

## Article

### Insights on Canadian Society

# Overqualification among recent university graduates in Canada

by Sharanjit Uppal and Sébastien LaRoche-Côté



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|----------------|--|
| .              | not available for any reference period   |
| ..             | not available for a specific reference period  |
| ...            | not applicable   |
| 0              | true zero or a value rounded to zero   |
| 0 <sup>s</sup> | value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded |
| P              | preliminary  |
| r              | revised  |
| X              | suppressed to meet the confidentiality requirements of the <i>Statistics Act</i>                                   |
| E              | use with caution   |
| F              | too unreliable to be published   |
| *              | significantly different from reference category ( $p < 0.05$ )   |

# Overqualification among recent university graduates in Canada

by Sharanjit Uppal and Sébastien LaRochelle-Côté

## Overview of the study

Between 1991 and 2011, the share of young people with a university degree increased significantly, as did the share of young workers employed in professional occupations. Nevertheless, many young university degree holders could still be considered ‘overqualified’—working in occupations requiring lower levels of education. In this article, changes in the overqualification among young graduates are examined over the period from 1991 to 2011.

- In 2011, 28% of all employed women aged 25 to 34 worked in ‘professional’ occupations—those typically requiring a university degree—up from 18% in 1991. Among employed men the same age, 18% worked in professional occupations in 2011, up from 13% in 1991.
- Among university graduates aged 25 to 34 who were not in management occupations, 18% of men and women worked in occupations usually requiring a high school education or less, and about 40% of both men and women worked in occupations usually requiring a college-level education or less. These proportions have changed little since 1991.
- Among university-educated immigrants who did not graduate in Canada or the United States, 43% of women and 35% of men worked in occupations requiring a high school education or less. In comparison, the same rates for the Canadian-born and for immigrants who graduated in Canada or the U.S. varied between 15% and 20%.
- About one third of working men and women aged 25 to 34 with a university degree in humanities (which includes history, literature and philosophy) were employed in occupations requiring a high school education or less.
- In contrast, less than 10% of men and women with a university degree in education were in occupations typically requiring a high school education. Men and women in health and related fields, and in architecture, engineering and related fields also had rates below 15%.

## Introduction

In a world dominated by technology, knowledge and innovation, young Canadians are adapting by pursuing post-secondary educational credentials. For instance, among employed individuals aged 25 to 34, the proportion who had a university degree rose significantly, from 18% in 1991 to 33% in 2011. Young workers also became more and more likely to work as “professionals”, that is, in occupations typically requiring a university degree.

Yet, with such a growing pool of university graduates, there is a perception that skilled jobs may not always be available to meet the supply of skilled individuals. As a result, a number of graduates would be ‘overqualified’, hence contributing to a potential ‘skills mismatch’ problem. The issue of overqualification may also be particularly more acute in a weaker labour market, when a growing supply of graduates may have to compete for a limited number of skilled positions. Overqualification is also an important issue because it can lead to lower earnings and lower productivity,<sup>1</sup> and may prevent younger individuals from getting the experience they need to find better jobs in the future.

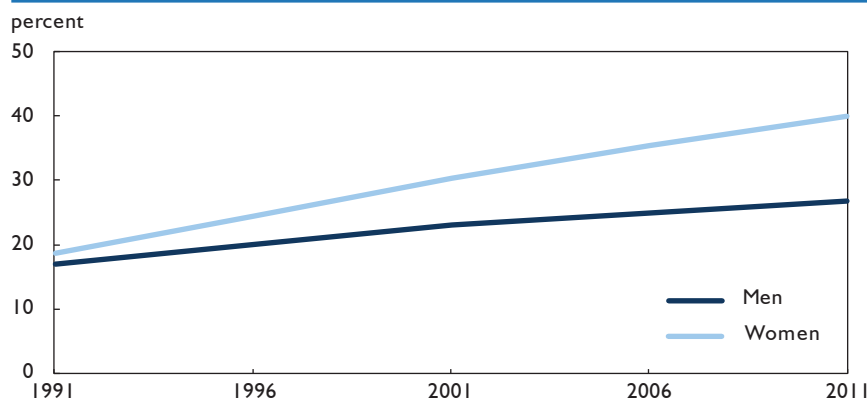
## Overqualification among recent university graduates in Canada

There are a number of studies examining the issue of skills mismatch and overqualification.<sup>2</sup> Many of these studies define overqualification as possessing an education level higher than what is typically required for the job. Among other findings, these studies found that some groups—particularly immigrants—were more at risk to be overqualified than the Canadian-born.

