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# The Influence of Social and Cultural Determinants on Post-Secondary Pathways and Transitions

Note 6: Transitions Project

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# Introduction

Since the 1960s, the democratization of post-secondary education (PSE) and the struggle to end inequalities with respect to post-secondary studies have been explicit aims in the education policies of the various levels of government in Canada. To ensure everyone has an equal opportunity and in response to transformations in the structure of employment, education policies have laid down the challenge of broadening access to schools—especially to post-secondary institutions, which both in Canada and in other Western countries had long been the privileged purview of males, and children from well-to-do families.

In the name of equal opportunity, governments have adopted a series of political and administrative measures aimed at facilitating access to studies by greater numbers of students: increased financial resources allocated to teaching institutions, financial aid to disadvantaged students, etc. The most important effect of these measures has been to further the democratization of access to post-secondary learning, thanks in part to the policy of free and compulsory primary and secondary education, which has contributed to the increase in the number of youth from low-income backgrounds who graduate from secondary school.

In the wake of the sweeping reforms around the middle of the last century, remarkable progress has been made in terms of attainment rates, so much so that at the start of the current decade, Canada undertook a decisive shift toward “massification” of higher education (the term is that used by Dubet [1994]). According to Statistics Canada data (2005), access to post-secondary education continues to widen. A recent OECD report (2005) noted that 55.8% of young Canadians aged 20 to 24 had a post-secondary degree or attended a college- or university-level institution.

One of the characteristics of that massification is the transformation in the make-up of student populations in post-secondary institutions, driven by

the increasing proportions of students from social categories or groups that have historically been under-represented, if not entirely absent. Once the almost exclusive domain of “inheritors”—young people from advantaged backgrounds and enjoying strong cultural capital (Bourdieu and Passeron, [1964] 1979)—institutions of higher education have seen strong growth in populations of female students, adults as well as youth from low-income families, rural communities, minority ethnocultural communities and Aboriginal groups.

In spite of this massification stemming from the political and social mobilization movements in favour of education, educational inequality has persisted. Clearly, the reinforcement of free, compulsory secondary education has led to increased numbers of young people from disadvantaged social strata earning degrees, but it has had less of an impact on inequality in higher education, which has persisted and, in some cases, been reinforced. The facts demonstrate specifically that youth from low-income families or Aboriginal communities remain under-represented at the post-secondary level, whereas the proportion of youth from middle- and upper-income families who earn university degrees continues to grow (Drolet, 2005).

Even in a context of quantitative democratization, the mechanisms of self-selection and reproduction of social groups are seen to be perpetuated. The abundant literature compiled by Duru-Bellat (2003) shows that, in all democratic countries, educational inequality in general is strongly influenced by social background, and this is certainly even truer in post-secondary education. As post-secondary education has become more widespread, upper-income families have increased deployment of their resources and used new strategies (e.g., tutoring/mentoring, early choice of institution) to allow their children to remain among the leaders at all levels of education, in particular at the post-secondary level. For example, parents choose institutions very early, so as to

prepare their children for specific educational pathways and foresee the competition characteristic at the post-secondary level. As Duru-Bellat and Kieffer (2008) note, the levelling of the playing field in primary and secondary education has not put an end to educational inequality; it has quickly shifted and been recomposed in higher education.

Several hypotheses have been posited in an attempt to explain that inequality. One focuses on the influence of academic background; its proponents argue that participation in PSE is influenced by the skills and dispositions acquired during secondary school. In measuring these variables, however, most studies have been limited to strictly academic aspects, essentially considering performance at school. Indeed, several studies indicate that the best predictor of persistence is previous academic performance (Murtaugh, Burns and Schuster, 1999).

Moreover, many studies show that social and cultural determinants remain a dominant factor in educational inequality that persists at the post-secondary level; they attribute the inequality to social and cultural determinants, emphasizing social background, gender and living environment. From that perspective, access to PSE is seen to stem from the student's cultural and intellectual baggage (acquired competencies), and is therefore influenced by the full spectrum of dispositions and skills that individuals can bring to bear on their actions and choices, including those in education. Without denying the fact that those acquired competencies themselves are the result of individual actions, several studies have shown that they are also the fruit of social heritage, and consequently strongly influenced by social background and other social characteristics of individuals (e.g., gender, ethnicity, place and circumstances of residence).

In that light, this study aims to gauge, using recent empirical data, the influence of social and cultural determinants on various dimensions of access to PSE. The overall perspective adopted is one founded on examination of educational pathways in post-secondary education. Made up of a series of decisions and events that influence the academic trajectory, these pathways can be analyzed according to four axes, as outlined in Research Paper No. 3 (Doray *et al.*,

2009): 1) transactions between traits or attributes of individuals and the characteristics of the educational institution; 2) dynamics between the objective or objectifiable aspects of educational pathways and their subjective meanings; 3) interactions between school-based and extra-curricular experiences; and 4) transactions between the different timeframes in an individual's life.

This research paper specifically explores the first and fourth axes. We seek to understand how heritage, acquired knowledge and past experiences act upon access to and persistence in PSE. We are therefore interested in the linkages between past and present. The idea is to understand how dispositions, cultural traits, and competencies acquired by students during the process of their socialization and prior schooling influence their post-secondary educational pathways, with a distinction drawn between the two major types of institutions involved, colleges and universities, each of which has its specific characteristics.

The study delves into different dimensions of the pathways. First, we will examine the question of access, conceived of as the moment when post-secondary education begins. Incidentally, there are multiple pathways for those enrolled in PSE. Some students follow *linear pathways*, neither interrupting their studies nor changing programs of study until graduation; others follow various forms of *discontinuous pathways*, involving either temporary interruption with a possible return to studies or definitive withdrawal.

The study will attempt to answer the following questions:

1. What influence do characteristics of social and cultural relatedness have on the decision whether to continue education after secondary school?
2. How do those characteristics influence post-secondary persistence and pathways (linear or discontinuous)?

The paper is divided into three parts. In Part 1, to establish some theoretical signposts, we briefly review a number of previous studies on the issue of access to studies and post-secondary pathways in Canada. In Part 2, we outline our methodology and describe the data, the variables and the analytical model. Finally, in Part 3, we present and interpret the results.



# I. Key Question and Theoretical Signposts

Inequality of participation in post-secondary education results from the combined effect of several factors related to the characteristics of individuals' prior schooling and their respective cognitive skills. But it is also influenced by family background and other social characteristics, as well as by living conditions. For the purpose of this study, we use the expression social and *cultural determinants or factors*<sup>1</sup> to designate all of these factors.

## 1.1 Influence of social factors

Post-secondary education attainment cannot be predicted based solely on competencies and dispositions acquired during prior schooling; social and cultural heritage is also a factor. The latter has a dual effect. As previously mentioned, it manifests itself through other variables, such as school performance and academic aspirations. But it also has a direct effect on post-secondary education. Its importance varies with the characteristics of the individual and his or her family and living environment. Several studies have shown that PSE attainment is influenced by socio-demographic characteristics: gender, social and ethnocultural background, geographic area, etc. For example, girls and children from upper-income families often make up the highest proportion of youth enrolled in university studies. Conversely, youth from disadvantaged social groups remain under-represented in higher education institutions. Studies demonstrate that youth from rural or remote regions, low-income families and Aboriginal communities, among others, continue to face considerable barriers to post-secondary education attainment (Corak, Lipps and Zhao, 2005; Finnie, Laporte and Lascelles, 2005; Drolet, 2005; Finnie, Lascelles and Sweetman, 2005).

One notes also that inequalities in educational pathways and the mechanisms underlying them change over time, often mirroring socio-economic conditions. As Frenette (2002, 2003), among others, has noted, participation in PSE by young people from low- and middle-income families grew considerably in the 1970s and 1980s, but stagnated and even declined in the 1990s. Yet, as this author points out, the number of high school graduates continued to increase. Moreover, the decline in enrolment has been more marked among boys than girls, as the former show a greater preference for college studies over university. Likewise, similar gaps continue to be observed between youth from urban areas and those from rural areas—a situation that is partly explained by distance from school to the place of family residence. Indeed, proximity of a college- or university-level institution in a rural area causes an increase in the participation rate for youth from lower-income families.

The view of the social-reproduction sociologists is that educational inequality stems from social inequality (Bourdieu and Passeron, 1970; Duru-Bellat, 2002). Social inequality is seen as the immediate result of the social divisions between families (parents' level of education, profession and income, etc.), which influence living conditions and the development of cultural capital. Access to education and academic persistence are therefore associated to the cultural dispositions inherent in the social relationships of class, gender and culture (Gauthier and Mercier, 1994; Dronkers, 1994)—relationships that are built in large part outside the school setting. The student's academic experience is defined as the outcome of family mobilization (i.e., by the parents and the students themselves) and of the transmission of cultural habits, skills and dispositions acquired outside school, or

1. This section takes up, in part, the theoretical approach developed as part of another research paper written for Human Resources and Skills Development Canada (Kamanzi *et al.* 2009).

through prior school learnings that manifest themselves as schemes of representation and evaluation (Warburton, Bougarin and Nuñez, 2001; Ball *et al.*, 2001 and 2002; Rodriguez, 2003; Duggan, 2004; Swail, Cabrera and Lee, 2004).

In Canada, empirical research has shown that PSE attainment is strongly linked to family characteristics: parental income, level of education and profession. While the number and proportion of young people from low-income families who enrol in PSE and obtain a degree has certainly grown considerably in recent decades, several studies reveal that the gaps with respect to youth from middle- and upper-income families remain significantly wide (Barr-Telford *et al.*, 2003; Rahman, Situ and Jimmo, 2005; Drolet, 2005, Frenette, 2005). Some studies appear to state that these gaps have lessened over the years (Hoy, Christofides and Cirello, 2001; Corak, Lipps and Zhao, 2005); others claim that they have remained the same or even widened over the past two decades (Drolet, 2005; Frenette, 2005).

Furthermore, research shows that family income exerts a mostly indirect influence, acting through other factors: the performance and academic aspirations developed by the individual starting in primary and secondary school, proximity of the school, and family structure (Drolet, 2005, Frenette, 2005; Finnie, 2008), as well as cultural and educational resources available in the home. In addition, multivariate analyses show that when these factors are taken into account, the influence of income diminishes, although it does not disappear completely (Finnie and Mueller, 2008).

In a similar vein, studies in recent decades have shown that there is a significant link between parental profession and participation in post-secondary studies (Massot, 1979; Sylvain, Laforce and Trottier, 1985). It must be acknowledged, however, that few studies have examined this variable in the past few years—so much so that the majority of available data dates from the 1970s and 1980s.

Many recent studies also indicate that a high level of parental education increases the probability of a young person enrolling in post-secondary education (O’Heron, 1997; De Broucker and Lavallée, 1998; Knighton and Mirza, 2002; Frenette, 2005; Drolet,

2005), and that this factor is more influential than parental income and profession. The odds of child attaining PSE increase along with the parents’ level of education. The rate of enrolment in post-secondary institutions appears to be approximately 15% among young people whose parents have a high school diploma or less, but around 57% when the parents have post-secondary degrees (Drolet, 2005; Finnie, Laporte and Lascelles, 2004). Moreover, unlike income and profession, level of education retains a strongly significant effect even when other variables are taken into account (Butlin, 1999), as seen in the extensive research into so-called first-generation students<sup>2</sup> (Grayson, 1997; O’Heron, 1997). That direct influence is apparently linked to parental aspirations as well as to education, since participation in PSE is higher among youth whose parents ascribe relatively high importance to PSE (Shaienks, Gluszynski and Bayard, 2008). Parents with post-secondary academic experience have high education aspirations for their children and, as a result, view PSE as extremely important.

Disparities relating to ethnocultural origin are also observed. Within this perspective, researchers have often compared minority linguistic communities with majority ones: e.g., English speakers in Quebec compared to French speakers, or francophones compared to anglophones in the rest of Canada. Results presented by Massot (1979; used again in 2000) and Sylvain, Laforce and Trottier (1985) based on data collected in Quebec in the 1970s, a higher proportion of anglophones and allophones attain post-secondary studies than do their francophone counterparts. What is more, these gaps persist even when other variables, such as social background, are incorporated into the analytical model. It would seem, however, that this observed link is conjunctural in nature (reflecting the 1970s), as researchers have been unable to validate it using recent data. For instance, after analyzing more recent data (from the 1995 National Graduates Survey), Finnie, Lascelles and Sweetman (2005) found no significant link between mother tongue and PSE attainment. Discrepancies were observed, however, among native-born Canadians, Canadians born abroad, and Aboriginals. The results of the study by Shaienks, Gluszynski and Bayard (2008), which uses data from the Youth in

2. This expression is used to designate students pursuing post-secondary studies, neither of whose parents attended a post-secondary institution. See also Auclair *et al.* (2008).

Transition Survey (YITS), show that PSE attainment is more likely for those born outside Canada, but less so for Aboriginals. According to the same study, however, the persistence rate is higher among Canadian-born students. The graduation rate is lower among immigrant youth, and is particularly low among Aboriginals. Dandurand *et al.* (1980), for their part, have shown how students' choice of university and field of study varied according to gender, linguistic group and social status.

Why are PSE enrolment rates higher among immigrants and visible minorities than among other Canadians, given that they are disadvantaged in terms of living conditions?<sup>3</sup> Several hypotheses have been posited to explain why, in spite of challenging socio-economic situations, visible minority youth have higher aspirations than others. For example, the results obtained by Taylor and Krahn (2005) based on the YITS data indicated that 79% of youth aged 15 from visible minority communities aspired to a university education, versus 57% of young Canadians who did not belong to such communities.

A high level of aspiration has itself been linked to the high levels of education among immigrant parents or those belonging to visible minorities: among 35% of visible minority youth who took part in the YITS, at least one parent had a university degree; the corresponding figure for other Canadians was 21%. This explanation would appear to be incomplete, however, because even when their parents do not have university degrees, the proportion of visible minority youth aspiring to university-level studies remains high (75%) compared to that of Canadians of Caucasian origin (51%). Taylor and Krahn (2005) suggest three principal factors to explain the high level of aspiration to education among visible minority youth: parents' level of education, parents' aspirations as to their children's education, and degree of commitment to studies.

