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DISCUSSION PAPER ON THE TRANSITION FROM THE POST-SECONDARY EDUCATION SYSTEM TO THE LABOUR MARKET - THE CASE OF NON-GRADUATES

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1. Introduction

In the forefront of discussions concerning Canada's economic development are the roles of education and training in preparing the workforce of the future. In light of concerns regarding high level of youth unemployment and social integration, there is a renewed focus on youth and their transition from school to work.

The educational and career paths open to young adults are numerous reflecting one of the most important strengths of the Canadian education system, its flexibility. Consequently, the paths chosen by young adults are varied requiring multiple approaches to collecting transition information. Historically, information concerning an individual's chosen path was limited to the National Graduates Survey (NGS). While providing extensive information about the students whom graduated from postsecondary institutions, the NGS neglected all other young adults. Current on-going research such as the Youth In Transition Survey (YITS) and the National Longitudinal Survey on Children and Youth (NLSCY) are designed to help fill the knowledge gap.

The purpose of this paper is three fold. First, to describe the actual data sources that could help to provide information about the non-graduates of the postsecondary education system. Then, one will discuss the unresolved questions by the current sources of information. Finally, one presents a series of options to address the issue of non-graduates of the postsecondary education system.

2. Background and Rationale

In the increasingly complex and evolving world of work, there is the continual need to learn new skills to remain on the forefront of the changing patterns of work. For a country to maintain its economic competitiveness and social cohesion (a good standard of living and quality of life), it is imperative that its workforce has a solid understanding of the skills required for the present and the means to upgrade for the work of the future. In the global economy, to lag behind would have serious economic and social consequences. Therefore, as a society, it is imperative that our institutions (governments', educational and corporate) work together to ensure that there are sufficient investments in human capital[1] for the population to be properly equipped with the skills required to succeed as we move into the 21st century.

The issue of investing in human capital is of paramount importance[2] if countries are to promote economic prosperity. In fact, human capital investment is now deemed the

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[1] The OECD defines Human Capital as the "knowledge, skills, competencies and other attributes embodied in individuals that are relevant to economic activity" p. 9 in Human Capital Investment: An International Comparison. 1998.

[2] The importance of investment in human capital is made clear in a recent OECD report Human Capital Investment: An International Comparison. 1998.

cornerstone for a competitive economy in a "knowledge-based" world. It is also clear that investment in human capital is a life-long process requiring participation from both, the individual who must be receptive to attaining greater knowledge, and the institutions of a society that must be receptive to providing the means for attaining greater knowledge. Moreover, the likelihood that an individual will continue to learn throughout their life is highly correlated to their level of education. Typically those who have completed a postsecondary education are most likely to continue acquiring new skills and knowledge throughout their lives and careers. Subsequently these people would be better positioned to be economically successful at a personal level and provide a positive contribution to the society.

Seemingly, successful completion of postsecondary studies is quite likely a prelude to economic success, and yet large numbers of students fail to successfully complete their studies. The reasons for leaving postsecondary studies are not always obvious and the transition process into the labour market for this group is also unclear. To address this data gap, it becomes imperative that a clear understanding of the transition process juxtaposing both graduates and non-graduates is required.

By juxtaposing graduates and non-graduates of the postsecondary education system in the same survey, the exploration and comparison of the various pathways that are pursued during the transition process becomes possible. Given that the linear nature of school to work pathways is no longer assured, this information will fill a data gap that currently exists for both federal and provincial planners. This will result in the ability to bring greater clarity to the policy table and allow for the further development of policies focusing on human resource development and economic growth.

In light of the identified data gap, work has been on-going to develop a more encompassing NGS that would also include those youths who entered the postsecondary education system but did not graduate. Referred to as the Postsecondary Transition Survey (PTS), the survey intends to provide a more comprehensive look at the transition experiences of postsecondary students regardless of graduation status. The PTS would provide an opportunity to examine how credentialism effects labour market experiences across similar populations and review the reasons for why some individuals choose not to complete their studies (it addresses the question of persistence).

