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Gender-related differences in the career advancement of women in Canada

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Abstract

In Canada, the gender wage gap continues to exist (Statistics Canada 2021). In 2018, nearly two-thirds of the gap remained unexplained by standard factors such as level of education, job attributes, proportions of women and men in higher-paying occupations or industries, and demographics (Pelletier, Patterson and Moyser 2019). This points to a continued need for analysis in this area to better understand gender-based wage disparity, including gender-related differences in career advancement. Using new content developed in the 2016 General Social Survey: Canadians at Work and Home, this study investigates gender-related differences in career advancement that may impact women's wages. The results suggest that women were at a disadvantage in terms of career advancement, compared with their male counterparts. Women were less likely than men to have training paid for by their employer in the past 12 months. Among those who received training, women were less likely than men to feel that training had made their job more secure or had improved their prospects for future employment.

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Introduction

In Canada, women's labour force participation rate was stagnant throughout the 1990s and increased five percentage points between the late 1990s and 2015 (Drolet, Uppal and LaRochelle-Côté 2016). In addition, women's labour market participation in all occupations has increased significantly since 1985, including in occupations traditionally dominated by men (Graham and Krahn 2000). Today, women also have higher educational attainment in Canada, except at the doctoral level (McDaniel 2010 and Ferguson 2016). However, the gender-based gap in wages and other labour market outcomes continue to persist. In 2020, women in Canada earned \$0.89 for every dollar earned by men annually (Statistics Canada 2021). They also continue to be under-represented in leadership and executive positions, occupying just 21.6% of board positions in Canada's top 500 corporations in 2016 (Canadian Board Diversity Council 2016).

While part of the gender wage gap in Canada can be explained by factors such as job attributes, proportions of women and men in higher-paying occupations or industries, and demographics, nearly two-thirds of the gap in 2018 were still unexplained (Pelletier, Patterson and Moyser 2019).¹ Possible explanations for this portion include other factors such as the potential under-representation of women in high-paying firms or other gender-related differences. This points to a continued need for analysis in this area to better understand gender-based wage disparity.

For example, a recent study from the United States based on classroom experiments showed that women tend to show less ambitious behaviour at work than men when men are present in the classroom. In addition, this behaviour is observed more frequently among single women than their married counterparts (Bursztyn, Fujiwara and Pallais 2017).² This phenomenon, depending on the situation, could be an example of gender-related differences. There are many challenges in identifying and measuring these differences, as they are often not directly observed. For example, there are no current surveys or survey questions in Canada that directly collect data regarding the issue of gender-related differences. Besides, not all respondents may be aware of or understand if they are affected by these issues, as some of these differences could already be internally normalized as part of the respondent's gender norms. This is why these gender-related differences are important issues that should be brought to the attention of policy makers to improve policies that seek to address the gender wage gap.

The previous study based on the U.S. labour market has shown that both women and men are equally likely to adopt proactive behaviours and strategies at the workplace, which are generally attributed to an ideal worker (Carter and Silva 2011).³ However, men benefitted more than women when they adopted these strategies. Even when women used the same career advancement strategies, they advanced more slowly than their male counterparts, and their pay increased at a slower pace. In Canada, there is a lack of similar or relevant studies. To fill this gap, this article will extend the findings from Carter and Silva (2011). It will discuss the possible existence and measure the magnitude of gender-related differences

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1. Job attributes include part-time employment (as opposed to full-time), public sector employment (as opposed to private sector), coverage by a union or collective agreement, firm size.
 2. Please see Bursztyn, Fujiwara and Pallais (2017) for more detail. The authors conclude that there is a trade-off between attractiveness in the marriage market and success in the labour market and that this trade-off is a significant factor that women consider when making career decisions.
 3. In their study, an ideal worker is defined as an individual who actively seeks high-profile assignments, communicates openly and directly about their career aspirations, seeks visibility for their accomplishments, lets their supervisor know of their skills and willingness to contribute, continually seeks out new opportunities, learns the political landscape or unwritten rules of the company and is not afraid to ask for help. The concept of proactive behaviour at work refers to taking initiative to improve or shape situations. Noteworthy references include: J. Michael Crant. 2000. "Proactive Behavior in Organizations," *Journal of Management* 26 (3): 435–462; DeVos A., K. Dewettinck, and D. Buyens. 2008. "To move or not to move?: The relationship between career management and preferred career moves." *Employee Relations* 30 (2): 156–175; and Joo B., and T.Lim. 2009. "The effects of organizational learning culture, perceived job complexity, and proactive personality on organizational commitment and intrinsic motivation." *Journal of Leadership & Organizational Studies* 16 (1) 48–60.

in career advancement for women that may hinder women's career progression, based on hypotheses constructed from quantitative measurements collected in a national survey. These gender-related differences related to career advancement could be key contributing factors and potential channels that lead to the current gender-based wage gap in Canada that was previously ignored.

