The International Indigenous Policy Journal

Volume 9 | Issue 1 Article 2

January 2018

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Recommended Citation
Park, J. (2018). Overqualification Among Aboriginal Workers in Canada. *The International Indigenous Policy Journal,* 9(1).
DOI: 10.18584/iipj.2018.9.1.2

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Abstract
This study examines education, employment, and the extent to which adult Aboriginal workers (aged 25-64) were overqualified for their jobs compared to non-Aboriginal workers. Data are from the 2011 National Household Survey (NHS) including 415,115 Aboriginal workers and 13,301,610 non-Aboriginal workers. Aboriginal workers with higher levels of education (bachelor degree or higher) were less likely to be overqualified than their non-Aboriginal counterparts; but Aboriginal workers with lower levels of education (less than university level) were more likely to be overqualified than non-Aboriginal workers. This study also highlights differences in overqualification by field of study: Among Aboriginal workers who earned university degrees, low overqualification rates were found among those who studied education; mathematics, computer, and information sciences; architecture, engineering, and related technologies; and health fields.

Keywords
Indigenous, Aboriginal, employment, National Household Survey, overqualification, skill levels, field of study, education, Canada

Disclaimer
This paper was funded by the Strategic Research Directorate at Indian and Northern Affairs Canada (INAC). The views expressed in this document, however, are those of the author and do not necessarily represent the position of Statistics Canada or INAC.

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Overqualification Among Aboriginal Workers in Canada

In today's economy, a skilled and educated workforce has become essential to productivity and economic growth (Uppal & LaRochelle-Côté, 2014; Scottish Executive, 2004). In response, both governments and individuals are increasing resources devoted to postsecondary education. Between 1995 to1996 and 2005 to 2006, public expenditure on postsecondary education increased 35%, from $23 billion to $31 billion, in 2001 constant dollars (Yuen, 2010). At the individual level, more people are obtaining postsecondary credentials despite rising tuition fees. Among employed individuals aged 25 to 34, the proportion that had a university degree rose significantly, from 18% in 1991 to 33% in 2011 (Uppal & LaRochelle-Côté, 2014). However, skilled jobs may not always be available to the increasing number of skilled candidates. Rather, a divergent labour market trend has been observed: Some jobs are unfilled because employers cannot find workers with the right skills (jobs without people) and an increase in the number of Canadians looking for work (people without jobs) as opportunities in certain occupations disappear (Tal, 2012). As a result, a considerable number of employees would be "overqualified"—possessing an education level higher than what is typically required for the job (Uppal & LaRochelle-Côté, 2014).

In 2011, among university graduates aged 25 to 34, 18% of men and women worked in occupations requiring a high school education or less, and about 40% worked in occupations requiring a college-level education or less (Uppal & LaRochelle-Côté, 2014). This job–education mismatch may contribute to a rise in long-term unemployment and limit the growth potential of the labour market and the economy as a whole (Frenette, 2000, 2004; Gingras & Roy, 2000; Li, Gervais, & Duval, 2006). As well, individual overqualified workers tend to have lower earnings, lower job satisfaction, and lower levels of productivity (Crompton, 2002; Frenette, 2000; Li et al., 2006). Moreover, it is reported that overqualified workers tend to be at risk of poorer mental health and general health decline (Chen, Smith, & Mustard, 2010; Johnson & Johnson, 1999).

The body of literature on overqualification points out that specific population groups may be at differential risk to be overqualified than the Canadian population as a whole (Frenette, 2000, 2004; Galarneau & Morissette, 2004; Li et al., 2006). Identifying these subgroups and addressing their specific risks is important for policy makers. This study focuses on the overqualification among Aboriginal workers.

Previous research has demonstrated that Aboriginal people in Canada have historically been limited in their access to the resources and conditions necessary to maximize socioeconomic status (Galabuzi, 2004). As a result, Aboriginal people are less likely than other Canadians to participate in the labour force, are more likely to be unemployed (Reading & Wien, 2009), and are less likely to be re-employed after an economic downturn (Usalcas, 2011). According to the 2011 National Household Survey, unemployment rates among individuals aged 25 to 64 are higher for First Nations with Indian Status, First Nations without Status,[1] Inuit, and Métis people with rates of 17%, 9%, 17%, and 9% respectively compared to an unemployment rate of 6% for the non-Aboriginal population (Aboriginal Affairs and

[1] In Canada, the term Aboriginal is used as an umbrella term to describe Indigenous Peoples. There are three main groups: First Nations, Métis, and Inuit. Registered Indian and Status Indian are the official terms for First Nations people who are registered under the Indian Act. First Nations who are not registered are non-Status Indians.

Northern Development Canada [AANDC], 2013). Most of the employment losses in 2008 and 2009 among non-Aboriginal people were recouped in 2010 whereas the employment among Aboriginal people continued to decline. To be more specific, according to data from the 2008 to 2010 Labour Force Survey, the post-2008 labour market downturn was shown to last longer for Aboriginal people than non-Aboriginal people (Usalcas, 2011). Moreover, there exists a considerable gap in employment earnings between Aboriginal and non-Aboriginal workers (Centre for the Study of Living Standards, 2012; Wilson & Macdonald, 2010). Aboriginal people tend to be employed in low-paying and support labour positions. For example, the top three occupations for Aboriginal workers in Canada were sales and service (mainly retail sales clerks and cashiers, food and beverage occupations, protective service, and child care and home support as opposed to sales specialist positions); trades, transport, and equipment operators (mainly mechanics, contractors, construction trade workers, and transportation equipment operators as opposed to supervisory positions); and business, finance, and administration (mainly clerical workers, and administrative and regulatory workers as opposed to professional occupations in business and finance) (Luffman & Sussman, 2007; Usalcas, 2011).

Aboriginal people's labour market disadvantages such as higher unemployment rates and lower earnings have been explained by their lower level of educational attainment, especially the lack of postsecondary levels of education (Bougie, Kelly-Scott, & Arriagada, 2013; Centre for the Study of Living Standards, 2012; Conference Board of Canada, 2012; Health Council of Canada, 2005). One's educational attainment, however, can pay off only when it helps find an appropriate job in the labour market. Thus, it is worth investigating whether Aboriginal people equipped with higher levels of education would be able work for the types of jobs that match their level of education. In other words, it is important to examine whether or not Aboriginal workers are likely to be overqualified for their job.

