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Research Paper

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Postsecondary Education – Participation and Dropping Out: Differences Across University, College and Other Types of Postsecondary Institutions

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Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Acronyms

CEGEP	Collège d'enseignement général et professionnel
HRSDC	Human Resources and Social Development Canada
LFS	Labour Force Survey
PISA	Program for International Student Assessment
PSE	Postsecondary education
STC	Statistics Canada
YITS	Youth in transition Survey

Table of contents

1. Introduction

Formal education beyond the secondary level is a worthy investment as it holds widely recognized benefits for the individual as well as for society. At the individual level, it increases lifetime earnings, allows for more stable employment that is often reported to provide better satisfaction and shorter and less frequent spells of unemployment. At the societal level it leads to higher productivity, increased civic engagement and lower chances of dependability on social assistance.

Consequently, as increasing numbers of individuals pursue postsecondary education, it is crucial that those who decide to pursue this investment are able to do so successfully. Dropping out of postsecondary education has negative impacts on the individual and society. Although studies show that those with some postsecondary education enjoy better labour market outcomes than those with only secondary education, they do not experience labour market outcomes of those who have completed postsecondary education.

Dropping out of postsecondary education is also costly. The individual incurs costs associated with education (lost tuition and other expenses) and forgone earnings (opportunity cost). Given that governments also contribute to postsecondary costs, incompletion also represents a loss of investment.

Thus far, Canadian literature on postsecondary education dropouts has not accounted for failed attempts in pursuing postsecondary education. In other words, an individual would not be considered a dropout if he or she dropped out of numerous postsecondary education institutions but did graduate, either prior to or after these failed attempts. Such longer pathways affect the overall stock of postsecondary education graduates and carry potentially high inefficiencies and associated costs.

The purpose of this paper is to capture and profile postsecondary education dropouts from three different types of postsecondary education – university, college and other types of institutions[1]. It compares them with graduates from these three types of institutions.

This perspective allows for a more accurate measure of occurrences and rates of dropping out from Canadian postsecondary education institutions. Additionally, these results identify groups of people who may have experienced more difficult transitions in their pursuit of postsecondary education as indicated by the fact that they experienced at least one episode of dropping out before or after obtaining a credential.

This method of examining dropouts carries some limitations, however. It assumes that switching types of educational institutions is equivalent to dropping out. Switching postsecondary education institutions (for example from college to university or vice versa) might be desired in order to find the right educational fit and could avoid a permanent dropout episode. However, because of incurred costs

of not completing the initially chosen type of program, these cases of dropping out carry a cost due to inefficiencies in obtaining postsecondary education credentials.

The report is structured in four parts. It first provides information about methods and definitions used in this analysis. Second, the report profiles dropouts, graduates and continuers along numerous demographic, family and school characteristics. Thirdly, it creates a multivariate profile of dropouts, where multiple characteristics are analyzed simultaneously. Lastly, it summarizes the findings.

2. Methods and definitions

The analysis for this report is based on data from the Youth in Transition Survey (YITS). The survey was designed by Human Resources and Social Development Canada (HRSDC) and Statistics Canada. YITS is a longitudinal survey, which collects information on educational and labour market pathways of a sample of young Canadians in the 18 to 20 age group in 1999. They were interviewed four times since the implementation of the survey, in 2000, 2002, 2004 and 2006. In this report, the data used are from the first four cycles and describe where they stood in their education and labour market pathways in December 2005 when they were 24 to 26 years of age.[2] It should be noted that the sample in 2005 is not necessarily representative of all 24 to 26 years old in Canada. It is only representative of the original 18 to 20 years old cohort that was selected in 1999.

This report is a follow-up of a previous study of postsecondary participation (Shaienks and Gluszynski, 2007). The objective of that study was to examine demographic and family characteristics, high school engagement, academic performance, and first year postsecondary experiences of those who attended postsecondary education, those who did not and those who dropped out. The report was based on overall postsecondary education status, which means that the type of institution attended was not considered in the establishment of the status.

The overall postsecondary status is a roll up of all other statuses. It brings together the combined outcomes of all attempts in all types of postsecondary institutions. Overall dropouts were university, college or other type of institution students, who after dropping out, did not undertake another program in another type of institution or if they did, they dropped out again.

For the purpose of this report, three new variables were developed to account for the types of institutions attended by the student and the status in each of them. The university status, the college status and the other type of institution postsecondary status permits the independent determination of the outcomes of participation in the different types of institutions and the profile of graduates, continuers and especially dropouts according to their specific characteristics.

Definitions of post secondary status by type of institution

The University Status encompasses all of the following groups:

A University Graduate is someone who graduated from a university and includes both graduate continuers and graduate non-continuers;

A University Graduate Continuer is someone who has already graduated from a university and is still pursuing education at a university.

A University Graduate Non-Continuer is someone who has graduated from a university and is not pursuing education in a university.

A University Continuer is someone who is attending a university but has not yet graduated.

A University Dropout is someone who has attended a university but is no longer pursuing it and has never graduated from his university program.

The College Status encompasses all of the following groups:

A College Graduate is someone who graduated from a college / CEGEP and includes both graduate continuers and graduate non-continuers;

A College Graduate Continuer is someone who has already graduated from a college / CEGEP and is still pursuing education at this type of institution.

A College Graduate Non-Continuer is someone who has graduated from a college / CEGEP and is not pursuing education at this type of postsecondary institution.

A College Continuer is someone who is attending a college / CEGEP but has not yet graduated.

A College Dropout is someone who has attended postsecondary education but is no longer pursuing it and has never graduated from his college / CEGEP program.

The Other Postsecondary Status encompasses all of the following groups:

An Other Postsecondary Graduate is someone who graduated from another type of postsecondary institution and includes both graduate continuers and graduate non-continuers;

An Other Postsecondary Education Graduate Continuer is someone who has already graduated from another type of postsecondary institution and is still pursuing education at the same type of postsecondary institution.

An Other Postsecondary Education Graduate Non-Continuer is someone who has graduated from another type of postsecondary institution and is not pursuing education in this type of postsecondary institution.

An Other Postsecondary Education Continuer is someone who is attending another Postsecondary Education institution but has not yet graduated.

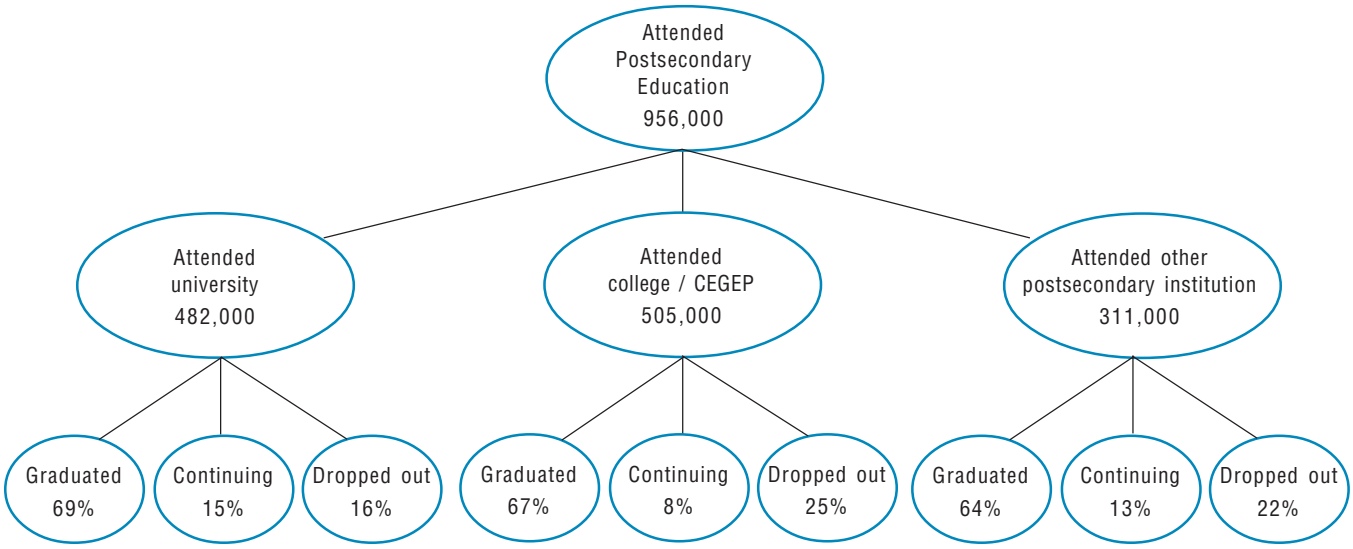
An Other Postsecondary Education Dropout is someone who has attended another type of postsecondary education but is no longer pursuing it and has never graduated from his other Postsecondary Education institution program.