Although an increase in post-secondary enrolment rates has been observed for all of Canada, there are relatively large disparities from one province to another, in part because of the specific configurations of their respective school systems and particular economic structures (De Broucker, 2005; Hango and De Broucker, 2007). For example, compared to the

Canadian average, the university enrolment rate is highest in Ontario and lowest in Quebec. A possible partial explanation for this situation is that in Quebec, enrolment in university is conditional on completion of a college degree, which is not true elsewhere in Canada. Similarly, PSE enrolment has a connection to government policies. For example, Alberta and British Columbia have increased investment in college-level education to bring it closer to the population, and promoted programs that lead to university (De Broucker, 2005). One also observes that PSE enrolment rates are higher in urban than in rural settings (Andres and Looker, 2001), regardless of the province.

Pursuit of post-secondary studies is also influenced by gender, family structure, marital status and whether the student has dependent children. Rates of enrolment tend to be higher among women, young people living with their biological parents, single persons and those with no dependent children (Lambert *et al.*, 2004).

In seeking to understand the factors influencing post-secondary participation and pathways among young Canadians, we will examine the influence of social and cultural factors. We also propose using the concept of *educational pathways*, divided into *linear pathways* and *discontinuous pathways* (Doray *et al.*, 2009). Pursuit of studies until completion of a degree constitutes a linear pathway, while interruption, with or without a return to study, constitutes a discontinuous pathway. Specific examples of discontinuous pathways include alternating between periods of studies and no studies for various reasons (e.g., work, travel, family obligations). Once these types of pathways are determined, we will be able to define the characteristics of students who tend to follow linear pathways and those who instead take discontinuous pathways.

## 1.2 Influence of prior academic experience

Many studies have dealt with the influence of academic background, emphasizing academic results in secondary school and level of commitment to

3. Generally speaking, recent immigrants are more exposed to low-income situations than are other Canadians. That risk, however, is higher among visible minorities, be they recent immigrants or long-time residents (Palameta, 2004).

studies. The probability of attaining PSE tends to decrease for students who scored low average grades during secondary school and showed less commitment to classes (Butlin, 1999; Barr-Telford *et al.*, 2002; Lambert *et al.*, 2004; Tomkowicz and Bushnik, 2003; Finnie, Lascelles and Sweetman, 2005). According to the results obtained by Shaienks, Gluszynski and Bayard (2008) using data from the YITS, the odds of attaining PSE and persisting until completion of a degree are low for secondary school students whose grade average was between 60% to 69% or who experienced adjustment disorders at school (drop-out, abandonment, etc.). Even when these students attain PSE, they are more likely to drop out or to abandon studies before completion. Conversely, enrolment rates and persistence are higher among students whose averages in secondary school were high (80% or more) and who experienced a smooth pathway through secondary school.

These last two parameters are also influenced by prior academic experience, being linked to the level of commitment to studies. Enrolment rates and persistence are higher among young people who have developed good work habits in secondary school. Thus, as Shaienks, Gluszynski and Bayard (2008) note, the chances of attaining PSE and completing a degree are higher for youth who are in the habit of devoting three hours or more per week to school work and who are actively engaged in their studies and at school (relations with teachers and peers). Access to PSE and persistence are therefore associated not only with academic background, but also with work habits acquired in primary and secondary school.

As Dubet (1994) as well as Dubet and Martuccelli (1996) assert, the best approach to inequality is to consider all of the elements making up students' social and school experience, which comprises not only all of the knowledge and know-how they have acquired during prior schooling, but also their own aspirations, plans, present living conditions and current experiences. Access and persistence are strongly linked to personal dispositions and to skills learned in the various fields of knowledge—skills that are transferable to other situations, both academic and non-academic. On this subject, authors have focussed on a number of dimensions such as the degree of

commitment to studies (Pirot and de Ketele, 2000), the quality of teaching and progressive disinterest in science (Seymour and Hewitt, 1997), the quality of the transition from secondary school student to post-secondary student (Coulon, 1992), and intellectual and social integration (Tinto, 1993).

For Coulon (1993), an essential condition for persistence in higher education is learning the “job” of being a student; i.e., the ability to “discover and assimilate the givens and the routines couched in higher education practices” (1993, p. 2; freely translated). Doing the “job” of student requires that individuals have the ability to adapt their habits so as to acquire skills and new social status. From then on, they must mobilize their expertise in order to demonstrate that they possess all of the skills required to do their job: the ability to assimilate subjects taught to them and to understand institutional functioning (the rules and standards, both formal and informal, and mastery of the conditions for intellectual work).

All this therefore leads one to state that the academic assets acquired by an individual in the various fields of knowledge in primary and secondary school have a direct impact on access to PSE and on educational pathways. On this subject, the recent study by Thiessen (2007) shows that there is a significant link between prior school performance and inequalities among educational pathways. Using data from the YITS, the author compares three groups of Canadian youth: young people from immigrant communities, those from visible minority communities, and other native-born Canadian youth. Thiessen notes that within each of the three groups, there is a significant relationship linking academic results, persistence, aspirations, perceptions of competency, and educational pathways. Even if the inequalities observed in higher education are considered as the direct result of prior schooling, the fact nonetheless remains that they are linked to social and cultural factors.

### 1.3 Influence of skills

While dispositions and skills acquired during the student's academic career have an influence on pursuit of a post-secondary education, skills and dispositions acquired in other learning contexts also

have an effect on attainment and persistence. In this regard, we should emphasize that the concept of skills has already been proposed as a predictor of levels of employment income. In Canada, recent studies have shown that *literacy* and *numeracy* skills exert a significant influence on performance in the job market and on employment income level, in some cases independently of the level of schooling (Charrette and Meng, 1994; Green and Riddell, 2001; Finnie and Meng, 2001, 2005, 2007). The probability of securing full-time employment or a higher income is higher for people with high literacy and/or numeracy skills. Literacy skills have a positive, significant impact on income. Do they have an influence on access to and persistence in post-secondary education?

Although cognitive skills are certainly linked to an individual's level of education, the latter is an imperfect gauge of the former as they develop in a non-linear relationship through education. For example, after studies, these skills can be maintained and further developed, or, conversely, may degrade depending on the individual's social or professional situation. Thus, contrary to what one may think, cognitive skills cannot be reduced merely to academic assets. Individuals with the same level of schooling may have significantly disparate cognitive skills. While both factors have a major impact on employment income level, some studies show that the effect of cognitive skills is actually stronger than that of the level of schooling, and that the two act independently of one another (Finnie and Meng, 2006). In fact, the studies by Finnie and Meng (2003) and Bonikowska, Green and Riddell (2008) reveal that in Canada, cognitive literacy skills vary significantly with ethnic origin, immigrant status, parents' level of education, degree of knowledge of one of the two official languages (English and French) and country of origin (in the case of immigrants). These skills improve with instruction, but do not necessarily follow the level of the schooling: some people, including those born abroad, score relatively low on literacy and numeracy tests, despite having advanced degrees.

These observations also suggest that the concept of skills, which we measure using PISA reading scores, would enable a better understanding of the factors influencing access to post-secondary education by Canadian youth.

## 1.4 Conclusion: Analytical model

The reader is reminded that this research paper has a twofold objective. First, we seek to identify the influence of social and cultural determinants on PSE access and pathways in today's socio-economic context. Second, we wish to measure the effect of academic background and examine to what degree the effect of social determinants on participation in PSE depends on that background. Since participation in PSE is supposedly influenced by the skills acquired by the individual in the various fields of knowledge, we will incorporate reading skills into the analytical model.

To do so, we match the data from the YITS and those from the Programme for International Student Assessment (PISA).<sup>4</sup> The choice of these databases is relevant in itself, in view of the information they contain on socio-demographic variables related to social heritage factors (gender, cultural capital, socio-linguistic characteristics) and living conditions (family income, place and circumstances of residence, etc.). As well, the databases contain information related to school experience, such as performance in various subjects (e.g., mathematics, languages, science) and characteristics of educational pathways (slow progress, problems with pathways, etc.).

Socio-demographic variables not only have a direct influence on participation in post-secondary education; they also have an indirect influence, since they are recognized as being the major determinants of the characteristics of primary and secondary schooling as well as the cognitive skills acquired during childhood and adolescence. We therefore assume that the PISA scores are closely linked to

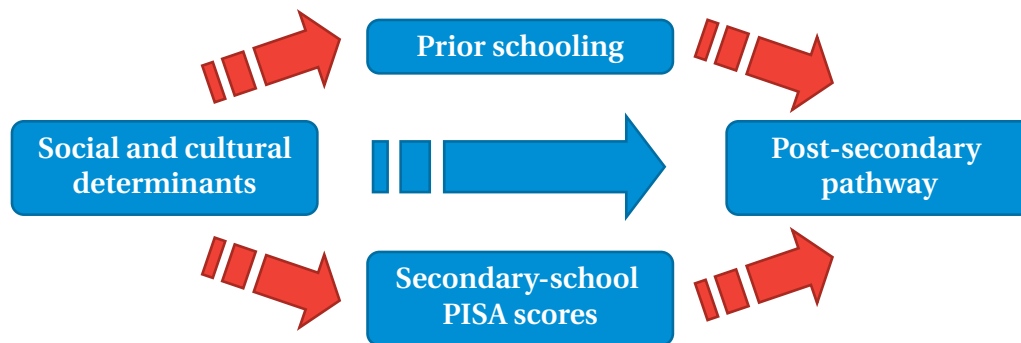
4. The goal of these tests is not to measure knowledge, but to evaluate students' ability to convert it into skills; i.e., to apply knowledge in real-life situations and answer questions or solve problems. The aim of reading (literacy) tests is therefore to evaluate the degree to which the student is able to exploit a text: locating, interpreting, using the information in it, etc. Note that the PISA tests are essentially cognitive in nature; they do not involve manual skills. The PISA reading tests measure ability to analyze, understand and exploit so as to acquire new knowledge, develop one's potential and participate in society.

the socio-demographic characteristics of the students making up the sample.

Our analytical model is thus structured around these three groups of variables: social and cultural determinants, prior schooling and cognitive skills (PISA scores). The following diagram illustrates the interactions among these variables.

The relationship that we wish to test is the effect of social determinants on post-secondary educational pathways (centre arrow). This relationship, however, may be mediated by several dimensions of prior schooling and the cognitive skills acquired during secondary studies. In other words, socio-demographic characteristics (gender, citizenship, ethnicity and social background) and living conditions have an

effect on schooling at the primary as well as the secondary level and on cognitive skills, which in turn will influence participation in post-secondary education. In fact, this analytical framework is largely the same as that proposed in the report by Bussière *et al.* (2001), with the addition of the effects on post-secondary pathways. It aims to demonstrate that inequality in post-secondary education is the result of interactions between social and cultural determinants, academic background and the cognitive skills acquired by the final years of secondary school. We should point out, however, that our analysis will be limited to the influence on educational pathways of the various social and cultural factors, prior schooling and PISA scores.



## 2. Methodology

### 2.1 Source of data

As mentioned in the preceding section, this study uses data from the Youth in Transition Survey (YITS). Conducted by Human Resources and Skills Development Canada (HRSDC) and Statistics Canada since 2000, YITS is a longitudinal survey (four data collection cycles) of a representative cohort of youth who were aged 15 at the end of 1999 (Cohort A) with a sample of 18,843 subjects. Our analyses will deal with students having participated in the PISA tests and all four cycles of the YITS.

Since post-secondary education is the issue we are studying, our analyses will focus on data from the four cycles. The YITS database contains information on educational pathways, both in secondary and post-secondary institutions, such as academic results in basic subjects, variables characterizing school situations at the secondary level (students who fall behind in school or drop out) and type of institution attended. The YITS has also enabled gathering of information on respondents' socio-demographic characteristics (e.g., parental socio-economic status, ethnolinguistic group, country of origin) and their past living environment—in short, a data set that can be used to establish an overall picture of their social and cultural characteristics. Lastly, the survey provides information on the PISA reading scores achieved by respondents.

### 2.2 Operationalization of the variables

#### 2.2.1 Dependent variables

Three dependent variables will be considered: access to PSE, persistence, and educational pathways to PSE.

#### *Access to Post-Secondary Education*

This variable is defined as enrolment in a post-secondary teaching institution by a person at some point during the period under study. Respondents were asked to state the highest level of post-secondary education taken as of December 2005 (variable name: HLPD4). We know that in January 2000, all respondents in the cohort were enrolled in secondary studies (Table 1). By the following October, 1% of the sample had left school. Between October<sup>5</sup> 2000 and October 2003, the proportion of students enrolled in PSE increased, reaching 58% of the sample, and then declined somewhat (to 51%) by October 2005. Thus, any person who, between October 2001 and October 2005, attended a college<sup>6</sup> or university is deemed to have attained post-secondary education. An initial variable distinguishes between students who have attended a post-secondary institution and those who have never attended one. We have divided the respondents into three categories—secondary, college and university studies—and distinguished between three possible situations:

- 1) Respondents who attended a university institution. These students were able to attend a college before enrolling in university studies, which is the required pathway for the majority of youth in Quebec.
- 2) Respondents who only attended a college-level institution. This category includes students in vocational and technical programs who did not take any university courses during the study period. It may also include those who took pre-university courses without making the transition to university.
- 3) Respondents who only completed secondary schooling, and consequently did not move on to post-secondary education.

5. We have chosen to examine school enrolment in October of each year. Since classes normally begin in September, this excludes individuals who left school less than one month after the start of the academic year. In other words, we do not take “false departures” into account.

6. The reader is reminded that the term “college” means very different things from one province to another.

**Table 1 — Proportion enrolled in post-secondary education from 2000 to 2005, Canada, YITS, Cohort A (%)**

	January 2000	October 2000	October 2001	October 2002	October 2003	October 2004	October 2005
Secondary	100	99	83	35	5	6	3
Post-secondary	0	0	11	35	58	54	51
Not currently studying	0	1	6	30	36	40	46
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: Doray *et al.*, 2009.