Despite a number of empirical reports on the general labour market conditions of Aboriginal people, there has been little documentation as to whether Aboriginal people have jobs that match their educational levels. This study attempts to fill this data gap. The National Household Survey (NHS) provides detailed demographic and labour market information including level of education, field of study, employment status, and job skill level categories to allow for an examination of the issue of overqualification among the total Aboriginal population as well as among specific Aboriginal groups. Using the NHS, this study investigates the level of overqualification among Aboriginal workers in the Canadian labour market in comparison with non-Aboriginal workers. It also describes sociodemographic factors associated with overqualification. Finally, it discusses policy implications based on the findings. More specifically, this study answers the following research questions:

- In Canada, to what extent do Aboriginal workers aged 25 to 64 work at a job typically requiring an education level lower than what they actually possess (i.e., overqualification)? What proportion of First Nations, Métis, and Inuit people are experiencing overqualification in their current jobs? Are Aboriginal workers more likely to be overqualified than non-Aboriginal workers?

- How are levels of education related to overqualification among Aboriginal workers? What other sociodemographic factors are associated with overqualification? Are there specific sociodemographic subpopulations at higher risk of being overqualified?

- How are specific fields of study related to overqualification among Aboriginal workers? What fields of study are more prone to overqualification in the labour market?

Methods

Data Source

The data used in these analyses come from the 2011 National Household Survey (NHS). The study included employed men and women aged 25 to 64. In the NHS, a random sample of 4.5 million dwellings was selected, accounting for almost 30% of all private dwellings in Canada (but it excluded persons living in institutional collective dwellings such as hospitals, nursing homes, and penitentiaries; Canadian citizens living in other countries; and fulltime members of the Canadian Forces stationed outside Canada). The overall response rate for the NHS, a voluntary survey, was 68.6%. The final responses were weighted so that the data from the sample accurately represent the NHS's target population. NHS collected not only basic demographic information, but also more detailed information on labour market activities. The large sample size of the NHS allowed this study to analyze labour market-related variables for specific Aboriginal groups. This analysis is based on the information from 415,115 Aboriginal workers (175,255 Registered Indian, 65,900 non-Status First Nation, 155,700 Métis, and 14,415 Inuit workers) and 13,301,610 non-Aboriginal workers.

Study Population

This study examines the overqualification of employed workers aged 25 to 64. Compared to their non-Aboriginal counterparts, Aboriginal workers were slightly younger (Table 1). The median age for non-Aboriginal workers was 45 years compared to 43 years for Aboriginal workers. A higher proportion of Aboriginal workers were male compared to their non-Aboriginal counterparts. In terms of the skill level of their jobs, 23% of Aboriginal workers were managers[2] and professionals (Skill Level A) compared to one third of non-Aboriginal workers. Overall, Aboriginal workers showed a lower level of educational attainment than non-Aboriginal workers. Almost 20% reported that they did not have high school education and 12% were university graduates. In contrast, 29% of non-Aboriginal workers were university graduates and less than 9% had received no certificate, diploma, or degree. For those workers with postsecondary education, there was one notable difference in terms of fields of study. More than 10% of Aboriginal workers (15% among Inuit workers) were graduates of the personal, protective, and transportation services field compared with 6% of non-Aboriginal workers.

[2] Occupations that are included in the management category may have various educational requirements, depending on the exact nature of the position (Uppal & LaRochelle-Côté, 2014). Thus, the management category was not included for the analysis of overqualification. It accounted for about 9% of the Aboriginal sample.

Table 1. Selected Characteristics of Aboriginal and non-Aboriginal Workers Aged 25 to 64, Canada, 2011

	Registered Indian	Non-Status First Nations	Métis	Inuit	Total Aboriginal	Non-Aboriginal
n	175,255	65,900	155,700	14,415	415,115	13,301,610
Sex (%)						
Male	51.60	47.67	50.00	48.54	48.86	51.95
Female	48.40	52.33	50.00	51.46	51.14	48.05
Age Group (%)						
25-29	13.20	14.84	14.30	15.74	14.01	12.01
30-34	13.35	14.00	13.36	15.39	13.52	12.40
35-39	14.94	14.23	13.32	15.30	14.23	12.65
40-44	15.52	14.18	13.80	16.86	14.68	13.65
45-49	15.66	15.51	15.80	14.07	15.62	15.73
50-54	13.83	13.33	14.42	10.79	13.87	15.14
55-59	8.56	9.19	9.79	7.54	9.08	11.49
60-64	4.93	4.73	5.21	4.31	4.99	6.94
Skill Levels (%)						
Skill Level A: Managers	8.92	9.64	9.61	8.56	9.28	12.73
Skill Level A: Professionals	13.64	12.83	13.83	14.54	13.62	20.51
Skill Level B: College or apprenticeship training	34.89	35.14	37.09	32.06	35.68	32.36
Skill Level C: High school or job-specific training	28.11	30.81	29.63	28.07	29.10	26.11
Skill Level D: On-the-job training	14.44	11.58	9.85	16.78	12.32	8.28

Table 1. Selected Characteristics of Aboriginal and non-Aboriginal Workers Aged 25 to 64, Canada, 2011 (continued)

	Registered Indian	Non-Status First Nations	Métis	Inuit	Total Aboriginal	Non-Aboriginal
Province and Territories (%)						
Newfoundland and Labrador	1.74	5.23	1.42	12.76	2.63	1.33
Prince Edward Island	0.17	0.45	0.07	F	0.17	0.42
Nova Scotia	2.24	4.55	2.29	1.54	2.61	2.64
New Brunswick	1.66	2.65	1.04	1.03	1.57	2.16
Quebec	10.17	17.22	8.73	21.14	11.20	23.89
Ontario	24.68	35.37	18.84	6.84	23.61	38.58
Manitoba	12.06	3.10	18.59	1.65	12.66	3.21
Saskatchewan	10.74	2.57	11.19	0.34	9.18	2.85
Alberta	14.94	9.43	21.51	5.11	16.18	11.70
British Columbia	18.60	18.62	15.35	2.23	16.80	13.02
Yukon	0.99	0.47	0.19	F	0.57	0.10
Northwest Territories	1.98	0.31	0.73	7.48	1.42	0.09
Nunavut	0.03	0.04	0.05	39.63	1.41	0.02
Educational Attainment (%)						
No certificate, diploma, or degree	23.34	14.93	15.07	37.20	19.28	9.05
High school diploma or equivalency certificate	22.02	25.67	24.32	18.14	23.34	21.98
Registered apprenticeship certificate or other trades certificate or diploma	14.65	16.24	17.00	15.34	15.86	12.35
College, CEGEP,[a] or other non-university certificate or diploma from a program of 3 months or more	23.28	25.88	25.47	19.62	24.39	22.74
University certificate or diploma below bachelor level	4.63	3.78	3.82	2.04	4.11	5.05
University certificate, diploma, or degree at bachelor level or above	12.08	13.50	14.32	7.66	13.02	28.82

