What Do We Know About the Pathways and Transitions of Canadian Students in Post-Secondary Education?

Note 1: Transitions Project

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Canada Millennium Scholarship Foundation

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Frequently Used Acronyms and Abbreviations

AAPOS	Academic Aspirations and Professional Orientations of Students
AUCC	Association of Universities and Colleges of Canada
CCL	Canadian Council on Learning
CSE	Conseil supérieur de l'éducation
SLS	School Leavers Survey
SLFS	School Leavers Follow-up Survey
SLID	Study of Labour and Income Dynamics
SFC	Survey of the Finances of Consumers
YITS	Youth In Transition Survey
YITS-A	Cohort A of the Youth in Transition Survey
YITS-B	Cohort B of the Youth in Transition Survey
PEPS	Postsecondary Education Participation Survey
FGS	First Generation Students
PALS	Participation and Activity Limitation Survey
PSE	Post-Secondary Education
CMSF	Canada Millennium Scholarship Foundation
ICOPE	Indicateurs de Conditions de Poursuite des études
MEQ	Ministère de l'éducation du Québec
MELS	Ministère de l'éducation, du loisir et du sport
OECD	Organization for Economic Co-operation and Development
PAREA	Programme d'aide à la recherche sur l'enseignement et l'apprentissage
CSLP	Canada Student Loans Program
PISA	Program for International Student Assessment
SOSA	Survey of Ontario Student's Aspirations
SRAM	Service régional d'admission du Montréal métropolitain
UQ	Université du Québec

Introduction

What has been written about students in Canada in the past few decades? This seemingly simple question has led to this research note by the Transitions Project. The project has two objectives: first, to assemble an inventory of research on student pathways and on the condition of post-secondary students in Quebec and Canada over the past few decades; and secondly, having done so, to list the principal sources of data on the subject in order to create a reference tool for researchers and for stakeholders in the field of education.

Our initial exploratory research allowed us to determine that the themes and sources of production and circulation of studies on the subject are more numerous and varied than we first imagined. Also, considering the time allotted to produce this reference tool, its role in relation to other research projects and its specific objectives, we have decided to limit ourselves to empirical studies — in particular those suggested by researchers involved in the project[2], those available on selected internet sites, those published in peer-review journals[3] and those distributed by centres for research in higher education.[4]

We have chosen to structure this textual review around themes rather than in chronological order of publications, even if we do draw heavily upon the work of groundbreakers on the subject. We have focused on three principle themes: access to establishments, persistence and "access" to a degree, and, finally, academic transitions (including the return to studies). These three themes correspond to three stages that have punctuated the development of research on student pathways in Canada.

Papers that address factors explaining inequalities of access to post-secondary education (PSE), and that address success and persistence in or withdrawal from studies, have been resituated in their larger context. Thus we have targeted studies that allow us to understand historical, economic and demographic contexts, as well as educational policies that have influenced access to PSE since the 1960s. On the other hand, studies on transitions into the job market have been excluded, as has pedagogical research on apprenticeships and trades training, and research into the organization of higher education (colleges, CEGEPs and universities).

We have given priority to *institutional research* above university research. We have examined the works of organizations that, although varying widely in size, institutional mission and objectives, offer different points of view that have rarely been seen together within the framework of university research on student pathways. The inventory encompasses studies from important federal, inter-provincial and provincial governmental organizations such as Statistics Canada, the Council of Ministers of Education, Canada (CMEC), the provincial ministers of education and the Conseil supérieur de l'éducation (CSE) of Quebec. Studies by non-profit organizations, such as the Canada Millennium Scholarship Foundation and the Association of Universities and Colleges of Canada (AUCC), are also examined. As well, we have included studies conducted within the framework of the Programme d'aide à la recherche sur l'enseignement et l'apprentissage (PAREA) — a program which is, however, quite limited.

In terms of *university research*, we have emphasized the diversity of sources, touching briefly upon the work of groundbreakers in the field, but mainly giving priority to more recent studies — in particular, those produced in Quebec and in certain provinces in western Canada. From the studies of our forerunners, we have drawn upon those of Breton (1972), Bélanger and Pedersen (1973), Sylvain, Laforce and Trottier (1985), Massot (1979a, 1979b, 1979c), and Porter, Porter and Blishen (1979). The results of their

2. Twenty-five researchers from various post-secondary institutions in Quebec and from the University of Ottawa.
3. *Revue canadienne d'enseignement supérieur, Revue des sciences de l'éducation, Revue canadienne de l'éducation, McGill Journal of Education,* and *Alberta Journal of Educational Research.*
4. *Centre for Policy Studies in Higher Education and Training at UBC and the Centre interuniversitaire de recherche sur la science et la technologie* (CIRST).

analyses, which in several cases draw upon longitudinal surveys from the 1960s and 1970s, allow us to have a better grasp of the changes in the evolution of certain inequalities of access to education (gender, social background, language, province and place of residence).

The themes addressed in recent studies vary greatly: student pathways at the college level (academic inequalities according to gender, linguistic group, geographical and social origin, etc.), at-risk students, the return to studies, bridges between levels of education, living conditions of students in the 1990s, conditions of the pursuit of studies, persistence and success.

The first section presents a contextualization of works on student pathways, beginning with studies on provincial and federal governmental policies on the accessibility of PSE in Canada, and other contextual factors influencing the "need" for a post-secondary education. The second and third sections examine successively the inequalities of access to post-secondary institutions, and those observed in terms of persistence and success, or "access" to a degree/diploma. The fourth section focuses on transitions between levels of education and on the return to studies. The fifth concentrates on the larger tendencies observed in the evolution of inequalities in PSE, as well as the conceptual approaches used in the cited works to help explain these inequalities.

1. Contextualization of Studies on Student Pathways

The objective of this section is to situate the question of access to and persistence in post-secondary education (PSE) within its social and political context. Drawing upon recent studies, we will examine the question in terms of the priority given by the provinces and the Canadian government, and of the reference systems underlying the politics of accessibility, as well as the reformulation of this priority over the past few decades.[5] Then, we will consider other contextual factors influencing access to PSE.

1.1 Access to PSE: A Priority of Provincial Policies Since the 1960s

Access to institutes of higher learning has been the priority of provincial policies on higher education since the 1960s, as demonstrated in three case studies on the post-secondary education systems in British Columbia, Ontario and Quebec (Fisher *et al.*, 2005; Shanahan *et al.*, 2005; Trottier and Bernatchez, 2005). This priority stems from the principle according to which the right to PSE is extended to anyone who has the intellectual capacity and the will to undertake them. The implementation of related policies in the three provinces reveals a certain amount of convergence:

- Reform of secondary education (raising of the age of "specialization," in order to avoid choosing a pathway too quickly) and measures to encourage distance learning.
- Creation of a new type of PSE institution (pre-university colleges or technical vocational institutes), new universities, in particular outside of large urban centres, and expansion of already-established universities.
- Financial support for universities based in part upon the number of students admitted.
- Tuition freezes during certain periods, and regulation of tuition.

The provinces also had individual strategies. For example, the structure of the CEGEP system in Quebec, as opposed to the college system in B.C. and Ontario, has two levels (pre-university and technical) characterized by a polyvalent approach (general training courses common to both streams). In addition, CEGEP studies are free in Quebec, and tuition at Quebec universities, which are the lowest in Canada, were frozen until only recently and continue to be regulated. Also, the loans and bursaries program for students in post-secondary institutions is more generous than in other provinces. We might conclude that the Quebec system is more generous overall because it limits debt by offering bursaries rather

5. This first section establishes certain benchmarks in regards to the development of post-secondary education in Canada. In particular, it focuses on the intellectual and normative referents that form the bases for governmental policies and actions on the subject. Thus, it is not aimed at understanding how governmental and public action(s) have led to the promulgation of these objectives as political referents — this could only be achieved through a complete analysis of the policies.

than loans when the evaluated level of need reaches a certain threshold. On the other hand, it is more difficult for certain students to obtain financial aid for their studies because the Quebec government demands a financial contribution from parents which is higher than that required in other provinces. Thus, if we take into account the fact that the average income of Quebec households is below the Canadian average, we cannot say that the Quebec system is actually more generous than the others in regards to students who are considered "dependent."

Another example of individual provincial strategy is the *Transfer System* in B.C., which consists of facilitating, systematically, the transitions of students between the various types of post-secondary institutions. Alberta, following B.C.'s example, has made considerable investments in colleges in the past few years. This effort has allowed them to bring post-secondary education to students scattered throughout the province (De Broucker, 2005).

1.2 Post-secondary Education: A Priority for the Canadian Government Since 1945

Even though, according to the Canadian constitution, education falls under provincial jurisdiction, the federal government — by virtue of its spending power — intervenes in the field of post-secondary education in the name of national interest and the principle of equal opportunity. This is particularly apparent in the area of vocational training. Funding from the federal government aids in tightening the links with economic development and encouraging access, which is one of its priorities.

Fisher *et al.* (2006) note that, after the end of the 1930s, the federal government put in place a shared-cost financial aid program for university students (costs were shared with the provinces). Still, the federal government's interest in university education and research fluctuated until 1945 (AUCC, 2002). Its intervention in this sector would not become significant until after the Second World War, particularly between 1945 and 1967, when support was given in order to increase access to studies for veterans, and to meet the growing need for a highly qualified labour force during the long period of economic growth from 1950 to 1960 (AUCC, 2006). During the 1950s, the federal government implemented another type of program, centred on direct grants to universities. One year after its implementation, Quebec refused to participate, and was still able to benefit by obtaining, in 1959, a right to opt out of the program and a tax transfer equivalent to the amounts received by other provinces through the program (Fisher *et al.*, 2006).

In 1967, the federal government replaced these direct subventions to universities with a transfer system, contributing directly to provinces' functioning costs and thus to the costs of technical and professional education. This gave provinces the benefit of autonomy in their distribution of funds, as Quebec had previously had by way of the tax transfer. The principle of the right to opt out of a program was applied again in 1964, after the federal government established the Canada Student Loans Program (CSLP), allowing Quebec to implement its own program. Moreover, the provinces could decide how they wanted to distribute the funds granted them by the federal government within the framework of the Canadian Social Transfer, choosing to give them entirely or in part to initiatives aimed at increasing accessibility. Also, according the Canadian Federation of Students (2007), the Northwest Territories (who withdrew from the CSLP in 1988) and more recently, Nunavut, negotiated separate arrangements with the federal government in order to be able to manage their own loan programs.

In short, despite some tension between the two levels of government regarding jurisdiction in the field of education, it appears that access to higher education has also been a priority of the federal government. This was demonstrated again in 1998 with the creation of the Canada Millennium Scholarship Foundation, which aimed to reduce the level of student debt. The federal government would once again accommodate Quebec, which already had its own loan and bursary program, by signing a new agreement.

1.3 A Priority for Federal and Provincial Governments, Budget Cuts of the 1990s and Reinvestment in Research

The fact that access to PSE is a governmental priority is also reflected in the funding invested in higher education over the past several decades. For example, for university, Graph 1 shows the evolution of funds allocated by the federal, provincial and municipal governments since 1954. The rise in funding is clearest between 1974–1975 and 1992–1993, tapering off until 1996–1997 when the growth rate resumes.

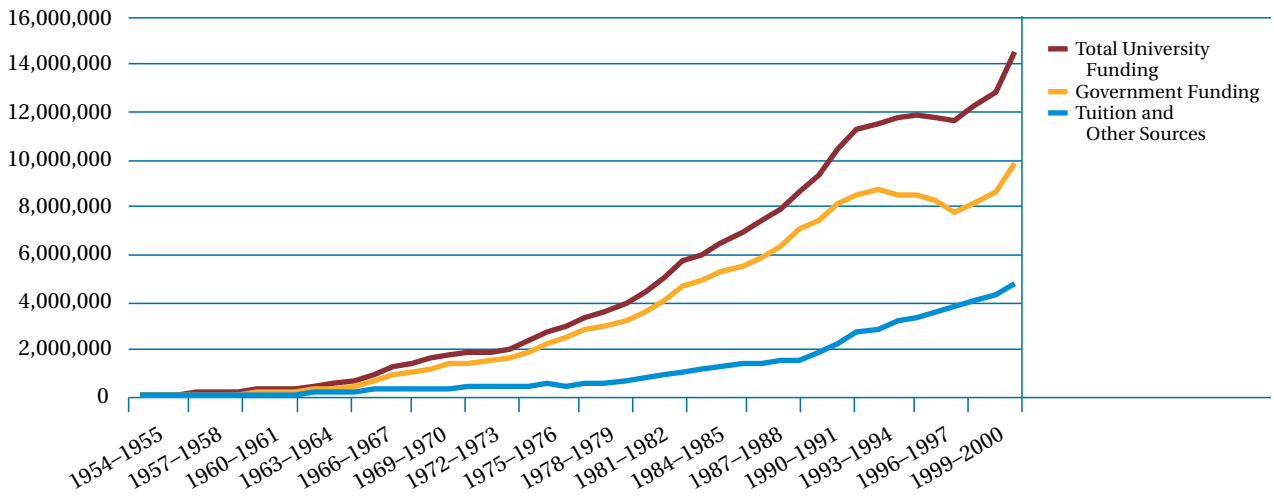
These investments in particular, and government policies on access in general, have had measurable effects on access to institutions, notably to colleges (Figure 2), as well as on access to a degree, especially for girls. Figure 3 shows the situation for Quebec.

However, it is necessary to situate the stated priorities of the federal and provincial governments within the context of the budget cuts of the 1990s. These had an effect on tuition hikes and, most likely, on the quality of post-secondary education (AUCC, 2007a). Indeed, from 1995 to 2005, the transfer of funds from the federal government to PSE declined significantly (down 27 percent), while the number of students rose considerably (36 percent) (Fisher *et al.*, 2006).

The rise in tuition observed over the past few years can be explained in part by the fact that in actual numbers, universities received $4,000 less per student from the government in 2002 than they did in the early 1980s, when they were given $12,000 per student (AUCC, 2002). Moreover, according to the AUCC:

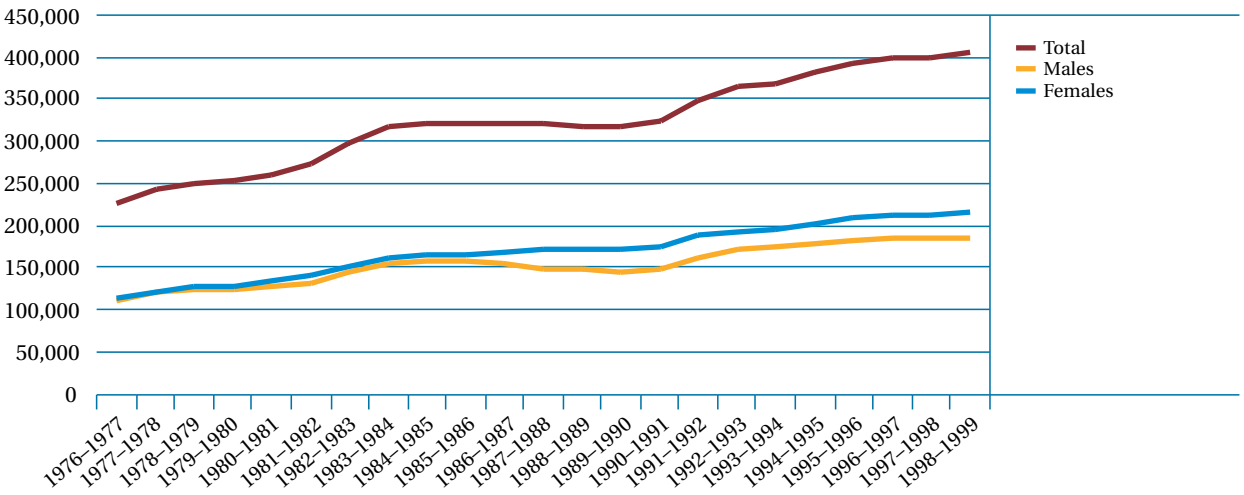
> *A clear link exists between government funding trends and enrolment. Universities have been able to expand to meet demand when governments have increased their investments. Conversely, when governments cut their funding in the mid-1990s, universities had to respond by reducing faculty and support services and constraining enrolment over that period. There are significant potential trade-offs to be considered when expanding or contracting the number of students within a given set of physical and human resources. These trade-offs can significantly influence a number of factors that affect quality including the degree of student engagement; the level of student-faculty interaction; the opportunity to participate actively in learning and research experiences; and the opportunity for valuable interactions with students from other nations and cultures.* (AUCC, 2007a, p. 39).

Figure 1 — Financing of Canadian Universities According to Source of Funds (1954–2000)



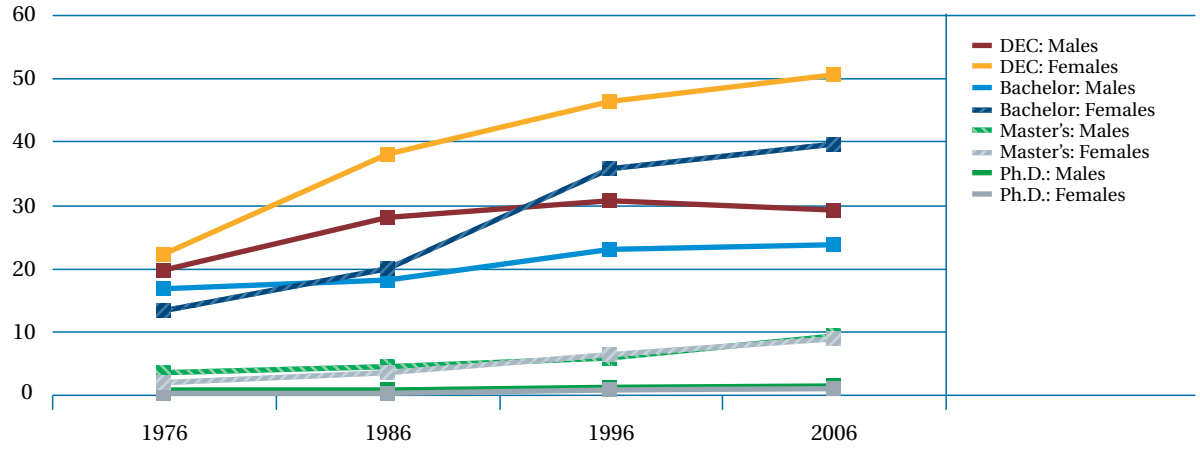
Source: http://estat.statcan.gc.ca/cgi-win/cnsmcgi.exe?Lang=F&EST-Fi=EStat/Francais/CII_1-fra.htm (site consulted April 28, 2009).

Figure 2 — Number of Students in Community Colleges (1975–1999)



Source: http://estat.statcan.gc.ca/cgi-win/cnsmcgi.exe?Lang=F&EST-Fi=EStat/Francais/CII_1-fra.htm (site consulted April 28, 2009).