### **Persistence**

After excluding young people who, through Cycle 4 of the YITS, had not attended any post-secondary educational institution, we distinguished between three categories:

- 1) People who attended a post-secondary institution but left before completing a degree or diploma.
- 2) People who ceased studies after having completed a post-secondary degree or diploma.
- 3) People who were still attending a post-secondary institution by Cycle 4 of the YITS, regardless of whether they had completed a degree or diploma.

### **Pathways**

This variable specifies respondents' situation with regard to academic persistence. Among those who had completed college studies only, we distinguished between four categories:

- 1) Respondents who were enrolled in studies in 2005 without interruption (linear pathway).
- 2) Respondents who had left school with a diploma or certificate and were deemed to have followed a linear pathway.

3) Respondents who were enrolled in studies, but had interrupted their post-secondary education at least once.

4) Respondents who had interrupted their studies and not returned.

Among those who were enrolled in university studies, we distinguished between three categories:

- 1) Respondents who were enrolled in studies in 2005 without interruption (linear pathway).
- 2) Respondents who were enrolled in studies, but had interrupted their university studies at least once.
- 3) Respondents who had interrupted their studies and not returned.

### **2.2.2 Independent variables**

We considered three groups of variables: social and cultural background, academic background and PISA reading scores. Box 1 lists these variables and provides their definition and operationalization.



**Box 1 — Presentation of the variables**

Name	Definition and operationalization	Categories
<i><b>Social and cultural background</b></i>		
Gender		1) Female 2) Male (reference category)
Parents' socio-professional group (SPG)	Constructed according to occupation and professional situation (salaried employee or self-employed worker) at the time of the first data collection.	1) Executive/manager 2) Owner 3) Salaried professional 4) Self-employed professional 5) White-collar (wage earner) (reference category) 6) White-collar (self-employed) 7) Blue-collar 8) Artist 9) Unemployed
First-generation student (FGS)	This variable is defined by the highest level of schooling attained by one parent or the other. For YITS Cycle 1, each parent was asked to specify the highest level of schooling attained.	1) Parents with secondary school or less (reference category) 2) Parents having attended college 3) Parents having attended university
Parent's annual income	Parents responding as of the first data collection were asked to state annual income and spouse's annual income. The categorization was created using income distribution around the mean as the criterion.  The goal of using an ordinal variable rather than a continuous variable was to be able to identify income level, which exerts a significant influence.	1) \$25,000 or under (reference category) 2) \$25,001–\$65,000 3) \$65,001–\$100,000 4) \$100,001 or more
Cultural capital	Index obtained using scores on items pertaining to cultural and educational resources available in the family. The following aspects were retained: 1) relational and social (e.g., visits to museums); 2) up-to-date (e.g., books, reading time); 3) materialized (e.g., having a dictionary, textbooks).	Continuous scale
Immigrant status	Parents responding to the questionnaire were asked to state in which country their child was born (in Canada or abroad) (PD2P1) and in what year the child arrived in Canada.	1) Born outside Canada 2) Born in Canada (reference category)
Linguistic group	This variable was created based on mother tongue, i.e., the language first learned as a child and still understood (PD7P1), and province of residence during the cycle (PROVDV).	1) Anglophone outside Quebec 2) Minority francophone outside Quebec 3) Quebec francophone 4) Minority anglophone in Quebec 5) Allophone
Visible minority status	This variable was derived by Statistics Canada based on the ethnic group identified by the student's parent.	1) Yes 2) No

continued...

**Box 1 — Presentation of the variables (continued)**

Name	Definition and operationalization	Categories
<b><i>Geographical situation</i></b>		
Urban/rural status	This variable was established by Statistics Canada using geographical indicators based on the statistical area classification type (SATYPE), which identifies a region as either rural or urban (2001 Census Geography).	1) Rural 2) Urban
Province of residence	This variable is measured by the student's province of residence as of YITS Cycle 2, i.e., at the time of secondary school completion for the majority, but for some could be the time they first accessed post-secondary studies.	The ten Canadian provinces
<b><i>Academic background</i></b>		
Academic results	Average in mathematics Average in languages Average in science	1) 90–100% 2) 80–89% 3) 70–79% 4) 60–69% 5) 60% or below
Time spent on homework	This variable was built using the following question: Approximately how many hours do you normally spend each week on homework outside class (during free periods and at home)? (YSA6).	1) One hour or less 2) 1 to 3 hours 3) 4 to 7 hours 4) 8 hours or more
Dropout status	Students were asked to state whether they had ever dropped out of primary or secondary school for any length of time (DRPD2).	1) Yes 2) No
Fell behind	Variable created using PISA data (ST23Q02, ST24Q03, ST23Q03). Students were asked to state if they had ever taken a remedial course.	1) Yes 2) No
Problems at school	This variable was created based on two questions: students were asked whether they had ever been expelled from school (SYE3B) and how many schools they had attended (SYSA2).	1) Yes 2) No
Remedial courses		1) Yes 2) No
Type of secondary school attended		1) Private 2) Public
Obtained secondary school diploma before age 18	I.e., before 2003: this variable was created based on YITS Cycle 2 data.	1) Yes 2) No
PISA reading skill level	Variable defined by reading scores obtained by YITS respondents.	1) Level 5 (626 or higher) 2) Level 4 (553–625) 3) Level 3 (481–552) 4) Level 2 (408–480) 5) Level 1 (407 or lower)

## 2.3 Statistical analyses

We provide a descriptive analysis as well as a multivariate analysis. The first seeks to determine whether there is a significant relationship between the different dependent variables and each of the independent or control variables. It also enables characterization of the various pathways based on the three groupings of variables. The second will allow estimation of the relative influence of the “social and cultural belonging” factors on access to PSE (the effect of the other variables is controlled for). We have used multinomial logistic regression. Multinomial regression makes it possible to grasp the influence of the various factors on completion of one event as compared to several others. In other words, we examine the effect of various factors on a dependent variable with multiple categories. This type of analysis involves explaining or predicting a nominal variable with multiple categories via a set of factors or independent variables. In this study, we will assess the influence of the different variables included in the analytical model on attainment of college or

university education as compared to the fact of not pursuing PSE. The interpretation will be achieved using the odds ratios (OR). This statistical index is used to compare probabilities. When its value is equal or close to 1, this means the influence of the independent variable to which it is associated is null or low. An OR that is higher than 1, conversely, indicates that the influence of the independent variable is positive, while an OR lower than 1 means its influence is negative. The value  $p$  (significance index) indicates whether the influence is statistically significant or, on the contrary, due to chance.

While we acknowledge the longitudinal nature of the data and the relevance of taking into account the effect of time, we have preferred to limit our examination of the situation to the point of view of past events. The main reason for this choice is that the goal of our analysis is not to describe the educational pathways, but to identify the determinants of those pathways. Our principal concern is to understand the factors explaining, at one time or another in the four YITS cycles, PSE attainment by respondents.



## 3. Results

Overall, three-quarters of respondents attained post-secondary studies: 30% enrolled at a college without continuing on to university, and 43% went to university. Thus, colleges clearly contributed to the growth of higher education. But are the students making up the populations of these two educational sectors the same?

### 3.1 Access to college and university

The results of the descriptive analysis show that access to PSE (both college and university) is influenced by social and cultural factors as well as the characteristics of prior schooling (Table 2). The attainment rate is considerably higher (80% = 28+52) for girls than for boys (66% = 30+36), but the widest discrepancies are seen at the university level: 36% for boys vs. 52% for girls. Social background also plays a

determining role but, once again, inequalities are more marked in university than in college. The rate of university attainment is much higher among children of professionals, managers and owners and among those whose parents attained PSE or are in middle or upper income brackets (more than \$65,000). Conversely, children of modest social origins (defined as those whose parents are in white-collar or blue-collar professions, or are artists or unemployed) and those whose parents are in lower income brackets (less than \$65,000) or did not attend post-secondary institutions are slightly more numerous at the college level. The discrepancies at this level are narrow, however. In addition, attainment varies according to urban/rural status. Generally speaking, a greater proportion of youth from urban settings enrol in university, while those from rural communities tend to attend college in larger numbers.

Attainment rates vary similarly depending on cultural background. The proportion of students

**Table 2 — Distribution of respondents by PSE attainment, social background characteristics and academic background (%)**

	University studies	College studies	No PSE attainment	Total
<b>Gender</b>				
Male	36	30	33	100
Female	52	28	21	100
<b>Parents' socio-professional group</b>				
Executive/manager	44	31	25	100
Owner	50	30	19	100
Salaried professional	58	19	23	100
Self-employed professional	57	25	18	100
White-collar (wage earner)	35	29	35	100
White-collar (self-employed)	38	33	30	100
Blue-collar	31	33	37	100
Artist	29	33	37	100
Unemployed	38	34	30	100

continued...

**Table 2 — Distribution of respondents by PSE attainment, social background characteristics and academic background (%) (continued)**

	University studies	College studies	No PSE attainment	Total
<b><i>First-generation student (FGS)</i></b>				
FGS	25	33	42	100
Non-FGS	40	32	28	100
Non-FGS	69	21	10	100
<b><i>Parents' annual income</i></b>				
\$25,000 or under	33	29	37	100
\$25,001–\$65,000	36	32	32	100
\$65,001–\$100,000	50	28	22	100
\$100,001 or more	64	23	13	100
<b><i>Immigrant status</i></b>				
Born in Canada	42	29	27	100
Born abroad	61	24	15	100
<b><i>Linguistic group</i></b>				
Anglophone outside Quebec	46	27	27	100
Minority francophone outside Quebec	39	32	28	100
Quebec francophone	28	39	32	100
Minority anglophone in Quebec	42	41	16	100
Allophone	63	23	14	100
<b><i>Visible minority status</i></b>				
Yes	63	24	13	100
No	41	29	28	100
<b><i>Urban/rural status</i></b>				
Rural	32	34	35	100
Urban	48	29	24	100
<b><i>Province of residence</i></b>				
Ontario	50	31	20	100
Newfoundland & Labrador	47	25	27	100
Prince Edward Island	56	21	23	100
Nova Scotia	56	21	23	100
New Brunswick	48	24	28	100
Quebec	30	39	31	100
Manitoba	48	16	35	100
Saskatchewan	43	22	34	100
Alberta	37	26	37	100
British Columbia	51	20	29	100

**Table 2 — Distribution of respondents by PSE attainment, social background characteristics and academic background (%) (continued)**

	University studies	College studies	No PSE attainment	Total
<i>Average in languages</i>				
90–100%	77	16	7	100
80–90%	66	22	11	100
70–80%	43	34	23	100
60–70%	23	36	41	100
60% or below	13	31	56	100
<i>Average in mathematics</i>				
90–100%	78	15	7	100
80–90%	60	25	15	100
70–80%	43	32	24	100
60–70%	32	36	33	100
60% or below	22	33	45	100
<i>Average in science</i>				
90–100%	79	14	6	100
80–90%	62	26	13	100
70–80%	41	33	25	100
60–70%	27	38	37	100
60% or below	16	31	51	100
<i>Time spent on homework per week</i>				
1 hour or less	23	32	45	100
1 to 3 hours	42	31	27	100
4 to 7 hours	56	29	16	100
8 hours or more	73	19	9	100
<i>Dropout status</i>				
No	45	30	24	100
Yes	5	12	83	100
<i>Fell behind</i>				
No	46	29	24	100
Yes	9	23	68	100
<i>Problems at school</i>				
No	49	29	21	100
Yes	29	26	44	100

continued...

**Table 2 — Distribution of respondents by PSE attainment, social background characteristics and academic background (%) (continued)**

	University studies	College studies	No PSE attainment	Total
<i>Type of secondary school attended</i>				
Public	42	30	28	100
Private	62	29	9	100
<i>PISA reading skill level</i>				
Level 5 (626 or higher)	76	17	7	100
Level 4 (553–625)	57	28	16	100
Level 3 (481–552)	38	34	27	100
Level 2 (408–480)	20	35	45	100
Level 1 (407 or lower)	10	28	63	100
Total	43	30	27	100

progressing to PSE is higher among anglophones living in Quebec (83%) and allophones (86%), those born abroad (85%), and members of visible minority communities (87%). The choice of a college education is also more frequent among Canadian-born youth (29%) than those born abroad (24%).

The rate of participation in post-secondary education varies from one province to another. It is highest in Ontario, Nova Scotia and Prince Edward Island. Manitoba (16%) has the lowest rate of college attendance, while Quebec has the highest (39%). The highest rates of university attendance are in Prince Edward Island (56%), Nova Scotia (56%), Ontario (50%) and British Columbia (51%), while the lowest is found in Quebec (30%), probably for the same reasons mentioned above. Note that the particular situation of Quebec may be explained by the fact that, in that province's education system, college studies are mandatory for students under 21 who wish to attend university.

Our analysis reveals that the characteristics of one's secondary schooling appear to influence post-secondary education attainment: it tends to increase among students who earn high marks in the basic subjects: languages, mathematics and science. The better the academic record in secondary school, the greater the odds of attaining PSE. The rate of PSE attainment for respondents whose average grades

in language studies varies between 90% and 100% is 93%, including 16% in college studies and 77% in university. The attainment rate for those with average grades below 60%, however, is 44% (31% in college and 13% in university). One observes that academic results in secondary school strongly influence the choice of a college versus a university education. Those with higher grades are more likely to choose university studies, while those with average or low grades tend to opt for college. In addition, access to university studies is more likely among students who attended a private secondary school (62%).

Commitment to studies is also a determinant. Young people who devote more time to homework (four or more hours per week) are more likely to choose a university education, while proportionally greater numbers of those who reported that they spent less time on their homework enrolled in college. Conversely, those who are less committed to their studies have far less of a chance. If a student experiences difficulty adjusting or learning and an irregular pathway through secondary school, he or she has a far lower chance of progressing to post-secondary education. The PSE attainment rate tends to drop off sharply among students who report that they dropped out of school for any length of time (17%), had problems at school (55%), or had to take remedial courses to make up lost ground (32%). The odds of



these students attaining university studies are even slimmer.

