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*Article*

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# Over-qualification in the Workforce: Do Indigenous Women and Men Benefit Equally from High Levels of Education?

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**Abstract:** *Using data from the 2016 Census, this study examined the level of education–job mismatch (over-qualification, in particular) in the Canadian labour market among Indigenous women workers aged 25 to 64 who received post-secondary education. Their rate of over-qualification was compared with that of Indigenous men as well as non-Indigenous workers. In doing so, this study aimed to shed some light on the effect of post-secondary education on labour market outcomes by investigating whether Indigenous men and women benefit equally from their post-secondary education. Compared to their non-Indigenous counterparts and Indigenous men, Indigenous women workers with university-level education (bachelor's degree or higher) were less likely to be over-qualified. Conversely, Indigenous women workers with post-secondary education lower than university level were more likely than non-Indigenous women and Indigenous men to be over-qualified. This pattern persisted after sociodemographic factors were controlled for. The results suggest that, among those with a post-secondary education, higher levels of education were especially advantageous to Indigenous women.*

## Introduction

This study investigates the level of education–job mismatch (particularly over-qualification) in the Canadian labour market among Indigenous women workers who received post-secondary education. Their rate of over-qualification is compared with that of Indigenous men and non-Indigenous men and women workers. In doing so, this study aims to shed some light on the effect of post-secondary education on labour market outcomes. Specifically, this study examines the extent to which Indigenous women are over-qualified for their current job and whether Indigenous men and women benefit equally from their post-secondary education in labour market outcomes.

## Background

In response to increasing demands for a higher-skilled workforce in the labour market (Uppal and LaRochelle-Côté 2014; Scottish Executive 2004), more individuals have been obtaining post-secondary credentials despite the rising costs of education. Among employed individuals aged 25 to 34, the proportion with a university degree has risen significantly in Canada, from 18% in 1991 to 33% in 2011 (Uppal and LaRochelle-Côté 2014). However, the same report indicated that, among university graduates aged 25 to


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34, 18% of men and women worked in occupations requiring a high school education or less (Uppal and LaRochelle-Côté 2014). That is, about one in five university-educated Canadian workers were over-qualified for their current job. Among immigrant workers who did not graduate in either Canada or the United States, the rates of over-qualification were much higher (43% for women and 35% for men). In the same year, about one in four Indigenous workers aged 25 to 64 with above bachelor-level education were over-qualified—that is, working in occupations requiring college-level education or lower; 40% of Indigenous workers with a bachelor's degree were over-qualified; and 39% of Indigenous workers with post-secondary education below the bachelor level were working for jobs requiring high school education or lower (Park 2018).

It is important to note that specific population groups may be at differential risk for being over-qualified compared to the general population (Galarneau and Morissette 2004; Frenette 2000 and 2004; Li et al. 2006). Previous research has suggested that Indigenous peoples in Canada have historically been limited in their access to the resources and conditions necessary to maximize their socio-economic conditions (Galabuzi 2004). As a result, Indigenous peoples are less likely than other Canadians to participate in the labour force and to be employed (Reading and Wien 2009). According to the 2016 Census of Population (long-form), unemployment rates among individuals aged 25 to 64 are higher for the Registered Indian (17%), non-status Indian (11%), Inuit (21%), and Métis (10%) population than for the non-Indigenous population (6%; Statistics Canada 2019a). Similarly, in 2015, the findings of the Labour Force Survey showed that, even among those who had completed post-secondary education, disparities between Indigenous and non-Indigenous individuals in employment participation and unemployment rates remained (Moyser 2017).

Indigenous women's employment and labour participation rates are lower than are those of Indigenous men. This may be because women are generally more likely to adjust their labour market involvement to care for family and children (AANDC 2012). These gender gaps among Indigenous peoples have been reported to be marginally wider than the gaps among the non-Indigenous population (Moyser 2017).

Moreover, there exists a considerable gap in employment earnings between Indigenous and non-Indigenous workers (Wilson and Macdonald 2010; Centre for the Study of Living Standards 2012). In 2015, the median employment income for non-Indigenous workers aged 25 to 64 was $42,660, while the median employment income for Indigenous workers of the same age group was $35,321 (Statistics Canada 2019b). This disparity is related to the fact that Indigenous peoples tend to be employed in low-paying and supportive labour positions. For example, the top three occupations among Indigenous workers were sales and service (i.e., retail sales clerks and cashiers, food and beverage occupations, protective service, and child care and home support); trades, transport, and equipment operation (i.e., mechanics, contractors, construction trade workers, and transportation equipment operators); and business, finance, and administration (i.e., clerical workers, and administrative and

regulatory workers; Luffman and Sussman 2007; Usalcas 2011). The concentration of low-paying and supportive positions was more marked among Indigenous women than among Indigenous men. About a third of Indigenous women tend to hold jobs in the service and sales sector compared to 20% of their male counterparts (Arriagada 2016). As a result, Indigenous women make less money not only compared to non-Indigenous workers but also compared to Indigenous men (AANDC 2008). A recent study by Haan et al. (2020) found gender gaps in earnings among Indigenous workers in professional jobs and in the management of companies and enterprises. Despite Indigenous women's higher education, they remain marginalized in knowledge industries (Haan et al. 2020).

Indigenous peoples' labour market disadvantages, such as higher unemployment rates and lower earnings, have been explained with reference to their lower levels of educational attainment, especially a lack of post-secondary education (Health Council of Canada 2005; Bougie et al. 2013; Centre for the Study of Living Standards 2012; Conference Board of Canada 2012). It is also important to note that certain population groups have experienced greater difficulty obtaining post-secondary education—for example, individuals from the northernmost parts of Canadian provinces (Zarifa et al. 2018). However, when Indigenous peoples are equipped with higher levels of education, what benefits are accrued? In other words, can Indigenous women and men with post-secondary education find a job matched with their education, and how does this compare to their non-Indigenous counterparts? This analysis assesses the benefit of post-secondary education by examining over-qualification

The over-qualification of Indigenous women needs special attention. While Indigenous women have higher unemployment rates and lower earnings compared to Indigenous men, they are also more likely to be highly educated. For example, Indigenous women are more likely to have a university degree (12% compared to 7%), a pattern found across First Nations, Inuit, and Métis women (Arriagada 2016; O'Donnell and Wallace 2011). These conditions may cause Indigenous women to be more prone to being over-qualified. The pattern of Indigenous women's employment and its relationship to over-qualification is an area that has received little attention in the research literature.

Despite a number of empirical reports on the general labour market conditions of Indigenous peoples, there has been little documentation as to whether Indigenous peoples, and Indigenous women in particular, have jobs that match their education or skill level. This study attempts to fill this data gap. The 2016 Census provides detailed demographic and labour market information, including job skill level categories, and allows for an examination of over-qualification among Indigenous peoples, as well as among specific Indigenous subgroups (e.g., Registered Indians, non-status, First Nations, Métis, Inuit, or those living on-reserve or off-reserve).

Using the 2016 Census, this study investigates the level of over-qualification among Indigenous women workers in the Canadian labour market relative to Indigenous men workers, as well as to non-Indigenous women and men workers. It also intends to identify

the socio-demographic factors associated with the over-qualification of Indigenous women workers (Park 2018). Specifically, this study answers the following research questions:

1. What proportion of Indigenous women workers aged 25 to 64 experience over-qualification in their current jobs?
    - What proportion of Indigenous women workers with a university degree work in jobs that require a high school diploma or lower?
    - What proportion of Indigenous women workers with college-level education work in jobs that require a high school diploma or lower?
    - Are Indigenous women workers more likely to be over-qualified than Indigenous men workers or non-Indigenous workers?
2. Which socio-economic characteristics of Indigenous women are correlated with over-qualification?
    - Age group
    - Specific Indigenous groups: Registered Indian, Non-status First Nations, Inuit, and Métis
    - Marital status and family status
    - Indigenous language use
    - Mobility for past five years
    - Fields of study, such as science, technology, engineering, and math (STEM) or non-STEM
    - Geographic location, such as province and territory, or on- or off-reserve
    - Labour market condition, such as full- or part-time status, employee/self-employed, and industry of employment

## Methods

### *Source of Data*

The study's data are drawn from the 2016 Census long-form sample, which is a 25% sample of Canadian households with a response rate of 97.8% (Statistics Canada 2017a). This analysis covered employed men and women aged 25 to 64 who had completed post-secondary education. A person is considered employed if he or she had a job in the reference week (the week preceding the census). This includes persons who were temporarily absent for the

entire week because of vacation, illness, a labour dispute at work, maternity/parental leave, bad weather, fire, 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. The analytic sample included 2,669,800 individuals (1,307,000 men and 1,362,800 women), representing 10,840,100 Canadian workers aged 25 to 64 with a post-secondary education. For the Indigenous population, the sample size was 123,900 (56,400 men and 65,600 women), representing 344,100 Indigenous workers aged 25 to 64 (154,800 men and 189,400 women) who had obtained post-secondary education. The non-Indigenous sample included 2,545,900 individuals (1,250,600 men and 1,295,200 women), representing 10,495,900 workers aged 25 to 64 with post-secondary education.

