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Adult Learners in Ontario and Canada: Engaged and Disengaged

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Executive Summary

We know that getting a good job, and sustaining a successful career, correlate with one's level of educational attainment. We also know that many individuals, once their career journey has been started, continue to engage in job-related education and training. They do so to add to their skills, evolve with changing work requirements, manage job transition, and adapt to new technologies.

This report uses the 2008 Access to Support to Education and Training Survey (ASETS) to analyse the participation of Canadian and Ontario adults in job-related learning between 2002 and 2008. It reveals who engaged in such activity, and who did not, based on a variety of personal and employment characteristics. Both descriptive and regression analyses are presented.

Overall, three in five employed Canadians and Ontarians who participated in ASETS reported that they engaged in job related education and training at some point during the six year period 2002 through 2008. The descriptive analysis reveals that engagement in job-related learning was higher for younger workers, for those from higher income households, and for those with higher formal educational attainment. Higher levels of disengagement are observed for visible minorities, aboriginals, respondents identifying a disability, and immigrants. With regard to work environments, higher levels of engagement are observed for workers in unionized jobs, and employees of larger firms. Results from an analysis across occupational categories revealed that workers in occupations unique to primary industry, processing, manufacturing and utilities were the least engaged in job-related education and training. The occupation categories reporting the highest levels of engagement were health at the Canadian level and social sciences/education/government services/religion/art/ culture/recreation/sports in Ontario.

A multivariate analysis reveals that age played an important role, with the youngest cohort of adults being the most likely to be engaged and engagement decreasing with age. Household income and educational attainment showed similar linear relationships, with those in the highest income brackets and holding a bachelor's degree or more being more likely to engage in job-related education and training. Employment in the private sector was also associated with higher probabilities of disengagement compared to employment in the public sector, and this was true even after controlling for union membership.

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Introduction

The benefits of lifelong learning, both to the individual and to society, are considerable and have been well established in the literature. Continued education, even after the commencement of employment, provides returns to the individual such as higher earnings, lower levels and shorter periods of unemployment, improved health and longevity, and greater satisfaction with life. Social returns include safer communities, healthier citizens, greater civic participation, stronger social cohesion and improved equity and social justice (Riddell, 2006; Zhang & Palameta, 2006; Drewes, 2010).

Lifelong learning can be defined in a variety of ways and can serve a number of purposes. The 2008 Access and Support to Education and Training Survey (ASETS), administered by Statistics Canada in partnership with Employment and Social Development Canada (ESDC), understands lifelong or continued learning to include both "education activities", which are provided through formal systems of education and can lead to a formal credential, and "training activities", which encompass structured learning activities that do not lead to a formal credential. While the former category includes primary- and secondary-level education, as well as postsecondary education certificates, diplomas and degrees, the latter category includes stand-alone courses, workshops, private lessons and on-the-job training (Knighton et al., 2009, p. 9).

For the majority of Canadians, education and training does not end with employment. Grounded in the findings of the 2008 ASETS, this report examines the population of individuals aged 24 to 64 who identified as engaged (participating) or not engaged (not participating) in job-related learning between 2002 and 2008. It presents an analysis of who engaged and who did not based on a variety of personal and employment characteristics.

The report is organized as follows. Section 1 outlines definitions and discusses the data and methodology used throughout the report. Limitations of the 2008 ASETS data are also outlined. Section 2 focuses on factors related to individual characteristics. Section 3 analyses personal factors. Section 4 studies engagement in job-related education and training in light of employment characteristics. Section 5 discusses results from multivariate analyses. Finally, conclusions are presented in section 6.

Section 1: Data and Methodology

ASETS surveyed 22,210 Canadians including Ontarians. From within this population, we analyzed data on 13,533 Canadians, including 3,916 Ontarians, who were adults aged 24 to 64 and were employed for the period 2002 through 2008. ASETS 2008 asks a series of questions that allowed us to identify who in this sub-population of employed adults aged 24 to 64 participated in job related education or training at any time in the six year period from 2002 to 2008. For the purpose of this analysis, those who participated in job related learning during this time period are considered "engaged"; those who did not are considered "disengaged".