Data

The data source used in this study is the 2016 General Social Survey: Canadians at Work and Home. The main objective of the survey was to take a comprehensive look at the way Canadians live by incorporating the realms of work, home, leisure and overall well-being. The target population includes all non-institutionalized persons 15 years of age and older, living in the 10 provinces of Canada.⁴ The main population of interest is respondents who were working as paid employees at the time of the survey (n=8,820). The full sample size of the survey is approximately 20,000 individuals, of whom more than half are women.⁵ The distribution between women and men across most of the demographic and geographic indicators are relatively close except for occupation type, which is expected.⁶ The 2016 General Social Survey (GSS) included many brand new perception questions related to work ethic and career advancement, which were never asked before in any other cycles of the GSS or major social surveys in Canada and made this study possible.

Methods

For this study, the main methods of analysis are based on a combination of descriptive statistics analysis and regression models. The purpose of the regression model is to verify the robustness of the results found in the descriptive statistics. For the descriptive statistics analysis, the primary outcome variables are perceptions of various workplace behaviours and opinions, such as self-reported work ethic scores and questions related to the prospects for career advancement, which are analyzed for both women and men.^{7,8} For the regression analysis, the variable of interest is sex. The main independent variables, or control variables, are selected based on existing gender-based literature related to career advancement (Afza and Newaz, 2008, Mustapa, Mutalib and Noor 2018), which include age, age squared, marital status, highest level of education, immigrant status, visible minority status, presence of children under 18, personal income (before tax), size of the workplace, occupations, union status and geographic control variables such as province of residence and census population centre identifier. The main dependent or outcome variables include self-reported work ethic scores, measurement on the prospects for career advancement, whether individuals received formal training paid for by employer in the past 12 months, whether the job is more secure because of training received in the past 12 months, and whether future

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4. Here, an institutionalized person refers to a person who lives in an institutional collective dwelling, such as a hospital, a nursing home or a prison. This includes residents under care or custody (e.g., patients or inmates), or employee residents and family members living with them, if any.
 5. During the survey design and collection of the 2016 GSS, new measurement on gender had not been applied yet. Therefore, a more inclusive gender analysis beyond men and women is not possible.
 6. The appendix table, which provides detailed summary statistics of the sample population based on selected demographic and geographic indicators, is available upon request.
 7. Work ethic in the 2016 GSS is measured from a scale of 0 to 10 from various perception-based questions related to work effort such as being happy when working hard, and willingness to put in extra effort to get the job done without reward.
 8. The concept of prospects related to career advancement is formally known as "obstacles" in the 2016 GSS.

employment prospects are better because of training received in the past 12 months.^{9,10} In this study, the main outcome variables are all binary variables; therefore, a probability model (standard linear probability model, probit or logit model) is preferred to the standard linear model to estimate the conditional effect of sex. It is worth mentioning that the results from descriptive statistics and regression models do not explain the possible causal relationship between sex and career advancement. It is merely a two-way correlation that could be subject to issues of endogeneity.

Based on the study of Carter and Silva (2011), the following hypotheses are constructed for the purpose of identifying the possible gender-related differences in career advancement for women in Canada. The main outcome variables are self-reported work ethic scores and whether the respondents' current job offers good prospects for career advancement. The key hypotheses here are construed as follows which are based on the "all else equal" condition:

- 1) All else equal, women had equal or higher self-reported work ethic scores than their male counterparts.
- 2) All else equal, women were more likely to disagree that their current job offers good prospects for career advancement.
- 3) All else equal, women were less likely to receive formal training paid for by their employer.
- 4) All else equal, women were more likely to receive formal training paid for by themselves.
- 5) All else equal, women were less likely to feel that their jobs are more secure because of training they received.
- 6) All else equal, women were less likely to feel that their future employment prospects are better because of training.

If these hypotheses are not rejected, then it is fair to conclude that there are some forms of gender-related differences in career advancement that might prevent women from advancing their careers, despite having higher or equal self-reported work ethic scores compared with their male counterparts.

For this study, the general econometric model takes the following form:

$$\Pr(Y_i = 1|X_i) = \Phi(\beta_0 + \beta_1 Female_i + C_i + Y_I + \Psi_P + u_i)$$

With $E(u_i|x_i) = 0$

This is a probit model where the conditional expectation of the dependent binary variable given all relevant information X of each observation i is equal to the cumulative distribution function of the standard normal distribution defined as Φ . After submitting the outcome variables to the general model, the specific econometric model takes the following forms:

$$\Pr(High\ work\ ethic\ score - 8\ or\ above_i = 1|X_i) = \Phi(\beta_{0_1} + \beta_{1_1} Female_i + C_{1i} + Y_I + \Psi_P + u_{1i}) \tag{1}$$

$$\Pr(Good\ prospects\ for\ career\ advancement_i = 1|X_i) = \Phi(\beta_{0_2} + \beta_{1_2} Female_i + C_{2i} + Y_I + \Psi_P + u_{2i}) \tag{2}$$

$$\Pr(Received\ training\ paid\ for\ by\ employer_i = 1|X_i) = \Phi(\beta_{0_3} + \beta_{1_3} Female_i + C_{3i} + Y_I + \Psi_P + u_{3i}) \tag{3}$$

9. In the 2016 GSS, self-reported work ethic scores are measured in a 10-point ordinal scale. In this study, both the average work ethic scores and a binary measurement of work ethic scores from 8 to 10 vs. work ethic less than 8 are used as the main outcome variables in equation (1). The binary measurement method is widely used in studies that rely on ordinal scale measurements such as life satisfaction score (Helliwell et al. 2020). For reporting and interpretation purpose, only the binary measurement outcome is reported in this paper. The estimation outcome for equation (1) using the average work ethic scores is available upon request.