A greater proportion of respondents who scored high on PISA reading tests (skill levels 4 and 5) progress to the university level, with a slightly lower proportion attending college.

To determine whether variables that are social and cultural in nature have a direct effect on access to a

college or university education, or whether their effect acts through the student's secondary schooling, we performed multivariate analyses. As the results in Table 3 show, the effect of certain variables of social and cultural belonging remains significant even when the characteristics of prior schooling are taken into account (Model 3), although the effect is felt differently in college than at university.

**Table 3 — Influence of social background characteristics on access to post-secondary education in Canada, YTS, Cohort A — multinomial regression odds ratios**

	College studies				University studies			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<b>Gender</b>								
Female	1.52***	1.46***	1.47***	1.37***	2.27***	2.35***	2.34***	1.85***
Male	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>Parents' socio-professional group</b>								
Executive/manager	1.45***	1.26*	1.22*	1.13	1.80***	1.49***	1.47***	1.34*
Owner	1.88***	1.49**	1.43***	1.31	2.55***	1.48**	1.46**	1.28
Salaried professional	0.93	0.71	0.69	0.65	2.44**	1.30	1.23	1.11
Self-employed professional	1.66***	1.17	1.12	1.17	3.18***	1.40**	1.37**	1.34*
White-collar (self-employed)	1.28	1.26	1.25	0.99	1.25	1.12	1.14	0.84
Blue-collar	1.02	1.02	0.93	1.08	0.82	0.95	0.88	0.95
Artist	1.05	1.05	1.06	0.97	0.77*	0.91	0.95	0.75
Unemployed	1.29	1.05	0.92	0.92	1.23	1.08	.974	0.93
White-collar (wage earner)	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>First-generation student (FGS)</b>								
Non-FGS, college	1.47***	1.40***	1.47***	1.45***	2.44***	2.07***	2.14***	1.97***
Non-FGS, university	2.60***	2.21***	2.37***	1.96***	11.60***	7.02***	7.33***	4.72***
FGS	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>Parents' annual income</b>								
\$100,000 or more	2.29***	1.77***	1.72**	1.48*	5.55***	2.92***	3.16***	2.28***
\$65,001–\$100,000	1.63***	1.49**	1.47**	1.12	2.52***	1.91***	2.01***	1.21
\$25,001–\$65,000	1.25*	1.19	1.18	1.03	1.25*	1.27*	1.28*	.91
\$25,000 or under	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>Immigrant status</b>								
Born abroad	1.46*	0.83	0.77	0.97	2.57***	0.73	0.68	0.82
Born in Canada	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>Cultural capital score</b>	104***	1.02***	1.02***	1.00	1.13***	1.09***	1.09***	1.02*

continued...

**Table 3 — Influence of social background characteristics on access to post-secondary education in Canada, YITS, Cohort A — multinomial regression odds ratios (continued)**

	College studies				University studies			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<i>Linguistic group</i>								
Minority francophone outside Quebec	1.18	1.27	1.22	1.38	0.82	1.120	1.23	1.85**
Quebec francophone	1.23**	1.36***	1.59*	1.68	0.52***	0.66***	1.86*	1.56
Minority anglophone in Quebec	2.63***	2.34***	2.72***	2.64**	1.55*	1.15	3.07***	2.86**
Allophone	1.68***	1.61*	1.77**	2.05**	2.64***	2.12***	2.75***	2.96***
Anglophone outside Quebec	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Visible minority status</i>								
No	1.69***	1.55**	1.61**	1.41	3.28***	2.57***	2.76***	2.74***
Yes	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Urban/rural status</i>								
Rural	0.79***	0.99	1.05	0.91	0.46***	0.83*	0.81***	0.65***
Urban	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Province of residence</i>								
Newfoundland & Labrador	0.62***		0.89	0.83	0.69***		1.67***	1.52*
Prince Edward Island	0.58***		0.71*	0.77	0.97		1.84***	2.03***
Nova Scotia	0.59***		0.64**	0.75	0.97		1.40**	1.69**
New Brunswick	0.56***		0.66**	0.70*	0.70***		1.41**	1.34
Quebec	0.81*		0.56*	0.58*	0.38***		0.27***	0.24***
Ontario	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.
Manitoba	0.31***		0.32***	0.32***	0.54***		0.68**	0.58**
Saskatchewan	0.43***		0.47***	0.40***	0.51***		0.80	0.52***
Alberta	0.47***		0.44***	0.47***	0.39***		0.35***	0.37***
British Columbia	0.48***		0.37***	0.31***	0.69***		0.49***	0.32***
<i>Average in mathematics</i>								
90–100%	2.94***			1.53*	22.61***			4.04***
80–89%	2.18***			1.42**	7.81***			2.90***
70–79%	1.83***			1.32*	3.61***			2.17***
60–69%	1.45***			1.26*	1.93***			1.57**
Under 60%	Ref.			Ref.	Ref.			Ref.

**Table 3 — Influence of social background characteristics on access to post-secondary education in Canada, YITS, Cohort A — multinomial regression odds ratios (continued)**

	College studies				University studies			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<i>Average in languages</i>								
90–100%	3.89***			2.02**	45.81***			4.71***
80–89%	3.54***			1.60**	24.76***			3.30***
70–79%	2.66***			1.54**	7.81***			2.25***
60–69%	1.56***			1.17	2.46***			1.42
Under 60%	Ref.			Ref.	Ref.			Ref.
<i>Average in science</i>								
90–100%	3.55***			1.26	38.44***			3.49***
80–89%	3.27***			1.66***	15.17***			2.96***
70–79%	2.07***			1.23	5.13***			1.78**
60–69%	1.60***			1.14	2.15***			1.30
Under 60%	Ref.			Ref.	Ref.			Ref.
<i>Time spent on homework per week</i>								
Less than 1 hour	1.66***			1.35**	3.08***			1.82***
1 to 3 hours	2.56***			1.66***	6.98***			2.71***
4 to 7 hours	2.93***			1.97**	16.18***			4.32***
8 hours or more	Ref.			Ref.	Ref.			Ref.
<i>Dropout status</i>								
Yes	0.12***			0.23***	0.02***			0.09***
No	Ref.			Ref.	Ref.			Ref.
<i>Fell behind</i>								
Yes	0.27***			0.46***	0.06***			0.20***
No	Ref.			Ref.	Ref.			Ref.
<i>Remedial courses</i>								
Yes	0.81**			0.86	0.71***			0.91
No	Ref.			Ref.	Ref.			Ref.
<i>Problems at school</i>								
Yes	0.41***			0.71**	0.29***			0.51***
No	Ref.			Ref.	Ref.			Ref.
<i>Type of secondary school attended</i>								
Public	2.92***			2.01**	4.39***			2.81***
Private	Ref.			Ref.	Ref.			Ref.

continued...

**Table 3 — Influence of social background characteristics on access to post-secondary education in Canada, YITS, Cohort A — multinomial regression odds ratios (continued)**

	College studies				University studies			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<i>PISA reading skill level</i>								
Level 5 (626 or higher)	5.48***			2.1***	69.94***			16.83***
Level 4 (553–625)	4.09***			1.83***	23.67***			10.71***
Level 3 (481–552)	2.92***			1.77***	9.11***			6.78***
Level 2 (408–480)	1.84***			1.33	2.83***			3.30***
Level 1 (407 or lower)	Ref.			Ref.	Ref.			Ref.
Pseudo-R <sup>2</sup>		0.12	0.14	0.28				
$\chi^2_{\text{wald}}$		1,410.84 ***	1,661.42 ***	2,026.96 ***				
DF		44	62	110				
N		14,661	14,661	12,648				

Notes : \* : p < 0.05; \*\* : p < 0.01; \*\*\* : p < 0.001.

We began by examining the effects specific to each of the various factors of social and cultural background (Model 1). The following observations are noted.

- Gender influences the probability of attaining PSE (both college and university studies).
- Social background has a limited effect on access to college studies; only children of business owners have a greater likelihood of going to college compared to children of self-employed white-collar workers, who make up the reference category. The situation is somewhat different as regards university studies, with three categories having a positive direct influence: managers, business owners and self-employed professionals.
- Parents' academic capital, annual income and degree of cultural capital positively influence access to a college or university education.
- Belonging to a certain sociolinguistic group (e.g., being francophone or anglophone in Quebec) influences the odds of attaining college studies; francophones in Quebec are less likely to attain university, and allophones are more likely to.
- Being part of a visible minority increases one's chances of PSE attainment.
- The fact of living in a rural area reduces university accessibility.

With Model 2, we introduced another factor: province of residence. Compared to Ontario, access to college studies is lower in all provinces except Newfoundland & Labrador. With respect to university studies, Canadian provinces break down into two clear groups: living in one of the Atlantic provinces increases the odds of going to university, and living in any other province except Saskatchewan lowers those odds. Incidentally, including the province-of-residence criterion in our examination does not lead to any change in the effects previously described, with two exceptions. Being a Quebec francophone no longer has a significant impact on access to college studies, and increases the likelihood of going to university. For anglophones living in Quebec, the probability of university attainment increases and becomes significant (in fact, their situation is analogous to that of francophones in Quebec, which suggests that there is a contextual effect at work).

Lastly, taking academic characteristics into account (Model 3) leads to the following observations:

- Grade averages in languages have a positive effect on access to college studies, but grade averages in mathematics and science do not. Averages in all three subjects, however, increase the student's likelihood of attaining university studies.
- Time spent on homework has a positive effect on the odds of PSE attainment.
- Having dropped out for a period of time, having fallen behind or having had a “chaotic” time at school all lower the probability of PSE attainment.
- Having attended a private school increases the probability of PSE attainment.
- Strength of reading skills also increases the probability of PSE attainment.

All in all, the variables defining secondary schooling (Model 3) influence access to higher education, which is hardly surprising. Addition of these variables results in a 14-point increase in the pseudo- $R^2$  measure, or 50% of the variance explained by the model. Academic results have an increasing positive effect, as do time spent on homework and a private school education. The variables defining “chaotic” schooling lower the odds of PSE attainment. Reading skills act in the same way as academic results.

Moreover, the presence of the academic variables also influences the effect of the variables examined in the previous models:

- The effect of gender and that of parents' level of schooling is diminished, but remains significant.
- The effect of visible minority status persists when it comes to university attainment, but not in the case of college attainment.
- Social background no longer has a significant effect.
- Family income no longer has a significant effect, except in the case of very high incomes, which remain influential.
- The influence of belonging to a certain sociolinguistic group on access to college persists for Quebec anglophones and for allophones. The fact of being a francophone outside Quebec, an anglophone in

Quebec or an allophone exerts a positive influence on access to university.

More globally, both social background and prior schooling have an influence on PSE attainment. The two “series of variables” can act in two ways. At times, the influence of belonging to a particular social or cultural group (gender or visible minority status, for example) persists when other variables are introduced. At other times, the effects of one variable disappear with the introduction of other variables. For example, the effect of social background diminishes if the parental academic background, family cultural capital, living conditions and secondary school experience indicators are taken into account.

Thus, the meritocratic nature of school functioning is evident in several cases. It would explain, among other things, the overrepresentation of allophones and members of visible minority communities as well as the progressive increase in the rate of attainment of college or university studies among youth from working-class backgrounds. This effect of mobilization toward access to PSE is also perceptible in other social groups: francophones (college and university learning), children born abroad (college and university learning), and youth from lower-income families (parents earning between \$25,000 and \$65,000).

In conclusion, the analysis suggests that post-secondary education is subject to two different logic systems: one of mobilization and another of reproduction. The first manifests itself in the easier access to PSE for women and various ethnocultural groups such as francophones, allophones and members of visible minority communities. The system of reproduction, meanwhile, is perceptible first of all in the differences between socioprofessional positions or between certain sociolinguistic groups. It is also illustrated by the fact that the various social factors weigh more heavily on access to university studies than on college attainment. The choice between a college and a university education seems increasingly aligned with social inequalities. Indeed, this is not surprising, insofar as young people who have chosen a college education have tended to favour vocational and technical training, as previously mentioned.

The results obtained via this analysis are doubly interesting. First of all, they show that there are still

significant gaps in access to PSE according to social background and cultural background. Second, they allow us to get an overall picture of educational inequality within the higher education system itself: the categories that predominate across the post-secondary system are more overrepresented in universities than in colleges. The proportion of youth pursuing a university education is appreciably higher among girls, among young people whose parents are in the upper income brackets or who themselves had a post-secondary education, and among urban youth. When controlling for the effect of level of schooling, one notes that the probability of choosing a university education is greater among members of visible minority communities, allophones, francophones living in majority anglophone provinces, and anglophones living in Quebec. Likewise, enrolment in university institutions is systematically higher among those who earn higher grades, devote more time to homework, and experience no irregularity in

their educational pathways (e.g., dropping out or falling behind).

### 3.2 Persistence in PSE

Looking beyond access to PSE, do the “social and cultural belonging” variables also exert a significant influence on academic persistence? As we mentioned in the preceding section, the results of the descriptive analysis reveal that in 2005, 73% of young people who took part in the YITS had progressed to post-secondary education (Table 4). Among them, 13% had left the education system without completing a diploma or degree, 19% had left with a diploma or degree, and 68% were still pursuing studies in a post-secondary institution. We will use the terms non-continuers to describe the first group (left without graduating) and continuers to describe the second and third groups (graduated or still studying at the post-secondary level).