The recent release of the National Household Survey—which includes detailed variables on location of study and field of study—provides an opportunity to revisit the issue. More specifically, are university graduates more overqualified than 20 years ago? Are some fields of study more affected than others? What can be said of groups who are most at risk of overqualification?

To answer these questions, the 1991 and 2006 censuses of population are used, in addition to the 2011 National Household Survey (see *Data sources, methods, and definitions*). Using all these sources, detailed occupations can be classified across occupational groupings that are representative of a certain set of educational attainment or experience: professionals (or occupations typically requiring a university degree); college and apprenticeship occupations; high school occupations or less; and management occupations. It is on the basis of this unique skills-based classification system, originally developed by Human Resources and Skills Development Canada (Now Employment and Social Development Canada)<sup>3</sup>, that overqualification can be studied over such a long period of time for various population groups.

**Chart 1** Employed men and women, aged 25 to 34, with a university degree, 1991 to 2011



Sources: Statistics Canada, Census of Population, 1991, 1996, 2001 and 2006; National Household Survey, 2011.

### More women working as professionals

As younger individuals became more and more likely to have postsecondary qualifications, the workforce became better-skilled. In 1991, 17% of all employed men and 19% of all employed women aged 25 to 34 had a university degree—a difference of only two percentage points. Over the following two decades, the proportion of employed individuals with a university degree grew faster among women. As a result, nearly 40% of employed women aged 25 to 34 had a university degree in 2011, compared with 27% of employed men (Chart 1).<sup>4</sup>

As the proportion of university graduates increased, the proportion of young workers in professional occupations—those that typically require a university degree—also rose. Examples of such occupations include accountants and human resource professionals, engineers and architects, physicians and nurses, lawyers, teachers, and social workers.<sup>5</sup> In 2011, 28%

of all employed women were professionals, up from 25% in 2006 and 18% in 1991 (Chart 2).

The share of men in the same age group who were professional workers also increased over the period, but not as quickly (from 13% in 1991 to 18% in both 2006 and 2011). Overall, women accounted for 59% of workers aged 25 to 34 employed in professional occupations in 2011, compared with 57% in 2006 and 54% in 1991.

At the other end of the spectrum, the proportion of workers in occupations requiring at most a high school education declined over the period, especially among women. In 1991, as many as 42% of young men and 48% of young women worked in such occupations, which typically include office clerks, sales representatives, drivers, cashiers, trades helpers, and machine operators and assemblers, among others. In 2011, about one-third of men and women aged 25 to 34 worked in occupations requiring a high school education or less.

## Overqualification among recent university graduates in Canada

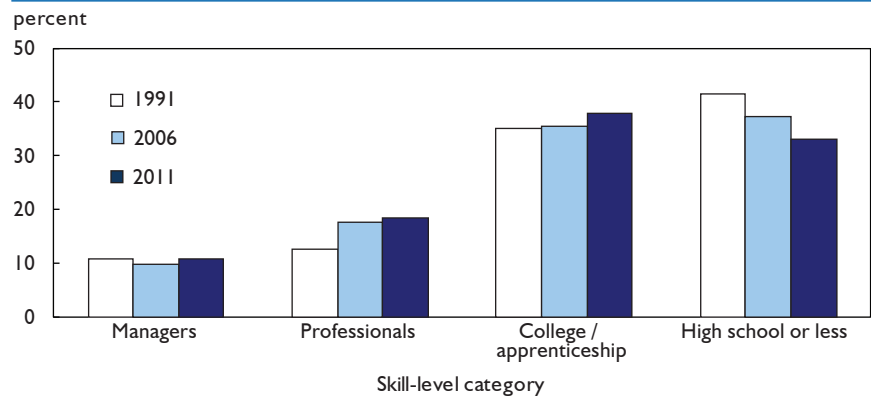
The other two skill groups are occupations typically requiring a college or apprenticeship training, and management occupations. Both tended to employ a higher proportion of men, and were characterized by fewer changes over the period. The proportion of young men in college-related occupations rose by a few percentage points (from 35% to 38% among men), and remained unchanged among young women (at 28%). Occupations requiring college or apprenticeship training are varied, as they include technical occupations, skilled operators, and those working in construction trades—but are made up of occupations requiring skills normally acquired at the postsecondary level.