New way of calculating dropout rates

As indicated in the introduction, this report takes a different approach to calculating dropout rates from Canadian postsecondary institutions made possible by longitudinal data. It measures the overall number of failed attempts at obtaining credentials, even if the individual eventually graduates. Thus far, dropout rates were always calculated based on individuals who attempted postsecondary education, were not in it at the time of data collection and had not obtained a credential by that time. Therefore, it did not capture the failed attempts as these went unaccounted for by changing the type of institutions. The difference in result from the two measurement methods was sizeable.

Figure 1

Participation levels, graduation and dropout rates by December 2005, by type of institution



Note: The sum of attended university, attended college and attended other postsecondary institution is greater than attended postsecondary education because some students have attended more than one type of institution.

Source: Youth in Transition Survey.

The conventional method yielded a dropout rate of 15% (Shaienks and Gluszynski, 2007). However, as shown in Figure 1, there were over 956,000 individuals who attempted postsecondary education during the time frame covered by the survey. In total, these individuals reported over 250,000 episodes of failed attempts at completing their studies, yielding a dropout rate of 21%, which is significantly higher than previously reported. The difference in these two rates represents roughly 130,000 failed attempts that previously went unreported.

The data used for calculating this rate was only representative of individuals who were between the ages of 18 and 20 in December of 1999. Therefore, the estimated level of dropouts underestimates the overall level faced by Canadian postsecondary institutions. This number of failure episodes is an indication of the level of societal and individual costs.

This report profiles respondents who attempted to obtain postsecondary education credentials along their demographic, family and school characteristics. Although, the first section looks at dropouts, graduates and continuers, the second section of the report is dedicated to profiling dropouts only.

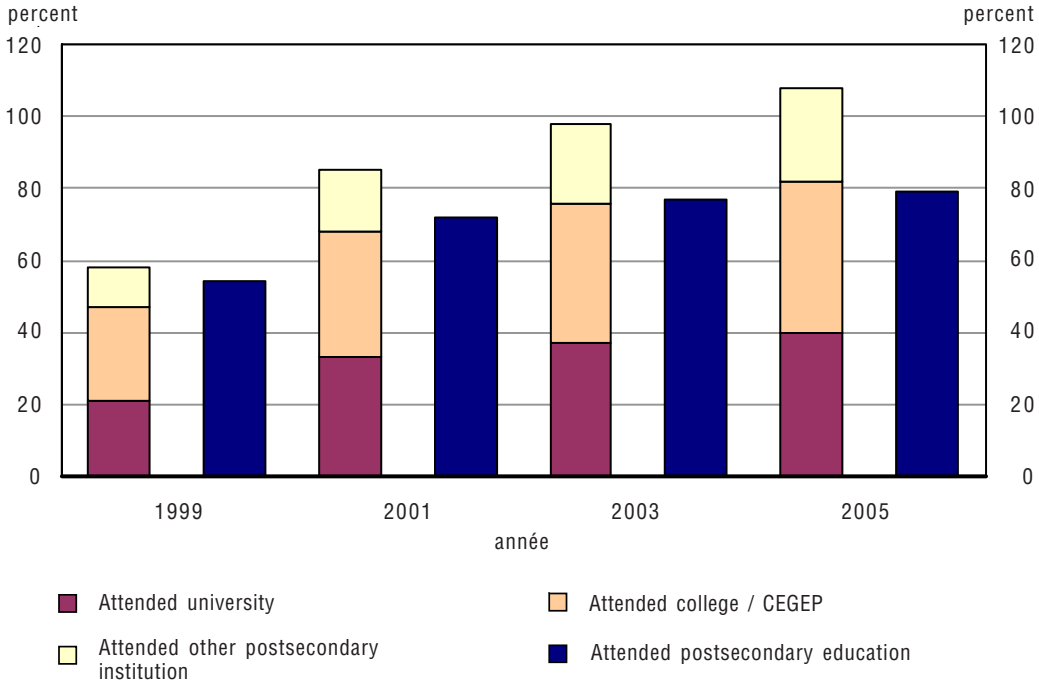
3. Participation, Graduation and Dropout rates

Over time

The overall participation rate in postsecondary education among those aged 18 to 20 years in December 1999 increased steadily from 54% in December 1999 to 79% in December 2005. Looking more specifically at participation rates and status by type of institution attended, attendance at university almost doubled over the six years period from 21% in 1999 to 40% in 2005, while attendance at college / CEGEP went up from 26% in 1999 to 42% in 2005 among the YITS respondents. Growth in attendance at postsecondary institutions slowed between 2003 and 2005 as respondents grew out of the prime postsecondary education age range.

Chart 1

Postsecondary participation rates of young adults in December 1999, 2001, 2003 and 2005 by type of institution attended



Source: Youth in Transition Survey.

As shown in Chart 1 as students aged, the proportion of those in postsecondary education who attended more than one type of institution increased. In December 1999, the sum of the attendance at the three types of institutions was 58% compared to the participation rate in postsecondary education of 54%. That meant that some of the students attended more than one type of institution. In December 1999, 7% of the students had done so. By December 2005, that percentage had gone up to 37%.

This is a reflection of the non-linear pathways taken by youth. By December 2005, almost two thirds of postsecondary students had participated in multiple programs. Some of the program switches occurred within the same type of institution, from college to university and also from university to college. It is important to keep in mind however, that in the case of Quebec, graduation from a CEGEP program is generally required to access a university program, meaning that most university students attended at least two types of institutions and tried at least two programs. Similarly, in other provinces, in the case of transfer programs, some of the credits are taken at college and some of the credits are taken at university.

Provincial analysis

As shown in Table 1, in most provinces, the participation rate in university programs was higher than the participation rate in either college / CEGEP or programs in other types of institutions. Newfoundland and Labrador and Nova Scotia had the highest university participation rates while Alberta had the lowest. Not surprisingly, Quebec had the highest participation rate in college / CEGEP programs and the highest proportion of students attending two types of institutions. This is in line with the structure of the Quebec education system as described earlier. Also, along with Alberta and British Columbia, Quebec had one of the lowest university participation rate. Ontario had the second highest participation rate in college, equal to the participation rate in university.