Table 1. Selected Characteristics of Aboriginal and non-Aboriginal Workers Aged 25 to 64, Canada, 2011 (continued)

	Registered Indian	Non-Status First Nations	Métis	Inuit	Total Aboriginal	Non-Aboriginal
Fields of Study (%) for those with postsecondary education						
Education	8.74	6.41	7.25	9.00	7.75	6.80
Visual and performing arts, and communications technologies	2.30	3.44	2.49	2.08	2.56	3.61
Humanities	3.44	3.15	3.25	3.28	3.31	4.99
Social and behavioural sciences and law	11.41	9.86	8.99	11.13	10.21	10.49
Business, management and public administration	22.43	21.08	20.83	21.75	21.56	22.25
Physical and life sciences and technologies	1.06	2.08	1.75	2.30	1.54	3.62
Mathematics, computer and information sciences	2.74	3.72	3.17	2.45	3.06	4.75
Architecture, engineering, and related technologies	20.43	22.56	23.59	22.06	22.07	21.77
Agriculture, natural resources and conservation	2.69	2.11	2.90	2.70	2.70	2.31
Health and related fields	14.01	15.25	16.49	8.70	15.05	13.71
Personal, protective and transportation services	10.68	10.32	9.29	14.51	10.17	5.68
Other	0.06	F	F	F	0.03	0.02
Aboriginal Language (%)						
Spoken most often at home	10.46	0.22	0.26	41.33	5.99	NA
Mobility Status—Past 5 years (%)						
Migrants	16.37	20.68	18.88	13.40	17.92	18.99

Table 1. Selected Characteristics of Aboriginal and non-Aboriginal Workers Aged 25 to 64, Canada, 2011 (continued)

	Registered Indian	Non-Status First Nations	Métis	Inuit	Total Aboriginal	Non-Aboriginal
Area of Residence (%)						
On reserve	36.31	1.10	0.48	0.31	15.74	0.09
Rural	14.54	23.49	27.46	52.21	22.20	17.49
Small or medium population centre	21.85	28.12	29.58	34.54	26.27	19.94
Large urban centre	27.30	47.29	42.48	12.94	35.80	62.48

Note. Source: National Household Survey, 2011.

[a] CEGEP refers to collège d'enseignement général et professionnel or general and vocational college, which is a pre-university public college in the province of Quebec.

Measures

Overqualification. Overqualified workers are individuals who hold higher levels of education than required for their job. The measure used in this study is based on the education–occupation matrix developed by Employment and Social Development Canada, a department of the Government of Canada responsible for social programs and the labour market at the federal level (Human Resources and Skills Development Canada [HRSDC], 2011; Uppal & LaRochelle-Côté, 2014).

There are five measures used in this analysis:

- University degree holders (above the bachelor level) working in jobs that require a college education or less: the National Occupational Classification (NOC) Skill Levels B, C, D;
- University degree holders (above bachelor level) working in jobs that require a high school diploma or less: NOC Skill Levels C, D;
- Bachelor degree holders working in jobs that require a college education or less: NOC Skill Levels B, C, D;
- Bachelor degree holders working in jobs that require a high school diploma or less: NOC Skill Levels C, D;
- Postsecondary graduates below bachelor's level working in jobs that require a high school diploma or less: NOC Skill Levels C, D;
- Postsecondary graduates below bachelor's level working in jobs that require on-the-job training: NOC Skill Level D

Employed workers. A person is considered employed if he or she had a job in the reference week (week preceding the census or survey)—this includes persons who were temporarily absent for the entire week because of vacation, illness, a labour dispute at work, maternity or parental leave, bad weather, fire or family responsibilities, or for some other reason. Individuals who had a job in the previous year, but did not have a job in the reference week, were excluded from the sample.

Field of study. This variable refers to the predominant discipline or area of learning or training of a person's highest postsecondary degree. In total, 12 fields were identified for this analysis: education; visual and performing arts, and communications technologies; humanities; social and behavioural sciences and law; business, management, and public administration; physical and life sciences and technologies; mathematics, computer, and information sciences; architecture, engineering, and related technologies; agriculture, natural resources, and conservation; health and related fields; personal, protective, and transportation services; and other (Ferguson & Zhao, 2013).

Educational attainment. This analysis relies on the following categories of educational attainment.

- **Above bachelor's level** includes university certificate or diploma above the bachelor's level; degree in medicine, dentistry, veterinary medicine, or optometry; master's degree; and doctoral degree.
- **Bachelor's degree**.
- **Postsecondary education below bachelor's level**, which includes:
    - **University certificate or diploma below bachelor's level**: certificates or diplomas awarded for non-degree programs completed through a university. These are often connected with professional associations in fields such as accounting, banking, insurance, or public administration. If the certificate or diploma program does not require a bachelor's degree to enroll, it is classified as below the bachelor's level.
    - **College diploma**: college, CEGEP (collège d'enseignement général et professionnel, or general and vocational college), or other non-university certificate or diploma.
    - **Trades certificate**: apprenticeship or trades certificate or diploma, including "Registered Apprenticeship certificates" and "trades certificates other than Registered Apprenticeship certificates."
- **High school diploma or equivalency certificate**.
- **Less than high school diploma or equivalent**.

Area of residence. Area of residence refers to the following geographic areas: on reserve, rural area, small population centre, medium population centre, and large urban population centre. Population centres and rural areas (off reserve) are defined using counts from the 2011 Census of Population.

- **On reserve**: includes six census subdivision (CSD) types legally affiliated with First Nations or Indian bands, that is, Indian reserve (IRI), Indian settlement (S-É) (except for the five Yukon settlements, namely Champagne Landing 10, Klukshu, Two and One-Half Mile Village, Two Mile Village, and Kloo Lake), Indian government district (IGD), terres réservées aux Cris (TC), terres réservées aux Naskapis (TK), and Nisga'a land (NL), as well as the northern village of Sandy Bay in Saskatchewan.

- **Rural**: Any area outside a population centre is classified a "rural." A "population centre" has a population of at least 1,000 and a population density of 400 persons or more per square kilometre.

- **Small population centres**: population centres with less than 30,000 persons.

- **Medium population centres**: population centres with a population between 30,000 and 99,999 persons.

- **Large urban population centers**: population centres with a population greater than 99,999 persons.