Finally, the proportion of women aged 25 to 34 working as managers increased, but only slightly (from 7% to 8%), and employed about 1 in 10 working men in the same age group over the whole period. Of note, occupations that are included in the management category may have various educational requirements, depending on the exact nature of the position. As a result, these occupations are not associated with a particular level of educational attainment.

### Overqualification changed little over the past two decades

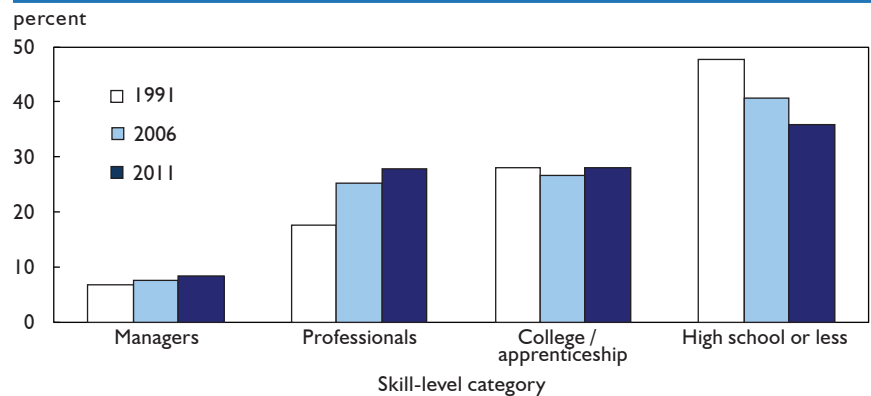
The above results indicate that younger workers increasingly work in high-skilled occupations, with a growing number of young workers in professional occupations and fewer workers in occupations requiring a high school or less. Such results reflect the fact that younger workers became more educated over the period.<sup>6</sup>

**Chart 2a Distribution of employed men aged 25 to 34 across skill levels, 1991, 2006 and 2011**



Sources: Statistics Canada, Census of Population, 1991 and 2006; National Household Survey, 2011.

**Chart 2b Distribution of employed women aged 25 to 34 across skill levels, 1991, 2006 and 2011**



Sources: Statistics Canada, Census of Population, 1991 and 2006; National Household Survey, 2011.

Nevertheless, a significant number of young individuals still work in occupations that require less education than they have. Overqualification of this type is most likely to be a concern among those who study longer, particularly university graduates.<sup>7</sup>

How should overqualification among university graduates be measured? Some methods are based on

subjective measures, for instance, by asking survey respondents if their jobs matched their qualifications.<sup>8</sup> Alternatively, other methods are based on the grouping of occupations across skill levels, which can then be matched with the educational attainment of survey respondents.

On the basis of the latter approach, one measure of overqualification can be obtained by calculating the

## Overqualification among recent university graduates in Canada

proportion of university graduates who are working in occupations typically requiring a college diploma or less. A related measure, which may be more representative of the consequences of overqualification, can be obtained by calculating the proportion of university graduates in occupations typically requiring a high school education or less. Both measures exclude managers, as they cannot be associated with a particular level of educational attainment.<sup>9</sup>

According to the two measures, both men and women had very similar overqualification rates. In 2011, 18% of university-educated men and women were in occupations requiring a high school education or less. Alternatively, 41% of university-educated men and 39% of university-educated

women were working occupations requiring college education or less (Table 1). Both measures also remained relatively stable over the 20 years between 1991 and 2011 (with the exception of a small decline among female university graduates working in occupations requiring a high school education or less).