Figure 3 — Quebec's Post-Secondary Attainment Rate, 1976 to 2006



Source: MELS, 2008. Indicateurs de l'éducation, édition 2008.

On the other hand, it is necessary to emphasize the considerable increase in funds allocated to research by the Canadian government. This has had an effect on the accessibility of studies at the Master's and Doctoral levels, since the research is undertaken with the contribution of students who are remunerated for doing so. This type of federal intervention dates back to the 1960s and 1970s, with the launch of agencies for the subsidization of research, and has since intensified, going through highs and lows, such that the federal government has become, and remains today, the principle source of funds for university research and development. In 2005, it allocated some $2.6 billion, or a quarter of the total budget in this area (AUCC, 2006). Thus, thanks in large part to new investments aimed at increasing the number of students and infrastructure, university research has increased considerably in Canada over

the past few years (35 percent in real dollars from 1997 to 2002), to such an extent that, in 2002, universities carried out one-third of all research and development projects in Canada (AUCC, 2002).

1.4 Referents Underlying Educational Policies

During the 1960s, there were two aspects to the intellectual and normative referent that, "theoretically," forms the basis for educational policies. First, it was believed that in an industrial and technological society, progress and development depended upon the development of knowledge and the training of a qualified labour force. In this context, talents could not afford to be wasted. Secondly, it was considered that in a meritocratic society, where professional roles are more often distributed based on individual competence rather than inherited position, education would be a rational method of selecting the most capable individuals for the most important positions, regardless of social background. There was also a desire to promote greater equality of opportunity (Clark, 1962).

This referent continues to have a strong influence on actual access policy, even if there has been a tendency to nuance, or re-examine, the meritocratic nature of society and the capacity of the education system to reduce social inequalities. But since the 1990s, representations of the economy or society surrounding the post-secondary education system have evolved. There is less reference to the concept of an industrial society and more to that of a knowledge economy within the context of globalization, where the quality of human resources has become a key element in corporate competitiveness. This competitiveness is strongly associated with the quality of the society's education and research systems, or even with the capacity for innovation — and all of this has an effect upon the competitiveness of national economies.

One of the paradigms underlying this modification of the 1960s referent is the economy of knowledge, a concept promoted by the OECD (1996). The progressive construction of this new normative referent is related partially to the economic context itself. The 1980s and 1990s were marked by an economic crisis, which manifested in a serious crisis of employment. Governments sought to revive economic growth and decided that the liberalization of international trade was the way to do it. At the same time, it seemed that growth in developed countries would be based both on industries with a strong knowledge component and on innovation. From that point onward, it would be necessary to establish conditions favourable to the production of innovation in businesses. Society's economic goal, and that of the economy of knowledge, places emphasis precisely upon the economic dimension of the referent: production, distribution and use of knowledge and of information; transmission of knowledge by way of communications networks; and the development of national scientific systems based upon innovation became the means to ensure economic competitiveness. The question of accessibility is raised, indirectly, in relation to the development of human capital through education and continued training.

Berger, Motte and Parkin (2007) seem to consider it just as important to reduce social inequalities as to satisfy the needs for training linked to the knowledge economy. According to them:

> *Providing young Canadians from all backgrounds with the opportunity to pursue higher education is essential both to the country's continuing prosperity in the 21st century and to the moderation of inequities in our society. Canada has a positive record with regard to postsecondary participation, but is in danger of resting on its laurels. The gap between Canadian educational performance and that of its competitors is narrowing. Future progress depends on increasing the participation rates of precisely those students who face the greatest barriers at a faster rate than in recent years. These students tend to come from low-income families, to have parents with little or no post-secondary experience, or to be Aboriginal.* (Berger, Motte and Parkin, 2007, p. 21).

Another, more recent "vision," proposed by UNESCO (2005), gives a more explicit place to accessibility. First, there is reference to knowledge societies (plural),

and cultural diversity is stressed, as well as production, distribution and use of knowledge necessary for human development. They emphasize that new information and communication technologies are not reducible to simple technological advances, and that we must take into account inequalities of access to the information sources, content and infrastructure. These technologies imply a new mode of knowledge transfer that allows for the promotion of new forms of solidarity. No one should be excluded from knowledge; it should be available to all. From this point of view, universal access to knowledge constitutes a pillar that will support the transition from an industrial society to a knowledge society.

1.5 Reformulating the Priority: From Access to Institutions to Access to a Degree

Simultaneous to these changes in representation of the economy and society, the notion of access to institutions extended to that of access to a degree/diploma. The reformulation of educational policies in Quebec is a good illustration. In the mid-1990s, the États généraux sur l'éducation signalled a turning point in this respect (Government of Quebec, 2000). While recognizing that Quebec had been extremely successful at catching up in terms of PSE, the Commission des États généraux sur l'éducation estimated that an intensification of efforts was necessary, making access the priority, and not defining it simply in terms of access to institutions but also in terms of success or the attainment of a degree.

In his reform of the education system following the suggestions of the États généraux sur l'éducation the Minister of Education made graduation his objective, which the commission had proposed as a way of facilitating accountability: 85 percent of young people would have to have graduated from high school before the age of 20, 60 percent have obtained a college diploma and 30 percent a Bachelor's degree (MEQ, 1997).

In 2000, access to university studies was at the top of the list of three primary goals of the Quebec government's policy on universities. The second addressed performance of universities, in terms of the quality of education, excellence in research, and overall efficiency of the system, while the third related to how they respond to the needs of society and their global perspective (Quebec Government, 2000).

The priority of access consists of promoting access to and success in university studies, by taking measures to:

> *ensure that economic barriers to access to higher education are reduced to a minimum; ensure geographic accessibility to university studies, in particular through the presence of the University of Quebec in more remote regions and through distance learning; encourage persistence in studies, in particular by stressing student supervision in undergraduate studies; and, at all levels, but especially in graduate studies (Master's and Doctorate), facilitating the integration of students in research and teaching activities* (Government of Quebec, 2000).

This reformulation of the priority of access, in terms of persistence and access to a degree and not simply to institutions, testifies to a desire to encourage institutions to focus on quality of education, and thus on their effectiveness and efficiency. They must demonstrate a capability to assume their responsibility to help the greatest number of students obtain a degree, and to give an account of their results. In short, the redefinition of accessibility is largely structured around the responsabilization of institutions and around accountability, which itself becomes a priority.

In Quebec, this concern — which can be found in all sectors of public administration following the revision of the Law on Public Administration in 2000 — translates in a number of ways in the field of higher education. For example, at the college level, each institution is obliged to develop a success plan (integrated into its strategic plan) that must be made public and followed up. The Minister of Education even gives an allocation to each institution in order for it to be able to implement this plan. At the university level, the largest portion of the operating grant

is linked to the number of registered students, but another part is dependent upon the number of degrees earned ($500 per Bachelor's degree, $1,000 per Master's and $7,000 per doctorate). Universities are obliged to present an annual report to the Education Commission of the National Assembly, including not only their financial statements, but also data on their rate of success, the average duration of studies before obtainment of a degree by field of study and program, as well as the measures taken to ensure student supervision.

These concerns about responsabilization are not limited to Quebec — they can be found in several other Canadian provinces — in particular, Alberta, B.C. and Ontario, and in other countries as well (Crespo, 2001; Ministry of Advanced Education, 2003). In B.C. there are different methods for financial control ("Before the fact," "Through ongoing," "Operating grants") that link the attainment of grants to criteria that must be respected by institutions (Schuetze and Day, 2001). In Ontario, under David Peterson's Liberal government (1985–1990), the priority of "accessibility" was linked to that of responsabilization, and, under Mike Harris's Progressive-Conservative government (1995–2002); public financing was linked not only to the rise the enrolment rate, but also to university performance (Fisher *et al.*, 2005). More recently, Ontario's Minister of Training, Colleges and Universities negotiated for bilateral agreements with colleges in order to improve accountability (MFCUO, 2008).

1.6 Other Contextual Elements

Aside from public policies aimed at improving access to PSE, several other contextual factors have had an effect on the pursuit of PSE. These are, in part, demographic and economic factors, such as variation in the demographic weight of certain age groups, the degree of aging in the skilled labour force and the population, immigration, market training needs and the profitability of university degrees, as well as partnering experiments between institutes of higher learning and employers or union or community groups.

According to the AUCC (2007a), the profitability of university degrees and the variations in the demographic weight of certain age groups contribute to improving access to PSE. The quadrupling of the number of students enrolled in universities between 1955 and 1971 was partly the result of the demographic change when the first wave of baby-boomers reached the end of high school — at that time, there was a population explosion of youth aged 18 to 21, and the proportion of this group increased by approximately 80 percent. In contrast, since 2000, the number of enrolments in bachelor's degree programs in the 18 to 21 year old group has increased much more rapidly than the proportion of this age group in the population of each of the provinces. Thus, the rise in number of students enrolled in university is only partly due to population growth, and more so to the development of the need for training in the job market and the profitability of university degrees.

The evolution of training needs in the Canadian job market and the rise in academic requirements for jobs are the main reasons that, according to the AUCC (2007a), a greater number of young people (who had not initially seen themselves undertaking university studies) wanted to get a degree. This phenomenon, called "revised expectations" can be observed in particular in jobs which, before this, only required a high school diploma or a short period of technical training, and which now require a higher level of education or a specific certificate of ability — for example, nursing, teaching, management, computing, etc. Thus, the number of full-time jobs occupied by those who hold a post-secondary credential has risen significantly, from 550,000 in 1990 to more than a million in 2006, while the number of jobs that do not require post-secondary training has diminished.

As for the impact of demographic variations on the number of post-secondary students in Canada over the next two decades, the arrival of the generations that followed the baby-boomers will most likely not have a negative effect on enrolment among the 25- to 39-year-old age group. On the other hand, the recent and rapid increase in the number of jobs held by those who have obtained a higher education degree

will result in a considerable increase in demand for training in professional programs, as well as in master's and doctoral (non-professional) programs (AUCC, 2007a, p. 34).

Thus, according to Berger (2008), the number of young people between 18 and 24 years of age, children of the baby-boomers who constitute the majority of the post-secondary population, will, in the next five years, reach a height that will place a strain upon the admissions capacity of numerous colleges and universities. This population will begin to decline in 2013–2014, with a slight increase in 2016. In Berger's opinion, the long term gains will depend not only upon institutions' capacity to respond to immediate demographic pressures, but ultimately on their ability to recruit more Canadians from under-represented groups (youth from lower-income families or whose parents did not do post-secondary studies, and aboriginal youth) for post-secondary studies, and see them through to graduation. Today, only a quarter of 19-year-old Canadians from lower-income families pursue university studies, compared to almost half those from affluent families.

Dietsche *et al.* (2008) draw attention to another contextual element which encourages access to PSE: the event of new social partners who wish to work together with educational institutions through partnership experiments between institutions, businesses and labour unions or community groups. These experiments are aimed at improving access to college and university studies for underrepresented populations (students from lower-income families, disabled persons, aboriginal youth, etc.).

Once we have put the research on student pathways into context, we will review the texts that have been written about inequalities of access to PSE, inequalities observed in pathways in terms of success in studies, persistence and withdrawal, as well as transitions between levels of education.

2. Inequalities of Access to PSE: Some Explanatory Factors

In our contextualization of studies on student pathways, we have underlined several factors that influence the pursuit of post-secondary studies, and that are linked to political, economic and demographic contexts, in particular the structure of the education system and the governmental policies aimed at improving access to PSE. Participation in PSE remains the decision of students and their families — a decision influenced by the admissions criteria and procedures of the institutions where they might study. In this next section, we will examine 1) individual and 2) familial factors, as well as 3) those linked to academic experiences prior to being admitted to an institution, factors that can help explain the inequalities of access to PSE.

The results for these three categories of factors are presented thematically. This choice of presentation has its limits — in particular, it does not leave enough room for any significant treatment of the historical evolution of discussions about theoretical and empirical issues, as addressed in the studies referred to here. The studies that cover a wide range of themes, such as those that consider pan-Canadian surveys (YITS, PEPS, SLID, SLS and SLFS)[6], are divided up by the thematic structure so that they appear in several subsections of this section, making it more difficult to appreciate their contributions in a broader sense. However, in order to compensate partially for the disadvantages of this approach, we have chosen to distinguish the results of Canadian researchers who were among the groundbreakers in this field from those results taken from more recent studies.

2.1 Groundbreaking Studies

When we examine the studies of the first researchers to explore questions of access to PSE in Canada (Breton, 1972; Porter, Porter and Blishen, 1979; Anisef, Mackinnon and Turrittin, 1983) and in Quebec (Bélanger and Pedersen, 1973; Massot, 1979a, 1979b and 1979c; Dandurand and Fournier, 1980; Sylvain, Laforce and Trottier, 1985; Dandurand, 1986; Levesque and Pageau, 1990), it becomes clear that the effects of social origin, gender, language, place of residence and certain variables linked to previous academic experiences change over time.

Breton (1972) indicates that, in 1965–1966, in the 10 Canadian provinces and in spite of linguistic, economic and regional differences, nearly 80 percent of boys whose fathers were professionals aspired to a profession, compared to 56.2 percent of farmers' sons. In Ontario, Peter, Peter and Blishen (1979) identified a strong correlation between family income (that of the father) and the aspirations, hopes, and academic orientation of students. For example, twice as many young people from a higher socio-economic background hoped to go to university (68 percent), compared to 35 percent of those from a lower socio-economic background. The authors also noted that, even without a financial barrier, families with a lower socio-economic status were less likely to encourage their children to go onto higher studies.

In Quebec in the 1950s and 1960s, the education system offered primary education for the common

6. The following surveys are listed in Table 1 (see appendix): *Youth in Transition Survey* (YITS), *Postsecondary Education Participation Survey* (PEPS), *Survey of Labour and Income Dynamics* (SLID), *School Leavers Survey and School Leavers Follow-up Survey* (SLS and SLFS).

people, and secondary education for the elite (Dandurand, 1986). In 1954, sons of "professionals, entrepreneurs and senior managers" constituted more than 45 percent of students in *collèges classiques* (high school cum two-year liberal arts colleges). Even if public high schools were less selective, 38 percent of their students were from families employed in commerce or finance, compared to 32.9 percent from working class families (Dandurand and Fournier, 1980). By comparing the academic plans of youth in 1965 and 1972, Bélanger and Roberge (1981) even observe an increase in these inequalities.

Massot (1979c) notes that, during the 1970s, 9 percent of children from working class families in Secondary 5 (or the equivalent of Grade 11) went on to university, compared to 44 percent of children of senior managers or professionals. Using the results from a multivariate analysis, Sylvain, Laforce and Trottier (1985) conclude that students' background socio-economic status (SES) influences their academic progression from the moment they begin high school until the end of CEGEP studies, but that it does not have an effect on their access to university after the second year of a general program. Thus, according to them:

> *The orientation chosen during high school, the probabilities of obtaining at least a high school diploma, the type of diploma, access to CEGEP, and more particularly to CEGEP général, remain related to students' background SES. And yet, for youth who persist in the academic system until the end of a general collegial course, background SES no longer seems to be a determining factor in terms of access to university. Indeed, students from a low SES background who complete a general college course are just as likely to go on to university as other students* (Sylvain, Laforce and Trottier, 1985, p. 177).

For Massot (1979c), this can be explained through a process of standardization on the basis of academic results. He deduces that "the distribution of academic results in Secondary 5 confirms that there is a homogenization process according to academic results, since students who went on to university got better marks in Secondary 5 compared to other students in Secondary 5: 89 percent had excellent or average results, and 11 percent had poor results, compared to 60 percent and 40 percent for the whole of Secondary 5" (Massot, 1979c, pp. 154–155).

Gender was another selection factor in the Quebec school system. Only a few girls had access to secondary studies, and the majority of those that did pursue studies were in "ghettoized" disciplines such as home economics or nursing (Dandurand, 1986). This discrimination was even more marked in PSE: in 1960, only 14 percent of francophone women went on to university (Dandurand and Fournier, 1980).

Access to PSE also varied according to membership in a particular linguistic group. Even if the proportion of Anglophones in Quebec has hovered steadily at about 20 percent for several decades, in the years between 1936 and 1975, Anglophone universities awarded 41 percent of all degrees in Quebec, 64 percent of postgraduate degrees, 68.5 percent of science degrees, 45.9 percent of business administration degrees and 41.1 percent of engineering degrees (Dandurand, 1986). However, the proportions of Francophones and Anglophones have since shifted significantly, in particular due to changes in the ethnic division of work, and state intervention in the domain of education. Quebec government spending on university education increased tenfold between 1961 and 1976, rising from $73 million to $734 million (Lemelin, 1980, cited by Dandurand, 1986).

Breton (1972) shows that, in the 1960s, the proportion of Francophone secondary students in Canada who had not yet chosen a career path was higher than that of Anglophones, as much for boys (39.8 percent versus 30.6 percent) as for girls (40.0 percent versus 33.5 percent). Also, among students who had chosen a career path, Francophone students had academic and professional aspirations that were relatively higher than those of young Anglophones from the same socio-economic background, especially among lower social strata.

However, Bélanger and Pedersen (1973) show that Breton overestimates the aspirations of Francophones in his study, because he does not take several selection effects into account. He does not offer a systematic analysis by province, nor consider the fact that the rate of academic abandonment and the proportion

of Francophone students who had not yet chosen a career path was higher than Anglophones. Moreover, using the same data as Breton, these authors show that if the professional aspirations of Francophones in Quebec were relatively higher than those of Francophones and Anglophones in other regions of Canada, they remained much lower than those of Anglophones in Quebec. The proportion of Anglophone boys in Quebec (81.8 percent) who were motivated to complete their high school studies and seek a high-status profession was far higher than that of Francophone boys (67.9 percent).

According to Sylvain, Laforce and Trottier (1985) and Massot (1979c, 1979b and 1979c), inequalities according to linguistic group persisted throughout the 1970s, at least in terms of access to professional studies, and specifically to university studies. For example, in the cohort of students that were followed, within the framework of the ASOPE project, from the time of entry into high school until university, the probabilities of access to pre-university training programs in colleges was shown to be higher for Anglophones than Francophones (42 percent compared to 25 percent) — regardless of socio-economic background, marks, and gender. It is not surprising to note that the reverse situation was true in the technical sector — the respective probabilities being 18 percent and 49 percent.

