 9.12: Average Aboriginal and Non-Aboriginal Occupation Distributions, All Communities

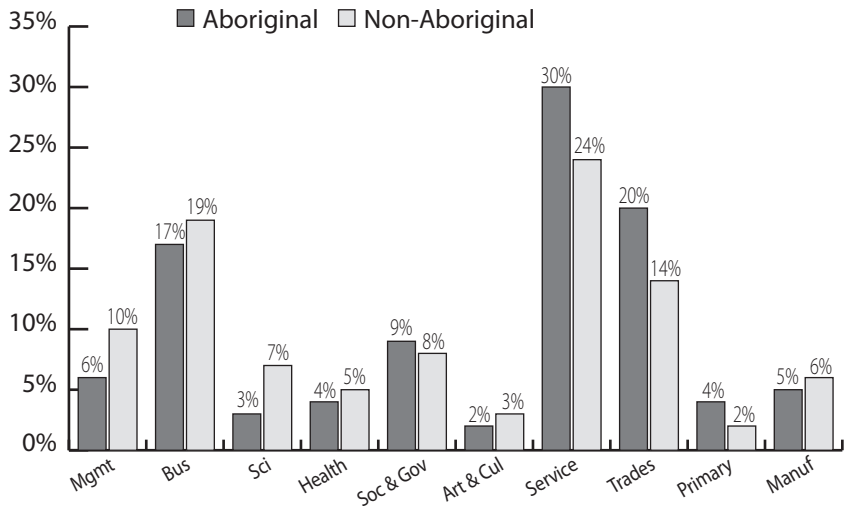

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Table 9.10: Average Aboriginal/Non-Aboriginal Education Ratio by Occupation

	Management	Business, Finance, Admin.	Natural & Applied Sciences	Health	Social Science, Education, Gov't, Religion	Art, Culture, Rec. & Sport	Sales & Service	Trades, Transport, Equip. Operators	Primary Industry	Processing, Manufac., Utilities
Total	0.59	0.85	0.47	0.79	1.03	0.66	1.22	1.43	1.84	0.90
Less than High School	0.60	0.82	0.59	0.99	1.96	0.62	1.02	1.18	1.35	0.66
High School or Equivalent	0.64	0.90	0.65	0.93	1.52	0.69	1.06	1.21	1.25	0.77
Trade Certificate	0.67	0.95	0.68	1.01	1.63	0.61	1.04	1.14	1.48	0.79
Less than Bachelor's Degree	0.60	0.93	0.43	0.66	2.10	0.53	0.78	0.96	0.27	0.24
Bachelor's Degree or Higher	0.80	0.78	0.41	0.85	1.67	0.88	0.79	0.75	0.92	0.10

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Figure 9.13: Average Aboriginal and Non-Aboriginal Occupation Distribution – Less than High School

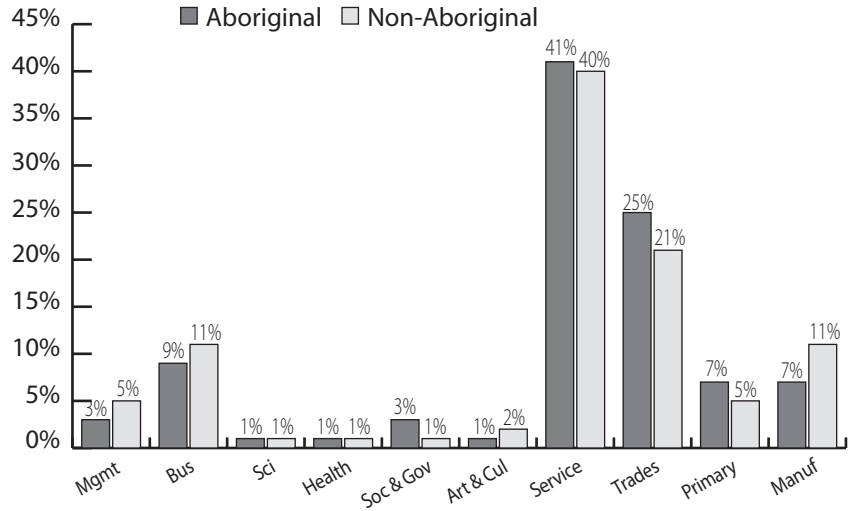
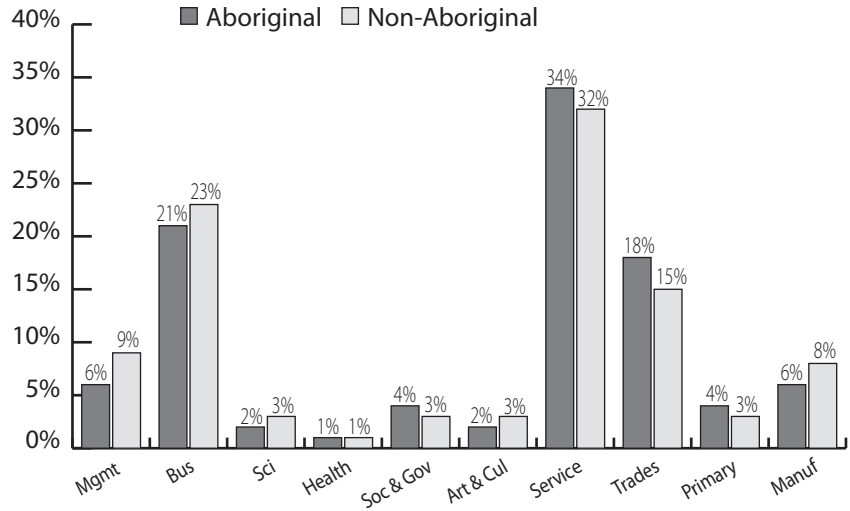