Such trends, however, mask different results among immigrants and the Canadian-born. As other studies have shown, overqualification rates tend to be higher among immigrants, particularly women.<sup>10</sup> Results also vary within the immigrant population, most notably between those who studied in Canada and the United States (accounting for approximately one-half of all university-educated immigrants aged 25 to 34), and those who did not.

For instance, among university-educated immigrant women who did not graduate in Canada or the United States, 43% were employed in occupations requiring a high school education or less in 2011. In comparison, just 20% of immigrant women with a degree from Canada or the U.S. and 15% of the Canadian-born were in occupations requiring a high school education.

Alternatively, more than two-thirds (67%) of university-educated female immigrants who did not graduate in Canada or the U.S. were employed in occupations requiring college education or less, compared with 42% of immigrant women with a degree from Canada or the U.S., and 35% among the Canadian-born.

**Table 1 Overqualification rates among workers aged 25 to 34 with a university degree, 1991, 2006 and 2011**

	1991	2006	2011
	percentage		
<b>Occupations usually requiring high school education or less</b>			
All men	17.8	19.7	17.7
Immigrant men	23.1	26.5	23.4
With a university degree from outside of Canada or the U.S.	..	37.4	34.8
With a university degree from Canada or the U.S.	..	17.7	16.0
Canadian-born men	16.5	17.0	15.4
All women	19.7	20.4	18.3
Immigrant women	30.5	33.1	29.4
With a university degree from outside of Canada or the U.S.	..	47.6	43.0
With a university degree from Canada or the U.S.	..	21.5	19.9
Canadian-born women	17.6	16.7	14.9
<b>Occupations usually requiring college education or less</b>			
All men	39.0	41.2	40.5
Immigrant men	43.3	48.0	46.8
With a university degree from outside of Canada or the U.S.	..	61.5	61.3
With a university degree from Canada or the U.S.	..	37.3	37.5
Canadian-born men	38.0	38.5	38.0
All women	39.0	40.1	39.2
Immigrant women	52.4	54.5	52.6
With a university degree from outside of Canada or the U.S.	..	69.4	67.3
With a university degree from Canada or the U.S.	..	42.6	42.3
Canadian-born women	36.4	35.8	35.1

.. not available for a specific reference period

Sources: Statistics Canada, Census of Population, 1991 and 2006; National Household Survey, 2011.

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Similar differences were found for university-educated immigrant men. In 2011, 35% of male immigrants who did not graduate in Canada or the U.S. were in occupations requiring a high school education or less, and 61% were in occupations requiring a college education or less. In contrast, other immigrants (with a degree from Canada or the U.S.) and the Canadian-born had nearly identical proportions of university graduates working in occupations requiring a high school education or less (about 16%) and in college-level or lower occupations (38%).

In recent years, the proportion of university-educated workers in occupations requiring a high school education or less declined somewhat among immigrants who did not

graduate in Canada or the U.S. (by a margin of 5 percentage points among females and 3 percentage points among males). In spite of these gains, there was still a significant difference when comparing the overqualification rates of immigrants who did not graduate in Canada or in the U.S. versus those who did—23 percentage points among females and 19 percentage points among males in 2011.

### Overqualification by field of study

The National Household Survey collected information about the field of study of the highest degree obtained, thus allowing overqualification to be examined by field of study.

In 2011, the highest rates were among graduates of humanities programs, such as history, literature, and philosophy. In this field, one third of men and women were in occupations usually requiring high school occupations—a rate that reached 41% among immigrant men, and 44% among immigrant women (Table 2).<sup>11</sup> The rates were also comparatively higher among those who studied social and behavioural sciences and law; business, management and public administration; and agriculture, natural resources and conservation (with percentages varying between 20% and 25% for both men and women). In all of these fields, the rates were consistently higher for immigrants.