The multivariate analyses conducted by Sylvain, Laforce and Trottier (1985) also show that, in Quebec, "differentiation in the paths followed by Francophones and Anglophones remains consistent regardless of socio-economic background, marks, and gender, and seems even more pronounced for girls. In other words, these explanatory variables are shown to be powerless, when examined one by one, to cancel out the effect of membership to a particular linguistic group." (p.210)

Inequalities of access to higher studies in rural and urban areas are also noted in the groundbreaking studies, for Canada (Breton, 1972) and for Quebec (Gendreau, 1969; Dandurand and Fournier, 1980). Usually situated in urban centres and upper-class neighbourhoods, non-diocesan colleges in Quebec recruited more boys from professional families than did diocesan colleges (Dandurand and Fournier, 1980). Due to the costs of schooling, families from rural areas could only ensure the "retraining" of a certain number of their children by "giving" them to the clergy and to religious communities. Thus, for young people from rural areas, a religious vocation was often the only option for pursuing secondary and post-secondary studies. Indeed, between 1947 and 1968, nearly 40 percent of theology graduates from the University of Laval were the children of farmers (Gendreau, 1969).

An examination of academic experiences prior to enrolment in PSE shows that, in Quebec, failure in primary school (being held back a year) has no effect on access to university studies, even if academic inequalities between students at the end of primary school were observed (Massot, 1979a, 1979c).

Porter, Porter and Blishen (1979) and Anisef, Mackinnon and Turrittin (1983)[7] conclude that in Ontario, good marks in high school seem to encourage boys to continue their studies until university, while the choice of program in high school has the greatest influence on girls' academic pathways.

2.2 Recent Studies

The recent studies consulted are generally the product of quantitative, descriptive or multivariate analyses, based, on the one hand, on data from pan-Canadian surveys, and, on the other, from qualitative analyses or case studies (see Table 2 in the appendix). Certain studies present a synthesis of explanatory factors of access to PSE. For example, Looker (2001) considers research studies conducted in the 1990s for various individual provinces or for Canada as a whole. She identifies two categories of factors that have an influence on youths' decision to undertake PSE: 1) socio-demographic variables of inequality of access to PSE, such as being male, having parents with a low income or a low level of education, speaking French, the place of residence (rural area), being Aboriginal or a member of another minority group,

7. The study was based on a representative sample of Grade 12 students in Ontario. With approximately 32 students per school and 97 schools participating, 2,555 subjects were interviewed in the spring of 1973. After treatment of the data in 1979, 1,522 students were represented in the results presented in the article (694 boys and 757 girls). The 11 variables taken into account were: socio-economic status, social strata, size of family, type of program in high school, academic performance, non-familial encouragement, perception of one's own academic aptitude, level of professional aspiration, level of academic aspiration and academic success.

being a disabled person and being a child of a single-parent household; and 2) pedagogical variables — such as having a poor academic performance or a negative attitude towards school — which are often linked to socio-demographic variables and are, in fact, often more significant than these.

Overall, from all the studies, either those of groundbreakers or more recent works, she identifies certain points of consensus:

(a) there is at once a diminution and a persistence of academic inequalities rooted in social roots (with the exception of the type of family — the two-parent family has no effect upon access to PSE);

(b) variables related to students' living conditions (e.g., distance from institutions, working more than 20 hours a week during one's studies) constitute factors that affect access to PSE;

(c) access is also strongly affected by academic experiences prior to one's entry into a PSE institution; the simple fact of having failed primary school (being held back a year) is not a significant variable, and attendance at a particular type of school (private or public) does not have a negative effect on access to university.

The following sections provide more detailed comments on these results.

2.2.1 Social Anchoring

If the massification of PSE has contributed to a reduction of academic inequalities, it has most certainly not made them disappear, as emphasized by Duru-Bella and Kieffer (2003 and 2008). Democratization has taken different forms that have allowed for certain categories to have an increased presence in higher education, but other social categories still present difficulties for access to PSE.

a) Inequalities Linked to Gender, Social Background and Language

Of all the social groups that were shown to be behind in terms of access and success in PSE, and some have still not caught up, women are the group that has most profited from the positive effects of the educational reforms put in place after the 1950s.

Though they were in the strong minority until the beginning of the 1960s, when women students only counted for one in every four, or one in every five (O'Heron, 1997), they are now more numerous than men (Anicef, 1985; Andres, 2002; Frenette, 2007a; CSE, 2008a). 55 percent of college students are women (De Broucker, 2005). This equalization happened progressively as a result of educational reforms, and in particular as a result of women's fight for equality in different spheres of social life. At the Bachelor's level, after having surpassed the numbers of men enrolled in the mid-1980s (Andres, 2002), women now represent 58 percent of those enrolled (AUCC, 2007a). At the Master's level, a balance was achieved in 1997 and the proportion of women enrolled has remained steady at about 50 percent (AUCC, 2007a).

In Quebec, women's academic progress has been particularly significant because gender was a more significant barrier than social background before the reforms. Thus, if the rate of participation in college studies for males and females was approximately the same in 1975–1976 (39 percent), it is now 20 percent higher for women (49.9 percent versus 69.2 percent). With respect to university studies, the advantage for females has grown greatly, from 2.3 points in 1984–1985 to 15 points in 2005–2006 (Szczepanik, 2007; Langlois, 2007).

Still, not all women in Canada have benefited from this reversal. Canadians from an Asian or aboriginal background still have a lower rate of access to PSE than men (Finnie, Lascelles and Sweetman, SLFS, 2005). Moreover, women are still behind in terms of access to doctoral studies and science programs (especially in the so-called "pure sciences") (Dandurand, 1990; Andres, 2002; Frenette, SLID, 2003; De Broucker, 2005; AUCC, 2007a; Darcy and De Broucker, 2007; CSE, 2008a).

According to the Canadian Council on Learning (2006), the split in favour of women in terms of access to PSE is observable in other higher education systems in comparable Western societies (Kaiser and O'Heron, 2005). The studies conducted in Quebec, in Canada and in other countries of the OECD also arrive at another significant conclusion: girls do better in secondary school, but are less inclined towards the "pure sciences" when they go on to PSE.

The question remains: how do we explain why women, though they have equal cognitive capabilities and academic results, don't choose study programs available to them?

The massification of the number of students observed since the 1960s has not only been to the benefit of women. Youth from low-income families have also benefited from greater access to institutions of higher education (Chenard, 1997; Chenard, Doray and Francœur, 2007). The data from the fall 2006 ICOPE survey (Bonin, 2008), conducted within the framework of a University of Quebec (UQ) research project, shows that 60 percent of undergraduate students at the UQ were "first-generation students" (FGS).

Some longitudinal studies also underline a progressive narrowing of the gap between categories of income. Thus, according to Christofides, Cirello and Hoy (2001), children from families in the top income quintile were three times more likely to go on to PSE than those in the bottom quintile in 1975, but this was reduced to 1.6 times more likely in 1993. The given explanation is that there was a slight increase in access to higher studies among students from lower-income households, simultaneous with a decrease in the number of students from middle-class families from the early 1980s until the mid-1990s. Corak, Lipps and Zhao (2003) also note a narrowing of the gap between lower- and higher-income families from 1990 to 1997, and they maintain that the rise in number of loan requests is partly due to this phenomenon. However, several studies also show that youth whose parents have no history of PSE or those from lower-income families (especially Aboriginal Peoples) are still less likely to undertake higher studies (Anisef, 1985; Andres, 2002; Butlin, 1999; CMSF, 2006a, 2006b; Frenette, 2007b; Côté and Shinkle, 2008).

According to Dandurand (1990), studies on student numbers in Quebec universities in the 1980s confirm previous observations, which show that 40 percent of full-time students are from upper- and middle-class families, children of small business owners and professionals. Thus, for several decades, the higher strata have been both assured of continuance, or of eventual upward social mobility, while significant differences between the social strata have been maintained. More recently, the data from MELS (2007) show that, among those holding a bachelor's degree in 2003, 42.7 percent were from a privileged background and slightly fewer than 20 percent from an underprivileged background. And yet each of these groups accounts for approximately 30 percent of the Quebec population. This inequality seems to be mirrored by a gender inequality: 21 percent of female bachelor's degree holders were from an underprivileged background, compared to 17.5 percent of males. This can be explained in part by the fact that men's persistence, in earlier levels of education is lower than that of women.

If one's social background continues to be a significant barrier to access to PSE, it makes sense to point out that its two principal components — income and parental level of education— do not have equal effects. With the exception of Drolet (SLID, 2005) and Frenette (SLID, 2003), who conclude that familial income has a direct effect, other authors agree that familial income has only an indirect effect on access to university studies when the effect of other variables is controlled (Frenette, SLID, 2003; Drolet, SLID, 2005; Knighton and Mirza, SLID, 2002; Frenette (YITS-A, 2007b; Finnie and Mueller, 2008).

On the contrary, parental level of education has a direct, linear, positive effect that is more influential than family income on access to university studies (O'Heron, 1997; De Broucker and Lavallée, 1998; Pageau and Bujold, 2000; Knighton and Mirza, 2002; Drolet, 2005; Finnie, Lascelles and Sweetman, 2005)[8]. According to Butlin (1999), those who have finished high school, and whose parents did collegial studies or professional training are 2.2 times more likely to go on to university studies than those whose parents only completed high school. Youth whose parents went on to university are 3.5 times more likely to do so themselves.

Two recent studies confirm the effect of parental level of education on the academic future of their children. According to Frenette's study (YITS-A, 2007b), 96 percent of the divide between youth from the bottom quartile and those in the top quartile who

8. According to De Broucker and Lavallée (1998), this effect can be explained by the fact that parents who have a high level of education transmit a strong intellectual curiosity to their children, as well as aptitudes and values that encourage success. They also are more likely to be involved in their children's studies and have higher academic expectations of their children than other parents. Also, their own academic experience allows them to better guide and counsel their children

are enrolled in university can be explained by "observable characteristics" (measurable variables), of which 84 percent relate to grades in reading, to overall grades, to the parental level of education, to parents' expectations and to the quality of the secondary school, while only 12 percent are attributable to financial constraints. Of these variables, marks in lectures (19.7 percent) and the parents' level of education (29.9 percent) explain 49.6 percent of the divide. Still, this study does not include variables relative to student loans, nor those related to supplementary costs that students must pay when they leave the family home to go to university. Finnie and Mueller (2008) emphasize the fact that the introduction of variables relative to the parents' level of education and culture reduce the effect of income. They conclude that the effect of the background culture is as important, if not more important, than the parents' income.

Linguistic inequalities have also diminished significantly. The results of the recent multivariate analysis by Finnie, Lascelles and Sweetman (SLFS, 2005) show that speaking English in Quebec, French outside of Quebec, or any other language, does not have a significant effect upon access to PSE, even university studies. Also, let us recall that during the 1970s, analyses by Sylvain, Laforce and Trottier (1985) and by Massot (1979c, 1979b and 1979c) show consistent inequalities of access to PSE in Quebec according to language (particularly with respect to professional and university studies). More recently, Corbeil (2003) also stressed the persistence of this type of inequality: among people aged 25 to 34 in Canada, 23 percent of Francophones and Anglophones held a university degree in 2001 compared to 33 percent of allophones. However, this last group had the greatest proportion of both most educated and least educated people, according to whether they lived in certain geographical areas or not, or whether they belonged to ethnic groups that had been in Canada for a long period of time, or not. In Quebec, however, Anglophones were more likely to hold a university degree (31 percent) than Francophones (21 percent).

b) Membership in a Minority, Place of Residence and Family Structure

Birthplace and ethnic origin have an effect upon access to PSE. According to Butlin (SLFS, 1999), youths born outside of Canada are more likely to go to university than those born in Canada (53 percent versus 41 percent). In college, the situation is reversed (25 percent versus 29 percent). Finally, nearly 25 percent of students born in Canada do not go on to PSE compared to 16 percent of those born outside Canada. According to these analyses, students who are born in Canada are .59 times less likely to go on to university studies than those who are born elsewhere, while the effect of birthplace upon access to technical training or collegial studies is insignificant.

With the exception of Aboriginal Peoples — the group that has the lowest rate of access to PSE (Holmes, 2006, Berger, 2008) — members of ethnic minorities are more numerous in PSE than other Canadians (55 percent versus 30 percent) (Frenette, SLID, 2005; Finnie, Lascelles and Sweetman, SLFS, 2005; Frenette, 2005). According to Frenette (SLID, 2005), members of visible minorities are 20 percent more likely to go to university than the rest of the population. As for the number of Aboriginal students, it remains low, both in high school and in PSE.

However, the analyses based on models of logistic regression show the nuances in these results. The fact of being a man originally from Asia or from Southern or Eastern Europe has a significant positive effect on access to university studies, while the fact of being of a different origin (Canadian, aboriginal or other) is not significant. Among women, those who come from southern or eastern Europe are also more likely to go on to higher studies.

Of all types of students, it is disabled people who have the most difficult living and studying conditions. According to the 2006 *Participation and Activity Limitation Survey* (PALS), one in seven Canadians (14.3 percent) self-identified as disabled (Statistics Canada, 2006). According to Dietsche *et al.* (2008), disabled people in Canada are under-represented, both in the job market and in PSE. This under-representation is essentially explained by the fact that they "must always surmount obstacles and a discrimination that prevents them from participating in and contributing equally to life in society" (Dietsche *et al.*, 2008, p. 3). The multivariate analyses examined do not, however, take this dimension into account.

In the studies considered, even if the post-secondary participation rate is slightly higher among youth from two-parent families, the majority of regression coefficients are not significant (Butlin, SLFS, 1999;

Finnie, Laporte and Lascelles, SLFS and YITS-B, 2004). Finnie, Lascelles and Sweetman (SLFS, 2005) also note that, for boys, living with the father has a positive effect, as does living with people other than his parents, while living with the mother is not significant. For girls, living only with the father or only with the mother does not have a significant effect, while living with people other than her parents has a clear, positive and significant effect.

Butlin (SLFS, 1999) and Tomkowicz and Bushnik (YITS-B, 2003) have also emphasized that youth who have children of their own are less likely to go on to PSE (even less to go on to university studies), while, according to Tomcowicz and Bushnik (2003), youth who have three or more brothers or sisters are also less likely to go on to PSE.

c) The Province

Canada has made considerable progress on participation in PSE since the end of the 1990s. For example, the overall rate of participation in PSE for youth aged 18 to 20 years began to rise steadily from 54 percent in December 1999 to 79 percent in December 2005. During this same period, the rate of university attendance almost doubled, rising from 21 percent in 1999 to 40 percent in 2005, and the rate of college attendance rose from 26 percent in 1999 to 42 percent in 2005 (Shaienks, Gluszynski and Bayard, YITS, 2008).

It is clear that Quebec has caught up, by and large, to other Canadian provinces in terms of access to post-secondary studies. Indeed, the attainment rate for 15 to 19 year olds in Quebec was barely 30 percent in 1951, while it was 44 percent in Ontario (Dandurand, 1990, citing Statistics Canada, 1964, p. 24). At present, there are greater numbers of Quebec youth enrolled in PSE than there are Ontario youth (Knighton and Mirza, 2002).

On the other hand, in terms of access to university, Quebec has slightly more negative coefficients when compared to B.C. (Knighton and Mirza, 2002) and Ontario (Knighton and Mirza, SLID, 2002; Finnie, Laporte and Lascelles, SLFS and YITS, 2004; Finnie, Lascelles and Sweetman, SLFS 2005). Youth from Nova Scotia (Finnie, Laporte and Lascelles, 2004; Finnie, Lascelles and Sweetman, 2005), from P.E.I. and Newfoundland and Labrador (Frenette, SLID, 2002) also seem to be slightly more likely to go on to university studies than youth from Quebec.

These inequalities between provinces can be explained in large part by the differences between their education systems (De Broucker, 2005; Darcy and De Broucker, 2007). They can vary, depending on whether one is referring to the college or the university level, or whether we take into account the age of entry into university in each province. The higher rate in the Atlantic provinces is most likely attributable to the lower state of development of their higher education systems, which makes university the only possibility for PSE. Similarly, the different configuration of academic pathways in Ontario and Quebec causes the rate of participation in university studies to be higher in Ontario, and lower than the national average in Quebec. In Western Canada, Manitoba and Saskatchewan have higher participation rates than Alberta and B.C., due in part to the fact that, in the past few years, the latter two provinces have concentrated their investment efforts in colleges, which has allowed them to provide PSE to populations in more remote regions (De Broucker, 2005).

That said, the most rapid progress in terms of access to PSE has been observed in Quebec (Bélanger, 2003). According to De Broucker (2005), enrolment in colleges reached a total of 494,000 students in 1999–2000, or 24 percent more than ten years earlier. Finally, Quebec is distinguished by a higher number of part-time students, which reaches a total of almost 100,000 annually (AUCC, 2007a).

To summarize, inequalities of access to PSE as a result of social roots change over time. Women, who were long in the minority, have caught up in numbers, except in "pure" science programs and Ph.D. studies. Social background, language, membership in a minority group, birthplace and province of residence are the decisive variables, while the type of family (two parent or not) is not.

2.3 Living Conditions of Students

We have examined the following living conditions: distance from educational institutions, the financial situation of students (tuition, debt, grants, paid work), the harmonization of work, studies and family, and participation in extracurricular activities.

2.3.1 Distance from Institutions

In Canada, despite the rise in PSE participation rates in all regions, especially from 1981 to 1996, the gap between rural and urban areas has remained steady (Andres, 2001; Looker and Thiessen, 2002; De Broucker, 2005; Frenette, 2007a; AUCC, 2007a). Several factors explain this inequality. Looker and Dwyer (1998) maintain that the obstacles confronted by youth who live in small rural communities are associated with the necessity of leaving their hometown and adapting to a new environment.

After having examined the variables of gender, family income, parents' level of education, province of residence and the time period[9], Frenette (2002) finds that young people who grew up less than 40 kilometres from a university are more likely to attend than those who grew up more than 80 kilometres from a university, or even 40 to 80 kilometres away.

More recently, Frenette (2007a) shows that the creation of a local institution that grants university degrees increases the rate of university attendance by 28.1 percent among the youth population. However, the rise in this rate, particularly among youth from lower-income families, occurs at the expense of college attendance, except among aboriginal youth, whose rate of attendance at the college level remains steady. Overall, attendance in post-secondary institutions has only risen slightly following the creation of new universities, except in the case of women who have recently received a post-secondary diploma. For them, the presence of a local university has raised participation rates by 9.5 percent. That said, Frenette (2007a) concludes that, despite there only being a few studies on the effect of distance from institutions on access to PSE, these few relevant studies do allow us to establish a negative correlation between distance from institutions and enrolment in university.

The conclusions of the few studies conducted at the local level show similar results. For example, Andres *et al.* (2001) observe this negative correlation since the end of the 1980s in Nova Scotia and B.C. Furthermore, studies by Looker and Dwyer (1998) and Andres and Looker (2001) underline the importance of cultural factors for youth from rural areas.