10. Formal training is defined as the process that gives the worker a better understanding of the line of work in general.

$$\Pr(\text{Received training paid for by employee}_i = 1|X_i) = \Phi(\beta_{0_4} + \beta_{1_4}\text{Female}_i + C_{4i} + Y_I + \Psi_P + u_{4i}) \quad (4)$$

$$\Pr(\text{Job is more secure because of training}_i = 1|X_i) = \Phi(\beta_{0_5} + \beta_{1_5}\text{Female}_i + C_{5i} + Y_I + \Psi_P + u_{5i}) \quad (5)$$

$$\Pr(\text{Better future career because of training}_i = 1|X_i) = \Phi(\beta_{0_6} + \beta_{1_6}\text{Female}_i + C_{6i} + Y_I + \Psi_P + u_{6i}) \quad (6)$$

Here the outcome variables “High work ethic score – 8 or above i,” “Good prospects for career advancement – disagree or strongly disagree i,” “Received training paid for by employer i,” “Received training paid for by employee i,” “Job is more secure because of training i,” and “Better future employment prospects because of training i” are binary variables for individual i equal to 1 if these outcome variables are “true.” For instance, the outcome variable “High work ethic score – 8 or above i” is a binary variable equal to 1 if the respondent has a self-reported work ethic score of 8 or above (on a scale from 0 to 10) over the selected work ethic variables and 0 otherwise.¹¹ Similarly, “Good prospects for career advancement—disagree or strongly disagree i” is a binary variable equal to 1 if the respondent disagrees or strongly disagrees that their current job offers good prospects for career advancement and 0 otherwise. Similarly, the main variable of interest, “female,” is a binary variable equal to 1 if the respondent is a woman and 0 otherwise. This concept applies to all the other control variables. C_i is the vector of personal characteristics control variables, which include age, age squared, immigrant status, highest level of education, visible minority status, presence of children under 18, personal income group, size of workplace, occupations and union status.¹² Most of the control variables in this vector are binary measurement except for age which is a continuous variable that reflects the respondent’s age, and age squared, which captures the diminishing effect of age on the outcomes. Y_I is the vector of population centre or rural area indicator, which includes four different categories (rural area is omitted in regression as the reference group). Ψ_P is the region or province fixed effects vector which includes a total of 9 provinces in Canada (Ontario is omitted in the regression as the reference group). To better interpret the results, the coefficient of the variable of interest “Female” is converted into average marginal effects, which is the conditional probability (partial derivative) of being a woman and given that the outcome variable is “true,” while holding everything else (control variables) constant.

In this study, three different specifications of the probit model are tested. The first specification regresses the binary measurement of educational attainment and labour market outcome variables on sex directly, without any control variables. In the second specification, selected demographic indicators are added to the regression to control for personal characteristics differences. Finally, the third specification takes account of the region or province fixed effects and regresses the binary measurement of labour market outcome variables on sex and personal characteristics control variables to capture the complete picture. The main goal of using different specifications of the model is to test the robustness of the effect of being female on labour market outcomes.¹³

11. Positive work ethic is measured from a scale of 0 to 10 from the following qualities: (A) Being happy when working hard, (B) Making extra effort to get the job done without reward, (C) Taking pride in own work, (D) Finding that the best reward from working is sense of accomplishment and (E) Admiring for those who work hard.

12. The reference group for the control variables consist of non-immigrant, less than high school, not a visible minority, no presence of children under 18, less than \$20,000, small-size business, sales and services occupations and non-unionized job.

13. As an additional robustness check, logit models based on equations (1) to (5) are also constructed and tested to ensure consistency of the probit model regression results which are available upon request.

Results

Overall, women had slightly higher self-reported work ethic scores compared with men

Overall, among paid employees, women had higher self-reported average work ethic scores compared with men. This applies to each of the work ethic measurements selected and the combined work ethic score.¹⁴ For instance, women not only show a stronger willingness than men to want to work hard, (76.4% vs. 71.7%) but also express higher levels of admiration for those who work hard (88.3% vs. 84.8%). A similar trend is also observed when using the average work ethic scores instead of the binary indicator as presented below.