*Measures*

***Over-qualification.*** Over-qualified workers are individuals who hold levels of education higher than are necessary for the skills required for their job. Workers' reported occupations on the 2016 Census are classified according to the National Occupational Classification (NOC) 2016 Version 1.0 (Statistics Canada 2018). There are two main attributes to the NOC: skill level and skill type. Skill level refers to the amount and type of education and training required by an occupation. Skill type refers to the kind of work performed by a particular worker to complete the duties required by their job.[1] The 2016 Census provides information on five skill levels, classified as follows:

1 Skill level A Managers[2]

2 Skill level A Professionals

3 Skill level B College or apprenticeship training

4 Skill level C High school or job-specific training

5 Skill level D On-the-job training

Based on those occupation skill levels and education levels, four measures of over-qualification were created and used in this analysis:

- University degree-holders (above bachelor level) working in jobs that require high school or job-specific training or on-the-job training.

1 For the Census of Population, "occupation of person" usually relates to the job those aged 15 years and over in a private household held in the reference week. However, if the person did not work during that week but had worked at some time since January 1 of the prior year, the information relates to the job held longest during that period. Persons with two or more jobs were asked to report the information for the job at which they worked the most hours (Statistics Canada 2018).

2 Occupations that are included in the "Management" category may have various educational requirements, depending on the exact nature of the position (Uppal and LaRochelle-Côté 2014). Thus, this category was not included for the analysis of over-qualification. It accounted for about 9% of the Indigenous sample (N = 11,500; weighted N = 32,000).

- Bachelor degree-holders working in jobs that require high school or job-specific training or on-the-job training.
- University degree-holders (lower than bachelor level) working in jobs that require high school or job-specific training or on-the-job training.
- Post-secondary graduates lower than university working in jobs that require high school or job-specific training or on-the-job training.

***Field of study*** refers to the predominant discipline, area of learning, or training of a person's highest post-secondary degree. In this analysis, 10 fields were identified, which were further classified as STEM fields (science, technology, engineering and math) or Non-STEM fields. STEM fields:

i Science and science technology;

ii Engineering and engineering technology;

iii Mathematics and computer and information science;

- Non-STEM fields

iv Business and administration;

v Arts and humanities;

vi Social and behavioural sciences;

vii Legal professions and studies;

viii Health care;

ix Education and teaching;

x Trades, services, natural resources, and conservation.

***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 earned doctorate.
- **Bachelor's degree**
- **University certificate or diploma below bachelor's level** includes 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 for enrolment, it is classified as below the bachelor's level.

- **Post-secondary education below bachelor's level** includes
    - **Trades certificate:** Apprenticeship or trades certificate or diploma, including "Registered Apprenticeship certificates" and "trades certificates other than Registered Apprenticeship certificates."
    - **College diploma:** College, CEGEP (collège d'enseignement général et professionnel), general and vocational college, or other non-university certificate or diploma.

***Area of residence (on- or off-reserve)*:** This variable is a derived version of the "Residence on- or off-reserve" variable that includes additional categories showing if the person's residence is in a rural area, or a small, medium, or large population centre. "Residence on- or off-reserve" refers to whether the person's usual place of residence is in a census subdivision (CSD) defined as on-reserve or off-reserve.

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

- **Off-reserve** includes all CSDs in Canada not defined as on-reserve.

***Indigenous groups.*** Based on Indigenous identity[3] and Registered (or Treaty Indian) status,[4] Indigenous peoples were classified into four groups: Registered Indian, Non-status First Nations, Inuit, and Métis (Statistics Canada, 2017b). In recognition of the uniqueness of each of the four Indigenous groups, separate analyses were performed for those groups where sample sizes allowed. Due to the restricted sample sizes, however, some detailed analyses could not be conducted. In such cases, the estimates for Indigenous men and women workers overall are presented.

***Indigenous languages spoken most often at home*:** This variable measures whether Indigenous respondents indicated that an Indigenous language was the language spoken most often at home.

***Mobility–Place of residence five years earlier.*** Mobility refers to the relationship between a person's usual place of residence on the reference day (May 10, 2016) and his or her usual place of residence on the same day five years earlier. A person is classified as a "non-mover" if the place of residence has not changed in the interval. Otherwise, a person

3 This analysis includes individuals of single identity. Those reporting multiple Indigenous identities or Indigenous identities not included elsewhere are excluded. The size of those excluded is about 1% of the study population (N = 1,000, weighted N = 4,000).

4 Registered Indians, also known as "status Indians," have certain rights and benefits not available to non-status Indians, Métis, Inuit, or other Canadians. These rights and benefits include on-reserve housing; education; and exemptions from federal, provincial, and territorial taxes in specific situations (Government of Canada 2018).

is classified as a "mover." Movers are further classified as "non-migrants" (movers who remained in the same city, town, township, village, or Indian reserve) or "migrants" (those who moved to a different city, town, township, village, or Indian Reserve within Canada or from outside Canada). This analysis examines only whether a worker was a migrant or not.

*Analytic strategy*

Descriptive statistics are calculated for rates of over-qualification by sex, Indigenous identity, Indigenous group (Registered Indian, Non-status First Nations, Inuit, and Métis), education level, and field of study.

By conducting multivariate analyses, correlates of over-qualification among Indigenous workers are identified. Separate sets of logistic regression analysis are conducted to examine differences in over-qualification between Indigenous male and female workers after controlling for socio-demographic confounders, such as age, marital status, family status, province, language use, mobility, and area of residence.

**Results**

*Characteristics of Indigenous workers with post-secondary education*

Tables 1a and 1b describe selected characteristics of Indigenous and non-Indigenous workers aged 25 to 64 who attained post-secondary education. Indigenous and non-Indigenous men and women workers show different patterns in several socio-demographic variables. For instance, a smaller proportion of Indigenous women workers (61%) were married compared to Indigenous men (67%) and non-Indigenous men (73%) and women (69%) workers. As well, Indigenous women workers (average age = 42.3) tended to be slightly younger than Indigenous male workers (average age = 43.0; see Table 2). Also, Indigenous women workers were slightly younger than their non-Indigenous counterparts, whose average age was 42.7. The average age of Inuit workers was lowest among Indigenous groups (42.1 for males and 41.8 for females). The average age of Indigenous workers living on-reserve was higher than that of Indigenous workers living off-reserve (43.8 vs. 42.9 for men; 44.4 vs 42.0 for women).

In terms of family status, 18% of Indigenous women were lone parents compared to 5% of Indigenous men (see Table 1a). About 13% of the Indigenous study population (about 44,500) reported that their area of residence was on-reserve. In terms of provincial distribution, the highest number of Indigenous peoples was found in Ontario. Indigenous peoples living in the Territories accounted for about 3% of the total study population. Among non-Indigenous workers, the proportion living in the Territories was 0.2%.