In Quebec, Veillette, Perron and Hébert (1993) document geographical disparities in access to collegial studies within the framework of a longitudinal study, conducted in 1981 on a cohort of all the students enrolled in Secondary 1 (Grade 7) in the region of Saguenay–Lac-Saint-Jean. The rate of access to and success in college studies of the students from four municipalities where CEGEPs are located (Alma, Jonquière, Chicoutimi, and Saint-Félicien) is between 66.7 percent (Alma) and 40.7 percent (Saint-Félicien); these rates are higher than those for the totality of students in the other 56 municipalities of the region (53.6 percent). However, according to these researchers, the effect of distance between place of residence and colleges, like that of socio-economic conditions, combines with other variables such as gender, age of entry into high school, and social background. Furthermore, they note that the factors that allow us to explain variations in rate of access to collegial studies differ according to the size of the municipality. In small towns, this rate is most affected by the average income of women; in larger municipalities, the most important factors are the rate of unemployment among men, the level of urbanization and the average distance to a CEGEP. Also, the fact of living in a village or small town with a resource economy proves to be a significant disadvantage in terms of access to post-secondary studies and attainment of a degree.

In the recent *Enquête longitudinale auprès des élèves saguenéens et jeannois,* Veillette *et al.* (2008) note that the region of Saguenay–Lac-Saint-Jean is still one of the top regions in Quebec in terms of the high school attainment rate after seven years, low dropout rates, and access to collegial studies. Nearly three-quarters of youth in the cohort studied are now enrolled in collegial studies — demonstrating a significantly high rate of access for 18 year olds.

The data from MELS (2007) also suggest that distance from institutions, combined with a high level of "differentiation," is not conducive to the attainment of a bachelor's degree. Thus, regions that are considered remote have some of the lowest rates in Quebec of obtainment of a bachelor's degree. Remoteness, especially in rural areas, is associated with

9. The study uses data from the Study of Labour and Income Dynamics (SLID). Each sample group of the SLID is followed over a period of up to six years and a new sample group is added every three years.

poorer living conditions and often causes difficulties for daily access to institutions.

The 2006 ICOPE study (Bonin, 2008) also shows regional inequalities in terms of participation in PSE among first-generation students (FGS). FGS are more numerous among students from Nord-du-Québec, Côte-Nord, Abitibi-Témiscamingue, Chaudière-Appalaches and Gaspésie-Îles-de-la-Madeleine (more than 70 percent) than in the regions of Montreal and Quebec City (50 percent).

2.3.2 Economic Conditions

a) Tuition

According to O'Heron (1997), the rate of student debt rose during the 1980s and 1990s, meaning that students in this period were more likely to work while going to school than those in previous decades. According to the *National Graduates Survey* for the period from 1982 to 1990, 61 percent of those who finished in 1990 borrowed money to finance their studies, compared to 50 percent and 52 percent of students in 1982 and 1986, respectively. Moreover, those who graduated in 1990 had an average debt of more than $11,000, or 26 percent more than graduates in the four preceding years (O'Heron, 1997). Statistics Canada's *Labour Force Survey* also indicates that 40 percent of 20- to 24-year-old full-time students had a job, compared to less than 30 percent in the late 1970s. Thus, it is clear that students in the 1990s worked more during their studies than students in the two preceding decades. However, the situation varies from university to university. To use another example from O'Heron (1997), 58 percent of undergraduate students at York University worked during their studies, while less than half the student body at the University of Calgary, University of Alberta and Simon Fraser University had jobs.

Results of studies by Statistics Canada for Canada as a whole and over a more recent period show that tuition does not have a significant effect on access to PSE (Christofides, Cirello and Hoy, SCF[10], 2001; Raymond and Rivard, YITS, 2004). Moreover, they suggest that even if tuition was an obstacle for certain social groups at the beginning of the 1990s, and for lower-income students in particular (Coelli, 2004; Frenette, SLID, 2005), its effect has lessened since the end of the 1990s, a decade in which financial aid programs for studies were modified in order to better target underprivileged groups (Corak, Lipps and Zhao, 2003). Also, according to a study by the CMSF (Swail and Heller, 2004), the link between tuition increases and access to PSE is not as clear as we might think. That said, a significant increase in tuition could affect certain social groups.

These results do shed any light on those students for whom the cost of education is indeed a significant barrier to the pursuit of PSE (Foley, 2001).

Neill (2007) also determines that tax credits do not have an effect on the increase in attendance at post-secondary institutions, because they benefit graduates more than anyone else. Graduates are generally from privileged families; they also have a better chance of obtaining a good salary at the end of their studies. According to Neill, all other types of investment in the education system are preferable, both for their effect on student numbers and for their effect on the distribution of revenue.

More recently, Côté and Shinkle (2008) maintain that many people have an erroneous perception of the cost, which they overestimate, and of the advantages of a post-secondary education, which they underestimate. These misperceptions help to keep academic aspirations low.

b) Financial Situation of Young People

There are several descriptive analyses that show that the financial situation of young people is a significant barrier to access to PSE (Bowlby and McMullen, YITS-B, 2002; Barr-Telford *et al.*, PEPS, 2003; Frenette, SLID, 2005). According to Bowlby and McMullen (YITS-B, 2002), two out of three Canadians aged 18 to 20 who have barriers to access face financial barriers. Similarly, the most important barrier mentioned by youth who have not undertaken PSE is economic in nature (39 percent) (Barr-Telford *et al.*, PEPS, 2003). But these authors point out that 56 percent of 18- to 24-year-old students who do go on to post-secondary studies have never applied for a loan, and, among the 44 percent who do apply, 79 percent are accepted. In total, 35 percent of young Canadians who go on to PSE receive a loan.

10. *Survey of Consumer Finances.*

However, financial constraints are largely linked to governments' student financial assistance systems (Frenette, SLID, 2005) and do not seem to affect all student groups. They have an adverse effect for certain groups, such as lower-income students and families (Bowlby and McMullen, YITS-B, 2002; Frenette, SLID, 2005) and students who live far from post-secondary institutions (especially universities) and who do not have a means of transportation to get there. Thus, according to Frenette (SLID, 2005), the significant increase in university tuition for professional degree programs has meant a decline in the probability of young middle-class Ontarians obtaining this type of degree.

Also, according to Barr-Telford *et al.* (PEPS, 2003), the supplementary costs for students who have to leave the family home in order to go to university is over $5,000. This cost prevents a certain number of students from lower-income families from enrolling in post-secondary programs (Bowlby and McMullen, YITS-B, 2002).

A recent study by the CMSF (PRA Inc, 2007) also suggests that, even if the proportion of young people who go into debt in order to pursue PSE has remained stable over the past few years, average student debt seems to be increasing constantly. The analysis of possible factors associated with the accrual of student debt allows us to determine that studying far from home and not receiving financial assistance from one's family is more of a determining factor than any other examined. The study also indicates that college and undergraduate students who look for a job after obtaining their diploma/degree often have a higher student debt than those who decide to pursue further studies. We can assume that student debt could impede the pursuit of studies.

2.3.3 Work and Studies

Descriptive statistics and multivariate analyses indicate that over and above a certain threshold (20 hours a week) doing paid work during high school has a significant negative effect on access to PSE and on university studies (Butlin, SLFS, 1999; Tomkowicz and Bushnik, YITS-B, 2003). According to Finnie, Lascelles and Sweetman (SLFS, 2005), young people who work at paid jobs for more than 20 hours a week (during their studies) are less likely to go on to PSE (56 percent of males and females) than those who work a paid job for under 10 hours a week (76 percent of males and 85 percent of females), while those who do not have a paid job fall somewhere between the two (68 percent of males and 74 percent of females). An analysis of data from semi-structured interviews conducted with 133 students in trades programs in the Quebec City region, aged 16 to 25 years (83.5 percent of the sampled group) and 26 to 41 years,[11] confirms the negative effect of salaried work during studies (over and above a certain threshold) on academic results. Still, this study points out that it is not always the work itself that affects the academic performance, but rather inefficient management of the demands of school and work (Fournier *et al.*, 1997).

The qualitative study by Jetté (2001) on the balance of study and work among 11 undergraduate students at the University of Laval confirms the CSE's conclusion (2000) — that having a job related to one's area of study encourages engagement and academic persistence. According to Jetté (2001), by holding a paid job, certain students learn to identify their tastes and interests and to develop their aptitudes, elements they take into consideration when choosing a university program or in narrowing down their professional aspirations.

2.4 Academic Experiences Prior to Enrolment in PSE

Several indicators were considered in the analysis of students' academic history and the influence of the social network: marks in primary school and high school, type of school, participation in class and in extracurricular activities and, finally, the opinion of parents and friends about studies. We will present them in this order.

2.4.1 Marks in Primary School and High School; Type of School

The results of the multivariate analyses by Butlin (SLFS, 1999) and Finnie, Lascelles and Sweetman

11. These interviews are part of an extensive longitudinal research study on the evolution of student perceptions and beliefs during the transition from school to work.

(SLFS, 2005) show that, for someone with a high school diploma, failing a grade in primary school diminishes his or her chances of pursuing PSE. However, it is important to be careful when discussing the effect of failure in primary school on access to various kinds of post-secondary education. There are certain contradictions in these studies between the rate of access to post-secondary studies and the results of the regression analysis. Also, the second study cited here only addresses those who completed high school and not the population as a whole.

An analysis of these two studies and of those by Tomkowicz and Bushnik (YITS-B, 2003) also indicates that the lower a student's marks are in high school, the less chance he or she has of going on to university studies. More specifically, the fact of having failed French class has a significant negative effect, on access to both university and college, but does not have a significant effect on access to professional training. On the other hand, the fact of having experienced difficulty in only mathematics and French courses, without having failed a class, is not generally a determining factor (Butlin, SLFS, 1999; Finnie, Lascelles and Sweetman, SLFS, 2005).

Finally, even if young people from private high schools are more likely to go on to PSE (79 percent of males and 89 percent of females) than those from public schools (67 percent of males and 75 percent of females), the results of multivariate analyses show that the effect of the type of school (private or public) on the pursuit of PSE is not significant. It does, however, have a mild positive effect (significant at 5 percent) on access to university studies (Finnie, Lascelles and Sweetman, SLFS, 2005).

2.4.2 Participation in Class, in Extracurricular Activities, and the Opinion of Parents and Friends

Lambert *et al.* (YITS-B, 2004) maintain that academic engagement (participation in academic activities, especially in class) and social engagement (extracurricular activities) are factors of persistence: 19 percent of youth who completed PSE without dropping out affirm that they had a high academic and social level of engagement in high school, while 12 percent of those youth who did drop out indicated the same.

Butlin's multivariate analysis (SLFS, 1999) also concludes that students who claim to have had a high rate of participation in class are 1.7 times more likely to access university studies, 1.6 times more likely to access college studies and 1.6 times more likely to access professional training than those who report having had a poor level of participation in class. As for graduates who participate in extracurricular activities, they are 2.5 times more likely to access university studies (significant at 1%) than those who do not. Still, according to Finnie, Lascelles and Sweetman (SLFS, 2005), a high level of participation in class in high school is not a significant factor and has only a mild positive effect on the pursuit of university studies. Thus there is no consensus on this question in the studies.

As for the opinion of parents and friends, the descriptive analyses and multivariate analyses (Tomkowicz and Bushnik, YITS-B, 2003; Lambert *et al.*, YITS-B, 2004; Finnie, Lascelles and Sweetman, SLFS, 2005) both show that young people whose friends all see themselves pursuing PSE have a higher chance of pursuing such studies than all other groups. These studies also indicate that the more important their parents consider PSE to be, the more likely high school students are to access them.

To conclude this section, let us note three problems in the research that have been brought to light by researchers. The first is a near-complete absence of exhaustive quantitative data on youth pathways, combined with the low availability of that which does exist (Andres *et al.*, 2001), and the absence of qualitative data about students, which accounts for the overrepresentation of facts from the YITS in the results. A second problem is with the representation of the student population in colleges and universities, which is always largely built around youth persisting in their studies, while this population is actually quite diverse: in certain universities, more than half the students are adults who have gone back to school or are upgrading their skills. Finally, the third problem is with the theoretic integration of empirical results; the studies and analyses underline the diversity of factors that influence access without seeking to understand the links between them, or how they combine. We will return to this in the conclusion.

3. Inequalities in Student Pathways: Success, Persistence and Withdrawal

In the first part of this paper, the examination of the question of access to PSE in its social and political context showed that the notion of access to institutions has been extended to that of access to a degree since 1990. Several provincial Ministers of Education have demanded that post-secondary institutions be more efficient and effective than in the past, requiring in particular that they take their responsibility to lead the greatest number of students to the achievement of a degree more seriously. The same ministers also demanded a stricter financial accounting from institutions. In this respect, the diminution of academic withdrawal has become a top criterion for evaluation.

After this extension from access to institutions to access to a degree, what is the extent of persistence, withdrawal or success? Does Canada come out better than the other comparable countries of the OECD? Which are the social groups or individuals who persist or succeed less often? Which factors affect academic success, persistence and withdrawal in PSE?

This section presents an analysis of the importance of persistence, success and abandon in PSE before examining, successively, the most important factors in our review of studies on academic success, persistence, and abandon.

3.1 Extent of Academic Persistence, Withdrawal and Success in PSE

In its evaluation of the results over 10 years for 70 percent of students in higher studies admitted into Canadian universities in 1992, a study by the Canadian Association for Graduate Studies (2003) shows that the time taken to complete studies is longer than expected in a number of Canadian universities. Thus, in certain universities, students drop out after eight semesters of study at the Master's level and after 18 semesters at the doctoral level. The Association points out that the key element of these results is that the length of time before students leave without having obtained a university degree, willingly or by necessity, is, in certain cases, almost equal to the length of time foreseen for completion.

Academic dropout was significant in Canada and Quebec in the late 1990s and early 2000s (CSE, 1999; Barr-Telford *et al.*, 2003; Grayson and Grayson, 2003). Barr-Telford *et al.* (2003) estimate that out of 250,000 young people who began PSE in 2000, 77 percent were still in the midst of studies 18 months later, of which 12 percent had already obtained a

degree, seven percent had a degree but were no longer pursuing their studies, and 16 percent had dropped out. In Canadian and American universities, the dropout rate in the first year varies between 20 percent and 25 percent (Grayson and Grayson, 2003). The analysis of the data from the YITS-B allowed Shaienks, Eisl-Culkin and Bussière (2006) to establish that the dropout rate for PSE in December 2003 was actually 12 percent for the whole of Canada and that the vast majority of provinces had a dropout rate between 10 percent and 12 percent, P.E.I. having the lowest (nine percent) and Nova Scotia the highest (16 percent).

In Quebec, nearly 37 percent of students from a given cohort will not obtain their college diploma (DEC) (MELS, 2006b). The dropout rate gradually rises with age, in particular after 17 years old — that is, the normal age of admission at the college level. Only 37 percent of students newly enrolled in autumn 2000 obtained their DEC within the intended length of time for study (these numbers have been more or less stable since 1997), while 62.6 percent of students only obtained it two years later. Moreover, nearly 33 percent of students at the college level change programs, almost inevitably lengthening the duration of study. Thus, it turns out that a student in the pre-university sector needs an average of 4.9 trimesters, rather than 4, in order to obtain his or her DEC, and a student from the technical sector needs 6.6 trimesters instead of 6 (MEQ, 2004b).

According to Veillette *et al.* (2007), the most important overall factors explaining changes of program are, on the one hand, the number of hours per week dedicated to paid work, and on the other, hours dedicated to academic work at home. For Gingras and Terrill (2006), the length of time spent in high school (even among the strongest students), encouragement from parents, motivation and the first choice of program, and the parents' level of education also help to encourage attainment of a degree. Still, parents' academic background has no measurable influence on success in the first session of CEGEP, but it regains importance when it is a question of attaining a degree: students whose parents have more of an academic background are the most persistent. They report being slightly more encouraged by their parents to pursue their studies, and also have less financial worries.

Success, academic discontinuation and length of time for studies are also of concern at the university level in Quebec. According to the MEQ (2003b), the rate of persistence, after one year, of students enrolled in a bachelor's degree in autumn 2001 was 82.8 percent (84 percent for men and 81 percent for women). The dropout rate in Quebec universities during the period from 1994 to 2000 oscillated between 10.1 percent and 26.6 percent after a year of attendance and between 14.1 percent and 39.5 percent after five or more years (Tremblay, 2005).

Overall, the descriptive data suggest a rise in the dropout rate and an extension of the length of time taken to complete post-secondary studies in Canada and Quebec. Must we conclude that the policies of access to a degree have a very limited, or negative, effect? There are at least two reasons to be hesitant in drawing this conclusion. First, the studies we have examined do not specifically evaluate the effect of such policies; they are, rather, sets of descriptive data. Next, numerous authors identify methodological problems in the calculation of dropout, success and persistence rates, because of complexities and divergences of pathways. According to Chenard (1989a, p. 6), certain "people drop out because they have attained their personal educational objectives, or because their attendance at one institution was secondary to a plan to pursue studies at another institution" to which they will return. The persistence rate also varies according to whether authors place the emphasis on discontinuation of studies in a single institution from one year to the next, persistence in a single institution until the completion of studies or persistence in the system from one year to the next, or until the attainment (or non-attainment) of a degree (McElroy, 2005b).

In fact, according to Grayson and Grayson (2003), until recently it was still very difficult to access more precise data on divergences in academic pathways because the data were mainly collected by the institutions. Since the first set of YITS data, the phenomenon has been better documented (Finnie and Qiu, 2008).

Nonetheless, the fact remains that the measure of dropout and persistence rates vary according to the way in which the authors address student movement within or exterior to the PSE system (Parkin and Baldwin, 2009). For example, using data from Shaienks, Eisl-Culkin and Bussière (2006) and from Shaienks

and Gluszynski (2007), these authors note that in the YITS cohort B, the dropout rate (the proportion of post-secondary students who had dropped out and not returned to their studies at the time of the fourth cycle of the study) is 15 percent. A close analysis of the same data, but which addresses the proportion of students who had dropped out of college or university without returning to studies at the same level, shows an average rate of 21 percent, or 16 percent of those who had undertaken a university program and 25 percent of those who had started a college program (Shaienks, Gluszynski and Baynard, 2008).

The difference between the two results, 15 percent and 21 percent, can be explained by the fact that a certain number of students are not "true dropouts," because when they discontinue their studies in a given program, they enrol in another (Parkin and Baldwin: 2009).

According to Finnie and Qiu (2008), in order to distinguish the "false" from the "real" dropouts, we must distance ourselves from the static picture that only shows the situation of students at a precise moment, and take into account students' various transitions (programs, institutions, levels of education), as well as the tendency for many of them to take a break during their studies. Using data from the YITS, and keeping these different parameters of student behaviour in mind, Finnie and Qiu conclude that 82 percent of university students and 74 percent of college students persist in their study program beyond the first year. Once the students who are not true dropouts have been taken into account (those who change institution, or who take a break before re-enrolling in a different program or a different institution) and have been re-categorized as degree-holders or students who have persisted, the dropout rate falls to 10 percent at the university level, and 18 percent at the college level. These authors believe that this gives the best, most thorough estimate of the general rate of persistence in Canada, at least for young adults.