Table 1A

Distribution of individuals with high self-reported work ethic scores, by sex

Have a scores of 8 or above for the following questions: “On a scale from 0 to 10, with 0 being 'completely disagree,' and 10 being 'completely agree,' how do you feel about the following statements?”	Sex	
	Male (reference group)	Female
	percent	
I am happiest when I work hard	71.7	76.4 ***
I am willing to put in the extra effort to get the job done, even if I am not rewarded for it	71.3	78.0 ***
I take pride in the work that I do	89.3	92.0 **
The best reward from working is a sense of accomplishment	63.3	69.7 ***
Admiration for those who work hard	84.8	88.3 ***
Combined work ethic score	70.1	78.4 ***

** significantly different from reference category (p < 0.01)

*** significantly different from reference category (p < 0.001)

Source: Statistics Canada, General Social Survey, 2016.

Table 1B

Average self-reported work ethic scores, by sex

On a scale from 0 to 10, with 0 being “completely disagree,” and 10 being “completely agree,” how do you feel about the following statements?	Sex	
	Male (reference group)	Female
	percent	
I am happiest when I work hard	8.2	8.3 **
I am willing to put in the extra effort to get the job done, even if I am not rewarded for it	8.1	8.4 ***
I take pride in the work that I do	9.1	9.3 **
The best reward from working is a sense of accomplishment	7.8	8.2 ***
Admiration for those who work hard	8.9	9.1 ***
Combined work ethic score	8.4	8.7 ***

** significantly different from reference category (p < 0.01)

*** significantly different from reference category (p < 0.001)

Source: Statistics Canada, General Social Survey, 2016.

14. The combined work ethic score is calculated by taking the average of the five self-reported work ethic measurement scores (“I am happiest when I work hard,” “I am willing to put in the extra effort to get the job done, even if I am not rewarded for it,” “I take pride in the work that I do,” “The best reward from working is a sense of accomplishment,” and “Admiration for those who work hard.”)

Similarly, when breaking down the combined work ethic score by selected demographic and job characteristics, women overall had higher average scores of work ethic compared with men. For instance, across the majority of the age groups, the highest level of education completed, immigrant status, marital status, presence of children and occupations, women were more likely to score eight or above on the combined work ethic, compared with men. Overall, these findings are consistent with previous studies based on the labour market in the U.S. and in Britain, where surveys indicate that women are found to work harder than men do (Gorman and Kmec 2007). Furthermore, according to the results presented in Table 2, women who were single and never married were less likely to have a high combined work ethic score compared with those that were married or living common-law (75.3% vs. 79.2%), while the differences among men were not significant. This is in line with the findings from Bursztyn, Fujiwara and Pallais (2017) based on U.S. data. On the other hand, no significant differences were found between immigrant status and the presence of children of women, which is in line with previous findings from Canada (Bauder 2006) and the U.S. (Korabik and Rosin 1995 & Metz 2005).

Table 2
Distribution of individuals with high self-reported work ethic scores, by sex and selected demographic and job characteristics

Have a scores of 8 or above for the combined work ethic score (reference group)	Sex	
	Male	Female
	percent	
Age group		
15 to 24	68.6	72.0 §
25 to 44 (reference group)	69.6	79.1 ***
45 to 64	70.7	79.4 ***
65 and older	78.3 ‡	89.0 *, §§
Highest level of education completed		
High school graduate or less or some postsecondary education Trades, community college, CEGEP, or university certificate below Bbachelor's degree	70.0	78.1 **
Bachelor's degree (reference group)	70.8	80.7 ***, §
Bachelor's degree	70.5	76.7 *
Above bachelor's degree	67.1	75.0 *
Immigrant status		
Immigrant	75.3 §§	78.9
Non-immigrant (reference group)	68.7	78.3 ***
Marital status		
Married or living common-law (reference group)	71.6	79.2 ***
Widow ed, separated or divorced	70.7	82.9 ***, ‡
Single, never married	66.6 §	75.3 **, §
Presence of children under the age of 18		
No (reference group)	69.8	78.4 ***
Yes	70.8	78.5 ***
Occupation		
Management occupations	74.8	79.7
Business, finance, and administration occupations	70.7	79.4 **
Natural and applied sciences and related occupations	61.3 §	75.1 **
Health occupations	64.1	83.3 **, §§
Occupations in education, law and social, community, and government services	73.3	79.1
Occupations in art, culture, recreation and sport	75.2	79.8
Sales and service occupations (reference group)	69.9	75.8 *
Trades, transport and equipment operators and related occupations	73.8	76.4
Natural resources, agriculture and related product occupations	73.5	87.3
Occupations in manufacturing and utilities	65.5	71.8

* significantly different from reference category by column ($p < 0.05$)

** significantly different from reference category by column ($p < 0.01$)

*** significantly different from reference category by column ($p < 0.001$)

† significantly different from reference category by column ($p < 0.10$)

§ significantly different from reference category by row ($p < 0.05$)

§§ significantly different from reference category by row ($p < 0.01$)

§§§ significantly different from reference category by row ($p < 0.001$)

‡ significantly different from reference category by row ($p < 0.10$)

Source: Statistics Canada, General Social Survey, 2016.