Figure 9.14: Average Aboriginal and Non-Aboriginal Occupation Distribution – High School or Equivalent



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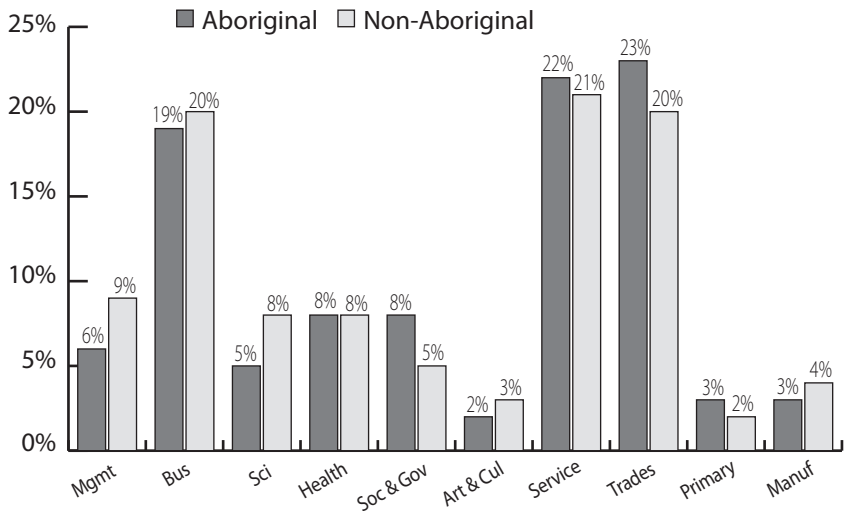
smaller proportion of both Aboriginal and non-Aboriginal people work in sales and service occupations and, therefore, a greater proportion are represented in other occupations.

At the less-than-high-school level (see **Figure 9.13** on page 240) the majority of Aboriginal and non-Aboriginal people work in the sales and service and trades occupations (66% and 61% respectively), with relatively fewer in management, science, health, and social science occupations. This is an intuitive outcome, as these latter occupations would tend to be associated with higher educational attainments. Interestingly, there does not appear to be a significant Aboriginal-to-non-Aboriginal gap at the less-than-high-school level, suggesting educational attainment is a strong explanatory factor in occupational variations.

In terms of high school graduation, while sales and service continues to be the occupation of choice for the plurality of high school graduates (see **Figure 9.14** on page 240), a greater proportion are represented in management and business occupations, relative to the less-than-high-school certificate level. It would seem, therefore, that a high school graduation certificate provides individuals with the skills, confidence, and capabilities to enter into business and management occupations. The Aboriginal-to-non-Aboriginal high-school-occupational gap in management and business is similar to that of the less-than-high-school level.