Finnie and Qiu's results (2008) are lower than the rates indicated in the other cited reports. According to Parkin and Baldwin (2009), Finnie and Qiu's results (2008) can be explained by the fact that previous studies, in particular those based on data from a few specific institutions, overestimate the rates of persistence, dropout and success. The data from OECD countries show that Canada's position is comparatively strong. The average dropout rate in these countries is 31 percent, while the Canadian average, which is calculated exclusively from Quebec data, is lower than this average, and is in fact among the lowest rates in the OECD (2008).

However, there are a few remarks to be made. First, international comparisons do not give a clear enough picture of Canada's situation, given that, on the one hand, the methods of calculation are different in various countries, and, on the other hand, the Canadian data cited here are only for Quebec. Also, even if Finnie and Qiu's (2008) dropout rates are low, they still represent a lost potential for society and students, as well as a reduction of income for post-secondary institutions — in particular those which experience a reduction in the number of students. According to Grayson and Grayson (2003) a Canadian institution estimates that, once the costs of recruitment have been taken into account, a student who leaves before attaining his or her degree costs the institution $4,230.

3.2 Academic Success

As with access to PSE, young Canadians whose parents did not pursue PSE or who are from lower-income families, in particular Aboriginal youth, are less likely to complete post-secondary studies if they do access them (Anisef, 1985; Andres, 2002; Butlin, 1999; CMSF, 2006a, 2006b; Frenette, 2007b; Côté and Shinkle, 2008).

Since the end of the 1990s in Quebec, the CSE (1999) has pointed out that, even if they are from the same social background, girls are more likely to succeed than boys at all levels of education. This phenomenon is even more pronounced among students from an underprivileged socio-economic background.

Aside from gender, preparation for college studies is the second main predictive factor of success. Several studies confirm the double effect of gender and GPA in high school (Terrill and Ducharme, 1994; Rivière, Sauvé and Jacques, 1997; Veillette, 2002; Fédération des cégeps, 1999, 2004; Commission d'évaluation

de l'enseignement collégial, 2004; Tremblay *et al.*, 2004; Gingras and Terrill, 2006; Sauvé *et al.*, 2007; Barbeau, 2007, CSE, 2008b).

As well as confirming that gender and GPA in high school are the best predictive variables for success in college studies, the CSE (2008b)[12] concludes that the feeling of well-being and integration in college, which are aspects of a student's involvement, are also predictive variables for academic achievement, attainment of a degree and non-interruption of studies.

3.3 Academic Persistence

There are some methodological problems with the multivariate analyses used to identify the explanatory factors of academic persistence. Certain studies include financial and non-financial factors, while others are limited to one type of factor. Thus, conclusions are dependent upon the methodology used, the definition of persistence and the type of degree.

Grayson and Grayson (2003) determine that certain incoherencies between studies are due either to the variety of financial factors included in the analysis (loans or bursaries, significance of the sum received as a bursary or a loan, support based on merit or need, total support and accrued debt, etc.), or to the fact that certain explanatory factors for persistence are related, or not, to another unknown underlying factor.

Despite these differences, McElroy (2005b) identifies certain tendencies: academic persistence can be related to students' demographic characteristics, family history, and academic experience prior to admission at a post-secondary institution, and certain distinctive features of institutions.

We have identified two main categories of factors: financial and non-financial. According to Grayson and Grayson (2003), the effects of financial factors on academic persistence have not been studied as closely as non-financial factors, and when they have been, the results have appeared incoherent, which is why it is so important to distinguish them from each other.

3.3.1 Non-Financial Factors Influencing Persistence

Persistence in PSE is generally higher among women than men and among the youngest students (Butlin, 1999, 2000; Looker and Lowe, 2001; Frenette, 2002, 2003; Grayson and Grayson, 2003; MEQ, 2007; Darcy and De Broucker, 2007, Sauvé *et al.*, 2007). A number of studies also show that students from families of a higher socio-economic standing are more likely to persist in PSE, especially at the university level (Anisef, 1985; Butlin, 1999; Butlin, 2000; Andres *et al.*, 2001; Grayson and Grayson, 2003; CMSF, 2006a and 2006b; Frenette, 2007b). However, for Parkin and Baldwin (2009), the link between parental income and persistence has not been clearly demonstrated. They point out that the data on this variable are often difficult to access, at least in the YITS.

Academic persistence is also associated with the parents' level of education (Butlin, 1999 and 2000; Andres and Grayson, 2003; Grayson and Grayson, 2003). For example, according to Butlin (1999), high school graduates who have at least one parent who went to university are more likely to do so themselves, when factors such as gender, province, type of family, academic results in high school, academic difficulties in primary school and participation in class remain constant. In the results of their longitudinal study, "Paths on Life's Way Project," obtained in 1993, Andres and Grayson (2003) also show that the higher the socio-economic status of the parents, the higher the level of education attained by their children — both for girls and boys. However, recent studies suggest that we should be careful in drawing a direct link between the parents' level of education and students' persistence (Finnie and Qiu, 2008; Shaienks and Gluszynski, 2007; Parkin and Baldwin, 2009).

According to certain authors (Grayson and Grayson, 2003; Looker and Lowe, 2001), living with one's parents, not having any dependents in one's care, not being from a rural area and not postponing the start of a PSE program are all considered to be factors (prior to enrolment) that encourage persistence. On the other hand, Aboriginal students (Berger, Motte and Parkin, 2007; Shaienks and Gluszynski, 2007;

12. This multivariate analysis, based on a representative sample of the college student population, considers students' individual characteristics (gender, GPA in high school, study department, time dedicated to paid work, comfortable financial situation) and their demonstrations of involvement in relation to indicators of educational success such as academic achievement, attainment of a degree and professional integration.

Shaienks, Gluszynski and Bayard, 2008) and students who have children in their care or who become parents during their studies have more difficulty with persistence (Parkin and Baldwin, 2009).

Aside from socio-demographic variables, previous academic experience can have an effect on academic persistence, according to some studies. Butlin (1999), for example, notes that students who failed a grade in primary school are less likely to pursue university studies when the effects of socio-demographic variables and variables linked to school (including grades in high school) remain constant.

Similarly, better academic preparation will influence persistence (Butlin, 2000; Grayson and Grayson, 2003; Looker and Lowe, 2001; Sauvé *et al.*, 2007). Academic results and the student's engagement, both in high school and at the post-secondary level, are directly associated with persistence (Shaienks, Gluszynski and Bayard, 2008; Finnie and Qiu, 2008).

A study by the MEQ (DRSI, 2004) on pathways of youth under 20 years old in Quebec shows that the low rate of integration for males in bachelor's programs is partly the result of difficulties in their academic pathway through high school and college. The study shows that the pattern of the pathways of youth who begin primary school on time is markedly different according to gender. For every 100 boys and 100 girls who enter primary school, six boys and 13 girls obtain a bachelor's degree without any interruption in their studies from primary school onward. This difference according to gender is already evident at the beginning of high school: 71 boys compared to 81 girls go on to high school. However, a longitudinal and comparative study, conducted according to a socio-motivational model on new students who began science and engineering programs at the University of Laval in autumn 2003, indicates that socio-motivational factors have a stronger effect on students' persistence than their grades in college and their scientific knowledge when they begin their studies (Larose *et al.*, 2005).

Some studies point out a number of variables of social and academic integration that are linked positively to persistence:

- enrolment in a full-time program (Grayson and Grayson, 2003; Looker and Lowe, 2001; Sauvé *et al.*, 2007);
- correspondence between the study program or type of degree and the student's desires (Butlin, 2000; Grayson and Grayson, 2003; Larose *et al.*, 2005);
- motivation to attain a degree (Grayson and Grayson, 2003; Looker and Lowe, 2001; Larose *et al.*, 2005);
- the student's clarity in terms of career objectives (Grayson and Grayson, 2003; Berger, Motte and Parkin, 2007).

The fact of not having a job during the school year is also a positive factor (Looker and Lowe: 2001). However, Veillette (2002) determines that enrolment in a work-study program and the practical experience of a paid internship within the framework of such a program both have a positive influence on success in courses and attainment of a degree: students from the sample group showed a higher rate of persistence than those who followed a traditional pathway.

A longitudinal qualitative study by Doray (2003) on students enrolled in electronics in a college in Quebec illustrates the influence of social and intellectual integration on persistence, and the role that can be played by academic success and the confirmation of a career choice during the course of one's studies. Work experience and the skills acquired through previous training can make apprenticeships easier, and promote subjective engagement. Similarly, different strategies for adjusting pathways — for example, reducing the number of courses, waiting to take a course in order to avoid certain professors, developing new work habits, consulting professors and becoming involved in support activities — are all good indicators of the "capacity to adapt one's work mode to the demands of the program and of intellectual and social integration" (43).

These conclusions correspond to the results of another qualitative study (Kirby and Sharpe, 2001), according to which the discontinuation of studies before the second semester in public engineering colleges in Newfoundland and Labrador can be explained primarily by the degree of difficulty of the courses, the level of success in high school and the level of academic integration.

In his qualitative analysis of the motivations of students in professional training programs in high school, who would be eligible for harmonized technical

training programs in college, Ménard (2005)[13] observes that there is no difference in terms of personal characteristics between those who pursue their studies and those who do not in credit transfer programs (high school — CEGEP). Instead, it is the reasons cited by students for enrolling in a professional training program (interest in the field, practical aspects of training, prospective jobs and admission requirements), as well as their awareness and understanding of the DEP-DEC program that explain, in large part, their desire to pursue (or not) college studies.

Gemme and Gingras (2006)[14] analyze, in conjunction with students' level of satisfaction, the causes for the high rate of non-attainment of a master's or doctoral degree in Quebec. This is linked to how well they adapt to the role of researcher (mainly with the advisor's supervision), their progress in producing research results, the publication of these findings and the type of financing obtained. On the other hand, "if it is almost certain that socio-demographic variables affect persistence […] they have only a minor impact on the overall level of satisfaction of the subjects" (31). "Success in studies at the master's and doctoral levels seems thus to depend, at least in part, upon a supervised socialization to the different aspects of the position of researcher" (21).

To summarize, these non-financial factors influencing academic persistence allow us to draw a portrait of the persistent student that corresponds with that of Sauvé *et al*. (2007): she is female, young, single, enrolled in full-time studies and goes on to graduate studies without taking time off first. The difficulties encountered by those who persist are related to how well they adapt to university studies, how well they are able to balance work/studies and to the academic institution. Those who pursue distance-education are confronted with difficulties linked to the transition from college to university, or the return to studies; the main ones are adaptation to learning strategies, self-direction in terms of new tasks and an understanding of the demands of the program.

3.3.2 Financial Factors Influencing Persistence

A series of studies by McElroy (2004, 2005a, 2005b, 2008) for the CMSF shows that financial aid can produce higher rates of persistence if this support contributes sufficiently to reducing students' unmet need or their debt. A study conducted in B.C. by McElroy (2004) reveals that in terms of dropouts, unmet need is a much more significant factor than the level of debt. Students with more unmet need were less inclined to return to their studies the following year. Another study conducted in B.C., Ontario and Quebec (McElroy, 2005b) shows that the persistence of undergraduate students in the participating institutions was linked to the type and amount of financial support they received: the higher the amount borrowed annually, the lower their degree of persistence.

> *Debt aversion may underlie the negative association between persistence and annualized aid. The group with the lowest level of persistence had the highest amount of debt for the amount of program they had completed. Students who received a combination of grant and loan aid had accumulated less debt for the same level of assistance received, which may explain their higher level of persistence. As debt rises, persistence declines, perhaps because students who are already in debt try to limit supplementary borrowing* (McElroy, 2005b: v)

On the other hand, in Manitoba, where two different bursaries for debt repayment were available — one offered by the CMSF and the other by the province — students who were able to repay part of their debt with a bursary had better chances of completing their studies than those who did not have this privilege (McElroy, 2005a). However, a recent study conducted in New Brunswick (McElroy, 2008), using a similar methodology to the previous studies, had quite different results; but not so different that it called into question the conclusion that the reduction of debt improves persistence.

13. From an analysis of the contents of short, semi-directed interviews with 149 students from nine professional training centres, and following meetings with the teaching and non-teaching personnel from the institutions in question.

14. A study by questionnaire (non-representative sample) of 1,000 people currently or previously enrolled in graduate studies in Quebec, within the framework of a larger research project on training and research.

Persistence among students who received millennium bursaries was not any higher than that of students who did not, nor than that of students who had begun their studies before the scholarship program was established. Nevertheless, the average amount of debt repayment was much higher among students in the period of the millennium bursaries. The similarity in the pathways of the two cohorts can largely be explained by the provincial bursary program that helped not to reduce student debt (as was the case in Manitoba), but to cover the unmet need of students during the period in which they received a millennium bursary. Thus, even if students were less indebted in the period prior to the millennium bursary than those who received these bursaries, their unmet need was also higher. On the other hand, the provincial bursary program, aimed at reducing unmet need, was perhaps able to cancel out the negative impact of debt on persistence, which would explain the similarity in the level of persistence in the two cohorts.

Thus, the results of McElroy's study (2008) show the advantages of the combined reduction of debt and unmet need during a period when the cost of studies was increasing. The case study for Manitoba also shows that a sufficient reduction of debt can create improved conditions for persistence in PSE.

3.4 Patterns of Academic Withdrawal/Dropout

Several patterns are identified in the studies that help explain withdrawal from PSE (or "dropping out"). Lambert *et al.* (YITS-B 2004) state that the main reasons cited by those who discontinue studies are problems of academic adaptation: 32 percent indicate that they dropped out because they didn't like the program or felt they needed to change programs. A lack of money (11 percent) and a desire to work (7 percent), to rest or travel (6 percent) are also mentioned.

Lambert *et al.* (YITS-B 2004) also identify several "microfactors" that play a role in the integration of youth in their new academic environments, and that seem to influence persistence or withdrawal. Thus, students who discontinue their studies often claim to have difficulty keeping up with work (20 percent compared to 13 percent among those who persist). They also say they feel more often "like a number" (34 percent versus 25 percent) or as though they are not in the right program (53 percent versus 78 percent). They are often less able to see a clear link between the first year of study and the job market (73 percent versus 59 percent) and report having few friends with whom they can speak about personal things (82 percent versus 72 percent). These results are similar to those of Barr-Telford *et al.* (PEPS 2003)

Students who discontinue studies also cite financial difficulties to explain the interruption (Barr-Telford *et al.,* 2003; Grayson and Grayson, 2003). Junor and Usher (YITS 2002) state that 36 percent of dropouts mention obstacles of a financial nature, compared to 30 percent of degree-holders and 28 percent of those who persist. McElroy (2004, 2005a, 2005b, 2008) shows that students for whom the total cost of studies is not covered by financial aid, or those who accrue a significant debt, are less likely to finish their studies, while those who obtain financial aid based on need (in the form of loans or scholarships) seem more inclined to persist.

According to Berger and Motte (2007), the demands of the job market in the field of natural resources are sufficiently strong to affect attendance in PSE, turning potential candidates away from such studies (especially high school graduates in Alberta, Saskatchewan, Manitoba and New Brunswick) and towards a well-paid manual labour job.

Finally, let us note the results of the multivariate analysis by Ma and Frempong (2008) on the college dropout rate. These authors used Tinto's theory (1993) as their main framework for analysis. As a secondary framework, they used the meta-analysis by Lotkowski, Robbins and Noeth (2004)[15] and data from the YITS-B. Except for gender[16] and personal problems (for example, drug addiction), variables related to the prior situation of young people have no significant effect on their discontinuation at the post-secondary level. These variables include: the GPA in high school, membership in a minority group, age,

15. This study synthesizes essential factors, academic or non-academic (related to the situation prior to PSE, to integration in a group and to apprenticeship), that, in empirical studies, allow for significant breakthroughs in prediction of the persistence rate in college studies.

16. Young men are 1.64 times more likely to abandon studies than young women.

professional aspirations, participation in school, social participation, and aptitude for studies in high school (Ma and Frempong: 2008).

In terms of young people's integration in PSE and their financial situation, they indicate that institutional support, governmental loans, the capacity to pursue college studies (with the exception of the cumulative balanced average in college), the social network (with the exception of volunteer work and the presence of people with whom one can speak about personal problems) and the area of study are not causes for withdrawal. Aside from those cited above in parentheses, the following variables are significant: the number of times per month that the student considers dropping out, the feeling of being a number in an institution, the fact of being the recipient of social aid or of not benefiting from academic scholarships or loans from parents and, finally, the fact of being enrolled in a program offered by a trade school. Thus, Ma and Frempong (2008: 32) note that:

> *Our findings indicate that, overall, program characteristics, social network, postsecondary education academic ability, and attitude towards postsecondary education in this order are the major reasons for Canadian postsecondary education students to drop out. […] Better still, these conclusions were reached after taking into account pre-postsecondary education condition (individual background, individual disposition, and personal problems) as well as financial condition, personal obligation, and program characteristics at the postsecondary education level. Our conclusion therefore is that academic integration and social integration appear to be quite robust as salient predictors of postsecondary education student attrition.*

The results of several studies conducted in Quebec confirm the factors for dropping out that are identified in pan-Canadian studies, or studies done in another province. For example, according to the MEQ's study (2003c) on academic discontinuation in technical college, 36 percent of respondents cite reasons linked to the program (25 percent did not like the program enough and 11 percent found it too difficult), 22 percent left after obtaining a job, 16 percent refer to personal or familial problems and 15 percent cite financial problems.

Also according to the MEQ (2003c), reasons for dropping out differ according to gender: 26 percent of men and 18 percent of women leave their studies because of a job. We observe the same trends in program-related reasons, which are cited by 40 percent of men and 32 percent of women. On the other hand, women mention familial or personal problems far more often than men (24 percent compared to 9 percent). Finally, still according to the MEQ (2003c), age seems to play a role: youth under age 20 drop out of studies much more often because they have not decided what they want to do, or because they don't like their program of study, while those from 20 to 29 and those over 30 cite, respectively, employment reasons, and personal and familial problems. The 25 to 29-year-old age group is the only one that refers to financial problems.

In their qualitative study conducted on students from four "upgrading" schools in Quebec, Bouchard and St-Amant (1996) note that the factors of dropout are linked to the deterioration of the family situation. They also observe that dropping out is caused by a disinterest in school and lack of intervention in distress situations, when an adult presence was necessary: stress related to the violent atmosphere of the school, or to a problem of orientation, etc.

Bourdon *et al*. (2007) note the influence of the attachment to the background social environment — that of a less educated milieu — on persistence in college. The results of their study, which addresses the persistence of "at-risk" college students, also suggest that youth with unpredictable, interrupted pathways, or those who combine high marks in high school with an interruption in their college studies, are much more attached to family and friends than youth who persist in unpredictable pathways (low academic performance in high school and persistence in college) or youth with a predictable pathway (low marks in high school and drop out of college, or average or strong marks in high school and persistence in college without a change of program or institution). Thus, "this attachment to a less educated social environment can explain, in part, the disruption in their pathway" (88).