Table 1

Postsecondary participation rates of young adults aged 24 to 26 by December 2005, by province and type of institution attended

	Attended postsecondary education	Attended university	Attended college / CEGEP	Attended other post-secondary institution
	percent	percent	percent	percent
Canada	79	40	42	26
Province				
Newfoundland and Labrador	83	48	26	30
Prince Edward Island	75	43	25	24 [E]
Nova Scotia	81	47	31	23
New Brunswick	78	41	34	23
Quebec	79	38	64	23
Ontario	83	43	43	17
Manitoba	72	44	28	21
Saskatchewan	76	44	18	36
Alberta	71	34	27	35
British Columbia	80	38	27	45

[E] use with caution

Source: Youth in Transition Survey.

Graduation rates varied widely by province and by institution type (Table 2). Prince Edward Island had the highest graduation rate for both university and college while Alberta had the highest dropout rate for both university and college. Since programs in college / CEGEP and other postsecondary institutions are generally more technical and labour market oriented or since they lead to university, it is not very common to graduate from a college / CEGEP or another type of non-university institution and to pursue another program in the same type of institution. In university however, it is fairly common to graduate from a first degree and to pursue another university program, either at the bachelor level or at the graduate level. This was the case for almost a fifth of the university students in Nova Scotia, Quebec and Saskatchewan.

Table 2

Postsecondary status of young adults aged 24 to 26 by December 2005, by province and type of institution attended

		Province									
	Canada	Newfound-land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia
Status	percent	percent	percent	percent	percent	percent	percent	percent	percent	percent	percent
University											
Graduates continuers	16	9 [E]	F	19	11 [E]	19	14	12	F	13 [E]	15 [E]
Graduates	53	57	70	52	56	51	57	48	41	48	52
Continuers	15	11 [E]	F	9 [E]	12 [E]	19	14	16	14	14	16 [E]
Dropout	16	23	14 [E]	21	21	11	15	24	25	25	18
College / CEGEP											
Graduates continuers	2	x	x	x	x	1 [E]	3	F	x	F	x
Graduates	65	53	76	68	60	70	64	63	69	57	59
Continuers	8	17 [E]	x	10 [E]	14 [E]	5 [E]	9	11 [E]	F	8 [E]	11 [E]
Dropout	25	22 [E]	20 [E]	20 [E]	24 [E]	24	24	24	21	32	28
Other institution											
Graduates continuers	2	x	x	x	x	x	F	2	F	3 [E]	4 [E]
Graduates	62	72	63	63	79	73	56	68	62	63	56
Continuers	13	8 [E]	F	F	F	6 [E]	20	12 [E]	15 [E]	12 [E]	14
Dropout	22	19 [E]	F	30 [E]	11 [E]	20	22	17	18	22	26

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[E] use with caution
F too unreliable to be published
Source: Youth in Transition Survey.

Quebec had the lowest university dropout rate in all the provinces and one of the highest graduation rates from college / CEGEP. Since graduating from CEGEP is generally required to access a university program in Quebec, it is quite possible that opting out occurs at the beginning of the process, most often following CEGEP. In other provinces, the mismatch process could be on-going, with students dropping out of university and going to college and vice versa.

Demographics

Participation rates in university programs were lower for Canadian born students than for the non Canadian born (Table 3). In contrast there were no significant differences in graduation and dropping out rates. At college, however, the non Canadian born group had a significant higher rate of dropping out than the Canadian born group.

Table 3

Postsecondary participation rates of young adults aged 24 to 26 by December 2005, by demographic characteristics and type of institution attended

	Attended postsecondary education	Attended university	Attended college / CEGEP	Attended other post-secondary institution
	percent	percent	percent	percent
Canada	79	40	42	26
Canadian born				
Yes	79	39	42	26
No	84	50	37	28
Aboriginal status				
Aboriginal[1]	61	17	34	21 [E]
Non aboriginal	80	41	42	26
Type of community[2]				
Urban	82	43	43	27
Rural	70	28	39	23
Gender				
Men	74	36	38	25
Women	85	44	46	27
Age				
24	78	39	40	25
25	79	40	42	24
26	82	42	43	28

[E] use with caution

1. Off-reserve Aboriginal population only.
2. In cycle 1, when respondents were 18 to 20 years old.

Source: Youth in Transition Survey.

The postsecondary education participation rate of the Aboriginal population[3] was significantly lower than for the non-Aboriginals. The participation rate for university was less than half the rate of the non aboriginal group (17% for Aboriginals versus 41% for non-Aboriginals). Conversely, differences between the Aboriginal and non-Aboriginal population participation rates were non significant for college and for other types of institution (Table 3).

The overall participation rate in postsecondary education was 11 percentage points higher for women than men. Women seemed to have better results in both university and college as graduation rates were higher and dropout rates were lower compared to men. In contrast men had more success in other types of institutions for which they had lower dropout rates.

Table 4

Postsecondary status of young adults aged 24 to 26 by December 2005, by demographic characteristics and type of institution attended

	Canada	Canadian born		Aboriginal status		Type of community[2]		Gender		Age		
		Yes	No	Aboriginal [1]	Non aboriginal	Urban	Rural	Men	Women	24	25	26
	percent	percent	percent	percent	percent	percent	percent	percent	percent	percent	percent	percent
University												
Graduates continuers	16	17	8 E	x	16	16	13	15	16	17	16	14
Graduates	53	52	58	36 E	53	52	54	48	56	46	55	58
Continuers	15	15	18 E	28 E	15	15	15	17	14	22	16	8
Dropout	16	16	15 E	30 E	16	16	18	19	14	15	14	20
College / CEGEP												
Graduates continuers	2	2	x	x	2	2	2 E	2 E	2	3 E	3 E	2 E
Graduates	65	66	56	54	65	65	68	60	70	62	65	68
Continuers	8	8	F	F	8	8	7	8	7	10	7	6
Dropout	25	24	36	31 E	25	25	23	30	21	26	25	24
Other institution												
Graduates continuers	2 E	2	F	x	2	3 E	2 E	2 E	2 E	3 E	3 E	2 E
Graduates	62	63	56	74	62	61	68	65	59	56	62	68
Continuers	13	12	20 E	F	13	15	7 E	14	12	16	12	12
Dropout	22	23	21 E	F	22	22	24	19	26	25	23	19

x suppressed to meet the confidentiality requirements of the *Statistics Act*

E use with caution.

F too unreliable to be published

1. Off-reserve Aboriginal population only.
2. In cycle 1, when respondents were 18 to 20 years old.

Source: Youth in Transition Survey.

There were also differences in participation rates between youth in rural and urban communities, with all postsecondary participation rates being lower for youth from rural communities. The participation rates of urban students were the same for university and college. However for the rural group, the participation rate in college was 11 percentage points higher than the participation rate in university. The choice of the institution can be related to cost, with colleges selected by rural young adults because they are likely to be closer (Frenette 2007) (Table 4). There were no significant differences between the graduation rates and dropout rates of both groups.

Family background

Previous studies have pointed out that family characteristics can have an impact on postsecondary education participation rates. Differences noted in participation rates for different family characteristics were far more important for university than for college / CEGEP or for other postsecondary institutions. Students who lived with both parents when they were in high school had higher participation rates in university than students living in a single parent family or in another type of family structure (Table 5). The participation rates for college / CEGEP and other types of postsecondary institution were comparable for students living with both parents or coming from a single parent family structure. This might be associated with the cost of going to university compared to going to college / CEGEP. Single parents are more likely to be in the lower income quartile. According to Frenette (2007), family

income may pose different barriers for university attendance. The additional cost of studying away from home may reduce enrolment among students from lower-income families who must move away to attend. college / CEGEP may be a more affordable option (Table 5).