Individuals with a trade certificate tend to be the most evenly distributed in terms of occupation level (see **Figure 9.15**, below). While the plurality tend to be employed in their field, these individuals are also well represented in the sales

Figure 9.15: Average Aboriginal and Non-Aboriginal Occupation Distribution – Trade Certificate



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and service, and the business, finance, and administration occupations. Aboriginal trades certificate holders are also overrepresented in social science, government, and education occupations, relative to the non-Aboriginal population.

At the less-than-bachelor level, both Aboriginal and non-Aboriginal individuals tend to be employed across a wide variety of occupations (**Figure 9.16** on page 243), which could be linked to the possibility that these individuals are attending school full-time and are in the process of developing their respective fields of expertise. Relative to the non-Aboriginal population, Aboriginal people at this education level tend to be substantially overrepresented in social science, government, and education occupations, and under-represented in management, science, and sales and service occupations.

Individuals with a bachelor's degree or higher are the least likely to work in sales and service occupations, and the most likely to work in social science and government occupations (see **Figure 9.17** on page 243). While a slight Aboriginal-to-non-Aboriginal gap persists for the management, business, and science occupations, Aboriginal occupational outcomes tend to be the most positive at this education level—with a clear majority of Aboriginal people represented in the social science, government and education (38%), business (14%), and management (12%) occupations.

These education-occupational comparatives have revealed that, while on the surface, a sizeable Aboriginal-to-non-Aboriginal occupational gap exists (**Figure 9.12**), when controlling for educational attainment, only a minor gap persists in the management and business occupations. In fact, Aboriginal people are not necessarily overrepresented in lower-quality jobs as a result of this gap. For all education levels, Aboriginal representation in the sales and service occupations is comparable to, or less than, that of the non-Aboriginal population. Where Aboriginal people are under-represented in management and business occupations, they tend to be overrepresented in social science, government, and education, and/or trades occupations.

These findings suggest that Aboriginal and non-Aboriginal people of similar education levels tend to be similarly represented in sales and service occupations, and that Aboriginal people may be predisposed/encouraged to seek employment in social science and public sector occupations, but may be confronted with some (but not necessarily systemic) barriers to obtaining management-level occupations—particularly at the trade-certificate level.

Occupational Variations by Aboriginal Population Size

In small Aboriginal population communities, Aboriginal people are overrepresented in sales and service, trades, business, and primary industry occupations. These results are somewhat similar to all communities, with the exception that the Aboriginal-to-non-Aboriginal gap in management and social science occupations is relatively larger, and a relatively greater proportion of Aboriginal people in small Aboriginal population communities are in business occupations.

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Figure 9.16: Average Aboriginal and Non-Aboriginal Occupation Distribution – Less than Bachelor's

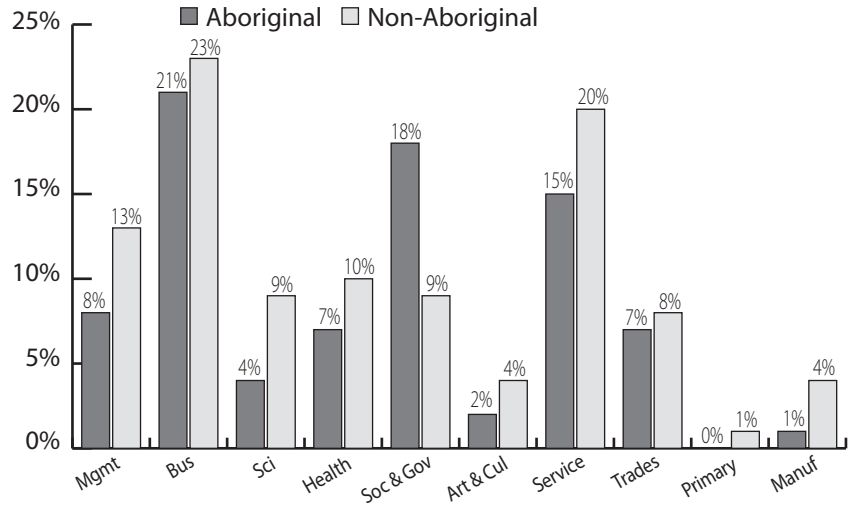
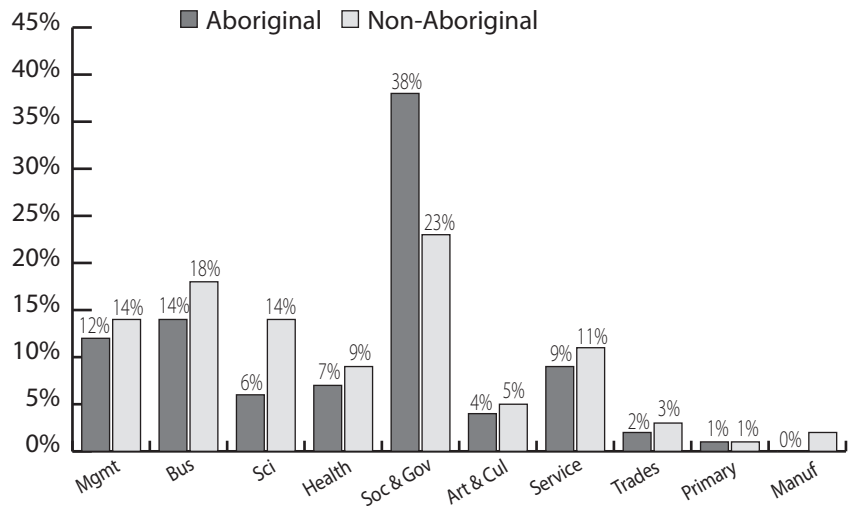