Another qualitative study shows that academic failure is also related to the feeling of disillusionment when the professional options proposed by educators and the student's own envisioned career do not align (Doray, 2003).

Two studies at the university level produce results that are similar to the observations made for college. Leroux (2001) paints a picture of dropouts by referring to monographs on the subject from the preceding 12 years, statistical data for high school from Quebec universities, the MEQ, Statistics Canada and various university organizations such as the Fédération étudiante universitaire du Québec (the FEUQ, or Quebec Federation of University Students), and on a survey by the Conseil national des cycles supérieurs (FEUQ's council of graduate students) on students' modes and sources of income and financing. He concludes that those who are most likely to drop out are part-time students, students who receive less financial support (particularly if their financial situation is precarious) and students who are enrolled in disciplines for which professional opportunities are more uncertain. He also observes that it is at the time of preparation for and writing of the thesis that students most frequently drop out.

For Sauvé *et al*. (2007), the student who drops out after the first session has at least one of the following characteristics: he is male, older, single or living with a partner, enrolled part-time, taking courses after having held a job, is still working and has had an interrupted academic pathway.

To summarize, gender, age and dropout prior to PSE, financial problems and especially social integration and academic integration during PSE constitute the main factors for dropout at the post-secondary level. Dropout can also be caused entirely by the disillusionment felt when individual plans and professional prospects proposed by institutions are not aligned.

4. Transitions Between Levels of Education and the Return to Studies

Our review of the texts has allowed us to identify several studies on transitions between levels of education, in particular the transition from high school to CEGEP studies (Terril and Ducharme, 1994; Larose and Ray, 1993, Trudelle, 2002, Ménard, 2005), those between college and university (MEQ, 2003b; De Saedeleer, 2007), between community colleges and universities (Andres, 2001), or from high school to university (Institut franco-ontarien de l'Université Laurentienne, 2005; Insightrix Research Inc., 2006).

Although to a somewhat limited extent, some studies also address the return to studies (Bouchard and St-Amant, 1996; MEQ, 2004b; Doray, Mason and Bélanger, 2007) or aspects linked to the transitions of certain student groups, often minorities, such as Canadian students pursuing studies abroad, international students in PSE in Canada (AUCC, 1998, 2007b), First Generation Students (O'Heron, 1997) and Aboriginal students (Holmes, 2006, Canadian Council on Learning, 2007).

Finally, among the rare pan-Canadian studies on pathways in PSE that also address academic transitions, those of Lambert *et al.* (YITS-B, 2004) and of Shaienks, Eisl-Culkin and Bussière (2006) are of particular note. In Quebec, the study by De Saedeleer (2007) on the transitions between professional and technical levels of education (DEP-DEC, DEC-BAC) stands out.

In this next section, we will discuss the results of research on transitions between levels of education as well as some texts on the return to studies and emerging practices that encourage the transition and success of certain student groups. Transitions from studies into the job market are not addressed in this research note, since they are not considered to be within the scope of the Transitions Project.

4.1 Transition from High School to University

In their discussion of age and the length of time elapsed between the end of high school and enrolment in PSE, Barr-Telford *et al.* (PEPS, 2003) emphasize the fact that, among youth aged 18 to 24 who undertake PSE, 50 percent do so at age 17 or 18, and 86 percent begin before they turn 20. Moreover, 64 percent begin in the 12 months after finishing secondary studies, and more than 50 percent begin in the three months after, while approximately 35 percent only begin after an interruption of a year or more. A study by Insightrix Research Inc. (2006) indicates that in Alberta, almost half of high school graduates (47.9 percent) went directly from high school to PSE, while the others opted for an interruption, and thus for a non-linear pathway, waiting one year (18.6 percent), from two to five years (18.6 percent) or for more than five years (13 percent) before beginning PSE.

This study also identifies differences in transitions according to type of institution. More than 60 percent of university and university-college graduates began their post-secondary studies in the same year that they finished high school, compared to 35 percent of those who went to college or did technical training. 21 percent of college graduates waited more than five years before going on to other post-secondary studies.

4.2 Transition from High School to College

The issues linked to students' transitions between the high school and college levels have been addressed

by several researchers: Vezeau and Bouffard (2007) consider individual and social factors of successful adaptation to the high school-college transition in the Cégep régional de Lanaudière; Veillette, Perron and Hebert (1993) examine the academic pathways at the Cégep de Jonquière (longitudinal study); and Terrill and Ducharme (1994) consider the passage from high school to CEGEP in Quebec. We have also included the studies of: Massot (1979b) on the effect of the two educational sectors (French and English) on the pathways of Francophone and Anglophone students; Larose and Roy (1993) on new at-risk students; Ménard (2005), De Saedeleer (2007) and Doray, Ménard and Adouane (2008) on the transitions between the professional stream in high school and technical college education. Since the aspect of transition is strongest in these latter five studies, we will focus on their results.

According to Massot (1979b), the configuration of sectors (Francophone and Anglophone), the transfers between streams and the modes of academic selection in the two educational sectors had different influences on student pathways in Quebec. First, it showed that in Secondary 5 (Grade 11), 88 percent of students were enrolled in general programs in the English sector, compared to 59 percent in the French sector. However, still according to Massot (1979b), the higher numbers in the Anglophone general stream in Secondary 5, in relation to its trades/vocational stream, were apt to provoke a whole series of "distortions" in the rate of transition to university, when compared to the situation in the French school system.

Indeed, although the two sectors had similar success rates in general Secondary 5 (0.70), 90 percent of Anglophone students were inclined towards the general or pre-university sector, compared to 60 percent of Francophone students (Massot, 1979b). Sylvain, Laforce and Trottier (1985) confirm these results, stating that Francophones (29.1 percent) are more likely to enrol in the professional sector than Anglophones (7.7 percent). These authors also show that the rate of transition from high school to the pre-university CEGEP sector was lower for Francophone students (38.8 percent) than for allophones (68.5 percent) and Anglophones (60.7 percent). Finally, Francophones were more likely to undertake a trade/vocational program than allophones (9.5 percent). Massot (1979b) also notes that 44 percent of youth from the English sector in Secondary 5 went on to university (three times more than youth from the French sector), while only six percent completed the third year of a professional college program (three times less than in the French sector).

Massot (1979b) also observes a particularly strong, positive relationship between grades and the probability of passage to a general college program, in both the French and the English sector, because the chances of going on to pre-university college programs were greatly reduced if one had low grades — by 0.20 in the first sector, and 0.37 in the second, compared to 0.63 and 0.90 for students with excellent grades in both sectors. However, academic performance had a less significant effect on selection in the Anglophone sector than in the Francophone sector, keeping in mind the distortions that lead to low attendance rates in the professional stream and the "relative hypertrophy" of the general stream. Thus, 90 percent of students from this sector who had excellent marks were inclined towards the general stream, and even 37 percent of students with low marks pursued general training in spite of their grades.

Larose and Roy (1993) evaluate an integration program for college studies conducted on two cohorts of new "at-risk" students who were selected based on marks in high school and their personal characteristics in terms of learning, academic and professional orientation, and general social relations. The results of the study show that although in both cohorts (from 1989 and 1990), the students who benefited from intervention were more successful in their first two trimesters than those in the control groups, only the students from the 1990 cohort showed long-term marks that were higher than those of the control group. Also, the analyses conducted according to gender suggest that this intervention had a more significant effect for girls than for boys.

A few studies consider the transitions between high school professional training programs and technical education at the CEGEP level, or the DEP-DEC transition (Trudelle, 2002; CSE, 2004; Ménard, 2005; De Saedeleer, 2007). According to Ménard (2005), up until 2001, those who held a degree in professional

studies (DEP) were not able to access technical training programs in CEGEP without having obtained their high school diploma. But since the elimination of this requirement, which discouraged many students from undertaking technical training at the CEGEP level, some centres for professional training and certain CEGEPS have redoubled their efforts to inform and reach students who wish to pursue trade/vocational studies.

The studies (Ménard, 2005; Ménard and Semblat, 2006; De Saedeleer, 2007[17], Doray, Ménard and Adouane, 2008) indicate that these "harmonized" programs are actually quite few in number and difficult to establish, and that where they do exist, only a few students benefit from them. According to Doray, Ménard and Adouane (2008), in March 2006 there were 40 DEP-DEC harmonized programs and 11 in progress. The unsynchronized development of DEP-DECs, the limited volume of the population in question (calculation of cost/negative impact), the difficulty of coordination between institutions and the CEGEPs' lack of desire to recognize the acquired knowledge are the main factors limiting the establishment of DEP-DEC agreements (CSE, 2004; De Saedeleer, 2007). The CSE (2004) maintains that other conditions are necessary for the successful establishment of a DEP-DEC agreement, in particular, an offer of training at a single location, promotional work including internal and external partnerships, and a relaxation of the financing rules for CEGEP education.

There are, however, certain success cases that are particularly interesting. For example, the Commission scolaire des Hauts-Cantons and the Cégep de Sherbrooke, in collaboration with the Centre régional d'initiatives et de formation en agriculture (CRIFA), offer a DEP-DEC training under one roof (De Saedeleer, 2007). According to this author, the effectiveness of the distribution of information in the harmonized program, specifically for eligible youth, has shown itself to be conclusive.

In fact, to counter the drop in enrolment numbers in professional and technical programs, which is causing certain programs to be at risk of disappearing for a lack of students, and in order to respond to the urgent need for qualified labour, other pilot projects for transition from DEP to DEC have been implemented in four regions of Quebec (Centre-du-Québec, Lanaudière, Montérégie and Saguenay–Lac-Saint-Jean) (Doray, Ménard and Adouane, 2008). These authors add that other initiatives have been taken, resulting in the opening of Cégeps en réseau in January 2006, an initiative of the Fédération des cégeps, the Centre francophone en informatisation des organisations and MELS, in an attempt to consolidate the offer of technical training in programs with only a few students, by bringing together students from different CEGEPs. A budget of $1.7 million over two years was granted. Also, given the significance of students' academic success and persistence rates, the rules of admission were modified in 13 professional programs.

4.3 Transition from College to University

The transition rate from college to university for college graduates in 2000–2001, which was 55 percent in autumn 2000, varies according to age, program, and gender (MEQ, 2003b). It is higher for 19 year olds (79.7 percent) than for 20 year olds (57.1 percent) or for those 25 or older (12.1 percent). This also goes for graduates of pre-university training programs (80 percent) and technical training graduates (22 percent). Women and men who have done pre-university training have a fairly similar transition rate, but this is not the case for technical training, in which men have much higher transition rates (25.6 percent) than women (9.7 percent). This study by the MEQ (2003b) shows that the transition rates also vary according to study program. Thus, in pre-university programs, they are 90 percent and 58 percent, respectively, for graduates of natural sciences and visual arts, while the rate is only 50 percent for office administration graduates.

The transitions between the college and university levels, or the DEC-BAC, also present significant challenges. They raise the question of the sustainability of pre-university programs (Trudelle, 2002). The differ-

17. Qualitative study, content analysis that draws upon numerous interviews (22 recorded and 16 telephone interviews) and three case studies of CEGEPs offering DEP-DEC or DEC-BAC agreements, or both.

ences in approach in terms of the development of programs (by competencies in college and by objectives in university) also constitute a pedagogical challenge. Certain universities may become tempted to limit the recognition of credits in order to avoid loss of funds, even if they might consequently experience a rise in number of students in higher studies (De Saedeleer, 2007).

However, despite these challenges, and particularly in relation to the transition between DEP and DEC, the transition between DEC and BAC is becoming institutionalized, especially in the fields of nursing, office administration and technical programs. According to the data from MELS (2006a), the rate of direct passage from technical education to university rose by 5.4 points (6.7 for women and 4 for men) for students up to age 24 between 2001–2002 and 2004–2005. This transition rate would be even higher if one were to take into account graduates of technical education programs who spend a period in the job market before going on to university studies. The data from the École de technologie supérieure (ETS), which accepts nearly 5,000 students from 38 technical programs in 41 colleges, are telling in this respect. Nearly 12 percent of graduates of technical programs pursue their studies at ETS without passing through the job market; after a few years, 20 percent of graduates enrol at ETS.

Andres' (2001) qualitative study emphasizes institutions' transfer process, in particular the effect of official attempts between post-secondary educational institutions aimed at equalizing opportunities for students. The author gives an analysis of the transfer process and the experiences of 47 students from the University of British Columbia who had graduated from a college in the Vancouver area. This study shows that, despite the offer of courses and the (timely) attempts between these institutions that aimed to promote equal access and success, and even if the majority of students were in favour of transfer as a possible path (even preferable to the attainment of a university degree), students still confronted problems at each stage of transfer (before, during and after). According to Andres, these results mirror those of Dougherty (1987). His study also indicates that difficulties of access to useful information, and difficulties in understanding the principles, practices and the process of transfer, as well as the drop in grades after the transfer to university, constitute barriers to students' successful transfer.

4.4 Return to Studies

According to Lambert *et al.* (YITS-B, 2004), 38 percent of 18 and 19 year olds who discontinued PSE in 1999 went back to their studies two years later (in 2001). More recently, Shaienks, Eisl-Culkin and Bussière (2006) observed that nearly half of those who left PSE in December 1999 went back in the four years that followed, and that, finally, 25 percent of them had attained a degree in December 2003.

For Lambert *et al.* (YITS-B, 2004), the phenomenon of the return to studies can be explained, first, by the fact that the age at which young people tend to discontinue their secondary studies is "too" young for them to imagine choosing PSE. The reasons for academic discontinuation seem linked to the rate of return to studies, since 47 percent of those who left their studies in order to change institution or program in 1999 went back in 2001. So did 36 percent of students who claimed to dislike their program and 32 percent who said they lacked funds. According to the Canadian Council on Learning (2007), Aboriginal adults aged 35 to 64 years are more likely to have completed college or professional studies than younger aboriginals, which suggests that older Aboriginals return to school to do post-secondary studies later in life.

In Quebec, the return to studies seems to be as frequent for young people, notably in certain training programs. According to a study by the MEQ (2004b), out of all students who discontinued their studies in technical college, 21 percent went back to vocational training validated by a diploma, a certificate or an attestation, and the rate of return was higher for youth aged 16-17 years (26 percent) than for those aged 30 and over (12 percent). This study also shows that 41 percent of those who went back to studies enrolled in college, 30 percent in secondary studies, 18 percent in university studies and 11 percent in other vocational training validated by a diploma, a certificate or an attestation. These rates of return

vary according to program. For example they were less than 10 percent in cabinet-making programs, but were 31 percent in transportation logistics techniques. The rate of return to studies is also significant for adults in technical studies in Quebec. Indeed, one quarter of students enrolled in 2001 in a technical DEC and half of those who received their college diploma in this discipline were 22 or older.

The return to studies has also been the subject of a number of qualitative studies (Bouchard and St-Amant, 1996; Doray, 2003; Doray, Mason and Bélanger, 2007). Studies conducted in specialized schools or (post-secondary) technical programs are of particular interest, such as Bouchard and St-Amant's study (1996), which takes a constructivist and interactionist approach to apprenticeships and success, collecting data from four Quebec schools for young adults who have gone back to complete high school upgrading. This study shows that the return to studies can be explained by a change in the relationship to school, or a disconnection with the previous academic situation; in particular, there is often a realization that comes about in response to the feeling of a stalled future or negative working conditions and environment (especially for women). As Bouchard and St-Amant point out, "the return to studies sometimes implies a reexamination of certain parental values in regards to school that goes hand in hand with young people's maturation process and quest for independence. Moreover, several student testimonials suggest a reversal of the relationship to school […], causing parents to have a renewed interest in school" (1996: 10). Persistence in studies following a return is motivated by the emotional and moral support given by the school (professors and social workers), the modification of the power relationship between students and professors (to a more equal relationship), and organizational developments to encourage this new clientele. Thus, "even if half the students have already thought of dropping out of studies again, the awareness of themselves in school and in relation to school keeps them there: 'Now, I'm here for myself.' The certitude of having one's place prevails." (Bouchard and St-Amant, 1996: 13).

Similarly, a longitudinal analysis of 29 adult students' (16 women and 13 men) return to studies in three post-secondary technical programs (computer science, laboratory tech and electronic engineering), conducted in Quebec by Doray, Mason and Bélanger (2007), also indicates that the return to studies constitutes, for the large majority of students, a splitting off from their previous or current situation. For the large majority, this return falls within the framework of a *social or economic mobility plan*. For others, it is a *professional reorientation plan* or *pursuit of studies that were interrupted by a biographical incident (accident)*. However, the analysis shows that the return to studies occurs more often than not as a result of adversity and difficulties[18], which certain students are never able to overcome. It also suggests that the reasons for academic failure, persistence, discontinuation and interruption are diverse.

For example, among students who leave their program, some drop out because of obstacles they were not able to overcome or life changes that made it difficult to maintain a balance between work, studies and family. Others planned to drop out believing that their return could be considered an "insurance policy" (were, say, the factory to close or if they decided to go to university). Other students leave because they discover a new orientation during the course of their return to studies. As for students who persist, some have had a smooth academic pathway, while others have faced difficulties for the entire duration.

The authors note that lack of persistence is influenced by past experience, gender and current academic experience. They insist, however, upon the intermediary nature of the academic experience variable and show primarily that the gap between past experience in the field of adult (high school) education and technical college education has a negative influence on their academic success and persistence. Thus,

> *the existence of a gap between two educational systems — adult high school and technical college — lead us to believe that the relationship to scientific knowledge in general adult education has a negative effect for many students*

18. Among other issues, the difficulties of coordinating schedules, financial needs generated by familial responsibilities of several students, the relative weight of previous painful academic experiences, academic challenges associated with the return to studies, and a course of study that is not well adapted to adults.

> *because it does not lead to their mobilization in technical education. This gap is evidenced through students' previous experience when they are learning sciences in technical education; individuals' differing capacity to mobilize theoretic knowledge in mathematics and science then becomes clear* (Doray, Mason and Bélanger, 2007, pp. 20–21).

The same researchers also state that:

> *aside from inequalities and the variety of objective conditions, aside from institutional and financial obstacles or cultural characteristics, aside from the psychological support, or lack thereof, from the immediate circle, another major variable plays a part: the subject's construction of a realistic plan that would allow him/her to get through this difficult experience.*
>
> *Despite social conditions that were in many cases similar, the subjects' interactions with the foreseen pathways were quite different, and they adapted to the educational regime in varying ways. Having a strong education plan is a key factor of students' resilience and continuity. In this regard, it is important to recognize that academic institutions do not make provision for systematic interventions to "test" the nature of the plan, its realism and durability* (Doray, Mason, Bélanger: 2007, p. 22).