Previous studies have also found that parental education has an impact on participation in postsecondary education has also been mentioned in previous studies. The participation rate in university programs of students with parents who had a postsecondary diploma was almost three times as high as the rate of students with parents who had less than high school education. Parents' attitude towards the importance of pursuing education after high school was also a factor for participation in both university and college / CEGEP. The participation rate in university was almost four times as high when the parents considered higher education important. The same ratio for college / CEGEP was almost two to one.

Table 5

Postsecondary participation rates of young adults aged 24 to 26 by December 2005, by family characteristics and type of institution attended

	Attended postsecondary education	Attended university	Attended college / CEGEP	Attended other post-secondary institution
	percent	percent	percent	percent
Canada	79	40	42	26
Family characteristics				
Family structure[1]				
Living with both birth parents	83	44	43	26
Single parent	71	30	42	24
Other	72	27	34	30
Highest educational attainment of parents				
Less than high school	63	20	36	23
High school diploma	69	26	39	25
Some postsecondary education	82	36	41	32
Postsecondary certificate/diploma	90	54	46	26
Parent's opinion on the importance of pursuing education after the high school				
Important	84	45	45	26
Not important	48	12	24	23

1. The family structure is the structure that was present when the respondent was in high school.

Source: Youth in Transition Survey.

Differences in graduation rates and dropout rates were also observable in relation to some of these family characteristics, especially family structure (Table 6). Students who lived with a single parent or in another family structure when they were in high school had lower graduation rates from both university and college / CEGEP than students who lived with both parents. The university dropout rate was higher for students who lived in another family structure. The dropout rates were higher at college / CEGEP for students who lived with a single parent.

Table 6

Postsecondary status of young adults aged 24 to 26 by December 2005, by family characteristics and type of institution attended

		Family structure[1]			Highest educational attainment of parents				Parent's opinion on the importance of pursuing education after the high school	
Status	Canada	Living with both birth parents	Living with single parent	Other	Less than high school	High school diploma	Some post-secondary education	Post-secondary certificate / diploma	Important	Not important
	percent	percent	percent	percent	percent	percent	percent	percent	percent	percent
University										
Graduates continuers	16	16	17	13 E	23 E	13	11 E	16	16	17 E
Graduates	53	54	48	42	49	52	51	54	53	43
Continuers	15	14	20	21 E	14 E	16	14 E	15	15	15 E
Dropout	16	16	14	24	15 E	19	24 E	15	16	25 E
College / CEGEP										
Graduates continuers	2	2	F	4 E	F	2 E	F	2	2	F
Graduates	65	68	58	58	64	61	64	68	66	57
Continuers	8	7	8 E	13 E	6 E	8	9 E	8	7	9 E
Dropout	25	23	32	25	27	29	23	22	24	31
Other institution										
Graduates continuers	2	3 E	F	F	F	3 E	x	3 E	2 E	F
Graduates	62	63	57	64	70	63	60	60	62	64
Continuers	13	13	14 E	12 E	11 E	8	16 E	16	13	12 E
Dropout	22	22	27	21	18 E	26	22 E	21	22	22

x suppressed to meet the confidentiality requirements of the *Statistics Act*
E use with caution
F too unreliable to be published
1. The family structure is the structure that was present when the respondent was in high school.

Source: Youth in Transition Survey.

High school experiences

Pursuing postsecondary education is mostly preceded by high school graduation. High school is a place where many learning habits are potentially developed. Therefore, positive experiences, results and behaviors while in secondary education can affect outcomes at the postsecondary level (Lambert, 2004).

The participation rates in postsecondary education were highly related with behaviour and performance in high school (Table 7). The time spent studying while in high school, the grade average and the presence of a dropout spell in high school were all reflected in participation rates in postsecondary education, and especially in university. The participation rate in university was twice as high for students who spent more than three hours a week studying while in high school. It was almost eight times higher for students who never dropped out of high school and it increased as the grade averages rose, which was not surprising given the entrance requirements for university.

Table 7

Postsecondary participation rates of young adults aged 24 to 26 by December 2005, by high school characteristics and type of institution attended

	Attended postsecondary education	Attended university	Attended college / CEGEP	Attended other post-secondary institution
	percent	percent	percent	percent
Canada	79	40	42	26
Time spent on homework in high school				
Three hours or less	71	26	41	28
More than three hours	86	51	43	24
Academic performance / Grade average in high school				
90% to 100%	94	82	27	20
80% to 89%	92	63	45	23
70% to 79%	81	32	48	28
60% to 69%	60	11	34	30
59% and less	34	F	20	16
Ever dropped out of high school				
Ever dropped out	39	6	20	21
Never dropped out	88	47	46	27

F too unreliable to be published

Source: Youth in Transition Survey.

Self-reported high school marks were reflected in outcomes in all types of postsecondary education. In the A and above grade category (80% to 100%), a vast majority of students graduated from university, college and other institutions (Table 8). As grades declined, so did the graduation rates, for example in universities, decreasing from 84% in the highest grade range to less than a third of those in the 60% to 69% grade category. The reverse was observed in terms of dropping out of postsecondary education. For example, well over one third of those in the 60% to 69% grade range in high school dropped out of college.

Table 8

Postsecondary status of young adults aged 24 to 26 by December 2005, by self-reported high school grades and type of institution attended

		Academic performance / Grade average in high school				
	Canada	90% to 100%	80% to 89%	70% to 79%	60% to 69%	59% and less
Status	percent	percent	percent	percent	percent	percent
University						
Graduates continuers	16	27	18	9	F	x
Graduates	53	57	57	49	30	x
Continuers	15	8 [E]	11	20	37	79
Dropout	16	7 [E]	14	22	30	F
College / CEGEP						
Graduates continuers	2	x	2 [E]	2	3 [E]	6
Graduates	65	85	75	62	51	45 [E]
Continuers	8	F	5	8	13 [E]	10
Dropout	25	11 [E]	18	27	34	38 [E]
Other institution						
Graduates continuers	2	F	2 [E]	2 [E]	F	x
Graduates	62	61	65	62	59	66
Continuers	13	11 [E]	14	14	11 [E]	F
Dropout	22	24 [E]	19	23	26	22 [E]

x suppressed to meet the confidentiality requirements of the *Statistics Act*
[E] use with caution
F too unreliable to be published
Source: Youth in Transition Survey.

Only in universities did marks in high school show any pattern in terms of still continuing education without graduation (continuers). Less than a tenth of those in the highest grade range were still continuing in universities, while this proportion increased to over a third for those in the 60% to 69% grade category. Also, the proportion of students with higher marks in high school (90% to 100%) who were graduates continuers (at the university level, the majority of these were probably master and doctoral students) was three times as high as the proportion of students with average marks (70% to 79%).

Positive experience in high school can be important for future levels of engagement in postsecondary education. Positive high school engagement was important in terms of positive outcomes at the postsecondary level. In all types of postsecondary education, those reporting higher level of high school engagement were more likely to have graduated by age 24 to 26 (Table 9). On the other hand, and again true for all types of postsecondary education, those reporting lower levels of high school engagement were much more likely to have dropped out before completion.

Learning habits are developed early and often persist with progressive levels of education. Those reporting higher learning intensities in terms of time spent on homework had better postsecondary education outcomes than those with shorter studying time. Almost three-quarters of those who spent more than three hours per week on homework while in high school had graduated from university by age 24 to 26. This compared to 56% of those with shorter homework times. Similar patterns were observed for college (Table 9).