In order to do so, the PTS was supposed to be modelled on the National Graduates Survey (NGS). The non-graduates would be surveyed in the same way as the graduates with additional questions related to the reasons why they have not completed their postsecondary education. Following the NGS approach, non-graduates information would have been stratified by province, level of study and major field of study. Non-graduates would have been defined by the year they would have left the postsecondary education system (same year as the graduates).

After careful review and consultation, this approach has been considered problematic due to the heterogeneity of the population. While both graduates and non-graduates comprise a diverse population, the non-graduates do not have a strong defining characteristic (such

as graduation). As an example, non-graduates do not all leave their programs at the same time. Some will leave their bachelor program in the third year. Others will leave in the first year.

Before a methodology is chosen to get information about non-graduates of the post-secondary education system, it is necessary to reflect on the data requirements.

Are we interested in point estimation resulting from a large enough sample to give reliable estimates or would we be content with higher level of point estimation but using statistical modelling to get at the underlying relationships of the data?

Do we want to duplicate some efforts like the YITS but using a different point of view such as the original PTS? How are the respondents treated when they end up in different surveys? Do we want surveys to be done on a regular basis (such as every year, every second year...) or on an occasional basis? How many times and when do we survey a given cohort? What kind of details is required (point estimates at the provincial level, by field of study and by level of study)? How much time are we ready to wait until results start to come out? If results are available, should we be pooling across several cohorts?

Answering these questions will help make a decision regarding the methodology to be used and will have an impact on the required sample size.

3. Available Data Sources

At the moment, a certain number of data sources can help answer some of the questions related to non-graduates. Some of these sources are already in place, some others will be in the future.

3.1. National Longitudinal Survey of Children and Youth (NLSCY)

The National Longitudinal Survey of Children and Youth (NLSCY), a joint project between Human Resources Development Canada and Statistics Canada, is a longitudinal survey measuring a wide variety of factors thought to influence the development of children. Essentially, the purpose of the survey is to collect information over time on the critical factors affecting the development of children in Canada, such as various biological, social and economic characteristics. In order to learn more and better understand the ongoing life conditions and developmental experience of Canadian children and youth, we need these measures of health, well-being and life opportunities.

The school component of the survey includes standardised academic achievement tests, and education-related questions asked of children, their parents, their teachers and school principals. Additional educational information is also asked of children aged 10 and older through a self-completed questionnaire. The first cycle of the survey was conducted in 1994-95 and information was collected on a nationally representative sample of nearly 23,000 children aged 0 to 11. Data from the second cycle of the survey (1996-97) included information on approximately 20,000 children aged 0 to 13. Cycle 3 data have recently been collected (1998-99) and will contain information on children 0 to 15. These same children will be surveyed longitudinally until they reach adulthood.

Data from this survey are playing an increasingly important role. Researchers have used information from the survey to examine the initial experiences of children starting school, the transition from elementary to secondary school, the influence of family breakdown and family formation on a child's emotions, behaviour and school performance, and the effect of different parenting styles and family environments on a child's development. As the children participating in the survey grow older, we will also be measuring the move from secondary school to work and to post-secondary education, and changes experienced upon leaving home.

Table 1shows that the NLSCY cohort would support only two point estimates for non graduates of the postsecondary education system at the Canada level. As well, multivariate analysis would be quite limited at the provincial level.

Table 1: National Longitudinal Survey of Children and Youth (NLSCY) – Children aged 10 to 13, Sample size by province

	Canada	Nfld	PEI	NS	NB	Que	Ont	Man	Sask	Alb	BC
Number of children in population	1,553,177	32,390	7,792	47,773	40,362	355, 348	589, 544	60,552	62,405	165, 697	191, 314
Number of children in sample	4,498	308	132	313	253	826	1,127	329	388	445	377
Number of students in post-secondary (in sample)	2998	205	88	209	169	551	751	219	259	297	251
Number of students in post-secondary, non-graduates (in sample)	999	68	29	70	56	184	250	73	86	99	84
Non-graduates Point estimation (/400)	2	0	0	0	0	0	1	0	0	0	0
Non-graduates Multivariate analysis (/30)	33	2	1	2	2	6	8	2	3	3	3

Source: NLSCY, 1996-97, children aged 10 to 13

Note: The number of students in the postsecondary education system is based on a two third participation rate. The number of students in the postsecondary education system who did not graduate is based on a one third non graduation rate.
Note: "/400" gives an approximation of how many point estimates would be supported by the data. "/30" gives an approximation of how many cells would be supported in a multivariate analysis.