Aboriginal groups. In recognition of the uniqueness of each of the four Aboriginal groups, where sample sizes allowed, analyses were conducted and presented separately for Registered Indian, non-Status First Nations, Inuit, and Métis.

Aboriginal languages spoken most often at home. This variable measures whether Aboriginal respondents indicated an Aboriginal language as the language spoken most often at home.

Mobility—Place of residence 5 years earlier. Mobility refers to the relationship between a person's usual place of residence on the reference day (May 10, 2011) and his or her usual place of residence on the same day 5 years earlier. A person is classified as a non-mover if the place of residence has not changed in the interval. Otherwise, a person is classified as a mover. Movers include non-migrants and migrants. Non-migrants are persons who did move but remained in the same city, town, township, village, or Indian reserve. Migrants include internal migrants who moved to a different city, town, township, village, or Indian Reserve within Canada. External migrants include persons who lived outside Canada at the earlier reference date. This analysis only examines whether a worker was a migrant or not.

Analytic Strategy

Descriptive statistics were calculated for rates of overqualification by Aboriginal status, Aboriginal group (Registered Indian, non-Status First Nations, Inuit, and Métis), education level, and field of study. By conducting multivariate analyses, correlates of overqualification among Aboriginal workers were identified. A series of logistic regression analyses were conducted to examine correlates of overqualification for each group of Aboriginal people. A separate logistic regression analysis was conducted to examine differences in overqualification between Aboriginal and non-Aboriginal workers after controlling for sociodemographic confounders such as age, sex, province, and area of residence.

Results

Overqualification Rates Vary by Education Level

Separate overqualification rates were calculated for three different education levels: university education above the bachelor level; university education bachelor's degree; and postsecondary education below bachelor level (including trades certificate, college diploma, and university education below bachelor level). Those individuals with the education level of high school or less were not included as they were assumed to not be overqualified for their jobs.

Overqualification rates varied by level of education attained. Figure 1 presents the proportions of overqualified workers for each education category. About 1 in 4 Aboriginal workers with above the bachelor level of education were overqualified. In occupations requiring college level education or lower, 40% of Aboriginal workers, who had a bachelor's degree, were overqualified. In addition, 39% of Aboriginal workers with postsecondary education below the bachelor level were overqualified because they were working in jobs requiring high school education or lower. Within this educational category, it is of note that Aboriginal workers with a registered apprenticeship certificate showed a significantly lower rate of overqualification compared with other Aboriginal workers in the same category (postsecondary education below bachelor's level). In addition, among Aboriginal workers with a registered apprenticeship certificate, there was no statistical difference in overqualification compared with their non-Aboriginal counterparts (data not shown).

For each educational category, significant differences were found between Aboriginal and non-Aboriginal workers. However, the nature of the differences changed according to the education level of Aboriginal workers: Compared with their non-Aboriginal counterparts, Aboriginal workers with university level education (bachelor or higher) were less likely to be overqualified, while Aboriginal workers with less than university education were more likely to be overqualified.

Table 2 provides specific overqualification rates for each Aboriginal group. A significantly lower percentage of Aboriginal workers (8%) compared to non-Aboriginal workers (12%) with a university education above the bachelor level were overqualified; that is, working in occupations usually requiring high school or lower. A similar difference was demonstrated for bachelor level of education. Approximately, 15% of Aboriginal workers with a bachelor degree (13% Registered Indian, 16% non-Status First Nations, 17% Métis, and 14% Inuit workers) were overqualified (in occupations requiring high school or lower) compared to 19% of non-Aboriginal people. Compared with their non-Aboriginal counterparts, Aboriginal workers with university level education (except for Inuit workers with a university education above the bachelor level) were less likely to be overqualified. On the other hand, most Aboriginal workers with less than a university education were more likely to be overqualified than non-Aboriginal workers. Métis workers with less than a university education did not show significant differences in overqualification from their non-Aboriginal counterparts.