When measured by prospects for career advancement, women's likelihood of having a high work ethic score was also higher than men's. For instance, among individuals who agree, neither agree nor disagree, disagree, or strongly disagree that their job offers good prospects for career advancement, women were more likely to score eight or above on the combined work ethic score, compared with men (82.3% vs. 72.9%, 70.8% vs. 64.1%, 77.2% vs. 55.1% and 72.0% vs. 52.5% respectively). This suggests that regardless of current jobs' potential for future growth, which is a key element of job quality, women expressed a higher level of moral duty in working in terms of paid employment, compared with men.

Table 3
Distribution of individuals with high self-reported work ethic scores, by sex and prospects for career advancement

Have a score of 8 or above for the combined work ethic score	Sex	
	Male (reference group)	Female
	percent	
To what extent do you agree or disagree with the following statements?		
Your job offers good prospects for career advancement		
Strongly agree	88.2	87.5
Agree	75.9	82.3 ***
Neither agree nor disagree	64.1	70.8 *
Disagree	55.1	77.2 ***
Strongly disagree	52.5	72.0 ***

* significantly different from reference category ($p < 0.05$)

*** significantly different from reference category ($p < 0.001$)

Source: Statistics Canada General Social Survey, 2016.

Women were more likely to disagree that their current job offers good prospects for career advancement compared with men

While overall, women had higher self-reported work ethic scores than their male counterparts, they were less likely to agree that their current job offers good prospects for career advancement, compared with men. For instance, women were less likely to strongly agree that their job offers good prospects for career advancement compared with men (12.8% vs. 16.0%). On the other hand, women were more likely to disagree that their job offers good prospects for career advancement compared with their male counterparts (22.2% vs. 18.9%). This is consistent with previous studies based on the U.S. labour market, where there are significant lags in terms of career advancement for women (Carter and Silva 2011).

Table 4
Distribution of individuals on whether current job offers good prospects for career advancement, by sex

To what extent do you agree or disagree with the following statements?	Sex	
	Male (reference group)	Female
	percent	
Your job offers good prospects for career advancement		
Strongly agree	16.0	12.8 **
Agree	38.1	36.4
Neither agree nor disagree	20.0	21.1
Disagree	18.9	22.2 **
Strongly disagree	6.9	7.5

** significantly different from reference category ($p < 0.01$)

Source: Statistics Canada General Social Survey, 2016.

Women were less likely than men to receive formal training paid for by their employer and more likely to receive training paid for by themselves compared with men

In addition to prospects for career advancement, training is also an important factor that could affect future employment and, ultimately, wage differences.¹⁵ A previous study based on the U.S. labour market suggests that the absence of learning, training and professional development opportunities for women is found to be an almost universal phenomenon (Davis 2012). In comparison, women in Canada were less likely than men to report that they had formal training paid for by their employer in the past 12 months (39.9% vs. 43.4%). On the other hand, women were more likely to say they had formal training paid for by themselves in the past 12 months, compared with their male counterparts (14.0% vs. 11.0%). This suggests that similar to the case of the U.S., women had additional financial burdens when it comes to skills and human capital accumulation after entering the labour market, which is a key factor in career advancement. This could be a result of differences in occupations and industry and the job requirements related to positions. However, the fact that women were more likely than men to have formal training paid for by themselves does not eliminate the possibility that women have had less paid training because they chose not to participate in such training and therefore should be interpreted with caution. In other words, the lower likelihood of women having paid training might reflect (at least in part) women's decisions not to take paid training, rather than a lower offer rate of paid training by employers.

15. Note that in this paper, the variables on formal training does not measure the opportunity to receive formal paid training. Instead it measures an outcome that is a mixture of offered paid training and accepted paid training.

Table 5
Distribution of individuals who received formal training either paid for by the employer or by the employee in the past 12 months, by sex

	Sex	
	Male (reference group)	Female
	percent	
In the past 12 months, have you had formal training paid for by your employer?		
Yes	43.4	39.9 *
No	56.7	60.1 *
In the past 12 months, have you had formal training paid for by yourself?		
Yes	11.0	14.0 **
No	89.0	86.0 **

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

Source: Statistics Canada, General Social Survey, 2016.

Women were less likely to feel that their job is more secure because of the training received compared with men

For those that received either informal or formal training at work, women were less likely than men to feel that their job is more secure because of the training received (56.3% vs. 61.6%). This suggests that, regardless of whether the training is paid for by employer or employee, women were still at a disadvantage when it comes to job security.

Table 6
Distribution of individuals who received informal or formal training in the past 12 months and job security, by sex

	Sex	
	Male (reference group)	Female
	percent	
Do you feel that your job is more secure because of your training?		
Yes	61.6	56.3 **
No	38.4	43.7 **

** significantly different from reference category ($p < 0.01$)

Source: Statistics Canada, General Social Survey, 2016.

Women were less likely to feel that the prospects for future employment are better because of the training received compared with men

In addition to job security, women were also less likely than men to feel that the prospects for future employment are better because of the training received (66.8% vs. 72.0%). This suggests that, in addition to job security, regardless of whether the training is paid for by employer or employee, women were also at a disadvantage when it comes to the prospects for future employment. In summary, among those that received some type of training in the past 12 months, women were less likely to feel that, compared with men, their job security and the prospects for future employment are better.