3.2. Youth In Transition Survey (YITS)

The Canadian Longitudinal Youth In Transition Survey (YITS), an initiative of Human Resources Development Canada's Youth Employment Strategy, will support research and analysis of major transitions in young people's lives, particularly those between education, training and work. Survey results will provide a deeper understanding of the nature and causes of problems young people face as they make a transition from school to work and will support policy planning and decision making to prevent or remedy these problems.

The implementation plan encompasses a longitudinal survey for each of two age cohorts, to be surveyed in alternating years. Data from the 15-year-old cohort will permit analysis of long-term school-work transition patterns, whereas the 18-20 year-old cohort will provide immediate policy-relevant information on young adults in the labour market. Preliminary data, for both cohorts, will be available in the spring of 2001.

3.2.1. Youth In Transition Survey (YITS) – 18 to 20 years old (2000 cohort)

Proposed content for the 18-20 year-old cohort includes education and school engagement, labour market activities, behaviour and socio-demographic characteristics. The recommended sample design is a household survey. The proposed method of data collection is a computer-assisted telephone interview. The pilot survey was undertaken January 1999 and the main survey is scheduled for January 2000 and will target about 30,000 respondents.

The main purpose for this survey is to have information, as soon as possible, on accessibility of post-secondary education and post-secondary retention, as well as high-school retention and school-work transitions of at-risk youth.

Table 2 shows that the 18-20 YITS cohort would support 16 point estimates for non graduates of the postsecondary education system at the Canada level, but would be useless at the provincial level. However, the 18-20 YITS cohort would support some multivariate analysis at the provincial level.

Table 2: Youth In Transition Survey (YITS) – 18 to 20 years old (2000 cohort) – Sample size (Initial contact) by province

	Canada	Nfld	PEI	NS	NB	Que	Ont	Man	Sask	Alb	BC
Number of students in population	1,225,978	25,259	6,007	37, 922	31, 417	302, 141	441, 757	47,046	46,749	125, 190	157, 898
Number of students in sample	29,568	1,459	774	1,880	1,739	6,025	8,612	2,010	2,075	2,401	2,593
Number of students in post-secondary (in sample)	19,710	973	516	1,253	1,159	4,016	5,741	1,340	1,383	1,601	1,728
Number of students in post-secondary, non-graduates (in sample)	6,569	324	172	418	386	1,339	1,913	447	461	533	576
Non-graduates Point estimation (/400)	16	1	0	1	1	3	5	1	1	1	1
Non-graduates Multivariate analysis (/30)	219	11	6	14	13	45	64	15	15	18	19

Note: The number of students in the postsecondary education system is based on a two third participation rate. The number of students in the postsecondary education system who did not graduate is based on a one third non graduation rate.
Note: "/400" gives an approximation of how many point estimates would be supported by the data. "/30" gives an approximation of how many cells would be supported in a multivariate analysis.

3.2.2. Youth In Transition Survey (YITS) – 15 years old (2000 cohort)

Proposed content for the 15 year-old cohort includes education and school engagement, labour market activities, behaviour and socio-demographic characteristics. This information will be collected from youth, parents, and school principals. The sample design is a school-based frame that allows for the selection of schools, and the individuals within schools. A school-based design will permit analysis of school effects, a research domain not currently addressed by other Statistics Canada surveys. Methods of data collection include a self-completed questionnaire for youth and school principals, a telephone interview with parents, and assessment of youth competency in the reading, science and mathematics as provided under the integration of the YITS with the OECD Programme for International Student Assessment (PISA). The integration is being implemented with a partnership with the Council of Ministers of Education Canada (CMEC). A pilot survey was undertaken in April 1999 and the main survey is scheduled for April 2000. A sample of about 35,000 students of 15 year-olds will be drawn from about 1,200 schools in Canada.