More specifically, ASETS asked respondents about education and training activity for two specific time frames: 2002 through 2007, and, separately, 2008. We combined these two periods for the purposes of our analysis. Individuals who participated in job related education and training during one or both of these periods are considered engaged; those who did not participate in education or training in either period are considered disengaged. Appendix 1 provides a detailed breakdown of the study population.

In this paper, Canada and Canadians means all Canada/Canadians including Ontario/Ontarians. The comparison is not between Ontario and the rest of Canada, rather between Ontario and Canada including Ontario. When we use Canada, it includes Ontario as well.

Before proceeding further, the limitations of the 2008 ASETS dataset must be understood. While the target population for the survey includes all Canadian resident adults aged less than 65, the following categories of individuals are underrepresented in the survey results:

- Individuals without telephones or with cellular phones only.
- Individuals whose current telephone number belonged to households whose members were all aged 65 and over according to the 2006 Census.
- Households whose telephone number was missing from both the 2006 Census telephone list and from administrative files.
- Individuals residing in institutions.
- Individuals residing in the three Northern territories.
- Aboriginal peoples living on reserves.

Section 2: Individual Characteristics

This section describes and compares the engaged and disengaged populations of Canada and Ontario in an attempt to identify characteristics correlating with their participation in job-related learning or training activities. The focus is placed on individual characteristics such as gender, age, visible minority status, disability status and Aboriginal status.

Table 1: Engagement in Job-Related Education and Training by Gender

	Canada		*Ontario*	
Gender	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Male	59.3%	40.7%	62.1%	37.9%
Female	62.5%	37.5%	63.8%	36.2%
Total	60.8%	39.2%	62.9%	37.1%

Source: ASETS, 2008

There appeared to be no difference in the rates of disengagement between males and females (Table 1). In Ontario, less than 2 percentage points more females than males were engaged in job-related education and training. The difference was slightly larger but still small at the Canadian level, with 3.2% more females being engaged in learning activities.

An analysis of age cohorts revealed an interesting pattern, both in Ontario and at the national level. The engagement levels of four separate age cohorts were compared, and the results are presented below in Table 2.

Table 2: Engagement in Job-Related Education and Training by Age Group

	Canada		*Ontario*	
Age Group	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
24 to 34	67.9%	32.1%	70.7%	29.3%
35 to 44	64.9%	35.1%	65.6%	34.4%
45 to 54	57.4%	42.6%	58.8%	41.2%
55 to 64	47.1%	52.9%	51.4%	48.6%
Total	60.8%	39.2%	62.9%	37.1%
Source: ASETS, 2008				

Our analysis suggests that age and disengagement were directly correlated, with older workers more likely to report being disengaged from education and training activities both in Ontario and Canada. In Ontario, the level of disengagement among the youngest cohort (24 to 34 years of age) stood at 29.3% and increased to 48.6% for the oldest group of workers (55 to 64 years of age). Very similar results were observed at the Canadian level, with 32.1% of workers aged 24 to 34 reporting disengagement and 52.9% of workers aged 55 to 64. These results might highlight a greater desire or need for job-related training at younger ages.

Members of self-identified visible minority groups reported higher rates of disengagement compared to non-visible minorities in both Ontario and Canada (Table 3).

Table 3: Engagement in Job-Related Education and Training by Visible Minority Status

	Canada		*Ontario*	
Visible Minority	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Not a visible minority	61.5%	38.5%	64.3%	35.7%
Visible minority	55.8%	44.2%	56.4%	43.6%
Total	60.8%	39.2%	62.9%	37.1%
Source: ASETS, 2008				

In Ontario, the rate of disengagement was almost 8% higher for individuals of visible minority groups than for those who did not identify as members of a visible minority. The difference was slightly lower at the Canadian level at 5.7%.

Participation in job-related education and training was also less common among individuals who identified as Aboriginal. This was true both in Ontario and at the national level (Table 4).