**Selected characteristics of Indigenous workers aged 25 -64 with post-secondary education, by gender, Canada, 2016**

| | Indigenous Peoples | | | | | | Non-Indigenous | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | | | % | | | N | | | % | | |
| | Total | Men | Women | Total | Men | Women | Total | Men | Women | Total | Men | Women |
| Sample size | 123,900 | 56,400 | 67,600 | | | | 2,545,900 | 1,250,600 | 1,295,200 | | | |
| Weighted N | 344,100 | 154,800 | 189,400 | 100.00 | 45.0 | 55.0 | 10,496,000 | 5,165,000 | 5,331,000 | 100.00 | 49.2 | 50.8 |
| *Indigenous group* | | | | | | | | | | | | |
| Registered Indian | 146,300 | 64,900 | 81,400 | 43.0 | 42.4 | 43.5 | … | … | … | … | … | … |
| Non-status First Nations | 45,900 | 20,200 | 25,700 | 13.5 | 13.2 | 13.7 | … | … | … | … | … | … |
| Métis | 138,700 | 63,500 | 75,300 | 40.8 | 41.5 | 40.2 | … | … | … | … | … | … |
| Inuit | 9,100 | 4,400 | 4,800 | 2.7 | 2.9 | 2.5 | … | … | … | … | … | … |
| *Age group* | | | | | | | | | | | | |
| 25-34 | 96,300 | 41,700 | 54,700 | 28.0 | 26.9 | 28.9 | 2,843,400 | 1,399,200 | 1,444,200 | 27.1 | 26.0 | 28.1 |
| 35-44 | 96,600 | 42,700 | 53,900 | 28.1 | 27.6 | 28.5 | 2,839,200 | 1,397,100 | 1,442,000 | 27.1 | 26.4 | 27.7 |
| 45-54 | 94,000 | 42,800 | 51,200 | 27.3 | 27.7 | 27.0 | 2,825,500 | 1,390,400 | 1,435,100 | 26.9 | 27.0 | 26.8 |
| 55-64 | 57,100 | 27,600 | 29,600 | 16.6 | 17.8 | 15.6 | 1,987,900 | 978,300 | 1,009,700 | 18.9 | 20.5 | 17.4 |
| *Marital status* | | | | | | | | | | | | |
| Married/common-law | 219,400 | 103,600 | 115,800 | 63.7 | 66.9 | 61.1 | 7,461,600 | 3,671,800 | 3,789,800 | 71.1 | 73.0 | 69.3 |
| Never married | 41,900 | 13,800 | 28,200 | 12.2 | 8.9 | 14.9 | 967,700 | 476,200 | 491,500 | 9.2 | 6.9 | 11.5 |
| Widowed/divorced/separated | 82,800 | 37,400 | 45,400 | 24.1 | 24.2 | 24.0 | 2,066,700 | 1,017,000 | 1,049,700 | 19.7 | 20.2 | 19.3 |
| *Family status* | | | | | | | | | | | | |
| Married spouse or common-law partner | 217,200 | 102,700 | 114,600 | 63.1 | 66.3 | 60.5 | 7,355,600 | 3,619,600 | 3,736,000 | 70.1 | 72.0 | 68.3 |
| Lone parent | 41,300 | 7,700 | 33,600 | 12.0 | 5.0 | 17.7 | 643,400 | 316,600 | 326,800 | 6.1 | 2.7 | 9.5 |
| Child living with at least one parent | 18,500 | 10,900 | 7,500 | 5.4 | 7.1 | 4.0 | 641,300 | 315,600 | 325,700 | 6.1 | 6.7 | 5.5 |
| Unattached individual | 67,100 | 33,500 | 33,700 | 19.5 | 21.6 | 17.8 | 1,855,700 | 913,200 | 942,500 | 17.7 | 18.7 | 16.7 |
| *Province and territories* | | | | | | | | | | | | |
| Atlantic provinces | 33,800 | 16,200 | 17,600 | 9.8 | 10.4 | 9.3 | 642,400 | 316,100 | 326,300 | 6.1 | 5.9 | 6.3 |
| Quebec | 45,900 | 23,000 | 23,000 | 13.3 | 14.8 | 12.1 | 2,587,300 | 1,273,200 | 1,314,100 | 24.7 | 24.9 | 24.4 |
| Ontario | 84,500 | 36,700 | 47,800 | 24.5 | 23.7 | 25.2 | 4,053,600 | 1,994,700 | 2,058,800 | 38.6 | 38.1 | 39.1 |
| Manitoba | 35,400 | 14,900 | 20,500 | 10.3 | 9.6 | 10.8 | 304,400 | 149,800 | 154,600 | 2.9 | 2.9 | 2.9 |
| Saskatchewan | 27,800 | 11,600 | 16,100 | 8.1 | 7.5 | 8.5 | 271,800 | 133,800 | 138,100 | 2.6 | 2.5 | 2.6 |
| Alberta | 51,900 | 23,800 | 28,100 | 15.1 | 15.4 | 14.8 | 1,255,300 | 617,700 | 637,600 | 12.0 | 12.6 | 11.4 |
| British Columbia | 55,200 | 24,200 | 31,000 | 16.0 | 15.6 | 16.4 | 1,357,100 | 667,800 | 689,300 | 12.9 | 12.9 | 12.9 |
| Territories | 9,600 | 4,500 | 5,100 | 2.8 | 2.9 | 2.7 | 24,100 | 11,900 | 12,300 | 0.2 | 0.2 | 0.2 |
| *Aboriginal language* | | | | | | | | | | | | |
| Spoken most often at home | 315,800 | 141,700 | 174,100 | 91.8 | 91.6 | 91.9 | … | … | … | … | … | … |
| *Mobility status - 5 years ago* | | | | | | | | | | | | |
| Migrants | 68,200 | 30,200 | 38,000 | 19.8 | 19.5 | 20.1 | 2,172,700 | 1,069,200 | 1,103,500 | 20.7 | 21.2 | 20.3 |
| Non-migrants | 275,900 | 124,600 | 151,400 | 80.2 | 80.5 | 79.9 | 8,323,300 | 4,095,800 | 4,227,500 | 79.3 | 78.8 | 79.7 |
| *Area of residence* | | | | | | | | | | | | |
| On-reserve | 44,500 | 20,500 | 24,000 | 12.9 | 13.2 | 12.7 | … | … | … | … | … | … |
| Off-reserve | 299,600 | 134,200 | 165,300 | 87.1 | 86.7 | 87.3 | … | … | … | … | … | … |

**Source:** Census, 2016

*Education levels of Indigenous women and men workers*

Among Indigenous workers with a post-secondary education, Indigenous women (28.2%) were more likely than Indigenous men (18.3%) to have obtained a university education at the bachelor level or higher (see Table 1b). This gender difference was statistically significant for all four Indigenous groups (see Chart 1). Among Indigenous workers living on-reserve, 22% of women and 9% of men had obtained a university-level education. Among those living off-reserve, 29% of Indigenous women had attained a university-level education compared to 20% of their male counterparts. The vast majority of Indigenous workers with post-secondary education had attained lower than a university education. Specifically, one-quarter had an apprenticeship or trades certificate (40% for men, 13% for women) while 46% (38% for men, 52% for women) had obtained a college or CEGEP diploma (see Table 1b). Among non-Indigenous workers with a post-secondary education, 43% of men and 48% of women held a university degree at the bachelor level or higher (data not shown).

In terms of fields of study, the majority (55%) of Indigenous men majored in trades, services, and natural resources and conservation. The fields that women were more likely to study included business and administration, health care, and social and behavioural sciences. A higher proportion of Indigenous men (17%) than women (6%) majored in STEM fields (see Table 1b).