YITS is already designed in a way that it could answer several questions about the experiences of non-graduates of the postsecondary education system, as well as graduates, but at a fairly high aggregation level such as for Canada and all fields of studies by all levels of studies. Even if another survey were developed in order to look at the non-graduates issue, YITS would probably still be able to answer several questions at the Canada level and at a high level of aggregation.

Results will take time to become available. The 15 years old students must age before they go to the post-secondary education system and to the labour market.

Table 3 shows that the 15 years old YITS cohort would support 20 point estimates for non graduates of the postsecondary education system at the Canada level, but would be almost useless at the provincial level. However, the 15 years old YITS cohort would support some multivariate analysis at the provincial level.

Table 3: Youth In Transition Survey (YITS) – 15 years old (2000 cohort) – Sample size (Initial contact) by province

	Canada	Nfld	PEI	NS	NB	Que	Ont	Man	Sask	Alb	BC
Number of students in population	389,464	8,404	1,967	12,238	10,172	87,281	153,466	14,439	14,630	41,573	45,294
Number of students in sample	35,248	2,820	672	3,373	2,270	5,437	6,561	3,162	3,360	3,479	4,114
Number of students in post-secondary (in sample)	23,496	1,880	448	2,248	1,513	3,624	4,374	2,108	2,240	2,319	2,742
Number of students in post-secondary, non-graduates (in sample)	7,831	627	149	749	504	1,208	1,458	703	747	773	914
Non-graduates Point estimation (/400)	20	2	0	2	1	3	4	2	2	2	2
Non-graduates Multivariate analysis (/30)	261	21	5	25	17	40	49	23	25	26	30

Note: The number of students in the postsecondary education system is based on a two third participation rate. The number of students in the postsecondary education system who did not graduate is based on a one third non graduation rate.
Note: "/400" gives an approximation of how many point estimates would be supported by the data. "/30" gives an approximation of how many cells would be supported in a multivariate analysis.

3.2.3. Youth In Transition Survey (YITS) – 15 years old (2003 cohort)

The situation is about the same as for the 15 years old 2000 cohort except that a larger sample could be drawn right away using the school frame. Results would become available three years later than the results from the 2000 cohort of 15 years old.

3.3. National Graduates Survey – Sub-sample of "late" completers

The National Graduates Survey looks at the transition of the graduates of a given year from the post-secondary education system to the labour market. It is not interested per se in the non-graduates from the post-secondary education system. However, some graduates take longer than "normal" to complete the requirements of their program. The "late" completers could give the reasons why they took longer to complete their program. That could maybe serve as a proxy to why some students never complete their programs. It is particularly relevant for the students who had financial or family responsibility reasons not to complete.

3.4. Enhanced Student Information System (ESIS)

ESIS is planned to replace the former postsecondary enrolment surveys of universities, community colleges and trade/vocational institutions with a single survey. ESIS captures annual enrolment information at all postsecondary institutions for each twelve-month period. All students involved in the postsecondary education system will be included in ESIS. Institutions report detailed information about program and course offerings, student enrolments and graduation.

ESIS is also designed to follow students through their academic careers, in order to build a comprehensive picture of student flows within Canadian institutions and across provinces. ESIS data will be linked to historical enrolment data from the previous surveys. ESIS will be a huge and comprehensive system that will be able to provide detailed information on career paths at a very refined level of details. However, ESIS will not be able to give explanation about the paths taken by the students during their years of study. As well, there will be no information related to the transition of these students from school to the labour market.

In addition, ESIS will enable Statistics Canada to develop a sample frame for various student sample surveys such as the National Graduates Survey.

Statistics Canada recognises that many institutional administrative systems do not currently store all of the ESIS data elements. While institutions are encouraged to begin collecting ESIS information that is not already part of their administrative systems, they are not required to do so. Implementation should occur early 2001, but some institutions should not be ready.

4. Unresolved Questions by the existing sources of data

4.1. Questions to be answered about the non-graduates

As it was previously mentioned in a late June 1999 meeting, before we define which vehicle should be the best to track down the non-graduates of the postsecondary education system, we should ask ourselves what questions we want to answer.

A first question is related to the credentialism where one wants to compare the results in the labour market of non-graduates of the postsecondary education system with the graduates. A second important question about non-graduates is their persistence in the postsecondary education system. In this case, one is interested in how long they have studied, but most importantly why they have stopped and what are their expectations.