Table 4: Engagement in Job-Related Education and Training by Aboriginal Status

Aboriginal Status	*Canada*		*Ontario*	
	Engaged	*Disengaged*	*Engaged*	*Disengaged*
Non-Aboriginal	61.0%	39.0%	63.1%	36.9%
Aboriginal	55.7%	44.3%	54.3%	45.7%
Total	60.8%	39.2%	62.9%	37.1%
Source: ASETS, 2008				

In Ontario, individuals who identified as Aboriginal were 8.8% more likely to be disengaged from job-related education and training than were non-Aboriginals. This proportion was slightly lower at the Canadian level at 5.3%.

The analysis also revealed differences in the rates of disengagement between individuals with a disability and those without (Table 5).

Table 5: Engagement in Job-Related Education and Training by Disability Status

Disability Status	*Canada*		*Ontario*	
	Engaged	*Disengaged*	*Engaged*	*Disengaged*
Without a disability	61.5%	38.5%	63.5%	36.5%
With a disability	55.5%	44.5%	58.5%	41.5%
Total	60.8%	39.2%	62.9%	37.1%
Source: ASETS, 2008				

At both the national level and in Ontario, individuals with disabilities reported higher rates of disengagement from job-related education and training. The differences were similar in both Canada and Ontario, at 6% and 5%, respectively.

Finally, the disengagement level of ASETS respondents was examined with respect to immigration status. In both Ontario and Canada, immigrants were less engaged in job-related education and training (Table 6). While the proportion of disengaged immigrants was similar in both Ontario and Canada, Ontario saw a greater proportion of Canadian-born individuals engaged with education and training activities (66.0%) than was identified in Canada (62.2%).

Table 6: Engagement in Job-Related Education and Training by Immigrant Status

	Canada		*Ontario*	
Immigrant Status	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Born in Canada	62.2%	37.8%	66.0%	34.0%
Born outside of Canada	55.4%	44.6%	55.3%	44.7%
Total	60.8%	39.2%	62.9%	37.1%
Source: ASETS, 2008				

Overall, the results of our analysis of individual characteristics indicate very little variability in rates of engagement between Ontario and Canada, though Ontarians born in Canada were more likely to be engaged in education and training activities than were Canadian born at the national level . While gender did not influence disengagement, age played an important factor, with younger individuals, perhaps driven by a lack of experience or a desire to further their careers, being more engaged than their older peers. The analysis also identified several groups of individuals with much lower rates of engagement in job-related education and training, including members of visible minority groups, Aboriginals, immigrants and individuals with a disability.

Section 3: Personal Characteristics

This section presents results from analyses of engaged and disengaged of individuals in learning activities based on their personal characteristics, that is, those affected by their personal choices, including household income, educational attainment, place of residence, language proficiency and marital status.

Respondents' participation in learning activities was analyzed according to five income brackets, listed in Table 7 below. The results show a clear relationship between income and disengagement, both for Ontario and at the national level, with those receiving lower incomes more likely to be disengaged.

Table 7: Engagement in Job-Related Education and Training by Total Household Income

	Canada		*Ontario*	
Total Household Income	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Less than $25,000	47.2%	52.8%	50.2%	49.8%
$25,000 to less than $50,000	52.3%	47.7%	54.3%	45.7%
$50,000 to less than $75,000	57.8%	42.2%	57.3%	42.7%
$75,000 to less than $100,000	62.6%	37.4%	64.5%	35.5%
$100,000 or more	74.5%	25.5%	76.8%	23.2%
Total	61.1%	38.9%	63.1%	36.9%
Data source: ASETS 2008				

The highest proportions of disengaged individuals were observed among those in the lowest income bracket (less than $25,000), where close to half of respondents in both Ontario and Canada reported being disengaged. These proportions dropped to one-quarter among those in the highest income bracket ($100,000 or more). A similar linear relationship was observed with respect to educational attainment, where the proportion of disengaged workers dropped as educational attainment rose (Table 8). This was true in both Ontario and Canada.

Table 8: Engagement in Job-Related Education and Training by Level of Educational Attainment

	Canada		*Ontario*	
Educational Attainment	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Less than high school	32.5%	67.5%	34.1%	65.9%
High school diploma or equivalent	48.2%	51.8%	48.0%	52.0%
Certificate or diploma below bachelor's	63.5%	36.5%	65.3%	34.7%
Bachelor's degree or above	77.0%	23.0%	78.6%	21.4%
Total	60.9%	39.1%	62.9%	37.1%

Source: ASETS, 2008

In Ontario, 66% of respondents with less than a high school diploma reported being disengaged from job-related education and training activities. This percentage dropped to only 21.4% for those who had completed a bachelor's degree or more. Findings were very similar in the Canadian context, with 67.5% of those with less than a high school diploma reporting disengagement, but only 23% of those with a bachelor's degree or above.