Figure 9.17: Average Aboriginal and Non-Aboriginal Occupation Distribution – Bachelor's Degree



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Relative to small Aboriginal population communities, medium Aboriginal population communities have a smaller Aboriginal-to-non-Aboriginal gap for the management and social science occupations, and Aboriginal people are less overrepresented in the trades and sales occupations, relative to non-Aboriginal people. These findings are consistent with the educational profile of small and medium population communities (**Figures 9.8** and **9.9**), whereby the relatively better education profile of Aboriginal people in medium population communities corresponds to a better occupational profile.

Large Aboriginal population communities display the smallest Aboriginal-to-non-Aboriginal occupational gap for the management, social science, sales and service, and trades occupations. These are encouraging findings and suggest that Aboriginal people are confronted with relatively fewer occupational challenges in communities with large Aboriginal populations, which may be the result of greater employment and training opportunities and support services.

Occupational Variations by Friendship Centre Presence

Interestingly, no clear and discernible positive or negative trend is readily apparent when comparing the occupational ratios of friendship centre and gap communities. Similarly, no clear positive or negative friendship centre trend is readily apparent based on Aboriginal population size. Consequently, friendship centre presence does not appear to have any discernible relationship with respect to the Aboriginal to non-Aboriginal occupational gap, which is an intuitive finding as these factors are likely well beyond the sphere of influence of the friendship centre and entirely within the realm of employees, employers, and employment service agencies.

Conclusion

This chapter identified a number of labour-force, education, and occupational distinctions between Aboriginal and non-Aboriginal populations in friendship centre and gap communities with small, medium, and large Aboriginal populations across Canada, and sought to identify communities in need of greater Aboriginal education and labour-market supports and/or referral services.

Labour-Force Variations

Aboriginal and non-Aboriginal labour-force differences are statistically significant: the participation-rate gap is -5.1 percentage points, the employment-rate gap is -10.2 percentage points, and the unemployment-rate gap is 8.2 percentage points.

The presence of a friendship centre in a community with a small Aboriginal population is positively correlated with Aboriginal to non-Aboriginal employment-rate ratios. In medium Aboriginal population communities no significant relationship exists between employment-rate ratios and friendship centre presence. For large Aboriginal population communities, participation- and employment-rate ratios are significantly lower in friendship centre communities, but unemployment-rate ratios are also significantly lower.

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One possible explanation for the negative participation- and employment-rate ratio differences in large Aboriginal population communities is that these communities may offer greater support services (e.g., housing, training, education, treatment, family counselling) as a result of the demand generated by a large Aboriginal population, which may enable greater flexibility in choosing to enter the workforce. These programs would be within the referral purview of the local friendship centre, which serves as the conduit to connect Aboriginal people to the services they need—enabling greater flexibility in choosing to withdraw from the workforce to raise a family, attend post-secondary institutions, or whatever else may be the case. The friendship centre may also link Aboriginal people to the relatively extensive career-development and employment programs available in these communities, which would explain the negative relationship between friendship centre presence and unemployment-rate ratios.