**Table 2 Overqualification rates across fields of study, workers aged 25 to 34 with a university degree, 2011**

	Men			Women		
	All	Canadian-born	Immigrants	All	Canadian-born	Immigrants
	percentage					
<b>In occupations usually requiring high school education or less, by field of study</b>						
Education	9.2	7.8	25.4	8.7	7.2	22.8
Visual and performing arts, and communications technologies	22.2	22.6	20.8	28.2	27.6	30.4
Humanities	32.5	30.5	40.8	32.7	29.3	43.9
Social and behavioural sciences and law	24.7	22.9	31.6	23.8	21.7	32.1
Business, management and public administration	21.7	18.1	29.9	21.6	16.5	32.1
Physical and life sciences and technologies	16.8	15.1	21.0	21.3	18.1	29.4
Mathematics, computer and information sciences	9.3	6.3	12.7	20.8	10.4	29.1
Architecture, engineering, and related technologies	9.1	5.1	15.7	11.9	6.9	18.1
Agriculture, natural resources and conservation	21.1	18.3	34.7	20.3	18.1	31.4
Health and related fields	13.4	9.1	25.3	8.8	5.4	22.4
Other	34.0	26.6	49.8	26.5	24.5	42.1
<b>In occupations usually requiring college education or less, by field of study</b>						
Education	16.9	14.9	38.9	18.1	15.6	42.7
Visual and performing arts, and communications technologies	63.5	61.7	70.2	66.1	64.8	70.9
Humanities	60.8	58.5	70.2	59.9	57.0	69.3
Social and behavioural sciences and law	53.2	51.3	60.5	51.4	49.4	59.0
Business, management and public administration	46.5	43.2	54.2	45.2	40.2	55.7
Physical and life sciences and technologies	42.2	41.7	43.6	51.0	48.5	57.1
Mathematics, computer and information sciences	28.3	23.7	33.8	38.6	26.1	48.4
Architecture, engineering, and related technologies	26.0	19.4	36.8	30.9	23.6	39.9
Agriculture, natural resources and conservation	52.7	50.5	62.7	48.5	46.1	61.0
Health and related fields	31.5	28.5	39.7	20.7	16.7	36.4
Other	85.0	85.5	84.0	72.9	73.9	64.5

Source: Statistics Canada, National Household Survey, 2011.



## Overqualification among recent university graduates in Canada

Conversely, the lowest rates were found in education; architecture, engineering and related technologies; and health and related fields (with percentages varying between 9% and 13% in all three cases). In mathematics, computer and information sciences, the proportions of those in occupations usually requiring a high school degree were 9% among men and 21% among women—but in this particular field, the rates were particularly higher among immigrant women (29%, vs. 10% for the Canadian-born). Similar differences across fields of study were found among graduates working in occupations requiring a college education or less (bottom panel of Table 2).

Because some programs are more popular than others, a higher rate in a program may not necessarily translate into a large number of individuals. It is therefore important to examine the distribution of those who are mismatched across fields of

study. In this particular case, results are based on those working in occupations requiring a high school education or less only.

The vast majority of those who were overqualified were in just three fields of study: (1) business, management and public administration; (2) social and behavioural sciences and law; and (3) humanities. Together, these three fields accounted for more than 60% of overqualified men and women aged 25 to 34 (Table 3).

While the majority of overqualified immigrants were also concentrated in the three fields of study, a comparatively higher proportion of overqualified immigrants could be found in architecture, engineering and related technologies (among male immigrants), and in health and related fields (among female immigrants).<sup>12</sup> These differences, however, reflect the fact that immigrants tend to be more concentrated in science-related fields.<sup>13</sup>

### Factors associated with overqualification

Both the location of study and the field of study can have an impact on overqualification. Are these results still significant when other factors, such as age, province of residence, size of urban area, and higher education variables (whether the respondent has a Master's or a Ph.D.) are taken into consideration?

To answer this question, two multivariate (probit) models were estimated. In the first one, the dependent variable was whether or not university graduates are working in occupations requiring a high school education. In the second, the dependent variable was whether or not university graduates are working in occupations requiring a college education or less.