Finally, this study confirms the results of the previous ones, which consider the Canadian population as a whole (Bélanger *et al.*, 2004) and according to which the participation rates in adult education, in particular the decision to return to studies, varies little according to gender. It is more often in the traditional divisions in program choice and in relation to the family that the *gender* variable influences pathways.

Thus, on one hand, women experience great difficulty adjusting to computer science programs. On the other hand, "the living and study conditions and, more specifically, the challenge of balancing 'work/studies/family' create different conditions according to gender. We observe this in the situation of eight adult students (who lived with a partner and had children) and their difficulty negotiating the sharing of domestic tasks; not to mention the three single mothers who have to deal with these difficulties alone" (22). The results of this study reinforce those of Bélanger (1994), who showed that, despite changes observed in the studies on "education-work-time spent not working," academic institutions "continue to be the last place to feel social transformations and […] considering the lived reality of adults who return to studies and the difficulty of their take-up of the programs available to them, the knowledge economy and knowledge society constitute only a fragmentary reality" (22).

4.5 Practices that Facilitate the Academic Transition of Minority Students

O'Heron (1997) examines the problems faced by first generation students, including problems on an emotional level, considering that a significant number of parents do not have university experience, which could have contributed to the students feeling supported in their passage from high school to university. He emphasizes elsewhere that universities are more and more often obliged to play this parental role. According to Chapman *et al.* (1997),

> *for universities, these statistics are often translated into "real life" stories in student counselling offices. When so many students on campus are unable to seek advice from a parent who has been through the university experience, student support programs become more vital to ease the academic and emotional transition from high school to university. Also, many universities find themselves dealing with parents who are unfamiliar with university life. In response, family involvement and support programs have been developed at Canadian universities to provide concerned parents with the information they need. Orientation sessions for the families of incoming students are offered by about half of Canadian institutions* (p. 37)[19].

19. Also, at the secondary level, Breton (1972) noted that in the early 1960s, the presence of student counsellors in schools varied greatly from one province to the next: 93.6 percent of schools in the Atlantic provinces did not have any, compared to 68.6 percent in Alberta and B.C. and 75.9 percent in Ontario.

Two reports that address the question of PSE among Aboriginals (Holmes, 2006; AUCC, 2002) mention that several Canadian universities have set up transition and preparation programs aimed at helping Aboriginal students with integration and success in their chosen PSE programs. This is the case for institutions that provide support for transition at the pre-university stage by means of programs, such as the University of New Brunswick's transition program, Concordia University College's program for university and collegial integration of Aboriginal students and Carleton University's improved support program for Aboriginal students. But, according to Holmes (2006),

> *unfortunately, in some provinces and territories, pre-university transition programs do not receive provincial funds per student and governmental financial aid destined for students, such that universities must cover the costs themselves, find other funding sources, or transfer the cost of non credited support courses to the accounts of students who already have limited financial resources* (39).

The AUCC's studies (1998, 2007b) on the internationalization of student recruitment have highlighted the creation or the strengthening of orientation and support services aimed at improving academic integration and success for two categories of students in Canadian universities: Canadian students taking courses or doing internships abroad that are credited by their home university in Canada, and international students enrolled in Canadian universities (AUCC, 1998; AUCC, 2007b).

Of the 63 institutions that participated in the AUCC's 2006 study, whose questionnaires addressed these latter two categories of students, 47 percent confirmed that they offered programs aimed specifically at encouraging international students' academic success; 17 percent indicated that the implementation of such services was underway; and 37 percent had not yet set up any such programs. The most frequently mentioned services were: an international support office, consultation and extracurricular support programs, the assignment of support personnel to international students, orientation programs upon arrival, and clubs or associations for foreign students (AUCC, 2007b).

5. Review of Inequalities, and Theoretical Perspectives Used in the Consulted Texts

This section presents a review of the inequalities of access to PSE and in educational pathways, followed by a description of the theories and explicative models used in the consulted texts. This is not in order to put forward a unique frame of reference, but rather to emphasize the different perspectives of analysis that are unique to the field of studies on inequalities, and that could have an impact on various research notes. Finally, we will consider the theoretical dilemmas that underlie the analysis of access to, and persistence in, PSE.

5.1 Diminution and Persistence of Inequalities

Have all of the various categories of people benefited from the progress made in terms of access to institutions and to a degree? It would be unrealistic to attempt to give an exhaustive answer to this question within the framework of this document; also, subsequent notes within the Transitions Project will address this theme in more detail. However, the results presented above on inequalities of access to PSE and in educational pathways (sections 2 and 3) are sufficient for us to formulate the diminution hypothesis and the concomitant persistence of inequalities of access to institutions and to a degree.

It is a well known fact that inequalities according to gender have diminished to the point that the situation has largely been reversed: men are now in the minority, except in certain fields of study — in particular, engineering and doctoral studies (Andres, 2002; De Breker, 2005; AUCC, 2007a; CSE, 2008a).

The results also indicate a persistence of inequalities according to families' socio-economic status and despite their diminution in comparison to what was observed in the 1960s: half of youth from families in the top quartile of income distribution attend university at the age of 19, compared to one-third of youth from families in the bottom quartile (Frenette, 2007b).

Gaps according to ethno-cultural origin also persist. Thus, Aboriginal youth remain under-represented in PSE (Finnie, Lascelles and Sweetman, ESAS, 2005; Holmes, 2006; Canadian Council on Learning, 2007). For example, according to a recent study for the CMSF (Stonechild and R.A. Malatest & Associates, 2008), the 2006 census revealed that 35 percent of people of Aboriginal descent had attained a post-secondary credential (whether a trade school diploma, a college diploma or a university degree), compared to 51 percent of the general population.

Also, Corbeil (2003) emphasized the persistence of inequalities according to linguistic group. In the 25- to 34-year-old age group in Canada, 23 percent of Francophones and Anglophones held a university credential in 2001, compared to 33 percent of allophones. However, this last group showed the greatest proportion of both least schooled and most schooled people, according to geographical area of residence, or membership (or not) in groups that had been in Canada for a long period of time. In Quebec, however, Anglophones were more likely to hold a university credential (31 percent) than Francophones (21 percent).

Within Canada as a whole, regional disparities exist and the place of residence has an influence on access. Veillette, Perron and Hébert (1993) document these geographical disparities of access to college education in Quebec.

These few examples are sufficient to show both the diminution and the persistence of inequalities of access to higher education.

In Quebec, inequalities of access have diminished thanks to academic reforms, which have in particular introduced changes in the structure of the education system — pushing the moment of selection (i.e., the moment when one make a choice about his or her post-secondary future) back from the end of primary school to the end of high school; changes are also the result of the distribution of polyvalent secondary schools over the territory, the development of the CEGEP network, the creation of the Université du Québec and the establishment of a loans and bursaries program. Besides the reform of the structural order, factors exterior to the system have been integral to shifting the general relationship to education.

According to Dandurand (1990), inequalities according to gender and linguistic group have diminished more significantly than those related to socio-economic status. The diminution of inequalities according to gender is not only linked to the reform of the education system, but also to the changing situation of women in the job market, transformations in the family and the couple, as well as the rise of the feminist movement. Changes in power relations between Francophones and Anglophones as well as the rise of the nationalist movement have also had an effect on the diminution of inequalities according to linguistic group.

We have not seen, according to this author, as great a diminution of inequalities according to socio-economic status. Changes in the economy, the multiplying of executive and professional positions, have certainly opened a space at the top of the social pyramid, and encouraged upward social mobility of Francophones; this has created a climate of pressure for a rise in educational levels, similar to the demands of the urban middle class for improvement of education services in the 1960s and the measures that were taken at that time towards democratization of education. However, political measures on such a scale have not been taken to reduce inequalities between social strata — measures to encourage a wider distribution of wealth in order to do so. Instead, the trend has been to stress freedom of choice and competition between public school and private school rather than seeking to reduce social inequalities in terms of education. Within the education system, specifically the unified polyvalent high school, competition has increased, and families from the middle and upper classes have adjusted their respective strategies in their desire to maintain the relative advantages that have historically been theirs. This is expressed either by having recourse to private schools, or by pressuring the polyvalent unified high school to become "re-stratified."

5.2 Theoretical Perspectives Underlying the Considered Texts

Most of the empirical studies, specifically those from Statistics Canada, do not specify an underlying theory or explicative model. The following is a synopsis of the few perspectives that are identifiable in the texts.

We have grouped these perspectives into three larger categories. The first includes the studies that refer to Tinto's theory (1993) to explain academic success and persistence in college. The second category includes the texts that draw mainly upon theories of social reproduction and rational choice of the players to account for academic inequalities. The third describes various texts that refer to other explanations, including theories of social mobilization, structural and intentional contexts, and biographical incidents in student pathways.

First, according to Sauvé *et al.* (2006), the theories that are most often used in studies on academic dropout and persistence among post-secondary students in Canada stem from the interactionist approach — Tinto's theory (1993), in particular — and the organizational approach.[20] Tinto's (1993 and 2000) is also the theory that is most often cited or used in the institutional studies on academic success and persistence in college education that we have consulted, specifically in CEGEPs (Vigneault, 1987; Chenard, 1989a et 1989b; Larose and Roy, 1993; Ménard, 2005). Tinto's theoretical model also serves as an analytic framework for certain texts on the transition from high school to CEGEP, or on academic

20. Cambrera, Castaneda, Nora and Hensgstler (1992) propose a model that combines Tinto's theory and that of Bean and Metzner.

departures or discontinuation at the college level (Terrill and Ducharme, 1994; Ma and Frempong, 2008).

The studies conducted in colleges tend to confirm the relevance of Tinto's theory, according to which the social and academic (institutional) integration of the student is crucial for his or her academic persistence. The same conclusion is reached in a recent study on reasons for the incompletion of PSE and on the profile of PSE dropouts in Canada, conducted by Ma and Frempong (2008).

These two authors also note that Tinto's revised theory (2000) takes into account numerous philosophical critiques of the original theory, and adds several empirical proofs to its conceptual structure, such that it continues to be an important theoretical reference for studies on academic withdrawal or dropout.

However, drawing upon various sources (Kuh and Love, 2000; Walker and Schultz, 2001; Guiffrida, 2005), Ma and Frempong maintain that the most common critique of Tinto's theory concerns his hypothesis that "students must 'abandon' associations and prior traditions in order to become fully integrated in their (official and unofficial) academic and social environments in PSE. Yet, according to the critics, many students at the post-secondary level, and especially those from minorities and religious groups, depend precisely upon traditional associations and ties to gain spiritual, cultural and even material support that allows them to complete their post-secondary studies" (2008, p. 5).

Still, it is useful to examine the overall effect of the values and practices associated with these social ties and these traditions; especially since it is possible that certain traditions might show a certain mistrust of common values and practices in post-secondary educational institutions.

Secondly, some authors draw upon sociological theories of reproduction and the theory of rational choice of players. In the late 1970s, Massot (1979b) cited the concept of an academic network as defined by Snyders (1976), Boudon's (1973) postulation of rationality of the player and the problematic of social reproduction, revised by Bertaux (1977) who, according to Massot, does a better job of integrating the analysis of the structures and destinies of life than Bowles and Gintis (1977).

Andres (1998, 2002) also integrates Elster's theory of rational choice and Bourdieu and Passeron's theory of reproduction (1970), as well as variables (gender, geographical origin, choice of post-secondary institution) and contextual aspects such as the relocation of educational institutions in rural areas. In a study on young adults in B.C., Andres underlines the complementary nature of the two approaches, reminding us that students' "decisions" are anchored in their social and cultural situation/roots (Andres, 1998).

Finally, and this is the third category, we find texts whose theoretical orientations take into account the multifactorial nature of access, success and persistence or change of program (family situation, academic experience, personal organizational strategies, social anchoring — parents' level of education and income, gender, current experience), structural changes (State, society, workplace) and the students' individual life stories (Bélanger, 1994; Doray, 2003; Charbonneau, 2006).

In some of these studies, the student's personal pathway (including his or her plans) is considered in relation to biographical incidents (Doray, 2003; Doray, Mason, and Bélanger, 2007), his or her mobilization for studies (drawing upon Terrail, 1992), current experience (as seen by Dubet, 1994), the student's investment and that of the family in his or her studies (as described by Lahire, 1993), and institutional effects (Doray, 2003).

Other studies, that take social anchoring and current experience into account, consider general contextual aspects such as the impact of various social movements (students, parents) (Axelrod, 1989), the creation of colleges and universities in remote rural areas that do not have a previous university structure (Frenette, 2007a), the effects of the Quebec's Quiet Revolution on access (Dandurand, 1990; Bélanger, 2003) and the differences between the two educational sectors, French and English (Sylvain, Laforce and Trottier, 1985).

Let us also examine Côté and Skinkle's (2008) analytic perspective, which considers the influence of negative perceptions of the costs and benefits of a post-secondary education on the pursuit of studies. Drawing upon the CMSF's texts, they propose an

analytic framework for the social and psychological mechanisms that perpetuate perceptions of advantages and disadvantages of PSE.

Côté and Skinkle (2008) propose, in particular, the expression "the perceived horizon effect" to explain the origin of certain erroneous perceptions related to PSE among youth who often have narrower "horizons for action" in terms of a professional future, and whose parents have a low level of education or an undervalued profession. Their hypothesis is that children who are raised in an underprivileged environment are more likely to have what they call "identity anxiety," which manifests in a series of behaviours that hinder their ability to absorb and understand information about PSE. This can prevent a good number of young people from imagining themselves pursuing college or university studies.

The identity anxiety hypothesis could indicate that the parents' level of education is not the main determining factor in the pursuit of PSE. The results of this study indicate that perceptions of the reward of investing in PSE allow us to reliably predict the pursuit of university studies (only), and independently of factors such as gender, grades, encouragement to pursue PSE, whether or not one's parents pursued a PSE, or awareness of financial aid programs.

Finally, other authors examine the question of certain students' low level of academic success, particularly students from underprivileged environments, from the point of view of resistance to academic culture. According to Marcel and Tondreau (1997), youths' resistance to school stems partly from their relation to academic knowledge; giving meaning to the academic experience is more difficult for certain individuals, especially for those from underprivileged socio-economic backgrounds, and those who have less interest in the academic culture. However, Rivière, Sauvé and Jacques (1997) believe that even if certain students have "anti-academic" beliefs that manifest in particular as an opposition to the culture of performance, they persist in their studies because of social and economic pressures.

5.3 Theoretical Dilemmas Underlying the Analysis of Access and Persistence

Beginning with official reports and commentaries on the diminution and persistence of inequalities of access to post-secondary institutions, as well as on factors that can help explain these or situate them within the context of post-secondary education policies, and considering the theoretical perspectives used in the consulted works, we are able to identify certain theoretical dilemmas. How do we explain both the diminution and the persistence of inequalities? Several explicative factors have been put forward. How do we categorize them? What are their common effects?

The trend has been to distil explicative factors down to two types: 1) factors linked to socio-economic characteristics of students and their families, and 2) those that relate to educational institutions. Dandurand's analysis (1990), however, asks us to go beyond this dichotomy and take structural and macrosociological factors into consideration.

The analysis of provincial and federal policies shows that beyond strategies and interventions related to educational institutions (strictly speaking), it is important to consider factors linked to the structure of the system as a whole and to the policies of various levels of government. For example, in Quebec, a diminution of inequalities of access to PSE would not have occurred if there had not been (as noted earlier) a restructuring of secondary education in the province.

Similarly, inequalities of access according to linguistic group in Quebec would not have diminished as much if the previous system was still in use, in which Francophones, because of the particular and limited nature of the curriculum of classical studies, only accessed university after 15 years of study, while Anglophones could go on to university after 12 or 13 years (CSE, 1988). The numerous studies on academic pathways that draw upon the ASOPE's data (Massot, 1979a, 1979b; Sylvain, Laforce and

Trottier, 1985) show that the configuration of networks, transitions and academic selection in the English and French sectors have a different influence on student pathways in Quebec.

The creation of the École de technologie supérieure facilitated access to university studies for students from technical education programs in college. The same can be said of programs with DEC-BAC credit transfers. The creation of the orientation (Accueil et intégration) program in CEGEPs is another illustration of a structural change that encourages the passage to CEGEP for high school students who are motivated to complete the necessary prerequisites for their course, or to strengthen their career choice.

Dandurand suggests that the key moment of academic selection in Quebec has changed: "Although in the 1940s and 1950s it was at the junction of elementary school and high school, it is now located at the juncture between high school and college studies" (1990, p. 42). More recently, Doray, Mason and Bélanger (2007) note the existence in Quebec of a gap between two educational systems, one for general adult education in high school and the other for technical education in college, which leads us to believe that the general relationship to scientific knowledge in the first does not allow for many students' mobilization during their course of study in the second. This effect is particularly noticeable during practical learning (by experience) of sciences in the technical sector, where the different capacities of individuals to mobilize their theoretical knowledge in math or science are emphasized.

Aside from these factors linked to the structure of the system, we should consider macrosociological factors such as those evoked by Dandurand (1990) to explain the diminution and persistence of inequalities. Macrosociological factors, which may seem to fall outside the scope of this study, nevertheless help to give a more complete picture of access and persistence.

The analysis of these more general contextual factors should not, however, come at the expense of an analysis of variables linked to the internal dynamic of institutions. Selection practices, professors' pedagogical approaches and strategies, program and curriculum structure, supervisory structures, and various methods of student integration and social affiliation (Tinto, 1993; Coulon, 1997; Braxton, Milem and Sullivan, 2000) within these institutions can have a direct effect on access and persistence.

Still, it is young people's socio-economic characteristics (gender, family socio-economic status, race, ethnicity, place of origin, residence in a rural or urban area) that are most often cited in the analysis of access and persistence. How do these factors influence young peoples' academic pathways?

It would be superfluous within the framework of this brief research document to answer this question, which would lead to a renewal of the debate between reproduction theorists[21] and neo-individualist theorists.[22] We only mention this in order to indicate that the authors of the various research notes will have, on one hand, to choose a side in relation to this dilemma and, on the other hand, to gauge the relative importance of these factors in relation to the three other dimensions that have been mentioned.

21. For whom the decisions related to academic orientations and pathways are the result of an unconscious process in the players, rooted in individuals' social position within the social structure (Bourdieu and Passeron, 1970).

22. For whom these same decisions are the product of a choice that is at least rational, if not deliberate, to the extent that students reach various forks in the road on their pathways through the education system (Boudon, 1973).

Conclusion

This conclusion begins with a review of a few general results that have emerged in this synthesis. Next, we point out certain analytic aspects that we feel should be the subject of further research, since they were made "conspicuous by their absence" in the considered texts. Finally, we name a number of problems with the research that have been identified along the way.