DOI: 10.18584/iipj.2018.9.1.2

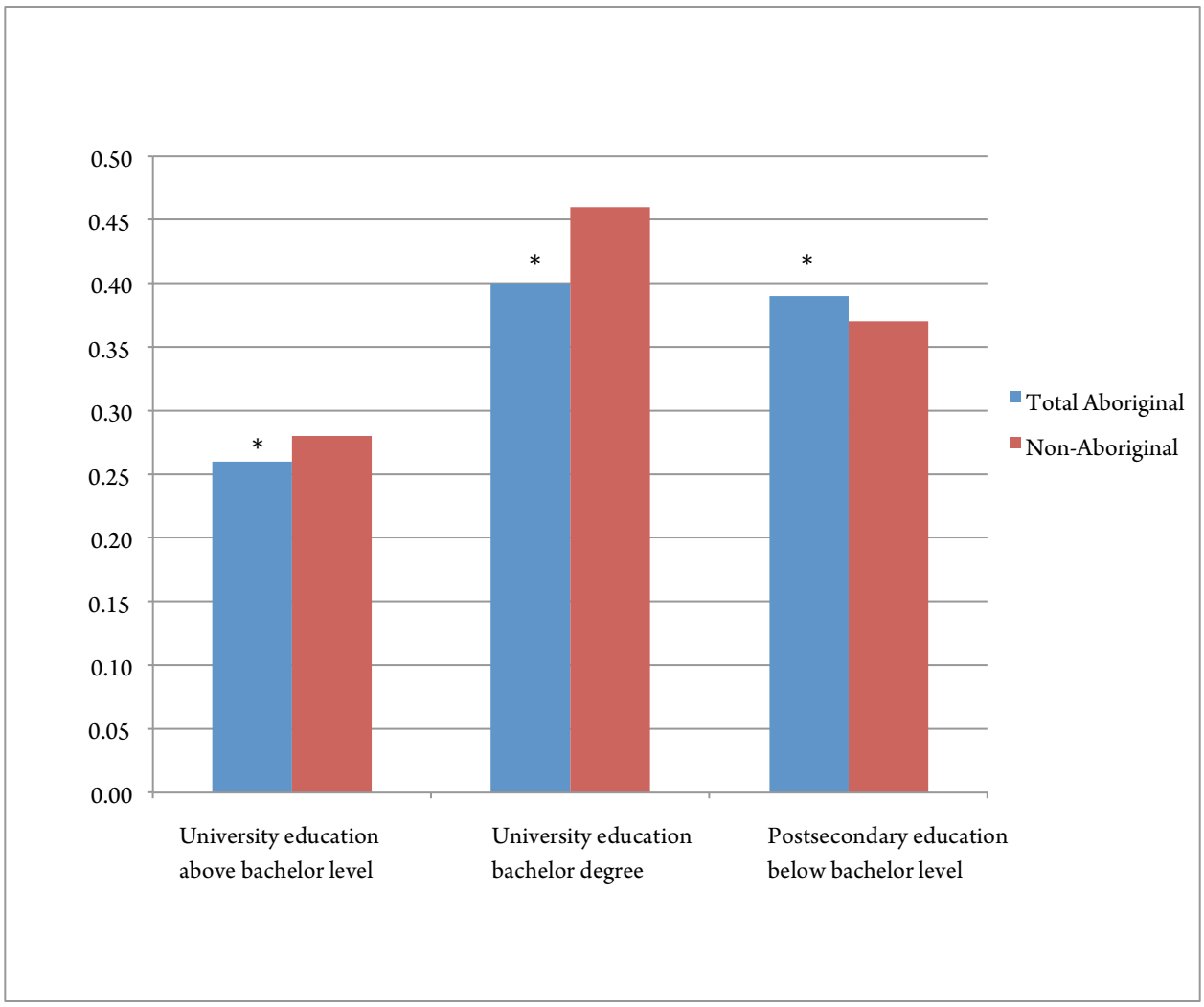

Figure 1. **Proportion of Aboriginal and non-Aboriginal workers who are overqualified by education level.** Aboriginal works with university level education are less likely to be overqualified. *Significantly different from non-Aboriginal workers ($p < 0.05$). Source: National Household Survey, 2011.

Table 2. Proportion of Workers Aged 25 to 64 Who Are Overqualified, Canada, 2011

	Registered Indian			Non-Status First Nations			Métis			Inuit			Total Aboriginal			Non-Aboriginal		
	$\hat{p}$	95% CI		$\hat{p}$	95% CI		$\hat{p}$	95% CI		$\hat{p}$	95% CI		$\hat{p}$	95% CI		$\hat{p}$	95% CI	
University education above the bachelor level																		
Occupations requiring college or apprenticeship training or lower	0.28	0.26	0.30	0.24	0.21	0.28	0.24	0.22	0.27	0.24	0.13	0.34	0.26	0.24	0.27	0.28	0.28	0.28
Occupations requiring high school or lower	0.09	0.08	0.11	0.05	0.03	0.07	0.09	0.07	0.10	0.02	-0.01	0.06	0.08	0.07	0.09	0.12	0.12	0.12
Bachelor degree																		
Occupations requiring college or apprenticeship training or lower	0.37	0.36	0.39	0.40	0.37	0.43	0.42	0.40	0.43	0.36	0.30	0.42	0.40	0.39	0.41	0.46	0.46	0.46
Occupations requiring high school or lower	0.13	0.12	0.14	0.16	0.14	0.18	0.17	0.16	0.19	0.14	0.10	0.18	0.15	0.15	0.16	0.19	0.19	0.20
Postsecondary education below bachelor level																		
Occupations requiring high school or lower	0.39	0.39	0.40	0.40	0.39	0.41	0.37	0.37	0.38	0.40	0.38	0.42	0.39	0.38	0.39	0.37	0.37	0.37
Occupations requiring on-the-job training	0.10	0.09	0.10	0.08	0.07	0.09	0.07	0.06	0.07	0.10	0.09	0.11	0.08	0.08	0.08	0.07	0.07	0.07

Note. Source: National Household Survey, 2011. $\hat{p}$ is the proportion. CI = confidence interval.

Overqualification Rate Varies by Field of Study

The NHS collected information about the field of study and the predominant discipline, area of learning, or training of a person's highest postsecondary degree (Ferguson & Zhao, 2013). Overqualification rates differed by field of study (Figure 2). Among Aboriginal workers aged 25 to 64 with a university education, overqualification rates were higher than 50% among graduates from fields such as humanities; visual and performing arts and communications technologies; and personal, protective, and transportation services. On the other hand, a lower than average likelihood of overqualification was found among Aboriginal workers who earned university degrees in education; mathematics, computer, and information sciences; architecture, engineering, and related technologies; and health fields.

The relationship between field of study and overqualification changed when Aboriginal workers did not attain university levels of education. As compared to the overall average, among Aboriginal workers with postsecondary education but below the bachelor level, a lower probability of overqualification was found among those who studied social and behavioural sciences and law; architecture, engineering, and related technologies; and physical and life sciences and technologies. On the other hand, higher overqualification rates were found among Aboriginal workers who had college majors in agriculture, natural resources and conservation; personal, protective, and transportation services; health and related fields; and business, management, and public administration.

Persistent Effects of Educational Attainment and Field of Study on Overqualification

Among Aboriginal workers with university level education (bachelor degree or higher), the level of educational attainment is still associated with overqualification after controlling for other demographic factors including sex, age, geographic location, mobility status, area of residence, Aboriginal language use, and field of study. Those with a bachelor's degree were almost 1.7 times as likely to be overqualified as those with a higher than bachelor's level of education such as master's, professional, or doctoral degree (Table 3). As well, some significant effects from field of study were found. For example, among Aboriginal workers, compared to those who majored in business, management, and public administration, a lower likelihood of overqualification was found among those who studied education, mathematics, computer and information sciences, architecture, engineering, and health sciences.

Among Aboriginal workers who have postsecondary education below the bachelor's level, those with a college diploma (odds ratio of 1.7) and those with a trades certificate (odds ratio of 2.3) were more likely than those with a university certificate to be overqualified. After controlling for sociodemographic factors, those who graduated from the fields of visual and performing arts; social sciences; physical and life sciences; mathematics, computer, and information sciences; and engineering were less likely to be overqualified for their job compared to other Aboriginal workers with degrees in business, management, and public administration.