4.2. At which level of details will the questions be answered

The level of details required depends on the needs of the users. Users could be interested in some specific detailed point estimation such as the median income for bachelors non-graduates who left in a given year from a given province postsecondary education systems in their third or fourth year in a specific field of study? In this case, comparison with graduates from NGS could be made if we are talking about the same year of reference. Maybe users could be interested only in a more aggregated level of information such as the median income for non-graduates at the bachelor's level who left the postsecondary education system in their third or fourth year. This more aggregated type of information could be used into some kind of modelling which would still permit some comparison with the graduates.

The more detailed type of information is more expensive to get and could have some impact on the choice of a survey vehicle. However, it is anticipated that information at the provincial level is probably the minimum level of geography since the postsecondary education system is under provincial jurisdiction.

4.3. How long before getting results?

The chosen approach to the study of non-graduates of the post-secondary education system depends on how long one is ready to wait until results are available. The PTS original approach where a sample of student who would have left in a given year and interviewed two and five years after would have given results its first results three years after their leave. For other approaches such as YITS, one has to wait for the people to get older.

Found in appendix 2 is a table showing the probable graduating age for young adults in the post-secondary education system.

4.4. Overlap of longitudinal surveys

In the discussion about the Postsecondary Transition Survey (PTS), it has been noted that Statistics Canada has already three longitudinal surveys in NLSCY, YITS and NGS.

They look at the life of the same population but from different perspectives. At this point in time, the overlapping effect of these surveys is not important because the respondents for each survey are of different ages. In the future, there will certainly be overlaps, and decisions about surveying the non-graduates from the postsecondary education system should take this into account.

5. Options

The options will all look at the possibility of obtaining reliable information about non-graduates at the provincial level. This implies a large number of students should be included in any survey or administrative data. The following options are not necessarily exclusive, but could be complementary.

5.1. Youth In Transition Survey (YITS-PISA) – 15 years old (2000 cohort)

By itself, the YITS-PISA 2000 survey sample is too small to provide reliable point estimate information at the provincial level. However, the sample size could be increased in order to get more detailed information. This implies that a fairly large proportion of the 15 years old cohort in 2000 would be in the survey.

The additional sample would be used only when the respondents are 17 and older. The detailed information collected from the 15 years old would then be available only to a sub-sample of the total sample.

It is too late at the moment to draw an increased sample using the original sample design. It consists of a two-stage sample where a sample of schools is chosen and then a sample of students in the selected schools is taken. Two approaches to get an additional sample of the 15 years old in 2000 could be pursued:

- Increase the sample size of 15 years old using the school frame.
    - Schools would have to be contacted again to get the tracing information about the students from the chosen schools who were not selected in the original sample.
- Increase the sample size of 15 years old using the 2001 Census of the population.
    - The Census of the population would constitute a good frame with an exhaustive list of 16 years old (17 in 2002)
    - It would be difficult to get the frame ready in time for the 2002 survey of the 17 years old. At the moment, the Census information is scheduled to be available for Statistics Canada internal purposes such as frame construction in the fall of the year 2002.

The additional sample approach does not give the best results because it would probably be better to get more schools and less students per school than what is proposed here, i.e. fewer schools and more students from the same school. As well, it increases the complexity of the estimation process.

Results for the non-graduates of the postsecondary education system would take several years before they become available since the respondents have to get older.

5.2. Youth In Transition Survey (YITS-PISA) – 15 years old (2003 cohort)

The situation is about the same as for the 15 years old 2000 cohort except that a larger sample could be drawn right away using the school frame. It would then mean a more integrated survey design.

5.3. Postsecondary Transition Survey (PTS)

The PTS/NGS route to look at non-graduates from the postsecondary education system was put aside in March 1999. As mentioned in the background section, the main reason is related to the strong heterogeneity in the non-graduates group from a given year. These non-graduates are very heterogeneous by definition since they would be of different age, or would leave at different stages in their studies...

This approach would permit a comparison of non-graduates with graduates (from the 2001 National Survey of the 1999 Graduates) from the post-secondary education system.