We considered next the influence of the urban/rural divide on a respondent's choice and ability to pursue job-related education and training. Here, interesting differences emerged between Ontario and the broader Canadian context (Table 9).

Table 9: Engagement in Job-Related Education and Training by Urban/Rural Residency

	Canada		*Ontario*	
Urban/Rural	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Urban	61.7%	38.3%	62.9%	37.1%
Rural	57.0%	43.0%	63.2%	36.8%
Unknown	59.0%	41.0%	58.2%	41.8%
Total	60.7%	39.3%	62.7%	37.3%

Source: ASETS, 2008

In Ontario, the location of a respondent's residence did not seem to influence the decision to pursue education or training, with very similar rates of disengagement for individuals living in both urban and rural areas. At the Canadian level, however, a greater percentage of rural residents than urban residents reported being disengaged from job-related training and education. While 38.3% of urban residents reported being disengaged, this finding rose to 43% for those living in rural areas.

Self-reported linguistic profile also seemed to influence the decision to pursue or not pursue job-related education and training, and the effects were reversed in Ontario and at the Canadian level (Table 10).

Table 10: Engagement in Job-Related Education and Training by Language Spoken

	Canada		*Ontario*	
Language Spoken	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
English	62.4%	37.6%	62.4%	37.6%
French or bilingual (Eng/Fr)	58.0%	42.0%	70.3%	29.7%
Total	61.1%	38.9%	63.4%	36.6%

Source: ASETS, 2008

In Ontario, respondents who identified as speaking French or as being bilingual (i.e., speaking both English and French) had considerably lower rates of disengagement (29.7%) than those who reported speaking English (37.6%). This was not true elsewhere in Canada, though, where 37.6% of English-speakers reported being disengaged compared to 42% of French or bilingual respondents.

Finally, the analysis considered the influence of marital status on respondents' level of disengagement from job-related education and training activities (Table 11). Approximately 32% of single Ontarians (i.e., widowed/divorced/separated/never married) were disengaged from learning activities compared to 38.6% for married or common-law respondents. The difference was much smaller at the national level at only 1.7 percentage points.

Table 11: Engagement in Job-Related Education and Training by Marital Status

	Canada		*Ontario*	
Marital Status	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Widowed/Divorced/Separated/Never married	62.1%	37.9%	67.7%	32.3%
Married/common-law	60.4%	39.6%	61.4%	38.6%
Total	60.8%	39.2%	62.9%	37.1%

Source: ASETS, 2008

The findings in this section demonstrate greater variability than those in the previous section, especially with respect to trends across Ontario and Canada. Generally, data show that both the household income and educational attainment of individuals are positively related with engagement. While roughly 50% of those in the lowest income bracket reported being disengaged in both Ontario and Canada, this was true of only approximately 25% of those in the highest income bracket. Disengagement also decreased as educational attainment increased, with 66% of Ontarians and 67.5% of Canadians with less than a high school diploma reporting disengagement, but only 21.4% of Ontarians and 23% of Canadians with a bachelor's degree or more in hand stating the same. These results are not surprising given the correlation between income and educational attainment, which explains part of these results. This issue of correlation will be addressed further in the multivariate analysis section of this report.

Living in an urban or rural area also had an effect on the pursuit of job-related education and training, though this effect was more pronounced in Canada than in Ontario. At the Canadian level, living in a rural area was associated with higher rates of disengagement, with 38.3% of urban residents and 43% of rural residents reporting disengagement. Values in Ontario were comparable regardless of location of residence. The trends for language spoken were also different in the Ontario and Canadian contexts. While those who identified as French-speaking or bilingual Ontarians were more engaged than their English speaking peers, the opposite was true at the national level. Also, the findings show that, in both Ontario and Canada, more single than married/common-law respondents were engaged in job-related education and training.