**Table 4 — Distribution of subjects by persistence, Canada, YITS, Cohort A (%)**

	Frequency	Left without graduating	Left after graduating	Still studying	Total
<b>Gender</b>					
Male	46	16	18	66	100
Female	54	11	19	70	100
<b>First-generation student (FGS)</b>					
Yes	22	16	27	57	100
Non-FGS, college	48	15	21	64	100
Non-FGS, university	35	10	10	80	100
<b>Parents' annual income</b>					
\$25,000 or under	7	17	19	64	100
25 001–65 000 \$	40	15	22	62	100
\$65,001–\$100,000	36	12	17	71	100
\$100,001 or more	17	10	12	78	100

**Table 4 — Distribution of subjects by persistence, Canada, YITS, Cohort A (%) (continued)**

	Frequency	Left without graduating	Left after graduating	Still studying	Total
<b><i>Parents' socio-professional group</i></b>					
Executive/manager	24	13	19	68	100
Owner	13	14	14	71	100
Self-employed professional	1	11	6	83	100
Salaried professional	28	11	15	75	100
White-collar (wage earner)	16	15	23	61	100
White-collar (self-employed)	4	15	20	65	100
Blue-collar	5	14	23	63	100
Artist	8	17	25	58	100
Unemployed	2	15	15	70	100
<b><i>Immigrant status</i></b>					
Born abroad	9	13	7	80	100
Born in Canada	91	13	20	67	100
<b><i>Linguistic group</i></b>					
Anglophone outside Quebec	64	12	19	68	100
Minority francophone outside Quebec	4	13	24	62	100
Quebec francophone	17	18	22	60	100
Minority anglophone in Quebec	2	22	15	63	100
Allophone	13	10	8	82	100
<b><i>Visible minority status</i></b>					
Yes	15	11	9	80	100
No	85	14	20	66	100
<b><i>Urban/rural status</i></b>					
Rural	21	13	30	57	100
Urban	79	13	16	71	100
<b><i>Average in languages</i></b>					
90–100%	12	8	9	83	100
80–89%	36	9	15	76	100
70–79%	31	14	21	65	100
60–69%	15	21	23	56	100
Under 60%	7	18	28	54	100

continued...

**Table 4 — Distribution of subjects by persistence, Canada, YITS, Cohort A (%) (continued)**

	Frequency	Left without graduating	Left after graduating	Still studying	Total
<i>Average in mathematics</i>					
90–100%	16	8	11	81	100
80–89%	28	10	15	75	100
70–79%	25	13	20	67	100
60–69%	17	15	22	62	100
Under 60%	15	20	25	55	100
<i>Average in science</i>					
90–100%	16	6	9	85	100
80–89%	33	10	16	73	100
70–79%	27	15	20	65	100
60–69%	15	18	23	59	100
Under 60%	9	19	29	52	100
<i>Time spent on homework per week</i>					
1 hour or less	18	18	25	58	100
1 to 3 hours	40	14	20	65	100
4 to 7 hours	29	12	16	72	100
8 hours or more	13	16	13	83	100
<i>Dropout status</i>					
Yes	1	24	19	58	100
No	99	13	19	68	100
<i>Remedial courses</i>					
Yes	71	13	19	69	100
No	29	15	18	67	100
<i>Problems at school</i>					
Yes	20	17	18	66	100
No	84	13	19	69	100
<i>Obtained diploma/degree before age 18</i>					
Yes	17	16	22	63	100
No	83	13	18	69	100
<i>Type of secondary school attended</i>					
Public	7	12	13	73	100
Private	93	13	19	68	100



**Table 4 — Distribution of subjects by persistence, Canada, YITS, Cohort A (%) (continued)**

	Frequency	Left without graduating	Left after graduating	Still studying	Total
<i>Province of residence</i>					
Ontario	41	11	16	73	100
Newfoundland & Labrador	2	15	21	64	100
Prince Edward Island	1	12	20	67	100
Nova Scotia	3	16	18	66	100
New Brunswick	3	13	25	62	100
Quebec	21	18	20	62	100
Manitoba	3	17	20	63	100
Saskatchewan	4	15	23	62	100
Alberta	9	13	20	67	100
British Columbia	12	14	18	69	100
<i>PISA reading skill level</i>					
Level 5 (626 or higher)	20	9	10	81	100
Level 4 (553–625)	33	12	16	73	100
Level 3 (481–552)	29	16	21	62	100
Level 2 (408–480)	13	17	27	56	100
Level 1 (407 or lower)	5	20	30	50	100
All	100	13	19	68	
N	13 389	1 740	2 544	9 105	

There is an association between persistence and the fact of belonging to a given social or cultural group. The proportion of non-continuers who leave without graduating is higher among males and among those whose parents did not attend university (so-called first-generation students or FGS's). It tends to increase slightly among youth from families at middle or lower socioeconomic levels, including those whose parents are in an artist profession, are self-employed white-collar workers or are unemployed, and have lower incomes (under \$25,000 per year). This trend is also observed among those living in Quebec (both francophone and anglophone), those who do not belong to a visible minority, and youth from rural areas. In fact, this group essentially consists of students who enrolled in a professional or technical college program.

As for the proportion of continuers who were still studying in 2005, it is higher among women, non-FGS's whose parents went to university, youth living in families with high annual incomes (\$65,000 or higher) and those whose parents are owners or professionals (whether wage earners or self-employed). This proportion is also higher among immigrant youth and members of visible minorities, as well as allophones.

Examination of the variables describing prior schooling reveals that persistence varies depending on academic success, time spent on homework and whether the individual experienced irregularities in his or her academic career. The rate of non-persistence tends to be higher among students who earned lower grades, devoted less time to homework, dropped out for any period of time, or more generally had trouble at school.

The proportion of young people having already left the system with a post-secondary diploma or degree is also greater among those who had lower grades during their secondary schooling. This observation is associated with the fact that the students who had less satisfactory results in secondary school enrolled mostly in college studies.

When we examine the situation of the students who are still studying, the reverse relationship emerges: the higher their grade averages in secondary school, the greater the odds that they will continue with their education. More time spent on homework also increases those odds. Having dropped out at some point is a factor that decreases the likelihood of the student still studying. The fact of having attended private school or having taken remedial courses, however, does not seem to modify, or else modifies only very slightly, the odds that the student will still be studying.

The influence of the PISA test scores parallels that of academic results: persistence is slightly higher among respondents who obtained high scores. In other words, students who had low scores on the PISA reading tests are more likely to interrupt their studies—at least temporarily, since we know that the majority eventually return to their studies. As for the proportion of continuers still pursuing a post-secondary education in 2005, the results show that it increases along with the PISA scores. It tends to be higher among those subjects who achieved the

highest PISA scores. It stands at 81% among Level 5 subjects, versus 50% among Level 1 subjects. This subset of young people who achieved a Level 5 score is probably made up of students who chose to go to university.

On the subject of continuers who have graduated, the result appears as somewhat unexpected: their proportion tends to increase among individuals who earned low scores. This proportion is 10% among Level 5 subjects, but 30% among Level 1 subjects. This can be explained by the fact that these respondents chose technical and vocational training programs, taught essentially in colleges, and completed those programs. In other words, there is an effect of choice of institution and of program. Table 5 shows that continuers who graduated were mostly college graduates (86% of respondents). The majority of students still studying, however, are enrolled in university (75%).

The results of the multinomial regression (Table 6) confirm those of the descriptive analysis. Examination of the gross effects reveals a significant link between persistence and the various social background variables, prior schooling and PISA reading scores. In models 1 and 2, we introduced the social background variables. In Model 3, we introduced province of residence, variables related to prior schooling, and PISA reading scores. The three models' respective pseudo- $R^2$  values show that the three groups of variables all had limited influence on academic persistence.

**Table 5 — Distribution of continuers and non-continuers by level of schooling, Canada, YITS, Cohort A (%)**

Distribution of graduates	Non-continuers	Continuers who left with a degree/diploma	Continuers still studying as of 2005
College studies	67	86	25
University studies	33	14	75
All	100	100	100
N	1,740	2,544	9,105

**Table 6 — Influence of PISA reading scores on persistence in post-secondary studies, Canada, YITS, Cohort A — multinomial regression odds ratios**

	Left after graduating				Still studying			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<b>Gender</b>								
Female	1.49***	1.43***	1.51***	1.56***	1.61***	1.56***	1.61***	1.48***
Male	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>Parents' socio-professional group</b>								
Executive/manager	0.98	0.98	1.01	0.91	1.31	1.32*	1.29*	1.14
Owner	0.66	0.67*	0.67*	0.61*	1.25	1.27	1.06	0.92
Salaried professional	0.39	0.40*	0.48	0.31*	2.17*	2.21**	1.82	1.79
Self-employed professional	0.90	0.91	0.97	1.00	1.78***	1.79***	1.31	1.26
White-collar (self-employed)	0.91	0.90	0.83	0.81	1.11	1.10	1.04	1.06
Blue-collar	1.04	1.03	1.03	0.86	1.08	1.06	1.13	0.94
Artist	0.99	1.02	0.94	0.89	0.85	0.86	0.96	0.78
Unemployed	0.69	0.69	1.00	0.86	1.20	1.20	1.37	1.19
White-collar (wage earner)	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>First-generation student (FGS)</b>								
Non-FGS, college	0.86		0.89	0.98	1.24**		1.11	1.16
Non-FGS, university	0.64***		0.82	0.85	2.41***		1.92	1.63**
FGS	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.
<b>Parents' annual income</b>								
\$100,000 or more	1.14		1.27	1.41	2.09***		1.75**	1.70*
\$65,001–\$100,000	1.30		1.36	1.44	1.56***		1.51*	1.39
\$25,001–\$65,000	1.33		1.28	1.50*	1.08		1.18	1.21
\$25,000 or under	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.
<b>Immigrant status</b>								
Born abroad	0.38***		0.56	0.70	1.20		0.67	0.79
Born in Canada	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.
<b>Cultural capital score</b>								
	0.98		0.98	0.98	1.04***		1.01	0.99
<b>Linguistic group</b>								
Minority francophone outside Quebec	1.18		1.00	1.26	0.85		0.92	1.34
Quebec francophone	0.78**		0.76	1.27	0.60***		0.65***	1.07
Minority anglophone in Quebec	0.45***		0.48**	0.85	0.53***		0.47***	0.97
Allophone	0.54**		0.96	0.87	1.51***		1.80**	1.90**
Anglophone outside Quebec	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.

continued...

**Table 6 — Influence of PISA reading scores on persistence in post-secondary studies, Canada, YITS, Cohort A — multinomial regression odds ratios (continued)**

	Left after graduating				Still studying			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<i>Visible minority status</i>								
Yes	0.57***		0.78	0.79***	1.48***		1.28	1.20
No	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.
<i>Urban/rural status</i>								
Rural	1.88***		0.78	1.68***	1.48***		1.02	0.95
Urban	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.
<i>Province of residence</i>								
Newfoundland & Labrador	0.95			0.57**	0.63***			0.60**
Prince Edward Island	1.08			0.63*	0.78*			0.61**
Nova Scotia	0.79			0.52**	0.63***			0.54***
New Brunswick	1.20			0.57*	0.67***			0.58**
Quebec	0.78			0.49*	0.50***			0.35***
Ontario	Ref.			Ref.	Ref.			Ref.
Manitoba	0.79			0.55**	0.54***			0.36***
Saskatchewan	0.99			0.57**	0.60***			0.41***
Alberta	1.05			0.89	0.77**			0.62***
British Columbia	0.85			0.75	0.72*			0.43***
<i>Average in mathematics</i>								
90–100%	1.08			1.37	3.47***			1.70**
80–89%	1.10			1.22	2.42***			1.78***
70–79%	1.10			1.55*	1.61***			1.65**
60–69%	1.13			1.20	1.32**			1.39*
Under 60%	Ref.			Ref.	Ref.			Ref.
<i>Average in languages</i>								
90–100%	0.79			0.83	3.26***			1.45
80–89%	1.15			1.12	2.70***			1.39
70–79%	0.95			0.96	1.41**			0.97
60–69%	0.80			0.70	0.89			0.75
Under 60%	Ref.			Ref.	Ref.			Ref.
<i>Average in science</i>								
90–100%	0.83			1.05	4.44***			2.38***
80–89%	1.08			0.97	2.51***			1.35
70–79%	0.86			0.82	1.49***			1.14
60–69%	0.91			0.83	1.20			1.15
Under 60%	Ref.			Ref.	Ref.			Ref.

**Table 6 — Influence of PISA reading scores on persistence in post-secondary studies, Canada, YITS, Cohort A — multinomial regression odds ratios (continued)**

	Left after graduating				Still studying			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<b>Time spent on homework per week</b>								
Less than 1 hour	1.07			0.94	1.41***			1.05
1 to 3 hours	1.07			0.94	1.93***			1.26
4 to 7 hours	1.12			1.12	3.91**			1.81**
8 hours or more	Ref.			Ref.	Ref.			Ref.
<b>Dropout status</b>								
Yes	0.55			0.65	0.52			0.66
No	Ref.			Ref.	Ref.			Ref.
<b>Fell behind</b>								
Yes	0.78			1.04	0.54			1.49
No	Ref.			Ref.	Ref.			Ref.
<b>Remedial courses</b>								
Yes	0.88			0.82	0.88			0.90
No	Ref.			Ref.	Ref.			Ref.
<b>Problems at school</b>								
	*							
Yes	0.74			0.80	0.74***			0.75*
No	Ref.			Ref.	Ref.		Ref.	Ref.
<b>Type of secondary school attended</b>								
Public	0.77			1.14	1.24			1.38
Private	Ref.			Ref.	Ref.			Ref.
<b>PISA reading skill level</b>								
Level 5 (626 or higher)	0.83			0.44**	4.01***			1.46
Level 4 (553–625)	1.01			0.55*	2.68***			1.39
Level 3 (481–552)	0.91			0.59*	1.62**			1.07
Level 2 (408–480)	1.10			0.86	1.36			1.14
Level 1 (407 or lower)	Ref.			Ref.	Ref.			Ref.
Pseudo-R <sup>2</sup>		0.04	0.06	0.11				
$\chi^2_{\text{wald}}$		151.46***	530.48***	831.08***				
DF		18	44	110				
N		12,275	11,288	9,941				

Notes:

- \* : p < 0.05; \*\* : p < 0.01; \*\*\* : p < 0.001.
- The Pseudo-R<sup>2</sup>, du  $\chi^2_{\text{wald}}$ , and N values presented under models 1 and 2 for “left after graduating” are the same as for graduate “still studying” continuers.