ESIS could help stratify the sample of non-graduates according to the time of leaving the program. However, ESIS will not be fully operational in 2001 since some institutions will not yet be included.

Weights would be difficult to derive until ESIS is in full implementation (all institutions would have to be included). One must know where a student went before he/she can be identified as a non-graduate. As well, one must know what the total population of non-graduates is by province, level of study and field of study. Without ESIS, this task would be impossible.

5.4. Survey of students entering the postsecondary education system the same year

This survey would be something in between the YITS and PTS where a more homogeneous population than PTS would be used (starting all the same year), but maybe less than YITS in terms of age since new students would not all have the same age. Looking at students entering the postsecondary education system the same year would give the opportunity to get results quickly about those students who would leave in the first year of their program. Indeed, according to the university undergraduate experience in Ontario (see section 6.3), among the 30% of students who were in the entry cohort (1980-84) and did not graduate, around 50% left after one year.

This approach could create problems in terms of stratification by province, by field of study and/or by level of study. Indeed, a student who starts a program in a given province will not necessarily leave the post secondary education system from the same program, at the same level of study and in the same province.

In order to get the "real" reasons why a student left, it is important that he/she is interviewed as soon as possible after he/she left. Should then this survey be done after one year, two years... of the year of reference? The answer lies on the interest about the non-graduates who leave in their first year or also by non-graduates that leave later. This

approach gives the opportunity to get results in a timely fashion for the students who are leaving in their first year.

Comparison with results from the National Graduates Survey would become more difficult than using the original PTS approach. Comparison with the YITS would also be difficult. In order to compare with graduates for credentialism , this survey could also interview the graduates in the sample, but the results will take longer to materialise than with the original PTS approach.

5.5. Enhanced Student Information System (ESIS)

The Enhanced Student Information System (ESIS) will make it possible to follow a student in the post-secondary education system. ESIS will make it possible to know if students change institution, if they get a degree or stop studying (information linkage between institutions is crucial for ESIS to be effective). Because of the fact that ESIS is comprised of administrative information, the reasons why a student decides to take one route instead of another one will not be available.

Depending on the operational definition that one would give of the non-graduates, results should become available rapidly within a few years. For example, if one considers that a non-graduate is a student who has not been taking any courses for at least a year, than within two years after the year of reference, information on non-graduates would become available. It has been noted that it will be possible to perform this kind of analysis notwithstanding any other option.

ESIS will also be the frame for the National Graduate Survey. It could also be the frame for a survey based on a cohort of first year student in the post-secondary education system or of student leaving the post-secondary system without a diploma or degree.

6. Integration of the surveys is a reasonable goal.

The Centre for Education Statistics is involved in several longitudinal surveys about the youth of this country. These surveys are the National Longitudinal Survey of Children and Youth (NLSCY), the Youth in Transition Survey (YITS) and the National Graduates Survey (NGS). A new survey will eventually be added to these three surveys depending on the decision which will be taken about surveying non-graduates. The integration of these longitudinal surveys is a reasonable medium to long term goal and should be taken into account in any future decisions about these surveys.

7. Appendix 1 – Survey Results

In order to assess where young people go after they leave high school, Lesley Andres and Harvey Krahn wrote a paper in 1999 on *Youth Pathways in Articulated Postsecondary systems: Enrolment and completion patterns of urban young women and men.*[3] In this study, Andres and Krahn looks at the results of two longitudinal surveys conducted in

- Edmonton (1985-92)
    - a total of 983 twelfth-grade in May-June 1985,
    - six schools from the public school system, representing a mix of schools in the "middle class" and "working class" neighbourhoods,
    - approximately two thirds of the sample members were in academic programs,
    - contacts with the respondents were made in 1986, 87, 89 and 1992, and
    - by 1992, the sample has dropped to 390. Only these people are taken into account in the study.
- Vancouver (1988-93)
    - 5345 high school graduates in 1988 from all 75 school districts in British Columbia,
    - study restrained to Vancouver graduates, and
    - by 1993, 563 Vancouver high school graduates were still in the survey. Only these people were taken into account in the study.

The Youth In Transition Survey pilot test results for the 19 to 22 years old conducted in January to March 1999 were also looked at, but only for comparison purposes. Indeed, these are unweighted results to be used with caution. So, it is more like an indication than anything else. No actual results will be mentioned in this paper. Close to 2000 people were surveyed.