| | Indigenous Peoples | | | | | | Non-Indigenous | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | | | % | | | N | | | % | | |
| | Total | Men | Women | Total | Men | Women | Total | Men | Women | Total | Men | Women |
| Sample size | 123,900 | 56,400 | 67,600 | | | | 2,545,900 | 1,250,600 | 1,295,200 | | | |
| Weighted N | 344,100 | 154,800 | 189,400 | 100.00 | 45.0 | 55.0 | 10,496,000 | 5,165,000 | 5,331,000 | 100.00 | 49.2 | 50.8 |
| *Educational attainment* | | | | | | | | | | | | |
| Apprenticeship or trades certificate or diploma | 85,700 | 61,100 | 24,700 | 24.9 | 39.5 | 13.0 | 1,696,200 | 1,178,700 | 517,100 | 16.2 | 22.8 | 9.7 |
| College, CEGEP or other non-university certificate or diploma | 158,300 | 59,200 | 99,100 | 46.0 | 38.3 | 52.3 | 3,549,700 | 1,566,500 | 1,983,100 | 33.8 | 30.3 | 37.2 |
| University certificate or diploma below bachelor level | 18,400 | 6,200 | 12,200 | 5.4 | 4.0 | 6.5 | 481,800 | 209,200 | 272,900 | 4.6 | 4.1 | 5.1 |
| University certificate, diploma or degree at bachelor level | 60,000 | 20,400 | 39,600 | 17.4 | 13.2 | 20.9 | 3,157,200 | 1,427,100 | 1,730,400 | 30.1 | 27.6 | 32.5 |
| University certificate, diploma or degree above bachelor level | 21,700 | 7,900 | 13,800 | 6.3 | 5.1 | 7.3 | 1,610,100 | 783,500 | 826,800 | 15.3 | 15.2 | 15.5 |
| *Fields of study* | | | | | | | | | | | | |
| *STEM fields* | | | | | | | | | | | | |
| Science and science technology | 9,300 | 4,500 | 4,800 | 2.7 | 2.9 | 2.5 | 541,600 | 270,100 | 271,300 | 5.2 | 5.2 | 5.1 |
| Engineering and engineering technology | 18,900 | 15,800 | 3,200 | 5.5 | 10.2 | 1.7 | 969,800 | 821,800 | 147,700 | 9.2 | 15.9 | 2.8 |
| Mathematics and computer and information science | 8,200 | 5,300 | 2,900 | 2.4 | 3.5 | 1.5 | 496,500 | 350,200 | 146,600 | 4.7 | 6.8 | 2.8 |
| *Non STEM fields* | | | | | | | | | | | | |
| Business and administration | 57,800 | 15,200 | 42,600 | 16.8 | 9.8 | 22.5 | 2,165,300 | 878,100 | 1,288,000 | 20.6 | 17.0 | 24.2 |
| Arts and humanities | 20,200 | 8,500 | 11,700 | 5.9 | 5.5 | 6.2 | 900,600 | 379,600 | 521,400 | 8.6 | 7.4 | 9.8 |
| Social and behavioural sciences | 30,600 | 7,000 | 23,600 | 8.9 | 4.5 | 12.5 | 995,000 | 329,000 | 665,800 | 9.5 | 6.4 | 12.5 |
| Legal professions and studies | 6,200 | 1,600 | 4,600 | 1.8 | 1.0 | 2.5 | 206,800 | 69,200 | 137,500 | 2.0 | 1.3 | 2.6 |
| Health care | 48,900 | 6,300 | 42,600 | 14.2 | 4.0 | 22.5 | 1,321,400 | 234,500 | 1,087,000 | 12.6 | 4.5 | 20.4 |
| Education and teaching | 23,600 | 5,100 | 18,600 | 6.9 | 3.3 | 9.8 | 615,100 | 139,500 | 475,000 | 5.9 | 2.7 | 8.9 |
| Trades, services, natural resources and conservation | 120,400 | 85,600 | 34,800 | 35.0 | 55.3 | 18.4 | 2,282,900 | 1,694,100 | 591,700 | 21.8 | 32.8 | 11.1 |
| | | | | | | | - | - | - | | | |
| *Employment status* | | | | | | | - | - | - | | | |
| Employee | 314,000 | 139,000 | 175,000 | 91.3 | 89.8 | 92.4 | 9,198,700 | 4,411,900 | 4,786,200 | 87.6 | 85.4 | 89.8 |
| Self-employed | 29,700 | 15,600 | 14,000 | 8.6 | 10.1 | 7.4 | 1,274,200 | 746,300 | 527,800 | 12.1 | 14.5 | 9.9 |
| Unpaid family worker | 500 | 100 | 300 | 0.1 | 0.1 | 0.2 | 24,100 | 6,700 | 17,100 | 0.2 | 0.1 | 0.3 |
| *Full-time employment status* | | | | | | | | | | | | |
| Mainly full-time | 283,300 | 137,900 | 145,400 | 82.3 | 89.1 | 76.8 | 8,942,600 | 4,751,300 | 4,193,400 | 85.2 | 92.0 | 78.7 |
| Mainly part-time | 51,800 | 13,500 | 38,300 | 15.0 | 8.7 | 20.2 | 1,553,400 | 413,700 | 1,137,600 | 14.8 | 8.0 | 21.3 |
| *Skill levels* | | | | | | | | | | | | |
| Skill level A: Managers | 32,000 | 16,300 | 15,600 | 9.3 | 10.6 | 8.2 | 1,304,700 | 786,600 | 517,600 | 12.4 | 15.2 | 9.7 |
| Skill level A: Professionals | 67,300 | 21,000 | 46,300 | 19.6 | 13.5 | 24.5 | 2,924,200 | 1,283,500 | 1,640,300 | 27.9 | 24.9 | 30.8 |
| Skill level B: College/apprenticeship training | 134,500 | 70,800 | 63,700 | 39.1 | 45.8 | 33.6 | 3,568,600 | 1,916,200 | 1,652,100 | 34.0 | 37.1 | 31.0 |
| Skill level C: High school or job-specific training | 83,900 | 31,900 | 52,100 | 24.4 | 20.6 | 27.5 | 2,143,300 | 885,800 | 1,257,000 | 20.4 | 17.2 | 23.6 |
| Skill level D: On-the-job training | 26,500 | 14,700 | 11,700 | 7.7 | 9.5 | 6.2 | 557,300 | 292,900 | 263,900 | 5.3 | 5.7 | 5.0 |
| *Industry* | | | | | | | | | | | | |
| Agriculture, forestry, fishing, hunting, mining, quarrying, and oil and gas extraction | 18,200 | 14,100 | 4,000 | 5.3 | 9.1 | 2.1 | 308,600 | 222,100 | 86,400 | 2.9 | 4.3 | 1.6 |
| Utilities, construction and manufacturing | 54,000 | 44,400 | 9,700 | 15.7 | 28.7 | 5.1 | 1,610,100 | 1,272,100 | 338,500 | 15.3 | 24.6 | 6.4 |
| Wholesale & retail trade and transportation and warehousing | 41,800 | 22,500 | 19,300 | 12.1 | 14.5 | 10.2 | 1,550,300 | 884,800 | 665,300 | 14.8 | 17.1 | 12.5 |
| Finance and insurance, and real estate, rental and leasing | 12,700 | 4,600 | 8,000 | 3.7 | 3.0 | 4.2 | 774,600 | 361,000 | 413,700 | 7.4 | 7.0 | 7.8 |
| Professional, scientific and technical services | 17,200 | 8,100 | 9,100 | 5.0 | 5.2 | 4.8 | 1,041,200 | 580,500 | 460,100 | 9.9 | 11.2 | 8.6 |
| Management of companies & enterprises, administrative and support, waste management and remediation services | 12,500 | 6,200 | 6,300 | 3.6 | 4.0 | 3.3 | 380,000 | 199,900 | 179,700 | 3.6 | 3.9 | 3.4 |
| Educational services | 37,700 | 9,300 | 28,400 | 10.9 | 6.0 | 15.0 | 1,082,100 | 328,000 | 754,300 | 10.3 | 6.4 | 14.2 |
| Health care and social assistance | 64,800 | 8,900 | 55,900 | 18.8 | 5.7 | 29.5 | 1,619,500 | 285,600 | 1,333,800 | 15.4 | 5.5 | 25.0 |
| Information & cultural industries, arts, entertainment and recreation | 12,100 | 5,600 | 6,500 | 3.5 | 3.6 | 3.4 | 467,100 | 254,600 | 212,200 | 4.5 | 4.9 | 4.0 |
| Accommodation and food services | 12,000 | 4,000 | 8,100 | 3.5 | 2.6 | 4.3 | 374,700 | 159,600 | 215,400 | 3.6 | 3.1 | 4.0 |
| Other services (except public administration) | 17,000 | 7,000 | 10,000 | 4.9 | 4.5 | 5.3 | 488,100 | 210,200 | 277,700 | 4.7 | 4.1 | 5.2 |
| Public administration | 44,100 | 20,000 | 24,200 | 12.8 | 12.9 | 12.8 | 799,800 | 406,000 | 393,400 | 7.6 | 7.9 | 7.4 |