The results reveal that the influence of the various social and cultural characteristics on academic career is significant, but relatively weak. In this regard, we note that:

- the likelihood of having graduated by 2005 is higher among women than among men;
- members of visible minority communities are also less likely to be in that situation;
- people living in rural settings are more likely to have graduated than those living in urban areas;
- compared to those resident in Ontario, respondents in several provinces (Newfoundland & Labrador, Nova Scotia, Manitoba and Saskatchewan) are less likely to have graduated.

The prior schooling and PISA reading scores variables had no influence on the likelihood of finishing studies early with a diploma or degree.

With regard to continuers who were still studying as of 2005, we note that the “social and cultural belonging” variables exert a significant effect. That effect disappears, however, for several variables when prior schooling is taken into account. Generally speaking, the following significant variations are observed.

- Women were more likely than men to still be studying in 2005.
- Having parents who went to university increased the likelihood of continuing studies in 2005.
- Higher parental income also increased academic persistence, but the relationship disappears when the level of schooling is taken into account.
- Having parents who worked as professionals (whether salaried or self-employed) had a positive influence, but that influence disappears when the level of schooling is taken into account.
- Compared to anglophones in the rest of Canada, proportionally fewer francophones and anglophones living in Quebec were continuing studies in 2005. The reverse is true of allophones. The influence of sociolinguistic origin disappears, however, when scholastic variables are introduced—except in the case of allophones.
- The fact of living in a rural area or membership in a visible minority increased the probability of per-

sistence, but the relationship disappears when prior schooling is taken into account.

- The likelihood of continuing studies was higher in Ontario than in all other provinces.

Lastly, we note the significant and relatively strong influence of certain aspects of prior schooling: the likelihood of persisting with studies tends to increase among youth who, during secondary school, had high marks in mathematics and science and spent eight hours or more per week on their homework.

To sum up, it is notable that the characteristics of social and cultural origin mainly influence the decision to progress to post-secondary education, but have little effect on persistence. Taking scholastic variables into account reveals the effect of average grades in mathematics. Moreover, the differences in Ontario have to do with the duration of primary and secondary school studies, which is one year longer in that province (13 years as opposed to 11 in Quebec and 12 in the other provinces).

But how are we to explain the very weak influence of sociocultural characteristics on persistence? An initial hypothesis posits that, once the student begins post-secondary studies, differences in cultural and learning capital are felt to a lower degree. Some studies of first-generation students suggest that the differences between FGS's and non-FGS's tend to fade after the start of PSE, or instead influence the nature and duration of studies. More mundanely, however, we might also consider that our analysis was conducted too early in the academic careers of respondents, who have not yet had time to either graduate or withdraw from studies without obtaining a diploma or degree. If that hypothesis is correct, we should obtain different results if we conduct the same analysis using the data from the subsequent cycle of the survey.

### 3.3 Analysis of college and university careers

Once they enter a post-secondary teaching institution of one type or another, students follow different academic pathways. Some take linear pathways until graduation, while others interrupt their studies, either temporarily or permanently. It is not possible to say,

however, whether these departures are truly permanent, just as it cannot be determined whether all those who were studying persisted and obtained a degree or diploma beyond the reference period. Consequently, the analyses and conclusions presented in this study pertain only to the situation of respondents during the reference period (2000–2005). In this regard, the situation of the two levels of education differs: there are proportionally fewer linear pathways in college. Pathways with interruptions and returns to studies are much more frequent at the college than at the university level. Departures are also more frequent in college, but we must take into account the fact that those in university had not necessarily completed their studies as of Cycle 4 of the YITS. At the college level, there are also more departures without completion of a diploma than departures after completion of a diploma.

### 3.3.1 College careers

For a number of reasons, young people who attend college have varied educational pathways. We remind the reader that, based on the results obtained from our sample, 30% of secondary school graduates were

still attending a college-level educational institution as of 2005. Among those students, 40% had followed linear pathways and were still enrolled, 7% had followed a linear pathway and already graduated, 33% had temporarily interrupted their studies and later returned to school, and 20% had interrupted their studies without returning (see Table 7)—as of 2005, at least (since there is nothing to prove that these departures were permanent). Based on the results of the descriptive analysis, these college pathways vary slightly with the social and cultural variables, academic background and reading skills. Nevertheless, the results show that the likelihood of following a *linear pathway* through college is:

- greater among children of salaried professionals (53%), students whose parents had been to university (non-FGS university students), young people born abroad (50%) and allophones (52%);
- greater among those who, in secondary school, dropped out at some point (58%) or fell behind (52%);
- lower than the Canadian average in three of the Atlantic Provinces (Prince Edward Island, New Brunswick and Nova Scotia) as well as in Quebec and Saskatchewan.

**Table 7 — Distribution of respondents enrolled in college by type of pathway, social background characteristics and academic background (%)**

	Rate of participation in college studies	Linear pathway	Left after graduating	Interrupted then returned	Left	Total
<b>Gender</b>						
Male	30	40	7	30	23	100
Female	28	39	7	36	18	100
<b>Parents' socio-professional group</b>						
Executive/manager	31	35	6	36	23	100
Owner	30	43	7	27	23	100
Salaried professional	19	53	–	21	16	100
Self-employed professional	25	40	8	32	20	100
White-collar (wage earner)	29	38	7	34	21	100
White-collar (self-employed)	33	37	15	36	12	100
Blue-collar	33	40	6	33	21	100
Artist	33	36	3	40	21	100
Unemployed	34	41	–	29	27	100

continued...

**Table 7 — Distribution of respondents enrolled in college by type of pathway, social background characteristics and academic background (%) (continued)**

	Rate of participation in college studies	Linear pathway	Left after graduating	Interrupted then returned	Left	Total
<b><i>First-generation student (FGS)</i></b>						
FGS	33	36	6	36	21	100
Non-FGS	32	38	6	34	22	100
Non-FGS	21	43	10	29	19	100
<b><i>Parents' annual income</i></b>						
\$25,000 or under	29	41	7	31	21	100
\$25,001–\$65,000	32	34	9	34	22	100
\$65,001–\$100,000	28	39	7	32	21	100
\$100,001 or more	23	48	4	30	17	100
<b><i>Immigrant status</i></b>						
Born in Canada	29	38	7	34	21	100
Born abroad	24	50	8	17	25	100
<b><i>Linguistic group</i></b>						
Anglophone outside Quebec	27	41	7	37	15	100
Minority francophone outside Quebec	32	34	3	44	19	100
Quebec francophone	39	33	10	28	28	100
Minority anglophone in Quebec	41	32	12	20	37	100
Allophone	23	52	9	22	17	100
<b><i>Visible minority status</i></b>						
Yes	24	46	8	25	21	100
No	29	38	7	34	21	100
<b><i>Urban/rural status</i></b>						
Rural	34	32	6	44	18	100
Urban	29	41	10	28	21	100
<b><i>Province of residence</i></b>						
Ontario	31	42	10	32	16	100
Newfoundland & Labrador	25	36	4	44	16	100
Prince Edward Island	21	28	5	57	10	100
Nova Scotia	21	29	5	52	14	100
New Brunswick	24	25	4	58	13	100
Quebec	39	33	10	28	28	100
Manitoba	16	37	0	44	19	100
Saskatchewan	22	32	4	50	14	100
Alberta	26	46	4	35	15	100
British Columbia	20	45	5	35	15	100



**Table 7 — Distribution of respondents enrolled in college by type of pathway, social background characteristics and academic background (%) (continued)**

	Rate of participation in college studies	Linear pathway	Left after graduating	Interrupted then returned	Left	Total
<i>Average in languages</i>						
90–100%	16	38	6	31	25	100
80–90%	22	36	9	41	14	100
70–80%	34	38	9	32	21	100
60–70%	36	39	8	31	22	100
60% or below	31	45	6	26	23	100
<i>Average in mathematics</i>						
90–100%	15	33	7	40	20	100
80–90%	25	36	8	36	20	100
70–80%	32	41	9	31	19	100
60–70%	36	39	8	31	22	100
60% or below	33	42	9	30	18	100
<i>Average in science</i>						
90–100%	14	36	7	36	21	100
80–90%	26	38	8	38	15	100
70–80%	33	36	9	33	21	100
60–70%	38	42	8	29	21	100
60% or below	31	42	10	29	19	100
<i>Time spent on homework per week</i>						
1 hour or less	32	41	6	31	22	100
1 to 3 hours	31	39	6	35	19	100
4 to 7 hours	29	38	10	34	17	100
8 hours or more	19	47	11	32	11	100
<i>Type of secondary school</i>						
Public	30	40	7	33	20	100
Private	29	38	10	24	28	100
<i>Dropout status</i>						
No	30	40	7	33	20	100
Yes	12	58	–	8	33	100
<i>Fell behind</i>						
No	29	38	7	34	21	100
Yes	23	52	0	26	22	100
<i>Problems at school</i>						
No	29	38	7	34	21	100
Yes	26	42	8	27	23	100

continued...

**Table 7 — Distribution of respondents enrolled in college by type of pathway, social background characteristics and academic background (%) (continued)**

	Rate of participation in college studies	Linear pathway	Left after graduating	Interrupted then returned	Left	Total
<i>Type of secondary school</i>						
Public	30	40	7	33	20	100
Private	29	38	10	24	28	100
<i>PISA reading skill level</i>						
Level 5 (626 or higher)	17	35	12	35	18	100
Level 4 (553–625)	28	36	7	36	21	100
Level 3 (481–552)	34	38	9	32	21	100
Level 2 (408–480)	35	43	6	31	20	100
Level 1 (407 or lower)	28	43	7	28	21	100
Total	30	40	7	33	20	

The proportion of students who *left college with a diploma* in 2005 and probably followed a linear pathway is:

- slightly higher among children of self-employed white-collar workers (15%);
- slightly higher among anglophones (12%) living in Quebec, but lower among francophones residing in majority anglophone provinces (3%).

An interruption followed by a return to studies is:

- more common among children of artists (40%), but less common among children of salaried professionals (21%);
- less common among respondents who were born abroad (17%);
- more common among francophones living outside Quebec (44%), but less likely among anglophones living in Quebec (20%) and allophones (22%);
- less common among members of visible minority communities (25%);
- more common among youth living in rural settings (44%).

Compared to the Canadian average, the proportion of young people who return to studies after an interruption is higher in Prince Edward Island (57%), Saskatchewan (50%), New Brunswick (58%) and Nova Scotia (52%).

As for *interruption without a return to studies*, it is:

- more common among francophones in Quebec (28%) and anglophones in the rest of Canada (37%);
- less common among those who, during secondary studies, devoted eight or more hours per week to homework outside the school setting (11%);
- more common among those who had dropped out of school at some point (33%).

Compared to the Canadian average (20%), interrupting studies without returning was more common in Quebec (28%), and less common in the Atlantic Provinces.

The results of the multivariate analysis (see Table 8) point to a situation comparable to that which prevails for persistence: the various sociocultural variables have almost zero effect on the nature of pathways. Thus, there is little to set students who interrupted their studies and later returned apart from those respondents who followed linear pathways (our reference variable). Departures after the student completes a diploma are influenced by gender, rural/urban status, province of residence (New Brunswick, Manitoba and Saskatchewan) and having fallen behind at school. Only one variable has an influence on interruptions before completion of a degree: having fallen behind at school.

**Table 8 — Influence of social background variables on college education pathways in Canada, YITS, Cohort A — multinomial regression odds ratios**

	Interrupted then returned				Graduated				Interrupted, did not graduate			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<b>Gender</b>												
Female	1.18	1.16	1.17	0.93	1.28*	1.36**	1.36**	1.38**	0.70**	0.77*	0.77*	0.79
Male	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>Parents' socio-professional group</b>												
Executive/manager	0.94	1.00	1.00	0.88	1.03	1.02	1.05	0.99	1.08	0.97	0.98	1.17
Owner	0.70	0.66	0.66	0.52	0.63*	0.63*	0.66	0.65	1.00	1.07	1.09	1.33
Self-employed professional	0.95	0.74	0.75	0.58	0.35*	0.38*	0.38*	0.20**	0.46	0.33	0.33	0.38
Salaried professional	0.95	0.88	0.88	0.86	0.78	0.82	0.84	0.86	0.84	0.89	0.91	1.03
White-collar (self-employed)	1.75	1.86	1.84	1.33	1.00	0.87	0.89	0.79	0.62	0.62	0.62	0.65
Blue-collar	0.80	0.79	0.77	0.58	0.84	0.83	0.84	0.72	0.90	0.77	0.76	0.89
Artist	0.46*	0.51	0.52	0.43*	1.07	1.03	1.03	1.04	1.07	1.09	1.08	1.31
Unemployed	0.22	0.27	0.26	0.24	0.73	1.04	1.07	0.80	1.13	1.00	0.98	0.87
White-collar (wage earner)	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>First-generation student (FGS)</b>												
Non-FGS, college	1.14	1.17	1.17	1.05	0.89	1.01	0.98	0.94	0.97	0.98	0.95	0.92
Non-FGS, university	1.27	1.50	1.50	1.55	0.67*	0.89	0.86	0.81	0.83	0.87	0.85	0.81
FGS	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>Parents' annual income</b>												
\$100,001 or more	0.51	0.39	0.41	0.37	0.84	0.86	0.95	1.04	0.65	0.64	0.68	0.56
\$65,001–\$100,000	1.10	1.03	1.06	0.84	1.11	1.06	1.14	1.18	0.98	1.04	1.09	0.94
\$25,001–\$65,000	1.30	1.29	1.31	1.30	1.34	1.22	1.26	1.31	1.18	1.16	1.17	1.08
\$25,000 or under	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>Immigrant status</b>												
Born abroad	0.65	0.55	0.56	0.42	0.37***	0.55	0.56	0.59	0.86	1.20	1.23	0.93
Born in Canada	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<b>Cultural capital score</b>	0.96***	0.98	0.98	0.970	0.96***	1.00	1.00	1.01	1.02***	0.98	0.98	0.99
<b>Linguistic group</b>												
Minority francophone outside Quebec	0.83	0.69	0.49	0.47	1.30	1.15	1.15	1.09	1.23	1.30	1.10	0.63
Quebec francophone	2.01***	1.97**	0.96	0.89	0.94	0.95	1.21	1.18	2.14***	2.20***	1.17	0.74
Minority anglophone in Quebec	2.60***	2.22*	1.11	1.10	0.70	0.71	0.88	0.83	2.78***	2.87***	1.56	0.94
Allophone	1.00	1.03	0.85	0.86	0.49**	0.85	0.92	0.74	0.84	0.83	0.70	0.65
Anglophone outside Quebec	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.

continued...