7.1. Participation and non-participation to the postsecondary education system

There are methodological differences between the three surveys (the YITS pilot test and the Vancouver and Edmonton studies) as well as different labour market conditions which could have some influences in the numbers presented here. For example, hard economic times can convince some people to go to school instead of trying to find a job or may force people to work to augment their household income. However, it is useful to

[3] In the Canadian Journal of Higher education, Volume XXIX, No 1, 1999, pages 47-82.

have more than just one source of data in trying to assess the pathways taken by the youth in Canada.

Table 4 looks at the **type of postsecondary activities that occur in the first year after leaving high school**. In all three studies, participation at university is quite high. However, the YITS study indicates a lower level. Two explanations come readily to mind.

High school graduates in Quebec will usually go to a CEGEP for two years before they can attend a university. The YITS results put CEGEP into the college category that is correct for career/technical type of studies but is misleading for the academic stream of CEGEP. In the latter case, in Quebec it will be very unlikely to have someone entering the university system in the first year after leaving high school. That could explain up to a certain point the lower percentage of students at the university level in the first year after leaving high school in the YITS study.

The YITS pilot study did not restrain itself to the larger cities where universities are located. It puts into perspective the accessibility issue to the postsecondary system for people living in small urban or rural areas.

The number of non-participants in the first year leaving high school is quite high in the YITS pilot study. This number decreases drastically when one takes into accounts all the years after leaving high school. So, a fairly large proportion of students is not starting its post-secondary education right after the high school years.

In Vancouver (20%) and Edmonton (34%), the non-participants were less numerous than in the YITS pilot study in the first year after leaving high school for possibly the same reason mentioned before about accessibility to postsecondary institution when one lives in a large city.

Table 4 – Krahn – Postsecondary educational activity in the first year of leaving high school, Edmonton (1985-90) and Vancouver (1989-93)

%(#)	University	College	T/V	Other postsec	Non-participant
Edmonton (n=390)	38	7	11	10	34
Vancouver (n-563)	41	33	4	4	20

7.2. What is the proportion of postsecondary students who have completed, are continuing or have left their program?

From the Andres and Krahn study, one can see in table 5 that in Vancouver, about a third of university students have **not graduated** 5 years after leaving high school[4]. It does not mean that they have left the postsecondary education system altogether, since many students could complete their program in more than 5 years. But this is an indication that a fair number of university students will not get a university degree. In Edmonton, that rate goes down to about one in 10, 7 years after leaving high school.

Interestingly enough, a fair number of students in Edmonton who started in a university program in the first year after leaving high school obtained their credentials at the college or the trade/vocational level. This is an indication of the **complicated pathways** that students can take in their postsecondary education.

Looking at the numbers, it is clear **that students with at least one parents who have a university degree** have a better chance to get themselves a degree or a diploma. This factor should be taken into account when developing any survey of non-graduates.

[4] Because of the 7 and 5 years difference in terms of the timing of when the question was asked, comparison between Edmonton and Vancouver obtained credentials is risky.

Table 5: Educational credentials by institution attended in the first year after leaving high school by parents' educational attainment, Edmonton and Vancouver

	%	Credential obtained			
Began 1st year in:		University degree	College diploma	Vocational diploma	did not graduate
Edmonton (n=390)					
University		74	6	10	12
	parent(s) graduated	83	4	6	8
	both non-graduates	64	8	13	16
College		15	52	11	22
	parent(s) graduated	--	67	17	17
	both non-graduates	19	48	10	24
Trade/vocational		11	7	80	11
	parent(s) graduated	20	--	82	10
	both non-graduates	9	9	70	12
Total		33	14	25	31
	parent(s) graduated	58	11	17	15
	both non-graduates	22	15	29	38
Vancouver (n=563)					
University		64	2	1	33
	parent(s) graduated	70	2	--	28
	both non-graduates	59	2	1	38
College		18	25	4	51
	parent(s) graduated	28	28	3	41
	both non-graduates	12	24	7	54
Trade/vocational		--	--	56	40
	parent(s) graduated	--	--	33	67
	both non-graduates	--	--	59	61
Total		33	11	6	47
	parent(s) graduated	47	11	2	38
	both non-graduates	25	10	8	52

7.3. Varied pathways: the undergraduate experience in Ontario

The following statistics come from an article written by Jillian Oderkirk and Edward Chen, **Varied pathways: the undergraduate experience in Ontario**, Education Quarterly review, fall 1997. These statistics should help to put the probable years of graduation into perspective (appendix 2).