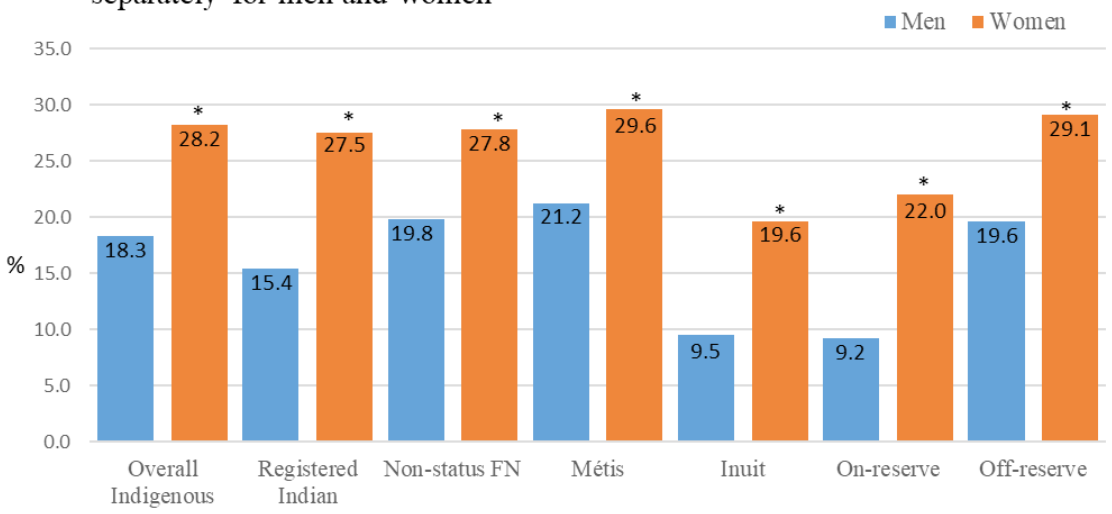
**Source:** Census, 2016

**Table 2**
**Average age of Canadian workers with postsecondary education, 2016 by Indigenous status, Indigenous group, area of residence**

| | Men | Women |
|---|---|---|
| *Indigenous status* | | |
| Total Indigenous | 43.0 | 42.3 |
| Non Indigenous | 43.6 | 42.7 |
| *Indigenous group* | | |
| Registered Indian | 42.8 | 42.8 |
| Non-status First Nations | 42.7 | 41.3 |
| Métis | 43.3 | 42.1 |
| Inuit | 42.1 | 41.8 |
| *Area of residence* | | |
| On-reserve | 43.8 | 44.4 |
| Off-reserve | 42.9 | 42.0 |

**Source:** Census, 2016

Chart 1. Proportion of Indigenous workers with post-secondary education who completed a university education (bachelor level or higher), separately for men and women




* Significantly different from men at the .05 level.
Source: Census, 2016

*Employment characteristics of Indigenous women and men workers*

The findings based on the 2016 NOC information showed that one-quarter of working Indigenous women had a job requiring professional skill levels, while 14% of their male counterparts held such professional positions. Almost half (46%) of Indigenous men worked for a job requiring college/apprenticeship training.

Indigenous women were more than twice as likely to be part-time workers as were their male counterparts. By looking at the distribution of employment by industry, it is clear that Indigenous men and women were likely to work for different industries. For instance, almost 30% of Indigenous men worked in utilities, construction, and manufacturing compared to 5% of Indigenous women. By contrast, 30% of Indigenous women worked in health care and social assistance-related industries compared to only 6% of Indigenous men.

*Over-qualification rates of Indigenous women and men, and non-Indigenous women*

Chart 2 shows the over-qualification rates for Indigenous and non-Indigenous workers, separately for women and men. Overall, 37% of employed Indigenous women who completed some post-secondary education were over-qualified for their current jobs. This rate was higher than that of Indigenous men (34%), non-Indigenous women (32%), and non-Indigenous men (27%). This pattern held when only workers with post-secondary education lower than university were considered (see Chart 2). However, these differences did not hold when those with post-secondary education at the bachelor level or higher were examined. Among workers with a university education at the bachelor level, 17% of Indigenous women workers were over-qualified compared to almost 20% of Indigenous men workers and 22% of non-Indigenous workers (women or men; see Chart 2). Similarly, among workers with a university education above the bachelor level, 15% of Indigenous women were over-qualified for their current job, significantly lower than the 17% of Indigenous men, 19% of non-Indigenous women, and 18% of non-Indigenous men who were over-qualified. The same pattern was found in a multivariate analysis controlling for socio-demographic factors such as age, Indigenous group, marital and family status, and geography. The odds of Indigenous women workers with bachelor's level or higher being over-qualified were significantly lower than those of Indigenous men and non-Indigenous women (data not shown).

Patterns of over-qualification differed across Indigenous groups. Among Registered Indians, compared to Indigenous men with the same education level, women with a post-secondary education lower than university showed a higher over-qualification rate, while those with a bachelor's degree or higher showed lower rates of over-qualification (see Table 3). Non-status First Nations women and Métis women with post-secondary education lower than university also showed higher over-qualification rates than men in the same Indigenous group and at the same education level. However, rates of over-qualification were similar for non-status First Nations and Métis men and women with university education, regardless of the degree level attained (see Table 3). The rates of over-qualification among

Inuit workers with university-level education were also similar between men and women, but Inuit women with a post-secondary education lower than university were less likely to be over-qualified than were Inuit men with the same education level.

Among those living off-reserve, Indigenous women with a post-secondary education lower than a university degree were more likely to be over-qualified than Indigenous men (46% vs. 35%). Interestingly, Indigenous women with the same education level who lived on-reserve were less likely to be over-qualified than their male counterparts. Indigenous women with a university education at the bachelor level who lived on-reserve were less likely to be over-qualified (13%) than were Indigenous men living on-reserve (20%) or Indigenous men (20%) and women (17%) living off-reserve.