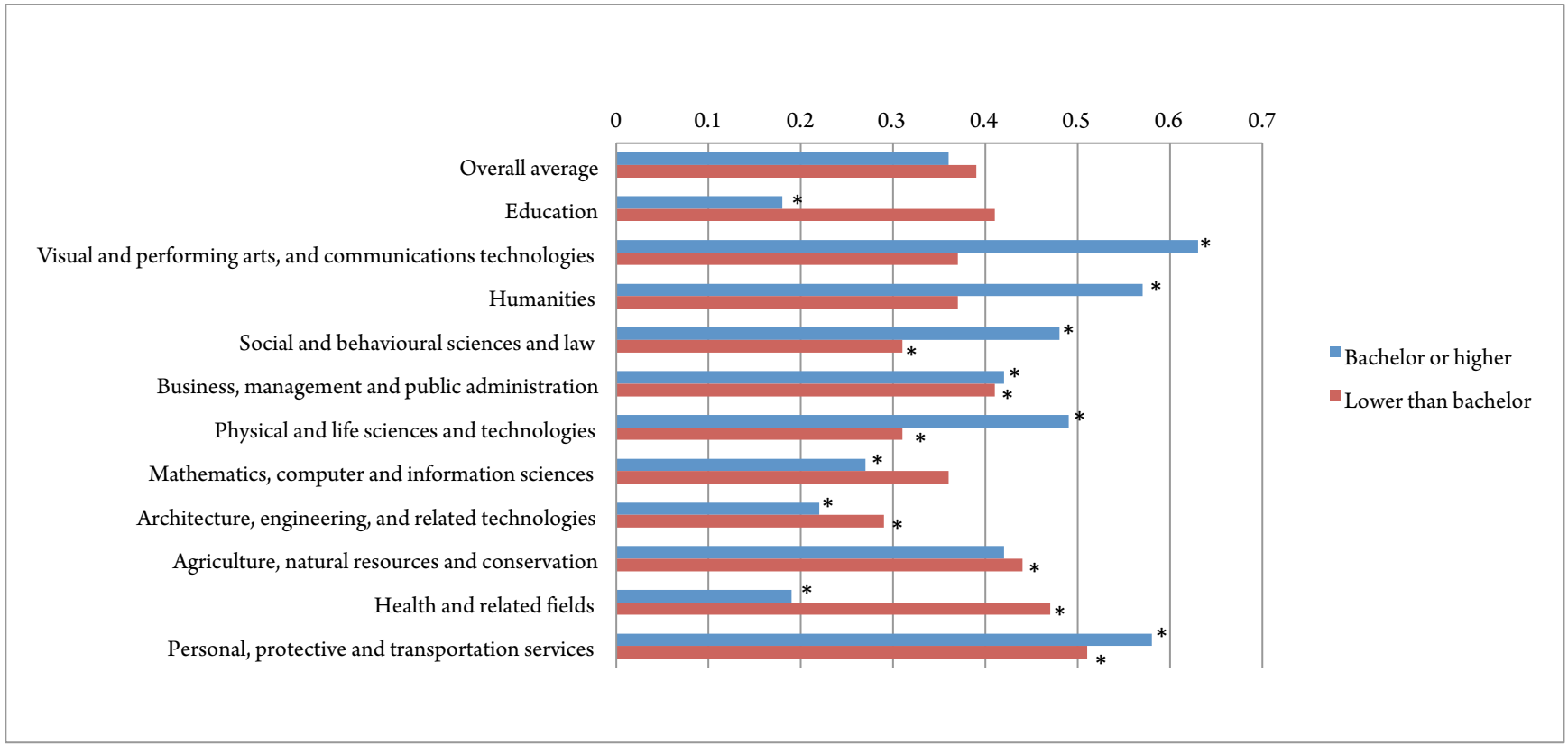

Figure 2. **Overqualification rates among Aboriginal workers aged 25 to 64 with postsecondary education by field of study.** Source: National Household Survey, 2011. * Significantly different from the overall average overqualification rate at the same education level. ($p < 0.05$).

Table 3. Overqualification Odds Ratios Among Aboriginal Workers Aged 25 to 64, 2011

	Workers with University Education (Bachelor or Higher)			Workers with Postsecondary Education Below Bachelor Degree		
	OR	95% CI		OR	95% CI	
Sex						
Men (*ref.*)	1.00	...	...	1.00	...	...
Women	0.76	0.72	0.79	1.28	1.24	1.31
Age	0.99	0.99	1.00	1.00	1.00	1.00
Aboriginal Group						
Registered Indian (*ref.*)	1.00	...	...	1.00	...	...
Non-Status First Nation	1.03	0.97	1.10	1.07	1.04	1.11
Métis	1.08	1.03	1.14	0.93	0.91	0.96
Inuit	0.87	0.74	1.01	1.13	1.05	1.21
Education						
Higher than bachelor degree	1.00	...	...	...	...	...
Bachelor degree	1.72	1.64	1.81	...	...	...
University certificate or diploma below bachelor level	...	...	...	1.00	...	...
College, CEGEP [a], or other non-university certificate or diploma	...	...	...	1.69	1.62	1.75
Registered apprenticeship certificate or other trades certificate or diploma	...	...	...	2.27	2.18	2.37
Province or Territory						
Atlantic Provinces	1.24	1.14	1.34	1.03	0.99	1.08
Quebec	0.77	0.71	0.83	0.95	0.92	0.99
Ontario (*ref.*)	1.00	...	...	1.00	...	...
Manitoba	1.06	0.99	1.14	1.17	1.12	1.21
Saskatchewan	1.08	1.00	1.17	1.16	1.11	1.21
Alberta	1.24	1.15	1.32	0.97	0.94	1.01
British Columbia	0.95	0.89	1.01	1.10	1.07	1.14
Territories	0.95	0.80	1.12	0.92	0.86	0.99

Table 3. Overqualification Odds Ratios Among Aboriginal Workers Aged 25 to 64, 2011 (continued)

	Workers with University Education (Bachelor or Higher)			Workers with Postsecondary Education Below Bachelor Degree		
	OR	95% CI		OR	95% CI	
Mobility Status Past 5 years						
Non-migrants (*ref.*)	1.00	...	...	1.00	...	...
Migrants	0.96	0.92	1.01	0.90	0.88	0.93
Area of Residence						
On reserve	1.14	1.04	1.24	1.09	1.05	1.13
Rural	1.03	0.97	1.09	0.98	0.95	1.00
Small or medium population centre	0.98	0.93	1.03	1.08	1.05	1.11
Large urban centre (*ref.*)	1.00	...	...	1.00	...	...
Language Spoken Most Often at Home						
Non-Aboriginal language (*ref.*)	1.00	...	...	1.00	...	...
Aboriginal language	0.95	0.83	1.08	0.92	0.87	0.97
Field of Study						
Education	0.32	0.30	0.34	1.13	1.06	1.20
Visual and performing arts, and communications technologies	2.40	2.12	2.72	0.92	0.86	0.98
Humanities	1.84	1.71	1.99	1.01	0.93	1.09
Social and behavioural sciences, and law	1.25	1.18	1.33	0.65	0.62	0.68
Business, management, and public administration (*ref.*)	1.00	...	...	1.00	...	...
Physical and life sciences, and technologies	1.28	1.16	1.41	0.75	0.65	0.86
Mathematics, computer, and information sciences	0.44	0.38	0.51	0.87	0.82	0.93
Architecture, engineering, and related technologies	0.33	0.29	0.37	0.58	0.55	0.60
Agriculture, natural resources, and conservation	0.95	0.82	1.09	1.25	1.18	1.34
Health and related fields	0.33	0.30	0.35	1.22	1.18	1.26
Personal, protective, and transportation services	2.01	1.55	2.62	1.39	1.34	1.44
Other	0.93	0.44	1.95	0.73	0.35	1.52

Note. Source: National Household Survey, 2011. OR = odds ratio. CI = confidence interval.