**Table 3 Distribution of overqualified<sup>1</sup> workers across fields of study, 2011**

	Men			Women		
	All	Canadian-born	Immigrants	All	Canadian-born	Immigrants
	percentage					
<b>Fields of study</b>						
Education	3.5	4.4	2.2	8.5	10.2	5.7
Visual and performing arts, and communications technologies	4.4	5.7	2.3	5.8	7.2	3.6
Humanities	14.1	17.1	9.2	15.1	16.5	12.9
Social and behavioural sciences and law	21.5	25.4	15.2	25.7	29.8	18.8
Business, management and public administration	25.8	24.1	28.6	20.9	17.1	27.1
Physical and life sciences and technologies	6.7	6.9	6.3	7.9	7.7	8.2
Mathematics, computer and information sciences	4.8	2.9	8.1	2.9	1.0	6.0
Architecture, engineering, and related technologies	9.8	5.5	17.1	2.7	1.4	4.8
Agriculture, natural resources and conservation	2.2	2.5	1.7	1.7	2.1	1.2
Health and related fields	6.0	4.8	8.1	8.4	6.5	11.5
Other	1.0	0.9	1.3	0.5	0.6	0.2

1. Defined as university graduates working in occupations requiring high school education or less.

Source: Statistics Canada, National Household Survey, 2011.



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As was the case in the descriptive results above, the predicted probability varied little between men and women (Table 4).

However, overqualification decreases with age; the older the individual, the less likely he or she is to be overqualified. This is

as expected, given that younger individuals have fewer years of experience on the labour market and often need some time to

**Table 4 Predicted probability of overqualification among workers aged 25 to 34 with a university degree, 2011**

	In occupations usually requiring high school education or less	In occupations usually requiring a college education or less
	predicted probability	
<b>Sex</b>		
Men (ref.)	0.155	0.387
Women	0.156*	0.378*
<b>Age</b>		
25 (ref.)	0.242	0.452
26	0.209*	0.430*
27	0.180*	0.407*
28	0.160*	0.384*
29	0.146*	0.374*
30	0.142*	0.368*
31	0.136*	0.362*
32	0.132*	0.358*
33	0.122*	0.351*
34	0.122*	0.346*
<b>Higher education</b>		
Does not have a Master's degree or a Ph.D. (ref.)	0.175	0.425
Master's degree or Ph.D.	0.093*	0.230*
<b>Immigrant status</b>		
Canadian-born (ref.)	0.128	0.341
Immigrants with a degree from Canada or the U.S.	0.165*	0.387*
Immigrants with a degree from outside Canada or the U.S.	0.427*	0.686*
<b>Field of study</b>		
Education (ref.)	0.089	0.181
Visual and performing arts, and communications technologies	0.248*	0.652*
Humanities	0.305*	0.592*
Social and behavioural sciences and law	0.235*	0.525*
Business, management and public administration	0.194*	0.443*
Physical and life sciences and technologies	0.184*	0.482*
Mathematics, computer and information sciences	0.090	0.266*
Architecture, engineering, and related technologies	0.073*	0.240*
Agriculture, natural resources and conservation	0.213*	0.532*
Health and related fields	0.094	0.245*
Other	0.268*	0.781*
<b>CMAs and region</b>		
Montreal, Toronto, Vancouver (ref.)	0.157	0.387
Calgary, Edmonton, Quebec City, Winnipeg and Ottawa–Gatineau	0.141*	0.358*
Other CMAs, CAs and rural areas	0.163	0.390
<b>Province</b>		
Newfoundland and Labrador	0.133*	0.340*
Prince Edward Island	0.140	0.391
Nova Scotia	0.157	0.422*
New Brunswick	0.134*	0.390
Quebec	0.134*	0.339*
Ontario (ref.)	0.159	0.385
Manitoba	0.211*	0.439*
Saskatchewan	0.143	0.361*
Alberta	0.159	0.403*
British Columbia	0.178*	0.415*
Territories	0.104*	0.372

\* significantly different from the reference category (ref.)

**Note:** The predicted probabilities were calculated on the basis of a probit model. A predicted probability nearing 0 means that someone possessing that characteristic (all else equal) isn't likely to be overqualified. Conversely, a predicted probability nearing 1 means that an individual possessing that characteristic is very likely to be overqualified.

**Source:** Statistics Canada, National Household Survey, 2011.

find a job related to their skills. Predictably, those who had a higher level of university degree (a Master's or a Ph.D.) were almost half as likely to be overqualified than those who did not go beyond a Bachelor degree.