Table 7
Distribution of individuals who received informal or formal training in the past 12 months and prospects for future employment, by sex

	Sex	
	Male (reference group)	Female
	percent	
Do you feel that your prospects for future employment are better because of your training?		
Yes	72.0	66.8 ***
No	28.0	33.2 ***

*** significantly different from reference category (p < 0.001)

Sources: Statistics Canada, General Social Survey, 2016.

According to the results of the descriptive statistics presented above, among paid employees, given that women had an equal or higher work ethic score compared with men, they were more likely than men to disagree that their current job offers good prospects for career advancement. In addition, women were less likely to receive formal training paid for by their employer, compared with men. And for those who received some form of training in the past 12 months, women were less likely than men to feel that their job security and prospects for future employment have improved. In summary, the results of the descriptive statistics suggest the presence of gender-related differences in Canada that might be preventing women from advancing their career, despite having higher self-reported work ethic scores compared with men.

To ensure the results from the descriptive statistics in identifying gender-related difference are significant and robust, five separate multivariate regressions are estimated based on the hypotheses and probit regression models are presented above in the Method section.

Women were 8.1 percentage points more likely to have an average work ethic score of 8 or above compared with men

As shown in Table 8, among all three model specifications, there is a positive correlation between the variable of interest “Female” and the outcome variable “Having an average work ethic score of 8 or above” while holding everything else constant. For instance, based on the third model specification, being a woman increase the probability of scoring a work ethic score of 8 or above by 8.1 percentage points, compared with being a man. These results support the findings in the descriptive statistics presented above in Table 1, Table 2 and Table 3, where women had a work ethic score equal to or higher than their male counterparts. This conclusion holds when using the average work ethic score as the outcome variable rather than the binary indicator.¹⁶

16. The conclusion hold when using the average combined work ethic score as the outcome variable, as well as using each of the five separate average work ethic measurement scores as the outcome variables.

Table 8

Probit model result: Average marginal effects of sex on the probability of having a higher standard of self-reported work ethic scores (in a scale 0 to 10, scored 8 or above in average for selected work ethic measurement variables), equation (1)

Variable	Marginal effects (1)	Marginal effects (2)	Marginal effects (3)
Female			
Coefficient	0.087 ***	0.083 ***	0.081 ***
Standard error	(0.013)	(0.015)	(0.015)
Demographic control variables	No	Yes	Yes
Population centre control variables	No	No	Yes
Region and province fixed effects	No	No	Yes
Replications	500	500	500
Number of observations	8,246	8,246	8,246

*** significantly different from reference category ($p < 0.001$)

Notes: Constants do not have margin effects; therefore, they are excluded from the table. The sample population here is smaller than 8,820, as the regression model excludes answers for "don't know," "refusal," and "not stated." Standard errors are estimated using the bootstrap weight (BRR) and Delta-method, which are shown in parentheses. The reference group consist of male, non-immigrant, less than high school, not a visible minority, no presence of children under 18, less than \$20,000, small-size business, and sales and services occupations.

Source: Statistics Canada, General Social Survey, 2016.

No difference between men and women in their perception that job offers career advancement when accounting for demographic control variables

The regression results of equation (2) show a positive correlation between the variable of interest "Female" and the outcome variable "Disagreeing that the current job offers good prospects for career advancement" while holding everything else constant. However, after the introduction of the demographic control variables, the coefficient estimate of "Female" is no longer statistically significant. This means that besides sex, there are other important factors in the demographic control variables that are correlated with the outcome variable, including age, immigrant status, firm size, personal income and occupation. Contrary to the results presented in Table 4, these results suggest that there is no difference between men and women in their perception that job offers career advancement.

Table 9

Probit model result: Average marginal effects of sex on the probability of disagreeing that the current job offers good prospects for career advancement (disagree or strongly disagree of the statement: "Your job offers good prospects for career advancement"), equation (2)

Variable	Marginal effects (1)	Marginal effects (2)	Marginal effects (3)
Female			
Coefficient	0.040 **	0.010	0.011
Standard error	(0.013)	(0.016)	(0.016)
Other demographic control variables	No	Yes	Yes
Population centre control variables	No	No	Yes
Region and province fixed effects	No	No	Yes
Replications	500	500	500
Number of observations	8,246	8,246	8,246

** significantly different from reference category ($p < 0.01$)

Notes: Constants do not have margin effects; therefore, they are excluded from the table. The sample population here is smaller than 8,820, as the regression model excludes answers for "don't know," "refusal," and "not stated." Standard errors are estimated using the bootstrap weight (BRR) and Delta-method, which are shown in parentheses. The reference group consist of male, non-immigrant, less than high school, not a visible minority, no presence of children under 18, less than \$20,000, small-size business, sales and services occupations and non-unionized job.

Source: Statistics Canada, General Social Survey, 2016.