[a] CEGEP refers to collège d'enseignement général et professionnel or general and vocational college, which is a pre-university public college in the province of Quebec.

For all levels of postsecondary education, Aboriginal workers with degrees or certificates in personal, protective, and transportation services were consistently more likely to be overqualified than graduates of business-related studies. More than 10% of Aboriginal workers were educated in the field of personal, protective, and transportation services.

Among Aboriginal workers with an education level lower than university, those who migrated inter-provincially or intra-provincially were less likely than non-migrants to be overqualified in their job. Also, those who reported that an Aboriginal language was the language spoken most often at home were less likely to be overqualified. Compared to residents in large urban centres, Aboriginal workers living on reserve or in small or medium sized population centres were more likely to be overqualified.

Differences Between Aboriginal and Non-Aboriginal Workers Persist

After controlling for gender, age, province, and area of residence, Aboriginal workers at each education level showed significantly different probabilities of overqualification compared with their non-Aboriginal counterparts (Figure 3). That is, results of multivariate analyses confirm differences found in overqualification rates: Aboriginal workers with higher education levels (bachelor degree or higher) had lower odds of being overqualified than their non-Aboriginal counterparts, but Aboriginal workers with less than university were more likely to be overqualified than non-Aboriginal workers with the same education.

Table 4 provides odds ratios for more specific categories for each Aboriginal group compared to non-Aboriginal workers. Again, the same pattern between Aboriginal workers' education and overqualification were found: If they were university graduates, they were less likely than non-Aboriginal workers to be overqualified, but if their level of education was below bachelor higher overqualification rates were found for all four Aboriginal groups. For example, compared to non-Aboriginal workers, the university-educated Inuit workers were 80% less likely to be employed in occupations requiring high school or lower (OR = 0.2); on the other hand, Inuit workers with postsecondary education lower than bachelor level were 60% more likely to work in occupations requiring on-the-job training (OR =1.6).

Discussion

This study examined the match between level of education and the skill level typically required for the job held by Aboriginal and non-Aboriginal workers, using the 2011 National Household Survey, a Canadian voluntary survey. Compared to their non-Aboriginal counterparts, Aboriginal workers with university level education (bachelor degree or higher) were less likely to be overqualified. Aboriginal workers with less than university levels of education were more likely to be overqualified compared to non-Aboriginal workers with the same level of education. This pattern persisted after controlling for sociodemographic factors. Aboriginal people's labour market disadvantages have often been explained by lower than average levels of educational attainment, especially at the postsecondary degree level (Bougie et al., 2013; Centre for the Study of Living Standards, 2012; Conference Board of Canada, 2012; Health Council of Canada, 2005); the present study demonstrates higher levels of education are particularly advantageous. The findings of this study further confirm associations between the level of education and labour market experiences. Higher levels of education are associated with employability (Bougie et al., 2013), but they are also connected to better matched jobs and a lower likelihood of overqualification.