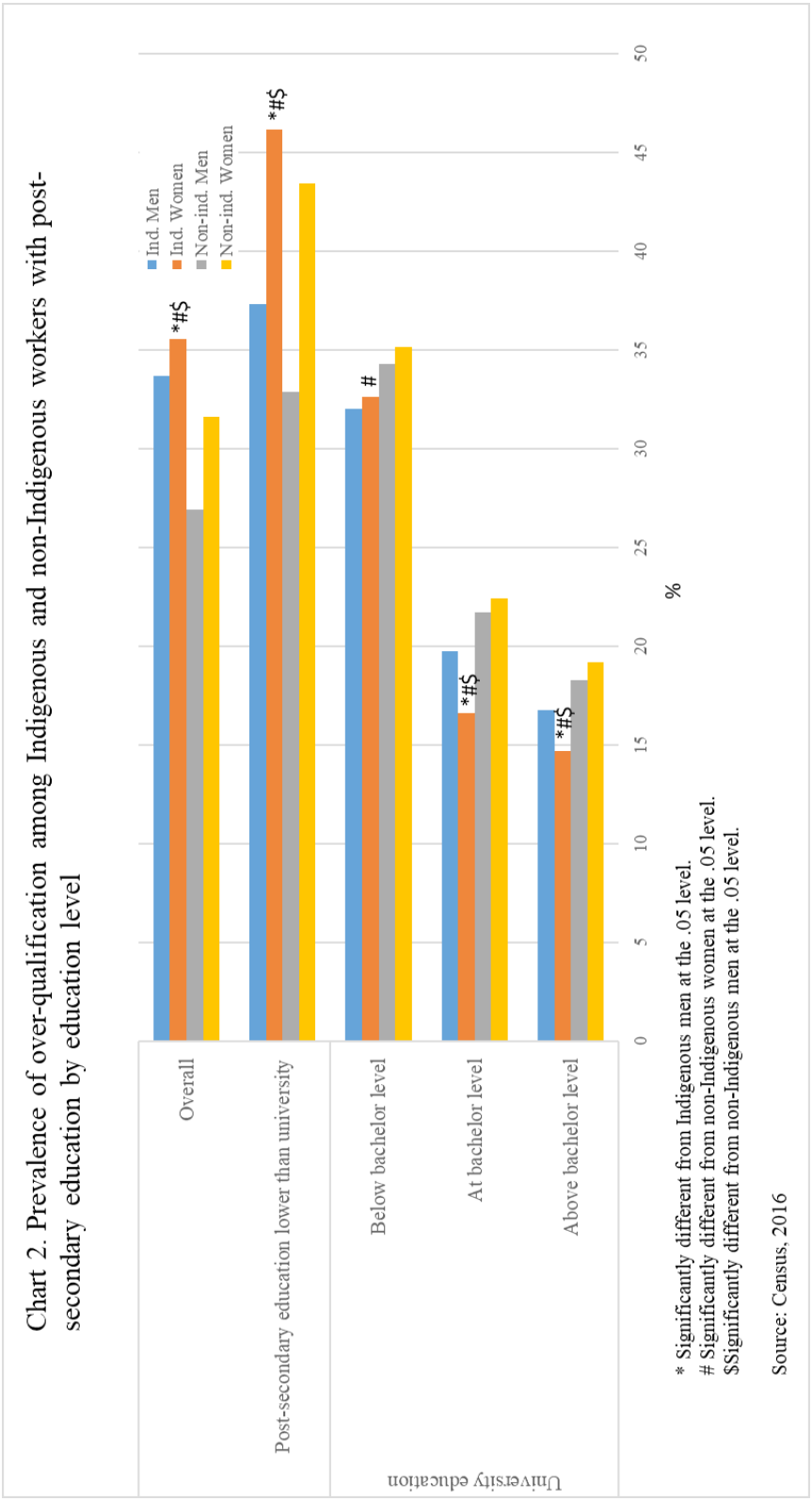


Chart 2. Prevalence of over-qualification among Indigenous and non-Indigenous workers with post-secondary education by education level
Ind. Men
Ind. Women
Non-ind. Men
Non-ind. Women
*#$
*#$
#
*#$
*#$
0
5
10
15
20
25
30
35
40
45
50
%
Overall
Post-secondary education lower than university
Below bachelor level
At bachelor level
Above bachelor level
University education
* Significantly different from Indigenous men at the .05 level.
# Significantly different from non-Indigenous women at the .05 level.
$Significantly different from non-Indigenous men at the .05 level.
Source: Census, 2016

**Table 3**

**Over-qualification rates for Indigenous workers aged 25-64 with post-secondary education by education level, Indigenous group, area of residence, 2016**

| | Registered Indian | | Non-status FN | | Métis | | Inuit | | On-reserve | | Off-reserve | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women | Men | Women |
| Overall | 37.5 | 37.2 | 32.5 | 37.4 * | 29.2 | 36.0 * | 46.4 | 36.7 * | 46.4 | 37.2 * | 31.7 | 36.6 * |
| Post-secondary education lower than university | 41.2 | 46.7 * | 35.6 | 46.4 * | 32.5 | 45.8 * | 49.2 | 43.5 * | 50.1 | 45.3 * | 35.1 | 46.3 * |
| University education below bachelor level | 31.5 | 33.3 | 34.3 | 36.1 | 32.1 | 31.0 | 33.3 | 25.7 | 31.5 | 32.2 | 32.3 | 32.8 |
| University education at bachelor level | 20.5 | 16.0 * | 21.6 | 18.2 | 18.7 | 17.0 | 17.5 | 12.8 | 19.5 | 13.4 * | 19.7 | 17.0 * |
| University education above bachelor level | 17.2 | 14.7 * | 18.6 | 14.9 | 15.9 | 14.7 | 17.3 | 12.4 | 17.5 | 13.6 * | 16.6 | 14.8 * |

* Significantly different from men in the same education level at the .05 level..

**Source:** Census, 2016

*Results of multivariate analyses*

Tables 4a and 4b present the unadjusted rates and adjusted odds ratios of over-qualification by various factors for both Indigenous and non-Indigenous workers, separately by sex.

In terms of the overall over-qualification rates, except among residents in Québec and the Territories, Indigenous women with post-secondary education were more likely than Indigenous men to be over-qualified for their current job. Unlike women workers living off-reserve, women workers living on-reserve were less likely to be over-qualified than their male counterparts.

Non-Indigenous women workers showed lower rates of over-qualification than Indigenous women for almost all categories included in the analysis. Among those aged 25 to 34, the never-married, and those with children in the family, the differences in percentage points were greater. As well, Indigenous women who majored in business and administration or health care showed at least 10% point higher rates of over-qualification compared to Indigenous men and non-Indigenous women with degrees in the same fields of study.

Indigenous women workers with a degree in other fields of study were significantly more likely to be over-qualified than Indigenous women workers with STEM majors. For example, Indigenous women who majored in health care had 1.7 times the odds of being over-qualified as Indigenous women with STEM majors. The same trends were found when models were conducted separately for each Indigenous group (data not shown).

Self-employed Indigenous women were less likely than salaried employees to be over-qualified. Overall, 27% of self-employed women were over-qualified compared to 37% of women on salary. After other factors were controlled for, self-employed Indigenous women's odds of being over-qualified were significantly lower than those of their salaried counterparts. This pattern was consistently found among each of the four Indigenous groups (data not shown).

The industries where Indigenous women were more likely to be over-qualified include wholesale and retail trade, transportation, and warehousing; management of companies, administrative and support, waste management and remediation services; and accommodation and food services. On the other hand, industries where women were less likely to be over-qualified include professional, scientific, and technical services; finance and insurance, real estate, rental and leasing; health care and social assistance; educational services; and public administration.

**Table 4a**
**Crude rates and multivariate adjusted odds ratios of over-qualification for Indigenous workers aged 25-64 with post-secondary education, 2016**

| | Indigenous | | | | | Non-Indigenous | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Men | | | Women | | Men | | | Women | |
| | % | | OR | % | OR | % | | OR | % | OR |
| *Age group* | | | | | | | | | | |
| 25-34 | 33.5 | * | 0.76 # | 37.2 | 0.93 # | 26.3 | * | 0.69 # | 30.2 * | 0.87 # |
| 35-44 | 31.9 | * | 0.80 # | 34.3 | 0.86 # | 24.7 | * | 0.78 # | 29.6 * | 0.92 # |
| 45-54 | 33.8 | * | 0.87 # | 37.7 | 0.99 | 27.4 | * | 0.91 # | 33.2 * | 1.00 |
| 55-64 (Ref) | 36.6 | | … | 38.5 | … | 30.0 | * | … | 34.7 * | … |
| *Marital status* | | | | | | | | | | |
| Married/common-law (Ref) | 30.5 | * | … | 34.1 | … | 24.9 | * | … | 30.0 * | … |
| Never married | 40.7 | | 1.38 # | 41.2 | 1.47 # | 32.4 | * | 0.72 # | 33.6 * | 0.53 # |
| Widowed/divorced/separated | 37.2 | * | 1.20 # | 39.9 | 1.38 # | 31.7 | * | 0.68 # | 37.6 * | 0.54 # |
| *Family status* | | | | | | | | | | |
| Married spouse or common-law partner (Ref) | 30.4 | * | … | 34.1 | … | 24.6 | * | … | 29.8 * | … |
| Lone parent | 38.2 | * | 0.93 | 41.1 | 0.88 | 27.8 | * | 1.47 # | 38.0 * | 2.31 # |
| Child | 46.1 | | 1.30 # | 45.2 | 1.07 | 38.3 | * | 2.50 # | 36.7 * | 2.52 # |
| Unattached individual | 37.9 | | 1.00 | 39.0 | 0.86 # | 30.8 | * | 1.80 # | 33.6 * | 2.20 # |
| *Province and territories* | | | | | | | | | | |
| Atlantic provinces | 32.8 | * | 1.00 | 39.3 | 1.15 # | 27.6 | * | 1.00 | 33.6 * | 0.96 # |
| Quebec | 38.2 | * | 1.23 # | 32.2 | 0.72 # | 30.2 | * | 1.13 # | 27.7 * | 0.63 # |
| Ontario (Ref) | 32.3 | * | … | 36.0 | … | 26.2 | * | … | 32.1 * | … |
| Manitoba | 33.0 | * | 1.04 | 37.8 | 1.18 # | 30.1 | * | 1.20 # | 35.4 * | 1.20 # |
| Saskatchewan | 26.4 | | 1.18 # | 35.8 | 1.05 # | 25.9 | | 0.96 # | 33.7 | 1.04 # |
| Alberta | 29.2 | * | 0.87 # | 37.0 | 0.98 | 23.3 | * | 0.82 # | 33.2 * | 1.00 |
| British Columbia | 23.5 | * | 0.92 # | 39.6 | 1.09 # | 25.3 | * | 0.90 # | 33.8 * | 1.04 # |
| Territories | 44.0 | * | 1.33 # | 33.3 | 0.84 # | 22.7 | * | 0.88 # | 25.1 * | 0.87 # |
| *Aboriginal language - Spoken most often at home* | | | | | | | | | | |
| Yes | 33.7 | * | 1.12 # | 37.3 | 1.17 # | … | | … | … | … |
| No (Ref) | 33.7 | * | … | 29.9 | … | … | | … | … | … |
| *Mobility status - 5 years ago* | | | | | | | | | | |
| Yes | 32.3 | * | 1.00 | 36.6 | 1.00 | 27.5 | * | 1.15 # | 33.1 * | 1.14 # |
| No (Ref) | 34.0 | * | … | 36.7 | … | 26.8 | * | … | 31.2 * | … |
| *Area of residence* | | | | | | | | | | |
| On reserve | 46.4 | * | 1.70 # | 37.2 | 1.06 # | … | | … | … | … |
| Off reserve (Ref) | 31.7 | * | … | 36.6 | … | … | | … | … | … |