Section 4: Employment Characteristics

This section presents results from descriptive analyses related to participation in job-related education and training activities with respect to employment factors, including part-/full-time status, public and private sector employment, union membership, firm size and occupation classification type.

This report's finding of engagement in job-related education and training between full-time and part-time workers confirm the report by Knighton et al. (2009). Part-time employees in both Ontario and at the national level were less engaged in job-related education and training than their full-time peers (Table 12).

Table 12: Engagement in Job-Related Education and Training by Employment Status

	Canada		*Ontario*	
Employment Status	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Part-time	52.8%	47.2%	55.7%	44.3%
Full-time	62.0%	38.0%	63.9%	36.1%
Total	60.9%	39.1%	62.9%	37.1%
Source: ASETS, 2008				

Table 13: Engagement in Job-Related Education and Training by Job Tenure

	Canada		*Ontario*	
Job Tenure	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Six years or less	62.7%	37.3%	65.0%	35.0%
Seven to 12 years	62.0%	38.0%	62.6%	37.4%
13 years or more	56.7%	43.3%	59.0%	41.0%
Total	60.9%	39.1%	62.9%	37.1%
Source: ASETS, 2008				

To consider the influence of job tenure on engagement, the length of time for which respondents had been working for their current employer was classified into three categories of varying durations. Interestingly, the levels of disengagement increased with the length of tenure (Table 13). This was true for Ontario and at the national level.

This finding supports those reported in section 2, which analyzed the effects of age on engagement in job-related education and training. There, younger workers were also found to be more engaged. One possible explanation raised at the time suggested that younger workers may be driven to training and education by a lack of experience or a desire to further their careers. Indeed, the relationship between age and job tenure suggests that workers need more training at the beginning of their careers.

Table 14 below presents data from 2008 ASETS respondents by union membership. Better working conditions negotiated under collective agreements might provide employees with greater access to job-related education and training opportunities.

Table 14: Engagement in Job-Related Education and Training by Union Membership

	Canada		*Ontario*	
Union Membership	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Non-union members/non-collective agreement	61.0%	39.0%	62.8%	37.2%
Union members/collective agreement	66.9%	33.1%	71.0%	29.0%
Total	63.1%	36.9%	65.3%	34.7%
Source: ASETS, 2008				

The analysis found some evidence supporting the assumption that union membership increases access to education and training opportunities. In both Ontario and Canada, workers covered by collective agreements were less disengaged from job-related education and training than their non-unionized peers. The difference in the rate of engagement for unionized and non-unionized workers was more pronounced in Ontario than at the Canadian level, at 8.2 and 5.9 percentage points, respectively.

A large difference in engagement in job-related education and training was observed between public and private sector employees (Table 15).

Table 15: Engagement in Job-Related Education and Training by Public/Private Sector Employment

	Canada		*Ontario*	
Public/Private Employees	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Public sector	77.7%	22.3%	82.0%	18.0%
Private sector	55.7%	44.3%	57.6%	42.4%
Total	61.0%	39.0%	62.9%	37.1%
Source: ASETS, 2008				

The rates of disengagement among private sector employees were double those of public sector employees. This was true for both Ontario and Canada. It should be noted that employment in the public sector and union membership are likely related, which, in turn, may have influenced these results. This issue is addressed further in the next section of the report.

Firm size can be an indirect measure of internal mobility opportunities, as well as one of access to education and training opportunities. Due to economies of scale, large firms can have their own training facilities and may be more likely to offer employees chances for both horizontal and vertical movement which may in turn require further training to access. The results in Table 16 below consider the effect of firm size on engagement in education and training.

Table 16: Engagement in Job-Related Education and Training by Firm Size

	Canada		*Ontario*	
Employer Size	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Small (less than 100 employees)	59.9%	40.1%	62.4%	37.6%
Medium (100 to 500 employees)	64.6%	35.4%	66.5%	33.5%
Large (over 500 employees)	73.3%	26.7%	73.9%	26.1%
Total	63.2%	36.8%	65.5%	34.5%
Source: ASETS, 2008				

A much higher proportion of employees in small-firms (less than 100 employees) reported being disengaged from job-related education and learning compared to employees of large firms (over 500 employees). This difference was observed both in Ontario and at the national level (11.5 and 13.4 percentage points, respectively).