**Table 8 — Influence of social background variables on college education pathways in Canada, YITS, Cohort A — multinomial regression odds ratios (continued)**

	Interrupted then returned				Graduated				Interrupted, did not graduate			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<i>Visible minority status</i>												
Yes	1.21	1.48	1.48	1.27	0.58**	0.78	0.79	0.95	0.79	0.90	0.90	0.86.
No	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Urban/rural status</i>												
Rural	0.67	0.72	0.75	0.80	1.97***	1.74***	1.65	1.52**	0.99	0.81	0.79	0.79
Urban	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Province of residence</i>												
Newfoundland & Labrador	0.72		0.78	0.78	1.73**		1.21***	1.46	1.14		1.32	1.41
Prince Edward Island	0.44		0.46	0.58	2.66***		2.17***	2.59***	0.86		1.13	1.48
Nova Scotia	1.08		1.08	1.22	2.66***		1.96**	2.18**	1.42		1.30	1.54
New Brunswick	0.94		1.39	2.04	3.19***		2.20***	2.91***	1.27		1.16	1.47
Quebec	1.57*		1.83	2.08	1.09		0.88	0.97	2.01***		2.09	3.51
Ontario	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.
Manitoba	0.41		0.47	0.50	1.69**		1.41	1.46	1.32		1.52	1.72
Saskatchewan	0.70		0.53	0.57	2.15***		1.80***	1.85**	0.89		1.15	1.20
Alberta	0.49		0.60	0.68	0.98		0.92	1.03	0.88		1.20	1.07
British Columbia	0.64		0.83	0.91	1.08		1.21	1.36	0.91		1.32	1.38
<i>Average in mathematics</i>												
90–100%	0.60			0.47	1.62*			1.42	1.05			0.74
80–89%	1.00			1.17	1.35			1.03	1.13			0.78
70–79%	1.03			1.35	1.06			1.15	0.98			0.79
60–69%	1.12			1.27	1.04			1.02	1.17			0.97
Under 60%	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.
<i>Average in languages</i>												
90–100%	1.27			1.51	1.72*			.92	1.28			1.01
80–89%	2.00			1.94	2.02***			1.25	0.80			0.68
70–79%	1.96			1.43	1.57*			1.14	1.12			1.06
60–69%	2.00			1.75	1.39			1.17	1.11			1.03
Under 60%	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.
<i>Average in science</i>												
90–100%	0.42			0.38	1.42			1.05	1.45			1.03
80–89%	0.74			0.75	1.48*			0.98	0.99			0.97
70–79%	0.92			0.84	1.25			0.87	1.28			1.12
60–69%	0.78			0.92	1.02			0.73	1.12			1.07
Under 60%	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.

**Table 8 — Influence of social background variables on college education pathways in Canada, YITS, Cohort A — multinomial regression odds ratios (continued)**

	Interrupted then returned			Graduated			Interrupted, did not graduate					
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<b><i>Time spent on homework per week</i></b>												
Less than 1 hour	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.
1 to 3 hours	1.34			2.07*	1.15			1.24	0.91			1.18
4 to 7 hours	1.52			1.79	1.12			1.05	0.84			0.96
8 hours or more	1.75			2.82*	0.83			1.10	0.32***			0.65
<b><i>Dropout status</i></b>												
Yes	0.14			0.23	0.24***			0.43	1.08			1.57
non	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.
<b><i>Fell behind</i></b>												
Yes	6.91**			0.10**	1.93**			0.47**	1.23			0.40**
No	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.
<b><i>Remedial courses</i></b>												
Yes	1.14			1.24	0.90			0.83	1.17			1.07
No	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.
<b><i>Problems at school</i></b>												
Yes	0.74			1.06	0.64**			0.77	0.99			1.00
No	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.
<b><i>Type of secondary school</i></b>												
Public	1.69			1.21	0.73			0.92	1.46			1.20
Private	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.
<b><i>PISA reading skill level</i></b>												
Level 5	1.72			1.30	1.53			1.32	1.25			1.42
Level 4	1.33			0.84	1.46			1.03	1.18			1.12
Level 3	1.17			1.00	1.30			1.15	1.16			1.15
Level 2	0.96			0.77	1.18			1.11	1.00			1.02
Level 1	Ref.			Ref.	Ref.			Ref.	Ref.			Ref.
Pseudo-R <sup>2</sup>		0.04	0.05	0.08								
$\chi^2_{\text{wald}}$		238.11 ***	375.00 ***	508.34 ***								
DF		66	93	165								
N		3,910	3,910	3,300								

Notes: \* : p &lt; 0.05; \*\* : p &lt; 0.01; \*\*\* : p &lt; 0.001.

To sum up, there are three groups that stand out: girls, who have certain characteristics promoting rapid completion of a diploma<sup>7</sup>; respondents who had had trouble at school and as a result chose a shorter program of study; and respondents living in provinces where secondary school does not last as long as in Ontario.

### 3.3.2 University careers

University pathways also were not influenced very much by the variables studied. The descriptive analysis (see Table 9, below) allows us to make some observations, however. We note first that the vast majority of respondents enrolled in university studies followed a linear pathway to university (82%) and only a tiny minority (2%) had interrupted their studies. Lastly, 16% of respondents who attained the university level left without returning.

There were some fluctuations in the proportion of respondents who followed a linear pathway. This proportion:

- is lower among respondents whose parents worked in artist professions (73%), were self-employed white-collar workers (76%) or earned a salary (74%);
- increases with the level of parental academic capital;
- is higher among respondents from Quebec, both francophones (93%) and anglophones (95%);
- is lower among those living in rural areas (75%);
- is higher among respondents who had high marks in mathematics, science and languages during secondary school;
- increases with the number of hours spent on homework per week (from 73% to 86%);
- is lower among respondents who have dropped out of school for some period of time;
- higher among respondents who scored higher on reading tests (level 4 or 5), but lower among those whose reading skills were poor (Level 1).

Compared to the Canadian average (82%), the proportion of students who followed a linear pathway through university is higher among respondents from Ontario (86%) and Quebec (93%), but lower among respondents living in the Prairie Provinces (between 64% and 76%), British Columbia (68%) and the Atlantic Provinces (between 68% and 75%).

Interruption without a return to studies is :

- less common among children of salaried professionals (9%) and the unemployed (8%) as well as among those whose parents went to university (13%);
- less common among respondents living in Quebec (both francophones and anglophones);
- slightly less common among those who, during secondary school, had low grades in mathematics and languages or spent one hour or less per week on their homework, which is probably explained by the fact that they are under-represented in post-secondary education, including in university;
- more common among respondents who had dropped out (20%) or fallen behind (22%) in secondary school.

Compared to the Canadian average (16%), interruption without a return to studies is more common in Prince Edward Island (23%), Nova Scotia (23%), New Brunswick (25%) and Saskatchewan (26%), but less common in Quebec (6%) and Manitoba (3%).

To determine whether the link between university pathways and social and cultural background is independent of scholastic and institutional factors, we also conducted a multivariate analysis. The results (see Table 10) show that the independent variables are independent of the pathways. Only two variables have an effect on the likelihood of an interruption in or a return to studies: the fact of being a Quebec francophone and the fact of living in a province other than Quebec. The latter situation increases the probability of interruptions with no return to studies. Being an allophone or coming from a rural area, however, decreases that probability.

7. In fact, these are likely girls who have chosen a technical or vocational program.

**Table 9 — Distribution of respondents enrolled in university, by type of pathway, social background characteristics and academic background (%)**

	Rate of participation in university studies	Linear pathway	Interrupted then returned	Left	Total
<b>Gender</b>					
Male	36	82	2	16	100
Female	52	81	4	15	100
<b>Parents' socio-professional group</b>					
Executive/manager	44	84	2	14	100
Owner	50	80	2	18	100
Salaried professional	58	82	9	9	100
Self-employed professional	57	83	3	14	100
White-collar (wage earner)	35	74	3	23	100
White-collar (self-employed)	38	76	3	21	100
Blue-collar	31	84	3	13	100
Artist	29	73	3	24	100
Unemployed	38	92		8	100
<b>First-generation student (FGS)</b>					
FGS	25	76	4	20	100
Non-FGS	40	78	2	20	100
Non-FGS	69	84	3	13	100
<b>Parents' annual income</b>					
\$25,000 or under	33	79	3	18	100
\$25,001–\$65,000	36	78	3	19	100
\$65,001–\$100,000	50	80	4	16	100
\$100,001 or more	64	82	3	14	100
<b>Immigrant status</b>					
Born in Canada	42	81	2	17	100
Born abroad	61	82	5	13	100
<b>Linguistic group</b>					
Anglophone outside Quebec	46	76	4	20	100
Minority francophone outside Quebec	39	82	3	15	100
Quebec francophone	28	93	–	7	100
Minority anglophone in Quebec	42	95	–	5	100
Allophone	63	86	3	11	100
<b>Visible minority status</b>					
Yes	63	84	3	13	100
No	41	80	2	17	100

continued...

**Table 9 — Distribution of respondents enrolled in university, by type of pathway, social background characteristics and academic background (%) (continued)**

	Rate of participation in university studies	Linear pathway	Interrupted then returned	Left	Total
<i>Urban/rural status</i>					
Rural	32	75	3	22	100
Urban	48	81	4	15	100
<i>Province of residence</i>					
Ontario	50	86	2	12	100
Newfoundland & Labrador	47	68	6	26	100
Prince Edward Island	56	73	4	23	100
Nova Scotia	56	75	2	23	100
New Brunswick	48	73	2	25	100
Quebec	30	93	1	6	100
Manitoba	48	64	4	3	100
Saskatchewan	43	72	2	26	100
Alberta	37	76	5	19	100
British Columbia	51	68	6	25	100
<i>Average in languages</i>					
90–100%	77	87	3	10	100
80–90%	66	83	3	14	100
70–80%	43	77	5	19	100
60–70%	23	74	4	22	100
60% or below	13	77	–	23	100
<i>Average in mathematics</i>					
90–100%	78	87	3	10	100
80–90%	60	84	3	13	100
70–80%	43	79	2	19	100
60–70%	32	78	3	19	100
60% or below	22	73	4	23	100
<i>Average in science</i>					
90–100%	79	89	2	9	100
80–90%	62	81	3	16	100
70–80%	41	80	3	17	100
60–70%	27	74	4	22	100
60% or below	16	69	–	31	100



**Table 9 — Distribution of respondents enrolled in university, by type of pathway, social background characteristics and academic background (%) (continued)**

	Rate of participation in university studies	Linear pathway	Interrupted then returned	Left	Total
<i>Time spent on homework per week</i>					
1 hour or less	23	74	4	22	100
1 to 3 hours	42	78	2	19	100
4 to 7 hours	56	82	4	14	100
8 hours or more	73	86	3	11	100
<i>Dropout status</i>					
Yes	5	60	20	20	100
No	45	82	2	16	100
<i>Fell behind</i>					
No	46	83	2	15	100
Yes	9	78		22	100
<i>Problems at school</i>					
No	49	82	2	16	100
Yes	29	80	3	17	100
<i>Type of secondary school</i>					
Public	42	81	2	17	100
Private	62	85	2	13	100
<i>PISA reading skill level</i>					
Level 5 (626 or higher)	76	86	3	12	100
Level 4 (553–625)	57	83	3	14	100
Level 3 (481–552)	38	79	3	18	100
Level 2 (408–480)	20	75	–	25	100
Level 1 (407 or lower)	10	70		30	100
Total	43	82	2	16	



**Table 10 — Influence of social and cultural background characteristics on university education pathways in Canada, YITS, Cohort A — multinomial regression odds ratios (continued)**

University pathway	Interrupted then returned				Interrupted, did not return			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<i>Urban/rural status</i>								
Rural	0.85	0.95	0.85	0.95	1.74***	1.45***	1.30*	1.52**
Urban	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
<i>Province of residence</i>								
Newfoundland & Labrador	2.97***		2.51**	2.87**	2.81***		1.84*	2.23***
Prince Edward Island	1.83*		1.63	1.74	2.31***		1.56**	2.09***
Nova Scotia	1.25		1.43	1.48	2.20***		1.70**	1.98***
New Brunswick	1.39		1.65	1.91	2.47***		1.80***	2.20***
Quebec	0.36		2.93	2.25	0.62**		0.30*	0.32
Ontario	Ref.		Ref.	Ref.	Ref.		Ref.	Ref.
Manitoba	2.82***		2.86**	2.83	3.52***		3.10***	3.49***
Saskatchewan	1.78**		2.15*	2.11	2.66***		1.92***	2.56***
Alberta	2.54**		2.93**	2.41	1.84***		1.66**	1.74**
British Columbia	3.15***		3.16**	3.51	2.73***		2.59***	3.30***
<i>Average in mathematics</i>								
90–100%	0.60			0.70	0.38***			0.86
80–89%	1.08			1.20	0.50***			0.85
70–79%	0.96			1.15	0.78			1.03
60–69%	1.00			1.57	0.72			0.82
Under 60%	Ref.			Ref.	Ref.			Ref.
<i>Average in languages</i>								
90–100%	1.91			1.98	0.47**			1.10
80–89%	2.18*			2.33	0.69			1.52
70–79%	2.71*			3.04*	0.93			1.82
60–69%	2.61*			2.53	1.24			1.86*
Under 60%	Ref.			Ref.	Ref.			Ref.
<i>Average in science</i>								
90–100%	0.72			0.84	0.23***			0.31***
80–89%	1.00			1.10	0.46***			0.62
70–79%	0.95			1.17	0.55**			0.64
60–69%	0.61			0.71	0.68			0.71
Under 60%	Ref.			Ref.	Ref.			Ref.
<i>Time spent on homework per week</i>								
Less than 1 hour	0.86			0.87	0.86			0.95
1 to 3 hours	0.86			1.05	0.62***			0.89
4 to 7 hours	0.71			0.62	0.48***			0.75
8 hours or more	Ref.			Ref.	Ref.			Ref.

continued...