The variables associated with the immigration status and field of study confirmed the preceding findings. Immigrants who did not graduate from Canada or the U.S. had a particularly higher probability of being overqualified (43% for the first model and 69% for the second model). Fields of study that were most associated with a higher predicted probability of being overqualified included humanities (31% for the first model and 59% for the second model); visual and performing arts and communication technologies (25% and 65%); social and behavioural sciences and law (24% and 53%); and agriculture, natural resources and conservation (21% and 53%). The fields that were the least associated with the probability of being overqualified were education (9% and 18%) and health and related fields (9% and 25%).

Finally, some differences could be found across geographical lines. According to both models, Manitoba and British Columbia residents were more likely to be overqualified than Ontario residents; conversely, Quebec residents were less likely to be overqualified.<sup>14</sup> Finally, individuals living in large Census Metropolitan Areas (CMAs)—Calgary, Edmonton, Quebec City, Winnipeg and Ottawa–Gatineau—were less likely to be overqualified than those living in very large CMAs (Toronto, Montreal and Vancouver).

### Conclusion

Over the last two decades, the educational attainment of young Canadians (especially young Canadian women) rose considerably, and growing shares of them found employment in professional occupations—those normally requiring a university degree. In 2011, 28% of employed women aged 25 to 34 worked as professionals, up from 18% in 1991. Among employed men, the proportion of young professionals also rose, from 13% in 1991 to 18% in 2011. However, a portion of young workers are overqualified, or working in occupations requiring less education than they have.

One measure of overqualification is the proportion of university graduates who are not working in occupations usually requiring a university degree (excluding managers). It can be expressed either as a proportion of university graduates working in occupations requiring a high school education, or as a proportion of university graduates in occupations requiring a college education or less. According to both measures, the incidence of overqualification changed little between 1991 and 2011 among male and female graduates aged 25 to 34. However, university-educated immigrants—especially those who did not graduate from Canada or the U.S.—remained significantly more likely than the Canadian-born to be overqualified. Fields of study also mattered, as the majority of young overqualified graduates were from programs in humanities, social sciences, and business administration.

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### Data sources, methods and definitions

#### Data sources

Data from the 2011 National Household Survey (NHS) and census data from 1991 and 2006 were used in this study (additional data from the 1996 and 2001 censuses were used to examine the proportion of university graduates over time). The study covered employed men and women aged 25 to 34. 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 full-time members of the Canadian Forces stationed outside Canada). The overall response rate for the NHS, a voluntary survey, was 68.6%. The final responses are weighted so that the data from the sample accurately represent the NHS' target population.

The census is conducted every five years. All households receive the short form, which asks for basic information only. Prior to 2011, a 20% sample of households received the long form which, in addition to the basic information, also asked more detailed questions on matters including labour market activities.

The choice of the census and NHS data for this study is motivated by the fact that a large sample size was needed for university-educated men and women aged 25 to 34. Also, other sources, such as the Labour Force Survey, do not include key variables such as field of study, location of study, and immigration status (before 2006).

#### Definitions

**Employed:** A person is considered employed if he or she had a job in the reference week (week preceding the census/survey)—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 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.

**Occupations:** Occupation classifications are based on the four-digit National Occupational Classification (NOC), according to the following:

- 2011 NHS and 2006 Census: Occupations based on NOC 2006 (Human Resources and Skills Development Canada)
- 1991 Census: Occupations based on NOC 1990 (Human Resources and Skills Development Canada).

**Field of study:** Refers to the predominant discipline or area of learning or training of a person's highest postsecondary degree.

**Overqualified workers:** Individuals with a university degree working in jobs that do not require a university degree. Two measures are considered: (1) university degree-holders working in jobs that require a college education or less; and (2) university degree-holders working in jobs that require a high school diploma or less. The education–occupation matching process is based on the education–occupation matrix developed by Human Resources and Skills Development Canada.

### Overqualification among men and women aged 25 to 34 with a college diploma or apprenticeship training

Since occupations requiring a college education are closer in proximity to occupations requiring a high school education, college-educated graduates typically have higher rates of over-qualification than university graduates.

For instance, in 2011, 31% of employed men aged 25 to 34 with a college diploma or a diploma in trades were in occupations requiring a high school education (compared with 18% among university-educated men the same age). College-educated women were more likely to be overqualified than their male counterparts (45%), while university-educated women were no less likely to be overqualified than men (18%).