Education Variations

Relative to non-Aboriginal people, Aboriginal people are less likely to graduate from high school (43% vs. 25% do not graduate) or earn a bachelor's degree (5% vs. 17%). Aboriginal unemployment rates exceed those of non-Aboriginal people for all education levels; however, unemployment rates decrease as education increases, as does the Aboriginal-non-Aboriginal gap. Attaining a high school diploma is the single greatest thing an Aboriginal individual can do to improve his or her employment prospects—the unemployment rate decreases 8 percentage points.

The analysis also identified 18 (primarily gap) communities where at least 70% of the Aboriginal population has less than a high school diploma and can benefit from a greater focus on educational and labour-market supports. Of these communities, Mackenzie No. 23 exhibits relatively large Aboriginal and non-Aboriginal populations with comparable high school non-completion rates, but an unemployment-rate ratio of 30.6 for this education level. Consequently, this community stands to benefit the most from an increased focus on labour-market supports and/or referral services.

Occupational Variations

The education-occupational analysis revealed that while on the surface, a sizeable Aboriginal to non-Aboriginal occupational gap exists, when controlling for educational attainment, only a minor gap persists in the management and business occupations. Aboriginal people are not necessarily overrepresented in lower-quality jobs as a result of this gap. Rather, for all education levels, Aboriginal representation in the sales and service occupations is comparable to, or less than, that of the non-Aboriginal population. Where Aboriginal people are under-represented in management and business occupations, they tend to be overrepresented in social science, government, and education, and/or trades occupations.

When comparing Aboriginal population size, Aboriginal people are the most overrepresented in sales and service, trades, business, and primary industry

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occupations in communities with small Aboriginal populations. Conversely, large Aboriginal population communities display the smallest Aboriginal-to-non-Aboriginal occupational gap for the management, social science, sales and service, and trades occupations, which suggests that Aboriginal people are confronted with fewer occupational challenges in large Aboriginal population communities, possibly the result of greater employment and training opportunities as a result of higher demand for such services.

Further Research

The analyses conducted in this chapter suggest a strong, positive relationship between education and labour-market/occupational outcomes. In fact, when controlling for education, the Aboriginal-to-non-Aboriginal occupational gap basically disappears. While the findings also suggest a positive relationship between friendship centre presence and Aboriginal education and labour-market outcomes, data limitations do not allow for a comprehensive understanding of the complimentary education and employment services, supports and linkages necessary for friendship centres to have the greatest possible impact. Consequently, further research into the education labour market and referral services provided in outlying data set communities (both positive and negative) would be instructive in better understanding the programmatic compliments and linkages that enable friendship centres to play a positive role in improving Aboriginal education and labour-market outcomes.

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Endnotes

1 The data set consists of 116 friendship centres and 188 gap communities, differentiated into densely and sparsely populated areas. The Aboriginal population is defined as individuals 15 years of age and older who reported identifying with at least one Aboriginal group (e.g., North American Indian, Métis, and Inuit) and/or reported being registered under the *Indian Act* and/or reported Indian band/First Nation membership. The non-Aboriginal population is defined as individuals 15 years of age and older who did not identify as Aboriginal, did not report being registered under the *Indian Act*, and did not report that they were a member of an Indian band/First Nation. Detailed information can be found in the methodology chapter.

2 The non-Aboriginal sample variance (a measure of the distribution of data points around the mean) is 24 compared to 45 for the Aboriginal population—the smaller the variance, the more centrally distributed.

3 Due to publication content and length limitations, the full output of all statistical tests conducted in this report is available by contacting the author directly at bbrunnen@shaw.ca.

4 The ratios become undefined when the denominator (i.e., the non-Aboriginal rate) equals 0, which occurred in four instances for the unemployment rate: the small friendship centre communities of Lynn Lake and Carlyle, and the small gap communities of Northern Lights No. 22 and Trail. To correct for this, these zero values were changed to one, and the result is high Aboriginal-non-Aboriginal rates.

5 Similar to the correlation coefficient, the closer the R-squared value is to one, the stronger the explanatory relationship between the independent variable (employment-rate ratio) and the dependent variable (friendship centre presence).

6 While it would be instructive to compare Aboriginal/non-Aboriginal labour market ratios by education level and the presence of a friendship centre, the data do not permit such a robust and detailed ratio analysis, as this level of nested disaggregation creates sparsely populated data categories, resulting in a high number of zero-value data cells and undefined ratios. It therefore becomes unclear whether there is a zero unemployment rate or zero individuals in the education category.

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