**Table 10 — Influence of social and cultural background characteristics on university education pathways in Canada, YITS, Cohort A — multinomial regression odds ratios (continued)**

University pathway	Interrupted then returned				Interrupted, did not return			
	Gross effects	Model 1	Model 2	Model 3	Gross effects	Model 1	Model 2	Model 3
<b>Dropout status</b>								
Yes	5.89			8.81*	1.59			1.62
No	Ref.			Ref.	Ref.			Ref.
<b>Fell behind</b>								
Yes	2.56			0.70	0.86			0.40
No	Ref.			Ref.	Ref.			Ref.
<b>Remedial courses</b>								
Yes	0.85			0.75	0.87			1.05
No	Ref.			Ref.	Ref.			Ref.
<b>Problems at school</b>								
Yes	1.61*			1.56	1.16			1.28
No	Ref.			Ref.	Ref.			Ref.
<b>Type of secondary school</b>								
Public	0.59			0.75	0.75			1.11
Private	Ref.			Ref.	Ref.			Ref.
<b>PISA reading skill level</b>								
Level 5 (626 or higher)	0.59			1.31	0.36**			0.74
Level 4 (553–625)	0.59			1.04	0.45*			0.81
Level 3 (481–552)	0.64			1.32	0.63			0.98
Level 2 (408–480)	0.45			0.86	0.80			1.22
Level 1 (407 or lower)	Ref.			Ref.	Ref.			Ref.
Pseudo-R <sup>2</sup>		0.05	0.08	0.11				
$\chi^2_{\text{wald}}$		240.99***	418.86***	626.57***				
DF		44	62	110				
N		7,344	7,344	6,615				

Notes: \* : p < 0.05; \*\* : p < 0.01; \*\*\* : p < 0.001.

In conclusion, only a few social and cultural factors have a significant impact on university pathways but the lower proportion of respondents who returned to studies limits the scope of the analysis. Province of residence has a significant influence on pathways, but, rather, reveals an effect of context. In this regard, it is difficult to differentiate

the effects of education systems (the specific characteristics of the Ontario system, for example) from broader effects such as that of economic growth. The fact of living in a rural area also has an effect on interruption of studies. Lastly, more challenging living conditions during studies may explain a larger number of withdrawals.

# Conclusion

The primary objective of this study was to examine to what degree social and cultural determinants influence access to and persistence in post-secondary education among Canadian youth. We selected the following variables: gender, family background (parents' socio-professional group, income and schooling), immigrant status, available cultural capital, linguistic group, visible minority status, and geographical situation. We also took into account the fact that access to studies and educational pathways can depend on institutional and scholastic factors. From that perspective, we selected province of residence as a contextual variable along with variables characterizing prior school experiences, and relative to academic skills (grades in mathematics, languages and science) as well as level of commitment to studies (time spent on homework, drop-out rates, falling behind, etc.). We incorporated a further variable relative to studies, namely, cognitive skills in reading. Several observations can be made.

## a) Two educational processes at work

The development of post-secondary education, viewed through the prism of participation or attainment, is influenced by two different processes. On the one hand, there is clearly a movement of educational investment in several groups of society. It is based in part on education policies that, beginning in the second half of the last century, have promoted greater access to PSE, both at the college and the university levels. University has progressively become more accessible, with three-quarters of young people still in school at age 15 attaining this level subsequently. This trend has not affected all groups and categories of people equally. Use of the term differentiated or segregative democratization is therefore apt: the rise of certain social movements—such as those among women, francophones or a number of ethnocultural groups—that have perceived

the institution of education as a tool for economic and social emancipation (individual as well as collective) has resulted in an unequal progression. Lastly, certain situations experienced by families or individuals are also drivers of educational investment.

Women began closing the gender gap through this investment in the 1970s and eventually exceeded men's educational attainment by the late 1990s. Women are currently in the majority, both at the college and the university level, and their graduation rate is higher than that of men. Two theories are put forward to explain females' academic progression: the feminist movement and socialization. The first has led to a conception of school and education as a tool for social advancement. The second has to do with cultural dispositions that appear to bring women closer to the dispositions required by the academic institution. If socialization tends to reconcile individual dispositions and those required by the school, we should expect a diminished effect of gender when the variables of secondary school participation are introduced into the model. The effect of gender remains constant, however, with regard to both accessibility and persistence, which would tend to reinforce the motivation theory.

Dandurand *et al.* (1980) have written that education lies at the heart of national struggles and transformations in the standing of the various social strata. In that regard, the authors pointed to the scholastic advancement of Quebec francophones, moving toward an analysis grounded in terms of ethnocultural and sociolinguistic identity. Such advancement is indeed confirmed by our analyses: first, the fact of being a francophone in Quebec increases one's chances of attaining college studies, but reduces the likelihood of progressing to the university level. The relationship is more complex than it appears, however, because introducing province of residence and the scholastic variables inverts the relationship (the new relationship is not significant, however). Thus, access to university is not so much reduced due to the ethnocultural background of Quebec francophones,

but more by contextual effects related to place of residence. A similar trend is evident in the case of Quebec anglophones, suggesting that province of residence exerts a stronger influence than the social and cultural characteristics specific to the different linguistic groups.

The educational investment movement is also evident among immigrants, allophones and visible minorities. An initial situation observed is that of immigrants who, seeking social and professional integration, increasingly populate the school and education systems (Zéroulou, 1988). Our results indicate that the gross effect of immigrant status increases the probability of attaining PSE. That effect disappears, however, when other factors are taken into account; rather, it is the fact of being an allophone or a member of a visible minority that influences access to university. This suggests that it is less the process of immigration that influences access as it is the dispositions associated with cultural backgrounds captured by the two variables. Moreover, those same factors do not influence access to college, which suggests that that education level does not have the same symbolic status as does university.

Social reproduction is also perceptible in the situation of anglophones in Quebec, who historically have ascribed greater value to instruction, and in differences in access based on class fractions. In the latter case, it is indeed differences in parental academic capital and cultural capital that drive variations in access, especially access to university. Economic capital has a lesser effect, and it disappears when the secondary school variables are introduced.

A number of factors related to inequalities of social class influence access to college and university studies: composition of cultural capital, parental academic capital, living conditions, and quality of schooling at the secondary level. Socially advantaged youth whose prior schooling is equivalent are also scholastically advantaged, which speaks to the persistence of the effects of reproduction. Access rates are higher among young people whose parents earn high incomes and themselves have PSE experience. In this regard, the effect of living conditions disappears after the variables describing schooling at the secondary level are introduced in the models, except where the effect of high family income is concerned. Moreover, the

influence of these variables also acts on the choice of a college education versus a university education. The results showed that youth from socially advantaged families choose university more often than college.

It would seem, therefore, that the educational inequality that once characterized the entire school system has waned, but that it has also been shifted, recomposed and reinforced in post-secondary education (Duru-Bellat and Kieffer, 2008). As Jencks *et al.* (1972) observed in the 1970s, in the United States, the promotion of equal opportunity policy has allowed youth from lower-income families to increase their level of schooling, but the gaps between them and their counterparts in more advantaged strata have persisted and even increased in certain cases. Upper-income families have deployed extra resources to enable their children to maintain their competitive advantage in school (Duru-Bellat, 2003). The reproduction of social inequalities therefore tends to operate more within school systems than outside them.

## b) Differences between colleges and university

A comparison of college studies and university studies suggests that the weight of the various factors is much more perceptible in university than in college, where vocational and technical training is largely represented. First, access to university is modulated by social and cultural traits as well as the characteristics of schooling at the secondary level, while access to college studies depends more on the quality of schooling, although the effects of gender and parental academic capital persist. Second, the effect of various factors is simply stronger. The fact remains that, overall, colleges have been democratized to a greater degree than have universities. Comparing the two levels of education allows us to conclude that university selection is founded equally on social and scholastic criteria, not to mention the prestige ascribed to it by many social categories engaged in educational investment. The latter is also driven by the job mobility that a university degree promises, although the effect varies depending on field of study and economic sector.

## c) Differences between provinces

Our analysis also indicates that access is unequal across the provinces. The proportion of youth that did not enrol in PSE varies from province to another, from 19% in Ontario to 36% in Alberta. Access to colleges and to university is also unequal from one province to another. The multivariate analysis reveals that college attainment rates are lower in the Western Provinces, and university attainment rates are lower in Quebec and in the Western Provinces. In addition, attainment is more common in the Atlantic Provinces. The differences across provinces are also felt in regards to persistence and pathways: students in four provinces were less likely to have graduated in 2005 than Ontario students, and students in all provinces were less likely than Ontario students to still be studying. The fact of residing in certain provinces influences college pathways as well as university pathways. But how are we to understand these effects of province of residence?

We could attribute these effects to the organization of post-secondary education and the different formal pathways available. In this regard, we observe differences between the provinces in the development of college studies. In Quebec, for example, 57% of respondents who pursued PSE went to college, and 43% went to university. In all other provinces, those proportions are reversed: the majority of students attend university (57% in Ontario; 72% in Prince Edward Island) rather than college. Consequently, a more refined analysis of the educational missions of colleges in the various provinces would be necessary. For example, colleges in many provinces provide vocational and technical programs. Vocational training typically takes less time to complete than technical training, which means that diplomas are obtained sooner. This would explain why the college graduation rate in those provinces is not equal to that in Ontario.

A comparative analysis of education systems is not sufficient, however, to fully understand either inequality of access or differences in persistence. The variable *province* is “contaminated” by a certain number of contextual variables that cannot be

dissociated from it. For example, the effects of prevailing economic conditions may also explain unequal PSE development. Thus, economic growth in the Western Provinces has prompted large numbers of youth to enter the job market rather than pursue a post-secondary education.

## d) The effect of school variables

A fourth observation involves the influence of the variables that describe prior schooling. These influence access to post-secondary education in three ways: via the effects of academic capital, of student status and of nature of prior schooling. Our analysis led to what we might term “textbook” results. Having good grades in school produces a positive effect on pursuit of PSE, especially in university, as well as on persistence. The overall effect of the three types of grade averages (average in mathematics, science and languages) is similar. They positively influence access to PSE, but have no significant influence on persistence. Having a high average in these subjects therefore increases probability of PSE attainment, but is not a predictor of academic persistence.

Where college studies are concerned, it is possible to predict the effects of learning or of academic capital by looking at school results in language courses. Note that mathematics and science averages have no effect on the probability of access. More broadly, we also note an effect of reading skills: the higher the PISA score, the greater the probability of attaining college studies. But this effect does not appear to be the most important one: the variables relative to the nature of schooling have a stronger influence on access.

In university, the situation is somewhat different, because all of the variables relative to academic results, reading skills and the nature of schooling have a modulating effect on access. In this regard, their influence is far stronger. University attainment rates are also lower among respondents in rural areas, but this is not the case with college attainment rates. This difference may be explained by the geographic dispersal of colleges, which is wider than that of universities.

At the beginning of this study, we posited the theory that schooling at the secondary level is a time for accumulation of knowledge and competencies, factors that appear to influence PSE attainment and academic persistence. In terms of attainment, that theory is confirmed. The knowledge and skills acquired in secondary school exert a positive influence on access to PSE. The theory is invalidated, however, with regard to persistence.

### e) **The distinction between attainment and persistence**

As for determining whether the social and cultural background variables exert any significant influence on academic persistence and educational pathways, the results indicate that this influence is weaker than the influence on attainment. The persistence rate is higher among the groups that are most represented in post-secondary institutions, including at university: anglophones living outside Quebec, members of visible minority communities, children of professionals and managers, and those whose parents have higher incomes or have post-secondary education experience. The differences often diminish, however, when province of residence is taken into account.

Various theories have been put forward. The first posits that the “traditional” dispositions of women, which more closely match those required by school, contribute to ensuring greater persistence by female students and increasing the likelihood of them graduating from college. A second theory suggests that differentiation in academic choices and the homogenous nature of the groups of students in the chosen programs attenuate social, cultural and scholastic differences. A third theory holds that events occurring in school (failures) and outside school

(death in the family or other life challenges) during a student’s post-secondary career can cause divergences. Our analysis did not take into account these events, which can have a greater influence than heritage and prior acquisitions on how things turn out. Lastly, we cannot dismiss the idea that too little time has elapsed between the start of the survey and the most recent phase of data collection to enable differentiation of pathways and an understanding of how that differentiation works. Later analysis of the most recent data collected (in 2007) may bolster the relevance of this last theory.

At the end of this study, we can conclude that the influence of social and cultural determinants on access to post-secondary education persists. It acts both through reproduction of social inequalities (via variables such as parental income and education) and through the educational investment movement seen in certain social groups (women, immigrants, members of visible minorities). Social determinants and prior schooling, however, exert a greater effect on access to studies than on persistence, the latter being explained more by the characteristics of the school system. It is possible that modes of social anchoring and prior schooling influence the decision to pursue studies, and that persistence is instead influenced by other factors, including students’ initial experiences in post-secondary education. We know (Tinto, 1993, and Coulon, 1992) that social or intellectual integration, as well as the shift from being a secondary student to being a post-secondary student, influence the subsequent unfolding of educational pathways. This is why, in our effort to understand educational pathways, we suggest taking into account the characteristics specific to post-secondary schooling, and posit the theory that the unfolding of educational pathways is also modulated by individuals’ initial experiences in post-secondary education.



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