Finally, engagement in job-related education and training was compared across occupation categories (Table 17). For both Ontario and Canada, workers in primary/processing/manufacturing/utilities industries reported the highest levels of disengagement (55% for Ontario and 56.5% for Canada). The occupation categories

reporting the lowest levels of disengagement were health at the Canadian level and social sciences/education/government services/religion/art/ culture/recreation/sports in Ontario. The rankings of the various occupation categories by engagement in job-related education and training were very similar for both Ontario and Canada.

Table 17: Engagement in Job-Related Education and Training by Occupation Category

	Canada		*Ontario*	
Occupation Category	***Engaged***	***Disengaged***	***Engaged***	***Disengaged***
Management	66.4%	33.6%	66.3%	33.7%
Business, finance and administrative occupations	60.4%	39.6%	61.4%	38.6%
Natural & applied sciences, and related occupations	73.8%	26.2%	76.4%	23.6%
Health occupations	80.4%	19.6%	80.0%	20.0%
Social science, education, government service, religion, art, culture, recreation & sports	78.5%	21.5%	82.2%	17.8%
Sales & service occupations	47.2%	52.8%	52.0%	48.0%
Trades, transport & equipment operators & related occupations	52.1%	47.9%	52.5%	47.5%
Occupations unique to primary industry, processing, manufacturing & utilities	43.5%	56.5%	45.0%	55.0%
Total	61.0%	39.0%	63.0%	37.0%
Source: ASETS, 2008				

This section reported findings that related to various employment characteristics of workers' engagement in education and training activities. The analysis suggested that part-time employees are less engaged than their full-time counterparts and that engagement declines with job tenure, supporting the argument that workers need more training at the onset of their careers. Both membership in a union and employment in the public sector increased the rates of engagement. Employees of larger firms, who may have greater access to mobility opportunities, were also more engaged in education and training. All of these trends held equally true in both Ontario and Canada.

Finally, results from the analysis across occupation categories revealed that workers in occupations unique to primary industry, processing, manufacturing and utilities were the least engaged in job-related education and training. The occupation categories reporting the lowest levels of disengagement were health at the Canadian level and social sciences/education/government services/religion/art/ culture/recreation/sports in Ontario.

Section 5: Multivariate Analysis

A multivariate analysis was conducted to gain a better understanding of the relationships between disengagement and the extent to which disengagement is explained by the various personal, individual and employment characteristics considered in the previous three sections of this report. Rather than considering the individual as a whole, where a number of different characteristics congregate and come into play, the multivariate analysis makes it possible to consider the influence of any particular variable in a situation where all other variables are held constant.

Two separate estimations were conducted, one for Ontario and another at the Canadian level, to identify the extent of each individual variable's[1] influence. The results are presented below in Table 18.

Table 18: Marginal Effects (probit regression) of Working Canadians Disengaged from Job-Related Education and Training

Variables	Ontario		Canada	
	Marginal Effect	Std. error	Marginal Effect	Std. error
Female (ref. male)	-0.015	0.019	-0.010	0.011
Age (ref. 24 to 34)				
35 to 44	0.031	0.024	0.058**	0.013
45 to 54	0.048*	0.024	0.071**	0.013
55 to 64	0.096**	0.028	0.136**	0.015
Visible minority (ref. non-visible minority)	0.012	0.030	0.012	0.021
With a disability (ref. without a disability)	0.008	0.023	-0.017	0.013
Aboriginal status (ref. no Aboriginal status)	0.086	0.054	0.014	0.024
Born outside of Canada (ref. born in Canada)	0.050*	0.025	0.054**	0.017
Total household income (ref. less than $25,000)				
$25,000 to less than $50,000	-0.048	0.035	-0.042*	0.017
$50,000 to less than $75,000	-0.118**	0.037	-0.102**	0.019
$75,000 to less than $100,000	-0.172**	0.040	-0.145**	0.021
$100,000 or more	-0.240**	0.039	-0.212**	0.021
Educational attainment (ref. less than high school)				
High school diploma or equivalent	-0.130**	0.033	-0.114**	0.013
Certificate or diploma below bachelor's degree	-0.210**	0.032	-0.191**	0.013
Bachelor's degree or above	-0.267**	0.036	-0.260**	0.015
Married or common-law (ref. widowed/divorced/never married)	0.091**	0.020	0.053**	0.011
French language or bilingual (ref. English)	-0.037	0.024	0.086**	0.010
Rural/urban residence (ref. urban residence)				