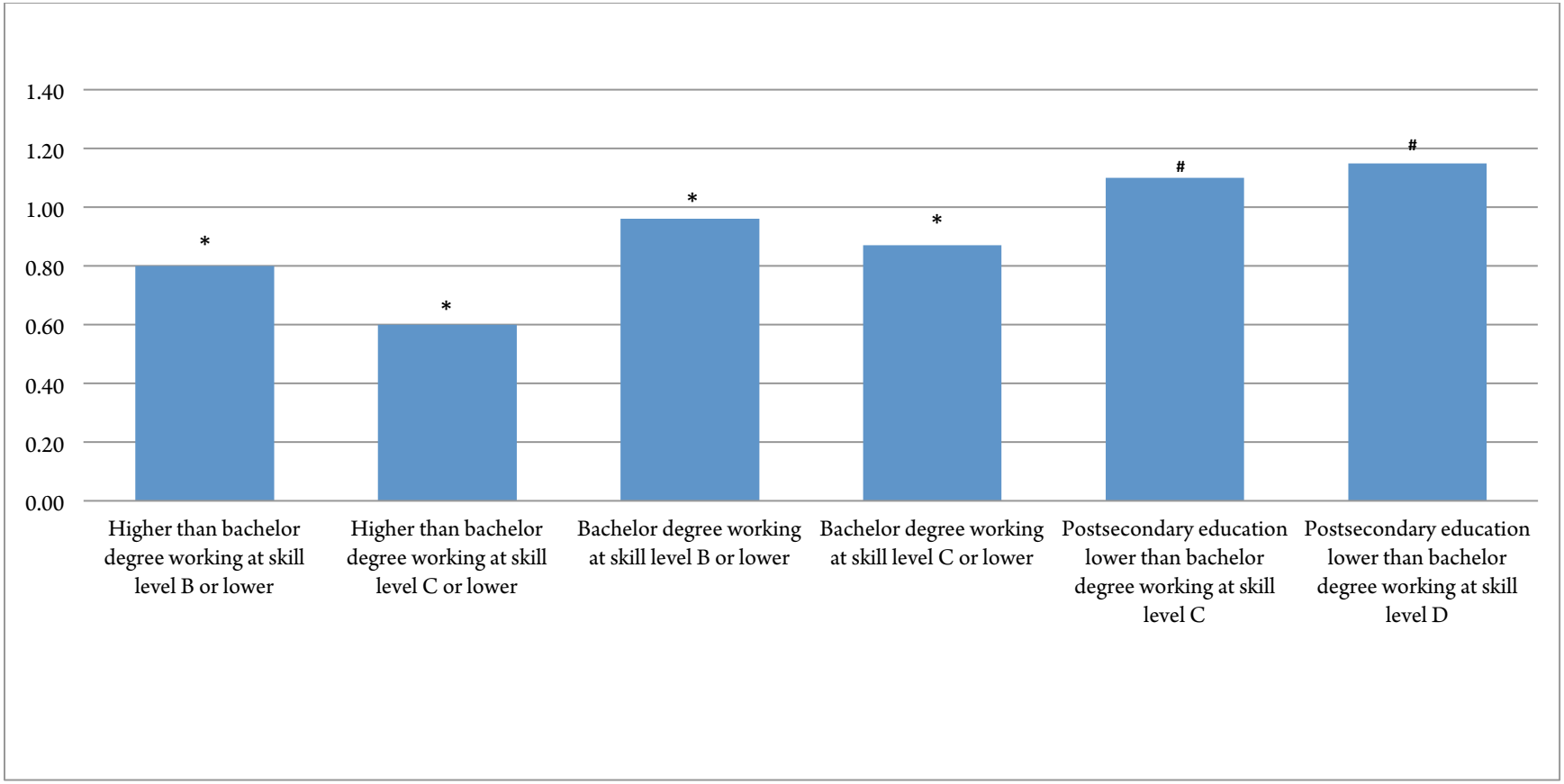

Figure 3. **Differences in the odds of overqualification between Aboriginal and non-Aboriginal workers (with controls for age, sex, province, and area of residence).** Source: National Household Survey, 2011.* Significantly lower odds than non-Aboriginal workers ($p < 0.05$).
Significantly higher odds than non-Aboriginal workers ($p < 0.05$). Skill Level B requires college or apprenticeship training. Skill Level C requires high school or job-specific training. Skill Level D requires on-the-job training.

Table 4. Overqualification Odds Ratios[1] Among Aboriginal Workers Aged 25 to 64 Compared to Non-Aboriginal Workers, 2011

	Registered Indian			Non-Status First Nation			Métis			Inuit		
	OR	95% CI		OR	95% CI		OR	95% CI		OR	95% CI	
Workers with university education above the bachelor level												
Occupations usually requiring college or apprenticeship training or lower	0.83	0.78	0.88	0.82	0.76	0.90	0.74	0.70	0.79	0.68	0.51	0.90
Occupations usually requiring high school or lower	0.66	0.59	0.73	0.41	0.34	0.49	0.62	0.56	0.68	0.20	0.08	0.47
Workers with a bachelor degree												
Occupations usually requiring college or apprenticeship training or lower	0.93	0.90	0.96	0.90	0.86	0.95	1.01	0.98	1.04	0.94	0.81	1.08
Occupations usually requiring high school or lower	0.78	0.74	0.82	0.87	0.80	0.93	0.95	0.91	0.99	0.92	0.75	1.14
Workers with postsecondary education below the bachelor level												
Occupations usually requiring high school or lower	1.09	1.07	1.11	1.15	1.12	1.17	1.07	1.05	1.08	1.35	1.27	1.43
Occupations usually requiring on-the-job training	1.17	1.12	1.22	1.17	1.12	1.22	1.01	0.98	1.04	1.60	1.45	1.76

Note. Source: National Household Survey, 2011. Controls for age, sex, province, and area of residence included in the model. OR = odds ratio. CI = confidence interval.

This study also points to differences in overqualification by field of study for Aboriginal workers: Among Aboriginal workers who earned university degrees, low overqualification rates were found for those who studied education; mathematics, computer, and information sciences; architecture, engineering, and related technologies; and health fields. Among Aboriginal workers with postsecondary education below the bachelor level, lower overqualification rates were found in such fields of study as social and behavioural sciences and law; physical and life sciences and technologies; and architecture, engineering, and related technologies. On the other hand, certain fields of studies were related to higher rates of overqualification among Aboriginal workers. For example, Aboriginal workers with degrees or certificates in personal, protective, and transportation services were more likely to be overqualified than graduates of business-related studies. More than 10% of Aboriginal workers had studied in the field of personal, protective, and transportation services.

Limitations

The large sample size of the NHS allowed me to analyze sociodemographic and labour market-related variables for Aboriginal populations. However, there are a few limitations of note.

Estimates of Aboriginal workers might be affected by the incomplete enumeration of certain Indian reserves and Indian settlements in the NHS. In 2011, there were a total of 36 Indian reserves and Indian settlements that were "incompletely enumerated" in the NHS. For these reserves or settlements, NHS enumeration was either not permitted or was interrupted before it could be completed, or it was not possible because of natural events (for instance, forest fires in Northern Ontario) (Statistics Canada, 2013). As well, given the voluntary nature of the NHS, there are inherently more potential groups and geographical areas that may be under enumerated. It is also possible that the non-response bias is likely to impact Indigenous estimates generally and rural centres particularly (Gordon & White, 2014). In this analysis, due to restricted sample sizes, overqualification by specific field of study could not be examined separately for First Nations, Inuit, and Métis groups but is an area for future study.

Policy Implications and Future Research Needs

In today's labour market, skilled jobs are not always available to the increasing number of skilled and highly educated workers. As a result, a considerable number of employees are overqualified. Preventing overqualification becomes especially important to the Aboriginal labour force whose working age population is growing significantly in number. Also, Aboriginal workers are relatively young and have been closing the gap in education with their non-Aboriginal counterparts.

This study has examined the likelihood of overqualification among Aboriginal workers. It is important to note that Aboriginal workers with a high level of education, especially at the bachelor level or higher, are significantly less likely to be overqualified compared with their non-Aboriginal counterparts. Promoting postsecondary educational opportunities among Aboriginal youth may be effective in reducing overqualification in the labour market. Education improves Aboriginal people's employability in general and it helps them obtain a job that matches their level of education. However, the field of education may be an important factor in rates of overqualification. This analysis showed that within certain fields of education Aboriginal people had higher odds of find a job that matched their level of education.

Future studies may breakdown these fields of study into finer detail in order to examine which specific fields were most mismatched with the labour market, especially for the fields requiring postsecondary education below the bachelor level, which was the educational level of about 45% of Aboriginal workers aged 25 to 64. Similarly, the level of education needs to be investigated more specifically. As discussed previously, the likelihood of overqualification may be different among different types of postsecondary education, especially between workers with trades education and others. For example, respondents who completed a registered apprenticeship-training program were less likely be overqualified than other workers with postsecondary education below bachelor level and their overqualification rate was not statistically different from that of non-Aboriginal workers.

In this analysis, the measure of overqualification was based on self-reported levels of education. Self-reported education is only one way to express the qualification or skill-level that workers possess. Future research could use other measures, such as objective measures of skills. One example is the Programme for the International Assessment of Adult Competencies (PIAAC) survey (Bobet, 2015), which included direct and objective measures of skills. An examination of education, skills, employment, and overqualification adds a different dimension and contributes to our understanding of overqualification.

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