All else equal, women were 3.8 percentage points less likely than men to have formal training paid for by their employer but were no longer more likely to have training paid by themselves

According to the regression results presented below for equation (3) in Table 10, for those that received training, there is a negative correlation between the variable of interest “Female” and the outcome variable “The probability of receiving formal training paid for by employer” while holding other factors constant. For instance, based on the third model specification, being a woman decreases the likelihood of having formal training paid for by employer by 3.8 percentage points, compared with being a man. These results support the first part of descriptive statistics presented above in Table 5, where women were less likely to have formal training paid for by their employer compared with men.

On the other hand, the regression results of equation (4) in Table 11 suggest that there are no differences between comparable men and women in the likelihood of having training paid by themselves. This means that the higher percentage of women having training paid by themselves observed in Table 5 reflects compositional effects, i.e. gender differences in socio-economic variables.

Table 10

Probit model result: Average marginal effects of sex on the probability of receiving formal training paid for by employer in the past 12 months, equation (3)

Variable	Marginal effects (1)	Marginal effects (2)	Marginal effects (3)
Female			
Coefficient	-0.039 **	-0.038 *	-0.038 *
Standard error	(0.015)	(0.018)	(0.018)
Demographic control variables	No	Yes	Yes
Population centre control variables	No	No	Yes
Region and province fixed effects	No	No	Yes
Replications	500	500	500
Number of observations	8,237	8,237	8,237

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

Notes: Constants do not have margin effects; therefore, they are excluded from the table. The sample population here is smaller than 8,820, as the regression model excludes answers for “don’t know,” “refusal,” and “not stated.” Standard errors are estimated using the bootstrap weight (BRR) and Delta-method, which are shown in parentheses. The reference group consist of male, non-immigrant, less than high school, not a visible minority, no presence of children under 18, less than \$20,000, small-size business, sales and services occupations and non-unionized job.

Source: Statistics Canada, General Social Survey, 2016.

Table 11
Probit model result: Average marginal effects of sex on the probability of receiving formal training paid for by employee in the past 12 months, equation (3)

Variable	Marginal effects (1)	Marginal effects (2)	Marginal effects (3)
Female			
Coefficient	0.033 **	0.012	0.012
Standard error	(0.010)	(0.011)	(0.011)
Demographic control variables	No	Yes	Yes
Population centre control variables	No	No	Yes
Region and province fixed effects	No	No	Yes
Replications	500	500	500
Number of observations	8,241	8,241	8,241

* significantly different from reference category ($p < 0.05$)

** significantly different from reference category ($p < 0.01$)

Notes: Constants do not have margin effects; therefore, they are excluded from the table. The sample population here is smaller than 8,820, as the regression model excludes answers for "don't know," "refusal," and "not stated." Standard errors are estimated using the bootstrap weight (BRR) and Delta-method, which are shown in parentheses. The reference group consist of male, non-immigrant, less than high school, not a visible minority, no presence of children under 18, less than \$20,000, small-size business, sales and services occupations and non-unionized job.

Source: Statistics Canada, General Social Survey, 2016.

Women were 5.1 percentage points less likely than men to feel that their job is more secure because of training received in the past 12 months

As shown in Table 12, among all three model specifications, there is a negative correlation between the variable of interest "Female" and the outcome variable "The probability of feeling that job is more secure because of training" while holding everything else constant. For instance, according to the third model specification, among workers that received training in the past 12 months, women were 5.1 percentage points less likely to feel that their job security has improved, compared with men. These results support the descriptive statistics presented above in Table 6, where women were less likely to think that their job is more secure because of training. However, these results does not necessarily imply that training had a smaller effect for women on their actual job security and therefore should be interpreted with caution. In other words, women less optimistic views of the impact of training on their job security might be driven by other factors that are not observed in the data. For instance, it could reflect gender differences in the extent to which individuals are cautious when they assess the impact of training.

Table 12

Probit model result: Average marginal effects of sex on the probability of feeling that job is more secure because of the training received in the past 12 months, equation (4)

Variable	Marginal effects (1)	Marginal effects (2)	Marginal effects (3)
Female			
Coefficient	-0.063 ***	-0.047 **	-0.051 **
Standard error	(0.017)	(0.019)	(0.019)
Demographic control variables	No	Yes	Yes
Population centre control variables	No	No	Yes
Region and province fixed effects	No	No	Yes
Replications	500	500	500
Number of observations	5,736	5,736	5,736

** significantly different from reference category ($p < 0.01$)

*** significantly different from reference category ($p < 0.001$)

Notes: Constants do not have margin effects; therefore, they are excluded from the table. The sample population here is smaller than 8,820, as the regression model excludes answers for “valid skips,” “don’t know,” “refusal,” and “not stated.” Standard errors are estimated using the bootstrap weight (BRR) and Delta-method, which are shown in parentheses. The reference group consist of male, non-immigrant, less than high school, not a visible minority, no presence of children under 18, less than \$20,000, small-size business, sales and services occupations and non-unionized job.

Source: Statistics Canada, General Social Survey, 2016.