Table 9

Postsecondary status of young adults aged 24 to 26 by December 2005, by some high school characteristics and type of institution attended

		General high school engagement			Time spent on homework in high school		Ever dropped out of high school	
	Canada	Very engaged	Engaged	Not very engaged	Three hours or less	More than three hours	Ever dropped out	Never dropped out
Status	percent	percent	percent	percent	percent	percent	percent	percent
University								
Graduates continuers	16	21	15	8 [E]	12	17	x	16
Graduates	53	55	54	39	44	56	F	54
Continuers	15	12	15	29	19	14	54	14
Dropout	16	12	17	24 [E]	25	13	27 [E]	16
College / CEGEP								
Graduates continuers	2	2 [E]	3	F	2 [E]	2	x	2
Graduates	65	79	63	58	60	69	34	68
Continuers	8	4 [E]	8	12 [E]	8	7	21 [E]	6
Dropout	25	16	26	30	30	21	43	23
Other institution								
Graduates continuers	2	F	2 [E]	F	3 [E]	2 [E]	F	3
Graduates	62	66	63	56	64	62	58	63
Continuers	13	15 [E]	12	13 [E]	10	15	12 [E]	13
Dropout	22	18 [E]	22	26	23	21	29	21

x suppressed to meet the confidentiality requirements of the *Statistics Act*
[E] use with caution
F too unreliable to be published
Source: Youth in Transition Survey.

As positive early learning patterns in terms of homework time were associated with positive outcomes at the postsecondary education level, the opposite was also true in terms of dropping out. At both the university and college levels, less intensive learning habits in high school were associated with increased chances of dropping out of postsecondary education. However, there was no difference in dropout rates along the learning intensity scale for students in other types of institution.

A dropout episode in high school is strongly associated with outcomes in postsecondary education. Graduation rates were much higher for students who never dropped out of high school compared to those who had a dropout episode (twice as high for college / CEGEP for example). Those who ever dropped out of high school seemed to be struggling more than their counterparts as a higher proportion of them were still trying to finish a first diploma or degree by age 24 to 26.

Student loans

The uptake of student loans to pursue postsecondary education is an investment for one's future. Student loans in this report could come from any source (government, family, personal loans), had to be used to finance education and had to be repaid. There were no significant differences in terms of graduation rates between those with and without student loans (Table 10). This was true for all types of postsecondary education. As in the case of graduation rates, there were no significant differences between those with and without student loans in terms of dropping out, again true for all types of postsecondary education.

Table 10

Postsecondary status of young adults aged 24 to 26 by December 2005, by presence of student loans and type of institution attended

Status	Borrowed for postsecondary education	Never borrowed for postsecondary education
	percent	percent
University		
Graduates continuers	17	14
Graduates	50	57
Continuers	16	15
Dropout	17	14
College / CEGEP		
Graduates continuers	3	2 [E]
Graduates	66	65
Continuers	8	6
Dropout	23	27
Other institution		
Graduates continuers	2 [E]	3 [E]
Graduates	63	61
Continuers	14	12
Dropout	21	24

[E] use with caution

Source: Youth in Transition Survey.

Educational outcomes of postsecondary education dropouts

The dropout rates calculated for this report are independent of each other and do not capture prior graduation from, or subsequent returns to other types of postsecondary institution. They simply capture the status, at the end of the fourth cycle (December 2005), in one type of postsecondary institution. A student can therefore hold multiple statuses if he attended more than one type of postsecondary institution[4].

Table 11 presents the overall postsecondary status of dropouts from university, college and other type of institution. It shows the global educational outcome of dropouts from the three types of institutions. For example: a university dropout who obtained a degree from either college / CEGEP or another type of institution will have an overall graduate status; a college dropout who was studying towards a degree either at university or in another type of institution will have an overall continuer status.

University dropouts were much less likely to have found themselves in the overall dropout category (43%), meaning that a majority of them attended another form of postsecondary education and have either graduated or were still attending it during the last cycle of the survey. Two thirds of college and other institution dropouts were still dropouts at the end of cycle 4, meaning that they did not try another program at a different type of postsecondary education institution, or if they did, they dropped out again.

Table 11

Overall postsecondary status of dropouts aged 24 to 26 by December 2005 by type of institution they dropped out of

Overall Postsecondary Status of dropouts	Type of institution they dropped out of		
	University	College/ CEGEP	Other institution
	percent	percent	percent
Graduates continuers	3 [E]	3 [E]	4 [E]
Graduates	41	20	21
Continuers	12 [E]	8 [E]	10 [E]
Dropout	43	69	66

[E] use with caution

Source: Youth in Transition Survey.

Not only were university dropouts more likely to have tried other postsecondary education, they were also more likely to have graduated from a postsecondary institution, with double the graduation rates of other dropouts.

This lower overall dropout rate for university students might be a function of the number of opportunities available to them. University dropouts may have obtained diplomas from college or other institution prior to attempting university (as in the case of CEGEP in Quebec) or after. In all cases they may have had more options compared to college and other type of institution dropouts. This naturally leads to another interesting research question not considered in this report, which is the sequence of dropping out and the direction of the switch between postsecondary education types.

4. Multivariate analyses – factors related to dropping out

Thus far, this report has focused on bivariate results. These, however, do not account for other differences that might be present. For example, dropout rates of males were presented and shown to be higher than females. However, this result might have been driven by the fact that boys tended to be less engaged in learning. It is therefore necessary to compare dropout rates of boys and girls with similar levels of engagement to derive the true effect of gender. This section uses multivariate analysis on postsecondary education dropouts only, to obtain profiles of postsecondary education dropouts in light of multiple individual, family, school and regional characteristics.

Four identical models were estimated to profile four different scenarios: dropouts from universities; dropouts from colleges; dropouts from other type of postsecondary education, and an overall postsecondary education dropout measure. Each of the four models was estimated using a logistic regression. The estimate for each analyzed variable represents odds ratios of falling into a dropout category. The estimates for the four logistic models are presented in Table 12.

The overall dropout category was derived using the conventional method, which overlooks dropout incidences if an individual graduated or was still in education. It was included in the analysis because it represents the combined outcomes of all attempts in all types of institutions.

Dropping out of university

When compared to youth in Ontario, young adults in several provinces had significantly different odds of dropping out of university. The probabilities were significantly lower in Quebec, with Nova Scotia, Saskatchewan, Alberta and British Columbia having significantly higher probabilities of young adults dropping out (Table 12, column 1).

Furthermore, women were 28% less likely to drop out of university than men[5]. In Table 12, an estimate below 1 means that the individual with this characteristic had a lower chance of being a postsecondary education dropout compared to an individual in the base group. Among other characteristics associated with lower chances of being a university dropout were: being raised in a two parent family or single parent family as compared to other family type; and obtaining high school marks in the ranges of 90% and over or 80% to 89% as compared to those in the 60% to 69% grade category.