First, the analysis of the political and institutional context (educational policies, underlying referents, demographic and economic shifts) has allowed us to ascertain that access to post-secondary educational institutions has been the priority of provincial and federal governmental educational policies since the 1960s. Since the number of students has risen significantly, the analysis suggests that these policies have been fruitful.

However, there has been a simultaneous drop in and persistence of inequalities of access, persistence and success in PSE. Of all the social groups who have lagged behind (and continue to do so), women have profited most from the positive effects of the educational reforms put in place after the 1950s. However, they continue to lag behind at the doctoral level and in terms of access to science programs. This phenomenon is not unique to Canada and Quebec — it can be observed in all the member countries of the OECD.

Adults have also "made headway" in the area of academics/education (Dandurand, 1990; AUCC, 2007a), especially as a result of the evolution of training needs of the Canadian job market. This evolution has driven a large number of people, who had not originally seen themselves doing university studies, to seek a university degree. In some universities, adults constitute half of the student body. Yet the results of Bélanger's study (1994) and more recently that of Doray, Mason and Bélanger (2007) suggest that in Quebec, despite the progress and the changes observed in the "education/work/time-spent-not-working" relationship, academic institutions have not adapted adequately to the lived reality of adults who return to studies, and thus have not facilitated their insertion in the educational programs that are available to them.

It is also clear that Quebec has largely caught up to the other Canadian provinces in terms of access to college studies. We will recall that in 1951, Quebec's rate of high school attainment among 15-19 year olds was barely 30 percent, while it was 44 percent in Ontario (Dandurand, 1990, citing Statistics Canada, 1964: 24). However, in terms of access to full-time university studies and attainment of a degree, Quebec's access rates remain below those of of B.C. and Ontario (Trottier and Bernatchez, 2005).

Similarly, according to Corbeil (2003), there has been a persistence of academic inequalities according to linguistic group in the 25- to 34-year-old age group in Canada, where 23 percent of Francophones and Anglophones held a university degree in 2001, compared to 33 percent of allophones. In Quebec, Anglophones were also more likely to hold a university degree (31 percent) than Francophones (21 percent).

Youth whose parents did not pursue PSE or youth from lower-income families, particularly aboriginal youth, have benefited least from the progress observed in access to PSE. They are still less likely to undertake higher studies or to carry them through to term if they do access them (Andres, 2002; Butlin, 1999; CMSF, 2006a, 2006b; Frenette, 2007b; Côté and Shinkle, 2008).

Another note on access to PSE indicates that the way in which we conceive of accessibility and intellectual and normative referents, on which our conceptions of accessibility of PSE are founded, has evolved. The evolution of the definition of accessibility over the last 40 years is notable: the objective of access to PSE is no longer limited to the accessibility of institutions, but extends to success and the attainment of a degree. At the same time, this change has modified the way we evaluate the attainment of this objective.

Concomitantly, the intellectual references and the motifs that guide educational players have also changed over the last 25 years, accentuating academic

success and persistence over accessibility. Thus, the underlying referent of the educational policies of the 1960s (which stated that society's progress depended upon the development of knowledge and the education of a qualified labour force, and that access to education for all could reduce social inequalities) continues to have a strong influence on current policies of accessibility, but has been nuanced, or revised. Moreover, since the 1990s we have seen more frequent reference to the OECD's "paradigm" (1996) of the knowledge economy, which emphasizes the economic aspect of education (production, distribution, circulation and use of knowledge and computing, etc.). The question of accessibility of education is only addressed indirectly, in terms of the development of human capital through education and continued training. This paradigm prevails more and more often over the one recently proposed by UNESCO (2005), which gives a more explicit place to accessibility, making reference to knowledge societies and emphasizing their cultural value and diversity.

Next, several factors or questions have not been discussed, or only briefly, in the considered texts. Factors linked to pedagogical strategies, compared to those related to the social integration of students, and those touching on institutions (their strategies aimed at increasing accessibility and persistence, their characteristics or their dynamism) have not been given much treatment; nor have students' living conditions (pecuniary and non-pecuniary). The texts that do touch on these subjects show divergent results, to say the least. Some underline the negative effects of debt and insufficient income on access and persistence; others tend to show an absence of such effects. This question is pressing enough to merit another study.

Few studies have been done on the transitions between levels of education and the return to studies. Recent studies (Ménard, 2005; Ménard and Semblat, 2006; De Saedeleer, 2007; Doray, Ménard and Adouane, 2008) conducted in Quebec indicate that the "harmonized" programs for professional education in high school and for technical education in college are actually few in number and difficult to establish, and that only few students enroll in them. On the other hand, and especially in relation to the DEP-BAC (professional education-technical education), the DEC-BAC credit transfers (technical education-university education) are becoming institutionalized, particularly in areas such as nursing, office administration and certain technical programs. Analogous experiments are being conducted in other provinces, particularly in B.C., but the results of the pertinent studies are not very conclusive.

On the theoretical level, we should emphasize that this review of the literature draws predominantly upon empirical studies that do not give much weight to theoretical questions, specifically to theoretical issues underlying the explicative factors of differences in access and persistence, or concerning the organizational context surrounding academic pathways. The research is more or less explicitly based on an approach that consists of identifying the factors that facilitate access to post-secondary studies or, contrarily, hinder it. In other words, it consists of showing facilitating factors and risk factors.

Without seeking to encapsulate all the theories in the considered texts, two remarks can be made. First, Tinto's theory (1973) is the one that is most often used, particularly in studies on dropping out and persistence in college. Secondly, some of the studies examined are particularly interesting because they attempt to fill in the hiatus between two larger theoretical models (reproductive and rational choice of the player) that explain academic inequalities, and the limits of these models.

There are a few variants in this regard. Some authors use these two larger theoretical approaches simultaneously while incorporating contextual aspects such as the concept of the academic network — Francophone and Anglophone — (Massot, 1979b) or geographical origin, the choice of post-secondary institution and the relocation of educational institutions in rural areas (Andres, 1998, 2002). Dandurand (1990) suggests that we take structural and macro-sociological factors into account, specifically explicative factors linked to the structure of the academic system as a whole and the policies of various levels of government. Such an analysis highlights the fact that the inequalities of access according to linguistic group in Quebec would not have diminished as significantly if the previous system had been maintained, in which Francophones were disadvantaged. We also know that the recent creation of the

École de technologie supérieure (ETS), the orientation (Accueil et intégration) program in CEGEPs and the structure of DEC-BAC agreements have facilitated access to PSE for some students. Various texts put forward other explanations, such as those integrating theories of social mobilization, structural and intentional contexts, and students' life stories (Doray, 2003; Doray, Mason and Bélanger, 2007).

Aside from these theoretical considerations, there are still numerous areas of obscurity and basic analytical aspects that should be considered in the research. For example, there is consensus on the differences between men's and women's pathways, but not on the way in which these can be explained: are these differences caused by previous schooling, that would differ according to gender, to cultural characteristics produced by the different socialization of men and women or to living conditions? The effect of the socio-economic position poses analogous questions. Some maintain that the parents' income plays an indirect role in access to PSE, while others see a direct effect.

Finally, on another level entirely, the lack of reliable pan-Canadian data on students, particularly on their social and economic characteristics (annual data), with the exception of a few published quantitative longitudinal studies and surveys (usually by Statistics Canada and not very accessible to researchers who do not work there) makes the work of research difficult, particularly research on academic pathways and transitions. Also, the fact that the characteristics and factors associated with discontinuation differ significantly from one study to the next (Grayson and Grayson, 2003; Parkin and Baldwin, 2009) raises important methodological considerations (measure of discontinuation and its aspects), as well as considerations related to the transfer of research results to stakeholders in the field of education.

Appendix

Table 1 — Pan-Canadian Longitudinal Studies on Youth and Students

Pan Canadian Longitudinal Studies	Research Objectives
School Leavers Survey and *School Leavers Follow-up Survey* (SLS and SLFS) (Statistics Canada)	The SLFS, conducted in 1995, is the follow-up to the SLS conducted in 1991. While the SLS was aimed at better understanding the phenomenon of high school dropouts, and to compare students who end their academic path after high school to those who go on to PSE and to those who discontinue PSE, the SLFS is helpful insofar as it provides information on the activities that followed students' secondary studies. The first study included 9,460 young people aged 18-20 years in 1991, the second (SLFS) again contacted and interviewed 6,284 of these, now aged 22-24 years.
Youth in Transition Survey (YITS): cohort of 18- to 20-year-olds in 1999 (YITS-B), and cohort of 14- to 15-year-olds in 2000 (YITS-A) (Statistics Canada)	YITS is a longitudinal study aimed at better understanding youth transitions, particularly those related to education, training and work. Two cohorts were followed simultaneously: for the first, cohort A, 29,687 young people aged 15 years on December 31, 1999, were interviewed for the first cycle of the survey; for the second, cohort B, 23,594 young people aged 18 to 20 years on December 31, 1999, were interviewed also for the first cycle of the survey. In both cases, the youth interviewed in the first cycle made up the sample group for the second cycle of each cohort. Each cycle happens every two years for each cohort. The data for the fourth cycle are available.
Postsecondary Education Participation Survey (PEPS) (Statistics Canada)	PEPS is a transversal study on youth aged 18 to 24 (17 to 24 in Quebec) who are no longer in secondary studies. PEPS examines a sample of 5,000 Canadians who were interviewed in February and March, 2002. The goal was to better understand Canadian youth in terms of three main issues: access to PSE, persistence in studies and financing of studies. This study also helped the federal government have a better grasp on the efficiency and the yield of Human Resources and Skills Development Canada's (HRSDC) Canada Student Loans Program[23].
Study of Labour and Income Dynamics (SLID) (Statistics Canada)	SLID is a longitudinal and transversal study aimed at better understanding changes in the economic well-being, of individuals and the factors that influence them. The entire Canadian population is targeted by this study, with the exception of people living in the three Territories, on reservations, residents of institutions and residents of military barracks. Begun in 1993, the study consists of three longitudinal sample groups that extend over a period of six years and overlap for a period of three years. It includes a transversal component and a longitudinal component. Each sample group includes approximately 15,000 households, in which one member makes up the longitudinal sample and his or her cohabitants make up the transversal sample[24].
*Deciding About Post-Secondary Education: Hearing the Voices of Non-Attendees***	Qualitative study commissioned by the CMSF and led by Cogem Recherche,inc. It takes place in five of Canada's big cities: Moncton, Toronto, Montréal, Vancouver and Winnipeg. July 2001.
Making Ends Meet: The 2001-2002 Student Financial Survey*	Commissioned by the CMSF, led by les EKOS Research Associates, Inc., this study is aimed at obtaining basic information on the financial situation of students ([at the] moment of entry, during studies).

continued…

23. For more information on PEPS, see: http://www.statcan.ca/cgi-bin/imdb/p2SV_f.pl?Function=getSurvey&SDDS=4446&lang=fr&db=IMDB&dbg=f&adm=8&dis=2

24. For more information on SLID, see: http://www.statcan.ca/cgi-in/imdb/p2SV_f.pl?Function=getSurvey&SDDS=3889&lang=fr&db=IMDB&dbg=f&adm=8&dis=2

Table 1 — Pan-Canadian Longitudinal Studies on Youth and Students (continued)

Pan Canadian Longitudinal Studies	Research Objectives
Canadian College Student Finances Survey	Conducted annually since 2002 by the Canadian College Student Survey Consortium, this study is aimed at gathering data on college students: income, spending, time use, access to post-secondary studies, academic situation, academic and professional plans.

Table 2 — Variables Relevant to our Review of Studies on Access to PSE (since 1990)

Variables	Significant	Sources
Gender	Yes	Anicef, 1985; O'Heron, 1997; CSE, 2008a; De Broucker, 2005; AUCC, 2007a; Szczepanik, 2007; Langlois, 2007; Finnie, Lascelles and Sweetman, SLFS, 2005; Dandurand, 1990; Andres, 2002; Frenette, 2002, 2003, 2007a; Darcy and De Broucker, 2007
Social background (parents' income and level of education)	Yes, but in context	Christofides, Cirello and Hoy, 2001; Corak, Lipps and Zhao, 2003; Anisef, 1985; Andres, 2002; Butlin, 1999; CMSF, 2006a, 2006b; Frenette, 2007b; Côté and Skinkle, 2008; MELS, 2007; Finnie and Muller, 2008
Family income	No, indirectly*	Dandurand, 1990; Knighton and Mirza, SLID, 2002*; Frenette, SLID, 2003*; Drolet, SLID, 2005*; Frenette, YITS-A, 2007b; Finnie and Mueller, 2008
Parents' level of education	Yes, always	O'Heron, 1997; De Broucker and Lavallée, 1998; Pageau and Bujold, 2000; Knighton and Mirza, 2002; Drolet, 2000; Butlin, 1999; Butlin, SLFS, 1999; Frenette, YITS-A, 2007b
Effect of distance [from institutions]	Yes, but in context*	Frenette, 2007a; Andres *et al.*, 2001; Veillette, Perron and Hébert, 1993*; MELS, 2007*; Bonin, 2008
Difficulties in primary school	For university studies	Butlin, SLFS, 1999; Finie, Lascelles and Sweetman, SLFS, 2005
Grades in high school	Yes, no, but context*	Tomkowicz and Bushnik (YITS-B, 2003); Butlin, SLFS, 1999*; Finnie, Lascelles and Sweetman, SLFS, 2005*
Provinces	Yes, but effect in context*	Dandurand, 1990; Knighton and Mirza, 2002; Knighton and Mirza, SLID, 2002; Finnie, Laporte and Lascelles, SLFS and YITS-B, 2004; Finnie, Lascelles and Sweetman, SLFS, 2005; Frenette, SLID, 2002; Bélanger, 2003; AUCC, 2007a; Andres, 2001; De Brouker, 2005; Frenette, 2007a
Language	Yes/no*	Corbeil, 2003; Finnie, Lascelles and Sweetman, SLFS, 2005*
Family structure	Little or no	Butlin, SLFS, 1999; Finnie, Laporte and Lascelles, SLFS and YITS-B, 2004; Finnie, Lascelles and Sweetman, SLFS, 2005; Tomkowicz and Bushnik, YITS-B, 2003; Tomkowicz and Bushnik, 2003
Participation in class	Yes, little, or no*	Butlin (SLFS, 1999); Finnie, Lascelles and Sweetman, SLFS, 2005*
Extracurricular activities	Yes	Butlin (SLFS, 1999); Lambert *et al.*, YITS-B, 2002
Having friends who go to school	Improves chances of access to PSE	Tomkowicz and Bushnik, YITS-B, 2003; Lambert *et al.*, YITS-B, 2004; Finnie, Lascelles and Sweetman, SLFS, 2005

Table 2 — Variables Relevant to our Review of Studies on Access to PSE (since 1990) (continued)

Variables	Significant	Sources
Parents' perception of importance of PSE	Yes, according to whether it is weak or strong	Tomkowicz and Bushnik, YITS-B, 2003; Lambert *et al.*, YITS-B, 2004; Finnie, Lascelles and Sweetman, SLFS, 2005
Tuition	No, yes*	Christofides, Cirello and Hoy, 2001; Raymond and Rivard, YITS, 2004; Swail and Heller, 2004; Foley, 2001*
Students' financial situation	Yes, but in context	Bowlby and McMullen: YITS-B, 2002; Barr-Telford *et al.*: PEPS, 2003*; Barr-Telford *et al.*: PEPS, 2003; Frenette: 2005*; Frenette: SLID, 2005*; CMSF: 2007
Work and studies (negative)	Yes if it is over 20 hours weekly	Fournier *et al.*, 1997; Butlin, SLFS, 1999; Jetté, 2001; Tomkowicz and Bushnik, YITS-B, 2003; Finnie, Lascelles and Sweetman, SLFS, 2005
Ethnicity, birthplace	Yes	Bultin (SLFS, 1999); Frenette, SLID, 2005; Finnie, Lascelles and Sweetman, SLFS, 2005; Holmes, 2006; Bezanson, 2008
Educational system	Yes	De Brouker: 2005; Darcy and De Broucker: 2007
Credits	No/yes with context*	Neill, 2007; Frenette, SLID, 2005*; Côté and Skinkle, 2008*

Table 3 — Longitudinal Studies in Quebec

Name of Study	Description
Interface and FODAR Study	Qualitative study of university students (social work, sociology and electrical engineering) at the University of Quebec. The study used the Releve ST methodology and was particularly interested in the college-university transition and the construction of personal identity as a factor of persistence.
Longitudinal study on Saguenay–*Lac-Saint-Jean youth aged 14 in 2002.*	Longitudinal study conducted in three cycles (2002, 2004, 2006) by the Groupe ÉCOBES, Cégep de Jonquière. It examines academic pathways between high school and college, focusing particularly on extension of the length of time for secondary studies, the high school-college transition, changes of program and academic persistence in college.
Longitudinal study, Academic Aspirations and Professional Orientations of Students Project (AAPOS)	Longitudinal survey covering extensive sections of academic pathways and also containing information that were not available through institutional data files during the period in which it was conducted (1972–1977).
Longitudinal study on geographical and social disparities of access to college in Saguenay–*Lac-Saint-Jean, by Veillette Suzanne, Perron Michel, Hébert Gilles from the Groupe ÉCOBES de Jonquière, published in 1993.*	This study examines an entire population and not just a sample group — that of the cohort of new students in [première secondaire] in 1981 (N = 4405), with follow-ups in 1985 and 1991. This last is subdivided into two sub-cohorts: one urban sub-cohort from the town of CJ (N = 1748) that gives a proportional representation of the "real" urban popuplation, and a sub-cohort outside of CJ (N = 2657). This study is an illustration of what can be garnered from a secondary examination of the administrative data from MELS, paired with an ecological approach based on the conversion of students' postal codes in order to compensate for the absence of information on the social origin of the latter.
Relève ST Study	Qualitative longitudinal study, unique in Canada, conducted on students at the college level — 126 students who willingly enrolled in 2000 in three technical education programs: electronics, laboratory tech and computing.

continued…

Table 3 — Longitudinal Studies in Quebec (continued)

Study on academic persistence and success within the context of a continuum of education: technical programs at the bachelor's level	Study on academic persistence of students in technical education programs who pursued their studies at the bachelor's level within the framework of 'continuum' programs.
Study on academic persistence and success conducted on students from ethnic communities	Quantitative longitudinal study on indicators of persistence and success among students from ethnic communities, and who are enrolled in science and technology programs in Anglophone colleges in the Montreal area.
Research project on family, social network and persistence in college, Laval University	Two longitudinal and quantitative studies on student integration in science programs in college: familial, motivational and academic determining factors, and academic and professional pathways/trajectories.
ICOPE project	Studies on students newly enrolled in a program in one of the University of Quebec's institutions (UQAM, UQTR, UQAC, UQAR, UQO, UQAT and TELUQ). Since 1993, they have been conducted every 3 to 5 years.

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