Women were 3.7 percentage points less likely to feel that their prospects for future employment are better because of training received in the past 12 months, compared with men

According to the regression results presented below for equation (6), for those that received training, there is a negative correlation between the variable of interest “Female” and the outcome variable “The probability of feeling that the prospect for future employment is better because of training” while holding other factors constant. For instance, based on the third model specification, being a woman decreased the likelihood of agreeing that the prospect for future employment is better because of training received in the past 12 months by 3.7 percentage points, compared with being a man. These results support the descriptive statistics presented above in Table 7, where women were less likely to feel that their future employment is better because of training, compared with men. However, similar to the case of job security, these results do not necessarily imply that training had a smaller effect for women on their actual employment prospects, and therefore should be interpreted with caution. In other words, women’s less optimistic views of the impact of training on their employment prospects might be driven by other factors that are not observed in the data. For instance, it might reflect gender differences in the extent to which individuals are cautious when they assess the impact of training.

Table 13
Probit model result: Average marginal effects of sex on the probability of feeling that the prospect for future employment are better because of training received in the past 12 months, equation (5)

Variable	Marginal effects (1)	Marginal effects (2)	Marginal effects (3)
Female			
Coefficient	-0.057 ***	-0.031 †	-0.037 †
Standard error	(0.016)	(0.019)	(0.018)
Demographic control variables	No	Yes	Yes
Population centre control variables	No	No	Yes
Region and province fixed effects	No	No	Yes
Replications	500	500	500
Number of observations	5,726	5,726	5,726

*** significantly different from reference category (p < 0.001)

† significantly different from reference category (p < 0.10)

Notes: Constants do not have margin effects; therefore, they are excluded from the table. The sample population here is smaller than 8,820, as the regression model excludes answers for “valid skips,” “don’t know,” “refusal,” and “not stated.” Standard errors are estimated using the bootstrap weight (BRR) and Delta-method, which are shown in parentheses. The reference group consist of male, non-immigrant, less than high school, not a visible minority, no presence of children under 18, less than \$20,000, small-size business, sales and services occupations and non-unionized job.

Source: Statistics Canada, General Social Survey, 2016.

In sum, these results are consistent with the gender-based trend found in the U.S. labour market, where women have a higher level of work ethic compared with men but, at the same time, show lags in terms of career advancement (Graham and Krahn, 2000, Carter and Silva 2011). Referring back hypothesis listed above in the Method section, the multivariate analyses suggest that all else equal, women are less likely than men to receive formal training paid for by their employer and to feel that this training makes their job more secure or improves their employment prospects. These results suggest that some gender-related differences in Canada might prevent women from advancing their careers, despite having higher self-reported work ethic scores compared with men.

As a robustness check, the logit model and odds ratios are estimated through equations (1) to (5), which showed consistent results.¹⁷

17. Estimated results from the logit model are available upon request

Limitations

The study has a few limitations. First, the variable that captures training paid by employers does not measure the degree to which employers **offered** paid training. It simply measures whether workers **had** paid training. The distinction is quite important: it is conceivable that women may have had less paid training not because employers offered them less paid training but because they might have chosen—for a variety of reasons—not to participate in such training. Whether this is the case or not is an empirical question that cannot be addressed with GSS 2016.

Second, the study cannot shed light on the reasons why women were less likely than men to feel that training had made their job more secure or had improved their prospects for future employment. Third, these results do not necessarily imply that training had a smaller effect on women's **actual** job security or employment prospects. They might simply reflect the possibility that women might be more cautious than men when assessing training impacts.

Lastly, it is also worth mentioning that, although GSS cycles include an indicator of Indigenous identity, data are not available for First Nations people living on or off reserve specifically. Using a telephone-based sample design, it may be possible that First Nations and non-Indigenous people living on reserve (with Internet or telephone service) are selected as respondents. However, the number of persons residing on reserve who are interviewed has not, to date, been large enough to enable reliable estimates for the First Nations people living on reserve. Depending on the sample size of each GSS cycle and the type of output analysis required, data for First Nations people, Métis and Inuit must often be aggregated to the total Indigenous population (by combining the three Indigenous identity groups) to obtain population counts high enough to be reliable for publication, which is the case for the 2016 GSS. In this study, due to the issue of low counts, Indigenous identity is not included in the regression analysis.

Conclusion

Using new content developed in the 2016 General Social Survey: Canadians at Work and Home, this study investigates the possible existence and magnitude of gender-related differences in career advancement that might prevent women from advancing in their careers.

Results from this paper suggest that women were at a disadvantage in terms of career advancement, compared with their male counterparts. Women were less likely than men to have training paid for by their employer in the past 12 months. Among those who received training, women were less likely than men to feel that training had made their job more secure or had improved their prospects for future employment.

These results serve as preliminary evidence suggesting that there could be some forms of gender-related differences in career advancement in Canada that might hinder women's career progression. These differences could be contributing factors to the persistent gender-based wage gap, other than the standard explanatory factors (e.g. level of education, job attributes, proportions of women and men in higher-paying occupations or industries, and demographics). However, in order to reach a more definitive conclusion, an alternative dataset and more specific measurements on the issue of gender-related difference with greater details on job and employer characteristics are needed. Perhaps a specialized topic of General Social Survey or brand new harmonized contents designed around this issue would be ideal.

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