Table 12

Likelihood of dropping out by type of institution – results of four logistic regression analyses

	University	College / CEGEP	Other institutions	Overall
	odds ratio	odds ratio	odds ratio	odds ratio
Women	0.722*	0.637*	1.722*	0.836**
Newfoundland and Labrador	1.654	0.781	0.855	1.037
Prince Edward Island	0.978	1.004	1.112	0.703
Nova Scotia	1.784**	0.764	1.744**	1.327
New Brunswick	1.447	1.080	0.548	0.811
Quebec	0.669**	1.314**	1.078	1.260**
Manitoba	1.440	0.921	0.879	0.956
Saskatchewan	1.761**	0.979	0.958	1.098
Alberta	1.692*	1.622**	1.110	1.072
British Columbia	1.333**	1.160	1.449**	1.156
Not Canadian by birth	0.979	1.524**	1.005	1.148
Rural community	1.029	0.889	1.246	1.184**
Aboriginal	1.584	1.495	0.467	1.070
Two parents	0.733**	1.060	1.176	0.848
Single parent	0.644**	1.527**	1.301	1.311**
Student loan	1.129	0.850**	0.794**	0.711*
Age 25	0.922	0.928	0.740**	0.866
Age 26	1.426**	0.871	0.692**	0.920
High School grades 90% and over	0.254*	0.218*	1.082	0.283*
High School grades 80% to 89%	0.526**	0.581*	0.787	0.522*
High School grades 70% to 79%	0.863	0.840	0.957	0.864
Parent Postsecondary Education opinion – high	0.781	0.893	1.007	0.841
Parent – less than High School	0.733	0.931	0.682	0.884
Parent – some Postsecondary Education	1.462**	0.778	0.862	0.868
Parent – Postsecondary Education	0.820	0.731**	0.878	0.656*
Very high High School engagement	0.954	0.781	0.596**	0.838
High High School engagement	0.933	1.082	0.790	1.085
Homework – less than three hours	1.802*	1.318**	1.051	1.464*
High School dropout episode	1.343	2.289*	1.203	1.619*
Student loan – info missing	2.898**	1.343	0.328	1.222
Parent education – info missing	1.813**	1.396	0.939	1.126

* denotes significance at the 1% level

** denotes significance at the 5% level

Note: Reference variables in the regression analysis are: males, Ontario, Canadian by birth, urban community, Non Aboriginal, other family structure, no student loan, 24 years old, high school grades 60% to 69%, parental opinion on postsecondary education – important, parental education – high school diploma, high school engagement low, homework in high school – more than three hours, never dropped out of high school.

Source: Youth in Transition Survey.

Among significant variables found to increase the chance of dropping out of university were: spending less than three hours per week on homework while in high school and having parents who started some postsecondary education but did not complete as compared to those with only high school education.

Dropping out of college / CEGEP

Among college dropouts, as compared to Ontario, significant differences were found only in two provinces (Table 12, column 2). Increased probabilities of dropping out from college / CEGEP were found in the provinces of Quebec and Alberta. Some possible explanations could be that for Quebec, CEGEP are prerequisites for university. As Quebec's average university dropout rates were significantly lower, this may imply that the dropout process takes place in CEGEP with graduating students more likely to persist in universities.

The probabilities of dropping out of college / CEGEP were lower for young adults with the following sets of characteristics: women; those with student loans; who reported their high school marks in the categories of 90% and over and 80% to 89% as compared to those in the 60% to 69% category; who had parents with postsecondary education credentials compared to those with high school education only; and having experienced a dropout episode in high school.

On the other hand, variables found to be associated with higher odds of dropping out of college / CEGEP were: being raised in a single parent family as compared to those from other types of families; not being Canadian by birth; and reporting to have spent less than three hour per week on homework while in high school.

Dropping out of other postsecondary education

Compared to Ontario, none of the provinces obtained significantly lower odds ratios of dropping out of other types of postsecondary education (Table 12, column 3). As in the case of university students, residents of British Columbia and Nova Scotia had significantly higher probabilities of dropping out of other types of postsecondary education.

Although they had lower odds of dropping out of both, university and college, women had higher probabilities of dropping out of other types of institutions. Among variables associated with lower odds of dropping out of other type of postsecondary education were: having student loans; being 25 or 26 years old compared to 24 years old; and reporting to have been very engaged while in high school.

Dropping out of all types of postsecondary education

Overall postsecondary education dropouts face more risk of not obtaining postsecondary credentials at all. Many university, college or other type of institution dropouts might have pursued other types of postsecondary education and they might have been able to get a different status by doing so, as illustrated in Table 11. Dropouts in this group however, had not made a successful transition into another form of postsecondary education in the six years covered by the survey, meaning that if they tried another program in another type of institution, they dropped out again.

As shown in Table 12, column 4, compared to Ontario, only Quebec students had significant higher odds of being an overall type of a dropout.

Rural students were also more likely to have dropped out of all forms of postsecondary education. Increased odds of being an overall dropout were also found among: students from single parent families; students reporting spending less than three hour per week on homework while in high school; and students who also had a dropout experience while in high school.

Women, those with student loan, those reporting high school grades in the range of 90% and over and 80% to 89% and those having parents who completed postsecondary education have lower odds of being an overall dropout.

Differences between dropouts from the different types of postsecondary education

The four separate models analyzed dropouts in the three types of institutions as well as the overall postsecondary education dropout measure. Although, it is difficult to compare the differences in magnitudes between the four models, the cross relevance of these estimates can be discussed in terms of significance across models. Table 13 provides a quick summary of variables found significant in each of the models.

Table 13
Variables associated with higher or lower odds of dropping out by type of institution

	Higher odds of dropping out	Lower odds of dropping out
of University	Male Nova Scotia Saskatchewan Alberta British Columbia 26 years old Parents education – some Postsecondary Education Homework less than three hours	Quebec Two parents Single parent High school grades 90% and over High school grades 80% to 89%
of College/CEGEP	Male Quebec Alberta Single parent Homework less than three hours Drop out episode in high school	Student loan Not Canadian by birth High school grades 90% and over High school grades 80% to 89% Parents education – completed Postsecondary Education
of other types of postsecondary institutions	Female Nova Scotia British Columbia	Student loan 25 years old 26 years old Very high High School engagement
of all types of postsecondary institutions	Male Quebec Rural community Single parent Homework less than three hours Drop out episode in high school	Student loan High school grades 90% and over High school grades 80% to 89% Parents education – completed Postsecondary Education

Source: Youth in Transition Survey.

Clearly, certain variables were significant in more than one model. This means that these characteristics were consistently associated with higher odds of dropping out from any type of postsecondary education. These were: being a resident of Alberta, British Columbia or Quebec; having spent less than three hours on homework per week while in high school; and finally, experiencing a dropout spell while in high school.

Living in Alberta and British Columbia, as alluded to earlier in the report, may be a reflection of very favourable labour market conditions in the those provinces.

Residents of Quebec also experienced higher odds of being dropouts, but these were concentrated among college students. With Quebec's unique CEGEP system, with mandatory college participation prior to entering university, young adults appear to drop out of college / CEGEP before entering university.

Finally, low homework intensities while in high school, as well as dropout episodes in secondary education were also found to be repeatedly related to higher dropout rates. Not only were these variables significant in several models but their magnitude was often higher than other variables. These might be an indication of a learning culture that was developed prior to entering postsecondary education and which persists during their learning careers.

On the other hand, certain variables were repeatedly associated with lower odds of dropping out. They were: having a student loan and reporting good grades when they were in high school.

Few variables were also found to have very different odds of dropping out when compared across the models. For instance, students from Quebec, and students coming from a single parent family were less likely to drop out of university and much more likely to do so from college / CEGEP.

5. Conclusion

Obtaining a postsecondary education credential is an investment worth making because of clear benefits at both the individual and societal levels. However, a failed attempt at obtaining this level of education has costs to both the individual and the society. Therefore, understanding the process of obtaining postsecondary education is important.

This report introduced a new way of examining the process of dropping out in order to identify inefficiencies. Unlike previous analyses of dropouts, it captured the failed attempts in obtaining credentials despite of graduation. This method captured well over 100,000 failed attempts that would have been unaccounted for with previous methodology.