From 1980-84, 276,000 students were registered in a bachelor program or a first professional degree (medicine, law, etc.)

68% of them graduates by 1993

30% did not graduate, and were not in school in 1991-1993

2% did not graduate, but were back to school in 1991-1993

69% entered by age 20

Among the 30% of students who were in the entry cohort and did not graduate

51% left after one year

19% left after two years

10% left after three years

20% left after four years

60% of graduates did so exclusively full-time

40% of graduates studied some part-time or had a leave of absence

Most graduates completed their program in three to five years

Over 60% for the bachelor's (not professional)

29% of graduates completed their program after 6 years or more

Between 25-30% for the bachelor's

8. Appendix 2 – Probable year of completion for a 15 year old student in 2000 of different level of education if there is no break in his/her pathway of education

Table 6: Probable year of completion for a 15 year old student in 2000 of different level of education if there is no break in his/her pathway of education – Province of Quebec.

Province	Level of education	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
		15	16	17	18	19	20	21	22	23	24	25	26	27	28
Quebec	High School		x	x											
	Postsecondary														
	Trade/Vocational			x	x										
	CEGEP (professional)					x	x								
	CEGEP (academic)				x	x									
	Bachelor's							x	x						
	Master's								x	x	x				
	Doctorate											x	x	x	
	Non entrant to PSE		x	x											

There are two years shown for completion of high school because the age of graduation is not a clear-cut situation since it is depending on the age of birth.

At the Master's level, programs vary from 1 to 3 years.

A fair proportion of students (a guess could be in the 40% range if we look at **Varied pathways: the undergraduate experience in Ontario** for the Ontario undergraduate university students in 7.3) is not following a "normal" school pattern (taking longer to complete)

Table 7: Probable year of completion for a 15 year old student in 2000 of different level of education if there is no break in his/her pathway of education – Province of Ontario.

Province	Level of education	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
		15	16	17	18	19	20	21	22	23	24	25	26	27	28
Ontario*	High School				x	x									
	Postsecondary														
	Trade/Vocational					x	x								
	Community College						x	x							
	Bachelor's								x	x					
	Master's									x	x	x			
	Doctorate												x	x	x
	Non entrant to PSE				x	x									

There are two years shown for completion of high school because the age of graduation is not a clear-cut situation since it is depending on the age of birth.

At the Master's level, programs vary from 1 to 3 years.

A fair proportion of students (a guess could be in the 40% range if we look at **Varied pathways: the undergraduate experience in Ontario** for the Ontario undergraduate university students in 7.3) is not following a "normal" school pattern (taking longer to complete)

Ontario*: The Ontario 15 year old high school students in the year 2000 will have to go through the 13th grade. Starting in the year 2001, students in Ontario will be like the rest of Canada (except Quebec) with only 12 years to complete high school requirements.

Table 8: Probable year of completion for a 15 year old student in 2000 of different level of education if there is no break in his/her pathway of education – Canada (except Quebec and Ontario).

Province	Level of education	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
		15	16	17	18	19	20	21	22	23	24	25	26	27	28
Rest of Canada	High School			x	x										
	Postsecondary														
	Trade/Vocational				x	x									
	Community College					x	x								
	Bachelor's							x	x						
	Master's								x	x	x				
	Doctorate											x	x	x	
	Non entrant to PSE			x	x										

There are two years shown for completion of high school because the age of graduation is not a clear-cut situation since it is depending on the age of birth.

At the Master's level, programs vary from 1 to 3 years.

A fair proportion of students (a guess could be in the 40% range if we look at **Varied pathways: the undergraduate experience in Ontario** for the Ontario undergraduate university students in 7.3) is not following a "normal" school pattern (taking longer to complete)