Between 1991 and 2011, however, the overqualification rates among college and trades graduates declined significantly (Table A.1). Among college-educated men, the overqualification rate declined by 10 percentage points and among college-educated women, the rate declined by 4 percentage points. College-educated immigrants also saw their rate decline, but to a lesser degree (5 percentage points for men and 2 percentage points for women).

In comparison, the proportion of university-educated people who were in occupations requiring a high school education remained relatively stable over the period.

**Table A.1 Overqualification rates among younger workers aged 25 to 34 with a college diploma or a trades certificate, 1991, 2006 and 2011**

	1991	2006	2011	Change (1991 to 2011)
	percentage			percentage point
<b>Occupations usually requiring high school education or less</b>				
All men	40.2	34.6	30.6	-9.6
Immigrant men	45.1	43.5	40.6	-4.5
Canadian-born men	39.4	33.1	28.8	-10.6
All women	48.4	47.8	44.5	-3.9
Immigrant women	56.1	56.7	54.3	-1.8
Canadian-born women	47.2	46.2	42.6	-4.6

**Sources:** Statistics Canada, Census of Population, 1991 and 2001; National Household Survey, 2011.

### Notes

- Studies focusing on the impact of overqualification on earnings include Sicherman (1991) and Rumberger (1987), while Tsang et al. (1991) examine the impact on productivity.
- Canadian studies touching aspects of overqualification include Gingras and Roy (2000); Crompton (2002); Galarnau and Morissette (2004); Frenette (2000 and 2004); and Li et al. (2006).
- Because this study is based on comparisons over time, the classifications across skill levels are based on the NOC 2006 occupational classification system, which was comparable with the NOC 1990 variable in the 1991 Census.
- In 2011, the number of employed university graduates aged 25 to 34 numbered 1.1 million (460,000 males, 638,000 females). In 1991, university graduates aged 25 to 34 numbered 656,000 (338,000 males, 318,000 females).
- A detailed analysis about changes in the occupational profiles of university graduates is presented in another paper, based on National Household Survey and census data (see Uppal and LaRochelle-Côté 2014).
- Among university graduates, 56% of females and 51% of males worked in professional occupations in 2011. Since these proportions remained largely unchanged from 1991, the increase in the proportion of employed men and women in professional occupations was mainly driven by the increase in the proportion of men and women with a university degree.
- Overqualification may also affect those who have a college education or apprenticeship training, for instance, if they work in occupations requiring a high school education or less (see *Overqualification among men and women aged 25 to 34 with a college diploma or apprenticeship training*).

## Overqualification among recent university graduates in Canada

8. See Montmarquette and Boudarbat (2013).
9. Inversely, a measure of 'underqualification' could also be defined—for instance, by calculating the proportion of employed professionals who did not have a university degree. However, these proportions were relatively small (7% among men, 10% among women) and, more importantly, varied little since 1991.
10. Other studies that found higher rates of overqualification among immigrants include Gilmore (2009), who looked at immigrants aged 25 to 54, and Galarneau and Morissette (2004), who focused on recent immigrants versus their Canadian-born counterparts.
11. Among men, the rate was also relatively high among those in 'other' fields of study (34%), but these represented a very small percentage of the overall number of graduates.
12. Overqualified immigrants who did not have a university degree from Canada or the United States were even more likely to be concentrated in health-related fields (13% of men, 10% of women) and somewhat less likely to be concentrated in social sciences.
13. For instance, 25% of all immigrant men aged 25 to 34 with a university education had a degree in architecture, engineering and related technologies.
14. The lower rates in Quebec could be due to differences in that province's education system, whereby most university graduates must go through the CEGEP system (collège d'enseignement général et professionnel, or general and vocational college) prior to choosing a university program. Quebec students thus spend a minimum of two years in CEGEP, after which they receive a diploma, and may or may not decide to pursue their studies at university afterwards. With such a system, Quebec has one of the highest postsecondary graduation rates in the country (Ferguson and Zhao 2013), but the proportion of young workers with a university degree is significantly lower than in Ontario (31% vs. 37%).

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