The report presented a detailed profile of dropouts and graduates from different types of postsecondary education institutions. Consistently, some individual, family and educational characteristics were found to be associated with higher rates of postsecondary education dropouts.

The multivariate analyses confirmed that when controlling for numerous variables, certain characteristics were repeatedly associated with higher or lower chances of dropping out for all types of postsecondary education. Among key characteristics frequently associated with dropping out of any type of postsecondary education were: being male, short homework time in high school, a dropout episode in high school, and being a resident of Quebec, British Columbia or Alberta. Associated with lower probabilities were: having a student loan, reporting good grades in high school and having parents who completed postsecondary education.

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Endnotes

1. The other type of postsecondary institution includes publicly-funded technical institute, trade/vocational school, private business school, private training institute or any other school above high school e.g. police academy, firefighters training etc. University colleges are also included in other type of institution because the type of program attended was difficult to assess (university program or college program).
2. Appendix A provides supplementary information about the survey.
3. The sample design of the YITS 18-20 cohort was determined by the sample design of the Labour Force Survey (LFS). Specifically excluded from the survey's coverage are residents of the Yukon, Nunavut and Northwest Territories, persons living on Indian Reserves, full-time members of the Canadian Armed Forces and inmates of institutions. The YITS sample is therefore **NOT** representative of the Aboriginal population as a whole, but is only representative of the off-reserve aboriginal population.
4. If a student graduated from a CEGEP or college and went to university and dropped out, he/she would have a graduate status for college, a dropout status for university and an overall postsecondary graduate status.
5. The ratios are obtained by subtracting 1 from the estimate. For exact ratios, for example, an estimate of 0.669 for Quebec in the university model, (Table 12) means that students from Quebec are 33% (0.0.669-1) less likely to drop out than Ontario youth, and an estimate of 1.654 for Newfoundland and Labrador means that students from that province are 65% (1.654-1) more likely to drop out than students from Ontario which is the province of reference in the model.

Appendix A

What is the Youth in Transition Survey (YITS)?

The Youth in Transition Survey is a Canadian longitudinal survey designed to examine the patterns of, and influences on, major transitions in young people's lives, particularly with respect to education, training and work.

Following a major consultation process with key stakeholders across Canada, ten broad objectives were developed for YITS. They are as follows:

1. to examine key transitions in the lives of youth, such as the transition from high school to postsecondary schooling and the initial transition from schooling to the labour market;
2. to better understand educational and labour market pathways and the factors influencing these pathways;
3. to identify educational and occupational pathways that provide a smoother transition to the labour market;
4. to examine the incidence, characteristics, factors and effects of leaving school;
5. to understand the impact of school effects on educational and occupational outcomes;
6. to examine the contribution of work experience programs, part-time jobs, and volunteer activities to skill development and transition to the labour market;
7. to study the attitudes, behaviours, and skills of young people entering the labour market;
8. to gain a better understanding of the determinants of postsecondary entry and postsecondary retention, including education financing;
9. to better understand the role of educational and labour market aspirations and expectations in investment in further education and career choice; and,
10. to explore the educational and occupational pathways of various subgroups, particularly youth "at risk".

In order to address these objectives in a timely fashion, it was decided to collect data from two age groups of youth in the first cycle of the survey in 2000. One began its participation at age 15 and the other at ages 18 to 20. Both cohorts were asked to provide a range of information on their education and employment experiences as well as information on their personal characteristics including, for example, their educational aspirations. The younger group also participated in the Programme for International Student Assessment (PISA), an internationally

recognized test to evaluate the knowledge and skills of 15-year-olds in reading, mathematics, and science. Furthermore, an interview was conducted with their parents and a questionnaire was administered to their school principals.

In total, almost 30,000 youth aged 15, and more than 22,000 youth aged 18 to 20 from the ten provinces participated in the first cycle of YITS in 2000. Analysis for both cohorts was presented in different publications available to download for free through the Internet at www.statcan.gc.ca.

Follow-up interviews with the YITS participants took place in 2002, 2004 and 2006. At the time of their last interview, the two cohorts were aged 21 and 24 to 26 respectively.

YITS Methodology

Target Population

YITS has two target populations: a cohort of individuals who were 18 to 20 years old on December 31, 1999 and a cohort of students who were 15 years-old on December 31, 1999. This section deals more specifically with the older cohort, which constitute the subject of this report.

Sample Design

The target population for the 18 to 20 year-old cohort comprises residents of the ten provinces of Canada who were born between 1979 and 1981. These individuals turned 18 to 20 during 1999, the reference year for cycle 1.

The design implemented for the 18 to 20 year-old cohort is based on certain groups of households that were in the Labour Force Survey (LFS) between January 1997 and December 1999. Individuals who were full-time members of the armed forces and persons living on Indian reserves or in northern and remote areas are excluded from LFS and were therefore also excluded from this cohort. From these LFS households, a sample of individuals, born between 1979 and 1981 or those estimated to be between 18 to 20 years of age during 1999, was selected.

The sample consisted of 29,164 18- to 20-year-olds in cycle 1. In total, 23,594 (80.9%) individuals responded in cycle 1. Respondents who refused to share their data were taken out of the sample for cycle 2, which reduced it to 22,378.

In the following cycles the response rates were 83.8% in cycle 2, 78.7% in cycle 3 and 83.8% in cycle 4. The sample went from 18,743 in cycle 3 to 14,753 in cycle 4. For cycle 5, 12,360 young adults constituted the YITS sample.

Data Collection

While separate data collection strategies were employed for each of the cohorts in cycle 1, the same data collection strategy was used for both cohorts in cycle 2. Data collection usually occurs between mid-January and mid-June using computer assisted telephone interviewing.

The following table shows the response rates by province and cycle.

Table A.1
Response rates, cycles 1, 2, 3 and 4

	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Longitudinal
	percent	percent	percent	percent	percent
Canada	76.7	83.8	78.7	83.8	42.4
Newfoundland and Labrador	84.9	83.0	78.3	81.8	45.1
Prince Edward Island	81.0	82.4	80.0	86.8	46.4
Nova Scotia	80.6	81.9	79.6	86.7	45.5
New Brunswick	76.3	75.6	79.2	85.2	38.9
Quebec	75.0	85.8	80.4	85.9	44.5
Ontario	75.4	86.4	75.8	81.1	40.1
Manitoba	81.7	86.5	78.1	89.9	49.6
Saskatchewan	82.0	82.9	86.4	83.5	49.1
Alberta	73.7	80.2	83.3	81.3	40.0
British Columbia	71.6	79.8	73.0	81.7	34.1
Number of respondents	22,378	18,743	14,753	12,360	12,360

Source: Youth in Transition Survey.

Culture, Tourism and the Centre for Education Statistics

Research Papers

Cumulative index

Statistics Canada's **Division of Culture, Tourism and the Centre for Education Statistics** develops surveys, provides statistics and conducts research and analysis relevant to current issues in its three areas of responsibility.

The **Culture Statistics Program** creates and disseminates timely and comprehensive information on the culture sector in Canada. The program manages a dozen regular census surveys and databanks to produce data that support policy decision and program management requirements. Issues include the economic impact of culture, the consumption of culture goods and services, government, personal and corporate spending on culture, the culture labour market, and international trade of culture goods and services. Analysis is also published in *Focus on Culture* (87-004-XIE, free, http://www.statcan.ca/bsolc/english/bsolc?catno=87-004-X).