* Significantly different from Indigenous women at the .05 level.
# Significantly different from reference category at the .05 level.
**Source:** Census, 2016

**Table 4b**
**Crude rates and multivariate adjusted odds ratios of over-qualification for Indigenous workers aged 25-64 with post-secondary education, 2016**

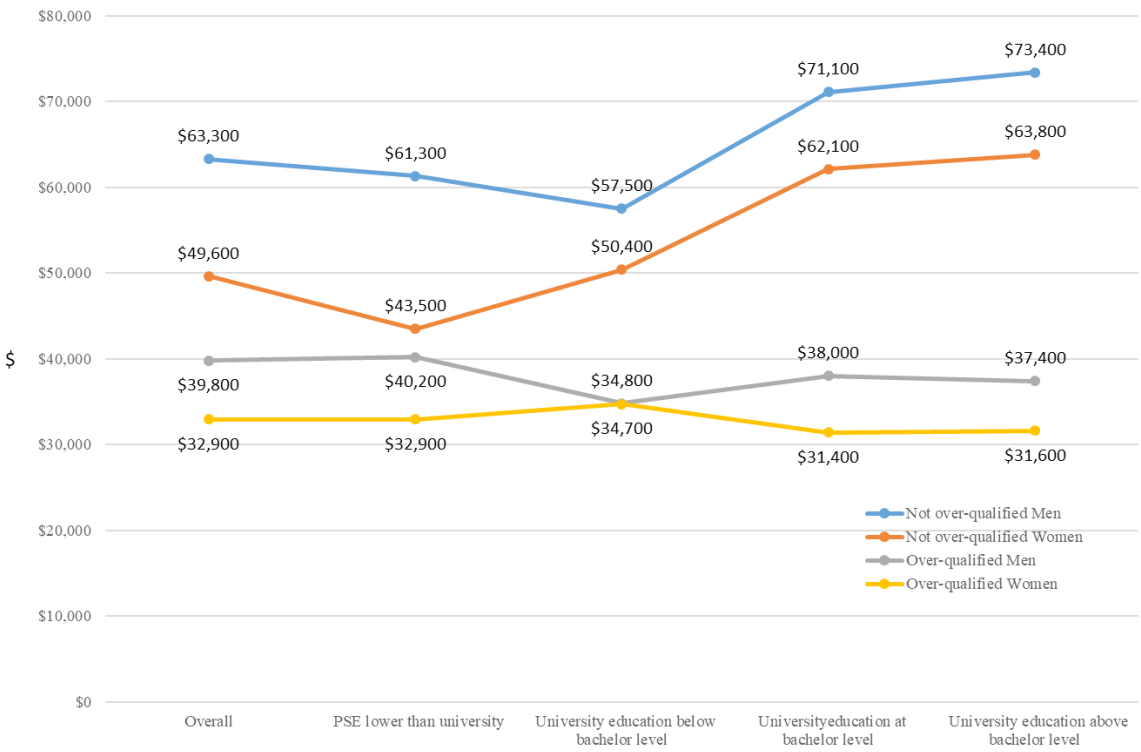
| | Indigenous | | | | | Non-Indigenous | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Men | | | Women | | Men | | | Women | |
| | % | | OR | % | OR | % | | OR | % | OR |
| *Fields of study* | | | | | | | | | | |
| STEM (Ref) | 26.2 | * | … | 29.1 | … | 19.9 | * | … | 24.5 * | … |
| Business and administration | 35.2 | * | 1.59 # | 43.2 | 1.50 # | 26.9 | * | 1.92 # | 31.6 * | 1.32 # |
| Arts & humanities, social sciences, law | 32.7 | | 1.90 # | 30.9 | 1.39 # | 28.8 | | 1.94 # | 29.0 | 1.28 # |
| Health care | 31.4 | * | 1.36 # | 42.4 | 1.72 # | 21.5 | * | 1.05 # | 32.9 * | 1.10 # |
| Education and teaching | 15.2 | * | 0.93 | 20.5 | 1.41 # | 14.4 | * | 1.32 # | 16.8 * | 1.12 # |
| Trades, services, natural resources and conservation | 36.9 | * | 1.18 # | 39.5 | 1.10 # | 31.3 | * | 1.08 # | 39.5 | 1.01 |
| *Full-time status* | | | | | | | | | | |
| Mainly full-time | 31.7 | | 0.51 # | 32.5 | 0.53 # | 25.2 | * | 0.44 # | 28.1 | 0.55 # |
| Mainly part-time (Ref) | 48.8 | | … | 49.5 | … | 41.9 | * | … | 41.8 * | … |
| *Employment status* | | | | | | | | | | |
| Employee (Ref) | 35.0 | * | … | 37.4 | … | 28.1 | * | … | 32.6 * | … |
| Self-employed | 20.6 | * | 0.51 # | 26.9 | 0.56 # | 18.8 | * | 0.48 # | 21.3 * | 0.61 # |
| Unpaid family worker | 41.7 | | 1.13 | 43.3 | 0.67 # | 45.0 | | 1.02 | 44.4 | 1.59 # |
| *Industry* | | | | | | | | | | |
| Agriculture, forestry, fishing, hunting, mining, quarrying, and oil and gas extraction | 37.5 | * | 1.51 # | 42.9 | 0.94 | 28.7 | * | 1.31 # | 39.3 * | 0.90 # |
| Utilities, construction and manufacturing (Ref) | 28.7 | * | … | 44.4 | … | 26.0 | * | … | 41.2 * | … |
| Wholesale & retail trade and transportation and warehousing | 61.2 | * | 4.00 # | 69.9 | 2.62 # | 57.7 | * | 3.73 # | 61.7 * | 2.18 # |
| Finance and insurance, and real estate, rental and leasing | 26.4 | | 1.02 | 27.7 | 0.46 # | 14.0 | * | 0.43 # | 23.1 | 0.44 # |
| Professional, scientific and technical services | 8.4 | * | 0.33 # | 15.8 | 0.28 # | 5.2 | * | 0.19 # | 11.9 * | 0.23 # |
| Management of companies & enterprises, administrative and support, waste management and remediation services | 71.9 | * | 6.32 # | 66.1 | 2.29 # | 63.0 | * | 4.51 # | 61.6 * | 2.29 # |
| Educational services | 19.1 | * | 0.82 # | 22.8 | 0.56 # | 9.4 | * | 0.30 # | 14.4 * | 0.31 # |
| Health care and social assistance | 27.4 | * | 0.97 | 32.7 | 0.53 # | 19.2 | * | 0.76 # | 27.5 * | 0.52 # |
| Information & cultural industries, arts, entertainment and recreation | 25.3 | * | 0.84 # | 35.2 | 0.75 # | 17.4 | * | 0.53 # | 27.1 * | 0.60 # |
| Accommodation and food services | 48.0 | | 1.80 # | 68.4 | 2.25 # | 48.2 | * | 2.09 # | 71.7 | 3.26 # |
| Other services (except public administration) | 15.7 | * | 0.48 # | 31.7 | 0.53 # | 14.9 | * | 0.46 # | 36.7 * | 0.74 # |
| Public administration | 27.7 | * | 0.97 | 30.4 | 0.63 # | 18.1 | * | 0.62 # | 21.9 * | 0.44 # |

* Significantly different from Indigenous women at the .05 level.
\# Significantly different from reference category at the .05 level.
**Source:** Census, 2016

### *Income levels of over-qualified workers and non-over-qualified workers*

Over-qualification is related to the income earned by individuals. Chart 3 shows the median personal income figures for over-qualified and non-over-qualified workers by education level. Not surprisingly, the income of Indigenous workers who were not over-qualified increased as their education level rose. However, the income levels for over-qualified Indigenous workers did not increase regardless of their education level. Over-qualified Indigenous women workers earned the lowest personal income. For example, the median income of over-qualified Indigenous women with university education at the bachelor level was about half the median income of non-over-qualified women workers, and almost $7,000 less than that of over-qualified Indigenous men workers.