[1] Gender, age, visible minority status, Aboriginal status, disability status, immigrant status, household income, educational attainment, rural/urban residency, language, marital status, part/full-time employment status, job tenure, union membership, public/private employment, firm size and occupation.

Variables	Ontario		Canada	
	Marginal Effect	Std. error	Marginal Effect	Std. error
Rural residence	0.005	0.023	0.021	0.013
Not known	-0.034	0.036	-0.018	0.014
Full-time employee (ref. part-time employee)	-0.073*	0.031	-0.050*	0.016
Employer size (ref. small – less than 100 employees)				
Medium (100 to 500 employees)	-0.021	0.020	-0.003	0.011
Large (500 or more employees)	-0.022	0.024	-0.011	0.014
Union membership (ref. non-members)	0.010	0.022	0.038	0.012
Private sector employment (ref. public sector employment)	0.136**	0.023	0.105**	0.012
Employment tenure (ref. 6 years or less)				
7 to 12 years	0.047*	0.022	0.023	0.012
13 years or more	0.026	0.022	0.038**	0.012
Occupation (ref. management)				
Business, finance and administrative	0.027	0.033	0.084**	0.018
Natural and applied sciences	-0.077*	0.039	-0.009	0.022
Health	-0.068	0.044	-0.012	0.023
Social sciences, education, government service, religion, art, culture, sport	-0.087*	0.037	0.005	0.021
Sales and service	0.042	0.035	0.156**	0.019
Trades, transport, equipment operators	0.066	0.039	0.123**	0.021
Primary industry, processing, manufacturing and utilities	0.077	0.042	0.160**	0.024

Source: ASETS, 2008
Note: *** indicates statistically significant at 1%, ** statistically significant at 5% and * statistically significant at 10% confidence intervals (CI)

Gender did not play a significant role in the likelihood of disengagement from job-related education and training activities when all other variables were controlled. This was true for both Ontario and Canada. Age, however, did play an important role. Compared to the youngest cohort, all subsequent age groups were more likely to be disengaged. The likelihood of disengagement increased with age. For example, Ontarians aged 55 to 64 were 9.6% more likely to be disengaged than their peers aged 24 to 34. This estimate was even higher in the Canadian context at 13.6%. Furthermore, since results were obtained while controlling for job tenure, we can conclude that disengagement is more closely influenced by a worker's age than by the length of his or her career.

Interestingly, being a member of a visible minority group, a person with a disability or an Aboriginal person did not affect one's likelihood of being disengaged from job-related education and training when all other variables were held constant. As a result, any overrepresentation of disengagement observed for these groups of respondents in the descriptive analyses was not caused by membership in these groups per se, but rather by other variables associated with disengagement that are more prevalent among members of these groups. On the other hand, not being born in Canada did increase one's likelihood of disengagement in job-related education and training.

Both household income and educational attainment were strongly and negatively correlated with disengagement in job-related education and training in Ontario and in Canada. Compared to the lowest income group (less than $25,000), each subsequent income group demonstrated a lower likelihood of disengagement. For example, an Ontarian from a household earning over $100,000 was 24% less likely to be disengaged than an Ontarian earning less than $25,000. At the Canadian level, this likelihood was 21%. The same clear pattern was observed for educational attainment, where each subsequent group of respondents had a significantly lower and progressively decreasing likelihood of disengagement than those in the lowest educational attainment group (less than a high school diploma). Once again, the same patterns were observed for Ontario and Canada.

Turning to marital status, analyses suggest that married/common-law respondents had higher probabilities of disengagement than their single peers in both Ontario and Canada. The situation was similar for language spoken, where being a French-speaking or bilingual Canadian was associated with an 8.6% higher likelihood of disengagement compared to English speakers. No effect for language spoken was found in Ontario, however.