The **Tourism Statistics Program** provides information on domestic and international tourism. The program covers the Canadian Travel Survey and the International Travel Survey. Together, these surveys shed light on the volume and characteristics of trips and travellers to, from and within Canada.

The **Centre for Education Statistics** develops and delivers a comprehensive program of pan-Canadian education statistics and analysis in order to support policy decisions and program management, and to ensure that accurate and relevant information concerning education is available to the Canadian public and to other educational stakeholders. The Centre conducts fifteen institutional and over ten household education surveys. Analysis is also published in *Education Matters* (81-004-XIE, free, http://www.statcan.ca/bsolc/english/bsolc?catno=81-004-X), and in the *Analytical Studies Branch research paper series* (11F0019MIE, free, http://www.statcan.ca/bsolc/english/bsolc?catno=11F0019M).

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81-595-M no. 001	Understanding the rural-urban reading gap
81-595-M no. 002	Canadian education and training services abroad: the role of contracts funded by international financial institution
81-595-M No. 003	Finding their way: a profile of young Canadian graduates
81-595-M No. 004	Learning, earning and leaving – The relationship between working while in high school and dropping out
81-595-M No. 005	Linking provincial student assessments with national and international assessments
81-595-M No. 006	Who goes to post-secondary education and when: Pathways chosen by 20 year-olds
81-595-M No. 007	Access, persistence and financing: First results from the Postsecondary Education Participation Survey (PEPS)
81-595-M No. 008	The labour market impacts of adult education and training in Canada
81-595-M No. 009	Issues in the design of Canada's Adult Education and Training Survey
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81-595-M No. 012	Variation in literacy skills among Canadian provinces: Findings from the OECD PISA
81-595-M No. 013	Salaries and salary scales of full-time teaching staff at Canadian universities, 2001-2002: final report
81-595-M No. 014	In and out of high school: First results from the second cycle of the Youth in Transition Survey, 2002
81-595-M No. 015	Working and Training: First Results of the 2003 Adult Education and Training Survey
81-595-M No. 016	Class of 2000: Profile of Postsecondary Graduates and Student Debt
81-595-M No. 017	Connectivity and ICT integration in Canadian elementary and secondary schools: First results from the Information and Communications Technologies in Schools Survey, 2003-2004
81-595-M No. 018	Education and Labour Market Pathways of Young Canadians Between age 20 and 22: an Overview
81-595-M No. 019	Salaries and salary scales of full-time teaching staff at Canadian universities, 2003-2004
81-595-M No. 020	Culture Goods Trade Estimates: Methodology and Technical Notes
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Research papers

81-595-M No. 022	Summary public school indicators for the provinces and territories, 1996-1997 to 2002-2003
81-595-M No. 023	Economic Contribution of Culture in Canada
81-595-M No. 024	Economic Contributions of the Culture Sector in Ontario
81-595-M No. 025	Economic Contribution of the Culture Sector in Canada – A Provincial Perspective
81-595-M No. 026	Who pursues postsecondary education, who leaves and why: Results from the Youth in Transition Survey
81-595-M No. 027	Salaries and salary scales of full-time teaching staff at Canadian universities, 2002-2003: final report
81-595-M No. 028	Canadian School Libraries and Teacher-Librarians: Results from the 2003/04 Information and Communications Technologies in Schools Survey
81-595-M No. 029	Manitoba Postsecondary Graduates from the Class of 2000: How Did They Fare?
81-595-M No. 030	Salaries and Salary Scales of Full-time teaching Staff at Canadian Universities, 2004-2005: Preliminary Report
81-595-M No. 031	Salaries and salary scales of full-time teaching staff at Canadian universities, 2003-2004: final report
81-595-M No. 032	Survey of Earned Doctorates: A Profile of Doctoral Degree Recipients
81-595-M No. 033	The Education Services Industry in Canada
81-595-M No. 034	Connectivity and ICT Integration in First Nations Schools: Results from the Information and Communications Technologies in Schools Survey, 2003/04
81-595-M No. 035	Registered Apprentices: A Class Ten Years Later
81-595-M No. 036	Participation in Postsecondary Education: Evidence from the Survey of Labour Income Dynamics
81-595-M No. 037	Economic Contribution of the Culture sector to Canada's Provinces
81-595-M No. 038	Profile of Selected Culture Industries in Ontario
81-595-M No. 039	Factors Affecting the Repayment of Student Loans
81-595-M No. 040	Culture Goods Trade Data User Guide
81-595-M No. 041	Health Human Resources and Education: Outlining Information Needs
81-595-M No. 042	How Students Fund Their Postsecondary Education: Findings from the Postsecondary Education Participation Survey
81-595-M No. 043	Educational Outcomes at Age 19 Associated with Reading Ability at Age 15

Following is a cumulative index of Culture, Tourism and the Centre for Education Statistics research papers published to date

Research papers

81-595-M No. 044	Summary Public School Indicators for the Provinces and Territories, 1997-1998 to 2003-2004
81-595-M No. 045	Follow-up on Education and Labour Market Pathways of Young Canadians Aged 18 to 20 – Results from YITS Cycle 3
81-595-M No. 046	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2005/2006: Preliminary Report
81-595-M No. 047	Canada Student Loans Repayment Assistance: Who Does and Does Not Use Interest Relief?
81-595-M No. 048	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2004/2005: Final Report
81-595-M No. 049	Educating Health Workers: A Statistical Portrait
81-595-M No. 050	Summary Public School Indicators for the Provinces and Territories, 1997-1998 to 2003-2004
81-595-M No. 051	Culture Employment in a North American Context
81-595-M No. 052	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2006/2007: Preliminary Report
81-595-M No. 053	Towards a Geography of Culture: Culture Occupations Across the Canadian Urban-Rural Divide
81-595-M No. 054	Education-to-Labour Market Pathways of Canadian Youth: Findings from the Youth in Transition Survey
81-595-M No. 055	High School Dropouts Returning to School
81-595-M No. 056	Trade in Culture Services A Handbook of Concepts and Methods
81-595-M No. 057	Educational Outcomes at Age 19 by Gender and Parental Income: A First Look at Provincial differences
81-595-M No. 058	Postsecondary Enrolment Trends to 2031: Three Scenarios
81-595-M No. 059	Participation in Postsecondary Education: Graduates, Continuers and Drop Outs, Results from YITS Cycle 4
81-595-M No. 060	Sport Participation in Canada, 2005
81-595-M No. 061	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2005/2006: Final Report
81-595-M No. 062	Salaries and Salary Scales of Full-time Teaching Staff at Canadian Universities, 2007/2008: Preliminary Report
81-595-M No. 063	Registered Apprentices: The Cohort of 1993, a Decade Later, Comparisons with the 1992 Cohort
81-595-M No. 064	Creative Input: The Role of Culture Occupations in the Economy During the 1990s
81-595-M No. 065	Doctoral Graduates in Canada: Findings from the Survey of Earned Doctorates, 2004/2005

Following is a cumulative index of Culture, Tourism and the Centre for Education Statistics research papers published to date

Research papers

81-595-M No. 066 Understanding Culture Consumption in Canada

81-595-M No. 067 Summary Public School Indicators for the Provinces and Territories, 1999/2000 to 2005/2006

81-595-M No. 068 Educating Health Workers: Provincial Results

81-595-M No. 069 Doctorate Education in Canada: Findings from the Survey of Earned Doctorates, 2005/2006

81-595-M No. 070 Postsecondary Education – Participation and Dropping Out: Differences Across University, College and Other Types of Postsecondary Institutions