Chart 3. Median personal income of Indigenous workers, by over-qualification status, educational attainment and sex




Source: Census, 2016

## Discussion

Using data from the 2016 Census, this study focused on the match between Indigenous workers' education levels and the skills typically required for their jobs. Compared to their non-Indigenous counterparts and Indigenous men, Indigenous women workers with university-level education (bachelor's degree or higher) were less likely to be over-qualified. Conversely, Indigenous women workers with post-secondary education lower than university levels were more likely than non-Indigenous women and Indigenous men to be over-qualified. This pattern persisted after socio-demographic factors were controlled for.

Indigenous peoples' labour market disadvantages have often been explained with reference to their lower levels of educational attainment, especially their lack of post-secondary degrees (Health Council of Canada 2005; Bougie et al. 2013; Centre for the Study of Living Standards 2012; Conference Board of Canada 2012). However, one of the most important findings of this study is that, even among those with a post-secondary education, higher levels of education are especially advantageous to Indigenous women.

University education at the bachelor level or higher was connected to better-matched jobs and a lower likelihood of over-qualification for Indigenous women workers. Meanwhile, Indigenous women with an education lower than university were consistently more likely to be over-qualified than were non-Indigenous women and Indigenous men.

This study also points to differences in over-qualification by field of study among Indigenous women workers. Indigenous women who majored in STEM fields were less likely to be over-qualified than were Indigenous women with other majors as well as Indigenous men who majored in business/administration; arts, humanities and social sciences; and trades, services, natural resources and conservation. Moreover, Indigenous women who studied health care and business and administration fields had higher odds of being over-qualified in their current job.

Self-employed Indigenous women were less likely to be over-qualified than were Indigenous women employees, which is consistent with findings in other population groups. Sanchez et al. (2015) argued that self-employment may be a way to avoid over-qualification. Their empirical findings suggest that those who were self-employed were less likely to be mismatched on skills, but also that those who changed from salaried employment to self-employment showed a reduced probability of skill mismatches after the transition. Indigenous peoples tend to have better-matched positions when self-employed. In addition, an analysis of the Programme for the International Assessment of Adult Competencies (PIAAC) survey showed that, compared to their salaried employee counterparts, self-employed Indigenous workers possessed adequate skills for their jobs (Park forthcoming).

Indigenous women's over-qualification was more likely to occur in certain industries. Indigenous women were more likely to be over-qualified if they worked in industries such as wholesale and retail trade, transportation, and warehousing; management of companies, administrative and support, waste management and remediation services; and accommodation and food services. Not surprisingly, Indigenous women were less likely to be over-qualified if they had a job in industries related to professional, scientific, and technical services; finance and insurance; and real estate, rental, and leasing. They were also less likely to be over-qualified in industries providing health care and social assistance, educational services, and public administration. More than half of Indigenous women with a post-secondary education were hired in the latter three industries.

*Policy implications and future research needs*

Education seems to be an important factor for reducing over-qualification. It is important to note that Indigenous women workers with a high level of education, especially those with a bachelor-level degree or higher, were significantly less likely to be over-qualified than their non-Indigenous counterparts or Indigenous men. Promoting university-level educational opportunities among Indigenous women may be effective in addressing over-qualification in the labour market. Education not only improves Indigenous peoples' employability in general but it also helps them to obtain a job properly matched with their education (Park 2018). On the other hand, over-qualified workers' education levels lost their effect on their

income. While education is beneficial, over-education is costly to individuals and firms, as well as to the economy as a whole (McGuinness 2006).

Furthermore, the field of education may be an important factor in over-qualification. This analysis clearly showed that women workers with training in STEM fields were less likely to be over-qualified. According to our analysis of the 2016 Census, only 6% of Indigenous women workers had majored in STEM fields. Promoting educational opportunities in STEM fields among Indigenous women may help them find a job better matched to their level of education.

Future research could use other measures, such as objective measures of skills in addition to education levels. Examples of such measures include the Programme for the International Assessment of Adult Competencies (PIAAC) survey (Bobet 2015), which included direct and objective measures of skills. Future studies could also group occupations by skill level based on the underlying skills used in each job (Poletaev and Robinson 2008).

This analysis dealt mainly with over-qualification, in which the level of skill or qualification is higher than the level required for the current job. However, for some workers, it is highly likely that their education level matched their job requirements but their education type did not. Future research could examine other types of over-qualification. Differentiating between over-qualification types may be important in developing strategies for improving education and skill levels among Indigenous peoples.

Beyond the outcomes examined here, future studies could include additional factors or outcomes relevant to over-qualification. For example, future analyses of over-qualification may examine more relevant labour market conditions, such as years of work, work arrangements, wage level, job training/preparation, and effective transition systems combining workplace experience with education (Taylor 2007). The analysis scope could thus be expanded by using certain linked datasets of surveys and administrative records. It would also be worthwhile examining how job mismatches are associated with job-related health outcomes, such as job strain, job insecurity, and work injuries.

**Limitations**

Identification and estimation among Indigenous workers might be affected by the incomplete enumeration of certain Indian reserves and Indian settlements in the 2016 Census. In 2016, there were 14 Indian reserves and Indian settlements that were incompletely enumerated and were therefore not included in 2016 Census tabulations. For these reserves and settlements, dwelling enumeration was either not permitted or was interrupted before it could be completed (Statistics Canada 2017a).

Due to the restricted sample sizes, over-qualification by some specific variables could not be examined separately for each of the Indigenous groups. For example, over-qualification rates by detailed fields of study or work industries were not calculated for Registered Indians, First Nations, Inuit, or Métis groups.

In this analysis, the measure of over-qualification was based on self-reported levels of education. Education level is one way to express the qualification or skill-level that a worker

possesses. This measure may be inaccurate, however, and may not represent the skill level required for the current job precisely.

Similarly, in this analysis, the measure of the skills level required for a job was based on a broad occupational classification. There is a high level of heterogeneity within an occupational category, however. For example, Adams et al. (2016) pointed out that even professionals' job quality and required skill levels have been significantly affected by employers' endeavour to replace professional workers with lower-cost, less-skilled alternatives. This pattern varies across sectors and class positions (Adams et al. 2016). A conventional classification of a variety of occupations into a small number of groups may not precisely represent actual skill levels.

This study showed the benefit of university education for Indigenous women, which led to a low prevalence of over-qualification. However, education's direct economic returns, such as wage increases (McGuinness 2006), were not taken into consideration as a determinant of over-qualification. Moreover, as over-qualification is, by definition, a measurement for those employed, the effect of education on employability was not measured in this analysis. Finally, as the Census collects cross-sectional information, the associations found between over-qualification and other related variables do not necessarily indicate a causal relationship.

## Conclusion

This study examined over-qualification levels in the Canadian labour market among Indigenous women workers aged 25 to 64 with post-secondary education. Their specific rates of over-qualification were compared with those of Indigenous men as well as non-Indigenous workers. Indigenous women workers with university-level education (bachelor's degree or higher) were less likely to be over-qualified than their non-Indigenous counterparts and Indigenous men. Conversely, Indigenous women workers with post-secondary education lower than university levels were more likely than were non-Indigenous women and Indigenous men to be over-qualified. This pattern persisted after socio-demographic factors were controlled for. Higher levels of education were especially advantageous to Indigenous women workers.

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