As observed in the descriptive section, being a full-time employee decreased the likelihood of disengagement in job-related education and training when compared to part-time workers. This was true for Ontario and at the Canadian level. Firm size and union membership did not have significant effects on engagement in job-related education and training. When all other variables were controlled, the benefits of collective agreements were found to be insignificant. This was true for Ontario and at the Canadian level. Longer job tenure showed some evidence of increasing probabilities of disengagement. Paired with the results obtained for age, this further illustrates that it is the age of an employee and not the length of his or her career that affects engagement in job-related education and training.

Employment in the private sector was associated with much higher probabilities of disengagement compared to employment in the public sector, and this was true even after controlling for union membership. As a result, we can conclude that it is the actual employment in the public sector and not the prevalence of collective agreements in this sector that increase the likelihood of participating in job-related education and training.

An analysis of occupational classifications revealed mixed results. When compared to management occupations, only two occupation categories were statistically significant for Ontario. Workers in the natural and applied sciences and social sciences were less likely to be disengaged from job-related education and training. At the Canadian level, compared to the same management occupations, employees in business, finance and administration, sales and services, and manufacturing, and trades, transport and equipment operators were more likely to be disengaged.

Section 6: Conclusions

With the individual and social benefits of lifelong learning well established in the literature, and with a number of government programs in place to encourage adult participation in continued learning, it may be surprising to consider that only three of five employed Canadians and Ontarians reported engaging in job-related education and training at some point between 2002 and 2008. In this context, an understanding of employed adult learners and of the obstacles to participation that they face becomes especially important. The study finds that employees who are younger, better educated and have higher levels of household income are more likely to be engaged in job-related education and training, while those who identify as members of visible minority groups, as Aboriginal, as immigrants or as individuals with a disability are less likely to be engaged. These trends were true in both Ontario and Canada.

Those who lived in rural areas were less likely to be engaged in continuing education or training activities, though this was only true in the Canadian context. Participation values in Ontario were comparable regardless of location of residence. The trends for language spoken were different in the Ontario and Canadian contexts. While those who identified as French-speaking or bilingual Ontarians were more engaged than their English-speaking peers, the opposite was true at the national level. Finally, more single than married/common-law respondents were engaged in job-related education and training. This was observed both in Ontario and at the Canadian level.

An examination of 2008 ASETS respondents' employment characteristics revealed that part-time workers are less engaged than their full-time counterparts in both Canada and Ontario, and that workers' engagement with learning activities declined as the length of their job tenure increased. Membership in a union and employment in the public sector both increased the rates of engagement. Employees of larger firms were also more engaged in education and training. All of these trends held equally true in both Ontario and Canada.

Finally, our analysis considered engagement by occupation category and concluded that workers in occupations unique to primary industry, processing, manufacturing and utilities were the least engaged in job-related education and training. The occupation categories reporting the highest levels of engagement were health at the Canadian level and social sciences/education/government services/religion/art/culture/recreation/sports in Ontario.

A multivariate analysis was then presented to isolate the influence of each of the variables identified in the descriptive analysis. Age played an important role here, with the youngest cohort being the most likely to be engaged and engagement decreasing with age. Household income and educational attainment showed similar linear relationships, with those in the highest income brackets and holding a bachelor's degree or more being more likely to engage in job-related education and training. Employment in the private sector was also associated with much higher probabilities of disengagement compared to employment in the public sector, and this was true even after controlling for union membership.

These conclusions raise a number of interesting policy questions for future research. Among them, we might ask how those who enter the labour market with lower levels of academic attainment can be motivated to access job-related learning throughout their careers, lest their inability to do so make them even less competitive compared to their peers with higher levels of educational attainment. While this question has no easy answers, the simple prevalence of adult job-related education and training is noteworthy. It suggests that our educational institutions must ensure that their graduates have "learned to learn" and are equipped to keep learning. Employers also play an important role in supporting and in some cases providing education and training opportunities for their employees, and our findings demonstrate that individual Canadians' commitment to learning activities cannot and indeed does not end at graduation.

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